

## **CIRCUMCISION EQUIPMENT**

### **FIELD OF THE INVENTION**

The present invention relates to surgical devices, particularly to an circumcision apparatus .and more particularly to an advancing and self-locking device and a circumcision device, as well as an assembling method and an application method of the advancing and self-locking device; a built-in electric circumcision device and a valgus electric circumcision device;a built-in washer circumcision device and a valgus washer circumcision device; a blood vessel docking apparatus of a built-in or valgus circumcision device; a built-in or valgus graduated circumcision device; a knob opening device and a circumcision device, and an assembly method and a use method of the knob opening device; a positioning device for a built-in circumcision device; a knob opening/closing device of a circumcision device; a circumcision stapler and a U-nail thimble thereof;a prepuce circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type;an operation-visible circumcision stapler;an A-type valgus circumcision stapler; a B-type valgus circumcision stapler;a C-type valgus circumcision stapler.

### **BACKGROUND OF THE INVENTION**

Refer to the advancing and self-locking device and a circumcision device, as well as the assembling method and the application method .The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

Traditionally, surgical removal of the phimosis or redundant prepuce has the main technical points of removal of excess prepuce, hemostasis, and apposition suture of cut edges

to skin. A postoperative patient cannot move around, suffers unbearable pain in each change of ointment and endures huge pain when stitches are taken out finally. In addition, incomplete ligating hemostasis will cause prepuce hematoma, thus requiring a surgical treatment again. Furthermore, since the prepuce removal and the hemostasis process are performed separately, the operation time is prolonged, and the patient's panic is exacerbated.

A therapeutic method of applying a laser and high-frequency electric surgical knife technology to circumcision has been developed at present. Although this therapeutic method substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

Then, a circumcision device in which a prepuce incision is sutured using a suturing nail at one time was developed in this field. However, the circumcision device in the prior art seldom uses a special advancing and self-locking device, and therefore, the states (an initial assembly state, an assembly completion state, an initial use state and a use completion state) of the circumcision device cannot be accurately judged, and it is inconvenient to distinguish the used circumcision device from the unused. Accordingly, there is the risk of cross infection caused by repeated use among patients, easily resulting in misoperations and medical accidents.

Refer to the built-in electric circumcision device and a valvular electric circumcision device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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Then, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, all of the circumcision devices in the prior art are manually driven or remotely pedal-driven. The surgical operation, especially the time and force for tapping out a U-nail, is very unstable due to features of manual drive. If being applied with excessive force, the U-nail may clamp off the prepuce tissue to cause failure of the surgery; or if the applied force is insufficient, the tapping of the U-nail may be incomplete, resulting in failure of both hemostasis and the surgery. In manual drive, the circumcision device has to be provided with two sets of driving structures to drive a circumcision knife and the U-nail, respectively. Once the two driving structure are uncooperative, phenomena will appear that the circumcision by the circumcision knife is completed while the U-nail fails to stop bleeding or the U-nail is tapped out while the circumcision is not completed, any of which has a great risk and brings pain to a patient.

Refer to the built-in washer circumcision device and a valgus washer circumcision device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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ligating hemostasis will cause prepuce hematoma, thus requiring a surgical treatment again. Furthermore, since the prepuce removal and the hemostasis process are performed separately, the operation time is prolonged, and the patient's panic is exacerbated.

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Then, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, the suturing nail/U-nail used in the circumcision device in the prior art is generally made of metal. After being tapped into the prepuce of a patient during a surgical operation, the metal U-nail will be in direct contact with the skin, which is likely to cause skin/tissue allergy, even infection, of the patient. In addition, if the U-nail is in direct contact with the skin and tissue of the patient, the possibility that the U-nail inserts into the tissue too deep during the surgery is very high, resulting in damages. Moreover, the U-nail may drop off in a postoperative period as friction between the metal U-nail and the skin/tissue is smaller, which may cause the failure of the surgery due to dropping off of the nail.

Refer to the blood vessel docking apparatus of a built-in or valgus circumcision device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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For the built-in type, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, in the prior art, a circumcision cover only cooperates with a comprehensive cover and the circumcision and U-nail hemostasis are performed after clamping is completed. Since the position of the nail groove disposed in the comprehensive cover is always invisible, the prepuce blood vessel cannot be accurately positioned, and the U-nail in the U-nail groove cannot accurately correspond to the prepuce blood vessel during surgery. Thus, the surgical hemostasis effect is not good. Even the nail head of the U-nail may be right hammered into the blood vessel, and surgery risk is caused as blood cannot be punctually stopped.

For the valgus type, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, in the prior art, a valgus circumcision device only adopts an upper cover and a lower cover cooperating with each other and an inner ring and an inner comprehensive cover cooperating with each other, and the circumcision and U-nail hemostasis are performed after clamping is completed. Since the position of the internally disposed nail groove is always invisible, the prepuce blood vessel cannot be accurately positioned, and the U-nail in the U-nail groove cannot accurately correspond to the prepuce blood vessel during surgery. Thus, the surgical hemostasis effect is not good, even the nail head of the U-nail may be right hammered into the blood vessel, and surgery risk is caused as blood cannot be punctually stopped.

Refer to the built-in or valgus graduated circumcision device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in

chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

Traditionally, surgical removal of the phimosis or redundant prepuce has the main technical points of removal of excess prepuce, hemostasis, and apposition suture of cut edges to skin. A postoperative patient cannot move around, suffers unbearable pain in each change of ointment and endures huge pain when stitches are taken out finally. In addition, incomplete ligating hemostasis will cause prepuce hematoma, thus requiring a surgical treatment again. Furthermore, since the prepuce removal and the hemostasis processes are performed separately, the surgery time is prolonged, and the patient's panic is exacerbated.

A therapeutic method of applying a laser and high-frequency electric surgical knife technology to circumcision has been developed at present. Although this therapeutic method substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

For the built-in type circumcision device, a prepuce incision is sutured using suturing nails at one time. However, in the prior art, the positions of nail grooves arranged in a comprehensive cover will be invisible once the cooperation of the comprehensive cover and a circumcision cover is completed. Therefore, U-nails in the U-nail grooves cannot accurately correspond to prepuce blood vessels during surgery, resulting in a poor surgical hemostasis effect. Even the nail heads of the U-nails may be just hammered into the blood vessels, resulting in a surgery risk as bleeding cannot be punctually stopped.

For the valgus circumcision device, a prepuce incision is sutured using suturing nails at one time. However, in the prior art, the positions of nail grooves of an inner comprehensive cover in a lower cover will be invisible once the cooperation of an upper cover and the lower cover is completed. Therefore, U-nails in the U-nail grooves cannot accurately correspond to prepuce blood vessels during surgery, resulting in a poor surgical hemostasis effect. Even the nail heads of the U-nails may be just hammered into the blood vessels, resulting in a surgery risk as bleeding cannot be punctually stopped.

Refer to the knob opening device and a circumcision device, and an assembly method and a use method of the knob opening device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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Then, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, the circumcision device in the prior art seldom uses a special opening device, and therefore, the states (an initial assembly state, an assembly completion state, an initial use state and a use completion state) of the circumcision device cannot be accurately judged, easily resulting in medical accidents caused by misoperations. Even if opening and closing devices arranged on some devices in similar fields use elastic structures, the mold preparation cost is high, the assembly is difficult and damages or misoperations can easily occur in use. Furthermore, it is prone to errors even if the elastic structures are used for positioning.

Refer to the positioning device for a built-in circumcision device. The redundant

prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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A therapeutic method of applying a laser and high-frequency electric surgical knife technology to prepuce circumcision has been developed at present. Although this therapeutic method substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

Then, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. A plug or a knob needs to be provided at the rear end of the circumcision device and tightened through threads. Manual rotation is adopted in the prior art and whether the rotation is in place is subjectively judged only according to the rotation resistance, and therefore there is a great possibility of errors. When the rotation is too loose, it is possible that the front end of a connecting rod cannot be connected firmly or even loosened, and tends to drive towards a front cover body to produce a problem during a surgery, thereby resulting in surgery failure. When the rotation is too tight, it is possible to cause excessive threaded fit at the rear end of the connecting rod, thereby resulting in poor threaded fit at the front end of the connecting rod. The present inventor has proposed a method of judging tightening by arranging an alignment device on the outer surface. However, there is also a problem to only observe the alignment device arranged on the outer surface. Because the knob or plug cannot be tightened until it is rotated for a plurality of

turns, it is impossible to determine which alignment of the alignment device is the best positioning state in the rotation process.

Refer to the knob opening/closing device of a circumcision device. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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A therapeutic method of applying a laser and high-frequency electric surgical knife technology to circumcision has been developed at present. Although this therapeutic method substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

Then, a circumcision device in which a prepuce incision is sutured using suturing nails at one time was developed in this field. However, a special opening device is seldom used in the prior art, and therefore, the states (an initial assembly state, an assembly completion state, an initial use state and a use completion state) of the circumcision device cannot be accurately determined, easily resulting in misoperations and medical accidents. Even though certain device is provided with an opening/closing device in the similar field, it adopts an elastic structure. Therefore, the mold preparation cost is high, the assembly is difficult, and damages or misoperations can easily occur during use. In addition, errors also easily occur when the elastic structure is adopted.

In the prior art, the circumcision device is driven by a handle. However, neither the circumcision device nor the handle is provided with an opening/closing device. Thus, infection and surgical failure even surgical accidents can be easily caused as the handle is wrongly operated once the circumcision device has not been disinfected, in place or in a surgical condition. Therefore, the inventor makes improvements by arranging an opening knob device to solve this problem and further arranging an opening/closing indication mark with respect to the problem that whether the circumcision device is in an opening or closing state after the knob is arranged cannot be intuitively confirmed. In arrangement of the opening/closing indication mark, paint or pigment is usually used for marking colors in the field of medical devices. However, the above chemical raw material will produce odor during production to pollute laboratories or production lines, and stripping-off can occur easily in the transportation or use process, resulting in failure of identification or pollution of the surgical environment.

Refer to the circumcision stapler and a U-nail thimble.

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substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

Then, a circumcision device in which a prepuce incision is sutured using suturing nails/U-nails was developed in this field. The circumcision device mainly relates to a built-in circumcision device and a valgus circumcision device which have been described in previous patent applications. However, there are following problems in the prior art.

(1) As a thimble and a U-nail may not be positioned completely when in a static state, the U-nail may not be located vertically upwards in a nail groove, but is inclined to the inner wall of one side of the nail groove.

(2) When the thimble and the U-nail are in a dynamic state, the U-nail may not be in a vertical upwards state when moving forwards, which is caused by vibration of the circumcision stapler as well as contact/collision/synchronous movement between the thimble and the U-nail.

(3) If the U-nail not vertically upwards is tapped out by the thimble, the U-nail will penetrate through prepuce or other tissues, or will be slant/inclined when being in contact deformation with a U-nail anvil/U-nail seat.

(4) The closure of the U-nail is incomplete, even fails if the U-nail cannot be tapped out vertically, so that accurate closure of a blood vessel cannot be realized. As a result, bleeding will appear, or even effective suture cannot be realized due to the deviation of a position where the nail is tapped out.

(5) During an implementation process of a poor-quality circumcision stapler, the U-nail may deform, fail to enter an expected location or even be tapped into the blood vessel, resulting in surgical failure and great pain in a patient.

Refer to the prepuce circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type.

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Then, a prepuce circumcision device was developed in this field. For the built-in type prepuce circumcision device, a prepuce incision is sutured using suturing nails at one time. However, in the prior art, the positions of nail grooves arranged in a comprehensive cover will be invisible once the cooperation of the comprehensive cover and a prepuce circumcision cover is completed. Therefore, U-nails in the U-nail grooves cannot accurately correspond to prepuce blood vessels during surgery, resulting in a poor surgical hemostasis effect. Even the nail heads of the U-nails may be just hammered into the blood vessels, resulting in a surgery risk as bleeding cannot be punctually stopped.

For the valgus prepuce circumcision device, a prepuce incision is sutured using suturing nails at one time. However, in the prior art, the positions of nail grooves of an inner comprehensive cover in a lower cover will be invisible once the configuration of the inner ring and the cooperation of an upper cover and the lower cover is completed. Therefore, U-nails in the U-nail grooves cannot accurately correspond to prepuce blood vessels during surgery, resulting in a poor surgical hemostasis effect. Even the nail heads of the U-nails may

be just hammered into the blood vessels, resulting in a surgery risk as bleeding cannot be punctually stopped.

Refer to the operation-visible circumcision stapler. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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Refer to the A-type valvulocircumcision stapler. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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Then, a circumcision device was developed in this field. In the circumcision device, a prepuce incision is sutured using a suturing nail in one step. However, during a surgery using a conventional built-in circumcision stapler in the prior art, a front prepuce and most of a penis are exposed outside, so that the prepuce and the penis are vulnerable to injury or infection. A portion above a prepuce clamping portion of the built-in circumcision stapler is located outside the circumcision stapler, while a U-nail suturing position is located at the top of the circumcision stapler. Once hemorrhage caused by instrument failure or misoperation occurs, a patient is likely to be infected to cause a surgical accident. The built-in circumcision stapler has a built-in circumcision knife, and thus carries out cutting inside and nailing at periphery. In case of a redundant prepuce or the like, the possibility of cutting of overlapped tissues is high, causing pain and risks. In addition, if

circumcision and hemostasis with U-nails are performed as soon as appropriate clamping is realized only through cooperation between an upper cover (upper comprehensive cover) and a lower cover (lower comprehensive cover/connecting cover) as well as between an inner ring (prepuce fixing hoop) and an inner comprehensive cover (U-nail top ring and/or thimble guide block), a prepuce blood vessel cannot be accurately positioned as a built-in nail groove is not visible. As a result, the U-nail in the U-nail groove cannot accurately correspond to the prepuce blood vessel during the surgery, so that a hemostasis effect is poor. Even, the head of the U-nail may be just hammered into the blood vessels, resulting in a surgery risk as hemostasis is not punctual. Moreover, in the existing technology, as the U-nail is directly hammered into the prepuce, the U-nail is likely to adhere with the prepuce and even U-nail cannot peel off punctually as the U-nail deeply penetrates into the prepuce in a process of waiting for necrosis and defluvia of the prepuce and peeling off of the U-nail after the surgery, causing severe pain to the patient.

Refer to the B-type valgus circumcision stapler. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic prostatitis, with a series of symptoms, such as pains in back and waist, impotence and premature ejaculation. Therefore, the removal of the redundant prepuce is a good way to prevent these diseases.

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Refer to the C-type valgus circumcision stapler. The redundant prepuce or phimosis is one of the causes of male urinary system infections and sexually transmitted diseases. The redundant prepuce or phimosis can cause urinary tract infections, resulting in chronic

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Traditionally, surgical removal of the phimosis or redundant prepuce has the main technical points of removal of excess prepuce, hemostasis, and apposition suture of cut edges to skin. A postoperative patient cannot move around, suffers unbearable pain in each change of ointment and endures huge pain when stitches are taken out finally. In addition, incomplete ligating hemostasis will cause prepuce hematoma, thus requiring a surgical treatment again. Furthermore, since the prepuce removal and the hemostasis processes are performed separately, the surgery time is prolonged, and the patient's panic is exacerbated.

A therapeutic method of applying a laser and high-frequency electric surgical knife technology to circumcision has been developed at present. Although this therapeutic method substitutes for scissors cutting and makes a bleeding spot coagulated, the patient's tissues will be burnt and susceptible to infection.

Then, a circumcision device was developed in this field. In the circumcision device, a prepuce incision is sutured using a suturing nail in one step. However, during a surgery using a conventional built-in circumcision stapler in the prior art, a front prepuce and most of a penis are exposed outside, so that the prepuce and the penis are vulnerable to injury or infection. A portion above a prepuce clamping portion of the built-in circumcision stapler is located outside the circumcision stapler, while a U-nail suturing position is located at the top of the circumcision stapler. Once hemorrhage caused by instrument failure or misoperation occurs, a patient is likely to be infected to cause a surgical accident. The built-in circumcision stapler has a built-in circumcision knife, and thus carries out cutting inside and nailing at periphery. In case of a redundant prepuce or the like, the possibility of cutting of overlapped tissues is high, causing pain and risks. In addition, if circumcision and hemostasis with U-nails are performed as soon as appropriate clamping is realized only through cooperation between an upper cover (upper comprehensive cover) and a lower cover (lower comprehensive cover/connecting cover) as well as

between an inner ring (prepuce fixing hoop) and an inner comprehensive cover (U-nail top ring and/or thimble guide block), a prepuce blood vessel cannot be accurately positioned as a built-in nail groove is not visible. As a result, the U-nail in the U-nail groove cannot accurately correspond to the prepuce blood vessel during the surgery, so that a hemostasis effect is poor. Even, the head of the U-nail may be just hammered into the blood vessels, resulting in a surgery risk as hemostasis is not punctual. Moreover, in the existing technology, as the U-nail is directly hammered into the prepuce, the U-nail is likely to adhere with the prepuce and even U-nail cannot peel off punctually as the U-nail deeply penetrates into the prepuce in a process of waiting for necrosis and defluvia of the prepuce and peeling off of the U-nail after the surgery, causing severe pain to the patient.

## **SUMMARY OF THE INVENTION**

Refer to the advancing and self-locking device and a circumcision device, as well as the assembling method and the application method .

An objective of the present invention is to provide an advancing and self-locking device and a circumcision device, as well as an assembling method and an application method of the advancing and self-locking device. With respect to the problems in the prior art, the present invention can conveniently distinguish the used circumcision device from the unused ones, and accordingly, the cross infection caused by repeated use among patients is avoided to reduce the occurrence of medical accidents. The self-locking device provided by the present invention uses a buckle structure and a convex plate structure, and is simple in structure, clear in indications, reliable in locking, and easy to operate when being applied to the circumcision device. The specific technical solution is as follows.

An advancing and self-locking device, comprising a hook and a convex plate, wherein

the convex plate is arranged on the inner wall of a sheathed handle; the hook is arranged on a sheathed core; the sheathed core is arranged in the sheathed handle in a penetrating manner; the hook and the convex plate are matched with each other so as to allow the sheathed core to only move in the sheathed handle axially and unidirectionally.

Further, a stage of convex plate is arranged on the inner wall of the sheathed handle in a movement direction of the sheathed core, thereby forming a locking position.

Further, a plurality of stages of convex plates is arranged on the inner wall of the sheathed handle in a movement direction of the sheathed core, thereby forming a plurality of locking positions.

Further, a first-stage convex plate and a second-stage convex plate are sequentially arranged on the inner wall of the sheathed handle in a movement direction of the sheathed core; a first locking position is formed at one side of the first-stage convex plate, which is close to the second-stage convex plate; a second locking position is formed at one side of the second-stage convex plate, which is away from the first-stage convex plate.

Further, a chamfer is arranged at one side of the first-stage convex plate, which is away from the second-stage convex plate.

Further, a sleeve is arranged in a region, which corresponds to a position where the convex plate is located, on the outer wall of the sheathed handle.

Further, the sleeve is rotatably arranged on the outer wall of the sheathed handle, thereby allowing or preventing the sheathed core to move or from moving in the sheathed handle axially and unidirectionally.

A circumcision device uses the advancing and self-locking device described above.

Further, the circumcision device further comprises a main device, a driving device, a removing device and a positioning device, wherein the driving device is mounted on the main device and connected to the removing device and serves to drive the removing device; the removing device is mounted on the main device, is close to or connected to the positioning device and can serve to remove and/or anastomose the prepuce positioned on the positioning

device; the positioning device is mounted on the main device and serves to position glans penis and/or prepuce.

The main device comprises the sheathed handle, the sheathed core, a knob and a screw rod, wherein the sheathed core is fully or partially arranged in the sheathed handle in a penetrating manner; the knob is arranged at the tail end of the sheathed core; one end of the screw rod is connected to the knob and arranged in the sheathed core in a penetrating manner.

The driving device comprises handles, connecting rods, pins and a spring, wherein the front ends of the handles are connected to the sheathed handle respectively; the connecting rods are connected to the middle sections of the handles respectively; the connecting rods are connected to the sheathed core respectively through the pins.

The positioning device comprises a lower sleeve, an upper sleeve, an inner sleeve, an inner sleeve washer and an upper sleeve washer, wherein the lower sleeve and the upper sleeve form an outer sleeve together; the inner sleeve is arranged in the outer sleeve; the inner sleeve is provided with the inner sleeve washer; the upper sleeve is correspondingly provided with the upper sleeve washer. The removing device comprises a blade and a thimble which are arranged between the outer sleeve and the inner sleeve.

An assembling method and an application method for the advancing and self-locking device of the circumcision device comprise the following steps:

(1) rotating the sleeve on the sheathed handle, thereby allowing the sheathed core to move;

(2) advancing the sheathed core axially in the sheathed handle, till the hook moves across the first-stage convex plate with the chamfer;

(3) stopping the hook by the second-stage convex plate after moving across the first-stage convex plate; loosening the sheathed core at this moment, such that the sheathed core moves backwards under the action of a spring, till the hook is blocked by the first-stage convex plate, thereby positioning the hook in the first locking position to accomplish the assembly of the self-locking device;

(4) mounting the handles and the connecting rods on a lock handle and a lock core;

(5) during a surgery, pressing, by an operator, the handles to drive the sheathed core to further advance axially in the sheathed handle, till the hook moves across the second-stage convex plate, thereby accomplishing the circumcision of the prepuce; and

(6) at the end of the surgery, loosening the handles, such that the sheathed core moves backwards under the action of the spring, till the hook is blocked by the second-stage convex plate, thereby positioning the hook in the second locking position to accomplish the self-locking of the circumcision device.

The present invention makes improvements in the following aspects and achieves remarkable effects.

(1) The self-locking structure in which the hooks and the two stages of convex plates are matched is designed, such that state judgment and position locking of the circumcision device during assembling and use can be effectively realized.

(2) The chamfer design is adopted at the outer surface of the first-stage convex plate, such that the resistance can be effectively reduced, and the circumcision device can be manually assembled conveniently.

(3) By designing the resistance of the second-stage convex plate to be larger than that of the first-stage convex plate, followed by the elasticity of the spring, the hook can be enabled to move across the second-stage convex plate to accomplish the circumcision of the prepuce only with the help of the lever effect of the handles, thereby avoiding the misoperations occurring in the manual assembly process, accurately positioning the hook in the first locking position and accurately accomplishing the assembly of the self-locking device.

(4) After the surgery, the hook is positioned in the second locking position, and the handles cannot reset to an initial state, thereby accomplishing the self-locking of the circumcision device. The user can judge whether an apparatus has been used accurately by observing the positions of the handles, which is simple, intuitive and high in accuracy.

(5) By means of the structural configuration of the present invention, relatively lower

resistance is provided at the first-stage convex plate, and a relatively higher resistance is provided at the second-stage convex plate, such that the start and end of assembly can be determined conveniently during assembly.

Refer to the built-in electric circumcision device and a valgus electric circumcision device.

For the above problems in the prior art, an object of the present invention is to provide an electric circumcision device, and particularly relates to a built-in electric circumcision device and a valgus electric circumcision device. In the electric circumcision device, a U-nail is driven by a motor, so that instability and various risks caused by manual drive are avoided. The specific technical solutions are as follows.

A built-in electric circumcision device comprises a motor, a thrust tube, a U-nail top ring and a circumcision cover, wherein the motor is connected to or in contact with the thrust tube, and is configured to drive the thrust tube forward; the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward; and the motor is connected to or in contact with the circumcision cover.

Further, the thrust tube is a hollow cylinder with a first ring-shaped cross section, wherein the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device.

Further, the motor has an end thread, and is connected to or in contact with the circumcision cover via the end thread.

Further, the motor has a connecting rod on which the thread is arranged.

Further, the circumcision cover comprises a positioning rod connected to or in contact with the connecting rod or the thread; and/or a positioning groove is formed in the positioning rod, and is provided with an inner thread threadedly matched with the thread.

Further, the built-in electric circumcision device also comprises a motor front shell and a comprehensive shell; the front end of the motor front shell is connected to the rear end of the

comprehensive shell; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring.

Further, the built-in electric circumcision device also comprises a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor.

Further, the built-in electric circumcision device also comprises a cable which is connected to and supplies power to the motor.

Further, the built-in electric circumcision device also comprises a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off, and/or a driving distance, and/or a driving speed of the motor.

Further, a cable hole is formed in the motor rear shell; and the cable passes through the cable hole and is connected to the motor.

According to another solution of the present invention, there is provided a valgus electric circumcision device, comprising a motor, a thrust tube and a U-nail top ring, wherein the motor is connected to or in contact with the thrust tube, and is configured to drive the thrust tube forward; and the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward.

Further, the valgus electric circumcision device comprises an inner comprehensive cover; and the motor is connected to or in contact with the inner comprehensive cover.

Further, the thrust tube is a hollow cylinder with a first ring-shaped cross section, wherein the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device.

Further, the motor has a connecting rod and an end thread on the connecting rod, and is connected to or in contact with the inner comprehensive cover via the end thread.

Further, the inner comprehensive cover comprises a positioning rod; and a positioning groove is formed in the positioning rod, and is provided with an inner thread

threadedly matched with the end thread.

Further, the valgus electric circumcision device also comprises a motor front shell and a comprehensive cover in which the inner comprehensive cover is located; the front end of the motor front shell is connected to the rear end of the comprehensive cover; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring.

Further, the valgus electric circumcision device also comprises a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor.

Further, the valgus electric circumcision device also comprises a cable which is connected to and supplies power to the motor.

Further, the valgus electric circumcision device also comprises a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off and/or a driving distance and/or a driving speed of the motor.

Further, a cable hole is formed in the motor rear shell; and the cable passes through the cable hole and is connected to the motor.

Compared with the prior art, the electric circumcision device provided by the present invention uses the motor to drive the U-nail to avoid instability and various risks caused by manual drive. Particularly, the driving force of the U-nail by the motor is adjustable and stable, so that phenomena are avoided that the U-nail applied with excessive force clamps off the prepuce tissue to cause failure of the surgery and incomplete tapping of the nail causes failure of hemostasis as the force applied to the U-nail is insufficient. Meanwhile, the switch is adopted to adjust the driving distance and speed to enable the electric circumcision device to be suitable for different surgery objects and environments. In addition, a driving structure and an actuating structure driven by a motor are adopted, so that manual driving can be omitted and the risk caused by unsynchronized running of the above two driving structures is prevented. After adopting the motor for driving, the overall appearance of the circumcision device is simple, and components such as a handle hinge and the like are omitted, so that the

mold preparation cost and the production cost are significantly reduced.

Refer to the built-in washer circumcision device and a valgus washer circumcision device. For the above problems in the prior art, an object of the present invention is to provide a washer circumcision device, and particularly relates to a built-in washer circumcision device and a valgus washer circumcision device. By arranging one or more washers, a U-nail will not be in direct contact with the skin or tissue after being tapped out and fixed to prepuce in a chamfered manner, so that allergy, infection, and too deep tapping of the nail into the tissue or dropping off of the nail are avoided. The specific technical solutions are as follows.

A built-in washer circumcision device comprises a circumcision cover, a comprehensive cover and a first washer and/or a second washer, wherein the comprehensive cover is provided with a U-nail groove; the first washer is arranged in the U-nail groove along the longitudinal outer side of the comprehensive cover; a U-nail seat corresponding to the U-nail groove is arranged on the circumcision cover; and the second washer is arranged on the U-nail seat.

Further, a first ring-shaped groove is formed at the end of the comprehensive cover towards the circumcision cover, and is located outside the U-nail groove; and the first washer is arranged in the first ring-shaped groove.

Further, the first washer is slightly wider than the first ring-shaped groove, so that the first washer is elastically clamped in the first ring-shaped groove.

Further, the first washer has a ring and a protrusion located on the bottom surface of the ring; a second ring-shaped groove is also formed at the end of the comprehensive cover towards the circumcision cover, and is located in the periphery of the first ring-shaped groove; and the protrusion is configured to be clamped in the second ring-shaped groove.

Further, a third ring-shaped groove is formed in the U-nail seat towards the U-nail groove; and the second washer is arranged in the third ring-shaped groove.

Further, the comprehensive cover is provided with a circumcision knife; and a third

washer is arranged at the end of the circumcision cover towards the comprehensive cover and corresponds to an anvil of the circumcision knife.

Further, the third washer has a first lateral portion surrounding the anvil, a longitudinal portion perpendicular to the first lateral portion, and a second lateral portion surrounding the U-nail seat.

Further, the first, second and/or third washers are rubber washer(s) and/or silicone washer(s).

Further, the built-in circumcision device may be a flat-head-type or inclined-head-type built-in circumcision device.

Further, the first washer is a U-nail backing ring; a protruding positioning ring is arranged on one surface of the U-nail backing ring; a placing groove is formed on the comprehensive cover in the periphery of the first ring-shaped groove; and the positioning ring and the placing groove may be clamped or elastically cooperate with each other to fix the U-nail backing ring.

Both the first and second washers are located on the same axis as a U-nail.

The present invention further provides a valgus washer circumcision device, comprising: an inner comprehensive cover, an inner ring and a first washer and/or a second washer, wherein the inner comprehensive cover and the inner ring correspond to each other vertically; the first washer is arranged at the end of the inner ring towards the inner comprehensive cover; and/or a U-nail groove is formed at the outer edge of the inner comprehensive cover; and the second washer is arranged at the top of the U-nail groove.

Further, both the first and second washers are located on the same axis as a U-nail in the U-nail groove.

Further, a first ring-shaped groove is formed on the lower end surface of the inner ring towards the inner comprehensive cover; and the first washer is arranged in the first ring-shaped groove.

Further, the first washer is slightly wider than the first ring-shaped groove, so that the

first washer is elastically clamped in the first ring-shaped groove.

Further, the second washer is arranged outside the U-nail groove, and is located above the opening of the groove.

Further, the second washer has a ring and a protrusion located on the bottom surface of the ring; and the protrusion is configured to be clamped in the U-nail groove.

Further, the second washer is arranged at the top inside the U-nail groove.

Further, the second washer is slightly wider than the U-nail groove, so that the second washer is elastically clamped in the U-nail groove.

Further, a second ring-shaped groove whose top is flush with that of the inner comprehensive cover is formed between the inner edge of the inner comprehensive cover and the U-nail groove; and the second washer is arranged in the second ring-shaped groove.

Further, the valgus washer circumcision device also comprises an upper cover and a lower cover which correspond to each other vertically; the inner comprehensive cover is arranged in the lower cover; the inner ring is arranged in the upper cover; and the inner comprehensive cover and the inner ring correspond to each other vertically.

Compared with the prior art, the present invention provides one or more washer structures. During a circumcision operation, after being tapped out from a U-nail chamber, the U-nail first passes through the washer, so that the main surface of the U-nail will not contact the prepuce skin or tissue after being nailed with the prepuce tissue.

Further, if a plurality of washers is arranged, after being tapped out from a U-nail chamber, the U-nail first passes through the first washer and prepuce tissue sequentially and then the second washer before being in contact with the U-nail seat, and then is clamped in the U-nail seat in a chamfered manner, such that a sandwiched structure comprising the washer, the prepuce and the other washer is formed in the clamped U-nail. Therefore, the possibility that the prepuce tissue is in contact with the metal U-nail is reduced to the greatest extent, so that allergy, infection, too deep tapping of the U-nail into the tissue or dropping off of the U-nail are avoided.

Refer to the blood vessel docking apparatus of a built-in or valgus circumcision device.

Regarding the existing technical problems, the purpose of the present invention is to provide a blood vessel docking apparatus of a built-in circumcision device, which can accurately determine the corresponding situation of the prepuce blood vessel and the U-nail when the circumcision cover cooperates with the comprehensive cover through the blood vessel corresponding/docking devices arranged on the circumcision cover and the comprehensive cover, so as to perform final positioning of the circumcision cover and the comprehensive cover after the blood vessel is accurately positioned, thereby greatly improving the effect of surgical hemostasis.

The purpose of the present invention is to further provide a blood vessel docking apparatus of a valgus circumcision device, which can accurately determine the corresponding situation of the prepuce blood vessel and the U-nail when the upper cover cooperates with the lower cover and the inner ring cooperates with the inner comprehensive cover through the blood vessel docking device arranged on the inner ring, so as to perform final positioning of the inner ring, the inner comprehensive cover, the upper cover and the lower cover after the blood vessel is accurately positioned, thereby greatly improving the effect of surgical hemostasis.

The specific technical solution is as follows:

A blood vessel docking apparatus for a circumcision device comprises a circumcision cover and a comprehensive cover, and further comprises blood vessel corresponding grooves and/or blood vessel docking grooves, wherein the circumcision cover and the comprehensive cover are configured to be assembled or connected with each other; a plurality of blood vessel corresponding grooves is disposed along a periphery of a front end of the circumcision cover; and/or a plurality of blood vessel docking grooves is disposed along a periphery of a front end of the comprehensive cover.

Further, front ends of the blood vessel corresponding grooves are close to an annular top end of the circumcision cover, and back ends of the blood vessel corresponding grooves are away from the annular top end of the circumcision cover backwards relative to the front ends

of the blood vessel corresponding grooves.

Further, the blood vessel corresponding grooves obliquely extend backwards from the front end of the circumcision cover.

Further, a top end of the comprehensive cover is provided with an annular outer wall, the blood vessel docking grooves are disposed on an outer surface of the annular outer wall, front ends of the blood vessel docking grooves are flush with a top end of the annular outer wall, or the front ends of the blood vessel docking grooves are higher than the top end of the annular outer wall, or the front ends of the blood vessel docking grooves are lower than the top end of the annular outer wall.

Further, back ends of the blood vessel docking grooves are away from the top end of the annular outer wall backwards relative to the front ends of the blood vessel docking grooves.

Further, the blood vessel docking grooves obliquely extend backwards from the top end of annular outer wall.

Further, the comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and nail outlets of the U-nail grooves are disposed on or close to the top end of the comprehensive cover.

Further, the nail outlets of the U-nail grooves are disposed in the annular outer wall.

Further, the plurality of blood vessel correspondig grooves correspond to the blood vessel docking grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or, the plurality of blood vessel docking grooves correspond to the blood vessel corresponding grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or, the width of the plurality of blood vessel correspondig grooves corresponds to the width of the blood vessel docking grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves; and/or, the width of the plurality of blood vessel docking grooves corresponds to the width of the blood vessel corresponding grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves.

Further, an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and the annular top end of the circumcision cover; and/or, an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and convex plates formed among the blood vessel docking grooves; and/or, the front ends of the blood vessel docking grooves are narrower than the back ends thereof; and/or, a U-nail top ring and a lower comprehensive cover are further included, the back end of the circumcision cover is provided with a positioning rod matched and connected with a positioning groove of the U-nail top ring, and a back end of the comprehensive cover is connected to a lower comprehensive cover.

A blood vessel docking apparatus for a valgus circumcision device comprises an inner ring, an inner comprehensive cover and blood vessel docking grooves, wherein the inner ring and the inner comprehensive cover are configured to be assembled or connected with each other; and a plurality of blood vessel docking grooves is disposed along a periphery of a back end of the inner ring.

Further, the inner comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and the U-nail grooves are disposed along a periphery of a front end of the inner comprehensive cover.

Further, the nail outlets of the U-nail grooves are disposed on or close to the top end of the inner comprehensive cover.

Further, the positions of the plurality of blood vessel docking grooves correspond to the positions of the U-nail grooves, and/or the positions of the U-nails in the U-nail grooves one by one; and/or, the width of the plurality of blood vessel docking grooves correspond to the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves.

Further, the blood vessel docking grooves are preset on the inner ring, or the blood vessel docking grooves are prefabricated rings and capable of sleeving the inner ring.

Further, back ends of the blood vessel docking grooves are close to an annular back end of the inner ring or flush with the back end of the inner ring, and front ends of the blood vessel docking grooves are away from the annular back end of the inner ring forwards

relative to the back ends of the blood vessel docking grooves.

Further, the apparatus comprises a U-nail top ring to be assembled and matched with the inner comprehensive cover to push the U-nail out of the U-nail groove.

Further, the apparatus comprises an upper cover and a lower cover, wherein the upper cover and the lower are assembled and connected with each other, the inner ring is arranged in the upper cover, and all or part of the inner comprehensive cover is disposed in the lower cover.

Further, the apparatus comprises a comprehensive cover, wherein a front end of the comprehensive cover is connected to a back end of the lower cover, and all or part of the U-nail top ring is disposed in the comprehensive cover.

For the built-in type, the present invention can accurately determine the corresponding situation of the prepuce blood vessel and the U-nails when the circumcision cover cooperates with the comprehensive cover through the blood vessel corresponding/docking devices arranged on the circumcision cover and the comprehensive cover, so as to perform final positioning of the circumcision cover and the comprehensive cover after the blood vessel is accurately positioned, thereby greatly improving the effect of surgical hemostasis. More preferably, the blood vessel corresponding grooves and the blood vessel docking grooves can be flexibly arranged so as to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, and the cooperating relationship between the blood vessel corresponding grooves and the blood vessel docking grooves, the widths of the blood vessel corresponding grooves and the blood vessel docking grooves and so on, thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surface closes the blood vessels, so that hemostasis is good during surgery, and necrosis is accelerated after surgery.

For the valgus type, compared with the prior art, the present invention can accurately determine the corresponding situation of the prepuce blood vessel and the U-nails when the upper cover cooperates with the lower cover and the inner ring cooperates with the inner comprehensive cover through the blood vessel docking devices arranged on the inner ring, so

as to perform final positioning of the inner ring, the inner comprehensive cover, the upper cover and the lower cover after the blood vessel is accurately positioned, thereby greatly improving the effect of surgical hemostasis. More preferably, the blood vessel docking grooves can be flexibly arranged so as to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, cooperation relationship of the intervals among the U-nail grooves, and the widths of the blood vessel corresponding grooves and the blood vessel docking grooves and so on, thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surface closes the blood vessels, so that hemostasis is good during surgery, and necrosis is accelerated after surgery.

Refer to the built-in or valgus graduated circumcision device.

Regarding the above technical problems, an object of the present invention is to provide a built-in graduated circumcision device which can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of a graduation device arranged on the comprehensive cover, thereby greatly improving the effect of surgical hemostasis.

Regarding the above technical problems, an object of the present invention is to further provide a valgus graduated circumcision device which can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of a graduation device arranged on an upper cover, a lower cover or a locking ring, thereby greatly improving the effect of surgical hemostasis.

The specific technical solutions are as below.

A built-in graduated circumcision device comprises a comprehensive cover, a circumcision cover and a graduation device, wherein the comprehensive cover and the circumcision cover are assembled to and cooperate with each other; and the graduation device is arranged on the comprehensive cover.

Further, the graduation device is arranged at the end, close to the circumcision cover, of an outer surface of the comprehensive cover.

Further, the graduation device comprises a ring of graduations annularly arranged on a

periphery of the end, close to the circumcision cover, of the comprehensive cover.

Further, a plurality of U-nail grooves which constitutes a ring is arranged in the comprehensive cover.

Further, graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves.

Further, the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves.

Further, the graduation device is graduations carved on the comprehensive cover in advance and/or a graduation label adhered to the comprehensive cover and/or a prefabricated graduation ring or graduation strip sleeving the comprehensive cover.

Further, the circumcision device is of a flat head or oblique head type.

Further, a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves.

Further, a ring of blood vessel corresponding grooves are annularly arranged on an outer surface of the circumcision cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or the intervals among the blood vessel corresponding grooves.

A valgus graduated circumcision device comprises an upper cover and/or a lower cover, and/or a locking ring, and further comprises a graduation device, wherein the upper cover and the lower cover are assembled to and cooperate with each other; the locking ring is used for locking the upper cover and the lower cover; and the graduation device is arranged on the upper cover, and/or the lower cover, and/or the locking ring.

Further, the graduation device is arranged at the end, close to the lower cover, of an outer surface of the upper cover.

Further, the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the lower cover, of the upper cover.

Further, the graduation device is arranged at the end, close to the upper cover, of an outer surface of the lower cover.

Further, the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the upper cover, of the lower cover.

Further, the graduation device is arranged on a periphery of the locking ring.

The valgus graduated circumcision device further comprises an inner comprehensive cover arranged in the lower cover, wherein a plurality of U-nail grooves are annularly arranged on a periphery of the inner comprehensive cover and constitute a ring.

Further, graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves.

Further, the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves.

Further, the graduation device is graduations carved on the upper cover, and/or the lower cover, and/or the locking ring; and/or a graduation label adhered to the upper cover, and/or the lower cover, and/or the locking ring; and/or a prefabricated graduation ring or graduation strip sleeving the upper cover, and/or the lower cover, and/or the locking ring.

For the built-in type, compared with the prior art at the present, the present invention can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of the graduation device arranged on the comprehensive cover, so that the U-nails tightly ties the blood vessels to the greatest extent, thereby greatly improving the effect of

surgical hemostasis. More preferably, the graduation marks on the graduation device can be flexibly arranged to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, the blood vessel docking grooves, the intervals among the blood vessel docking grooves, the blood vessel corresponding grooves, the intervals among the blood vessel corresponding grooves, etc., thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surfaces close the blood vessels finally, so that hemostasis is good during surgery, and necrosis is accelerated after surgery.

For the valgus type, compared with the prior art at the present, the present invention can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of the graduation device arranged on the upper cover, the lower cover or the locking ring, so that the U-nails tightly ties the blood vessels to the greatest extent, thereby greatly improving the effect of surgical hemostasis. More preferably, the graduation marks on the graduation device can be flexibly arranged to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, etc., thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surfaces close the blood vessels finally, so that hemostasis is good during surgery, and necrosis is accelerated after surgery. Brief description of the drawings.

Refer to the knob opening device and a circumcision device.

An objective of the present invention is to provide a knob opening device and a circumcision device, and an assembly method and a use method of the knob opening device. With respect to the problems in the prior art, the knob state can be accurately confirmed in use, corresponding operations can be achieved through rotation of the knob, and medical accidents are avoided. An opening action can be finished with no need for an elastic structure. A convex plate structure with a clamping groove is adopted, and therefore, positioning is reliable. The specific technical solution is as follows.

A knob opening device comprises an opening knob and a knob fastening device, wherein the opening knob rotatably sleeves a sheathed handle; the knob fastening device is

arranged on the sheathed handle; the opening knob cooperates with the knob fastening device to rotate and/or axially move.

Further, the knob fastening device is of a groove structure arranged on the sheathed handle.

Further, the inner surface of the opening knob facing the knob fastening device is provided with a slider which is capable of sliding in the knob fastening device, such that the opening knob is driven to rotate and/or axially move.

Further, the opening knob is an annular opening knob whose inner surface is provided with a slider and whose outer surface is provided with stripes.

Further, the knob fastening device comprises a first position and a second position, and serves to block the opening knob from moving towards a first direction at the first position and block the opening knob from moving towards a second direction at the second position.

Further, the knob fastening device comprises a first convex plate and a second convex plate; the first position is an assembly completion position and located below the first convex plate; the first direction is upward axially along the sheathed handle perpendicular to the first convex plate; the second position is a use completion position and located below the second convex plate; the second direction is upward axially along the sheathed handle perpendicular to the second convex plate.

Further, the knob fastening device comprises a third position, a fourth position, and/or a fifth position and serves to block the opening knob from moving towards a third direction at the third position, block the opening knob from moving towards a fourth direction at the fourth position, and block the opening knob from moving towards a fifth direction at the fifth position.

Further, the knob fastening device comprises a third convex plate, a fourth convex plate and an enclosed structure; the third position is located at the right side of the third convex plate; the third direction is leftward and perpendicular to the third convex plate; the fourth position is located below a left sidewall of the knob fastening device; the fourth direction is

leftward and perpendicular to the left sidewall of the knob fastening device; the fifth position is located inside the enclosed structure; the fifth direction faces the outside of the enclosed structure.

Further, the groove structure comprises a positioning groove, an advancing groove and a mounting groove, wherein the positioning groove is arranged longitudinally parallel to an axial direction of the sheathed handle and serves to allow the slider to move longitudinally in the positioning groove; the advancing groove is arranged longitudinally parallel to the axial direction of the sheathed handle and serves to allow the slider to move longitudinally in the advancing groove; the mounting groove is arranged transversely and perpendicularly to the axial direction of the sheathed handle and serves to allow the slider to move transversely in the mounting groove.

Further, the mounting groove is arranged at one side of the positioning groove and communicated to the lower part of the positioning groove; the advancing groove is arranged at the other side of the positioning groove and communicated to the upper part of the positioning groove.

Further, the first convex plate is formed on the top of the positioning groove; the second convex plate is formed on the top of the advancing groove; the third convex plate is formed at the left end of the mounting groove; the enclosed structure is formed at the right end of the mounting groove.

Further, the knob opening device further comprises a positioning point, wherein the positioning point is arranged between the positioning groove and the advancing groove and serves to position the slider at the first position.

Further, the positioning point blocks the slider from rotating in a direction from the advancing groove to the positioning groove; and/or, the positioning point provides a resistance, which can be overcome, to block the slider from rotating in a direction from the positioning groove to the advancing groove, or can be moved across by the slider to rotate in a direction from the positioning groove to the advancing groove.

Further, the positioning point is an arcuate protrusion, or the positioning point has a

slope in a direction from the positioning groove to the advancing groove and has a vertical surface at one side close to the advancing groove.

Further, the opening knob is provided with a pointing arrow; the sheathed handle is provided with an identification point; when the pointing arrow is arranged to point to the identification point, the knob opening device is in an initial assembly state; or, when the pointing arrow is arranged to point to the identification point, the knob opening device has been in an assembly completion state; or when the pointing arrow is arranged to point to the identification point, the knob opening device has been in an available state; or, when the pointing arrow is arranged to point to the identification point, the knob opening device has been in a use completion state; or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the assembly completion state; or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the available state; or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the use completion state.

Further, the knob opening device further comprises a sheathed core which is arranged in the middle of the sheathed handle and which is capable of sliding upwards and downwards along the sheathed handle and pushing the opening knob or the slider on the opening knob to move upwards.

A circumcision device adopts the knob opening device described above.

Further, the circumcision device further comprises a main device, a driving device, a removing device and a positioning device, wherein the driving device is mounted on the main device and connected to the removing device and serves to drive the removing device; the removing device is mounted on the main device, is close to or connected to the positioning device and can serve to remove and/or anastomose the prepuce positioned on the positioning device; the positioning device is mounted on the main device and serves to position glans penis and/or prepuce.

The main device comprises the sheathed handle, the opening knob, the sheathed core,

the knob and a screw rod, wherein the opening knob rotatably sleeves the sheathed handle; the sheathed core is fully or partially arranged in the sheathed handle in a penetrating manner; the knob is arranged at the tail end of the sheathed core; one end of the screw rod is connected to the knob and arranged in the sheathed core in a penetrating manner.

The driving device comprises handles, connecting rods, pins and a spring, wherein the front ends of the handles are connected to the sheathed handle respectively; the connecting rods are connected to the middle sections of the handles respectively; the connecting rods are connected to the sheathed core respectively through the pins.

The positioning device comprises a lower sleeve, an upper sleeve, an inner sleeve, an inner sleeve washer and an upper sleeve washer, wherein the lower sleeve and the upper sleeve form an outer sleeve together; the inner sleeve is arranged in the outer sleeve; the inner sleeve is provided with the inner sleeve washer; the upper sleeve is correspondingly provided with the upper sleeve washer. The removing device comprises a blade and a thimble which are arranged between the outer sleeve and the inner sleeve.

An assembly method for the knob opening device comprises the following steps: (1) mounting the slider of the opening knob into the mounting groove on the sheathed handle; (2) rotating the opening knob leftwards within the mounting groove to be end till touching the third convex plate, and then stopping rotating; (3) advancing the opening knob upwards by the sheathed core; and (4) blocking the slider by the first convex plate and the positioning point, thereby completing the assembly.

A use method for the knob opening device comprises the following steps: 1) rotating the opening knob, such that the slider moves across the positioning point and into the advancing groove; 2) pushing the opening knob by the sheathed core, such that the opening knob moves upwards along the advancing groove; and 3) blocking the opening knob by the second convex plate, thereby completing the use action.

Compared with the prior art, the present invention makes overall improvements in the following aspects.

(1) Due to the adoption of a structure in which the clamping groove cooperates with the

slider, the relative movement between the knob and the sheathed handle is realized conveniently and accurately, and it is also guaranteed that the relative movement is performed completely according to the will of an operator, without misoperations.

(2) The outer surface of the opening knob is provided with the stripes so as to facilitate the operation of personnel, thereby avoiding slipping and misoperations.

(3) By means of the clamping groove and the convex plate structure thereof, the first position, the second position, the third position, the fourth position and the fifth position of the slider are defined, thereby defining the movement direction and the fixed position of the slider under each assembled or used state. And the assembling and use functions of the knob opening device of the present invention are realized by means of each position.

(4) The positioning groove, the advancing groove and the mounting groove are further arranged in the groove structure, such that the assembled state can be separated from the used state by means of the design of the positioning groove between the advancing groove and the mounting groove. A user can accurately judge the state of an apparatus during operation, thereby facilitating the operation.

(5) By means of the positioning point, it is easy to judge whether an assembly position has been reached during assembly, and an irreversible fastening structure is further provided (it is guaranteed that the circumcision device can be used disposably to avoid cross infection caused by repeated use). In addition, it is also possible to provide a resistance, which can be overcome, at the assembly position, so as to facilitate to determine whether the assembly is completed during assembly and ensure the use availability before use.

(6) By means of the identification point and the pointing arrow, whether the assembly position and the use position are reached is easily judged during assembly and use, thereby intuitively displaying an opened/closed state.

(7) The opening knob rotatably sleeves the sheathed handle and is arranged on the circumcision device, such that corresponding operations can be realized just by confirming the state and rotating the knob during use, thereby avoiding medical accidents.

(8) The opening action of the opening structure can be finished without the need for an elastic structure. The convex plates are relatively higher, and therefore positioning is reliable.

Refer to the positioning device for a built-in circumcision device.

With respect to the above exiting technical problems, an objective of the present invention is to provide a positioning device for a built-in circumcision device. According to the positioning device, a positioning state of a knob and a connecting block can be accomplished uniquely and definitely by cooperating a positioning structure arranged on the rear end surface of the connecting block with a second positioning structure on the front end surface of the knob. The specific technical solution is as follows.

A positioning device for a built-in circumcision device comprises a connecting block, a knob, a first positioning structure and a second positioning structure, wherein the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other; the first positioning structure is arranged on the rear end surface of the connecting block; the second positioning structure is arranged on the front end surface of the knob; the first positioning structure and the second positioning structure cooperate with each other, such that the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other.

Further, the first positioning structure includes one or more positioning convex points or positioning concave points; the second positioning structure includes one or more positioning concave points or positioning convex points; the positioning concave point and the positioning convex point cooperate with each other in a concave-convex manner, thereby accomplishing the positioning of the connecting block and the knob when they cooperate in place.

Further, the front end of the connecting block serves to connect a lower comprehensive cover; the rear part or the middle-rear part of the connecting block is provided with a transverse groove for allowing a sliding rod to be embedded, wherein the rear end of the sliding rod is flush with the rear end of the connecting block; the rear end of the connecting block is provided with a hole or a cylindrical groove which serves to connect the knob.

Further, the first positioning structure includes three positioning convex points which are uniformly arranged along the rear end surface of the connecting block.

Further, the knob is provided with a fixed surface which is provided with a cylindrical protrusion; the cylindrical protrusion serves to be inserted into the hole or the cylindrical groove of the connecting block.

Further, the second positioning structure includes three positioning concave points which are uniformly arranged along the circumference of the fixed surface of the knob.

Further, the outer surface of the connecting block is provided with a first positioning mark; the outer surface of the knob is provided with a second positioning mark; the first positioning mark serves to be aligned to the second positioning mark in rotation and is capable of being in an aligned state after the first positioning structure and the second positioning structure are positioned in a cooperating manner.

Further, an internal thread is arranged in the middle of the cylindrical protrusion and serves to be connected to an external thread at the rear end of the connecting rod in a manner of cooperating with each other.

Further, the front end of the connecting rod is provided with an external thread which serves to be connected to the rear end of a circumcision cover at the front end; the rear end of the circumcision cover is provided with a positioning rod; the positioning rod is provided with an internal thread which serves to be connected with the external thread arranged at the front end of the connecting rod in a manner of cooperating with each other.

Further, the positioning device further comprises a comprehensive cover whose front end serves for connecting the circumcision cover and whose rear end is connected to a lower comprehensive cover.

Compared with the prior art, the present invention has the advantages that the final positioning state of the connecting block and the knob is accomplished by adopting the positioning structures arranged on the end surfaces, which cooperate with each other, of the connecting block and the knob, thereby avoiding the error in the event of subjectively

judging whether the positioning is accomplished by manual rotation. Especially by means of the cooperation of the positioning convex points and the positioning concave points, after the rotation is in place, the plug or the knob cannot be rotated even if a user tries harder, such that the positioning between the two structures is definite and unique. The following problems cannot occur: when the rotation is too loose, it is possible that the front end of the connecting rod cannot be connected firmly or even loosened, and tends to drive towards a front cover body to produce a problem during a surgery, thereby resulting in surgery failure; when the rotation is too tight, it is possible to cause excessive threaded fit at the rear end of the connecting rod, thereby resulting in poor threaded fit at the front end of the connecting rod.

Further, an alignment device which is arranged on the outer surfaces of the connecting block and the knob cooperates with the positioning structures. After multiple rotations and multiple alignments, the alignment device is just in an aligned state when the positioning structures are eventually positioned in a concave-convex cooperating manner. Therefore, an operator can further judge and determine a positioning state of the circumcision device by observing the state of the alignment device and according to a condition under which the alignment device cannot be further rotated even if a rotation force increases.

Refer to the knob opening/closing device of a circumcision device.

An object of the present invention is to provide a knob opening device for the problem in the prior art, which can accurately confirm a knob state and realize a corresponding operation by rotating the knob during use, thereby avoiding medical accidents. In addition, an elastic structure is not required to complete the opening action and a convex plate structure of a clamping groove is used, and thus the positioning is reliable. The specific technical solution is as below.

A knob opening/closing device of a circumcision device comprises a connection block and an opening knob, wherein the opening knob sleeves the connection block; a sliding block is arranged on an inner surface of the opening knob; a guide groove is arranged on an outer surface of the connection block; and the sliding block is embedded into the guide groove and can slide along the guide groove, so that the circumcision device is in an opening or closing

state.

Further, a pointer is arranged on the opening knob, an opening mark and/or a closing mark are/is arranged on the connection block, and the pointer is used for pointing to the opening mark or the closing mark when the opening knob rotates.

Further, the opening mark and/or the closing mark comprise(s) at least one recess formed in the connection block.

Further, the opening mark and/or the closing mark comprise(s) at least one color sheet embedded into the at least one recess.

Further, the recesses are two recesses representing the opening state and the closing state respectively and the color sheets are two color sheets embedded into the two recesses respectively and are different in color.

Further, the color sheets correspond to the recesses in shape and slightly larger than the recesses, so that the color sheets can stay in the recesses using elastic buckles after being embedded into recesses.

Further, the guide groove has a transverse part and a longitudinal part, and when being located at a first end or a second end of the transverse part or a first end or a second end of the longitudinal part, the sliding block buckles a handle of the circumcision device, so that the handle cannot be driven, or when being located at the first end or the second end of the transverse part or the first end or the second end of the longitudinal part, the sliding block unlocks the handle of the circumcision device, so that the handle can be driven.

Further, the pointer is arranged at a position where the pointer points to the closing mark when the sliding block buckles the handle of the circumcision device so that the handle cannot be driven, and/or the pointer is arranged at a position where the pointer points to the opening mark when the sliding block unlocks the handle of the circumcision device so that the handle can be driven.

Further, a front end of the connection block is used for connecting a lower comprehensive cover of a built-in circumcision device or a comprehensive cover of a valgus

circumcision device, a transverse groove is formed in a rear part or a middle-rear part of the connection block and is used for embedding of a sliding rod, and a rear end of the connection block is used for connecting the knob of the built-in circumcision device or a plug of the valgus circumcision device.

Further, a cross section of the opening knob takes the shape of a ring, and/or stripes for increasing a frictional force are arranged on an outer surface of the opening knob.

Compared with the prior art at present, the present invention makes overall improvements on the following aspects.

(1) By adopting a structure that a clamping groove cooperates with the sliding block, the relative movement between the opening knob and a sheathed handle is achieved conveniently and precisely, and is ensured to be performed according to the desire of an operator and thus a misoperation does not occur.

(2) The knob and a marking device cooperate with a pointer, so that the knob controls the opening/closing, and the state of the circumcision device can be determined by only observing a mark to which the pointer points, thereby avoiding the waste of disposable equipment caused by attempting to determine the opening and closing states, while avoiding misoperations.

(3) Prefabricated plastic color sheets are buckled into circular concave points, so that pollution caused by adopting paint or pigment is avoided. Further, the plastic color sheets are buckled into the concave points using elastic buckles thereof, without an adhesive material, so that pollution is completely avoided during production, transportation and use processes.

(4) Stripes are arranged on the outer surface of the opening knob, so that an operator can operate conveniently, and sliding off and misoperations are avoided.

(5) By arranging an identification point and an arrow pointing a direction, it is easy to determine whether to reach assembly and use positions during assembly and use, and the opening and closing states are displayed intuitively.

(6) The opening knob rotatably sleeves a sheathed handle and then is arranged on the

circumcision device, and a corresponding operation can be realized by confirming the state and rotating the knob only, thereby avoiding medical accidents.

(7) The opening structure does not require an elastic structure to complete the opening action. As the sliding block is relatively higher, the positioning is reliable.

Refer to the circumcision stapler and a U-nail thimble.

For the above problems in the prior art, an object of the present invention is to provide an improved circumcision stapler and a U-nail thimble thereof. By improving the U-nail thimble, the U-nail thimble and a U-nail can be positioned completely and cooperate with each other in a static or dynamic state, so that tapping of the U-nail is accurate, and the success rate of the surgery is high. The specific technical solutions are as follows.

A U-nail thimble comprises a thimble body and a thimble positioning device, wherein the thimble positioning device is arranged at one end of the thimble body, and comprises a concave positioning groove or a convex positioning stage which is configured to cooperate with a U-nail to position the U-nail in a static or moving state.

Further, the U-nail comprises two sides and a bottom edge; the positioning groove is configured to cooperate with or accommodate a part or all of the bottom edge of the U-nail and to position the U-nail in a static or moving state.

Further, the positioning groove is formed at the center of the end of the thimble; and/or, the positioning groove is an arc-shaped groove or a right-angled groove; and/or, a rounded corner or right angle is formed between the positioning groove and the plane of the end of the thimble body.

Further, the U-nail comprises two sides and a bottom edge; there is at least one convex positioning stage; and a space defined by the positioning stage is configured to accommodate a part or all of the bottom edge of the U-nail to position the U-nail in a static or moving state.

Further, there are two convex positioning stages which are arranged at opposite corners or two ends of one side of the thimble, respectively; or there are three convex positioning stages; or there are four convex positioning stages arranged at four corners of the end of the

thimble, respectively; or the top surface of the convex positioning stage is flat and the side surface thereof is arc-shaped.

A circumcision stapler comprises a U-nail thimble and a U-nail. The U-nail thimble is that described above, and faces the lower end surface of the U-nail to position and move the U-nail.

Further, the width of the bottom edge of the U-nail is equal to or slightly smaller than the width between convex positioning stages; and/or the width of the bottom edge of the U-nail is smaller than the width of the opening of the positioning groove; and/or the side of the bottom edge of the U-nail facing the U-nail thimble is arc-shaped; and/or the long edge of the end of the top of the U-nail thimble corresponds to the long edge of the U-nail, and the wide edge thereof corresponds to the wide edge of the U-nail.

Further, the circumcision stapler is a built-in circumcision stapler, comprising: a comprehensive cover and a circumcision cover which are assembled to and cooperate with each other; a plurality of U-nail grooves formed in the comprehensive cover is configured to accommodate U-nails and forms a ring; a U-nail top ring is entirely or partially arranged in the comprehensive cover; and U-nail thimbles corresponding to the U-nail grooves one by one are arranged at the top end of the comprehensive cover.

Further, the lower end of the circumcision cover is inserted into the comprehensive cover, and the upper end thereof is supported at the top end of the comprehensive cover to cooperate with the comprehensive cover to clamp prepuce; and/or the circumcision stapler further comprises a circumcision knife partially or entirely arranged in the U-nail top ring; and/or a plurality of blood vessel corresponding grooves arranged in a ring is formed at the upper end of the circumcision cover, and corresponds to the U-nail grooves one by one; and/or a ring of blood vessel docking grooves or graduations is further formed on the outer surface of the comprehensive cover, and corresponds to the U-nail grooves or the blood vessel corresponding grooves one by one.

Further, a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to

insert in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover correspond to the U-nail grooves one by one.

Compared with the prior art, in the present invention, when the thimble and the U-nail are in a static state, the U-nail can be positioned by the end of the thimble, so that the U-nail is located vertically upwards in the nail-groove. When the thimble and the U-nail are in a dynamic state, the displacement between the U-nail and the thimble in the horizontal direction or other directions caused by vibration of the circumcision stapler will not occur, and the U-nail still keeps vertically upwards when the U-nail and the thimble collide with each other and move with respect to each other in a tapping process of the U-nail. The U-nail can precisely penetrate through the prepuce tissue and is in vertical contact with the U-nail anvil to be closed, so that accurate closure of a blood vessel and effective suture are realized. Therefore, the surgical failure problem caused by the deformation of the U-nail, failure of tapping of the U-nail to an expected location, or even tapping of the U-nail into the blood vessel is avoided.

Refer to the prepuce circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type.

Regarding the above existing technical problems, an objective of the present invention is to provide a prepuce circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type. For the built-in type prepuce circumcision stapler, the corresponding situation of prepuce blood vessels and U-nails can be accurately judged during surgery by means of an indication device arranged on a comprehensive cover, thereby greatly improving the effect of surgical hemostasis. For the valgus prepuce circumcision stapler, the corresponding situation of prepuce blood vessels and U-nails can be accurately judged during surgery by means of an indication device arranged on an upper cover, a lower cover, an inner ring or a locking ring, thereby greatly improving the effect of surgical hemostasis. The specific technical solution is as follows.

A built-in prepuce circumcision stapler with an indication device comprises a

comprehensive cover, a prepuce circumcision cover and the indication device, wherein the comprehensive cover and the prepuce circumcision cover are assembled to and cooperate with each other; the indication device is arranged on the comprehensive cover.

Further, the indication device is arranged at one end, close to the prepuce circumcision cover, of the outer surface of the comprehensive cover.

Further, the indication device is a ring of protrusions or recesses which are annularly arranged on the periphery of one end, close to the prepuce circumcision cover, of the comprehensive cover; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses.

Further, a plurality of U-nail grooves which serves to accommodate U-nails and constitutes a ring is arranged in the comprehensive cover.

Further, the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or the U-nails in the U-nail grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the U-nail grooves and/or the intervals among the U-nail grooves and/or the U-nails in the U-nail grooves.

Further, the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the U-nail groove, and/or the width of the U-nail in the U-nail groove, and/or the width of the interval between the U-nail grooves.

Further, the indication device is protrusions or recesses prefabricated on the comprehensive cover, and/or an indication label which is adhered to the comprehensive cover and has protrusions or recesses, and/or a prefabricated indication ring or indication strip which sleeves the comprehensive cover and has protrusions or recesses.

Further, the protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips; preferably, both the

left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved.

Further, the prepuce circumcision stapler is of a flat head or oblique head type.

Further, a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves; and/or a ring of blood vessel corresponding grooves are annularly arranged on the outer surface of the prepuce circumcision cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or intervals among the blood vessel corresponding grooves.

A valgus prepuce circumcision stapler with an indication device comprises an upper comprehensive cover, a lower comprehensive cover and/or a connecting cover, a prepuce fixing hoop, a U-nail device and the indication device, wherein the upper comprehensive cover and the lower comprehensive cover are assembled to and cooperate with each other; or, the lower part of the upper comprehensive cover is connected to the connecting cover, and the lower part of the connecting cover is connected to the lower comprehensive cover; the prepuce fixing hoop is arranged in the upper comprehensive cover, or the prepuce fixing

hoop and the upper comprehensive cover are of an integral structure; the U-nail device is fully or partially arranged in the lower comprehensive cover; or the U-nail device is fully or partially arranged in the connecting cover; or, a part of the U-nail device is arranged in the lower comprehensive cover, and the other part of the U-nail device is arranged in the connecting cover; the indication device is arranged on the upper comprehensive, and/or the lower comprehensive cover, and/or the prepucial fixing hoop, and/or the U-nail device.

Further, the valvular prepucial circumcision stapler with the indication device further comprises a locking ring which is used for locking the upper comprehensive cover, and/or the connecting cover, and/or the lower comprehensive cover and is provided with the indication device.

Further, the indication device is a ring of protrusions or recesses which are annularly arranged; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepucial covers or does not cover the protrusions or recesses.

Further, the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is used for accommodating suturing U-nails, and/or guiding the movement of the suturing U-nails, and/or positioning and/or guiding a thimble of the U-nail top ring; the U-nail top ring is used for pushing the U-nails in the thimble guide block out in cooperation with the thimble guide block; the indication device is arranged on the thimble guide block.

Further, the thimble guide block is provided with a plurality of thimble guide grooves which are annularly arranged on the annular thimble guide block and are capable of accommodating the suturing U-nails.

Further, the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the thimble guide grooves and/or intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the thimble guide grooves and/or the intervals among the thimble guide grooves and/or U-nails

in the thimble guide grooves.

Further, the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the thimble guide groove, and/or the width of the U-nail in the thimble guide groove, and/or the width of the interval between the thimble guide grooves.

Further, the indication device is protrusions or recesses which are prefabricated on the upper comprehensive cover, and/or the lower comprehensive cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring; and/or, the indication device is an indication label which is adhered to the upper comprehensive cover, and/or the lower comprehensive cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses; and/or, the indication device is a prefabricated indication ring or indication strip which sleeves the upper comprehensive cover, and/or the lower comprehensive cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses; and/or, the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses; and/or, the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the thimble guide block, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses; and/or, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a prefabricated graduation ring

or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop; and/or, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device.

Further, the protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips.

Further, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surface; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved.

Further, the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end, close to the connecting cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end, close to the lower

comprehensive cover or the connecting cover, of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at the upper end of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at one end, close to the lower comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at the upper end of the outer surface of the prepuce fixing hoop; and/or, the indication device is arranged at the lower end of the outer surface of the prepuce fixing hoop; and/or, the indication device is arranged at the upper end of the outer surface of the U-nail device; and/or, the indication device is arranged at the lower end of the outer surface of the U-nail device; and/or, the indication device is annularly arranged on the periphery of the upper part/the lower part of the thimble guide block.

For the built-in type, compared with the prior art at the present, the present invention can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of the indication device arranged on the comprehensive cover, so that the U-nails tightly tie the blood vessels to the greatest extent, thereby greatly improving the effect of surgical hemostasis. More preferably, the concave or convex structure on the indication device can be flexibly arranged to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, the blood vessel docking grooves, the intervals among the blood vessel docking grooves, the blood vessel corresponding grooves, the intervals among the blood vessel corresponding grooves, etc., thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surfaces close the blood vessels finally between the U-nails and the blood vessels, so that hemostasis is good during surgery, and necrosis is accelerated after surgery.

For the valgus type, compared with the prior art at the present, the present invention can accurately determine the corresponding situation of prepuce blood vessels and U-nails by means of the indication device arranged on the upper cover, the lower cover, the inner ring or the locking ring, so that the U-nails tightly tie the blood vessels to the greatest extent, thereby greatly improving the effect of surgical hemostasis. More preferably, the concave or convex

structure of the indication device can be flexibly arranged to be in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, etc., thereby meeting the requirements of different circumcision devices and different surgeries. The U-nail main surfaces close the blood vessels finally between the U-nails and the blood vessels, so that hemostasis is good during surgery, and necrosis is accelerated after surgery.

Refer to the operation-visible circumcision stapler. Regarding the above problems in the prior art, an object of the present invention is to provide an operation-visible circumcision stapler. In the operation-visible circumcision stapler, by arranging the comprehensive cover, the U-nail top ring and other cooperation structures to be transparent and visible, the corresponding situation of prepuce blood vessels and U-nails may be determined accurately during a surgery, and thus the surgical hemostasis effect is improved greatly. The specific technical solution is as follows.

Provided is an operation-visible circumcision stapler which comprises a comprehensive cover and a circumcision cover, wherein the comprehensive cover and the circumcision cover are assembled to and cooperate with each other; and an upper portion, close to the circumcision cover, of the comprehensive cover or the entire comprehensive cover is transparent or semi-transparent.

Further, a plurality of U-nail grooves which is used for accommodating U-nails and constitutes a ring is arranged in the comprehensive cover.

Further, there are intervals among the U-nail grooves; the inner surfaces and/or outer surfaces of the U-nail grooves are made of a transparent or semi-transparent material; and the intervals are made of a transparent or semi-transparent material.

Further, the operation-visible circumcision stapler further comprises a U-nail top ring which is fully or partially embedded into the comprehensive cover, and thimbles in one-to-one correspondence with the U-nail grooves are arranged at the top end of the U-nail top ring.

Further, the thimble of the U-nail top ring or the entire U-nail top ring is transparent or

semi-transparent.

Further, the operation-visible circumcision stapler further comprises a circumcision knife which is partially or fully embedded into the U-nail top ring.

Further, the circumcision cover has a lower end inserted into the comprehensive cover and an upper end supported at the top end of the comprehensive cover for cooperating with the comprehensive cover to clamp prepuce.

Further, blood vessel corresponding grooves are annularly arranged at the upper end of the circumcision cover and are in one-to-one correspondence with the U-nail grooves.

Further, a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to be inserted in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover are in one-to-one correspondence with the U-nail grooves.

Further, a ring of blood vessel docking grooves/graduations is annularly arranged on the outer surface of the comprehensive cover, and the blood vessel docking grooves/graduations are in one-to-one correspondence with the U-nail grooves and/or the blood vessel corresponding grooves.

Compared with the prior art at present, the present invention has the advantages that by arranging the comprehensive cover, the U-nail top ring and other cooperation structures to be transparent and visible, the corresponding situation of prepuce blood vessels and U-nails may be determined accurately during a surgery, and thus the U-nails tightly tie the blood vessels to the greatest extent, thereby greatly improving the surgical hemostasis effect. More preferably, the blood vessel corresponding grooves arranged on the circumcision cover are in one-to-one correspondence with the U-nail grooves, the U-nails in the U-nail grooves, the intervals among the U-nail grooves, the blood vessel docking grooves, the intervals among the blood vessel docking grooves, the blood vessel corresponding grooves, the intervals among the blood vessel corresponding grooves and the like, and the blood vessels are positioned through the operator's vision and touch, so that

demands of different circumcision devices and different surgery are met and finally main surfaces of the U-nails close the blood vessels between the U-nails and the blood vessels. Thus, an excellent hemostasis effect during the surgery is achieved and the postoperative necrosis process is accelerated.

Refer to the A-type valgus circumcision stapler. In view of the above technical problems in the prior art, an object of the present invention is to provide a valgus circumcision stapler. Through the structure of the valgus circumcision stapler, most of a front prepuce is accommodated in the circumcision stapler, and a clamping portion and a circumcision portion of the valgus circumcision stapler are both built-in, so that hemorrhage infection and the like are avoided. An external circumcision knife and a blood vessel docking device reduce a risk in a surgery, and a provided U-nail gasket avoids the failure of the peeling off of a U-nail later. The specific technical solutions are as follows.

An A-type valgus circumcision stapler comprises: an upper comprehensive cover, a lower comprehensive cover, and a U-nail device, wherein

the upper comprehensive cover and the lower comprehensive cover are releasably connected in a matching manner; a prepuce fixing hoop integrally formed with the upper comprehensive cover is arranged at the lower portion of the upper comprehensive cover, or the prepuce fixing hoop is accommodated in the upper comprehensive cover; a part or all of the U-nail device is placed in the lower comprehensive cover; and the upper comprehensive cover, the lower comprehensive cover and the U-nail device cooperate to position a penis and/or glans and/or prepuce, and to clamp and/or squeeze and/or cut the prepuce.

Further, the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

Further, the A-type valgus circumcision stapler further comprises a U-nail gasket.

Further, the U-nail gasket further comprises a gasket positioning stage perpendicular to

and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

Further, a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

Further, the thimble guide block is provided with a plurality of thimble guide grooves annularly formed in the annular thimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

Further, one or more positioning nails are arranged at the upper end of the U-nail top ring, and are configured to cooperate with a positioning hole formed in the upper comprehensive cover for positioning; and/or, the U-nail top ring is provided with a plurality of thimbles which is in one-to-one correspondence with the plurality of thimble guide grooves formed on the thimble guide block and which is configured to eject the suturing U-nail accommodated in each thimble guide groove.

Further, a second through hole is formed in the middle of the upper comprehensive cover, and is configured to allow a penis and/or prepuce and/or glans to pass through; and/or, the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover and cooperates with the upper comprehensive cover to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to

clamp the prepuce; and/or, blood vessel docking grooves, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves, or intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, intervals among the blood vessel docking grooves, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves, or the intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, a width of every two bulges and/or recesses of the blood vessel docking grooves, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove, and/or the width of the U-nail in the corresponding thimble guide groove, and/or the width of the interval between the thimble guide grooves.

Further, the A-type valgus circumcision stapler further comprises a glans protection cover, and/or a locking ring, and/or a circumcision knife, wherein an internal thread/clamping ring/hanging stage is arranged on the inner ring surface of the locking ring; an external thread/clamping ring/hanging stage is arranged on the outer surface of the upper comprehensive cover, and/or is arranged on the outer surface of the lower comprehensive cover, and the internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover, the lower comprehensive cover and/or the locking ring; and/or, the circumcision knife is annularly arranged at the outer circumference of the thimble guide block, and is configured to cooperate with the lower end surface of the upper comprehensive cover to cut the prepuce; and/or, the glans protection cover is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block, and upwardly corresponds to the second through hole of the upper comprehensive cover.

Further, the A-type valgus circumcision stapler further comprises a connecting block, the upper end of the connecting block being connected to the lower end of the

comprehensive cover; and/or, a blade gasket arranged on the lower end surface of the upper comprehensive cover and corresponding to the circumcision knife; and/or, a push rod, the upper end of the push rod being inserted into the lower end of the connecting block; and/or, a plug arranged at the lower end of the push rod; and/or, a handle which is drivingly connected to the connecting block and/or push rod, and configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail device and/or the circumcision knife to move upward; and/or, an opening knob which sleeves the connecting block, and is configured to lock or unlock the handle and/or a component driven by the handle.

Compared with the prior art, through the structure of the valgus circumcision stapler provided in the present invention, a front prepuce and most of a penis can be accommodated during a surgery, so that the prepuce and the penis are protected from injury or infection. With the structure including the inner ring (the prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block), a portion above a prepuce clamping portion of the circumcision stapler is located in the circumcision stapler. The U-nail grooves are annularly formed in a relatively lower portion inside the inner comprehensive cover (U-nail top ring and/or thimble guide block), so that a U-nail suturing position is located inside the circumcision stapler to avoid hemorrhage caused by instrument failure or misoperation, avoiding a surgical accident arising from infection. The A-type valgus circumcision stapler provided in the present invention has the external circumcision knife, and carries out cutting outside and nailing inside. In case of a redundant prepuce or the like, the pain and risk caused by cutting of overlapped tissues is avoided. Through the blood vessel docking device arranged on the inner ring (prepuce fixing hoop), when the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) cooperate with each other and the inner ring (prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) cooperate with each other, whether a prepuce blood vessel corresponds to the U-nail can be accurately determined, so that the final positioning of the inner ring (prepuce

fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) as well as the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) can be carried out after the blood vessel is positioned accurately, thereby greatly improving the hemostasis effect in the surgery. Preferably, the blood vessel docking grooves can be flexibly arranged to be in one-to-one correspondence with cooperative relationships among the U-nail grooves, the U-nails in the U-nail grooves and the intervals among the U-nail grooves, widths of the U-nail grooves, the U-nails and the intervals among the U-nail grooves, etc., so as to meet requirements of different circumcision devices and surgeries. Thus, the main surface of the U-nail can close the blood vessel, so that the hemostasis effect is excellent during the surgery, and the prepuce necrosis is accelerated after the surgery. More preferably, with the U-nail gasket, when being hammered into the prepuce, the U-nail will not adhere with the prepuce, thereby avoiding the pain in the patient caused by failure of the peeling off of the U-nail later.

Refer to the B-type valgus circumcision stapler. In view of the above technical problems in the prior art, an object of the present invention is to provide a valgus circumcision stapler. Through the structure of the valgus circumcision stapler, most of a front prepuce is accommodated in the circumcision stapler, and a clamping portion and a circumcision portion of the valgus circumcision stapler are both built-in, so that hemorrhage infection and the like are avoided. An external circumcision knife and a blood vessel docking device reduce a risk in a surgery, and a provided U-pin gasket avoids the failure of the peeling off of a U-nail later. The specific technical solutions are as follows.

A B-type valgus circumcision stapler comprises: an upper comprehensive cover, a lower comprehensive cover, and a U-nail device, wherein the upper comprehensive cover and the lower comprehensive cover are releasably connected in a matching manner; a prepuce fixing hoop integrally formed with the upper comprehensive cover is arranged at the lower portion of the upper comprehensive cover, or the prepuce fixing hoop is accommodated in the upper comprehensive cover; a part or all of the U-nail device is placed in the lower comprehensive cover; the upper comprehensive cover, the lower comprehensive cover and

the U-nail device cooperate to position a penis and/or glans and/or prepuce, and to clamp and/or squeeze and/or cut the prepuce; and preferably, a connecting cover is connected to the lower portion of the lower comprehensive cover.

Further, the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

Further, the B-type valgus circumcision stapler further comprises a U-nail gasket.

Further, the U-nail gasket further comprises a gasket positioning stage perpendicular to and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

Further, a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

Further, the thimble guide block is provided with a plurality of thimble guide grooves annularly formed in the annular thimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

Further, one or more positioning nails are arranged at the upper end of the U-nail top

ring, and are configured to cooperate with a positioning hole formed in the upper comprehensive cover for positioning; and/or, the U-nail top ring is provided with a plurality of thimbles which is in one-to-one correspondence with the plurality of thimble guide grooves formed on the thimble guide block and which is configured to eject the suturing U-nail accommodated in each thimble guide groove; and/or, a lower convex stage is arranged at the lower end of the U-nail top ring, and is configured to position the U-nail top ring in the connecting cover or a connecting block below the connecting cover.

Further, a second through hole is formed in the middle of the upper comprehensive cover, and is configured to allow a penis and/or prepuce and/or glans to pass through; and/or, the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover and cooperates with the upper comprehensive cover to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce; and/or, blood vessel docking grooves, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves, or intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, intervals among the blood vessel docking grooves, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves, or the intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, a width of every two bulges and/or recesses of the blood vessel docking grooves, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove, and/or the width of the U-nail in the corresponding thimble guide groove, and/or the width of the interval between the thimble guide grooves.

Further, the B-type valgus circumcision stapler further comprises a glans protection cover, and/or a locking ring, and/or a circumcision knife, wherein an internal thread/clamping ring/hanging stage is arranged on the inner ring surface of the locking ring; an external thread/clamping ring/hanging stage is arranged on the outer surface of the

upper comprehensive cover, and/or is arranged on the outer surface of the lower comprehensive cover, and the internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover, the lower comprehensive cover and/or the locking ring; and/or, the circumcision knife is annularly arranged at the outer circumference of the thimble guide block, and is configured to cooperate with the lower end surface of the upper comprehensive cover to cut the prepuce; and/or, the glans protection cover is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block, and upwardly corresponds to the second through hole of the upper comprehensive cover.

Further, the B-type valgus circumcision stapler further comprises a connecting block, the upper end of the connecting block being connected to the lower end of the comprehensive cover; and/or, a blade gasket arranged on the lower end surface of the upper comprehensive cover and corresponding to the circumcision knife; and/or, a push rod, the upper end of the push rod being inserted into the lower end of the connecting block; and/or, a plug arranged at the lower end of the push rod; and/or, a handle which is drivingly connected to the connecting block and/or push rod, and configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail device and/or the circumcision knife to move upward; and/or, an opening knob which sleeves the connecting block, and is configured to lock or unlock the handle and/or a component driven by the handle.

Further, a hook is arranged at the lower end of the lower comprehensive cover, a connecting hook is arranged at the upper end of the connecting cover, and the hook and the connecting hook cooperate with each other to connect the lower comprehensive cover and the connecting cover.

Compared with the prior art, through the structure of the valgus circumcision stapler provided in the present invention, a front prepuce and most of a penis can be accommodated during a surgery, so that the prepuce and the penis are protected from

injury or infection. With the structure including the inner ring (the prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block), a portion above a prepuce clamping portion of the circumcision stapler is located in the circumcision stapler. The U-nail grooves are annularly formed in a relatively lower portion inside the inner comprehensive cover (U-nail top ring and/or thimble guide block), so that a U-nail suturing position is located inside the circumcision stapler to avoid hemorrhage caused by instrument failure or misoperation, avoiding a surgical accident arising from infection. The B-type valgis circumcision stapler provided in the present invention has the external circumcision knife, and carries out cutting outside and nailing inside. In case of a redundant prepuce or the like, the pain and risk caused by cutting of overlapped tissues is avoided. Through the blood vessel docking device arranged on the inner ring (prepuce fixing hoop), when the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) cooperate with each other and the inner ring (prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) cooperate with each other, whether a prepuce blood vessel corresponds to the U-nail can be accurately determined, so that the final positioning of the inner ring (prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) as well as the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) can be carried out after the blood vessel is positioned accurately, thereby greatly improving the hemostasis effect in the surgery. Preferably, the blood vessel docking grooves can be flexibly arranged to be in one-to-one correspondence with cooperative relationships among the U-nail grooves, the U-nails in the U-nail grooves and the intervals among the U-nail grooves, widths of the U-nail grooves, the U-nails and the intervals among the U-nail grooves, etc., so as to meet requirements of different circumcision devices and surgeries. Thus, the main surface of the U-nail can close the blood vessel, so that the hemostasis effect is excellent during the surgery, and the prepuce necrosis is accelerated after the surgery. More preferably, with the U-nail gasket, when being hammered into the prepuce, the U-nail will not adhere with the prepuce, thereby avoiding the pain in the patient caused by failure of the peeling off of the U-nail later.

Refer to the C-type valgus circumcision stapler.

In view of the above technical problems in the prior art, an object of the present invention is to provide a valgus circumcision stapler. Through the structure of the valgus circumcision stapler, most of a front prepuce is accommodated in the circumcision stapler, and a clamping portion and a circumcision portion of the valgus circumcision stapler are both built-in, so that hemorrhage infection and the like are avoided. An external circumcision knife and a blood vessel docking device reduce a risk in a surgery, and a provided U-pin gasket avoids the failure of the peeling off of a U-nail later. The specific technical solutions are as follows.

A C-type valgus circumcision stapler comprises: an upper comprehensive cover, a lower comprehensive cover, a prepuce fixing hoop and a U-nail device, wherein

the upper comprehensive cover and the lower comprehensive cover are releasably connected in a matching manner;

a part or all of the prepuce fixing hoop is placed in the upper comprehensive cover;

a part or all of the U-nail device is placed in the lower comprehensive cover; and

the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover and cooperates with the upper comprehensive cover to clamp a prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce.

Further, the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

Further, the C-type valgus circumcision stapler further comprises a U-nail gasket.

Further, the U-nail gasket further comprises a gasket positioning stage perpendicular to and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one

or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

Further, a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

Further, the thimble guide block is provided with a plurality of thimble guide grooves annularly formed in the annular thimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

Further, the lower end surface of the upper comprehensive cover is annular, a convex positioning stage and/or a concave positioning groove is formed along the annular lower end surface of the upper comprehensive cover, the upper end surface of the lower comprehensive cover is annular, a concave positioning groove and/or a convex positioning stage is arranged along the annular upper end surface of the lower comprehensive cover, and the positioning groove and the positioning stage cooperate with each other in a concave-convex manner to position the upper comprehensive cover and the lower comprehensive cover; or

the C-type valgus circumcision stapler further comprises a connecting cover arranged between the upper comprehensive cover and the lower comprehensive cover, the upper comprehensive cover is releasably connected to the lower comprehensive cover through the connecting cover, and preferably, a part or all of the U-nail device is placed in the connecting

cover; or

the C-type valgus circumcision stapler further comprises a connecting cover arranged between the upper comprehensive cover and the lower comprehensive cover, the lower end surface of the upper comprehensive cover is annular, a convex positioning stage and/or a concave positioning groove is formed along the annular lower end surface of the upper comprehensive cover, the upper end surface of the connecting cover is annular, a concave positioning groove and/or a convex positioning stage is arranged along the annular upper end surface of the connecting cover, and the positioning groove and the positioning stage cooperate with each other in a concave-convex manner to position the upper comprehensive cover and the connecting cover.

Further, the upper end surface of the connecting cover is annular, and the convex positioning stage is arranged along the annular upper end surface of the connecting cover, and cooperates with the positioning groove formed on the lower end surface of the upper comprehensive cover for positioning; one or more hooks are arranged at the lower portion of the connecting cover; one or more hooks are arranged at the upper portion of the lower comprehensive cover; and the hooks of the connecting cover and the lower comprehensive cover cooperate with each other for positioning.

Further, the C-type valgus circumcision stapler further comprises a locking ring, wherein an internal thread is arranged on the inner ring surface of the locking ring; an external thread is formed on the outer surface of the lower end of the upper comprehensive cover, and/or is formed on the outer surface of the upper end of the connecting cover, and/or is formed on the outer surface of the upper end of the lower comprehensive cover; and the internal thread and the external thread cooperate with each other to position the upper comprehensive cover, the connecting cover, the lower comprehensive cover and/or the locking ring.

Further, a second through hole is formed in the middle of the upper comprehensive cover, the upper comprehensive cover is provided with an inner cavity for accommodating and/or positioning the prepuce fixing hoop, the prepuce fixing hoop is a ring having a third

through hole in the middle, and the third through hole corresponds to the second through hole; and/or, one or more positioning grooves are formed in the inner cavity of the upper comprehensive cover, one or more positioning stages are arranged on the outer surface of the prepuce fixing hoop, and each positioning groove and the corresponding positioning stage cooperate with each other for positioning; and/or, the C-type valgus circumcision stapler further comprises a circumcision knife sleeving the thimble guide block and/or the U-nail top ring, and preferably, the circumcision knife is driven by the U-nail top ring to move; and/or, the C-type valgus circumcision stapler further comprises a blade gasket which is arranged on the lower end surface of the prepuce fixing hoop and which corresponds to the circumcision knife; and/or, a part of the U-nail device is placed in the lower comprehensive cover, and the other part of the U-nail device is placed in the connecting cover; and/or, the C-type valgus circumcision stapler further comprises a connecting block, the upper end of the connecting block being connected to the lower end of the lower comprehensive cover; and/or, the C-type valgus circumcision stapler further comprises a push rod, the upper end of the push rod being inserted into the lower end of the connecting block; and/or, the C-type valgus circumcision stapler further comprises a plug arranged at the lower end of the push rod; and/or, the C-type valgus circumcision stapler further comprises a handle which is drivingly connected to the connecting block and/or push rod, and which is configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail top ring and/or the circumcision knife to move upward; and/or, a ring of a concave/convex structure for being docked with blood vessels is formed on the outer surface of the lower end of the prepuce fixing hoop.

Compared with the prior art, through the structure of the valgus circumcision stapler provided in the present invention, a front prepuce and most of a penis can be accommodated during a surgery, so that the prepuce and the penis are protected from injury or infection. With the structure including the inner ring (the prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block), a portion above a prepuce clamping portion of the circumcision stapler is located in the circumcision stapler.

The U-nail grooves are annularly formed in a relatively lower portion inside the inner comprehensive cover (U-nail top ring and/or thimble guide block), so that a U-nail suturing position is located inside the circumcision stapler to avoid hemorrhage caused by instrument failure or misoperation, avoiding a surgical accident arising from infection. The C-type valgus circumcision stapler provided in the present invention has the external circumcision knife, and carries out cutting outside and nailing inside. In case of a redundant prepuce or the like, the pain and risk caused by cutting of overlapped tissues is avoided. Through the blood vessel docking device arranged on the inner ring (prepuce fixing hoop), when the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) cooperate with each other and the inner ring (prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) cooperate with each other, whether a prepuce blood vessel corresponds to the U-nail can be accurately determined, so that the final positioning of the inner ring (prepuce fixing hoop) and the inner comprehensive cover (U-nail top ring and/or thimble guide block) as well as the upper cover (upper comprehensive cover) and the lower cover (lower comprehensive cover/connecting cover) can be carried out after the blood vessel is positioned accurately, thereby greatly improving the hemostasis effect in the surgery. Preferably, the blood vessel docking grooves can be flexibly arranged to be in one-to-one correspondence with cooperative relationships among the U-nail grooves, the U-nails in the U-nail grooves and the intervals among the U-nail grooves, widths of the U-nail grooves, the U-nails and the intervals among the U-nail grooves, etc., so as to meet requirements of different circumcision devices and surgeries. Thus, the main surface of the U-nail can close the blood vessel, so that the hemostasis effect is excellent during the surgery, and the prepuce necrosis is accelerated after the surgery. More preferably, with the U-nail gasket, when being hammered into the prepuce, the U-nail will not adhere with the prepuce, thereby avoiding the pain in the patient caused by failure of the peeling off of the U-nail later.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

Refer to the advancing and self-locking device and a circumcision device, as well as the assembling method and the application method .

Fig. 1-I is an overall schematic diagram of a circumcision device provided with an advancing and self-locking device of the present invention;

Fig. 2-I is a sectional view of the circumcision device provided with the advancing and self-locking device of the present invention;

Fig. 3-I is an enlarged schematic diagram of a self-locking device in Fig. 2-I ;

Fig. 4-I is an enlarged schematic diagram of a part B in Fig. 2-I ;

Fig. 5-I is an exploded schematic diagram of the circumcision device provided with the advancing and self-locking device of the present invention; in the drawings, the reference signs represent the following components: sheathed handle 1; identification point 1-1; sheathed core 2; sleeve 3; hook 4; first-stage convex plate 5; second-stage convex plate 6; handle 10; knob 11; connecting rod 12; pin 13; screw rod 14; spring 15; lower sleeve 16; upper sleeve 17; inner sleeve 18; inner sleeve washer 19; upper sleeve washer 20; blade 21; thimble 22.

Refer to the built-in electric circumcision device and a valgus electric circumcision device.

Fig. 1- II shows an overall appearance view of a built-in circumcision device.

Fig. 2- II shows an overall structure view of the built-in circumcision device.

Fig. 3- II shows a structurally exploded view of the built-in circumcision device.

Fig. 4- II shows a structural view of a U-nail top ring of the built-in circumcision device.

Fig. 5-II shows a structural view of a circumcision cover of the built-in circumcision device.

Fig. 6-II shows a front end view of the built-in circumcision device.

Fig. 7-II shows an overall appearance view of a valgus circumcision device.

Fig. 8-II shows an overall structure view of the valgus circumcision device.

Fig. 9-II shows a structurally exploded view of the valgus circumcision device.

Fig. 10-II shows a structural view of a U-nail top ring of the valgus circumcision device.

Fig. 11-II shows a front end view of the valgus circumcision device.

The reference numerals in the above figures are shown as follows: 1: circumcision cover; 1-1: blood vessel corresponding groove; 1-2: negative pressure hole; 1-3: positioning rod; 1-3-1: positioning groove; 1-4: U-nail seat; 2: circumcision knife gasket; 3: U-nail backing ring; 4: circumcision knife; 5: U-nail; 6: comprehensive cover; 7: U-nail top ring; 7-1: U-nail top column; 7-2: positioning hole; 7-2-1: positioning groove; 8: comprehensive cover; 9: thrust tube; 10: motor front shell; 11: switch; 12: motor; 12-1: thread; 13: motor rear shell; and 14: cable.

Fig. 12-II shows another overall appearance view of the valgus circumcision device.

Fig. 13-II shows another structure view of the valgus circumcision device.

Fig. 14-II shows a top view of the valgus circumcision device.

Fig. 15-II shows a bottom view of the valgus circumcision device.

Fig. 16 -II shows a stereoscopic view of the valgus circumcision device.

Fig. 17-II shows an enlarged view of the portion E of the valgus circumcision device shown in Fig. 13-II.

The reference numerals in the above figures are shown as follows: 1: cable; 2: motor rear shell; 3: motor front shell; 4: motor; 5: switch; 6: thrust tube; 7: comprehensive cover; 8: U-nail top ring; 9: lower cover; 10: U-nail; 11: circumcision knife; 12: U-nail backing ring; 13: inner comprehensive cover; 14: locking ring; 15: inner ring; and 16: upper cover.

Refer to the built-in washer circumcision device and a valgus washer circumcision device.

Fig. 1-III is an overall view of a circumcision device provided by the present invention;

Fig. 2-III is a schematically enlarged view of the portion B shown in Fig. 1;

Fig. 3-III is a schematically enlarged view of a circumcision cover;

Fig. 4-III is a schematically structural view of a flat-head-type built-in circumcision device adopting a washer structure;

Fig. 5-III is a schematically structural view of an inclined-head-type built-in circumcision device adopting a washer structure;

Fig. 6-III is a schematic view of a cross section of the comprehensive cover;

Fig. 7-III is a view of D-D shown in Fig. 6-III;

Fig. 8-III is an enlarged view of the portion E shown in Fig. 7-III;

Fig. 9-III is a structural relation view between a U-nail backing ring and the comprehensive cover;

Fig. 10-III is another overall view of the circumcision device provided by the present invention;

Fig. 11-III is a schematically enlarged view of the portion E shown in Fig. 10-III in a first solution;

Fig. 12-III is a schematically enlarged view of the portion E shown in Fig. 10-III in a second solution;

Fig. 13-III is an exploded view of a valgus circumcision device;

Refer to the blood vessel docking apparatus of a built-in or valgus circumcision device.

FIG. 1-IV is an exploded view of a built-in flat-head circumcision device arranged with a blood vessel docking apparatus in the built-in type;

FIG. 2-IV is a partial enlarged view of the circumcision cover in the built-in type;

FIG. 3-IV is a partial enlarged view of U-nail top ring in the built-in type;

FIG. 4-IV is a partial enlarged view of the comprehensive cover in the built-in type;

FIG. 5-IV is a partial enlarged view of the U-nails in the built-in type;

FIG. 6-IV is a partial enlarged view of the U-nail grooves in the built-in type;

FIG. 7-IV is a partial enlarged view of the lower end of the circumcision cover in the built-in type;

FIG. 8-IV is an overall view of the built-in flat-head circumcision device arranged with a blood vessel docking apparatus in the built-in type;

FIG. 9 -IV is an exploded view of a built-in oblique-head circumcision device arranged with a blood vessel docking apparatus in the built-in type;

FIG. 10IV is a partial enlarged view of the circumcision cover in the built-in type;

FIG. 11-IV is a partial enlarged view of the U-nail top ring in the built-in type;

FIG. 12-IV is a partial enlarged view of the comprehensive cover in the built-in type;

FIG. 13-IV is a partial enlarged view of the U-nail grooves in the built-in type;

FIG. 14-IV is a partial enlarged view of the lower end of the circumcision cover in the built-in type;

FIG. 15-IV is an overall view of the built-in oblique-head circumcision device arranged with a blood vessel docking apparatus in the built-in type; this figures includes: circumcision cover 1, blood vessel corresponding groove 1-1, negative pressure hole 1-2, positioning rod 1-3, positioning groove 1-3-1, U-nail seat 1-4, circumcision knife washer 2, U-nail backing ring 3, circumcision knife 4, U-nail 5, comprehensive cover 6, U-nail groove 6-1, blood vessel docking groove 6-2, U-nail top ring 7, U-nail top column 7-1, positioning hole 7-2, positioning groove 7-2-1, lower comprehensive cover 8, connecting block 9, closing mark 9-1, opening mark 9-2, opening guide groove 9-3, positioning convex point 9-4, pin hole 9-5, pin hole 9-6, pin 10-1, pin 10-2, third pin 10-3, fourth pin 10-4, fifth pin 10-5, sixth pin 10-6, connecting rod 11, screw threads 11-1, screw threads 11-2, small connecting rod 12, pin hole 12-1, pin hole 12-2, small connecting rod 13, pin hole 13-1, pin hole 13-2, handle 14, pin hole 14-1, pin hole 14-2, handle 15, pin hole 15-1, pin hole 15-2, opening knob 16, pointer

16-1, sliding block 16-2, spring 17, sliding rod 18, pin hole 18-1, pin hole 18-2, knob 19, connecting screw threads 19-1, positioning concave point 19-2;

FIG. 16-IV is an exploded view of a valgus circumcision device arranged with a blood vessel positioning apparatus in the valgus type;

FIG. 17-IV is a partial enlarged view of the inner ring in the valgus type;

FIG. 18-IV is a partial enlarged view of the upper cover in the valgus type; this figure includes: plug 1, positioning concave point 1-1, sliding rod 2, spring supporting platform 2-1, pin hole 2-2, pin hole 2-3, hook 2-4, spring 3, opening knob 4, pointer 4-1, sliding block 4-2, connecting rod 5, small connecting rod 5-1, pin hole 5-1-1, pin hole 5-1-2, small connecting rod 5-2, pin hole 5-2-1, pin hole 5-2-2, pin 6-1, pin 6-2, pin 6-3, pin 6-4, pin 6-5, pin 6-6, handle 7-1, pin hole 7-1-1, pin hole 7-1-2, handle 7-2, pin hole 7-2-1, pin hole 7-2-2, connecting block 8, clamping platform 8-1, pin hole 8-2, opening guide groove 8-3, closing mark 8-4, opening mark 8-5, hook 8-6, pin hole 8-7, positioning convex point 8-8, comprehensive cover 9, clamping groove 9-1, U-nail top ring 10, groove 10-1, U-nail top column 10-2, lower cover 11, clamping platform 11-1, positioning platform 11-2, U-nail 12, circumcision knife 13, U-nail backing ring 14, inner comprehensive cover 15, hook 15-1, U-nail groove 15-2, locking ring 16, screw threads 16-1, inner ring 17, positioning platform 17-1, blood vessel docking groove 17-2, U-nail ring pad groove 17-3, upper cover 18, screw threads 18-1, positioning groove 18-2, positioning groove 18-3.

Refer to the built-in or valgus graduated circumcision device.

Fig. 1- V is an overall view of the flat-head circumcision device of the present invention;

Fig. 2-V is a structural view of the flat-head circumcision device of the present invention;

Fig. 3-V is a stereoscopic view of the flat-head circumcision device of the present invention;

Fig. 4-V is an overall view of the oblique-head circumcision device of the present invention;

Fig. 5-V is a structural view of the oblique-head circumcision device of the present invention;

Fig. 6-V is a stereoscopic view of the oblique-head circumcision device of the present invention;

Fig. 7-V is a type of a graduation label annularly arranged on a comprehensive cover;

Fig. 8-V is a schematic diagram of the position of a nail cabin of a flat-head built-in circumcision device;

Fig. 9-V is a schematic diagram of the position of a nail cabin of an oblique-head built-in circumcision device;

Fig. 10-V is an overall view of the circumcision device of the present invention;

Fig. 11-V is a structural view of the circumcision device of the present invention;

Fig. 12-V is an exploded view of a valgus circumcision stapler; and

Fig. 13-V is a type of a graduation label annularly arranged on a comprehensive cover.

Refer to the knob opening device and a circumcision device.

Fig. 1A-VI is an overall schematic drawing of a first embodiment of a circumcision device provided with a knob opening device;

Fig. 1B-VI is an overall schematic drawing of the first embodiment of the circumcision device from which an opening knob is removed in Fig. 1A-VI;

Fig. 1C-VI is a detailed drawing (a scale of 5: 1) of a part F in Fig. 1B-VI;

Fig. 1D-VI is a top view of the opening knob;

Fig. 1E-VI is an E-E sectional view of Fig. 1D-VI;

Fig. 1F-VI is an overall schematic drawing of the opening knob;

Fig. 2A-VI is an overall schematic drawing of a second embodiment of a circumcision device provided with the knob opening device of the present invention;

Fig. 2B-VI is an overall schematic drawing of the second embodiment of the circumcision device from which the opening knob is removed in Fig. 2A-VI;

Fig. 2C-VI is a detailed drawing (a scale of 3: 1) of a part E in Fig. 2B-VI;

Fig. 2D-VI is a top view of the opening knob;

Fig. 2E-VI is a D-D sectional view of Fig. 2DVI;

Fig. 3A-VI is an overall schematic drawing of the circumcision device;

Fig. 3B-VI is an enlarged schematic drawing of a part B in Fig. 3A-VI; In the drawings, the reference signs represent the following components: sheathed handle 1; identification point 1-1; positioning groove 1-2; positioning point 1-3; advancing groove 1-4; second convex plate 1-5; first convex plate 1-6; mounting groove 1-7; third convex plate 1-8; fourth convex plate 1-9; enclosed structure 1-10; sheathed core 2; opening knob 3; pointing arrow 3-1; slider 3-2; handle 10; knob 11; connecting rod 12; pin 13; screw rod 14; spring 15; lower sleeve 16; upper sleeve 17; inner sleeve 18; inner sleeve washer 19; upper sleeve washer 20; blade 21; thimble 22.

Refer to the positioning device for a built-in circumcision device.

Fig. 1-VII is an exploded view of a built-in flat-head type circumcision device provided with a positioning device;

Fig. 2 -VII is a partially enlarged view of a connecting block;

Fig. 3-VII is an exploded view of a built-in oblique-head type circumcision device provided with a positioning device;

Fig. 4 -VII is a partially enlarged view of the connecting block; in the drawings, the

reference signs represent the following components: circumcision cover 1; blood vessel corresponding groove 1-1; negative pressure hole 1-2; positioning rod 1-3; positioning groove 1-3-1; U-nail seat 1-4; circumcision knife washer 2; U-nail backing ring 3; circumcision knife 4; U-nail 5; comprehensive cover 6; U-nail groove 6-1; blood vessel docking groove 6-2; U-nail top ring 7; U-nail top column 7-1; positioning hole 7-2; positioning groove 7-2-1; lower comprehensive cover 8; connecting block 9; closing mark 9-1; opening mark 9-2; opening guide groove 9-3; positioning convex point 9-4; pin hole 9-5; pin hole 9-6; pin 10-1; pin 10-2; third pin 10-3; fourth pin 10-4; fifth pin 10-5; sixth pin 10-6; connecting rod 11; thread 11-1; thread 11-2; small connecting rod 12; pin hole 12-1; pin hole 12-2; small connecting rod 13; pin hole 13-1; pin hole 13-2; handle 14; pin hole 14-1; pin hole 14-2; handle 15; pin hole 15-1; pin hole 15-2; opening knob 16; pointer 16-1; sliding block 16-2; spring 17; sliding rod 18; pin hole 18-1; pin hole 18-2; knob 19; connecting thread 19-1; positioning concave point 19-2.

Refer to the knob opening/closing device of a circumcision device.

Fig. 1- VIII is an exploded view of a flat-head circumcision device provided with a knob;

Fig. 2-VIII is a side view of the flat-head circumcision device provided with the knob;

Fig. 3-VIII is a stereoscopic diagram of the flat-head circumcision device provided with the knob;

Fig. 4- VIII is an exploded view of an oblique-head circumcision device provided with a knob;

Fig. 5-VIII is a side view of the oblique-head circumcision device provided with the knob; and

Fig. 6-VIII is a stereoscopic diagram of the oblique-head circumcision device provided with the knob.

Reference numerals in the figures: 1: circumcision cover; 1-1: blood vessel corresponding groove; 1-2: negative pressure hole; 1-3: positioning rod; 1-3-1: positioning groove; 1-4: U-nail seat; 2: circumcision knife washer; 3: U-nail backing ring; 4:

circumcision knife; 5: U-nail; 6: comprehensive cover; 6-1: U-nail groove; 6-2: blood vessel docking groove; 7: U-nail top ring 7-1: U-nail top column; 7-2: positioning hole; 7-2-1: positioning groove; 8: lower comprehensive cover; 9: connection block; 9-1: closing mark; 9-2: an opening mark; 9-3: a opening guide groove; 9-4: positioning convex point; 9-5: pin hole; 9-6: pin hole; 10-1: pin; 10-2: pin; 10-3: third pin; 10-4: fourth pin; 10-5: fifth pin; 10-6: sixth pin; 11: connection rod; 11-1: thread; 11-2: thread; 12: small connection rod; 12-1: pin hole; 12-2: pin hole; 13: small connection rod; 13-1: pin hole; 13-2: pin hole; 14: handle; 14-1: pin hole; 14-2: pin hole; 15: handle; 15-1: pin hole; 15-2: pin hole; 16: opening knob; 16-1: pointer; 16-2: sliding block; 17: spring; 18: sliding rod; 18-1: pin hole; 18-2: pin hole; 19 knob; 19-1: connection thread; and 19-2: positioning convex point.

Refer to the circumcision stapler and a U-nail thimble.

Fig. 1-IX is a front view of a concave groove at the top end of a U-nail and the bottom of a thimble which cooperate with each other according to the present invention.

Fig. 2-IX is a side view of the concave groove at the top end of the U-nail and the bottom of the thimble which cooperate with each other according to the present invention.

Fig. 3 -IX is a partial enlarged view of Fig. 2-IX.

Fig. 4 -IX is a front view of convex stages at the top end of the U-nail and the bottom of the thimble which cooperate with each other according to the present invention.

Fig. 5-IX is a top view of the convex stages at the top end of the U-nail and the bottom of the thimble which cooperate with each other according to the present invention.

Fig. 6-IX is a side view of the convex stages at the top end of the U-nail and the bottom of the thimble which cooperate with each other according to the present invention.

The reference numerals in the above figures are as follows: 1, U-nail; 2, thimble; 2-1, positioning groove; 2-2, rounded corner; and 2-3, positioning stage.

Refer to the prepucial circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type.

Fig. 1-X is an overall view of a flat-head prepucce circumcision stapler of the present invention;

Fig. 2-X is a structural view of the flat-head prepucce circumcision stapler of the present invention;

Fig. 3-X is a stereoscopic view of the flat-head prepucce circumcision stapler of the present invention;

Fig. 4-X is an overall view of an oblique-head prepucce circumcision stapler of the present invention;

Fig. 5-X is a structural view of the oblique-head prepucce circumcision stapler of the present invention;

Fig. 6-X is a stereoscopic view of the oblique-head prepucce circumcision stapler of the present invention;

Fig. 7-X is a schematic diagram of a position of a nail cabin of the flat-head built-in prepucce circumcision stapler;

Fig. 8-X is a schematic diagram of a position of a nail cabin of the oblique-head built-in prepucce circumcision stapler;

Fig. 9-X is a schematic diagram of a convex structure pre-disposed on the comprehensive cover;

Fig. 10-X is a schematic diagram of a groove structure pre-disposed on the comprehensive cover;

Fig. 11-X is a schematic diagram of a convex point structure pre-disposed on the comprehensive cover;

Fig. 12-X is a schematic diagram of a line structure pre-disposed on the comprehensive cover;

Fig. 13-X is a schematic structural diagram of a prefabricated protrusion ferrule;

Fig. 14-X is a schematic structural diagram of a prefabricated groove ferrule;

Fig. 15-X is a schematic structural diagram of a prefabricated convex point ferrule;

Fig. 16-X is a schematic structural diagram of a prefabricated line ferrule;

Fig. 17-X is a schematic structural diagram of a prefabricated protrusion sticky label;

Fig. 18-X is a schematic structural diagram of a prefabricated groove sticky label;

Fig. 19-X is a schematic structural diagram of a prefabricated convex point sticky label;

Fig. 20 -X is a schematic structural diagram of a prefabricated line sticky label;

Fig. 21-X is an enlarged schematic diagram of a part B in Fig. 2-X;

Fig. 22-X is a partially enlarged diagram of a U-nail top ring in Fig. 7-X;

Fig. 23-X is a partially enlarged diagram of a prepuce circumcision cover in Fig. 7-X;

Fig. 24-X is a schematic structural diagram of a prefabricated protrusion ferrule;

Fig. 25-X is a schematic structural diagram of a prefabricated groove ferrule;

Fig. 26-X is a schematic structural diagram of a prefabricated convex point ferrule;

Fig. 27-X is a schematic structural diagram of a prefabricated line ferrule;

Fig. 28-X is a schematic structural diagram of a prefabricated protrusion sticky label;

Fig. 29-X is a schematic structural diagram of a prefabricated groove sticky label;

Fig. 30-X is a schematic structural diagram of a prefabricated convex point sticky label;

Fig. 31-X is a schematic structural diagram of a prefabricated line sticky label;

Fig. 32 -X is an overall view of the prepuce circumcision stapler of the present invention;

Fig. 33-X is a structural view of the prepuce circumcision stapler of the present invention;

Fig. 34-X is an exploded view of the valgus prepuce circumcision stapler;

Fig. 35-X is an enlarged view of the upper half part of the valgus prepuce circumcision stapler in Fig. 34-X;

Fig. 36-X is an enlarged view of the lower half part of the valgus prepuce circumcision stapler in Fig. 34-X;

Fig. 37-X is an enlarged view of an inner ring;

Fig. 38-X is an enlarged view of an upper cover;

Fig. 39-X is an enlarged view of a part E in Fig. 33-X;

Fig. 40-X is an exploded view of the valgus prepuce circumcision stapler;

Fig. 41-X is a structural view of the valgus prepuce circumcision stapler;

Fig. 42-X is an enlarged view of a part B in Fig. 41-X;

Fig. 43-X is a main view of the valgus prepuce circumcision stapler;

Fig. 44-X is an enlarged view of a U-nail washer; and

Fig. 45-X is an enlarged view of an opening knob.

Refer to the operation-visible circumcision stapler.

Fig. 1-XI is an overall view of a flat-head circumcision stapler of the present invention;

Fig. 2-XI is a structural view of the flat-head circumcision stapler of the present invention;

Fig. 3-XI is an enlarged diagram of portion B in Fig. 2-XI;

Fig. 4-XI is a stereoscopic view of the flat-head circumcision stapler of the present invention;

Fig. 5-XI is an overall view of an oblique-head circumcision stapler of the present invention;

Fig. 6-XI is a structural view of the oblique-head circumcision stapler of the present invention;

Fig. 7-XI is a stereoscopic view of the oblique-head circumcision stapler of the present invention;

Fig. 8-XI is a diagram of the position of a nail cabin of a flat-head built-in circumcision stapler;

Fig. 9-XI is a partial enlarged view of a U-nail top ring in Fig. 8-XI;

Fig. 10-XI is a partial enlarged view of a circumcision cover in Fig. 8-XI;

Fig. 11-XI is a diagram of the position of a nail cabin of an oblique-head built-in circumcision stapler.

Refer to the A-type valgus circumcision stapler.

Fig. 1-XII is an exploded view of a valgus circumcision stapler.

Fig. 2-XII is an enlarged view of a U-nail gasket.

Fig. 3-XII is an enlarged view of an opening knob.

Fig. 4-XII is a front view of the valgus circumcision stapler.

Fig. 5-XII is a side view of the valgus circumcision stapler.

Fig. 6-XII is a structural view of the valgus circumcision stapler.

Fig. 7-XII is an enlarged view of the portion B shown in Fig. 6-XII.

Fig. 8-XII is a top view of the valgus circumcision stapler.

Fig. 9-XII is a bottom view of the valgus circumcision stapler.

Fig. 10-XII is a perspective view of the valgus circumcision stapler.

Refer to the B-type valgus circumcision stapler.

Fig. 1-XIII is an exploded view of a valgus circumcision stapler.

Fig. 2-XIII is an enlarged view of a U-nail gasket.

Fig. 3-XIII is an enlarged view of an opening knob.

Fig. 4-XIII is a front view of the valgus circumcision stapler.

Fig. 5-XIII is a side view of the valgus circumcision stapler.

Fig. 6-XIII is a structural view of the valgus circumcision stapler.

Fig. 7-XIII is an enlarged view of the portion B shown in Fig. 6-XIII.

Fig. 8-XIII is a top view of the valgus circumcision stapler.

Fig. 9-XIII is a bottom view of the valgus circumcision stapler.

Fig. 10-XIII is a perspective view of the valgus circumcision stapler.

Refer to the C-type valgus circumcision stapler.

Fig. 1-XIV is an exploded view of a valgus circumcision stapler.

Fig. 2-XIV is a side view of the valgus circumcision stapler.

Fig. 3-XIV is a structural view of the valgus circumcision stapler.

Fig. 4-XIV is an enlarged view of portion B shown in Fig. 3-XIV.

Fig. 5-XIV is a top view of the valgus circumcision stapler.

Fig. 6-XIV is a bottom view of the valgus circumcision stapler.

Fig. 7-XIV is a perspective view of the valgus circumcision stapler.

Fig. 8-XIV is a front view of the valgus circumcision stapler.

Fig. 9-XIV is an enlarged view of a U-nail gasket.

Fig. 10-XIV is an enlarged view of an opening knob.

## **SPECIFIC DESCRIPTION OF THE EMBODIMENTS**

Refer to the advancing and self-locking device and a circumcision device, as well as the assembling method and the application method.

The present invention is described in detail below on the basis of the drawings, which is a preferred embodiment of the present invention.

Referring to Fig. 1-I , in the preferred embodiment, the sheathed handle 1 is provided with an identification point 1-1 and is sleeved with a sleeve 3.

During assembly, the sleeve 3 is rotated, such that a mark on the sleeve 3 leaves from the identification point 1-1, and the sheathed core 2 at this moment can be pushed to move. Then, the sheathed core 2 is pushed to advance axially in the sheathed handle 1, till the hook 4 moves across the first-stage convex plate 5. When an assembler continues to push the hook 4 to prop against the second-stage convex plate 6, but not moving across the same, the sheathed core 2 is loosened, such that the sheathed core 2 is positioned at the inner side, i.e., a first locking position, of the first-stage convex plate 5 under the action of a spring 15.

Handles 10 and connecting rods 12 are then mounted on the sheathed core 2 and the sheathed handle 3 to accomplish the assembly.

During use, the user presses the handles 10 to drive the sheathed core 2 to advance axially in the sheathed handle 3, till the hook 4 moves across the second-stage convex plate 6 to accomplish the circumcision of the prepuce.

At the end of a surgery, the user loosens the handles 10, the sheathed core 2 is positioned at the inner side of the second-stage convex plate 6 under the action of the spring 15, i.e., the hook 4 is positioned in the second locking position, and the handles 10 at the moment cannot reset to an initial state, thereby accomplishing the self-locking of the circumcision device. The user can accurately judge whether an apparatus has been used by observing the positions of the handles 10, which is simple, intuitive, high in accuracy and effectively avoids medical accidents.

Exemplary descriptions are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the built-in electric circumcision device and a valgus electric circumcision device.

The present invention will be described in detail below with reference to the accompanying drawings. Figs.1-II to Figs.11-II show preferred embodiments in various embodiments of the present invention.

Figs.1-II to Figs.6-II show overall appearance views of a built-in circumcision device. It can be seen after adopting a motor for driving, the overall appearance of the circumcision device is simple, and components such as a handle hinge and the like are omitted, so that the mold preparation cost and the production cost are significantly reduced.

Figures 2-II, 3-II, 8-II and 9-II are structural views and structurally exploded views of the circumcision device, respectively. In the structure shown in these figures, 1 represents a circumcision cover, 1-1 a blood vessel corresponding groove, 1-2 a negative pressure hole, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 a U-nail seat, 2 a circumcision knife gasket, 3 a U-nail backing ring, 4 a circumcision knife, 5 a U-nail, 6 a comprehensive cover (front), 7 a U-nail top ring, 7-1 a U-nail top column, 7-2 a positioning hole, 7-2-1 a positioning groove, 8 a comprehensive cover (rear), 9 a thrust tube, 10 a motor front shell, 11 a switch, 12 a motor, 12-1 a thread, 13 a motor rear shell, and 14 a cable. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings, the position relations and connecting relations are both clear; various combinations in the prior art can be adopted; and the details will not be repeated here. The built-in electric circumcision device comprises a motor 12, a thrust tube 9, a U-nail top ring 7 and a circumcision cover 1, wherein the motor 12 is connected to the thrust tube 9, and is configured to drive the thrust tube 9 forward; the thrust tube 9 is connected to the U-nail top ring 7, and is configured to thrust the U-nail top ring 7 forward; the motor 12 is connected to the circumcision cover 1; the thrust tube 9 is a hollow cylinder with a first ring-shaped cross section, and the ring-shaped end of the front end of the hollow cylinder is connected to the rear end of the U-nail top ring 7; the U-nail top ring 7 is configured to push out a U-nail from a U-nail groove of the circumcision device; the motor 12 has an end thread 12-1, and is connected to the circumcision cover 1 via the end thread 12-1; the motor 12 has a

connecting rod on which the thread 12-1 is arranged; the circumcision cover 1 comprises a positioning rod 1-3 connected to the thread 12-1; positioning grooves 7-2-1 are formed in the positioning rod 1-3, and are provided with inner threads; and the inner threads and the thread 12-1 are threadedly matched with each other.

The built-in electric circumcision device further comprises a motor front shell 10 and a comprehensive shell 8. The front end of the motor front shell 10 is connected to the rear end of the comprehensive shell 8. The cross section of the front end of the motor front shell 10 is in the shape of a second ring capable of accommodating the first ring. The built-in electric circumcision device also comprises: a motor rear shell 13 cooperating with the motor front shell 10 to form a space for accommodating the motor 12, a cable 14 which is connected to and supplies power to the motor 12, and a switch 11 arranged on the motor front shell 10 and configured to control the powering on or off and a driving distance and speed of the motor 12. A cable hole 13 is formed in the motor rear shell 13. The cable 14 passes through the cable hole and is connected to the motor 12.

Figs. 4-II and 10 show detail views of the U-nail top ring of the circumcision device, respectively. Positioning grooves 7-2-1 are formed in the positioning hole 7-2 of the U-nail top ring. Fig. 5-II shows a structural view of the circumcision cover provided with a circumcision knife gasket 2 corresponding to a circumcision knife. A U-nail seat 1-4 which is corresponding to the U-nail and configured to chamfer is radially and outwardly arranged on the circumcision knife gasket. Positioning grooves 1-3-1 are formed in the lower end of the circumcision cover. Figs. 6-II and Figs 11-II show front end views of the circumcision device, respectively, wherein at least one negative pressure hole 1-2 is formed in the front end.

Figs. 12-II- Figs.17-II show preferred embodiments in various embodiments of the present invention.

Fig.12-II and Fig.16 -II show an overall appearance view and a stereoscopic view of a valgus circumcision device. It can be seen after adopting a motor for driving, the overall appearance of the circumcision device is simple, and components such as a handle hinge and the like are omitted, so that the mold preparation cost and the production cost are

significantly reduced.

Figs. 13-II and Figs.17-II show a structural view and a partial enlarged view of the valgus circumcision device, respectively. In the structure shown in the figures, 1 represents a cable, 2 a motor rear shell, 3 a motor front shell, 4 a motor, 5 a switch, 6 a thrust tube, 7 a comprehensive cover, 8 a U-nail top ring, 9 a lower cover, 10 a U-nail, 11 a circumcision knife, 12 a U-nail backing ring, 13 an inner comprehensive cover, 14 a locking ring, 15 an inner ring, and 16 an upper cover. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings, the position relations and connecting relations are both clear; various combinations in the prior art can be adopted; and the details will not be repeated here. The valgus electric circumcision device comprises a motor 4, a thrust tube 6 and a U-nail top ring 8, wherein the motor 4 is connected to the thrust tube 6, and is configured to drive the thrust tube 6 forward; and the thrust tube 6 is connected to the U-nail top ring 8, and is configured to thrust the U-nail top ring 8 forward. The valgus electric circumcision device also comprises an inner comprehensive cover 13. The motor 4 is connected to the inner comprehensive cover 13. The thrust tube 6 is a hollow cylinder with a first ring-shaped cross section, and the ring-shaped end of the front end of the hollow cylinder is connected to the rear end of the U-nail top ring 8. The U-nail top ring 8 is configured to push out the U-nail 10 from the U-nail groove of the circumcision device. The motor 4 has a connecting rod and an end thread on the connecting rod, and is connected to the inner comprehensive cover 13 via the end thread. The inner comprehensive cover 13 comprises a positioning rod 1-3. Positioning grooves are formed in the positioning rod 1-3, and are provided with inner threads. The inner threads and the end thread are threadedly matched with each other.

The valgus electric circumcision device also comprises a comprehensive cover 7 and a motor front shell 3. The inner comprehensive cover 13 is located in the comprehensive cover. The front end of the motor front shell 3 is connected to the rear end of the comprehensive cover 7. The cross section of the front end of the motor front shell 3 is a second ring capable of accommodating the first ring. The valgus electric circumcision device further comprises: a motor rear shell 2 cooperating with the motor front shell 3 to form a space for

accommodating the motor 4, a cable 1 which is connected to and supplies power to the motor 4, and a switch 5 arranged on the motor rear shell 2 or the motor front shell 3 or the comprehensive cover 7 and configured to control the powering on or off and a driving distance and speed of the motor 4. A cable hole is formed in the motor rear shell 2. The cable 1 passes through the cable hole and is connected to the motor 4.

The upper cover 16 and the lower cover 9 cooperates with each other and are locked by the locking ring 14. An inner ring 15 is arranged in the upper cover 16. The inner comprehensive cover 13 is arranged in the lower cover 9. A U-nail backing ring 12 is arranged at the lower end of the inner ring 15, and is corresponding to the U-nail in the U-nail groove. A circumcision knife 11 is arranged beside the U-nail top ring 8, and can be simultaneously pushed out with the U-nail.

Exemplary descriptions are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the built-in washer circumcision device and a valgus washer circumcision device.

The present invention will be described in detail below with reference to the accompanying drawings. Figs. 1-III -9-III show preferred embodiments in various embodiments of the present invention.

Figs. 1-III and 2-III show an overall view of a circumcision device provided by the present invention and a schematically enlarged view of the portion B shown in Fig. 1-III, respectively. In the figures, 1 represents a handle, 2 a connecting rod, 3 a rivet, 4 a knob, 5 a sheathed core, 6 an opening knob, 7 a sheathed handle, 8 a lower sheath, 9 a comprehensive cover, 10 a thimble, 11 a circumcision cover, 12 a circumcision knife, 13 a first washer, 14 a third washer, 15 a spring, and 16 a second washer. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings,

the position relations and connecting relations are both clear; so the details will not be repeated here. The built-in washer circumcision device comprises a circumcision cover 11, a comprehensive cover 9, a first washer 13, and a second washer 16, wherein the comprehensive cover 9 is provided with a U-nail groove; the first washer 13 is arranged in the U-nail groove along the longitudinal outer side of the comprehensive cover 9; a U-nail seat corresponding to the U-nail groove is arranged on the circumcision cover 11; and the second washer 16 is arranged on the U-nail seat. A first ring-shaped groove is formed at the end of the comprehensive cover 9 towards the circumcision cover 11, and is located outside the U-nail groove. The first washer 13 is arranged in the first ring-shaped groove. The first washer 13 has a ring and a protrusion located on the bottom surface of the ring. A second ring-shaped groove is also formed at the end of the comprehensive cover 9 towards the circumcision cover 11, and is located in the periphery of the first ring-shaped groove. The protrusion is configured to be clamped in the second ring-shaped groove. A third ring-shaped groove is formed in the U-nail seat towards the U-nail groove. The second washer 16 is arranged in the third ring-shaped groove. The comprehensive cover 9 is provided with a circumcision knife 12. The third washer 14 is arranged at the end of the circumcision cover 11 towards the comprehensive cover 9 and corresponds to an anvil of the circumcision knife 12. Fig. 3-III is a schematically enlarged view of the circumcision cover 11 from another perspective, and shows an individual arrangement of the third washer 14.

Figs. 4-III and 5-III show structural views of a flat-head-type built-in circumcision device and an inclined-head-type built-in circumcision device, respectively. In the figures, 1 represents a circumcision cover, 1-1 a blood vessel corresponding groove, 1-2 a negative pressure hole, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 a U-nail seat, 2 a circumcision knife washer/a third washer, 3 a U-nail backing ring/a first washer, 4 a circumcision knife, 5 a U-nail, 6 a comprehensive cover, and 6-1 a U-nail groove. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings, the position relations and connecting relations are both clear; and the details will not be repeated here.

Referring to Figs. 6-III -9-III, in these figures, 1 represents a comprehensive cover, 1-1 a

placing groove, 2 a U-nail backing ring and 2-1 a positioning ring. The first washer is the U-nail backing ring 2. The protruding positioning ring 2-1 is arranged on one surface of the U-nail backing ring 2. The placing groove 1-1 is formed on the comprehensive cover 1 in the periphery of the first ring-shaped groove. The positioning ring 2-1 and the placing groove 1-1 may be clamped or elastically cooperate with each other to fix the U-nail backing ring 2.

Figs. 10-III -13-III show preferred embodiments in various embodiments of the present invention.

Figs. 10-III and 11-III show an overall view of the circumcision device according to the embodiment and a schematically enlarged view of the portion E shown in Fig. 10III in a first solution, respectively. In the figures, 1 represents a handle, 2 a plug, 3 a small connecting rod, 4 a pin, 5 a sliding rod, 6 a connecting block, 7 an opening knob, 8 a spring, 9 a comprehensive cover, 10 a lower cover, 11 a locking ring, 12 an upper cover, 13 an inner ring, 14 an inner comprehensive cover, 15 a ring-shaped blade, and 16 a first washer/U-nail backing ring. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings, the position relations and connecting relations are both clear; and the details will not be repeated here. Referring to the partial enlarged view shown in Fig. 2-III, the valgus washer circumcision device comprises an inner comprehensive cover 14, an inner ring 13 and a first washer 16. The inner comprehensive cover 14 and the inner ring 13 correspond to each other vertically. The first washer 16 is arranged at one end of the inner ring 13 towards the inner comprehensive cover 14. The U-nail groove is formed at the outer edge of the inner comprehensive cover 14.

Figs. 10-III and 12-III show an overall view of the circumcision device according to the embodiment and a schematically enlarged view of the portion E shown in Fig. 10III in a second solution, respectively. In the figures, 1 represents a handle, 2 a plug, 3 a small connecting rod, 4 a pin, 5 a sliding rod, 6 a connecting block, 7 an opening knob, 8 a spring, 9 a comprehensive cover, 10 a lower cover, 11 a locking ring, 12 an upper cover, 13 an inner ring, 14 an inner comprehensive cover, 15 a ring-shaped blade, 16 a first washer/U-nail backing ring, and A a second washer. The related driving parts, actuating parts, circumcision parts and the like are of common structures in the art. Referring to the drawings, the position

relations and connecting relations are both clear; and the details will not be repeated here. Referring to the partial enlarged view shown in Fig. 3-III, the valgus washer circumcission device comprises an inner comprehensive cover 14, an inner ring 13, a first washer 16 and a second washer A. The inner comprehensive cover 14 and the inner ring 13 correspond to each other vertically. The first washer 16 is arranged at one end of the inner ring 13 towards the inner comprehensive cover 14. The U-nail groove is formed at the outer edge of the inner comprehensive cover 14. The second washer is arranged at the top of the U-nail groove. Particularly, the second ring-shaped groove whose top is flush with that of the inner comprehensive cover 14 is formed between the inner edge of the inner comprehensive cover 14 and the U-nail groove; and the second washer A is arranged in the second ring-shaped groove.

Fig. 13-III is an exploded view of a valgus circumcission stapler. In the figure, 11 represents a U-nail top ring, 11-1 a groove, 11-2 a U-nail top column, 12 a lower cover, 12-1 a clamping stage, 12-2 a positioning stage, 13 a U-nail, 14 a circumcission knife, 15 a U-nail backing ring/first washer/U-nail backing ring, 16 an inner comprehensive cover, 16-1 a hook, 16-2 a U-nail groove, 17 a locking ring, 17-1 a thread, 18 an inner ring, 18-1 a positioning stage, 18-2 a blood vessel docking groove, 18-3 a U-nail ring washer groove, and 19 an upper cover. The related driving parts, actuating parts, circumcission parts and the like are of common structures in the art. Referring to the drawings, the position relations and connecting relations are both clear; and the details will not be repeated here.

Exemplary descriptions are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the blood vessel docking apparatus of a built-in or valgus circumcission device.

A preferable embodiment of multiple implementations of the present invention is described in detail in the following according to the figures.

An embodiment of the built-in type is described in the following.

Figures 1-IV and 9-IV are exploded views of the built-in circumcision device in a flat-head type and an oblique-head type respectively. These drawings respectively show a circumcision cover 1, a blood vessel corresponding groove 1-1, a negative pressure hole 1-2, a positioning rod 1-3, a positioning groove 1-3-1, a U-nail seat 1-4, a circumcision knife washer 2, a U-nail backing ring 3, a circumcision knife 4, a U-nail 5, a comprehensive cover 6, a U-nail groove 6-1, a blood vessel docking groove 6-2, a U-nail top ring 7, a U-nail top column 7-1, a positioning hole 7-2, a positioning groove 7-2-1, a lower comprehensive cover 8, a connecting block 9, a closing mark 9-1, an opening mark 9-2, an opening guide groove 9-3, a positioning convex point 9-4, a pin hole 9-5, a pin hole 9-6, a pin 10-1, a pin 10-2, a third pin 10-3, a fourth pin 10-4, a fifth pin 10-5, a sixth pin 10-6, a connecting rod 11, screw threads 11-1, screw threads 11-2, a small connecting rod 12, a pin hole 12-1, a pin hole 12-2, a small connecting rod 13, a pin hole 13-1, a pin hole 13-2, a handle 14, a pin hole 14-1, a pin hole 14-2, a handle 15, a pin hole 15-1, a pin hole 15-2, an opening knob 16, a pointer 16-1, a sliding block 16-2, a spring 17, a sliding rod 18, a pin hole 18-1, a pin hole 18-2, a knob 19, a connecting screw threads 19-1, a positioning concave point 19-2. The related driving components, actuating components and circumcision components and so on are common structures in the art. Refer to the drawings, the position relations and connecting relations are both clear, and the various combinations in the prior art can be adopted, so the details will not be repeated here. The blood vessel docking apparatus of the circumcision device comprises a circumcision cover 1, a comprehensive cover 6, a blood vessel corresponding groove 1-1, a blood vessel docking groove 6-2, a U-nail top ring 7 and a lower comprehensive cover 8; wherein the circumcision cover 1 and the comprehensive cover 6 are used for assembling to each other; a plurality of blood vessel corresponding grooves 1-1 is disposed along the periphery of the front end of the circumcision cover 1, a plurality of blood vessel docking grooves 6-2 is disposed along the periphery of the front end of the comprehensive cover 6; the back end of the circumcision cover 1 is provided with a positioning rod 1-3 in matching connection with the positioning groove 1-3-1 of the U-nail top ring 7; and the back end of the comprehensive cover 6 is connected to the lower comprehensive cover 8.

A front end of the blood vessel corresponding groove 1-1 is close to an annular top end of a circumcision cover 1, and a back end of the blood vessel corresponding groove 1-1 is away from the annular top end of the circumcision cover 1 backwards relative to the front end of the blood vessel corresponding groove 1-1. The blood vessel corresponding groove 1-1 obliquely extends backwards from the front end of the circumcision cover 1. A top end of the comprehensive cover 6 is provided with an annular outer wall. The blood vessel docking groove 6-2 is disposed on an outer surface of the annular outer wall. A front end of the blood vessel docking groove 6-2 is slightly higher than the top end of the annular outer wall. A back end of the blood vessel docking groove 6-2 is away from the top end of the annular outer wall backwards relative to the front end of the blood vessel docking groove 6-2. The blood vessel docking groove 6-2 obliquely extends backwards from the top end of the annular outer wall.

The plurality of blood vessel corresponding grooves 1-1 corresponds to a blood vessel docking groove 6-2 and a U-nail groove 6-1, and/or a U-nail 5 in a U-nail groove 6-1 one by one. An arc-shaped transition surface is arranged between the blood vessel corresponding grooves 1-1 and the annular top end of the circumcision cover 1. An arc-shaped transition surface is arranged between the blood vessel corresponding grooves 1-1 and convex plates formed among the blood vessel corresponding grooves 1-1.

Figure 2-IV-7-IV are partial enlarged views of a circumcision cover, a U-nail top ring, a comprehensive cover, a U-nail, a U-nail groove and a lower end of the circumcision cover of a flat-head type circumcision device, wherein the circumcision cover is provided with a negative pressure hole 1-2 for placing a glans penis, a positioning hole 7-2 is disposed in the U-nail top ring 7, the positioning groove 7-2-1 corresponding to a positioning rod 1-3 is disposed in the positioning hole 7-2. Figure 4-IV is a preferable setting of a blood vessel docking groove 6-2. The front end of the blood vessel docking groove 6-2 is narrower than the back end. Figure 6-IV is a preferable setting of a U-nail groove 6-1. The comprehensive cover 6 is provided with a plurality of U-nail grooves 6-1 for receiving U-nails 5, nail outlets of the U-nail grooves 6-1 are disposed on the top end of the comprehensive cover 6, and the nail outlets of the U-nail grooves 6-1 are disposed inside the annular outer wall. A positioning

groove 1-3-1 is disposed on a positioning rod 1-3 of the lower end of the circumcision cover, and cooperates with the positioning hole 7-2 disposed in the U-nail top ring 7. U-nail seats 1-4 corresponding to the U-nails 5 are further disposed along the circumcision cover.

Figures 10-IV-14-IV are partial enlarged views of a circumcision cover, a U-nail top ring, a comprehensive cover, a U-nail groove and a lower end of the circumcision cover of an oblique-head type circumcision device, wherein the circumcision cover is provided with a negative pressure hole 1-2 for placing a glans penis, a positioning hole 7-2 is disposed in a U-nail top ring 7, a positioning groove 7-2-1 corresponding to a positioning rod 1-3 is disposed in a positioning hole 7-2. Figure 12-IV is a preferable setting of a blood vessel docking groove 6-2, wherein the widths of the front and the back of the blood vessel docking groove 6-2 are the same. Figure 13-IV is a preferable setting of a U-nail groove 6-1. The comprehensive cover 6 is provided with a plurality of U-nail grooves 6-1 for receiving U-nails 5. Nail outlets of the U-nail grooves 6-1 are disposed on the top end of the comprehensive cover 6. The nail outlets of the U-nail grooves 6-1 are disposed inside the annular outer wall. A positioning groove 1-3-1 is disposed on a positioning rod 1-3 of the lower end of the circumcision cover, and cooperates with the positioning hole 7-2 disposed in the U-nail top ring 7. U-nail seats 1-4 corresponding to the U-nails 5 are further disposed along the circumcision cover.

An embodiment of the valgus type is described in the following.

Figure 16 -IV is an exploded view of the valgus circumcision device arranged with a blood vessel positioning device. The drawing shows a plug 1, a positioning concave point 1-1, a sliding rod 2, a spring supporting platform 2-1, a pin hole 2-2, a pin hole 2-3, a hook 2-4, a spring 3, an opening knob 4, a pointer 4-1, a sliding block 4-2, a connecting rod 5, a small connecting rod 5-1, a pin hole 5-1-1, a pin hole 5-1-2, a small connecting rod 5-2, a pin hole 5-2-1, a pin hole 5-2-2, a pin 6-1, a pin 6-2, a pin 6-3, a pin 6-4, a pin 6-5, a pin 6-6, a handle 7-1, a pin hole 7-1-1, a pin hole 7-1-2, a handle 7-2, a pin hole 7-2-1, a pin hole 7-2-2, a connecting block 8, a clamping platform 8-1, a pin hole 8-2, an opening guide groove 8-3, a closing mark 8-4, an opening mark 8-5, a hook 8-6, a pin hole 8-7, a positioning convex point 8-8, a comprehensive cover 9, a clamping groove 9-1, a U-nail top ring 10, a groove 10-1, a

U-nail top column 10-2, a lower cover 11, a clamping platform 11-1, a positioning platform 11-2, a U-nail 12, a circumcision knife 13, a U-nail backing ring 14, an inner comprehensive cover 15, a hook 15-1, a U-nail groove 15-2, a locking ring 16, screw threads 16-1, an inner ring 17, a positioning platform 17-1, a blood vessel docking groove 17-2, a U-nail ring pad groove 17-3, an upper cover 18, screw threads 18-1, a positioning groove 18-2, and a positioning groove 18-3. The related driving components, actuating components and circumcision components and so on are common structures in the art. Refer to the drawings, the position relations and connecting relations are both clear, and the various combinations in the prior art can be adopted, so the details will not be repeated here. The blood vessel docking apparatus of the valgus circumcision device comprises a comprehensive cover 9, a U-nail top ring 10, a lower cover 11, an inner comprehensive cover 15, an inner ring 17, an upper cover 18 and a blood vessel docking groove 17-2. The inner ring 17 cooperates with the inner comprehensive cover 15. A plurality of blood vessel docking grooves 17-2 is disposed along the periphery of the back end of the inner ring 17. The U-nail top ring 10 is assembled and matched with the inner comprehensive cover 15 so as to push a U-nail 12 out of a U-nail groove 15-2. The upper cover 18 and the lower cover 11 are used for assembling and connecting with each other. The inner ring 17 is disposed in the upper cover 18. The inner comprehensive cover 15 is partially disposed in the lower cover 11. A front end of the comprehensive cover 9 is connected to a back end of the lower cover 11. The U-nail top ring 10 is partially disposed in the comprehensive cover 9.

The inner comprehensive cover 15 is provided with a plurality of U-nail grooves 15-2 for receiving U-nails 12, and the U-nail grooves 15-2 are disposed along the periphery of the front end of the inner comprehensive cover 15. The nail outlets of the U-nail grooves 15-2 are disposed close to the top end of the inner comprehensive cover 15. The positions of a plurality of blood vessel docking grooves 17-2 are corresponding to those of the U-nail grooves 15-2 one by one. The blood vessel docking grooves 17-2 are pre-disposed on the inner ring 17. The back ends of the blood vessel docking grooves 17-2 are flush with the back end of the inner ring 17. The front ends of the blood vessel docking grooves 17-2 are away from the annular back end of the inner ring 17 forwards relative to the back ends of the blood

vessel docking grooves 17-2.

Figures 17-IV-18 -IV are partial enlarged views of an inner ring and an upper cover. The front end of the inner ring 17 is disposed with positioning platforms 17-1 for positioning, the periphery of the back end thereof is provided with blood vessel docking grooves 17-2, and the back end face thereof is disposed with a U-nail ring pad groove 17-3 for corresponding to U-nails. The outer periphery of the back end of the upper cover 18 is disposed with screw threads 18-1 and positioning grooves 18-2 for connecting with a lower cover 11 and a locking ring 16. The central part close to the front end of the upper cover is provided with positioning grooves 18-3 for corresponding to the positioning platforms 17-1.

Exemplary descriptions are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the built-in or valgus graduated circumcision device.

A preferred embodiment of multiple implementations of the present invention is described in detail below according to the drawings.

The following is an embodiment of the built-in type.

Fig. 1-V is an overall view of the flat-head circumcision device of the present invention. A position indicated by a in the figure is a preferred position for arrangement of a graduation device. After release paper on the back is peeled off, a graduation label is annularly adhered to a periphery of the end, close to a circumcision cover, of a comprehensive cover by means of an adhesive layer on the back. Fig. 2-V is a structural view of the flat-head circumcision device of the present invention. The flat-head circumcision device comprises handles 1, connection rods 2, rivets 3, a knob 4, a sheathed core 5, an opening knob 6, sheathed handles 7, a lower cover 8, a comprehensive cover 9, a thimble 10, a circumcision cover 11, a circumcision knife 12, a first washer 13, a third washer 14, springs 15 and a second washer 16. Relevant driving components, actuating components and circumcision components are

common structures in the prior art. With reference to the drawing, position relationships and connection relationships thereof are both clear, and the details will not be repeated here. Fig. 3-V is a stereoscopic view of the flat-head circumcision device of the present invention. A position indicated by a in the figure is a preferred position for arrangement of a graduation device,

This built-in graduated circumcision device comprises a comprehensive cover 9, a circumcision cover 1 and a graduation device, wherein the comprehensive cover 9 and circumcision cover 1 are assembled to and cooperate with each other; and the graduation device is arranged on the comprehensive cover 9. The graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the circumcision cover 1, of the comprehensive cover 9.

A plurality of U-nail grooves which constitutes a ring is arranged in the comprehensive cover 9. Graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or interval between the U-nail grooves.

A ring of blood vessel docking grooves are annularly arranged on an outer surface of the comprehensive cover 9, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals between the blood vessel docking grooves. A ring of blood vessel corresponding grooves 1-1 are annularly arranged on an outer surface of the circumcision cover 1, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel corresponding 1-1 grooves and/or the interval between the blood vessel corresponding grooves 1-1.

Fig. 4-V is an overall view of the oblique-head circumcision device of the present invention. A position indicated by b in the figure is a preferred position for arrangement of a graduation device. Fig. 5-V is a structural view of the oblique-head circumcision device of the present invention. The oblique-head circumcision device comprises handles 1, connection rods 2, rivets 3, a knob 4, a sheathed core 5, an opening knob 6, sheathed handles 7, a lower cover 8, a comprehensive cover 9, a thimble 10, a circumcision cover 11, a circumcision

knife 12, a first washer 13, a third washer 14, springs 15 and a second washer 16. Relevant driving components, actuating components and circumcision components are common structures in the prior art. With reference to the drawing, position relationships and connection relationships thereof are both clear, and the details will not be repeated here. Fig. 6-V is a stereoscopic view of the oblique-head circumcision device of the present invention. A position indicated by b in the figure is a preferred position for arrangement of a graduation device.

Fig. 7-V is a type of a graduation label annularly arranged on a comprehensive cover. Graduations are printed on the front thereof, and an adhesive surface and release paper are arranged on the back thereof. The adhesive surface is used for adhesion at the position a or the position b described above after the release paper is peeled off. Intervals x among graduation marks of the graduations on the front thereof correspond to U-nail grooves, U-nails in the U-nail grooves, blood vessel docking grooves, or blood vessel corresponding grooves. Intervals y among the graduation marks of the graduation on the front thereof correspond to intervals among the U-nail grooves, intervals among the blood vessel docking grooves, or intervals among the blood vessel corresponding grooves.

Figs. 8-V and 9-V are schematic views of positions of nail cabins of the flat-head and oblique-head built-in circumcision devices, respectively. In the figures, 1 represents a circumcision cover, 1-1 blood vessel corresponding grooves, 1-2 a negative pressure, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 U-nail seats, 2 a circumcision knife washer, 3 U-nail backing ring, 4 circumcision knife, 5 U-nails, 6 a comprehensive cover, and 6-1 U-nail grooves. Relevant driving components, actuating components and circumcision components are common structures in the prior art. With reference to the drawings, position relationships and connection relationships thereof are both clear, and the details will not be repeated here.

The following is an embodiment of the valgus type.

Fig. 10-V is an overall view of the valgus circumcision device of the present invention. A position indicated by a, b, or c in the figure is a preferred position for arrangement of a graduation device. After release paper on the back is peeled off, a graduation label is

annularly adhered to a periphery of the end of an upper cover and/ a lower cover, or a periphery of a locking ring.

Fig. 11-V is a structural view of the valgus circumcision device of the embodiment. In the figure, 1 represents handles, 2 a plug, 3 small connection rods, 4 pins, 5 a sliding rod, 6 a connection block, 7 an opening knob, 8 springs, 9 a comprehensive cover, 10 a lower cover, 11 a locking ring, 12 an upper cover, 13 an inner ring, 14 an inner comprehensive cover, 15 an annular blade, and 16 a first washer/U-nail backing ring. Relevant driving components, actuating components and circumcision components are common structures in the prior art. With reference to the drawing, position relationships and connection relationships thereof are both clear, and the details will not be repeated here.

A valgus graduated circumcision device comprises an upper cover 12, a lower cover 10, a locking ring 11, and a graduation device, wherein the upper cover 12 and the lower cover 10 are assembled to and cooperate with each other; the locking ring 11 is used for locking the upper cover 12 and the lower cover 10; the graduation device is arranged on the upper cover 12, the lower cover 10 or the locking ring 11. The graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the lower cover 10, of the upper cover 12, or arranged on a periphery of the end, close to the upper cover 12, of the lower cover 10. Graduation marks on the graduation device are arranged to be in one-to-one correspondence with U-nail grooves and/or intervals among the U-nail grooves. The valgus graduated circumcision device further comprises an inner comprehensive cover 14 arranged in the lower cover 10, wherein a plurality of U-nail grooves are annularly arranged on a periphery of the inner comprehensive cover 14 and constitute a ring.

Fig. 12-V is an exploded view of a valgus circumcision stapler. In the figure, 11 represents a U-nail top ring, 11-1 grooves, 11-2 U-nail top columns, 12 an upper cover, 12-1 a clamping platform, 12-2 a positioning platform, 13 U-nails, 14 a circumcision knife, 15 a U-nail backing ring/a first washer, 16 an inner comprehensive cover, 16-1 a hook, 16-2 U-nail grooves, 17 a locking ring, 17-1 screw threads, 18 an inner ring, 18-1 a positioning platform, 18-2 blood vessel docking grooves, 18-3 U-nail ring backing grooves, and 19 an upper cover. Relevant driving components, actuating components and circumcision

components are common structures in the prior art. With reference to the drawing, position relationships and connection relationships thereof are both clear, and the details will not be repeated here. A position indicated by a in the figure is a preferred position of the upper cover for arrangement of the graduation device. A position indicated by b in the figure is a preferred position of the locking ring for arrangement of the graduation device. A position indicated by c in the figure is a preferred position of the lower cover for arrangement of the graduation device.

Fig. 13-V is a type of a graduation label annularly arranged on an upper cover, a lower cover or a locking ring. Graduations are printed on the front thereof, an adhesive surface and release paper are arranged on the back thereof., The adhesive surface is used for adhesion at the position a or b or c described above after the release paper is peeled off. Intervals x among graduation marks of the graduations on the front thereof correspond to U-nail grooves and U-nails in the U-nail grooves. Intervals y among the graduation marks of the graduation on the front thereof correspond to intervals among the U-nail grooves.

Exemplary descriptions are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the knob opening device and a circumcision device.

The present invention is described in detail below on the basis of the drawings, which is a preferred embodiment of the present invention.

Referring to Fig. 1A-VI- Fig. 1F-VI, in the present preferred embodiment, a sheathed handle 1 is provided with an identification point 1-1 and a mounting groove 1-7, a positioning groove 1-2, an advancing groove 1-4 and a positioning point 1-3. The sheathed handle 1 is sleeved with an opening knob 3. The opening knob 3 is provided with a pointing arrow 3-1 and a slider 3-2.

During assembly, the slider 3-2 of the opening knob 3 slides into the mounting groove 1-7 on the sheathed handle 1, is rotated leftwards to the end and advanced by the sheathed core 2 upwards, and is blocked by the first convex plate 1-6 and the positioning point 1-3, thereby finishing the assembly.

During use, the opening knob 3 is rotated. The slider 3-2 moves across the positioning point 1-3. The opening knob 3 is pushed by the sheathed core 2 to move upwards and is blocked by the second convex plate 1-5, thereby finishing the use action.

Referring to Fig. 2A-VI-Fig. 2E-VI, in the present preferred embodiment, the sheathed core 2 is arranged in the middle of the sheathed handle 1 in a penetrating manner, and is capable of sliding upwards and downwards along the sheathed handle 1.

The opening knob 3 is connected to the outside of the sheathed handle 1. The slider 3-2 is arranged inside the opening knob 3. The sheathed handle is provided with the mounting groove 1-7. The slider 3-2 on the opening knob 3 is placed inside the mounting groove 1-7.

The opening knob 3 is twisted. The slider 3-2 slides within the mounting groove 1-7. When the slider 3-2 touches the third convex plate 1-8, the twisting action of the opening knob 3 is stopped. The sheathed core 2 slides upwards under the action of an external force to push the opening knob 3 to move upwards, till be stopped by the first convex plate 1-6, and the mounting action is ended.

In the use process, the opening knob 3 is twisted to the advancing groove 1-4 at the left side with a hand, and the slider 3-2 can continue to move upwards along the advancing groove 1-4.

Referring to Fig. 3A-VI and 3B-VI, in the present preferred embodiment, the circumcision device further comprises a main device, a driving device, a removing device and a positioning device. The driving device is mounted on the main device and connected to the removing device and serves to drive the removing device. The removing device is mounted on the main device, is close to or connected to the positioning device and can serve to remove and/or anastomose the prepuce positioned on the positioning device. The

positioning device is mounted on the main device and serves to position glans penis and/or prepuce.

The main device comprises the sheathed handle 1, the opening knob 3, the sheathed core 2, a knob 11 and a screw rod 14. The opening knob 3 rotatably sleeves the sheathed handle 1. The sheathed core 2 is fully or partially arranged in the sheathed handle 1 in a penetrating manner. The knob 11 is arranged at the tail end of the sheathed core 2. One end of the screw rod 14 is connected to the knob 11 and arranged in the sheathed core 2 in a penetrating manner.

The driving device comprises handles 10, connecting rods 12, pins 13 and a spring 15, wherein the front ends of the handles 10 are connected to the sheathed handle 1 respectively. The connecting rods 12 are connected to the middle sections of the handles 10 respectively. The connecting rods 12 are connected to the sheathed core 2 respectively through the pins 13.

The positioning device comprises a lower sleeve 16, an upper sleeve 17, an inner sleeve 18, an inner sleeve washer 19 and an upper sleeve washer 20, wherein the lower sleeve 16 and the upper sleeve 17 form an outer sleeve together. The inner sleeve 18 is arranged in the outer sleeve. The inner sleeve 18 is provided with the inner sleeve washer 19. The upper sleeve 17 is correspondingly provided with the upper sleeve washer 20. The removing device comprises a blade 21 and a thimble 22 which are arranged between the outer sleeve and the inner sleeve 18.

In another preferred embodiment, a knob opening device comprises an opening knob 3 and a knob fastening device, wherein the opening knob 3 rotatably sleeves a sheathed handle 1. The knob fastening device is arranged on the sheathed handle 1. The opening knob 3 cooperates with the knob fastening device to rotate and/or axially moves. The knob fastening device is of a groove structure arranged on the sheathed handle 1. The inner surface of the opening knob 3 facing the knob fastening device is provided with a slider 3-2 which is capable of sliding in the knob fastening device, such that the opening knob 3 is driven to rotate and axially move. The opening knob 3 is an annular opening knob whose inner surface is provided with a slider 3-2 and whose outer surface is provided with stripes.

The knob fastening device comprises a first position and a second position, and serves to block the opening knob 3 from moving towards a first direction at the first position and block the opening knob 3 from moving towards a second direction at the second position. The knob fastening device comprises a first convex plate 1-6 and a second convex plate 1-5. The first position is an assembly completion position and located below the first convex plate 1-6. The first direction is upward axially along the sheathed handle 1 perpendicular to the first convex plate 1-6. The second position is a use completion position and located below the second convex plate 1-5. The second direction is upward axially along the sheathed handle 1 perpendicular to the second convex plate 1-5. The knob fastening device comprises a third position, a fourth position and a fifth position and serves to block the opening knob 3 from moving towards a third direction at the third position, block the opening knob 3 from moving towards a fourth direction at the fourth position, and block the opening knob 3 from moving towards a fifth direction at the fifth position. The knob fastening device comprises a third convex plate 1-8, a fourth convex plate 1-9 and an enclosed structure 1-10. The third position is located at the right side of the third convex plate 1-8. The third direction is leftward and perpendicular to the third convex plate 1-8. The fourth position is located below a left sidewall of the knob fastening device. The fourth direction is leftward and perpendicular to the left sidewall of the knob fastening device. The fifth position is located inside the enclosed structure 1-10. The fifth direction faces the outside of the enclosed structure 1-10.

The groove structure comprises a positioning groove 1-2, an advancing groove 1-4 and a mounting groove 1-7, wherein the positioning groove 1-2 is arranged longitudinally parallel to an axial direction of the sheathed handle 1 and serves to allow the slider 3-2 to move longitudinally in the positioning groove 1-2. The advancing groove 1-4 is arranged longitudinally parallel to the axial direction of the sheathed handle 1 and serves to allow the slider 3-2 to move longitudinally in the advancing groove 1-4. The mounting groove 1-7 is arranged transversely and perpendicularly to the axial direction of the sheathed handle 1 and serves to allow the slider 3-2 to move transversely in the mounting groove 1-7. The mounting groove 1-7 is arranged at one side of the positioning groove 1-2 and communicated to the lower part of the positioning groove 1-2. The advancing groove 1-4 is arranged at the other

side of the positioning groove 1-2 and communicated to the upper part of the positioning groove 1-2. The first convex plate 1-6 is formed on the top of the positioning groove 1-2. The second convex plate 1-5 is formed on the top of the advancing groove 1-4. The third convex plate 1-8 is formed at the left end of the mounting groove 1-7. The enclosed structure 1-10 is formed at the right end of the mounting groove 1-7.

The knob opening device further comprises a positioning point 1-3, wherein the positioning point 1-3 is arranged between the positioning groove 1-2 and the advancing groove 1-4 and serves to position the slider 3-2 at the first position. The positioning point 1-3 blocks the slider 3-2 from rotating in a direction from the advancing groove 1-4 to the positioning groove 1-2. The positioning point 1-3 provides a resistance, which can be overcome, to block the slider 3-2 from rotating in a direction from the positioning groove 1-2 to the advancing groove 1-4, or can be moved across by the slider 3-2 to rotate in a direction from the positioning groove 1-2 to the advancing groove 1-4. The positioning point 1-3 is an arcuate protrusion, or the positioning point 1-3 has a slope in a direction from the positioning groove 1-2 to the advancing groove 1-2 and has a vertical surface at one side close to the advancing groove 1-4.

The opening knob 3 is provided with a pointing arrow 3-1. The sheathed handle 1 is provided with an identification point 1-1. When the pointing arrow is arranged to point to the identification point, the knob opening device is in an initial assembly state. Or, when the pointing arrow is arranged to point to the identification point, the knob opening device has been in an assembly completion state. Or, when the pointing arrow is arranged to point to the identification point, the knob opening device has been in an available state. Or, when the pointing arrow is arranged to point to the identification point, the knob opening device has been in a use completion state. Or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the assembly completion state. Or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the available state. Or, when the knob is arranged to partially or completely cover the identification point, the knob opening device has been in the use completion state.

The knob opening device further comprises a sheathed core 2 which is arranged in the middle of the sheathed handle 1 in a penetrating manner and which is capable of sliding upwards and downwards along the sheathed handle 1 and pushing the opening knob 3 or the slider 3-2 thereof to move upwards.

An assembly method for the knob opening device comprises the following steps: mounting the slider 3-2 of the opening knob 3 into the mounting groove 7 on the sheathed handle 1; rotating the opening knob 3 leftwards within the mounting groove 7 to the end till touching the third convex plate 1-8, and then stopping rotating; advancing the opening knob 3 upwards by the sheathed core 2; and blocking the slider 3-2 by the first convex plate 1-6 and the positioning point 1-3, thereby completing the assembly.

A use method for the knob opening device comprises the following steps: rotating the opening knob 3, such that the slider 3-2 moves across the positioning point 1-3 and into the advancing groove 1-4; pushing the opening knob 3 by the sheathed core 2, such that the opening knob 3 moves upwards along the advancing groove 1-4; and blocking the opening knob 3 by the second convex plate 1-5, thereby completing the use action.

The opening knob of the present invention rotatably sleeves the sheathed handle and is arranged on the circumcision device, such that corresponding operations can be realized just by confirming the state and rotating the knob during use, thereby avoiding medical accidents. The opening action of the opening structure can be finished without the need for an elastic structure. The convex plates are relatively higher, and therefore positioning is reliable.

Exemplary describes are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the positioning device for a built-in circumcision device.

The present invention is described in detail below on the basis of the drawings, which is a preferred embodiment of the present invention.

Fig. 1-VII and Fig. 3-VII are exploded views of a built-in flat-head type circumcision device and a built-in oblique-head type circumcision device respectively. In the drawings, the reference signs represent the following components: circumcision cover 1; blood vessel corresponding groove 1-1; negative pressure hole 1-2; positioning rod 1-3; positioning groove 1-3-1; U-nail seat 1-4; circumcision knife washer 2; U-nail backing ring 3; circumcision knife 4; U-nail 5; comprehensive cover 6; U-nail groove 6-1; blood vessel docking groove 6-2; U-nail top ring 7; U-nail top column 7-1; positioning hole 7-2; positioning groove 7-2-1; lower comprehensive cover 8; connecting block 9; closing mark 9-1; opening mark 9-2; opening guide groove 9-3; positioning convex point 9-4; pin hole 9-5; pin hole 9-6; pin 10-1; pin 10-2; third pin 10-3; fourth pin 10-4; fifth pin 10-5; sixth pin 10-6; connecting rod 11; thread 11-1; thread 11-2; small connecting rod 12; pin hole 12-1; pin hole 12-2; small connecting rod 13; pin hole 13-1; pin hole 13-2; handle 14; pin hole 14-1; pin hole 14-2; handle 15; pin hole 15-1; pin hole 15-2; opening knob 16; pointer 16-1; sliding block 16-2; spring 17; sliding rod 18; pin hole 18-1; pin hole 18-2; knob 19; connecting thread 19-1; positioning concave point 19-2. The related driving components, actuating components and circumcision components and so on are common structures in the art. Refer to the drawings, the position relations and connecting relations are both clear, and the various combinations in the prior art can be adopted, so the details will not be repeated here. The positioning device for the built-in circumcision device comprises a connecting block 9, a knob 19, a first positioning structure and a second positioning structure, wherein the rear end surface of the connecting block 9 and the front end surface of the knob 19 are positioned in a manner of cooperating with each other. The first positioning structure is arranged on the rear end surface of the connecting block 9. The second positioning structure is arranged on the front end surface of the knob 19. The first positioning structure and the second positioning structure cooperate with each other, such that the rear end surface of the connecting block 9 and the front end surface of the knob 19 are positioned in a manner of cooperating with each other. The first positioning structure includes one or more positioning convex points or positioning concave points. The second positioning structure includes one or more positioning concave points or positioning convex points. The positioning concave point and

the positioning convex point cooperate with each other in a concave-convex manner, thereby accomplishing the positioning of the connecting block 9 and the knob 19 when they cooperate in place.

The front end of the connecting block 9 serves to connect a lower comprehensive cover 8. The rear part or the middle-rear part of the connecting block 9 is provided with a transverse groove for allowing a sliding rod 18 to be embedded, wherein the rear end of the sliding rod 18 is flush with the rear end of the connecting block 9. The rear end of the connecting block 9 is provided with a hole or a cylindrical groove and serves to connect the knob 19. The first positioning structure includes three positioning convex points 9-4 which are uniformly arranged along the rear end surface of the connecting block 9.

The knob 19 is provided with a fixed surface which is provided with a cylindrical protrusion. The cylindrical protrusion serves to be inserted into the hole or the cylindrical groove of the connecting block 9. The second positioning structure includes three positioning concave points 19-2 which are uniformly arranged along the circumference of the fixed surface of the knob 19.

The outer surface of the connecting block 9 is provided with a first positioning mark. The outer surface of the knob 19 is provided with a second positioning mark. The first positioning mark serves to be aligned to the second positioning mark in rotation and is capable of being in an aligned state after the first positioning structure and the second positioning structure are positioned in a cooperating manner.

An internal thread 19-1 is arranged in the middle of the cylindrical protrusion and serves to be connected to an external thread 11-2 at the rear end of the connecting rod 11 in a manner of cooperating with each other. The front end of the connecting rod 11 is provided with an external thread 11-1 which serves to be connected to the rear end of a circumcision cover 1 at the front end. The rear end of the circumcision cover 1 is provided with a positioning rod 1-3. The positioning rod 1-3 is provided with an internal thread which serves to be connected with the external thread 11-1 arranged at the front end of the connecting rod 11 in a manner of cooperating with each other.

The positioning device further comprises a comprehensive cover 6 whose front end serves for connecting the circumcision cover 1 and whose rear end is connected to a lower comprehensive cover 8.

Fig. 2-VII and Fig. 4-VII are partially enlarged views of the connecting block 9, wherein the lower end of the connecting block is uniformly provided with three positioning convex points 9-4 along the circumference thereof.

Exemplary describes are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the knob opening/closing device of a circumcision device.

With reference to Figs. 1-VIII-6-VIII, in the figures, 1 represents a circumcision cover, 1-1 blood vessel corresponding grooves, 1-2 a negative pressure hole, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 a U-nail seat, 2 circumcision knife washer, 3 U-nail backing ring, 4 circumcision knife, 5 a U-nail, 6 comprehensive cover, 6-1 U-nail groove, 6-2 blood vessel docking grooves, 7 U-nail top ring 7-1 U-nail top column, 7-2 positioning hole, 7-2-1, positioning groove, 8 a lower comprehensive cover, 9 a connection block, 9-1 a closing mark, a 9-2 an opening mark, 9-3 an opening guide groove, 9-4 a positioning convex point, 9-5 a pin hole, 9-6 a pin hole, 10-1 a pin, 10-2 a pin, 10-3 a third pin, 10-4 a fourth pin, 10-5 a fifth pin, 10-6 a sixth pin, 11 a connection rod, 11-1 a thread, 11-2 a thread, 12 a small connection rod, 12-1 a pin hole, 12-2 a pin hole, 13 a small connection rod, 13-1 a pin hole, 13-2 a pin hole, 14 a handle, 14-1 a pin hole, 14-2 a pin hole, 15 a handle, 15-1 a pin hole, 15-2 a pin hole, 16 an opening knob, 16-1 a pointer, 16-2 a sliding block, 17 a spring, 18 a sliding rod, 18-1 a pin hole, 18-2 a pin hole, 19 a knob, 19-1 a connection thread, and 19-2 a positioning convex point.

A knob opening/closing device of a circumcision device comprises a connection block 9 and an opening knob 16, wherein the opening knob 16 sleeves the connection block 9; a

sliding block 16-2 is arranged on an inner surface of the opening knob 16; a guide groove 9-3 is arranged on an outer surface of the connection block 9; and the sliding block 16-2 is embedded into the guide groove 9-3 and can slide along the guide groove 9-3, so that the circumcision device is in an opening or closing state.

A pointer 16-1 is arranged on the opening knob 16, an opening mark 9-2 and/or a closing mark 9-1 are/is arranged on the connection block 9, and the pointer 16-1 is used for pointing to the opening mark 9-2 or the closing mark 9-1 when the opening knob 16 rotates.

The opening mark 9-2 and/or the closing mark 9-1 comprise(s) at least one recess formed in the connection block 9.

The opening mark 9-2 and/or the closing mark 9-1 comprise(s) at least one color sheet embedded into the at least one recess.

The recesses are two recesses representing the opening state and the closing state respectively and the color sheets are two color sheets embedded into the two recesses respectively and are different in color.

The color sheets correspond to the recesses in shape and slightly larger than the recesses, so that the color sheets can stay in the recesses using elastic buckles after being embedded into recesses.

The guide groove 9-3 has a transverse part and a longitudinal part, and when being located at a first end or a second end of the transverse part or a first end or a second end of the longitudinal part, the sliding block 16-2 buckles a handle 15 of the circumcision device, so that the handle cannot be driven, or when being located at the first end or the second end of the transverse part or the first end or the second end of the longitudinal part, the sliding block 16-2 unlocks the handle 15 of the circumcision device, so that the handle can be driven.

The pointer 16-1 is arranged at a position where the pointer 16-1 points to the closing mark 9-1 when the sliding block 16-2 buckles the handle 15 of the circumcision device so that the handle cannot be driven, and/or the pointer 16-1 is arranged at a position where the pointer 16-1 points to the opening mark 9-2 when the sliding block 16-2 unlocks the handle

15 of the circumcision device so that the handle can be driven.

A front end of the connection block 9 is used for connecting a lower comprehensive cover 8 of a built-in circumcision device or a comprehensive cover of a valgus circumcision device, a transverse groove is formed in a rear part or a middle-rear part of the connection block 9 and is used for embedding of a sliding rod 18, and a rear end of the connection block 9 is used for connecting the knob 19 of the built-in circumcision device or a plug of the valgus circumcision device.

A cross section of the opening knob 16 takes the shape of a ring, and/or stripes for increasing a frictional force are arranged on an outer surface of the opening knob.

Exemplary describes are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the circumcision stapler and a U-nail thimble.

The present invention will be described in detail below with reference to the accompanying drawings. The followings show preferred embodiments in various embodiments of the present invention.

Fig. 1-IX is a front view of a concave groove at the top end of a U-nail 1 and the bottom of a thimble 2 which cooperate with each other according to the present invention. The bottom of the U-nail 1 is embedded into the top of the thimble 2 to be positioned. Referring to a side view shown in Fig. 2-IX, in a preferred embodiment, one positioning groove 2-1 is used to realize the embedding. Fig. 3-IX is a partial enlarged view of Fig. 2-IX. The positioning groove 2-1 is an arc-shaped groove, and a rounded corner 2-2 is formed between the positioning groove and the stage.

Fig. 4 -IX is a front view of convex stages at the top end of the U-nail 1 and the bottom of the thimble 2 which cooperate with each other according to the present invention. The

U-nail is positioned through the convex stages arranged at the four corners or on the side surfaces. Figs. 5-IX and 6 show a top view and a side view of the convex stages at the top end of the U-nail and the bottom of the thimble which cooperate with each other according to the present invention, respectively. Four positioning stages 2-3 are arranged at the four corners of the top end of the thimble to perfectly accommodate the bottom of the U-nail to realize positioning.

In a preferred embodiment, the U-nail thimble comprises a thimble body and a thimble positioning device. The thimble positioning device is arranged at one end of the thimble body, and comprises a concave positioning groove or a convex positioning stage which is configured to cooperate with a U-nail to position the U-nail in a static or moving state. The U-nail comprises two sides and a bottom edge. The positioning groove is configured to cooperate with or accommodate a part of the bottom edge of the U-nail and to position the U-nail in a static or moving state. The positioning groove is formed at the center of the end of the thimble, and is an arc-shaped groove. A rounded corner is formed between the positioning groove and the plane of the end of the thimble body. The U-nail comprises two sides and a bottom edge. There is at least one convex positioning stage, and a space defined by the positioning stage is configured to accommodate a part of the bottom edge of the U-nail and position the U-nail in a static or moving state. There are four convex positioning stages arranged at four corners of the end of the thimble, respectively.

A circumcision stapler comprises the U-nail thimble described above and a U-nail. The U-nail thimble faces the lower end surface of the U-nail to position and move the U-nail. The width of the bottom edge of the U-nail is equal to or slightly smaller than the width between convex positioning stages. The width of the bottom edge of the U-nail is smaller than the width of the opening of the positioning groove. The side of the bottom edge of the U-nail facing the U-nail thimble is arc-shaped. The long edge of the top end of the U-nail thimble corresponds to the long edge of the U-nail, and the wide edge thereof corresponds to the wide edge of the U-nail.

The circumcision stapler is a built-in circumcision stapler, comprising: a comprehensive cover and a circumcision cover which are assembled to and cooperate with each other. A

plurality of U-nail grooves formed in the comprehensive cover is configured to accommodate U-nails, and forms a ring. A U-nail top ring is entirely or partially arranged in the comprehensive cover. U-nail thimbles corresponding to the U-nail grooves one by one are arranged at the top end of the comprehensive cover. The lower end of the circumcision cover is inserted into the comprehensive cover, and the upper end thereof is supported at the top end of the comprehensive cover to cooperate with the comprehensive cover to clamp prepuce. The circumcision stapler further comprises a circumcision knife partially or entirely arranged in the U-nail top ring. A plurality of blood vessel corresponding grooves arranged in a ring is formed at the upper end of the circumcision cover, and corresponds to the U-nail grooves one by one. A ring of blood vessel docking grooves or graduations is further formed on the outer surface of the comprehensive cover, and corresponds to the U-nail grooves or the blood vessel corresponding grooves one by one. A positioning rod is arranged at the lower end of the circumcision cover. A positioning hole is formed in the U-nail top ring. The positioning rod is configured to insert in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover correspond to the U-nail grooves one by one.

The basic structures of a built-in circumcision stapler and a valgus circumcision stapler involved in the patent inventions filed by the applicant and invented by the present inventors, such as the applications entitled as “Visible-operation Circumcision Stapler” and “C-shaped Valgus Circumcision Stapler”, are incorporated herein by reference to understand the specific location and structure relations of the above structures of the present invention.

Exemplary describes are given for the present invention with reference to the drawings in the above. Obviously, the present invention is not limited to the above implementation manners. Any improvement using the methods, concepts and technical solutions of the present invention or direct application of the present invention to other occasions without modifications shall fall into the protection scope of the present invention.

Refer to the prepuce circumcision stapler with an indication device, which is, more particularly, of a built-in type and a valgus type.

Preferred embodiments of multiple implementations of the present invention are described in detail below according to the drawings.

Regarding the built-in type, Fig. 1-X is an overall view of a flat-head prepuce circumcision stapler of the present invention. In Fig. 1-X, an indication point A is a convex point which is arranged on the periphery of one end, close to a prepuce circumcision cover, of a comprehensive cover and can be contacted and perceived by an operator, such that the position of the indication point can be determined through vision or tactile sense during surgery, thereby accurately corresponding to a position of a U-nail groove or a nail cabin. Fig. 2-X is a structural view of a flat-head prepuce circumcision stapler of the present invention. Fig. 21-X is a partially enlarged view. The flat-head prepuce circumcision stapler comprises handles 1, connecting rod 2, rivets 3, a knob 4, a sheathed core 5, an opening knob 6, a sheathed handle 7, a lower sleeve 8, a comprehensive cover 9, a thimble 10, a prepuce circumcision cover 11, a circumcision knife 12, a first washer 13, a third washer 14, a spring 15 and a second washer 16. The prepuce circumcision cover 11 is inserted from the top end of the comprehensive cover 9. The annular lower end at the upper part of the prepuce circumcision cover 11 serves to clamp the prepuce in cooperation with the comprehensive cover 9. The lower end of the comprehensive cover 9 is connected with the lower sleeve 8. A U-nail top ring is arranged in the comprehensive cover 9 and the lower cover 8. A thimble 10 is arranged on the top of the U-nail top ring. The lower end of the lower sleeve 8 is connected to the sheathed handle 7. The lower end of the sheathed handle 7 is connected to the sheathed core 5. The knob 4 which serves as a plug is arranged at the tail end of the sheathed core 5. The circumcision knife is arranged in the U-nail top ring. The first washer 13, the second washer 16 and the third washer 14 are arranged at the top end of the U-nail groove, an outer ring and an inner ring of a circumcision surface of the prepuce circumcision cover respectively. The handles 1, the connecting rods 2 and the rivets 3 constitute a driving component which is connected to the sheathed core 5 and the sheathed handle 7 and is used for driving the U-nail top ring and/or the circumcision knife 12, thereby finishing the circumcision and suturing. The opening knob 6 sleeves the sheathed core 5 and is used for locking and unlocking the driving component. Fig. 3-X is a stereoscopic view of the flat-head

prepuce circumcision stapler of the present invention, in which a position indicated by a is a preferred position for arrangement of an indication device.

The built-in prepuce circumcision stapler with an indication device comprises a comprehensive cover 9, a prepuce circumcision cover 1 and the indication device. The comprehensive cover 9 and the prepuce circumcision cover 1 are assembled to and cooperate with each other. The indication device is arranged on the comprehensive cover 9. The indication device is a ring of protrusions or recesses which are annularly arranged on the periphery of one end, close to the prepuce circumcision cover 1, of the comprehensive cover 9. A plurality of U-nail grooves 6-1 which serves to accommodate U-nails and constitutes a ring is arranged in the comprehensive cover 9. The intervals among the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves 6-1. The width between the two protrusions is equal to the width of the U-nail groove 6-1. The indication device is protrusions or recesses prefabricated on the comprehensive cover 9, wherein the protrusions are convex points.

The protrusions of the convex points can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions. Preferably, the convex points are circular convex points. A ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover 9. The protrusions on the indication device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves. A ring of blood vessel corresponding grooves are annularly arranged on the outer surface of the prepuce circumcision cover. The protrusions on the indication device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or intervals among the blood vessel corresponding grooves.

Fig. 4-X is an overall view of the oblique-head prepuce circumcision stapler of the present invention, in which a position indicated by b in the figure is a preferred position for arrangement of the indication device. Fig. 5 -X is a structural view of the oblique-head prepuce circumcision stapler of the present invention. The oblique-head prepuce circumcision stapler comprises handles 1, connecting rods 2, rivets 3, a knob 4, a sheathed

core 5, an opening knob 6, a sheathed handle 7, a lower cover 8, a comprehensive cover 9, a thimble 10, a prepucial circumcision cover 11, a circumcision knife 12, a first washer 13, a third washer 14, springs 15 and a second washer 16. With reference to the drawings, position relationships and connection relationships of relevant driving components, the actuating components and circumcision components are both clear, and the details will not be repeated here. Fig. 6 -X is a stereoscopic view of the oblique-head prepucial circumcision stapler of the present invention, in which a position indicated by b is a preferred position for arrangement of the indication device.

Fig. 7-X and Fig. 8-X are schematic diagrams of the positions of the nail cabins of the flat-head and oblique-head built-in prepucial circumcision stapler respectively. Fig. 22-X and Fig. 23 -X are partially enlarged views of the U-nail top ring and the prepucial circumcision cover in Fig. 7-X. In these drawings, reference signs represent the following components: blood vessel corresponding groove 1-1; negative pressure hole 1-2; positioning hole 1-3; positioning groove 1-3-1; U-nail seat 1-4; circumcision knife washer 2; U-nail backing ring 3; circumcision knife 4; U-nail 5; comprehensive cover 6; U-nail groove 6-1; U-nail top ring 7; thimble 7-1; positioning hole 7-2; positioning groove 7-2-1. The prepucial circumcision stapler comprises the comprehensive cover 6, the prepucial circumcision cover 1, the U-nail top ring 7 and the circumcision knife 4. The lower end of the prepucial circumcision cover 1 is inserted into the comprehensive cover 6. The upper end of the prepucial circumcision cover 1 supports the top end of the comprehensive cover 6 and serves to clamp the prepucial in cooperation with the comprehensive cover 6. A plurality of U-nail grooves 6-1 which serves to accommodate U-nails and constitutes a ring is arranged in the comprehensive cover 6. There is an interval between the U-nail grooves 6-1. The U-nail top ring 7 is arranged in the comprehensive cover 6. The top end of the U-nail top ring 7 is provided with thimbles 7-1 which are in one-to-one correspondence to the U-nail grooves 6-1. The circumcision knife 4 is arranged in the U-nail top ring 7. The upper end of the prepucial circumcision cover 1 is provided with blood vessel corresponding grooves 1-1 which are annularly arranged and are in one-to-one correspondence to the U-nail grooves 6-1. The lower end of the prepucial circumcision cover 1 is provided with a positioning rod 1-3. The U-nail top ring 7 is provided

with a positioning hole 7-2. The positioning rod 1-3 serves to be inserted and positioned in the positioning hole 7-2, such that the blood vessel corresponding grooves 1-1 on the prepuce circumcision cover 1 are in one-to-one correspondence to the U-nail grooves 6-1. The outer surface of the comprehensive cover 6 is annularly provided with a ring of blood vessel docking grooves or graduations which are in one-to-one correspondence to the U-nail grooves 6-1 and/or the blood vessel corresponding grooves. With reference to the drawings, the position relationships and connection relationships of relevant driving components, the actuating components and circumcision components are both clear, and the details will not be repeated here.

Figs. 9-X -12-X are schematic diagrams of structural positions of the indication device pre-disposed on the comprehensive cover, which may be a protrusion 1, a groove 2, a convex point 3 or a line 4, are directly designed as a concave or convex structure on the top end of the comprehensive cover and strictly correspond to the U-nail-related structures inside. Figs. 13-X -16-X are schematic structural diagrams of the prefabricated indication device in a ferrule form, which may be a protrusion ferrule 5, a groove ferrule 6, a convex point ferrule 7 or a line ferrule 8. Figs. 17-X -20-X are schematic structural diagrams of the prefabricated indication device in a sticky label form, which may be a protrusion sticky label 9, a groove sticky label 10, a convex point sticky label 11 or a line sticky label 12 and applied to a prepuce circumcision stapler that is not provided with a blood vessel indication device, wherein the indication devices in the ferrule form have different inner diameters and can adapt to the comprehensive cover or other parts of different kinds of prepuce circumcision staplers, thereby corresponding to the U-nail-related structures inside. The indication devices in the sticky label form comprise different specifications and can adapt to the comprehensive covers or other parts of different kinds of prepuce circumcision staplers, thereby corresponding to the U-nail-related structures inside, wherein the front surface of the indication device is of a concave or convex structure, and the back surface of the indication device is an adhesive layer or release paper.

Regarding the valgus type, Figs. 24-X -27-X are schematic structural diagrams of the prefabricated indication device in a ferrule form, which may be a protrusion ferrule Z-1, a

groove ferrule Z-2, a convex point ferrule Z-3 or a line ferrule Z-4. Figs. 28-X -31-X are schematic structural diagrams of the prefabricated indication device in a sticky label form, which may be a protrusion sticky label Z-5, a groove sticky label Z-6, a convex point sticky label Z-7 or a line sticky label Z-8 and applied to a prepuce circumcision stapler that is not provided with a blood vessel indication device, wherein the indication devices in the ferrule form have different inner diameters and can adapt to the comprehensive cover or other parts of different kinds of prepuce circumcision staplers, thereby corresponding to the U-nail-related structures inside. The indication devices in the sticky label comprise different specifications and can adapt to the comprehensive cover or other parts of different kinds of prepuce circumcision staplers, wherein the front surface of the indication device is of a concave or convex structure, and the back surface of the indication device is an adhesive layer or release paper.

Fig. 32-X is an overall view of the valgus prepuce circumcision stapler of the present invention, in which positions indicated by a, b, c and d are preferred positions for arrangement of the indication device. Exemplarily, a ring of convex indication points Z is arranged on the position a. Fig. 37-X is the enlarged view of the inner ring, in which positions indicated by e and f are preferred positions for arrangement of the indication device, wherein the upper end or the lower end of the outer surface of the inner ring may be provided with a graduation device, a concave or convex touch sensing device or a blood vessel docking groove structure according to specific demands.

Figs. 33-X -39-X are structure views of the valgus prepuce circumcision stapler of the present embodiment. In the drawings, reference signs represent the following components: handles 1; plug 2; small connecting rod 3; pin 4; sliding rod 5; a connecting block 6; an opening knob 7; spring 8; comprehensive cover 9; lower cover 10; locking ring 11; upper cover 12; inner ring 13; inner comprehensive cover 14; annular blade 15; first washer/U-nail backing ring 16. The handles 1 are connected to the sliding rod 5 through the small connecting rods 3 or the pins 4 to form a driving component. The opening knob 7 sleeves the periphery of the connecting block and serves to open or lock the handles, such that the handles can be or cannot be driven. The lower end of the comprehensive cover 9 is connected

to the connecting block. The upper end of the comprehensive cover 9 is connected to the lower end of the lower cover 10. The upper end of the lower cover 10 is connected to the lower end of the upper cover 12 through the locking ring 11. The inner ring 13 is fully or partially arranged in the upper cover 12. The inner comprehensive cover 14 is fully or partially arranged in the lower cover 10. The inner ring 13 and the inner comprehensive cover 14 serve to cooperate with each other and clamp the prepuce, or the inner ring 13 and the upper cover 12 serves to cooperate with each other and clamp the prepuce. The annular blade 15 is arranged on the periphery of the inner comprehensive cover 14 and is driven to make a circumcision on the prepuce. The U-nail backing ring 16 is arranged at the lower end of the inner ring and correspondingly allows the U-nails to penetrate through. With reference to the drawing, the position relationships and connection relationships of other members are both clear, and the details will not be repeated here.

Figs. 34-X -36-X and 15-X are exploded views of a valgus prepuce circumcision stapler. The members includes a plug 1, a positioning concave point 1-1, a sliding rod 2, a spring supporting platform 2-1, a pin hole 2-2, a pin hole 2-3, a hook 2-4, a spring 3, an opening knob 4, a pointer 4-1, a sliding block 4-2, a connecting rod 5, a small connecting rod 5-1, a pin hole 5-1-1, a pin hole 5-1-2, a small connecting rod 5-2, a pin hole 5-2-1, a pin hole 5-2-2, a pin 6-1, a pin 6-2, a pin 6-3, a pin 6-4, a pin 6-5, a pin 6-6, a handle 7-1, a pin hole 7-1-1, a pin hole 7-1-2, a handle 7-2, a pin hole 7-2-1, a pin hole 7-2-2, a connecting block 8, a clamping platform 8-1, a pin hole 8-2, an opening guide groove 8-3, a closing mark 8-4, an opening mark 8-5, a hook 8-6, a pin hole 8-7, a positioning convex point 8-8, a comprehensive cover 9, a clamping groove 9-1, a U-nail top ring 10, a groove 10-1, a U-nail top column 10-2, a lower cover 11, a clamping platform 11-1, a positioning platform 11-2, a U-nail 12, a circumcision knife 13, a U-nail backing ring 14, an inner comprehensive cover 15, a hook 15-1, U-nail grooves 15-2, a locking ring 16, a thread 16-1, an inner ring 17, positioning platforms 17-1, blood vessel docking grooves 17-2, a U-nail ring pad groove 17-3, an upper cover 18, a thread 18-1, positioning grooves 18-2, and positioning groove 18-3. The inner ring 17 and the inner comprehensive cover 15 serve to cooperate with each other and clamp the prepuce, or the inner ring 17 and the upper cover 18 serve to cooperate with each

other and clamp the prepuce. The U-nail top ring 10 is assembled to and cooperates with the inner comprehensive cover 15, thereby pushing the U-nails 12 out from the U-nail grooves 15-2. The annular knife 13 is arranged on the periphery of the inner comprehensive cover and is driven by the driving component to make a circumcision on the prepuce. The upper cover 18 and the lower cover 11 are assembled to and connected with each other. The inner ring 17 is arranged in the upper cover 18. The inner comprehensive cover 15 is fully or partially arranged in the lower cover 11. The front end of the comprehensive cover 9 is connected to the rear end of the lower cover 11. The U-nail top ring 10 is partially arranged in the comprehensive cover 9. The inner comprehensive cover 15 is provided with a plurality of U-nail grooves 15-2 for accommodating the U-nails 12. The U-nail grooves 15-2 are arranged along the periphery of the front end of the inner comprehensive cover 15. A nail outlet of the U-nail groove 15-2 is arranged close to the top end of the inner comprehensive cover 15. The upper cover 18 and the lower cover 11 are tightened and cooperate through the locking ring 16. The upper end of the connecting block 8 is connected to the comprehensive cover 9. The lower end of the connecting block 8 is connected to the sliding rod 2 and the plug 1. The opening knob which can open or close a driving device, such as the handles, is arranged outside the connecting block 8. A plurality of vessel docking grooves 17-2 is arranged along the periphery of the rear end of the inner ring 17. The positions of the plurality of blood vessel docking grooves 17-2 are in one-to-one correspondence to those of the U-nail grooves 15-2. The blood vessel docking grooves 17-2 are pre-disposed on the inner ring 17. The rear ends of the blood vessel docking grooves 17-2 are flush with the rear end of the inner ring 17. The front ends of the blood vessel docking grooves 17-2 are away from the annular rear end of the inner ring 17 forwards relative to the rear ends of the blood vessel docking grooves 17-2. The front end of the inner ring 17 is provided with positioning platforms 17-1 for positioning. The periphery of the rear end of the inner ring 17 is provided with the blood vessel docking grooves 17-2. The rear end surface of the inner ring 17 is provided with a U-nail ring pad groove 17-3 for corresponding to the U-nails. The outer periphery of the rear end of the upper cover 18 is provided with the thread 18-1 and the positioning grooves 18-2 for connecting with the lower cover 11 and the locking ring 16. The central part close to the front end of the upper cover 18 is provided with positioning grooves

18-3 for corresponding to the positioning platforms 17-1. With reference to the drawing, the position relationships and connection relationships of other structures are both clear, and the details will not be repeated here.

In a preferred embodiment, the valgus prepuce circumcision stapler with an indication device comprises an upper cover 18, a lower cover 11, an inner ring 17, an inner comprehensive cover 15 and a locking ring 16, and the indication device. The upper cover 18 and the lower cover 11 are assembled to and cooperate with each other upwards and downwards. The inner ring 17 is arranged in the upper cover 18. The inner comprehensive cover 15 is fully or partially arranged in the lower cover 11. The indication device is arranged on the inner ring 17 or the inner comprehensive cover 15. The locking ring 16 is used for locking the upper cover 18 and the lower cover 11. The indication device Z is a ring of protrusions which are annularly arranged. The protrusion degree of the protrusions can be contacted and perceived by an operator when the prepuce covers the protrusions.

A plurality of U-nail grooves 15-2 which is annularly arranged and constitutes a ring is arranged on the periphery of the inner comprehensive cover 15. The protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves 15-2 and/or intervals among the U-nail grooves 15-2 and/or the U-nails in the U-nail grooves 15-2; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the U-nail grooves 15-2 and/or the intervals among the U-nail grooves 15-2 and/or the U-nails in the U-nail grooves 15-2. The protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to the width of the U-nail groove 15-2, and/or the width of the U-nail in the U-nail groove 15-2, and/or the width of the interval between the U-nail grooves 15-2.

In a preferred embodiment, the indication device is protrusions or recesses which are prefabricated on the upper cover 18, and/or the lower cover 11, and/or the inner ring 17, and/or the inner comprehensive cover 15, and/or the locking ring 16; or an indication label (Z-5, Z-6, Z-7 or Z-8) which is adhered to the upper cover 18, and/or the lower cover 11, and/or the inner ring 17, and/or the inner comprehensive cover 15, and/or the locking ring 16

and has protrusions or recesses; or a prefabricated indication ring or indication strip (Z-1, Z-2, Z-3 or Z-4) which sleeves the upper cover 18, and/or the lower cover 11, and/or the inner ring 17, and/or the inner comprehensive cover 15, and/or the locking ring 16 and has protrusions or recesses.

In a preferred embodiments, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner ring 17, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the inner ring 17, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the inner ring 17, and/or blood vessel docking grooves 17-2 which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner ring 17.

In a preferred embodiment, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover 15, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover 15, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover 15, and/or a blood vessel docking groove 17-2 which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover 15.

The protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips. Both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips

constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the convex strip are curved.

The prepuce circumcision stapler further comprises a comprehensive cover 9, wherein the upper end of the comprehensive cover 9 cooperates with and is connected to the lower end of the lower cover 11. The indication device is arranged at one end, close to the upper cover 18, of the outer surface of the lower cover 11; and/or, the indication device is arranged at one end, close to the comprehensive cover, of the outer surface of the lower cover 11; and/or, the indication device is arranged at one end, close to the lower cover 11, of the outer surface of the upper cover 18; and/or, the indication device is arranged at the upper end of the outer surface of the upper over 18; and/or, the indication device is arranged at the upper end of the outer surface of the inner ring 17; and/or, the indication device is arranged at the lower end of the outer surface of the inner ring 17; and/or, the indication device is arranged at the upper end of the outer surface of the inner comprehensive cover 15; and/or, the indication device is arranged at the lower end of the outer surface of the inner comprehensive cover 15; and/or, the indication device is arranged on the periphery of the locking ring 16.

In another preferred embodiment in which the structures shown in Figs. 34-X -36-X and 15-X are adopted, a valgus prepuce circumcision stapler with an indication device comprises an upper cover, and/or a lower cover, and/or an inner ring, and/or an inner comprehensive cover, and further comprises the indication device. The upper cover and the lower cover are assembled to and cooperate with each other upwards and downwards. The inner ring is arranged in the upper cover. The inner comprehensive cover is fully or partially arranged in the lower cover. The indication device is arranged on the upper cover, and/or the lower cover, and/or the inner ring, and/or the inner comprehensive cover.

The valgus prepuce circumcision stapler further comprises a locking ring which is used for locking the upper cover and the lower cover and is provided with the indication device. The indication device is a ring of protrusions or recesses which are annularly arranged.

Preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses. A plurality of U-nail grooves which constitutes a ring is annularly arranged on the periphery of the inner comprehensive cover. The protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or the U-nails in the U-nail grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the U-nail grooves and/or the intervals among the U-nail grooves and/or the U-nails in the U-nail grooves. The protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to the width of the U-nail groove, and/or the width of the U-nail in the U-nail groove, and/or the width of the interval between the U-nail grooves.

The indication device is protrusions or recesses which are prefabricated on the upper cover, and/or the lower cover, and/or the inner ring, and/or the inner comprehensive cover, and/or the locking ring, and/or an indication label which is adhered to the upper cover, and/or the lower cover, and/or the inner ring, and/or the inner comprehensive cover, and/or the locking ring and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the upper cover, and/or the lower cover, and/or the inner ring, and/or the inner comprehensive cover, and/or the locking ring and has protrusions or recesses; or,

the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner ring, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the inner ring, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the inner ring, and/or blood vessel docking grooves which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner ring; or,

the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the

inner comprehensive cover, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover, and/or blood vessel docking grooves which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the inner comprehensive cover.

The protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips. Both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved.

The prepuce circumcision stapler further comprises a comprehensive cover, wherein the upper end of the comprehensive cover cooperates with and is connected to the lower end of the lower cover. The indication device is arranged at one end, close to the upper cover, of the outer surface of the lower cover; and/or, the indication device is arranged at one end, close to the comprehensive cover, of the outer surface of the lower cover; and/or, the indication device is arranged at one end, close to the lower cover, of the outer surface of the upper cover; and/or, the indication device is arranged at the upper end of the outer surface of the upper over; and/or, the indication device is arranged at the upper end of the outer surface of the inner ring; and/or, the indication device is arranged at the lower end of the outer surface of

the inner ring; and/or, the indication device is arranged at the upper end of the outer surface of the inner comprehensive cover; and/or, the indication device is arranged at the lower end of the outer surface of the inner comprehensive cover; and/or, the indication device is arranged on the periphery of the locking ring.

In another preferred embodiment shown in Figs. 34-X -38-X, a valgus prepuce circumcision stapler comprises an upper cover 18, a lower cover 11, an inner ring 17 and an inner comprehensive cover 15. The upper cover 18 and the lower cover 11 may be removably cooperates with and is connected to the upper cover 18 and is provided with a first through hole in the middle. The upper cover 18 has a cavity for accommodating and positioning the inner ring 17. The lower cover 11 is provided with a third through hole in the middle and has a cavity for accommodating and positioning the inner comprehensive cover 15. The inner ring 17 is fully or partially arranged in the upper cover 18. The inner ring 17 is a circular ring provided with a second through hole in the middle. The second through hole corresponds to the first through hole. The inner comprehensive cover 15 is fully or partially arranged in the lower cover 11. The inner comprehensive cover 15 is a circular ring provided with a fourth through hole in the middle. The fourth through hole corresponds to the second through hole. The inner ring 17 and the inner comprehensive cover 15 serve to cooperate with each other upwards and downwards to clamp the prepuce, or the inner ring 17 and the upper cover 18 serve to cooperate with each other to clamp the prepuce.

The prepuce circumcision stapler further comprises a U-nail top ring 10, a circumcision knife 13 and a locking ring 16. The inner ring surface of the locking ring 16 is provided with an inner thread 16-1. The outer surface of the lower end of the upper cover 18 is provided with an outer thread 18-1. The inner thread 16-1 and the outer thread 18-1 may cooperate with each other to position the upper cover 18, the lower cover 11 and the locking ring 16. The circumcision knife 13 sleeves the periphery of the inner comprehensive cover 15 and is fully or partially arranged in the lower cover 11. The upper end of the U-nail top ring 10 is provided with U-nail top columns 10-2 which are in one-to-one correspondence to the U-nail grooves 15-2. The U-nail top columns 10-2 are used for pushing the U-nails 12 out from the U-nail grooves 15-2 when moving upwards. A cavity of the U-nail top ring 10 is provided

with grooves 10-1 which are in one-to-one correspondence to the convex strips and hooks 15-1. The grooves 10-1 serve to position the convex strips and the hooks 15-1 in a manner of cooperating with each other.

The lower end surface of the upper cover 18 is an annular end surface which is provided with concave positioning grooves 18-2. The upper end surface of the lower cover 11 is an annular upper end surface which is provided with convex positioning platforms 11-2. The positioning grooves 18-2 and the positioning platforms 11-2 cooperate with each other in a concave or convex manner to position the upper cover 18 and the lower cover 11. The cavity of the upper cover 18 is provided with a plurality of positioning grooves 18-3. The outer surface of the inner ring 17 is provided with a plurality of positioning platforms 17-1. The positioning grooves 18-3 and the positioning platforms 17-1 cooperate with each other in a concave or convex manner to position the upper cover 18 and the inner ring 17. The outer surface of the inner comprehensive cover 15 is provided with a ring of U-nail grooves 15-2. The U-nail grooves 15-2 are used for accommodating the U-nails 12 for hemostasis of a prepuce circumcision surface. The lower end of the inner comprehensive cover 15 is provided with convex strips and hooks 15-1.

The prepuce circumcision stapler further comprises a U-nail backing ring 14, a comprehensive cover 9, a connecting block 8, a sliding rod 2, a plug 1 and handles 7-1/7-2. The U-nail backing ring 14 is annular backing ring and is arranged in the U-nail ring pad groove 17-3 at the lower end, corresponding to the top end of the inner comprehensive cover 15, of the inner ring 17. The upper end of the comprehensive cover 9 is connected to the lower end of the lower cover 11. A cavity in the comprehensive cover 9 is used for accommodating all of or a part of the U-nail top columns 10-2. The inner wall of the comprehensive cover 9 is provided with a clamping groove 9-1. The lower end of the lower cover 11 is provided with a clamping platform 11-1. The clamping groove 9-1 and the clamping platform 11-1 cooperate with and are fixedly connected to each other. The upper end of the connecting block 8 is connected to the lower end of the comprehensive cover 9. The upper end of the sliding rod 2 is inserted to the lower end of the connecting block 8. The plug 1 is arranged at the lower end of the sliding rod 2. The handles 7-1/7-2 can be driven to

be connected to the connecting block 8 and serves to drive the sliding rod 2 and a driving component inside the connecting block, thereby driving the U-nail top ring 10 and the circumcision knife 13 to move upwards. The outer surface of the lower end of the inner ring 17 is provided with a ring of groove structures for docking with blood vessels. With reference to the drawing, the position relationships and connection relationships of related driving components, actuating components and circumcision components are both clear, and the details will not be repeated here.

In another preferred embodiment, the blood vessel docking device of the valgus prepuce circumcision stapler includes a comprehensive cover 9, a U-nail top ring 10, a lower cover 11, an inner comprehensive cover 15, an inner ring 17, an upper cover 18 and a blood vessel docking groove 17-2. The inner ring 17 and the inner comprehensive cover 15 are used to cooperate with each other. A plurality of blood vessel docking grooves 17-2 are provided along the periphery of a rear end of the inner ring 17. The U-nail top ring 10 is used for being assembled to and cooperating with the inner comprehensive cover 15 to push a U-nail 12 out of a U-nail groove 15-2. The upper cover 18 and the lower cover 11 are used for being assembled and connected to each other. The inner ring 17 is arranged in the upper cover 18. The inner comprehensive cover 15 is partially arranged in the lower cover 11. A front end of the comprehensive cover 9 is connected to a rear end of the lower cover 11. The U-nail top ring 10 is partially arranged in the comprehensive cover 9.

The inner comprehensive cover 15 is provided with a plurality of U-nail grooves 15-2 for accommodating the U-nails 12. The U-nail grooves 15-2 are arranged along the periphery of a front end of the inner comprehensive cover 15. A nail outlet of the U-nail groove 15-2 is provided close to a top end of the inner comprehensive cover 15. The positions of the plurality of blood vessel docking grooves 17-2 correspond to the positions of the U-nail grooves 15-2 one by one. The blood vessel docking groove 17-2 is preset on the inner ring 17. A rear end of the blood vessel docking groove 17-2 is flush with the rear end of the inner ring 17. A front end of the blood vessel docking groove 17-2 is away from the annular rear end of the inner ring 17 with respect to the rear end of the blood vessel docking groove 17-2.

Fig. 40-X is an exploded view of a valgus prepuce circumcision stapler, which includes

a plug 1, a round table 1-1, a groove 1-2, a push rod 2, a boss 2-1, a first hook 2-2, a first pin hole 2-3, a connecting block 3, a guide groove 3-1, a second pin hole 3-2, a first hanging table 3-3, a second hanging table 3-4, a close indicator 3-5, an open indicator 3-6, a second hook 3-7, an open knob 4, a pointer 4-1, a middle circular hole 4-2, a guide block 4-3, a small link 5, a third pin hole 5-1, a fourth pin hole 5-2, a handle 6, a fifth pin hole 6-1, a sixth pin hole 6-2, a first pin 7-1, a second pin 7-2, a third pin 7-3, a locking ring 8, a thread 8-1, a collar 8-2, a lower comprehensive cover 9, a hook 9-1, a connecting cover 10, a hook 10-1, a collar 10-2, a positioning boss 10-3, a U-nail top ring 11, a U-nail 12, a ring cutter 13, a thimble guide block 14, a thimble guide groove 14-1, a U-nail spacer 15, a spacer positioning table 15-1, a blade washer 16, a prepuce fixing hoop 17, a blood vessel docking groove 17-1, a positioning table 17-2, an upper comprehensive cover 18 and a positioning groove 18-2. The valgus prepuce circumcision stapler includes an upper comprehensive cover 18, a lower comprehensive cover 9, a prepuce fixing hoop 17 and a U-nail device. The upper comprehensive cover 18 is detachably cooperating and connected with the lower comprehensive cover 9. The prepuce fixing hoop 17 is arranged in the upper comprehensive cover 18. The U-nail device is arranged in the lower comprehensive cover 9. The prepuce fixing hoop 17 can be positioned within the upper comprehensive cover 18 and cooperating with the upper comprehensive cover 18 to clamp a prepuce. A lower end of the prepuce fixing hoop 17 can be cooperating with the U-nail device to clamp the prepuce.

The U-nail device includes a U-nail top ring 11 and a thimble guide block 14. The thimble guide block 14 is used for accommodating a suturing U-nail 12, guiding the movement of the suturing U-nail 12, and positioning and guiding a thimble of the U-nail top ring 11. The U-nail top ring 11 is used to cooperate with the thimble guide block 14 to push out the U-nail 12 out. Also included is a U-nail spacer 15, which is an annular spacer arranged on the top end of the thimble guide block 14. The U-nail spacer 15 is also provided with a spacer positioning table 15-1 perpendicular to the spacer plane. The spacer positioning table 15-1 is a complete annular protrusion arranged on the inner periphery or outer periphery or middle of the spacer plane of the U-nail spacer 15. A first through hole is formed in the middle of the thimble guide block 14. The thimble guide block 14 includes an annular inner

wall, an annular outer wall, and a positioning platform accommodating groove. The annular inner wall is used for cooperating with an annular protrusion arranged on the inner periphery of the spacer plane of the U-nail spacer 15 for positioning. The annular outer wall is used for cooperating with an annular protrusion arranged on the outer periphery of the spacer plane of the U-nail spacer 15 for positioning. The positioning platform accommodating groove is arranged at the top end of the thimble guide block 14 and is used to accommodate an annular protrusion in the middle of the spacer plane of the U-nail spacer 15. The thimble guide block 14 is provided with a plurality of thimble guide grooves 14-1. The thimble guide grooves 14-1 are annularly arranged on the annular thimble guide block 14. The U-nail spacer 15 completely covers the thimble guide groove 14-1.

Also included is a connecting cover 10, which is arranged between the upper comprehensive cover 18 and the lower comprehensive cover 9. The upper comprehensive cover 18 is detachably connected to the lower comprehensive cover 9 through the connecting cover 10. A lower end face of the upper comprehensive cover 18 is annular, along which a concave positioning groove is provided. An upper end face of the connecting cover 10 is annular, along which a convex positioning boss 10-3 is provided. The positioning groove and the positioning boss 10-3 cooperate with each other in a concave and convex manner to position the upper comprehensive cover 18 and the connection cover 10. The upper end face of the connecting cover 10 is annular, along which a convex positioning boss 10-3 is provided. The positioning boss 10-3 and the positioning groove arranged on the lower end face of the upper comprehensive cover 18 cooperate with each other for positioning. A plurality of hooks 10-1 are arranged at a lower part of the connecting cover 10. A plurality of hooks 9-1 are arranged at an upper part of the lower comprehensive cover 9. The hooks between the connecting cover 10 and the lower comprehensive cover 9 cooperate with each other for positioning.

Also included is a locking ring 8. An inner surface of the locking ring 8 is provided with an internal thread 8-1 and/or a collar 8-2. An external thread is arranged on an outer surface of the lower end of the upper cover 18. An outer surface of the upper end of the connecting cover 10 is provided with an external thread or collar 10-2. The upper comprehensive cover

18, the connecting cover 10, the lower comprehensive cover 9, and the locking ring 8 can be positioned by means of the cooperation between the internal thread 8-1 and the external thread, and/or the collar 8-2/10-2.

The middle of the upper comprehensive cover 18 is provided with a second through hole. The upper comprehensive cover 18 has an inner cavity for receiving and positioning the prepucis fixing hoop 17. The prepucis fixing hoop 17 is a ring provided with a third through hole in the middle thereof. The third through hole corresponds to the second through hole. The inner cavity of the upper comprehensive cover 18 is provided with a plurality of positioning grooves. An outer surface of the prepucis fixing hoop 17 is provided with a plurality of positioning tables 17-2. Positioning grooves 18-2 and the positioning tables 17-2 cooperate with each other for positioning. Also included is a ring cutter 13. The ring cutter 13 is sleeved around the thimble guide block 14 and U-nail top ring 11. The ring cutter 13 can be driven by the U-nail top ring 11 to move. Also included is a blade washer 16 which is arranged at a lower end face of the prepucis fixing hoop 17 and corresponds to the position of the ring cutter 13. The U-nail device is partially arranged in the lower comprehensive cover 9 and partially arranged in the connecting cover 10. Also included is a connecting block 3, an upper end of which is connected to a lower end of the lower comprehensive cover 9. Also included is a push rod, an upper end of which is inserted into a lower end of the connecting block 3. Also included is a plug 1 which is arranged at a lower end of the push rod. Also included is a handle 6 which is drivingly connected to the connecting block 3 and push rod 2, and used to drive a transmission member of the push rod 2 and the connecting block 3 so as to drive the U-nail top ring 11 and the ring cutter 13 to move upward. An outer surface of the lower end of the prepucis fixing hoop is provided with a ring of blood vessel docking grooves 17-1 for blood vessel docking. Also included is an open knob 4 which is sleeved on the connecting block 3 for locking or unlocking the handle and/or a component driven by the handle. FIGS. 44-X and 33-X are an enlarged view of the U-nail spacer and the open knob respectively. An upper end of the open knob 4 is provided with a pointer 4-1. The middle thereof is provided with a circular hole 4-2. A guide block 4-3 is arranged on an inner wall to cooperate with a guide groove 3-1 arranged on the connecting block 3 so as to lock or unlock

the handle or other driving member. One side of the U-nail spacer 15 is provided with a spacer positioning table 15-1 for positioning it on the thimble guide block 14.

Fig. 43-X is a front view of the valgus prepuce cutting stapler. Referring to Figs. 41-X and 42-X, in the preferred embodiment, the valgus prepuce cutting stapler includes a handle 1, a plug 2, a small link 3, a pin 4, a push rod 5, a connecting block 6, an open knob 7, a spring 8, a lower comprehensive cover 9, a U-nail top ring 10, an upper comprehensive cover 11, a thread locking ring 12, a ring cutter 13, a U-nail spacer ring 14, and a ring cutter washer 15. The handle 1 is drivingly connected to the push rod 5 and the connecting block 6 through the small link 3 and the pin 4. The open knob 7 is sleeved on the connecting block 6. The plug 2 is arranged at a lower end of the push rod 5. The upper comprehensive cover 11 and the lower comprehensive cover 9 are connected directly or through a connecting cover. The spring 8 is arranged in an inner cavity of the connecting block 6. The U-nail top ring 10 is wholly or partially arranged in the lower comprehensive cover 9, or wholly or partially arranged in the connecting cover, or partially arranged in the lower comprehensive cover 9 and the other part arranged in the connecting cover. The thread locking ring 12 is locked on an outer periphery of the upper comprehensive cover 11 and/or the lower comprehensive cover 9 and/or the connecting cover. The ring cutter 13 is arranged on an outer periphery of the U-nail top ring 10 and the guide block. The U-nail spacer ring 14 is fixed at a top end of a U-nail groove for a U-nail, when being stapled, preferentially passing through the U-nail spacer ring 14 so that one or more sides of the U-nail does not directly contact a prepuce when the U-nail is stapled into the prepuce issue. The principles of other related driving components, actuating components and ringing components are the same as those in the previous embodiment, which will be not described herein.

The valgus prepuce circumcision stapler with an indication device includes an upper comprehensive cover, a lower comprehensive cover and/or a connecting cover, a prepuce fixing hoop and a U-nail device; and further includes an indication device. The upper comprehensive cover and the lower comprehensive cover are vertically assembled to and cooperating with each other. Or, a lower part of the upper comprehensive cover is connected to the connecting cover and a lower part of the connecting cover is connected to the lower

comprehensive cover. The prepucial fixing hoop is embedded in the upper comprehensive cover. Or, the prepucial fixing hoop is integrated with the upper comprehensive cover. The U-nail device is wholly or partially arranged in the lower comprehensive cover. Or, the U-nail device is wholly or partially arranged in the connecting cover. Or, the U-nail device is partially arranged in the lower comprehensive cover and the other part is arranged in the connecting cover. The indication device is arranged on the upper comprehensive cover, and/or the lower comprehensive cover, and/or the prepucial fixing hoop, and/or the U-nail device.

Also included is a locking ring which is used for locking the upper comprehensive cover, the connecting cover and/or the lower comprehensive cover and is provided with the indication device. The indication device is a loop of protrusions or recesses. Preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepucial covers or does not cover the protrusions or recesses. The U-nail device includes a U-nail top ring and a thimble guide block for accommodating suturing U-nails, and/or guiding the movement of the suturing U-nails, and/or positioning and/or guiding a thimble of the U-nail top ring. The U-nail top ring is used for pushing the U-nails therein out in cooperation with the thimble top block. The indication device is arranged on the thimble guide block. The thimble guide block is provided with a plurality of thimble guide grooves which are annularly arranged on the annular thimble guide block and are capable of accommodating the suturing U-nails.

The protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the thimble guide grooves and/or intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves. Or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the thimble guide grooves and/or the intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves. The protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the thimble guide groove, and/or the width of the U-nail in the thimble guide groove, and/or the width of the interval between the thimble guide grooves.

The indication device is protrusions or recesses which are prefabricated on the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring. And/or, the indication device is an indication label which is adhered to the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses. And/or, the indication device is a prefabricated indication ring or indication strip which sleeves the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses. And/or, the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or an indication label which is adhered to the periphery of the upper end and the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses, and/or prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses. And/or, the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the thimble guide block, and/or an indication label which is adhered to the periphery of the upper end and the periphery of the lower end of the thimble guide block and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses. And/or, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a graduation label adhered to the periphery of the upper end and the periphery of the lower end of the prepuce fixing hoop, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and the periphery of the lower end of the prepuce fixing hoop, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and the periphery of the lower end of the prepuce fixing hoop. And/or, the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a graduation label adhered

to the periphery of the upper end and the periphery of the lower end of the U-nail device, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and the periphery of the lower end of the U-nail device, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and the periphery of the lower end of the U-nail device.

The protrusions are convex blocks and/or convex points and/or convex strips. The recesses are grooves and/or concave points and/or concave strips. Both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surface. And/or, one or two of the convex points constitute a group and are circular convex points. And/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces. And/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces. And/or, one or two of the concave points constitute a group and are circular concave points. And/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces. And/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved. And/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the convex strip are curved.

The indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the lower comprehensive cover. And/or, the indication device is arranged at one end, close to the connecting cover, of the outer surface of the lower comprehensive cover. And/or, the indication device is arranged at one end, close to the lower comprehensive cover or the connecting cover, of the outer surface of the upper comprehensive cover. And/or, the indication device is arranged at the upper end of the outer surface of the upper comprehensive cover. And/or, the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the connecting cover. And/or, the indication device is arranged at one end, close to the lower comprehensive cover, of the outer surface of

the connecting cover. And/or, the indication device is arranged at the upper end of the outer surface of the prepuce fixing hoop. And/or, the indication device is arranged at the lower end of the outer surface of the prepuce fixing hoop. And/or, the indication device is arranged at the upper end of the outer surface of the U-nail device. And/or, the indication device is arranged at the lower end of the outer surface of the U-nail device. And/or, the indication device is annularly arranged on the periphery of the upper part/the lower part of the thimble guide block.

The above description of the present invention has been given by way of example with reference to the accompanying drawings. It is obvious that the specific implementation of the present invention is not limited to the above modes, and various improvements made using the method concepts and technical solutions of the present invention or directly applied to other occasions, are within the scope of the present invention.

Refer to the operation-visible circumcision stapler.

The present invention is described in detail below according to the accompanying drawings, which is a preferred embodiment of various embodiments of the present invention.

Fig. 1-XI is an overall view of a flat-head circumcision stapler of the present invention and Figs. 2-XI and 3-XI are structural views of the flat-head circumcision stapler of the present invention. The flat-head circumcision stapler comprises a handle 1, a connecting rod 2, a rivet 3, a knob 4, a sheathed core 5, an opening knob 6, a sheathed handle 7, a lower sleeve 8, a comprehensive cover 9, a thimble 10, a circumcision cover 11, a circumcision knife 12, a first washer 13, a third washer 14, a spring 15 and a second washer 16. The circumcision cover 11 is inserted from the top end of the comprehensive cover 9. The ring-shaped lower end of the upper portion of the circumcision cover 11 cooperates with the top end of the comprehensive cover 9 for clamping the prepuce. The lower end of the comprehensive cover 9 is connected with the lower sleeve 8. The U-nail top ring is embedded into the comprehensive cover 9 and the lower sleeve 8 and is provided with the thimble 10 at the top. The lower end of the lower sleeve 8 is connected to the sheathed

handle 7. The lower end of the sheathed handle 7 is connected to the sheathed core 5. The knob 4 is arranged, as a plug, at the tail end of the sheathed core 5. The circumcision knife is arranged in the U-nail top ring. The first washer 13, the second washer 16 and the third washer 14 are arranged at the top end of the U-nail groove, and an outer ring and an inner ring of a cutting surface of the circumcision cover, respectively. The handle 1, the connecting rod 2 and the rivet 3 constitute a driving component and are connected to the sheathed core 5 and the sheathed handle 7 and used to drive the U-nail top ring and/or the circumcision knife 12, thereby completing circumcision and suturing. The opening knob 6 sleeves the sheathed core 5 and is used to lock and unlock the driving component. Fig. 4-XI is a stereoscopic view of the flat-head circumcision stapler of the present invention; and the position indicated by a is a position where the U-nail groove is observed for positioning during a surgery.

Figs. 8-XI-10-XI are a diagram and partial enlarged views of the position of a nail cabin of a flat-head built-in circumcision stapler. In the figures, 1 represents a circumcision cover, 1-1 blood vessel corresponding grooves, 1-2 a negative pressure hole, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 a U-nail seat, 2 a circumcision knife washer, 3 a U-nail backing ring, 4 a circumcision knife, 5 a U-nail, 6 a comprehensive cover, 6-1 a U-nail groove, 7 a U-nail top ring, 7-1 a thimble, 7-2 a positioning hole, and 7-2-1 a positioning groove. The operation-visible circumcision stapler comprises the comprehensive cover 6, the circumcision cover 1, the U-nail top ring 7 and the circumcision knife 4. The circumcision cover 1 has a lower end inserted into the comprehensive cover 6 and an upper end supported at the top end of the comprehensive cover 6 for cooperating with the comprehensive cover 6 to clamp prepuce. The comprehensive cover 6 is transparent and a plurality of U-nail grooves 6-1 which is used for accommodating U-nails and constitutes a ring is arranged in the comprehensive cover 6. There are intervals among the U-nail grooves 6-1, the inner surfaces and/or outer surfaces of the U-nail grooves 6-1 are made of a transparent material, and the intervals are made of a semi-transparent material. The U-nail top ring 7 is embedded into the comprehensive cover 6, thimbles 7-1 in one-to-one correspondence with the U-nail grooves 6-1 are arranged at the top end of the U-nail top

ring, and the thimble 7-1 of the U-nail top ring 7 or the entire U-nail top ring 7 is transparent. The circumcision knife 4 is embedded into the U-nail top ring 7.

Blood vessel corresponding grooves 1-1 are annularly arranged at the upper end of the circumcision cover 1 and are in one-to-one correspondence with the U-nail grooves 6-1. The positioning rod 1-3 is arranged at the lower end of the circumcision cover 1, the positioning hole 7-2 is formed in the U-nail top ring 7, and the positioning rod 1-3 is configured to be inserted in and be positioned in the positioning hole 7-2, so that the blood vessel corresponding grooves 1-1 on the circumcision cover 1 are in one-to-one correspondence with the U-nail grooves 6-1.

A ring of blood vessel docking grooves/graduations is annularly arranged on the outer surface of the comprehensive cover 6, and the blood vessel docking grooves/graduations are in one-to-one correspondence with the U-nail grooves 6-1 and/or blood vessel corresponding grooves 1-1. With reference to the drawings, position relationships and connection relationships of other relevant driving components, actuation components and circumcision components are clear, and the details will not be repeated here.

Fig. 5-XI is an overall view of an oblique-head circumcision stapler of the present invention; and the position indicated by b in this figure is a position where the U-nail groove is observed for positioning during a surgery. Fig. 6-XI is a structural view of the oblique-head circumcision stapler of the present invention, which comprises a handle 1, a connecting rod 2, a rivet 3, a knob 4, a sheathed core 5, an opening knob 6, a sheathed handle 7, a lower sleeve 8, a comprehensive cover 9, a thimble 10, a circumcision cover 11, a circumcision knife 12, a first washer 13, a third washer 14, a spring 15 and a second washer 16. With reference to the drawings, position relationships and connection relationships of other relevant driving components, actuation components and circumcision components are clear, and the details will not be repeated here. Fig. 7-XI is a stereoscopic view of the oblique-head circumcision stapler of the present invention; and the position indicated by b in this figure is a position where the U-nail groove is observed for positioning during surgery.

Fig. 11-XI is a diagram of the position of a nail cabin of a flat-head built-in circumcision

stapler. In the figure, 1 represents a circumcision cover, 1-1 blood vessel corresponding grooves, 1-2 a negative pressure hole, 1-3 a positioning rod, 1-3-1 a positioning groove, 1-4 a U-nail seat, 2 a circumcision knife washer, 3 a U-nail backing ring, 4 a circumcision knife, 5 a U-nail, 6 comprehensive cover and 6-1 a U-nail groove. With reference to the drawings, position relationships and connection relationships of other relevant driving components, actuation components and circumcision components are clear, and the details will not be repeated here.

The above description of the present invention has been given by way of example with reference to the accompanying drawings. It is obvious that the specific implementation of the present invention is not limited to the above modes, and various improvements made using the method concepts and technical solutions of the present invention or directly applied to other occasions, are within the scope of the present invention.

Refer to the A-type valgus circumcision stapler.

The present invention will be described in detail below with reference to the accompanying drawings. The followings show preferred embodiments in various embodiments of the present invention.

Fig. 1-XII is an exploded view of a valgus circumcision stapler, and includes a plug 1, a circular stage 1-1, a groove 1-2, a push rod 2, a convex stage 2-1, a first hook 2-2, a first pin hole 2-3, a connecting block 3, a guide groove 3-1, a second pin hole 3-2, a first hanging stage 3-3, a second hanging stage 3-4, a closing indicator 3-5, an opening indicator 3-6, a second hook 3-7, an opening knob 4, a pointer 4-1, a middle circular hole 4-2, a guide block 4-3, a small connecting rod 5, a third pin hole 5-1, a fourth pin hole 5-2, a handle 6, a fifth pin hole 6-1, a sixth pin hole 6-2, a lower comprehensive cover 7, a hanging stage 7-1, a U-nail top ring 8, a thimble 8-1, a positioning nail 8-2, a lower convex stage 8-3, a circumcision knife 9, a thimble guide block 10, a thimble guide groove 10-1, a U-nail gasket 11, a gasket positioning stage 11-1, a glans protection cover 12, a blade gasket 13, an upper comprehensive cover 14, a blood vessel docking groove 14-1, a positioning hole 14-2, a thread 14-3, a first pin 15-1, a second pin 15-2, a third pin 15-3, a locking ring 16, a thread

16-1, and a clamping ring 16-2. The valvulotomy stapler includes an upper comprehensive cover 14, a lower comprehensive cover 7 and a U-nail device. The upper comprehensive cover 14 and the lower comprehensive cover 7 are releasably connected in a matching manner. A prepuce fixing hoop integrally formed with the upper comprehensive cover 14 is arranged at the lower portion of the upper comprehensive cover 14. A part or all of the U-nail device is placed in the lower comprehensive cover 7. The upper comprehensive cover 14, the lower comprehensive cover 7 and the U-nail device cooperate to position a penis, a glans and a prepuce, and to clamp, squeeze and cut the prepuce.

The U-nail device comprises the U-nail top ring 8 and the thimble guide block 10. The thimble guide block 10 is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide the thimble 8-1 of the U-nail top ring 8. The U-nail top ring 8 is configured to cooperate with the thimble guide block 10 to eject the U-nail in the thimble guide block.

The A-type valvulotomy stapler further comprises the U-nail gasket 11 which is an annular gasket arranged at the top end of the thimble guide block 10. The U-nail gasket 11 further comprises a gasket positioning stage 11-1 perpendicular to and/or at an angle to the plane of the U-nail gasket 11. The gasket positioning stage 11-1 is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket 11. A first through hole is formed in the middle of the thimble guide block 10; the thimble guide block 10 comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket 11 for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket 11 for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block 10, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket 11. The

thimble guide block 10 is provided with a plurality of thimble guide grooves 10-1 annularly formed in the annular thimble guide block 10; and the U-nail gasket 11 partially or completely covers the thimble guide grooves 10-1.

One or more positioning nails 8-2 are arranged at the upper end of the U-nail top ring 8, and are configured to cooperate with a positioning hole 14-2 formed in the upper comprehensive cover 14 for positioning; and/or, the U-nail top ring 8 is provided with a plurality of thimbles 8-1 which is in one-to-one correspondence with the plurality of thimble guide grooves 10-1 formed on the thimble guide block 10 and which is configured to eject the suturing U-nail accommodated in each thimble guide groove.

A second through hole is formed in the middle of the upper comprehensive cover 14, and is configured to allow a penis and/or prepuce and/or glans to pass through; and/or, the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover 14 and cooperates with the upper comprehensive cover 14 to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce; and/or, blood vessel docking grooves 14-1, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover 14 and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves 10-1, or intervals among the thimble guide grooves 10-1, or the U-nails in the thimble guide grooves 10-1; or, intervals among the blood vessel docking grooves 14-1, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves 10-1, or the intervals among the thimble guide grooves 10-1, or the U-nails in the thimble guide grooves 10-1; or, a width of every two bulges and/or recesses of the blood vessel docking grooves 14-1, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove 10-1, and/or the width of the U-nail in the corresponding thimble guide groove 10-1, and/or the width of the interval between the thimble guide grooves 10-1.

The A-type valgus circumcision stapler further comprises the glans protection cove 12,

the locking ring 16 and the circumcision knife 9. The internal thread 16-1/clamping ring 16-2/hanging stage is arranged on the inner ring surface of the locking ring. The external thread 14-3/clamping ring/hanging stage is arranged on the outer surface of the upper comprehensive cover 14, and/or an external thread/clamping ring/hanging stage is arranged on the outer surface of the lower comprehensive cover 7. The internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover 14, the lower comprehensive cover 7 and the locking ring 16. The circumcision knife 9 is annularly arranged at the outer circumference of the thimble guide block 10, and is configured to cooperate with the lower end surface of the upper comprehensive cover 14 to cut the prepuce. The glans protection cover 12 is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block 10, and upwardly corresponds to the second through hole of the upper comprehensive cover 14.

The A-type valgus circumcision stapler further comprises: the connecting block 3, the upper end of the connecting block 3 being connected to the lower end of the comprehensive cover; the blade gasket 13 arranged on the lower end surface of the upper comprehensive cover 14 and corresponding to the circumcision knife 9; the push rod 2, the upper end of the push rod 2 being inserted into the lower end of the connecting block 3; the plug 1 arranged at the lower end of the push rod 2; the handle 6 which is drivingly connected to the connecting block 3 and/or push rod 2, and configured to drive the push rod 2, and/or the connecting block 3, and/or an internal transmission member of the push rod 2 and/or an internal transmission member of the connecting block 3 so as to drive the U-nail device and/or the circumcision knife 9 to move upward; and the opening knob 4 which sleeves the connecting block 3, and is configured to lock or unlock the handle 6 and/or a component driven by the handle 6. Figs. 2-XII and 3-XII are enlarged views of the U-nail gasket and the opening knob, respectively. The pointer is arranged at the upper end of the opening knob 4. A circular hole is formed in the middle of the U-nail gasket. The inner wall is provided with the guide block 4-3 which cooperates with the guide groove 3-1 formed on the connecting block 3 to lock or unlock the handle 6 or another driving member.

The gasket positioning stage 11-1 is arranged at one side of the U-nail gasket 11 to position the U-nail gasket on the thimble guide block 10.

Fig. 4-XII is a front view of the valgus circumcision stapler. In order to describe the specific structure of the valgus circumcision stapler more clearly according to the drawings, Figs. 5-XII and 8-II-10-XII are views of the valgus circumcision stapler from all visual angles. Referring to Figs. 6-XII and 7-XII, in the preferred embodiment, the valgus circumcision stapler includes a handle 1, ablanking cap 2, a small connecting rod 3, a pin 4, a push rod 5, a connecting block 6, an opening knob 7, a spring 8, a lower comprehensive cover 9, a U-nail top ring 10, an upper comprehensive cover 11, a threaded locking ring 12, a glans protection cover 13, a circumcision knife 14, a U-nail washer 15 and a circumcision knife gasket 16.

The handle 1 is drivingly connected to the push rod 5 and the connecting block 6 through the small connecting rod 3 and the pin 4. The opening knob 7 sleeves the connecting block 6. The blanking cap 2 is arranged at the lower end of the push rod 5. The upper comprehensive cover 11 and the lower comprehensive cover 9 are directly connected or connected through a connecting cover. The spring 8 is arranged in the inner cavity of the connecting block 6. A part or all of the U-nail top ring 10 is arranged in the lower comprehensive cover 9. The threaded locking ring 12 locks the peripheries of the upper comprehensive cover 11 and the lower comprehensive cover 9. The circumcision knife 14 is arranged at the periphery of the U-nail top ring 10 and the guide block. The U-nail washer 15 is fixed at the top end of a U-nail groove, so that the U-nail preferably penetrates through the U-nail washer 15 to avoid contact between one or more surfaces of the U-nail and a prepuce tissue when the U-nail is hammered into the prepuce. The glans protection cover 13 is arranged in the thimble guide block and is configured to accommodate and protect the glans. The circumcision knife gasket 16 is arranged on the lower end surface of the upper comprehensive cover and is corresponding to the circumcision knife. The principles of other related driving components, actuating components and circumcision components are the same as those in the previous embodiment, and are not repeated herein.

The above description of the present invention has been given by way of example with

reference to the accompanying drawings. It is obvious that the specific implementation of the present invention is not limited to the above modes, and various improvements made using the method concepts and technical solutions of the present invention or directly applied to other occasions, are within the scope of the present invention.

Refer to the B-type valgus circumcision stapler.

The present invention will be described in detail below with reference to the accompanying drawings. The followings show preferred embodiments in various embodiments of the present invention.

Figs. 1-XIII-3-XIII are exploded views of a valgus circumcision stapler. The valgus circumcision stapler includes a plug 1, a circular stage 1-1, a groove 1-2, a push rod 2, a convex stage 2-1, a first hook 2-2, a first pin hole 2-3, a connecting block 3, a guide groove 3-1, a second pin hole 3-2, a first hanging stage 3-3, a second hanging stage 3-4, a closing indicator 3-5, an opening indicator 3-6, a second hook 3-7, an opening knob 4, a pointer 4-1, a middle circular hole 4-2, a guide block 4-3, a small connecting rod 5, a third pin hole 5-1, a fourth pin hole 5-2, a handle 6, a fifth pin hole 6-1, a sixth pin hole 6-2, a lower comprehensive cover 7, a hanging stage 7-1, a hook 7-2, a U-nail top ring 8, a thimble 8-1, a positioning nail 8-2, a lower convex stage 8-3, a circumcision knife 9, a thimble guide block 10, a thimble guide groove 10-1, a U-nail gasket 11, a gasket positioning stage 11-1, a glans protection cover 12, a blade gasket 13, an upper comprehensive cover 14, a blood vessel docking groove 14-1, a positioning hole 14-2, a thread 14-3, a first pin 15-1, a second pin 15-2, a third pin 15-3, a locking ring 16, a thread 16-1, a clamping ring 16-2, a connecting cover 17 and a connecting hook 17-1. The valgus circumcision stapler includes an upper comprehensive cover 14, a lower comprehensive cover 7, the connecting cover 17 and a U-nail device. The upper comprehensive cover 14 and the lower comprehensive cover 7 are releasably connected in a matching manner. A prepuce fixing hoop integrally formed with the upper comprehensive cover 14 is arranged at the lower portion of the upper comprehensive cover 14, or the prepuce fixing hoop is accommodated in the upper comprehensive cover 14. A part or all of the U-nail device is placed in the lower comprehensive cover 7. The upper comprehensive cover 14, the lower comprehensive cover

7 and the U-nail device cooperate to position a penis and/or glans and/or prepuce, and to clamp and/or squeeze and/or cut the prepuce. The connecting cover 17 is connected to the lower portion of the lower comprehensive cover 7.

The U-nail device comprises the U-nail top ring 8 and the thimble guide block 10. The thimble guide block 10 is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide the thimble 8-1 of the U-nail top ring 8. The U-nail top ring 8 is configured to cooperate with the thimble guide block 10 to eject the U-nail in the thimble guide block.

The B-type valgus circumcision stapler further comprises the U-nail gasket 11 which is an annular gasket arranged at the top end of the thimble guide block 10.

The U-nail gasket 11 further comprises a gasket positioning stage 11-1 perpendicular to and/or at an angle to the plane of the U-nail gasket 11. The gasket positioning stage 11-1 is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket 11.

A first through hole is formed in the middle of the thimble guide block 10. The thimble guide block 10 comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove. The annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket 11 for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket 11 for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block 10, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket 11.

The thimble guide block 10 is provided with a plurality of thimble guide grooves 10-1 annularly formed in the annular thimble guide block 10. The U-nail gasket 11 partially or completely covers the thimble guide grooves 10-1.

One or more positioning nails 8-2 are arranged at the upper end of the U-nail top ring 8, and are configured to cooperate with a positioning hole 14-2 formed in the upper comprehensive cover 14 for positioning; and/or, the U-nail top ring 8 is provided with a plurality of thimbles 8-1 which is in one-to-one correspondence with the plurality of thimble guide grooves 10-1 formed on the thimble guide block 10 and which is configured to eject the suturing U-nail accommodated in each thimble guide groove; and/or, the lower convex stage 8-3 is arranged at the lower end of the U-nail top ring 8, and is configured to position the U-nail top ring in the connecting cover 17 and/or the connecting block 3 below the connecting cover 17.

A second through hole is formed in the middle of the upper comprehensive cover 14, and is configured to allow a penis and/or prepuce and/or glans to pass through; and/or, the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover 14 and cooperates with the upper comprehensive cover 14 to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce; and/or, blood vessel docking grooves 14-1, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover 14 and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves 10-1, or intervals among the thimble guide grooves 10-1, or the U-nails in the thimble guide grooves 10-1; or, intervals among the blood vessel docking grooves 14-1, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves 10-1, or the intervals among the thimble guide grooves 10-1, or the U-nails in the thimble guide grooves 10-1; or, a width of every two bulges and/or recesses of the blood vessel docking grooves 14-1, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove 10-1, and/or the width of the U-nail in the corresponding thimble guide groove 10-1, and/or the width of the interval between the thimble guide grooves 10-1.

The B-type valgus circumcision stapler further comprises the glans protection cove 12,

and/or the locking ring 16 and/or the circumcision knife 9. The internal thread 16-1/clamping ring 16-2/hanging stage is arranged on the inner ring surface of the locking ring; and/or, the external thread /clamping ring/hanging stage 14-3 is arranged on the outer surface of the upper comprehensive cover 14, and/or an external thread/clamping ring/hanging stage 7-1 is arranged on the outer surface of the lower comprehensive cover 7. The internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover 14, the lower comprehensive cover 7 and/or the locking ring 16; and/or, the circumcision knife 9 is annularly arranged at the outer circumference of the thimble guide block 10, and is configured to cooperate with the lower end surface of the upper comprehensive cover 14 to cut the prepuce; and/or, the glans protection cover 12 is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block 10, and upwardly corresponds to the second through hole of the upper comprehensive cover 14.

The B-type valgus circumcision stapler further comprises the connecting block 3, the upper end of the connecting block 3 being connected to the lower end of the comprehensive cover; and/or, the blade gasket 13 arranged on the lower end surface of the upper comprehensive cover 14 and corresponding to the circumcision knife 9; and/or, the push rod 2, the upper end of the push rod 2 being inserted into the lower end of the connecting block 3; and/or, the plug 1 arranged at the lower end of the push rod 2; and/or, the handle 6 which is drivingly connected to the connecting block 3 and/or push rod 2, and configured to drive the push rod 2, and/or the connecting block 3, and/or an internal transmission member of the push rod 2 and/or an internal transmission member of the connecting block 3 so as to drive the U-nail device and/or the circumcision knife 9 to move upward; and/or, the opening knob 4 which sleeves the connecting block 3, and is configured to lock or unlock the handle 6 and/or a component driven by the handle 6.

The hook 7-2 is arranged at the lower end of the lower comprehensive cover 7. The connecting hook 17-1 is arranged at the upper end of the connecting cover 17. The hook 7-2 and the connecting hook 17-1 cooperate with each other to connect the lower

comprehensive cover 7 and the connecting cover 17.

Fig. 4-XIII is a front view of the valgus circumcision stapler. In order to describe the specific structure of the valgus circumcision stapler more clearly according to the drawings, Figs. 5-XIII and 8-XIII-10-XIII are views of the valgus circumcision stapler from all visual angles. Referring to Figs. 6-XIII and 7-XIII, in the preferred embodiment, the valgus circumcision stapler includes a handle 1, a blanking cap 2, a small connecting rod 3, a pin 4, a sliding rod 5, a connecting block 6, an opening knob 7, a spring 8, a connecting cover 9, a U-nail top ring 10, an upper comprehensive cover 11, a lower comprehensive cover 12, a glans protection cover 13, a blade 14, a U-nail washer 15 and a circumcision knife gasket 16.

The handle 1 is drivingly connected to the sliding rod 5 and the connecting block 6 through the small connecting rod 3 and the pin 4. The opening knob 7 sleeves the connecting block 6. The blanking cap 2 is arranged at the lower end of the sliding rod 5. The upper comprehensive cover 11 and the lower comprehensive cover 12 are directly connected or connected through a threaded locking ring. The spring 8 is arranged in the inner cavity of the connecting block 6. A part or all of the U-nail top ring 10 is arranged in the lower comprehensive cover 12. The threaded locking ring locks the peripheries of the upper comprehensive cover 11 and the lower comprehensive cover 12. The circumcision blade 14 is arranged at the periphery of the U-nail top ring 10 and the guide block. The U-nail washer 15 is fixed at the top end of a U-nail groove, so that the U-nail preferably penetrates through the U-nail washer 15 to avoid contact between one or more surfaces of the U-nail and a prepuce tissue when the U-nail is hammered into the prepuce. The glans protection cover 13 is arranged in the thimble guide block and is configured to accommodate and protect the glans. The circumcision knife gasket 16 is arranged on the lower end surface of the upper comprehensive cover and is corresponding to the circumcision knife. The principles of other related driving components, actuating components and circumcision components are the same as those in the previous embodiment, and are not repeated herein.

The above description of the present invention has been given by way of example with reference to the accompanying drawings. It is obvious that the specific implementation of

the present invention is not limited to the above modes, and various improvements made using the method concepts and technical solutions of the present invention or directly applied to other occasions, are within the scope of the present invention.

Refer to the C-type valgus circumcision stapler.

The present invention will be described in detail below with reference to the accompanying drawings. The followings show preferred embodiments in various embodiments of the present invention.

Figs. 1-XIV-3-XIV are exploded views of a valgus circumcision stapler. The valgus circumcision stapler includes a plug 1, a circular stage 1-1, a groove 1-2, a push rod 2, a convex stage 2-1, a first hook 2-2, a first pin hole 2-3, a connecting block 3, a guide groove 3-1, a second pin hole 3-2, a first hanging stage 3-3, a second hanging stage 3-4, a closing indicator 3-5, an opening indicator 3-6, a second hook 3-7, an opening knob 4, a pointer 4-1, a middle circular hole 4-2, a guide block 4-3, a small connecting rod 5, a third pin hole 5-1, a fourth pin hole 5-2, a handle 6, a fifth pin hole 6-1, a sixth pin hole 6-2, a first pin 7-1, a second pin 7-2, a third pin 7-3, a locking ring 8, a thread 8-1, a clamping ring 8-2, a lower comprehensive cover 9, a hook 9-1, a connecting cover 10, a hook 10-1, a clamping ring 10-2, a convex positioning stage 10-3, a U-nail top ring 11, a U-nail 12, a circumcision knife 13, a thimble guide block 14, a thimble guide groove 14-1, a U-nail gasket 15, a gasket positioning stage 15-1, a blade gasket 16, a prepuce fixing hoop 17, a blood vessel docking groove 17-1, a positioning stage 17-2, an upper comprehensive cover 18, and a positioning groove 18-2. The valgus circumcision stapler includes the upper comprehensive cover 18, the lower comprehensive cover 9, the prepuce fixing hoop 17 and a U-nail device. The upper comprehensive cover 18 and the lower comprehensive cover 9 are releasably connected in a matching manner. The prepuce fixing hoop 17 is placed in the upper comprehensive cover 18. The U-nail device is placed in the lower comprehensive cover 9. The prepuce fixing hoop 17 is capable of being positioned in the upper comprehensive cover 18 and cooperates with the upper comprehensive cover 18 to clamp a prepuce. The lower end of the prepuce fixing hoop 17 is capable of cooperating with the U-nail device to clamp the prepuce.

The U-nail device comprises the U-nail top ring 11 and the thimble guide block 14. The thimble guide block 14 is configured to accommodate a suturing U-nail 12, to guide the movement of the suturing U-nail 12, to position and guide the thimble of the U-nail top ring 11. The U-nail top ring 11 is configured to cooperate with the thimble guide block 14 to eject the U-nail 12 in the thimble guide block 14. The C-type valgus circumcision stapler further comprises the U-nail gasket 15 which is an annular gasket arranged at the top end of the thimble guide block 14. The U-nail gasket 15 further comprises a gasket positioning stage 15-1 perpendicular to the plane of the U-nail gasket 15. The gasket positioning stage 15-1 is an integral annular protrusion arranged at the inner circumference or the outer circumference or the middle of the plane of the U-nail gasket 15. A first through hole is formed in the middle of the thimble guide block 14. The thimble guide block 14 comprises an annular inner wall, an annular outer wall and a positioning stage accommodating groove. The annular inner wall is configured to cooperate with the annular protrusion arranged at the inner circumference of the plane of the U-nail gasket 15 for positioning. The annular outer wall is configured to cooperate with the annular protrusion arranged at the outer circumference of the plane of the U-nail gasket 15 for positioning. The positioning stage accommodating groove is formed at the top end of the thimble guide block 14, and is configured to accommodate the annular protrusion at the middle of the plane of the U-nail gasket 15. The thimble guide block 14 is provided with a plurality of thimble guide grooves 14-1 annularly formed in the annular thimble guide block 14. The U-nail gasket 15 completely covers the thimble guide grooves 14-1.

The C-type valgus circumcision stapler further comprises the connecting cover 10 arranged between the upper comprehensive cover 18 and the lower comprehensive cover 9. The upper comprehensive cover 18 is releasably connected to the lower comprehensive cover 9 in a matching manner through the connecting cover 10. The lower end surface of the upper comprehensive cover 18 is annular. A concave positioning groove is formed along the annular lower end surface of the upper comprehensive cover 18. The upper end surface of the connecting cover 10 is annular. A convex positioning stage 10-3 is arranged along the annular upper end surface of the connecting cover 10. The positioning groove and the

convex positioning stage 10-3 cooperate with each other in a concave-convex manner to position the upper comprehensive cover 18 and the connecting cover 10. The upper end surface of the connecting cover 10 is annular. The convex positioning stage 10-3 is arranged along the annular upper end surface of the connecting cover 10, and cooperates with the positioning groove formed on the lower end surface of the upper comprehensive cover 18 for positioning. A plurality of hooks 10-1 is arranged at the lower portion of the connecting cover 10. A plurality of hooks 9-1 is arranged at the upper portion of the lower comprehensive cover 9. The hooks of the connecting cover 10 and the lower comprehensive cover 9 cooperate with each other for positioning.

The C-type valgus circumcision stapler further comprises the locking ring 8. The internal thread 8-1 and/or the clamping ring 8-2 are/is arranged on the inner ring surface of the locking ring 8. The external thread is arranged on the outer surface of the lower end of the upper comprehensive cover 18. The external thread or the clamping ring 10-2 is arranged on the outer surface of the upper end of the connecting cover 10. The internal thread 8-1 and the external thread cooperate with each other, and/or the clamping rings 8-2/10-2 cooperate with each other to position the upper comprehensive cover 18, the connecting cover 10, the lower comprehensive cover 9 and the locking ring 8.

A second through hole is formed in the middle of the upper comprehensive cover 18. The upper comprehensive cover 18 is provided with an inner cavity for accommodating and positioning the prepuce fixing hoop 17. The prepuce fixing hoop 17 is a ring having a third through hole in the middle, and the third through hole corresponds to the second through hole. A plurality of positioning grooves is formed in the inner cavity of the upper comprehensive cover 18. A plurality of positioning stages 17-2 is arranged on the outer surface of the prepuce fixing hoop 17, and each positioning groove 18-2 and the corresponding positioning stage 17-2 cooperate with each other for positioning. The C-type valgus circumcision stapler further comprises the circumcision knife 13 sleeving the thimble guide block 14 and the U-nail top ring 11, and the circumcision knife 13 is driven by the U-nail top ring 11 to move. The C-type valgus circumcision stapler further comprises the blade gasket 16 which is arranged on the lower end surface of the prepuce fixing hoop 17

and which corresponds to the circumcision knife 13. A part of the U-nail device is placed in the lower comprehensive cover 9, and the other part of the U-nail device is placed in the connecting cover 10. The C-type valgus circumcision stapler further comprises the connecting block 3, the upper end of the connecting block 3 being connected to the lower end of the lower comprehensive cover 9. The C-type valgus circumcision stapler further comprises a push rod, the upper end of the push rod being inserted into the lower end of the connecting block 3. The C-type valgus circumcision stapler further comprises a plug 1 arranged at the lower end of the push rod. The C-type valgus circumcision stapler further comprises a handle 6 which is drivingly connected to the connecting block 3 and the push rod 2, and which is configured to drive the push rod 2 and an internal transmission member of the connecting block so as to drive the U-nail top ring 11 and the circumcision knife 13 to move upward. A ring of a blood vessel docking groove 17-1 for being docked with blood vessels is formed on the outer surface of the lower end of the prepuce fixing hoop. The C-type valgus circumcision stapler further comprises the opening knob 4 which sleeves the connecting block 3 and which is configured to lock or unlock the handle and/or a component driven by the handle. Figs. 9-XIV and 10-XIV are enlarged views of the U-nail gasket and the opening knob, respectively. The pointer 4-1 is arranged at the upper end of the opening knob 4. The circular hole 4-2 is formed in the middle of the opening knob 4. The inner wall of the opening knob 4 is provided with the guide block 4-3 which cooperates with the guide groove 3-1 formed on the connecting block 3 to lock or unlock the handle 6 or other driving members. The gasket positioning stage 15-1 is arranged at one side of the U-nail gasket 11 to position the U-nail gasket on the thimble guide block 14.

Fig. 8-XIV is a front view of the valgus circumcision stapler. In order to describe the specific structure of the valgus circumcision stapler more clearly according to the drawings, Figs. 2-XIV and 5-XIV-7-XIV are views of the valgus circumcision stapler from all visual angles. Referring to Figs. 3-XIV and 4-XIV, in the preferred embodiment, the valgus circumcision stapler includes a handle 1, a plug 2, a small connecting rod 3, a pin 4, a push rod 5, a connecting block 6, an opening knob 7, a spring 8, a lower comprehensive cover 9, a U-nail top ring 10, an upper comprehensive cover 11, a threaded locking ring 12, a

circumcision knife 13, a U-nail washer 14 and a circumcision knife gasket 15. The handle 1 is drivingly connected to the push rod 5 and the connecting block 6 through the small connecting rod 3 and the pin 4. The opening knob 7 sleeves the connecting block 6. The plug 2 is arranged at the lower end of the push rod 5. The upper comprehensive cover 11 and the lower comprehensive cover 9 are directly connected or connected through a connecting cover. The spring 8 is arranged in the inner cavity of the connecting block 6. A part or all of the U-nail top ring 10 is arranged in the lower comprehensive cover 9; or a part or all of the U-nail top ring 10 is arranged in the connecting cover; or a part of the U-nail top ring 10 is arranged in the lower comprehensive cover 9, and the other part of the U-nail top ring 10 is arranged in the connecting cover. The threaded locking ring 12 locks the peripheries of the upper comprehensive cover 11 and/or the lower comprehensive cover 9 and/or the connecting cover. The circumcision knife 13 is arranged at the periphery of the U-nail top ring 10 and the guide block. The U-nail washer 14 is fixed at the top end of a U-nail groove, so that the U-nail preferably penetrates through the U-nail washer 14 to avoid contact between one or more surfaces of the U-nail and a prepuce tissue when the U-nail is hammered into the prepuce. The principles of other related driving components, actuating components and circumcision components are the same as those in the previous embodiment, and are not repeated herein.

The above description of the present invention has been given by way of example with reference to the accompanying drawings. It is obvious that the specific implementation of the present invention is not limited to the above modes, and various improvements made using the method concepts and technical solutions of the present invention or directly applied to other occasions, are within the scope of the present invention.

## CLAIMS

1. An advancing and self-locking device, comprising a hook (4) and a convex plate, wherein the convex plate is arranged on the inner wall of a sheathed handle (1); the hook (4) is arranged on a sheathed core (2); the sheathed core (2) is arranged in the sheathed handle (1) in a penetrating manner; the hook (4) and the convex plate are matched with each other so as to allow the sheathed core (2) to only move in the sheathed handle (1) axially and unidirectionally.

2. The advancing and self-locking device according to claim 1, wherein

a stage of convex plate is arranged on the inner wall of the sheathed handle (1) in a movement direction of the sheathed core (2), thereby forming a locking position;

or,

a plurality of stages of convex plates is arranged on the inner wall of the sheathed handle (1) in a movement direction of the sheathed core (2), thereby forming a plurality of locking positions.

3. The advancing and self-locking device according to claim 2, wherein a first-stage convex plate (5) and a second-stage convex plate (6) are sequentially arranged on the inner wall of the sheathed handle (1) in the movement direction of the sheathed core (2); a first locking position is formed at one side of the first-stage convex plate (5), which is close to the second-stage convex plate (6); a second locking position is formed at one side of the second-stage convex plate (6), which is away from the first-stage convex plate (5).

4. The advancing and self-locking device according to claim 3, a chamfer is arranged at one side of the first-stage convex plate (5), which is away from the second-stage convex plate (6).

5. The advancing and self-locking device according to claims 1 to 4, wherein a sleeve (3) is arranged in a region, which corresponds to a position where the convex plate is located, on the outer wall of the sheathed handle (1); preferably, the sleeve (3) is rotatably arranged on the outer wall of the sheathed handle (1), thereby allowing or preventing the sheathed core (2) to move or from moving in the sheathed handle (1) axially and unidirectionally.

6. A circumcision device adopting the advancing and self-locking device according to claims 1 to 5.

7. The circumcision device according to claim 6, further comprising a main device, a driving device, a removing device and a positioning device, wherein

the driving device is mounted on the main device and connected to the removing device and serves to drive the removing device;

the removing device is mounted on the main device, is close to or connected to the positioning device and can serve to remove and/or anastomose the prepuce positioned on the positioning device;

the positioning device is mounted on the main device and serves to position glans penis and/or prepuce.

8. The circumcision device according to claim 7, wherein the driving device comprises handles (10), connecting rods (12), pins (13) and a spring (15), wherein the front ends of the handles (10) are connected to the sheathed handle (1) respectively; the connecting rods (12) are connected to the middle sections of the handles (10) respectively; the connecting rods (12) are connected to the sheathed core (2) respectively through the pins (13).

9. An assembling method for the advancing and self-locking device of the circumcision device according to claims 6 to 8, comprising the following steps:

(1) rotating the sleeve (3) on the sheathed handle (1), thereby allowing the sheathed core

(2) to move;

(2) advancing the sheathed core (2) axially in the sheathed handle (1), till the hook (4) moves across the first-stage convex plate (5) with the chamfer;

(3) stopping the hook (4) by the second-stage convex plate (6) after moving across the first-stage convex plate (5); loosening the sheathed core (2) at this moment, such that the sheathed core (2) moves backwards under the action of the spring (15), till the hook (4) is blocked by the first-stage convex plate (5), thereby positioning the hook (4) in the first locking position to accomplish the assembly of the self-locking device; and

(4) mounting the handles (10) and the connecting rods (12) on a lock handle and a lock core.

10. An application method for the advancing and self-locking device of the circumcision device according to claims 6 to 8, comprising the following steps:

(1) during a surgery, pressing, by an operator, the handles (10) to drive the sheathed core (2) to further advance axially in the sheathed handle (1), till the hook (4) moves across the second-stage convex plate (6), thereby accomplishing the circumcision of the prepuce; and

(2) at the end of the surgery, loosening the handles (10), such that the sheathed core (2) moves backwards under the action of the spring (15), till the hook (4) is blocked by the second-stage convex plate (6), thereby positioning the hook (4) in the second locking position to accomplish the self-locking of the circumcision device.

11. A built-in electric circumcision device, comprising: a motor, a thrust tube, a U-nail top ring and a circumcision cover, wherein

the motor is connected to or in contact with the thrust tube, and is configured to drive the thrust tube forward; and

the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward.

12. The built-in electric circumcision device of claim 11, wherein the thrust tube is a

hollow cylinder with a first ring-shaped cross section; the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device.

13. The built-in electric circumcision device of claim 11 or 12, wherein the motor is connected to or in contact with the circumcision cover; or the motor has an end thread, and is connected to or in contact with the circumcision cover via the end thread.

14. The built-in electric circumcision device of claim 13, wherein the motor has a connecting rod on which the thread is arranged.

15. The built-in electric circumcision device of claims 11-14, wherein the circumcision cover comprises a positioning rod connected to or in contact with the connecting rod or the thread; and/or a positioning groove is formed in the positioning rod, and is provided with an inner thread threadedly matched with the thread.

16. The built-in electric circumcision device of claims 12-15, further comprising a motor front shell and a comprehensive shell, wherein the front end of the motor front shell is connected to the rear end of the comprehensive shell; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring.

17. The built-in electric circumcision device of claim 16, further comprising a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor.

18. The built-in electric circumcision device of claims 11-17, further comprising a cable which is connected to and supplies power to the motor.

19. The built-in electric circumcision device of claims 11-17, further comprising a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off, and/or a driving distance, and/or a driving speed of the motor.

20. The built-in electric circumcision device of claim 18, wherein a cable hole is formed in the motor rear shell; and a cable passes through the cable hole and is connected to the motor.

21. A valgus electric circumcision device, comprising: a motor, a thrust tube and a U-nail top ring, wherein

the motor is connected to or in contact with the thrust tube, and is configured to drive the thrust tube forward; and

the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward.

22. The valgus electric circumcision device of claim 21, further comprising an inner comprehensive cover, wherein the motor is connected to or in contact with the inner comprehensive cover.

23. The valgus electric circumcision device of claim 21 or 22, wherein the thrust tube is a hollow cylinder with a first ring-shaped cross section; the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device.

24. The valgus electric circumcision device of claim 22 or 23, wherein the motor has a connecting rod and an end thread on the connecting rod, and is connected to or in contact with the inner comprehensive cover via the end thread.

25. The valgus electric circumcision device of claim 24, wherein the inner comprehensive cover comprises a positioning rod; and a positioning groove is formed in the positioning rod, and is provided with an inner thread threadedly matched with the end thread.

26. The valgus electric circumcision device of claims 23-25, further comprising a motor front shell and a comprehensive cover, wherein the inner comprehensive cover is located in the comprehensive cover; the front end of the motor front shell is connected to the rear end of the comprehensive cover; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring.

27. The valgus electric circumcision device of claim 26, further comprising a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor.

28. The valgus electric circumcision device of claims 21-27, further comprising a cable which is connected to and supplies power to the motor.

29. The valgus electric circumcision device of claims 21-27, further comprising a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off, and/or a driving distance, and/or a driving speed of the motor.

30. The valgus electric circumcision device of claim 28, wherein a cable hole is formed in the motor rear shell; and the cable passes through the cable hole and is connected to the motor.

31. A built-in washer circumcision device, comprising: a circumcision cover, a comprehensive cover and a first washer and/or a second washer, wherein

the comprehensive cover is provided with a U-nail groove, and the first washer is arranged in the U-nail groove along the longitudinal outer side of the comprehensive cover;

and/or

a U-nail seat corresponding to the U-nail groove is arranged on the circumcision cover, and the second washer is arranged on the U-nail seat.

32. The built-in washer circumcision device of claim 31, wherein a first ring-shaped groove is formed at the end of the comprehensive cover towards the circumcision cover, and is located outside the U-nail groove; and the first washer is arranged in the first ring-shaped groove.

33. The built-in washer circumcision device of claim 32, wherein the first washer is slightly wider than the first ring-shaped groove, so that the first washer is elastically clamped in the first ring-shaped groove.

34. The built-in washer circumcision device of claim 32 or 33, wherein the first washer has a ring and a protrusion located on the bottom surface of the ring; a second ring-shaped groove is also formed at the end of the comprehensive cover towards the circumcision cover, and is located in the periphery of the first ring-shaped groove; and the protrusion is configured to be clamped in the second ring-shaped groove.

35. The built-in washer circumcision device of claims 31-34, wherein a third ring-shaped groove is formed in the U-nail seat towards the U-nail groove; and the second washer is arranged in the third ring-shaped groove.

36. The built-in washer circumcision device of claims 31-34, wherein the comprehensive cover is provided with a circumcision knife; and a third washer is arranged at the end of the circumcision cover towards the comprehensive cover and corresponds to an anvil of the circumcision knife.

37. The built-in washer circumcision device of claim 36, wherein the third washer has a first lateral portion surrounding the anvil, a longitudinal portion perpendicular to the first

lateral portion, and a second lateral portion surrounding the U-nail seat.

38. The built-in washer circumcision device of claims 31-37, wherein the first, second and/or third washers are rubber washer(s) and/or silicone washer(s).

39. The built-in washer circumcision device of claims 31-38, wherein the circumcision device is a flat-head-type or inclined-head-type circumcision device.

40. The built-in washer circumcision device of claim 32 or 33, wherein the first washer is a U-nail backing ring; a protruding positioning ring is arranged on one surface of the U-nail backing ring; a placing groove is formed on the comprehensive cover in the periphery of the first ring-shaped groove; and the positioning ring and the placing groove are clamped or elastically cooperate with each other to fix the U-nail backing ring.

41. A valgus washer circumcision device, comprising: an inner comprehensive cover, an inner ring and a first washer and/or a second washer, wherein the inner comprehensive cover and the inner ring correspond to each other vertically;

the first washer is arranged at the end of the inner ring towards the inner comprehensive cover; and/or

a U-nail groove is formed at the outer edge of the inner comprehensive cover, and the second washer is arranged at the top of the U-nail groove.

42. The valgus washer circumcision device of claim 41, wherein both the first and second washers are located on the same axis as a U-nail in the U-nail groove.

43. The valgus washer circumcision device of claim 41 or 42, wherein a first ring-shaped groove is formed on the lower end surface of the inner ring towards the inner comprehensive cover; and the first washer is arranged in the first ring-shaped groove.

44. The valgus washer circumcision device of claim 43, wherein the first washer is

slightly wider than the first ring-shaped groove, so that the first washer is elastically clamped in the first ring-shaped groove.

45. The valgus washer circumcision device of claims 41-44, wherein the second washer is arranged outside the U-nail groove, and is located above the opening of the groove.

46. The valgus washer circumcision device of claims 41-44, wherein the second washer has a ring and a protrusion located on the bottom surface of the ring; and the protrusion is configured to be clamped in the U-nail groove.

47. The valgus washer circumcision device of claims 41-44, wherein the second washer is arranged at the top inside the U-nail groove.

48. The valgus washer circumcision device of claim 47, wherein the second washer is slightly wider than the U-nail groove, so that the second washer is elastically clamped in the U-nail groove.

49. The valgus washer circumcision device of claims 41-44, wherein a second ring-shaped groove whose top is flush with that of the inner comprehensive cover is formed between the inner edge of the inner comprehensive cover and the U-nail groove; and the second washer is arranged in the second ring-shaped groove.

50. The valgus washer circumcision device of claims 41-49, further comprising an upper cover and a lower cover which correspond to each other vertically, wherein the inner comprehensive cover is arranged in the lower cover; the inner ring is arranged in the upper cover; and the inner comprehensive cover and the inner ring correspond to each other vertically.

51. A blood vessel docking apparatus for a built-in circumcision device, comprising a circumcision cover and a comprehensive cover, and further comprising blood vessel

corresponding grooves and/or blood vessel docking grooves, wherein

the circumcision cover and the comprehensive cover are configured to be assembled or connected with each other;

a plurality of blood vessel corresponding grooves is disposed along a periphery of a front end of the circumcision cover; and/or

a plurality of blood vessel docking grooves is disposed along a periphery of a front end of the comprehensive cover.

52. The blood vessel docking apparatus for a built-in circumcision device according to claim 51, wherein front ends of the blood vessel corresponding grooves are close to an annular top end of the circumcision cover, and back ends of the blood vessel corresponding grooves are away from the annular top end of the circumcision cover backwards relative to the front ends of the blood vessel corresponding grooves.

53. The blood vessel docking apparatus for a built-in circumcision device according to claim 52, wherein the blood vessel corresponding grooves obliquely extend backwards from the front end of the circumcision cover.

54. The blood vessel docking apparatus for a built-in circumcision device according to claims 51 to 53, wherein a top end of the comprehensive cover is provided with an annular outer wall, the blood vessel docking grooves are disposed on an outer surface of the annular outer wall, front ends of the blood vessel docking grooves are flush with a top end of the annular outer wall, or the front ends of the blood vessel docking grooves are higher than the top end of the annular outer wall, or the front ends of the blood vessel docking grooves are lower than the top end of the annular outer wall.

55. The blood vessel docking apparatus for a built-in circumcision device according to claim 54, wherein back ends of the blood vessel docking grooves are away from the top end of the annular outer wall backwards relative to the front ends of the blood vessel docking grooves.

56. The blood vessel docking apparatus for a built-in circumcision device according to claim 55, wherein the blood vessel docking grooves obliquely extend backwards from the top end of annular outer wall.

57. The blood vessel docking apparatus for a built-in circumcision device according to

claim 54, wherein the comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and nail outlets of the U-nail grooves are disposed on or close to the top end of the comprehensive cover.

58. The blood vessel docking apparatus for a built-in circumcision device according to claim 57, wherein the nail outlets of the U-nail grooves are disposed in the annular outer wall.

59. The blood vessel docking apparatus for a built-in circumcision device according to claims 57 and 58, wherein the plurality of blood vessel correspondig grooves corresponds to the blood vessel docking grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or, the plurality of blood vessel docking grooves corresponds to the blood vessel corresponding grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or the width of the plurality of blood vessel correspondig grooves corresponds to the width of the blood vessel docking grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves; and/or, the width of the plurality of blood vessel docking grooves corresponds to the width of the blood vessel corresponding grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves.

60. The blood vessel docking apparatus for a built-in circumcision device according to claims 51 to 59, wherein an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and the annular top end of the circumcision cover; and/or, an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and convex plates formed among the blood vessel corresponding grooves; and/or the front ends of the blood vessel docking grooves are narrower than the back ends thereof; and/or the blood vessel docking apparatus further comprises a U-nail top ring and a lower comprehensive cover, the back end of the circumcision cover is provided with a positioning rod matched and connected with a positioning groove of the U-nail top ring, and a back end of the comprehensive cover is connected to the lower comprehensive cover.

61. A blood vessel docking apparatus for a valgus circumcision device, comprising an inner ring, an inner comprehensive cover and blood vessel docking grooves, wherein

the inner ring and the inner comprehensive cover are conifgured to be assembled or

connected with each other; and

a plurality of blood vessel docking grooves is disposed along a periphery of a back end of the inner ring.

62. The blood vessel docking apparatus for a valgus circumcision device according to claim 61, wherein the inner comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and the U-nail grooves are disposed along a periphery of a front end of the inner comprehensive cover.

63. The blood vessel docking apparatus for a valgus circumcision device according to claim 62, wherein the nail outlets of the U-nail grooves are disposed on or close to the top end of the inner comprehensive cover.

64. The blood vessel docking apparatus for a valgus circumcision device according to any one of claims 61 to 63, wherein positions of the plurality of blood vessel docking grooves correspond to the positions of the U-nail grooves one by one, and/or the positions of the U-nails in the U-nail grooves; and/or the width of the plurality of blood vessel docking grooves corresponds to the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves.

65. The blood vessel docking apparatus for a valgus circumcision device according to claims 61 to 64, wherein the blood vessel docking grooves are preset on the inner ring, or the blood vessel docking grooves are prefabricated rings and capable of sleeving the inner ring.

66. The blood vessel docking apparatus for a valgus circumcision device according to claims 61 to 65, wherein back ends of the blood vessel docking grooves are close to an annular back end of the inner ring or flush with the back end of the inner ring, and front ends of the blood vessel docking grooves are away from the annular back end of the inner ring forwards relative to the back ends of the blood vessel docking grooves.

67. The blood vessel docking apparatus for a valgus circumcision device according to claims 61 to 66, further comprising a U-nail top ring, configured to be assembled and matched with the inner comprehensive cover to push the U-nail out of the U-nail groove.

68. The blood vessel docking apparatus for a valgus circumcision device according to claim 67, further comprising an upper cover and a lower cover, wherein the upper cover

and the lower are assembled and connected with each other, the inner ring is arranged in the upper cover, and all or part of the inner comprehensive cover is disposed in the lower cover.

69. The blood vessel docking apparatus for a valgus circumcision device according to claim 68, further comprising a comprehensive cover, wherein a front end of the comprehensive cover is connected to a back end of the lower cover, and all or part of the U-nail top ring is disposed in the comprehensive cover.

70. A built-in graduated circumcision device comprising a comprehensive cover, a circumcision cover and a graduation device, wherein

the comprehensive cover and circumcision cover are assembled to and cooperate with each other; and

the graduation device is arranged on the comprehensive cover.

71. The built-in graduated circumcision device of claim 70, wherein the graduation device is arranged at the end, close to the circumcision cover, of an outer surface of the comprehensive cover.

72. The built-in graduated circumcision device of claim 70 or 71, wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the circumcision cover, of the comprehensive cover.

73. The built-in graduated circumcision device of claims 70-72, wherein a plurality of U-nail grooves which constitutes a ring is arranged in the comprehensive cover.

74. The built-in graduated circumcision device of claim 73, wherein graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves.

75. The built-in graduated circumcision device of claim 74, wherein the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves.

76. The built-in graduated circumcision device of claims 70-75, wherein the graduation device is graduations carved on the comprehensive cover in advance and/or a graduation label adhered to the comprehensive cover and/or a prefabricated graduation ring or graduation strip sleeving the comprehensive cover.

77. The built-in graduated circumcision device of claims 70-76, wherein the circumcision device is of a flat head or oblique head type.

78. The built-in graduated circumcision device of claims 70-77, wherein a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves.

79. The built-in graduated circumcision device of claims 70-78, wherein a ring of blood vessel corresponding grooves are annularly arranged on an outer surface of the circumcision cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or the intervals among the blood vessel corresponding grooves.

80. A valgus graduated circumcision device comprising an upper cover and/or a lower cover, and/or a locking ring, and further comprising a graduation device, wherein:

the upper cover and the lower cover are assembled to and cooperate with each other;

the locking ring is used for locking the upper cover and the lower cover; and

the graduation device is arranged on the upper cover, and/or the lower cover, and/or the locking ring.

81. The valgus graduated circumcision device of claim 80, wherein the graduation device is arranged at the end, close to the lower cover, of an outer surface of the upper cover.

82. The valgus graduated circumcision device of claim 80 or 81, wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the lower cover, of the upper cover.

83. The valgus graduated circumcision device of claim 80, wherein the graduation device is arranged at the end, close to the upper cover, of an outer surface of the lower cover.

84. The valgus graduated circumcision device of claim 80 or 81, wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the upper cover, of the lower cover.

85. The valgus graduated circumcision device of claim 80, wherein the graduation device is arranged on a periphery of the locking ring.

86. The valgus graduated circumcision device of claims 80-85, further comprising an inner comprehensive cover arranged in the lower cover, wherein a plurality of U-nail grooves are annularly arranged on a periphery of the inner comprehensive cover and constitute a ring.

87. The valgus graduated circumcision device of claim 86, wherein graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves.

88. The valgus graduated circumcision device of claim 86 or 87, wherein the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves.

89. The valgus graduated circumcision device of claims 80-88, wherein the graduation device is graduations carved on the upper cover, and/or the lower cover, and/or the locking ring in advance; and/or a graduation label adhered to the upper cover, and/or the lower cover, and/or the locking ring; and/or a prefabricated graduation ring or graduation strip sleeving the upper cover, and/or the lower cover, and/or the locking ring.

90. A knob opening device, comprising an opening knob (3) and a knob fastening device, wherein the opening knob (3) rotatably sleeves a sheathed handle (1); the knob fastening device is arranged on the sheathed handle (1); the opening knob (3) cooperates with the knob fastening device to rotate and/or axially move.

91. The knob opening device according to claim 90, wherein the knob fastening device is of a groove structure arranged on the sheathed handle (1);

and/or,

the inner surface of the opening knob (3) facing the knob fastening device is provided with a slider (3-2) which is capable of sliding in the knob fastening device, such that the opening knob (3) is driven to rotate and/or axially move;

and/or,

the opening knob (3) is an annular opening knob whose inner surface is provided with

a slider (3-2) and whose outer surface is provided with stripes;

and/or,

the knob fastening device comprises a first position and a second position, and serves to block the opening knob (3) from moving towards a first direction at the first position and block the opening knob (3) from moving towards a second direction at the second position;

and/or,

the knob opening device further comprises a sheathed core (2) which is arranged in the middle of the sheathed handle (1) in a penetrating manner and which is capable of sliding upwards and downwards along the sheathed handle (1) and pushing the opening knob (3) or the slider (3-2) arranged on the inner surface of the opening knob (3) to move upwards.

92. The knob opening device according to claim 91, wherein,

the knob fastening device comprises a first convex plate (1-6) and a second convex plate (1-5); the first position is an assembly completion position and located below the first convex plate (1-6); the first direction is upward axially along the sheathed handle (1) perpendicular to the first convex plate (1-6); the second position is a use completion position and located below the second convex plate (1-5); the second direction is upward axially along the sheathed handle (1) perpendicular to the second convex plate (1-5);

and/or,

the knob fastening device comprises a third position, a fourth position, and/or a fifth position and serves to block the opening knob (3) from moving towards a third direction at the third position, block the opening knob (3) from moving towards a fourth direction at the fourth position, and block the opening knob (3) from moving towards a fifth direction at the fifth position;

and/or,

the knob fastening device comprises a third convex plate (1-8), a fourth convex plate (1-9) and an enclosed structure (1-10); the third position is located at the right side of the third convex plate (1-8); the third direction is leftward and perpendicular to the third convex plate (1-8); the fourth position is located below a left sidewall of the knob fastening device; the fourth direction is leftward and perpendicular to the left sidewall of the knob fastening device; the fifth position is located inside the enclosed structure (1-10); the fifth

direction faces the outside of the enclosed structure (1-10).

93. The knob opening device according to claim 91 or 92, wherein,

the groove structure comprises a positioning groove (1-2), an advancing groove (1-4) and a mounting groove (1-7), wherein the positioning groove (1-2) is arranged longitudinally parallel to an axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the positioning groove (1-2); the advancing groove (1-4) is arranged longitudinally parallel to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the advancing groove (1-4); the mounting groove (1-7) is arranged transversely and perpendicularly to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move transversely in the mounting groove (1-7);

and/or,

the mounting groove (1-7) is arranged at one side of the positioning groove (1-2) and communicated to the lower part of the positioning groove (1-2); the advancing groove (1-4) is arranged at the other side of the positioning groove (1-2) and communicated to the upper part of the positioning groove (1-2);

and/or,

the first convex plate (1-6) is formed on the top of the positioning groove (1-2); the second convex plate (1-5) is formed on the top of the advancing groove (1-4); the third convex plate (1-8) is formed at the left end of the mounting groove (1-7); the enclosed structure (1-10) is formed at the right end of the mounting groove (1-7).

94. The knob opening device according to claims 2 to 4, further comprising a positioning point (1-3), wherein the positioning point (1-3) is arranged between the positioning groove (1-2) and the advancing groove (1-4) and serves to position the slider (3-2) at the first position;

and/or,

the positioning point (1-3) blocks the slider (3-2) from rotating in a direction from the advancing groove (1-4) to the positioning groove (1-2); and/or, the positioning point (1-3) provides a resistance, which can be overcome, to block the slider (3-2) from rotating in a direction from the positioning groove (1-2) to the advancing groove (1-4), or can be moved

across by the slider (3-2) to rotate in a direction from the positioning groove (1-2) to the advancing groove (1-4);

and/or,

the positioning point (1-3) is an arcuate protrusion, or the positioning point (1-3) has a slope in a direction from the positioning groove (1-2) to the advancing groove (1-4) and has a vertical surface at one side close to the advancing groove (1-4).

95. The knob opening device according to claims 90 to 94, wherein the opening knob (3) is provided with a pointing arrow (3-1); the sheathed handle (1) is provided with an identification point (1-1); when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device is in an initial assembly state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an assembly completion state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an available state; or, when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in a use completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the assembly completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the available state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the use completion state.

96. A circumcision device adopting the knob opening device according to claims 90 to 6.

97. The circumcision device according to claim 96, further comprising a main device, a driving device, a removing device and a positioning device, wherein,

the driving device is mounted on the main device and connected to the removing device and serves to drive the removing device;

the removing device is mounted on the main device, is close to or connected to the positioning device and can serve to remove and/or anastomose the prepuce positioned on the positioning device;

the positioning device is mounted on the main device and serves to position glans

penis and/or prepuce.

98. An assembly method for the knob opening device according to claims 90 to 95, comprising the following steps:

(1) mounting the slider (3-2) of the opening knob (3) into the mounting groove (7) on the sheathed handle (1);

(2) rotating the opening knob (3) leftwards within the mounting groove (7) to the end till touching the third convex plate (1-8), and then stopping rotating;

(3) advancing the opening knob (3) upwards by the sheathed core (2); and

(4) blocking the slider (3-2) by the first convex plate (1-6) and the positioning point (1-3), thereby completing the assembly.

99. A use method for the knob opening device according to claims 90 to 95, comprising the following steps:

1) rotating the opening knob (3), such that the slider (3-2) moves across the positioning point (1-3) and into the advancing groove (1-4);

2) pushing the opening knob (3) by the sheathed core (2), such that the opening knob (3) moves upwards along the advancing groove (1-4); and

3) blocking the opening knob (3) by the second convex plate (1-5), thereby completing the use action.

100. A positioning device for a built-in circumcision device, comprising a connecting block, a knob, a first positioning structure and a second positioning structure, wherein the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other; the first positioning structure is arranged on the rear end surface of the connecting block; the second positioning structure is arranged on the front end surface of the knob; the first positioning structure and the second positioning structure cooperate with each other, such that the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other.

101. The positioning device for the built-in circumcision device according to claim 100, wherein the first positioning structure includes one or more positioning convex points or positioning concave points; the second positioning structure includes one or more

positioning concave points or positioning convex points; the positioning concave point and the positioning convex point cooperate with each other in a concave-convex manner, thereby accomplishing the positioning of the connecting block and the knob when they cooperate in place.

102. The positioning device for the built-in circumcision device according to claim 100 or 101, wherein the front end of the connecting block serves to connect a lower comprehensive cover; the rear part or the middle-rear part of the connecting block is provided with a transverse groove for allowing a sliding rod to be embedded, wherein the rear end of the sliding rod is flush with the rear end of the connecting block; the rear end of the connecting block is provided with a hole or a cylindrical groove which serves to connect the knob.

103. The positioning device for the built-in circumcision device according to claim 102, wherein the first positioning structure includes three positioning convex points which are uniformly arranged along the rear end surface of the connecting block.

104. The positioning device for the built-in circumcision device according to claim 102 or 103, wherein the knob is provided with a fixed surface which is provided with a cylindrical protrusion; the cylindrical protrusion serves to be inserted into the hole or the cylindrical groove of the connecting block.

105. The positioning device for the built-in circumcision device according to claim 104, wherein the second positioning structure includes three positioning concave points which are uniformly arranged along the circumference of the fixed surface of the knob.

106. The positioning device for the built-in circumcision device according to claims 100 to 105, wherein the outer surface of the connecting block is provided with a first positioning mark; the outer surface of the knob is provided with a second positioning mark; the first positioning mark serves to be aligned to the second positioning mark in rotation and is capable of being in an aligned state after the first positioning structure and the second positioning structure are positioned in a cooperating manner.

107. The positioning device for the built-in circumcision device according to claim 104 or 105, wherein an internal thread is arranged in the middle of the cylindrical protrusion and serves to be connected to an external thread at the rear end of the connecting

rod in a manner of cooperating with each other.

108. The positioning device for the built-in circumcision device according to claim 107, wherein the front end of the connecting rod is provided with an external thread which serves to be connected to the rear end of a circumcision cover at the front end; the rear end of the circumcision cover is provided with a positioning rod; the positioning rod is provided with an internal thread which serves to be connected with the external thread arranged at the front end of the connecting rod in a manner of cooperating with each other.

109. The positioning device for the built-in circumcision device according to claims 102 to 108, further comprising a comprehensive cover whose front end serves for connecting the circumcision cover and whose rear end is connected to a lower comprehensive cover.

110. A knob opening/closing device of a circumcision device, wherein the knob opening/closing device comprises a connection block and an opening knob, wherein the opening knob sleeves the connection block; a sliding block is arranged on an inner surface of the opening knob; a guide groove is arranged on an outer surface of the connection block; and the sliding block is embedded into the guide groove and can slide along the guide groove, so that the circumcision device is in an opening or closing state.

111. The knob opening/closing device of the circumcision device of claim 110, wherein a pointer is arranged on the opening knob, an opening mark and/or a closing mark are/is arranged on the connection block, and the pointer is used for pointing to the opening mark or the closing mark when the opening knob rotates.

112. The knob opening/closing device of the circumcision device of claim 111, wherein the opening mark and/or the closing mark comprise(s) at least one recess formed in the connection block.

113. The knob opening/closing device of the circumcision device of claim 112, wherein the opening mark and/or the closing mark comprise(s) at least one color sheet embedded into the at least one recess.

114. The knob opening/closing device of the circumcision device of claim 113, wherein the recesses are two recesses representing the opening state and the closing state respectively and the color sheets are two color sheets embedded into the two recesses

respectively and are different in color.

115. The knob opening/closing device of the circumcision device of claim 113 or 114, wherein the color sheets correspond to the recesses in shape and slightly larger than the recesses, so that the color sheets can stay in the recesses using elastic buckles after being embedded into recesses.

116. The knob opening/closing device of the circumcision device of claims 110-115, wherein the guide groove has a transverse part and a longitudinal part; when being located at a first end or a second end of the transverse part or a first end or a second end of the longitudinal part, the sliding block buckles a handle of the circumcision device, so that the handle cannot be driven, or when being located at the first end or the second end of the transverse part or the first end or the second end of the longitudinal part, the sliding block unlocks the handle of the circumcision device, so that the handle can be driven.

117. The knob opening/closing device of the circumcision device of claim 116, wherein the pointer is arranged at a position where the pointer points to the closing mark when the sliding block buckles the handle of the circumcision device so that the handle cannot be driven, and/or the pointer is arranged at a position where the pointer points to the opening mark when the sliding block unlocks the handle of the circumcision device so that the handle can be driven.

118. The knob opening/closing device of the circumcision device of claims 110-117, wherein a front end of the connection block is used for connecting a lower comprehensive cover of a built-in circumcision device or a comprehensive cover of a valgus circumcision device, a transverse groove is formed in a rear part or a middle-rear part of the connection block and is used for embedding of a sliding rod, and a rear end of the connection block is used for connecting the knob of the built-in circumcision device or a plug of the valgus circumcision device.

119. The knob opening/closing device of the circumcision device of claims 110-117, wherein a cross section of the opening knob takes the shape of a ring, and/or there are stripes for increasing a frictional force on an outer surface of the opening knob.

120. A U-nail thimble, comprising: a thimble body and a thimble positioning device, wherein the thimble positioning device is arranged at one end of the thimble body, and

comprises a concave positioning groove or a convex positioning stage which is configured to cooperate with a U-nail to position the U-nail in a static or moving state.

121. The U-nail thimble of claim 120, wherein the U-nail comprises two sides and a bottom edge; the positioning groove is configured to cooperate with or accommodate a part or all of the bottom edge of the U-nail and to position the U-nail in a static or moving state.

122. The U-nail thimble of claims 120 and 121, wherein the positioning groove is formed at the center of the end of the thimble; and/or the positioning groove is an arc-shaped groove or a right-angled groove; and/or a rounded corner or right angle is formed between the positioning groove and the plane of the end of the thimble body.

123. The U-nail thimble of claims 120-122, wherein the U-nail comprises two sides and a bottom edge; there is at least one convex positioning stage; and a space defined by the positioning stage is configured to accommodate a part or all of the bottom edge of the U-nail to position the U-nail in a static or moving state.

124. The U-nail thimble of claim 123, wherein  
there are two convex positioning stages which are arranged at opposite corners or two ends of one side of the thimble, respectively; or  
there are three convex positioning stages; or  
there are four convex positioning stages arranged at four corners of the end of the thimble, respectively; or  
the top surface of the convex positioning stage is flat and the side surface thereof is arc-shaped.

125. A circumcision stapler, comprising: a U-nail thimble and a U-nail, wherein the U-nail thimble is that described in claims 120-124, and faces the lower end surface of the U-nail to position and move the U-nail.

126. The circumcision stapler of claim 125, wherein the width of the bottom edge of the U-nail is equal to or slightly smaller than the width between the convex positioning stages; and/or the width of the bottom edge of the U-nail is smaller than the width of the opening of the positioning groove; and/or the side of the bottom edge of the U-nail facing the U-nail thimble is arc-shaped; and/or the long edge of the top end of the U-nail thimble corresponds to the long edge of the U-nail, and the wide edge thereof corresponds to the wide edge of the U-nail.

127. The circumcision stapler of claims 125 and 126 being a built-in circumcision stapler and comprising: a comprehensive cover and a circumcision cover which are assembled to and cooperate with each other, wherein a plurality of U-nail grooves formed in the comprehensive cover is configured to accommodate U-nails and forms a ring; a U-nail top ring is entirely or partially arranged in the comprehensive cover; and U-nail thimbles corresponding to the U-nail grooves one by one are arranged at the top end of the comprehensive cover.

128. The circumcision stapler of claim 127, wherein the lower end of the circumcision cover is inserted into the comprehensive cover, and the upper end thereof is supported at the top end of the comprehensive cover to cooperate with the comprehensive cover to clamp prepuce; and/or the circumcision stapler further comprises a circumcision knife partially or entirely arranged in the U-nail top ring; and/or a plurality of blood vessel corresponding grooves arranged in a ring is formed at the upper end of the circumcision cover, and corresponds to the U-nail grooves one by one; and/or a ring of blood vessel docking grooves or graduations is further formed on the outer surface of the comprehensive cover, and corresponds to the U-nail grooves or the blood vessel corresponding grooves one by one.

129. The circumcision stapler of claim 128, wherein a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to insert in and be positioned in the positioning hole,

so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover correspond to the U-nail grooves one by one.

130. A built-in prepuce circumcision stapler with an indication device, comprising a comprehensive cover, a prepuce circumcision cover and the indication device, wherein,

the comprehensive cover and the prepuce circumcision cover are assembled to and cooperate with each other;

the indication device is arranged on the comprehensive cover.

131. The built-in prepuce cutting stapler with the indication device according to claim 130, wherein the indication device is arranged at one end, close to the prepuce circumcision cover, of the outer surface of the comprehensive cover.

132. The built-in prepuce cutting stapler with the indication device according to claim 130 or 131, wherein the indication device is a ring of protrusions or recesses which are annularly arranged on the periphery of one end, close to the prepuce circumcision cover, of the comprehensive cover; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses.

133. The built-in prepuce circumcision stapler with the indication device according to claims 130 to 132, wherein a plurality of U-nail grooves which serves to accommodate U-nails and constitutes a ring is arranged in the comprehensive cover.

134. The built-in prepuce circumcision stapler with the indication device according to claim 133, wherein the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or the U-nails in the U-nail grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the U-nail grooves and/or the intervals among the U-nail grooves and/or the U-nails in the U-nail grooves.

135. The built-in prepuce circumcision stapler with the indication device according to claim 134, wherein the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the U-nail groove, and/or the width of the U-nail in the U-nail groove, and/or the width of the interval between the U-nail grooves.

136. The built-in prepuce circumcision stapler with the indication device according to claims 130 to 135, wherein the indication device is protrusions or recesses prefabricated on the comprehensive cover, and/or an indication label which is adhered to the comprehensive cover and has protrusions or recesses, and/or a prefabricated indication ring or indication strip which sleeves the comprehensive cover and has protrusions or recesses.

137. The built-in prepuce circumcision stapler with the indication device according to claim 136, wherein the protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips; preferably, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved.

138. The built-in prepuce circumcision stapler with the indication device according to claims 132 to 137, wherein the prepuce circumcision stapler is of a flat head or oblique head type.

139. The built-in prepuce circumcision stapler with the indication device according to claims 130 to 138, wherein a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves; and/or a ring of blood vessel corresponding grooves are annularly arranged on the outer surface of the

prepuce circumcision cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or intervals among the blood vessel corresponding grooves.

140. A valgus prepuce circumcision stapler with an indication device, comprising an upper comprehensive cover, a lower comprehensive cover and/or a connecting cover, a prepuce fixing hoop, a U-nail device and the indication device, wherein,

the upper comprehensive cover and the lower comprehensive cover are assembled to and cooperate with each other; or, the lower part of the upper comprehensive cover is connected to the connecting cover, and the lower part of the connecting cover is connected to the lower comprehensive cover;

the prepuce fixing hoop is arranged in the upper comprehensive cover, or the prepuce fixing hoop and the upper comprehensive cover are of an integral structure;

the U-nail device is fully or partially arranged in the lower comprehensive cover; or the U-nail device is fully or partially arranged in the connecting cover; or, a part of the U-nail device is arranged in the lower comprehensive cover, and the other part of the U-nail device is arranged in the connecting cover;

the indication device is arranged on the upper comprehensive, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device.

141. The valgus prepuce circumcision stapler with the indication device according to claim 140, further comprising a locking ring which is used for locking the upper comprehensive cover, and/or the connecting cover, and/or the lower comprehensive cover and is provided with the indication device.

142. The valgus prepuce circumcision stapler with the indication device according to claim 140 or 141, wherein the indication device is a ring of protrusions or recesses which are annularly arranged; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses.

143. The valgus prepuce circumcision stapler with the indication device according to claims 140 to 142, wherein the U-nail device comprises a U-nail top ring and a thimble

guide block; the thimble guide block is used for accommodating suturing U-nails, and/or guiding the movement of the suturing U-nails, and/or positioning and/or guiding a thimble of the U-nail top ring; the U-nail top ring is used for pushing the U-nails in the thimble top block out in cooperation with the thimble top block; the indication device is arranged on the thimble guide block.

144. The valgus prepuce circumcision stapler with the indication device according to claim 143, wherein the thimble guide block is provided with a plurality of thimble guide grooves which are annularly arranged on the annular thimble guide block and are capable of accommodating the suturing U-nails.

145. The valgus prepuce circumcision stapler with the indication device according to claim 144, wherein the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the thimble guide grooves and/or intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the thimble guide grooves and/or the intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves.

146. The valgus prepuce circumcision stapler with the indication device according to claim 145, the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the thimble guide groove, and/or the width of the U-nail in the thimble guide groove, and/or the width of the interval between the thimble guide grooves.

147. The valgus prepuce circumcision stapler with the indication device according to claims 140 to 146, wherein,

the indication device is protrusions or recesses which are prefabricated on the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring;

and/or,

the indication device is an indication label which is adhered to the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device, and/or the locking ring and has

protrusions or recesses;

and/or,

the indication device is a prefabricated indication ring or indication strip which sleeves the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepucis fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses;

and/or,

the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop and has protrusions or recesses;

and/or,

the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the thimble guide block, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses;

and/or,

the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepucis fixing hoop;

and/or,

the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device.

148. The valgus prepuce circumcision stapler with the indication device according to claims 142 to 147, wherein the protrusions are convex blocks and/or convex points and/or convex strips; the recesses are grooves and/or concave points and/or concave strips.

149. The valgus prepuce circumcision stapler with the indication device according to claim 149, wherein both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the convex strip are curved.

150. The valgus prepuce circumcision stapler with the indication device according to claims 140 to 149, wherein the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end, close to the connecting cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end,

close to the lower comprehensive cover or the connecting cover, of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at the upper end of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at one end, close to the lower comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at the upper end of the outer surface of the prepucial fixing hoop; and/or, the indication device is arranged at the lower end of the outer surface of the prepucial fixing hoop; and/or, the indication device is arranged at the upper end of the outer surface of the U-nail device; and/or, the indication device is arranged at the lower end of the outer surface of the U-nail device; and/or, the indication device is annularly arranged on the periphery of the upper part/the lower part of the thimble guide block.

151. An operation-visible circumcision stapler, comprising a comprehensive cover and a circumcision cover, wherein

the comprehensive cover and the circumcision cover are assembled to and cooperate with each other; and

an upper portion, close to the circumcision cover, of the comprehensive cover or the entire comprehensive cover is transparent or semi-transparent.

152. The operation-visible circumcision stapler according to claim 151, wherein a plurality of U-nail grooves which is used for accommodating U-nails and constitutes a ring is arranged in the comprehensive cover.

153. The operation-visible circumcision stapler according to claim 152, wherein there are intervals among the U-nail grooves; the inner surfaces and/or outer surfaces of the U-nail grooves are made of a transparent or semi-transparent material; and the intervals are made of a transparent or semi-transparent material.

154. The operation-visible circumcision stapler according to claim 152 or 153, further comprising a U-nail top ring which is fully or partially embedded into the comprehensive

cover, and thimbles in one-to-one correspondence with the U-nail grooves are arranged at the top end of the U-nail top ring.

155. The operation-visible circumcision stapler according to claim 154, wherein the thimble of the U-nail top ring or the entire U-nail top ring is transparent or semi-transparent.

156. The operation-visible circumcision stapler according to claim 154 or 155, further comprising a circumcision knife which is partially or fully embedded into the U-nail top ring.

157. The operation-visible circumcision stapler according to claims 151-156, wherein the circumcision cover has a lower end inserted into the comprehensive cover and an upper end supported at the top end of the comprehensive cover for cooperating with the comprehensive cover to clamp prepuce.

158. The operation-visible circumcision stapler according to claim 157, wherein a plurality of blood vessel corresponding grooves is annularly arranged at the upper end of the circumcision cover and is in one-to-one correspondence with the U-nail grooves.

159. The operation-visible circumcision stapler according to claim 158, wherein a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to be inserted in and to be positioned in the positioning hole, so that the blood vessel corresponding grooves on the circumcision cover are in one-to-one correspondence with the U-nail grooves after the circumcision cover is positioned.

160. The operation-visible circumcision stapler according to claims 151-159, wherein a ring of blood vessel docking grooves/graduations is annularly arranged on the outer surface of the comprehensive cover, and the blood vessel docking grooves/graduations are

in one-to-one correspondence with the U-nail grooves and/or blood vessel corresponding grooves.

161. An A-type valgus circumcision stapler, comprising: an upper comprehensive cover, a lower comprehensive cover and a U-nail device, wherein

the upper comprehensive cover and the lower comprehensive cover are releasably connected in a matching manner;

a prepuce fixing hoop integrally formed with the upper comprehensive cover is arranged at the lower portion of the upper comprehensive cover, or the prepuce fixing hoop is accommodated in the upper comprehensive cover;

a part or all of the U-nail device is placed in the lower comprehensive cover; and

the upper comprehensive cover, the lower comprehensive cover and the U-nail device cooperate to position a penis and/or glans and/or prepuce, and to clamp and/or squeeze and/or cut the prepuce.

162. The A-type valgus circumcision stapler of claim 161, wherein the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

163. The A-type valgus circumcision stapler of claim 162, further comprising a U-nail gasket which is an annular gasket arranged at the top end of the thimble guide block.

164. The A-type valgus circumcision stapler of claim 163, wherein the U-nail gasket further comprises a gasket positioning stage perpendicular to and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

165. The A-type valgus circumcision stapler of claim 163 or 164, wherein a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

166. The A-type valgus circumcision stapler of claims 163-165, wherein the thimble guide block is provided with a plurality of thimble guide grooves annularly formed in the annular thimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

167. The A-type valgus circumcision stapler of claims 162-166, wherein one or more positioning nails are arranged at the upper end of the U-nail top ring, and are configured to cooperate with a positioning hole formed in the upper comprehensive cover for positioning; and/or, the U-nail top ring is provided with a plurality of thimbles which is in one-to-one correspondence with the plurality of thimble guide grooves formed on the thimble guide block and which is configured to eject the suturing U-nail accommodated in each thimble guide groove.

168. The A-type valgus circumcision stapler of claims 161-167, wherein  
a second through hole is formed in the middle of the upper comprehensive cover,  
and is configured to allow a penis and/or prepuce and/or glans to pass through;  
and/or,

the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover and cooperates with the upper comprehensive cover to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce;

and/or,

blood vessel docking grooves, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves, or intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, intervals among the blood vessel docking grooves, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves, or the intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, a width of every two bulges and/or recesses of the blood vessel docking grooves, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove, and/or the width of the U-nail in the corresponding thimble guide groove, and/or the width of the interval between the thimble guide grooves.

169. The A-type valgus circumcision stapler of claims 161-168, further comprising a glans protection cover, and/or a locking ring, and/or a circumcision knife, wherein

an internal thread/clamping ring/hanging stage is arranged on the inner ring surface of the locking ring; an external thread/clamping ring/hanging stage is arranged on the outer surface of the upper comprehensive cover, and/or is arranged on the outer surface of the lower comprehensive cover, and the internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover, the lower comprehensive cover and/or the locking ring;

and/or,

the circumcision knife is annularly arranged at the outer circumference of the thimble

guide block, and is configured to cooperate with the lower end surface of the upper comprehensive cover to cut the prepuce;

and/or,

the glans protection cover is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block, and upwardly corresponds to the second through hole of the upper comprehensive cover.

170. The A-type valgus circumcision stapler of claim 169, further comprising:

a connecting block, the upper end of the connecting block being connected to the lower end of the comprehensive cover;

and/or,

a blade gasket arranged on the lower end surface of the upper comprehensive cover and corresponding to the circumcision knife;

and/or,

a push rod, the upper end of the push rod being inserted into the lower end of the connecting block;

and/or,

a plug arranged at the lower end of the push rod;

and/or,

a handle which is drivingly connected to the connecting block and/or push rod, and configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail device and/or the circumcision knife to move upward;

and/or,

an opening knob which sleeves the connecting block, and is configured to lock or unlock the handle and/or a component driven by the handle.

171. A B-type valgus circumcision stapler, comprising: an upper comprehensive cover, a lower comprehensive cover, and a U-nail device, wherein

the upper comprehensive cover and the lower comprehensive cover are

releasably connected in a matching manner;

a prepuce fixing hoop integrally formed with the upper comprehensive cover is arranged at the lower portion of the upper comprehensive cover, or the prepuce fixing hoop is accommodated in the upper comprehensive cover;

a part or all of the U-nail device is placed in the lower comprehensive cover;

the upper comprehensive cover, the lower comprehensive cover and the U-nail device cooperate to position a penis and/or glans and/or prepuce, and to clamp and/or squeeze and/or cut the prepuce; and

preferably, a connecting cover is connected to the lower portion of the lower comprehensive cover.

172. The B-type valgus circumcision stapler of claim 171, wherein the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

173. The B-type valgus circumcision stapler of claim 172, further comprising a U-nail gasket which is an annular gasket arranged at the top end of the thimble guide block.

174. The B-type valgus circumcision stapler of claim 173, wherein the U-nail gasket further comprises a gasket positioning stage perpendicular to and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

175. The B-type valgus circumcision stapler of claim 173 or 174, wherein a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a

positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning;and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning;and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

176. The B-type valgus circumcision stapler of claims 173-175, wherein the thimble guide block is provided with a plurality of thimble guide groovesannularly formed in the annularthimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

177. The B-type valgus circumcision stapler of claims 172-176, wherein one or more positioning nails are arranged at the upper end of the U-nail top ring, and are configured to cooperate with a positioning hole formed in the upper comprehensive cover for positioning; and/or, the U-nail top ring is provided with a plurality of thimbles which is in one-to-one correspondence with the plurality of thimble guide grooves formed on the thimble guide block and which is configured to eject the suturing U-nail accommodated in each thimble guide groove; and/or, a lower convex stage is arranged at the lower end of the U-nail top ring, and is configured to position the U-nail top ring in the connecting cover or a connecting block below the connecting cover.

178. The B-type valgus circumcision stapler of claims 171-177, wherein  
a second through hole is formed in the middle of the upper comprehensive cover,and is configured to allow a penis and/or prepuce and/or glans to pass through;  
and/or,  
the prepuce fixing hoop is capable of being positioned in the upper comprehensive

cover and cooperates with the upper comprehensive cover to clamp the prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce;

and/or,

blood vessel docking grooves, or graduations, or concave/convex points, or concave/convex lines are annularly arranged on the outer surface of the lower end of the upper comprehensive cover and/or the outer surface of a blood vessel fixing hoop, and are in one-to-one correspondence with the thimble guide grooves, or intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, intervals among the blood vessel docking grooves, or the graduations, or the concave/convex points, or the concave/convex lines are in one-to-one correspondence with the thimble guide grooves, or the intervals among the thimble guide grooves, or the U-nails in the thimble guide grooves; or, a width of every two bulges and/or recesses of the blood vessel docking grooves, or the graduations, or the concave/convex points or the concave/convex lines is equal to or slightly less than the width of each thimble guide groove, and/or the width of the U-nail in the corresponding thimble guide groove, and/or the width of the interval between the thimble guide grooves.

179. The B-type valgus circumcision stapler of claims 171-178, further comprising a glans protection cover, and/or a locking ring, and/or a circumcision knife, wherein

an internal thread/clamping ring/hanging stage is arranged on the inner ring surface of the locking ring; an external thread/clamping ring/hanging stage is arranged on the outer surface of the upper comprehensive cover, and/or is arranged on the outer surface of the lower comprehensive cover, and the internal thread/clamping ring/hanging stage and the external thread/clamping ring/hanging stage cooperate with each other to position the upper comprehensive cover, the lower comprehensive cover and/or the locking ring;

and/or,

the circumcision knife is annularly arranged at the outer circumference of the thimble guide block, and is configured to cooperate with the lower end surface of the upper comprehensive cover to cut the prepuce;

and/or,

the glans protective cover is configured to accommodate and protect the glans, is releasably arranged in the first through hole of the thimble guide block, and upwardly corresponds to the second through hole of the upper comprehensive cover.

180. The B-type valgus circumcision stapler of claim 179, wherein a hook is arranged at the lower end of the lower comprehensive cover, a connecting hook is arranged at the upper end of the connecting cover, and the hook and the connecting hook cooperate with each other to connect the lower comprehensive cover and the connecting cover;

and/or,

the B-type valgus circumcision stapler further comprises a connecting block, the upper end of the connecting block being connected to the lower end of the comprehensive cover;

and/or,

the B-type valgus circumcision stapler further comprises a blade gasket arranged on the lower end surface of the upper comprehensive cover and corresponding to the circumcision knife;

and/or,

the B-type valgus circumcision stapler further comprises a push rod, the upper end of the push rod being inserted into the lower end of the connecting block;

and/or,

the B-type valgus circumcision stapler further comprises a plug arranged at the lower end of the pushing rod;

and/or,

the B-type valgus circumcision stapler further comprises a handle which is drivingly connected to the connecting block and/or push rod, and configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail device and/or the circumcision knife to move upward;

and/or,

the B-type valgus circumcision stapler further comprises an opening knob which

sleeves the connecting block, and is configured to lock or unlock the handle and/or a component driven by the handle.

181. A C-type valgus circumcision stapler, comprising: an upper comprehensive cover, a lower comprehensive cover, a prepuce fixing hoop and a U-nail device, wherein

the upper comprehensive cover and the lower comprehensive cover are releasably connected in a matching manner;

a part or all of the prepuce fixing hoop is placed in the upper comprehensive cover;

a part or all of the U-nail device is placed in the lower comprehensive cover; and

the prepuce fixing hoop is capable of being positioned in the upper comprehensive cover and cooperates with the upper comprehensive cover to clamp a prepuce, and/or the lower end of the prepuce fixing hoop is capable of cooperating with the U-nail device to clamp the prepuce.

182. The C-type valgus circumcision stapler of claim 181, wherein the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is configured to accommodate a suturing U-nail and/or to guide the movement of the suturing U-nail and/or to position and/or guide a thimble of the U-nail top ring; and the U-nail top ring is configured to cooperate with the thimble guide block to eject the U-nail in the thimble guide block.

183. The C-type valgus circumcision stapler of claim 182, further comprising a U-nail gasket which is an annular gasket arranged at the top end of the thimble guide block.

184. The C-type valgus circumcision stapler of claim 183, wherein the U-nail gasket further comprises a gasket positioning stage perpendicular to and/or at an angle to the plane of the U-nail gasket; and the gasket positioning stage is one or more protrusions and/or an integral annular protrusion arranged at the inner circumference and/or the outer circumference and/or the middle of the plane of the U-nail gasket.

185. The C-type valgus circumcision stapler of claim 183 or 184, wherein a first through hole is formed in the middle of the thimble guide block; the thimble guide block comprises an annular inner wall and/or an annular outer wall and/or a positioning stage accommodating groove; the annular inner wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the inner circumference of the plane of the U-nail gasket for positioning; and/or, the annular outer wall is configured to cooperate with the one or more protrusions and/or integral annular protrusion arranged at the outer circumference of the plane of the U-nail gasket for positioning; and/or, the positioning stage accommodating groove is formed at the top end of the thimble guide block, and is configured to accommodate the one or more protrusions and/or integral annular protrusion at the middle of the plane of the U-nail gasket.

186. The C-type valgus circumcision stapler of claims 183-185, wherein the thimble guide block is provided with a plurality of thimble guide grooves annularly formed in the annular thimble guide block; and the U-nail gasket partially or completely covers the thimble guide grooves.

187. The C-type valgus circumcision stapler of claims 181-186, wherein the lower end surface of the upper comprehensive cover is annular, a convex positioning stage and/or a concave positioning groove is formed along the annular lower end surface of the upper comprehensive cover, the upper end surface of the lower comprehensive cover is annular, a concave positioning groove and/or a convex positioning stage is arranged along the annular upper end surface of the lower comprehensive cover, and the positioning groove and the positioning stage cooperate with each other to position the upper comprehensive cover and the lower comprehensive cover;

or,

the C-type valgus circumcision stapler further comprises a connecting cover arranged between the upper comprehensive cover and the lower comprehensive cover, the upper comprehensive cover is releasably connected to the connecting cover, the connecting cover is releasably connected to the lower comprehensive

cover, and preferably, a part of the U-nail device is placed in the connecting cover;

or,

the C-type valgus circumcision stapler further comprises a connecting cover arranged between the upper comprehensive cover and the lower comprehensive cover, the lower end surface of the upper comprehensive cover is annular, a convex positioning stage and/or a concave positioning groove is formed along the annular lower end surface of the upper comprehensive cover, the upper end surface of the connecting cover is annular, a concave positioning groove and/or a convex positioning stage is arranged along the annular upper end surface of the connecting cover, and the positioning groove and the positioning stage cooperate with each other in a concave-convex manner to position the upper comprehensive cover and the connecting cover.

188. The C-type valgus circumcision stapler of claim 187, wherein the upper end surface of the connecting cover is annular, and the convex positioning stage is arranged along the annular upper end surface of the connecting cover, and cooperates with the positioning groove formed on the lower end surface of the upper comprehensive cover for positioning; one or more hooks are arranged at the lower portion of the connecting cover; one or more hooks are arranged at the upper portion of the lower comprehensive cover; and the hooks of the connecting cover and the lower comprehensive cover cooperate with each other for positioning.

189. The C-type valgus circumcision stapler of claims 181-188, further comprising a locking ring, wherein an internal thread and/or a clamping ring is arranged on the surface of an inner ring of the locking ring; an external thread is formed on the outer surface of the lower end of the upper comprehensive cover, and/or the external thread or the clamping ring is arranged on the outer surface of the upper end of the connecting cover, and/or the external thread is formed on the outer surface of the upper end of the lower comprehensive cover; and the internal thread and the external thread cooperate with each other, and/or the clamping rings cooperate with each other to position the upper comprehensive cover, the connecting cover, the lower comprehensive cover and/or the locking ring.

190. The C-type valgus circumcision stapler of claims 181-189, wherein

- a second through hole is formed in the middle of the upper comprehensive cover, the upper comprehensive cover is provided with an inner cavity for accommodating and/or positioning the prepuce fixing hoop, the prepuce fixing hoop is a ring having a third through hole in the middle, and the third through hole corresponds to the second through hole;
- and/or,
- one or more positioning grooves are formed in the inner cavity of the upper comprehensive cover, one or more positioning stages are arranged on the outer surface of the prepuce fixing hoop, and each positioning groove and the corresponding positioning stage cooperate with each other for positioning;
- and/or,
- the C-type valgus circumcision stapler further comprises a circumcision knivesleeving the thimble guide block and/or the U-nail top ring, and preferably, the circumcision knife is driven by the U-nail top ring to move;
- and/or,
- the C-type valgus circumcision stapler further comprises a blade gasket which is arranged on the lower end surface of the prepuce fixing hoop and which corresponds to the circumcision knife;
- and/or,
- a part of the U-nail device is placed in the lower comprehensive cover, and the other part of the U-nail device is placed in the connecting cover;
- and/or,
- the C-type valgus circumcision stapler further comprises a connecting block, the upper end of the connecting block being connected to the lower end of the lower comprehensive cover;
- and/or,
- the C-type valgus circumcision stapler further comprises a push rod, the upper end of the push rod being inserted into the lower end of the connecting block;
- and/or,
- the C-type valgus circumcision stapler further comprises a plug arranged at the

lower end of the pushing rod;

and/or,

the C-type valgus circumcision stapler further comprises a handle which is drivingly connected to the connecting block and/or push rod, and which is configured to drive the push rod, and/or the connecting block, and/or an internal transmission member of the push rod and/or an internal transmission member of the connecting block so as to drive the U-nail top ring and/or the circumcision knife to move upward;

and/or,

a ring of a blood vessel docking groove for being docked with blood vessels is formed on the outer surface of the lower end of the prepuce fixing hoop;

and/or,

the C-type valgus circumcision stapler further comprises an opening knob which sleeves the connecting block, and which is configured to lock or unlock the handle and/or a component driven by the handle.

191. An Circumcision apparatus comprises:

advancing and self-locking device, comprising a hook (4) and a convex plate, wherein the convex plate is arranged on the inner wall of a sheathed handle (1); the hook (4) is arranged on a sheathed core (2); the sheathed core (2) is arranged in the sheathed handle (1) in a penetrating manner; the hook (4) and the convex plate are matched with each other so as to allow the sheathed core (2) to only move in the sheathed handle (1) axially and unidirectionally;

a stage of convex plate is arranged on the inner wall of the sheathed handle (1) in a movement direction of the sheathed core (2), thereby forming a locking position;

or,

a plurality of stages of convex plates is arranged on the inner wall of the sheathed

handle (1) in a movement direction of the sheathed core (2), thereby forming a plurality of locking positions;

a first-stage convex plate (5) and a second-stage convex plate (6) are sequentially arranged on the inner wall of the sheathed handle (1) in the movement direction of the sheathed core (2); a first locking position is formed at one side of the first-stage convex plate (5), which is close to the second-stage convex plate (6); a second locking position is formed at one side of the second-stage convex plate (6), which is away from the first-stage convex plate (5);

a chamfer is arranged at one side of the first-stage convex plate (5), which is away from the second-stage convex plate (6);

a sleeve (3) is arranged in a region, which corresponds to a position where the convex plate is located, on the outer wall of the sheathed handle (1); preferably, the sleeve (3) is rotatably arranged on the outer wall of the sheathed handle (1), thereby allowing or preventing the sheathed core (2) to move or from moving in the sheathed handle (1) axially and unidirectionally;

further comprises:

a circumcision cover, a comprehensive cover and a first washer and/or a second washer, wherein

the comprehensive cover is provided with a U-nail groove, and the first washer is arranged in the U-nail groove along the longitudinal outer side of the comprehensive cover; and/or

a U-nail seat corresponding to the U-nail groove is arranged on the circumcision cover, and the second washer is arranged on the U-nail seat;

wherein a first ring-shaped groove is formed at the end of the comprehensive cover towards the circumcision cover, and is located outside the U-nail groove; and the first washer is arranged in the first ring-shaped groove;

wherein the first washer is slightly wider than the first ring-shaped groove, so that the first washer is elastically clamped in the first ring-shaped groove;

wherein the first washer has a ring and a protrusion located on the bottom surface of the ring; a second ring-shaped groove is also formed at the end of the comprehensive cover towards the circumcision cover, and is located in the periphery of the first ring-shaped groove; and the protrusion is configured to be clamped in the second ring-shaped groove;

wherein a third ring-shaped groove is formed in the U-nail seat towards the U-nail groove; and the second washer is arranged in the third ring-shaped groove;

wherein the comprehensive cover is provided with a circumcision knife; and a third washer is arranged at the end of the circumcision cover towards the comprehensive cover and corresponds to an anvil of the circumcision knife;

wherein the third washer has a first lateral portion surrounding the anvil, a longitudinal portion perpendicular to the first lateral portion, and a second lateral portion surrounding the U-nail seat;

wherein the first, second and/or third washers are rubber washer(s) and/or silicone washer(s);

wherein the circumcision device is a flat-head-type or inclined-head-type circumcision device;

wherein the first washer is a U-nail backing ring; a protruding positioning ring is arranged on one surface of the U-nail backing ring; a placing groove is formed on the comprehensive cover in the periphery of the first ring-shaped groove; and the positioning ring and the placing groove are clamped or elastically cooperate with each other to fix the U-nail backing ring;

further comprises:

a blood vessel docking apparatus for a built-in circumcision device, comprising a circumcision cover and a comprehensive cover, and further comprising blood vessel corresponding grooves and/or blood vessel docking grooves, wherein

the circumcision cover and the comprehensive cover are configured to be assembled or connected with each other;

a plurality of blood vessel corresponding grooves is disposed along a periphery of a front end of the circumcision cover; and/or

a plurality of blood vessel docking grooves is disposed along a periphery of a front end of the comprehensive cover.

wherein front ends of the blood vessel corresponding grooves are close to an annular top end of the circumcision cover, and back ends of the blood vessel corresponding grooves are away from the annular top end of the circumcision cover backwards relative to the front ends of the blood vessel corresponding grooves.

wherein the blood vessel corresponding grooves obliquely extend backwards from the front end of the circumcision cover.

wherein a top end of the comprehensive cover is provided with an annular outer wall, the blood vessel docking grooves are disposed on an outer surface of the annular outer wall, front ends of the blood vessel docking grooves are flush with a top end of the annular outer wall, or the front ends of the blood vessel docking grooves are higher than the top end of the annular outer wall, or the front ends of the blood vessel docking grooves are lower than the top end of the annular outer wall.

wherein back ends of the blood vessel docking grooves are away from the top end of the annular outer wall backwards relative to the front ends of the blood vessel docking grooves.

wherein the blood vessel docking grooves obliquely extend backwards from the top end of annular outer wall.

wherein the comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and nail outlets of the U-nail grooves are disposed on or close to the top end of the comprehensive cover.

wherein the nail outlets of the U-nail grooves are disposed in the annular outer wall.

wherein the plurality of blood vessel corresponding grooves corresponds to the blood vessel docking grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or, the plurality of blood vessel docking grooves corresponds to the blood vessel corresponding grooves, and/or the U-nail grooves, and/or the U-nails in the U-nail grooves one by one; and/or the width of the plurality of blood vessel corresponding grooves corresponds to the width of the blood vessel docking grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves; and/or, the width of

the plurality of blood vessel docking grooves corresponds to the width of the blood vessel corresponding grooves, and/or the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves.

wherein an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and the annular top end of the circumcision cover; and/or, an arc-shaped transition surface is arranged between the blood vessel corresponding grooves and convex plates formed among the blood vessel corresponding grooves; and/or the front ends of the blood vessel docking grooves are narrower than the back ends thereof; and/or the blood vessel docking apparatus further comprises a U-nail top ring and a lower comprehensive cover, the back end of the circumcision cover is provided with a positioning rod matched and connected with a positioning groove of the U-nail top ring, and a back end of the comprehensive cover is connected to the lower comprehensive cover;

further comprises:

a built-in graduated circumcision device comprising a comprehensive cover, a circumcision cover and a graduation device, wherein

the comprehensive cover and circumcision cover are assembled to and cooperate with each other; and

the graduation device is arranged on the comprehensive cover;

wherein the graduation device is arranged at the end, close to the circumcision cover, of an outer surface of the comprehensive cover;

wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the circumcision cover, of the comprehensive cover;

wherein a plurality of U-nail grooves which constitutes a ring is arranged in the comprehensive cover;

wherein graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves;

wherein the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves;

wherein the graduation device is graduations carved on the comprehensive cover in advance and/or a graduation label adhered to the comprehensive cover and/or a prefabricated graduation ring or graduation strip sleeving the comprehensive cover;

wherein the circumcision device is of a flat head or oblique head type;

wherein a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves;

wherein a ring of blood vessel corresponding grooves are annularly arranged on an outer surface of the circumcision cover, and the graduation marks on the graduation device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or the intervals among the blood vessel corresponding grooves;

further comprises:

A knob opening device, comprising an opening knob (3) and a knob fastening device, wherein the opening knob (3) rotatably sleeves a sheathed handle (1); the knob fastening device is arranged on the sheathed handle (1); the opening knob (3) cooperates with the knob fastening device to rotate and/or axially move;

wherein the knob fastening device is of a groove structure arranged on the sheathed handle (1);

and/or,

the inner surface of the opening knob (3) facing the knob fastening device is provided with a slider (3-2) which is capable of sliding in the knob fastening device, such that the opening knob (3) is driven to rotate and/or axially move;

and/or,

the opening knob (3) is an annular opening knob whose inner surface is provided with a slider (3-2) and whose outer surface is provided with stripes;

and/or,

the knob fastening device comprises a first position and a second position, and serves to block the opening knob (3) from moving towards a first direction at the first position and block the opening knob (3) from moving towards a second direction at the second position;

and/or,

the knob opening device further comprises a sheathed core (2) which is arranged in the middle of the sheathed handle (1) in a penetrating manner and which is capable of sliding upwards and downwards along the sheathed handle (1) and pushing the opening knob (3) or the slider (3-2) arranged on the inner surface of the opening knob (3) to move upwards;

wherein, the knob fastening device comprises a first convex plate (1-6) and a second convex plate (1-5); the first position is an assembly completion position and located below the first convex plate (1-6); the first direction is upward axially along the sheathed handle (1) perpendicular to the first convex plate (1-6); the second position is a use completion position and located below the second convex plate (1-5); the second direction is upward axially along the sheathed handle (1) perpendicular to the second convex plate (1-5);

and/or,

the knob fastening device comprises a third position, a fourth position, and/or a fifth position and serves to block the opening knob (3) from moving towards a third direction at the third position, block the opening knob (3) from moving towards a fourth direction at the fourth position, and block the opening knob (3) from moving towards a fifth direction at the fifth position;

and/or,

the knob fastening device comprises a third convex plate (1-8), a fourth convex plate (1-9) and an enclosed structure (1-10); the third position is located at the right side of the third convex plate (1-8); the third direction is leftward and perpendicular to the third convex plate (1-8); the fourth position is located below a left sidewall of the knob fastening device; the fourth direction is leftward and perpendicular to the left sidewall of the knob fastening device; the fifth position is located inside the enclosed structure (1-10); the fifth direction faces the outside of the enclosed structure (1-10);

wherein, the groove structure comprises a positioning groove (1-2), an advancing groove (1-4) and a mounting groove (1-7), wherein the positioning groove (1-2) is arranged longitudinally parallel to an axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the positioning groove (1-2); the advancing groove (1-4) is arranged longitudinally parallel to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the advancing groove (1-4); the mounting groove (1-7) is arranged transversely and perpendicularly to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move transversely in the mounting groove (1-7);

and/or,

the mounting groove (1-7) is arranged at one side of the positioning groove (1-2) and communicated to the lower part of the positioning groove (1-2); the advancing groove (1-4) is arranged at the other side of the positioning groove (1-2) and communicated to the upper part of the positioning groove (1-2);

and/or,

the first convex plate (1-6) is formed on the top of the positioning groove (1-2); the second convex plate (1-5) is formed on the top of the advancing groove (1-4); the third convex plate (1-8) is formed at the left end of the mounting groove (1-7); the enclosed structure (1-10) is formed at the right end of the mounting groove (1-7);

further comprising a positioning point (1-3), wherein the positioning point (1-3) is arranged between the positioning groove (1-2) and the advancing groove (1-4) and serves to position the slider (3-2) at the first position;

and/or,

the positioning point (1-3) blocks the slider (3-2) from rotating in a direction from the advancing groove (1-4) to the positioning groove (1-2); and/or, the positioning point (1-3) provides a resistance, which can be overcome, to block the slider (3-2) from rotating in a direction from the positioning groove (1-2) to the advancing groove (1-4), or can be moved across by the slider (3-2) to rotate in a direction from the positioning groove (1-2) to the advancing groove (1-4);

and/or,

the positioning point (1-3) is an arcuate protrusion, or the positioning point (1-3) has a slope in a direction from the positioning groove (1-2) to the advancing groove (1-4) and has a vertical surface at one side close to the advancing groove (1-4);

wherein the opening knob (3) is provided with a pointing arrow (3-1); the sheathed handle (1) is provided with an identification point (1-1); when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device is in an initial assembly state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an assembly completion state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an available state; or, when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in a use completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the assembly completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the available state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the use completion state;

further comprises:

A positioning device for a built-in circumcision device, comprising a connecting block, a knob, a first positioning structure and a second positioning structure, wherein the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other; the first positioning structure is arranged on the rear end surface of the connecting block; the second positioning structure is arranged on the front end surface of the knob; the first positioning structure and the second positioning structure cooperate with each other, such that the rear end surface of the connecting block and the front end surface of the knob are positioned in a manner of cooperating with each other;

wherein the first positioning structure includes one or more positioning convex points or positioning concave points; the second positioning structure includes one or more positioning concave points or positioning convex points; the positioning concave point and the positioning convex point cooperate with each other in a concave-convex manner, thereby accomplishing the positioning of the connecting block and the knob when they cooperate in place;

wherein the front end of the connecting block serves to connect a lower comprehensive cover; the rear part or the middle-rear part of the connecting block is provided with a transverse groove for allowing a sliding rod to be embedded, wherein the rear end of the sliding rod is flush with the rear end of the connecting block; the rear end of the connecting block is provided with a hole or a cylindrical groove which serves to connect the knob;

wherein the first positioning structure includes three positioning convex points which are uniformly arranged along the rear end surface of the connecting block;

wherein the knob is provided with a fixed surface which is provided with a cylindrical protrusion; the cylindrical protrusion serves to be inserted into the hole or the cylindrical groove of the connecting block;

wherein the second positioning structure includes three positioning concave points

which are uniformly arranged along the circumference of the fixed surface of the knob;

wherein the outer surface of the connecting block is provided with a first positioning mark; the outer surface of the knob is provided with a second positioning mark; the first positioning mark serves to be aligned to the second positioning mark in rotation and is capable of being in an aligned state after the first positioning structure and the second positioning structure are positioned in a cooperating manner;

wherein an internal thread is arranged in the middle of the cylindrical protrusion and serves to be connected to an external thread at the rear end of the connecting rod in a manner of cooperating with each other;

wherein the front end of the connecting rod is provided with an external thread which serves to be connected to the rear end of a circumcision cover at the front end; the rear end of the circumcision cover is provided with a positioning rod; the positioning rod is provided with an internal thread which serves to be connected with the external thread arranged at the front end of the connecting rod in a manner of cooperating with each other;

further comprising a comprehensive cover whose front end serves for connecting the circumcision cover and whose rear end is connected to a lower comprehensive cover;

further comprises:

A knob opening/closing device of a circumcision device, wherein the knob opening/closing device comprises a connection block and an opening knob, wherein the opening knob sleeves the connection block; a sliding block is arranged on an inner surface of the opening knob; a guide groove is arranged on an outer surface of the connection block; and the sliding block is embedded into the guide groove and can slide along the guide groove, so that the circumcision device is in an opening or closing state;

wherein a pointer is arranged on the opening knob, an opening mark and/or a closing mark are/is arranged on the connection block, and the pointer is used for pointing to the opening mark or the closing mark when the opening knob rotates;

wherein the opening mark and/or the closing mark comprise(s) at least one recess formed in the connection block;

wherein the opening mark and/or the closing mark comprise(s) at least one color sheet embedded into the at least one recess;

wherein the recesses are two recesses representing the opening state and the closing state respectively and the color sheets are two color sheets embedded into the two recesses respectively and are different in color;

wherein the color sheets correspond to the recesses in shape and slightly larger than the recesses, so that the color sheets can stay in the recesses using elastic buckles after being embedded into recesses;

wherein the guide groove has a transverse part and a longitudinal part; when being located at a first end or a second end of the transverse part or a first end or a second end of the longitudinal part, the sliding block buckles a handle of the circumcision device, so that the handle cannot be driven, or when being located at the first end or the second end of the transverse part or the first end or the second end of the longitudinal part, the sliding block unlocks the handle of the circumcision device, so that the handle can be driven;

wherein the pointer is arranged at a position where the pointer points to the closing mark when the sliding block buckles the handle of the circumcision device so that the handle cannot be driven, and/or the pointer is arranged at a position where the pointer points to the opening mark when the sliding block unlocks the handle of the circumcision device so that the handle can be driven;

wherein a front end of the connection block is used for connecting a lower comprehensive cover of a built-in circumcision device or a comprehensive cover of a valgus circumcision device, a transverse groove is formed in a rear part or a middle-rear part of the connection block and is used for embedding of a sliding rod, and a rear end of the connection block is used for connecting the knob of the built-in circumcision device

or a plug of the valgus circumcision device;

wherein a cross section of the opening knob takes the shape of a ring, and/or there are stripes for increasing a frictional force on an outer surface of the opening knob;

further comprises:

A U-nail thimble, comprising: a thimble body and a thimble positioning device, wherein the thimble positioning device is arranged at one end of the thimble body, and comprises a concave positioning groove or a convex positioning stage which is configured to cooperate with a U-nail to position the U-nail in a static or moving state;

wherein the U-nail comprises two sides and a bottom edge; the positioning groove is configured to cooperate with or accommodate a part or all of the bottom edge of the U-nail and to position the U-nail in a static or moving state;

wherein the positioning groove is formed at the center of the end of the thimble; and/or the positioning groove is an arc-shaped groove or a right-angled groove; and/or a rounded corner or right angle is formed between the positioning groove and the plane of the end of the thimble body;

wherein the U-nail comprises two sides and a bottom edge; there is at least one convex positioning stage; and a space defined by the positioning stage is configured to accommodate a part or all of the bottom edge of the U-nail to position the U-nail in a static or moving state;

wherein there are two convex positioning stages which are arranged at opposite corners or two ends of one side of the thimble, respectively; or

there are three convex positioning stages; or

there are four convex positioning stages arranged at four corners of the end of the thimble, respectively; or

the top surface of the convex positioning stage is flat and the side surface thereof is arc-shaped;

a U-nail thimble and a U-nail, wherein the U-nail thimble is that described above, and faces the lower end surface of the U-nail to position and move the U-nail;

wherein the width of the bottom edge of the U-nail is equal to or slightly smaller than the width between the convex positioning stages; and/or the width of the bottom edge of the U-nail is smaller than the width of the opening of the positioning groove; and/or the side of the bottom edge of the U-nail facing the U-nail thimble is arc-shaped; and/or the long edge of the top end of the U-nail thimble corresponds to the long edge of the U-nail, and the wide edge thereof corresponds to the wide edge of the U-nail;

a comprehensive cover and a circumcision cover which are assembled to and cooperate with each other, wherein a plurality of U-nail grooves formed in the comprehensive cover is configured to accommodate U-nails and forms a ring; a U-nail top ring is entirely or partially arranged in the comprehensive cover; and U-nail thimbles corresponding to the U-nail grooves one by one are arranged at the top end of the comprehensive cover;

wherein the lower end of the circumcision cover is inserted into the comprehensive cover, and the upper end thereof is supported at the top end of the comprehensive cover to cooperate with the comprehensive cover to clamp prepuce; and/or the circumcision stapler further comprises a circumcision knife partially or entirely arranged in the U-nail top ring; and/or a plurality of blood vessel corresponding grooves arranged in a ring is formed at the upper end of the circumcision cover, and corresponds to the U-nail grooves one by one; and/or a ring of blood vessel docking grooves or graduations is further formed on the outer surface of the comprehensive cover, and corresponds to the U-nail grooves or the blood vessel corresponding grooves one by one;

wherein a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to insert in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover correspond to the U-nail grooves one by one;

further comprises:

A built-in prepuce circumcision stapler with an indication device, comprising a comprehensive cover, a prepuce circumcision cover and the indication device, wherein,

the comprehensive cover and the prepuce circumcision cover are assembled to and cooperate with each other;

the indication device is arranged on the comprehensive cover;

wherein the indication device is arranged at one end, close to the prepuce circumcision cover, of the outer surface of the comprehensive cover;

wherein the indication device is a ring of protrusions or recesses which are annularly arranged on the periphery of one end, close to the prepuce circumcision cover, of the comprehensive cover; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses;

wherein a plurality of U-nail grooves which serves to accommodate U-nails and constitutes a ring is arranged in the comprehensive cover;

wherein the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or the U-nails in the U-nail grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the U-nail grooves and/or the intervals among the U-nail grooves and/or the U-nails in the U-nail grooves;

wherein the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the U-nail groove, and/or the width of the U-nail in the U-nail groove, and/or the width of the interval between the U-nail grooves;

wherein the indication device is protrusions or recesses prefabricated on the comprehensive cover, and/or an indication label which is adhered to the comprehensive cover and has protrusions or recesses, and/or a prefabricated indication ring or indication

strip which sleeves the comprehensive cover and has protrusions or recesses;

wherein the protrusions are convex blocks and/or convex points and/or convex strips, and the recesses are grooves and/or concave points and/or concave strips; preferably, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved;

wherein the prepuce circumcision stapler is of a flat head or oblique head type;

wherein a ring of blood vessel docking grooves are annularly arranged on the outer surface of the comprehensive cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel docking grooves and/or intervals among the blood vessel docking grooves; and/or a ring of blood vessel corresponding grooves are annularly arranged on the outer surface of the prepuce circumcision cover, and the protrusions or recesses on the indication device are arranged to be in one-to-one correspondence with the blood vessel corresponding grooves and/or intervals among the blood vessel corresponding grooves;

192. The Circumcision apparatus of claims 191, comprising: a motor, a thrust tube, a U-nail top ring and a circumcision cover, wherein

the motor is connected to or in contact with the thrust tube, and is configured to drive

the thrust tube forward; and

the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward;

wherein the thrust tube is a hollow cylinder with a first ring-shaped cross section; the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device;

wherein the motor is connected to or in contact with the circumcision cover; or the motor has an end thread, and is connected to or in contact with the circumcision cover via the end thread;

wherein the motor has a connecting rod on which the thread is arranged;

wherein the circumcision cover comprises a positioning rod connected to or in contact with the connecting rod or the thread; and/or a positioning groove is formed in the positioning rod, and is provided with an inner thread threadedly matched with the thread;

further comprising a motor front shell and a comprehensive shell, wherein the front end of the motor front shell is connected to the rear end of the comprehensive shell; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring;

further comprising a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor;

further comprising a cable which is connected to and supplies power to the motor;

further comprising a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off, and/or a driving distance, and/or a driving speed of the motor;

wherein a cable hole is formed in the motor rear shell; and a cable passes through the cable hole and is connected to the motor.

193. An Circumcision apparatus comprises:

an advancing and self-locking device, comprising a hook (4) and a convex plate, wherein the convex plate is arranged on the inner wall of a sheathed handle (1); the hook (4)

is arranged on a sheathed core (2); the sheathed core (2) is arranged in the sheathed handle (1) in a penetrating manner; the hook (4) and the convex plate are matched with each other so as to allow the sheathed core (2) to only move in the sheathed handle (1) axially and unidirectionally;

Wherein

a stage of convex plate is arranged on the inner wall of the sheathed handle (1) in a movement direction of the sheathed core (2), thereby forming a locking position;

or,

a plurality of stages of convex plates is arranged on the inner wall of the sheathed handle (1) in a movement direction of the sheathed core (2), thereby forming a plurality of locking positions;

wherein a first-stage convex plate (5) and a second-stage convex plate (6) are sequentially arranged on the inner wall of the sheathed handle (1) in the movement direction of the sheathed core (2); a first locking position is formed at one side of the first-stage convex plate (5), which is close to the second-stage convex plate (6); a second locking position is formed at one side of the second-stage convex plate (6), which is away from the first-stage convex plate (5);

a chamfer is arranged at one side of the first-stage convex plate (5), which is away from the second-stage convex plate (6);

wherein a sleeve (3) is arranged in a region, which corresponds to a position where the convex plate is located, on the outer wall of the sheathed handle (1); preferably, the sleeve (3) is rotatably arranged on the outer wall of the sheathed handle (1), thereby allowing or preventing the sheathed core (2) to move or from moving in the sheathed handle (1) axially and unidirectionally;

further comprises:

A valgus washer circumcision device, comprising: an inner comprehensive cover, an inner ring and a first washer and/or a second washer, wherein the inner comprehensive

cover and the inner ring correspond to each other vertically;

the first washer is arranged at the end of the inner ring towards the inner comprehensive cover; and/or

a U-nail groove is formed at the outer edge of the inner comprehensive cover, and the second washer is arranged at the top of the U-nail groove;

wherein both the first and second washers are located on the same axis as a U-nail in the U-nail groove;

wherein a first ring-shaped groove is formed on the lower end surface of the inner ring towards the inner comprehensive cover; and the first washer is arranged in the first ring-shaped groove;

wherein the first washer is slightly wider than the first ring-shaped groove, so that the first washer is elastically clamped in the first ring-shaped groove;

wherein the second washer is arranged outside the U-nail groove, and is located above the opening of the groove;

wherein the second washer has a ring and a protrusion located on the bottom surface of the ring; and the protrusion is configured to be clamped in the U-nail groove;

wherein the second washer is arranged at the top inside the U-nail groove;

wherein the second washer is slightly wider than the U-nail groove, so that the second washer is elastically clamped in the U-nail groove;

wherein a second ring-shaped groove whose top is flush with that of the inner comprehensive cover is formed between the inner edge of the inner comprehensive cover and the U-nail groove; and the second washer is arranged in the second ring-shaped groove;

further comprising an upper cover and a lower cover which correspond to each other vertically, wherein the inner comprehensive cover is arranged in the lower cover; the inner ring is arranged in the upper cover; and the inner comprehensive cover and the inner ring correspond to each other vertically;

further comprises:

A blood vessel docking apparatus for a valgus circumcision device, comprising an inner ring, an inner comprehensive cover and blood vessel docking grooves, wherein

the inner ring and the inner comprehensive cover are configured to be assembled or connected with each other; and

a plurality of blood vessel docking grooves is disposed along a periphery of a back end of the inner ring;

wherein the inner comprehensive cover is provided with a plurality of U-nail grooves for receiving U-nails and the U-nail grooves are disposed along a periphery of a front end of the inner comprehensive cover;

wherein the nail outlets of the U-nail grooves are disposed on or close to the top end of the inner comprehensive cover;

wherein positions of the plurality of blood vessel docking grooves correspond to the positions of the U-nail grooves one by one, and/or the positions of the U-nails in the U-nail grooves; and/or the width of the plurality of blood vessel docking grooves corresponds to the width of the U-nail grooves, and/or the width of the U-nails in the U-nail grooves;

wherein the blood vessel docking grooves are preset on the inner ring, or the blood vessel docking grooves are prefabricated rings and capable of sleeving the inner ring;

wherein back ends of the blood vessel docking grooves are close to an annular back end of the inner ring or flush with the back end of the inner ring, and front ends of the blood vessel docking grooves are away from the annular back end of the inner ring forwards relative to the back ends of the blood vessel docking grooves;

further comprising a U-nail top ring, configured to be assembled and matched with the inner comprehensive cover to push the U-nail out of the U-nail groove;

further comprising an upper cover and a lower cover, wherein the upper cover and the lower are assembled and connected with each other, the inner ring is arranged in the upper cover, and all or part of the inner comprehensive cover is disposed in the lower cover;

further comprising a comprehensive cover, wherein a front end of the comprehensive cover is connected to a back end of the lower cover, and all or part of the U-nail top ring is disposed in the comprehensive cover;

further comprises:

A valgus graduated circumcision device comprising an upper cover and/or a lower cover, and/or a locking ring, and further comprising a graduation device, wherein:

the upper cover and the lower cover are assembled to and cooperate with each other;  
the locking ring is used for locking the upper cover and the lower cover; and  
the graduation device is arranged on the upper cover, and/or the lower cover, and/or the locking ring;

wherein the graduation device is arranged at the end, close to the lower cover, of an outer surface of the upper cover;

wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the lower cover, of the upper cover;

wherein the graduation device is arranged at the end, close to the upper cover, of an outer surface of the lower cover;

wherein the graduation device comprises a ring of graduations annularly arranged on a periphery of the end, close to the upper cover, of the lower cover;

wherein the graduation device is arranged on a periphery of the locking ring;

further comprising an inner comprehensive cover arranged in the lower cover, wherein a plurality of U-nail grooves are annularly arranged on a periphery of the inner comprehensive cover and constitute a ring;

wherein graduation marks on the graduation device are arranged to be in one-to-one correspondence with the U-nail grooves and/or intervals among the U-nail grooves and/or U-nails in the U-nail grooves;

wherein the graduation marks on the graduation device are arranged such that the width between the two graduation marks is equal to the width of the U-nail groove and/or the width of the U-nail in the U-nail groove and/or the width of the interval between the U-nail grooves;

wherein the graduation device is graduations carved on the upper cover, and/or the lower cover, and/or the locking ring in advance; and/or a graduation label adhered to the upper cover, and/or the lower cover, and/or the locking ring; and/or a prefabricated graduation ring or graduation strip sleeving the upper cover, and/or the lower cover, and/or the locking ring;

further comprises:

A knob opening device, comprising an opening knob (3) and a knob fastening device,

wherein the opening knob (3) rotatably sleeves a sheathed handle (1); the knob fastening device is arranged on the sheathed handle (1); the opening knob (3) cooperates with the knob fastening device to rotate and/or axially move;

wherein the knob fastening device is of a groove structure arranged on the sheathed handle (1);

and/or,

the inner surface of the opening knob (3) facing the knob fastening device is provided with a slider (3-2) which is capable of sliding in the knob fastening device, such that the opening knob (3) is driven to rotate and/or axially move;

and/or,

the opening knob (3) is an annular opening knob whose inner surface is provided with a slider (3-2) and whose outer surface is provided with stripes;

and/or,

the knob fastening device comprises a first position and a second position, and serves to block the opening knob (3) from moving towards a first direction at the first position and block the opening knob (3) from moving towards a second direction at the second position;

and/or,

the knob opening device further comprises a sheathed core (2) which is arranged in the middle of the sheathed handle (1) in a penetrating manner and which is capable of sliding upwards and downwards along the sheathed handle (1) and pushing the opening knob (3) or the slider (3-2) arranged on the inner surface of the opening knob (3) to move upwards;

wherein, the knob fastening device comprises a first convex plate (1-6) and a second convex plate (1-5); the first position is an assembly completion position and located below the first convex plate (1-6); the first direction is upward axially along the sheathed handle (1) perpendicular to the first convex plate (1-6); the second position is a use completion position and located below the second convex plate (1-5); the second direction is upward axially along the sheathed handle (1) perpendicular to the second convex plate (1-5);

and/or,

the knob fastening device comprises a third position, a fourth position, and/or a fifth position and serves to block the opening knob (3) from moving towards a third direction at

the third position, block the opening knob (3) from moving towards a fourth direction at the fourth position, and block the opening knob (3) from moving towards a fifth direction at the fifth position;

and/or,

the knob fastening device comprises a third convex plate (1-8), a fourth convex plate (1-9) and an enclosed structure (1-10); the third position is located at the right side of the third convex plate (1-8); the third direction is leftward and perpendicular to the third convex plate (1-8); the fourth position is located below a left sidewall of the knob fastening device; the fourth direction is leftward and perpendicular to the left sidewall of the knob fastening device; the fifth position is located inside the enclosed structure (1-10); the fifth direction faces the outside of the enclosed structure (1-10);

wherein, the groove structure comprises a positioning groove (1-2), an advancing groove (1-4) and a mounting groove (1-7), wherein the positioning groove (1-2) is arranged longitudinally parallel to an axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the positioning groove (1-2); the advancing groove (1-4) is arranged longitudinally parallel to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move longitudinally in the advancing groove (1-4); the mounting groove (1-7) is arranged transversely and perpendicularly to the axial direction of the sheathed handle (1) and serves to allow the slider (3-2) to move transversely in the mounting groove (1-7);

and/or,

the mounting groove (1-7) is arranged at one side of the positioning groove (1-2) and communicated to the lower part of the positioning groove (1-2); the advancing groove (1-4) is arranged at the other side of the positioning groove (1-2) and communicated to the upper part of the positioning groove (1-2);

and/or,

the first convex plate (1-6) is formed on the top of the positioning groove (1-2); the second convex plate (1-5) is formed on the top of the advancing groove (1-4); the third convex plate (1-8) is formed at the left end of the mounting groove (1-7); the enclosed

structure (1-10) is formed at the right end of the mounting groove (1-7);

wherein the positioning point (1-3) is arranged between the positioning groove (1-2) and the advancing groove (1-4) and serves to position the slider (3-2) at the first position;

and/or,

the positioning point (1-3) blocks the slider (3-2) from rotating in a direction from the advancing groove (1-4) to the positioning groove (1-2); and/or, the positioning point (1-3) provides a resistance, which can be overcome, to block the slider (3-2) from rotating in a direction from the positioning groove (1-2) to the advancing groove (1-4), or can be moved across by the slider (3-2) to rotate in a direction from the positioning groove (1-2) to the advancing groove (1-4);

and/or,

the positioning point (1-3) is an arcuate protrusion, or the positioning point (1-3) has a slope in a direction from the positioning groove (1-2) to the advancing groove (1-4) and has a vertical surface at one side close to the advancing groove (1-4);

wherein the opening knob (3) is provided with a pointing arrow (3-1); the sheathed handle (1) is provided with an identification point (1-1); when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device is in an initial assembly state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an assembly completion state; or when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in an available state; or, when the pointing arrow (3-1) is arranged to point to the identification point (1-1), the knob opening device has been in a use completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the assembly completion state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the available state; or, when the knob is arranged to partially or completely cover the identification point (1-1), the knob opening device has been in the use completion state;

further comprise:

A knob opening/closing device of a circumcision device, wherein the knob

opening/closing device comprises a connection block and an opening knob, wherein the opening knob sleeves the connection block; a sliding block is arranged on an inner surface of the opening knob; a guide groove is arranged on an outer surface of the connection block; and the sliding block is embedded into the guide groove and can slide along the guide groove, so that the circumcision device is in an opening or closing state;

wherein a pointer is arranged on the opening knob, an opening mark and/or a closing mark are/is arranged on the connection block, and the pointer is used for pointing to the opening mark or the closing mark when the opening knob rotates;

wherein the opening mark and/or the closing mark comprise(s) at least one recess formed in the connection block;

wherein the opening mark and/or the closing mark comprise(s) at least one color sheet embedded into the at least one recess;

wherein the recesses are two recesses representing the opening state and the closing state respectively and the color sheets are two color sheets embedded into the two recesses respectively and are different in color;

wherein the color sheets correspond to the recesses in shape and slightly larger than the recesses, so that the color sheets can stay in the recesses using elastic buckles after being embedded into recesses;

wherein the guide groove has a transverse part and a longitudinal part; when being located at a first end or a second end of the transverse part or a first end or a second end of the longitudinal part, the sliding block buckles a handle of the circumcision device, so that the handle cannot be driven, or when being located at the first end or the second end of the transverse part or the first end or the second end of the longitudinal part, the sliding block unlocks the handle of the circumcision device, so that the handle can be driven;

wherein the pointer is arranged at a position where the pointer points to the closing mark when the sliding block buckles the handle of the circumcision device so that the handle cannot be driven, and/or the pointer is arranged at a position where the pointer points to the opening mark when the sliding block unlocks the handle of the circumcision device so that the handle can be driven;

wherein a front end of the connection block is used for connecting a lower

comprehensive cover of a built-in circumcision device or a comprehensive cover of a valgus circumcision device, a transverse groove is formed in a rear part or a middle-rear part of the connection block and is used for embedding of a sliding rod, and a rear end of the connection block is used for connecting the knob of the built-in circumcision device or a plug of the valgus circumcision device;

wherein a cross section of the opening knob takes the shape of a ring, and/or there are stripes for increasing a frictional force on an outer surface of the opening knob;

further comprises:

A U-nail thimble, comprising: a thimble body and a thimble positioning device, wherein the thimble positioning device is arranged at one end of the thimble body, and comprises a concave positioning groove or a convex positioning stage which is configured to cooperate with a U-nail to position the U-nail in a static or moving state;

wherein the U-nail comprises two sides and a bottom edge; the positioning groove is configured to cooperate with or accommodate a part or all of the bottom edge of the U-nail and to position the U-nail in a static or moving state;

wherein the positioning groove is formed at the center of the end of the thimble; and/or the positioning groove is an arc-shaped groove or a right-angled groove; and/or a rounded corner or right angle is formed between the positioning groove and the plane of the end of the thimble body;

wherein the U-nail comprises two sides and a bottom edge; there is at least one convex positioning stage; and a space defined by the positioning stage is configured to accommodate a part or all of the bottom edge of the U-nail to position the U-nail in a static or moving state;

wherein there are two convex positioning stages which are arranged at opposite corners or two ends of one side of the thimble, respectively; or

there are three convex positioning stages; or

there are four convex positioning stages arranged at four corners of the end of the

thimble, respectively; or

the top surface of the convex positioning stage is flat and the side surface thereof is arc-shaped;

a U-nail thimble and a U-nail, wherein the U-nail thimble is that described above, and faces the lower end surface of the U-nail to position and move the U-nail;

wherein the width of the bottom edge of the U-nail is equal to or slightly smaller than the width between the convex positioning stages; and/or the width of the bottom edge of the U-nail is smaller than the width of the opening of the positioning groove; and/or the side of the bottom edge of the U-nail facing the U-nail thimble is arc-shaped; and/or the long edge of the top end of the U-nail thimble corresponds to the long edge of the U-nail, and the wide edge thereof corresponds to the wide edge of the U-nail;

a comprehensive cover and a circumcision cover which are assembled to and cooperate with each other, wherein a plurality of U-nail grooves formed in the comprehensive cover is configured to accommodate U-nails and forms a ring; a U-nail top ring is entirely or partially arranged in the comprehensive cover; and U-nail thimbles corresponding to the U-nail grooves one by one are arranged at the top end of the comprehensive cover;

wherein the lower end of the circumcision cover is inserted into the comprehensive cover, and the upper end thereof is supported at the top end of the comprehensive cover to cooperate with the comprehensive cover to clamp prepuce; and/or the circumcision stapler further comprises a circumcision knife partially or entirely arranged in the U-nail top ring; and/or a plurality of blood vessel corresponding grooves arranged in a ring is formed at the upper end of the circumcision cover, and corresponds to the U-nail grooves one by one; and/or a ring of blood vessel docking grooves or graduations is further formed on the outer surface of the comprehensive cover, and corresponds to the U-nail grooves or the blood vessel corresponding grooves one by one;

wherein a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to

insert in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover correspond to the U-nail grooves one by one;

further comprise:

A valgus prepuce circumcision stapler with an indication device, comprising an upper comprehensive cover, a lower comprehensive cover and/or a connecting cover, a prepuce fixing hoop, a U-nail device and the indication device, wherein,

the upper comprehensive cover and the lower comprehensive cover are assembled to and cooperate with each other; or, the lower part of the upper comprehensive cover is connected to the connecting cover, and the lower part of the connecting cover is connected to the lower comprehensive cover;

the prepuce fixing hoop is arranged in the upper comprehensive cover, or the prepuce fixing hoop and the upper comprehensive cover are of an integral structure;

the U-nail device is fully or partially arranged in the lower comprehensive cover; or the U-nail device is fully or partially arranged in the connecting cover; or, a part of the U-nail device is arranged in the lower comprehensive cover, and the other part of the U-nail device is arranged in the connecting cover;

the indication device is arranged on the upper comprehensive, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepuce fixing hoop, and/or the U-nail device;

further comprising a locking ring which is used for locking the upper comprehensive cover, and/or the connecting cover, and/or the lower comprehensive cover and is provided with the indication device;

wherein the indication device is a ring of protrusions or recesses which are annularly arranged; preferably, the concave or convex degree of the protrusions or recesses allows that the protrusions or recesses can be contacted and perceived by an operator when the prepuce covers or does not cover the protrusions or recesses;

wherein the U-nail device comprises a U-nail top ring and a thimble guide block; the thimble guide block is used for accommodating suturing U-nails, and/or guiding the movement of the suturing U-nails, and/or positioning and/or guiding a thimble of the U-nail

top ring; the U-nail top ring is used for pushing the U-nails in the thimble top block out in cooperation with the thimble top block; the indication device is arranged on the thimble guide block;

wherein the thimble guide block is provided with a plurality of thimble guide grooves which are annularly arranged on the annular thimble guide block and are capable of accommodating the suturing U-nails;

wherein the protrusions or recesses of the indication device are arranged to be in one-to-one correspondence with the thimble guide grooves and/or intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves; or, intervals among the protrusions or recesses of the indication device are in one-to-one correspondence with the thimble guide grooves and/or the intervals among the thimble guide grooves and/or U-nails in the thimble guide grooves;

the protrusions or recesses of the indication device are arranged such that the width between the two protrusions or recesses is equal to or slightly smaller than the width of the thimble guide groove, and/or the width of the U-nail in the thimble guide groove, and/or the width of the interval between the thimble guide grooves;

the indication device is protrusions or recesses which are prefabricated on the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepulse fixing hoop, and/or the U-nail device, and/or the locking ring;

and/or,

the indication device is an indication label which is adhered to the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepulse fixing hoop, and/or the U-nail device, and/or the locking ring and has protrusions or recesses;

and/or,

the indication device is a prefabricated indication ring or indication strip which sleeves the upper comprehensive cover, and/or the lower comprehensive cover, and/or the connecting cover, and/or the prepulse fixing hoop, and/or the U-nail device, and/or the

locking ring and has protrusions or recesses;

and/or,

the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop and has protrusions or recesses;

and/or,

the indication device is protrusions or recesses which are prefabricated on the periphery of the upper end and/or the periphery of the lower end of the thimble guide block, and/or an indication label which is adhered to the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses, and/or a prefabricated indication ring or strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the thimble guide block and has protrusions or recesses;

and/or,

the indication device is graduations prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the prepuce fixing hoop;

and/or,

the indication device is graduations prefabricated on the periphery of the upper end

and/or the periphery of the lower end of the U-nail device, and/or a graduation label adhered to the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a prefabricated graduation ring or graduation strip which sleeves the periphery of the upper end and/or the periphery of the lower end of the U-nail device, and/or a blood vessel docking groove which is prefabricated on the periphery of the upper end and/or the periphery of the lower end of the U-nail device;

wherein the protrusions are convex blocks and/or convex points and/or convex strips; the recesses are grooves and/or concave points and/or concave strips;

wherein both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the convex block have one or a plurality of oblique surfaces; and/or, one or two of the convex points constitute a group and are circular convex points; and/or one or two of the convex strips constitute a group, and both the left side surface and the right side surface of each convex strip have one or a plurality of oblique surfaces; and/or, both the left side surface and the right side surface and/or both the upper end surface and the lower end surface of the groove have one or a plurality of oblique surfaces; and/or, one or two of the concave points constitute a group and are circular concave points; and/or, one or two of the concave strips constitute a group, and both the left side surface and the right side surface of each concave strip have one or a plurality of oblique surfaces; and/or, the convex strip is a vertical convex strip, and the upper end and the lower end of the convex strip are curved; and/or, the concave strip is a vertical concave strip, and the upper end and the lower end of the concave strip are curved;

wherein the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end, close to the connecting cover, of the outer surface of the lower comprehensive cover; and/or, the indication device is arranged at one end, close to the lower comprehensive cover or the connecting cover, of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at the upper end of the outer surface of the upper comprehensive cover; and/or, the indication device is arranged at one end, close to the upper comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at one end, close to the lower comprehensive cover, of the outer surface of the connecting cover; and/or, the indication device is arranged at the upper end of the outer surface of the prepuce fixing hoop; and/or,

the indication device is arranged at the lower end of the outer surface of the prepuce fixing hoop; and/or, the indication device is arranged at the upper end of the outer surface of the U-nail device; and/or, the indication device is arranged at the lower end of the outer surface of the U-nail device; and/or, the indication device is annularly arranged on the periphery of the upper part/the lower part of the thimble guide block.

194. The Circumcision apparatus of claims 193, comprising: a motor, a thrust tube and a U-nail top ring, wherein

the motor is connected to or in contact with the thrust tube, and is configured to drive the thrust tube forward; and

the thrust tube is connected to or in contact with the U-nail top ring, and is configured to thrust the U-nail top ring forward;

wherein the motor is connected to or in contact with the inner comprehensive cover;

wherein the thrust tube is a hollow cylinder with a first ring-shaped cross section; the ring-shaped end of the front end of the hollow cylinder is connected to or in contact with the rear end of the U-nail top ring; and/or the U-nail top ring is configured to push out a U-nail from a U-nail groove of the circumcision device;

wherein the motor has a connecting rod and an end thread on the connecting rod, and is connected to or in contact with the inner comprehensive cover via the end thread;

wherein the inner comprehensive cover comprises a positioning rod; and a positioning groove is formed in the positioning rod, and is provided with an inner thread threadedly matched with the end thread;

further comprising a motor front shell and a comprehensive cover, wherein the inner comprehensive cover is located in the comprehensive cover; the front end of the motor front shell is connected to the rear end of the comprehensive cover; and/or the cross section of the front end of the motor front shell is in the shape of a second ring capable of accommodating the first ring;

further comprising a motor rear shell cooperating with the motor front shell to form a space for accommodating the motor;

further comprising a cable which is connected to and supplies power to the motor;

further comprising a switch which is arranged on the motor rear shell or the motor front shell or the comprehensive cover, and is configured to control the powering on or off, and/or a driving distance, and/or a driving speed of the motor;

wherein a cable hole is formed in the motor rear shell; and the cable passes through the cable hole and is connected to the motor.

195. The Circumcision apparatus of claims 191, 192, 193 or 194, which comprises a comprehensive cover and a circumcision cover,

wherein the comprehensive cover and the circumcision cover are assembled to and cooperate with each other;

and an upper portion, close to the circumcision cover, of the comprehensive cover or the entire comprehensive cover is transparent or semi-transparent;

a plurality of U-nail grooves which is used for accommodating U-nails and constitutes a ring is arranged in the comprehensive cover;

there are intervals among the U-nail grooves; the inner surfaces and/or outer surfaces of the U-nail grooves are made of a transparent or semi-transparent material; and the intervals are made of a transparent or semi-transparent material;

the operation-visible circumcision stapler further comprises a U-nail top ring which is fully or partially embedded into the comprehensive cover, and thimbles in one-to-one correspondence with the U-nail grooves are arranged at the top end of the U-nail top ring;

the thimble of the U-nail top ring or the entire U-nail top ring is transparent or semi-transparent;

the operation-visible circumcision stapler further comprises a circumcision knife which is partially or fully embedded into the U-nail top ring;

the circumcision cover has a lower end inserted into the comprehensive cover and an upper end supported at the top end of the comprehensive cover for cooperating with the comprehensive cover to clamp prepuce;

blood vessel corresponding grooves are annularly arranged at the upper end of the circumcision cover and are in one-to-one correspondence with the U-nail grooves;

a positioning rod is arranged at the lower end of the circumcision cover; a positioning hole is formed in the U-nail top ring; and the positioning rod is configured to be inserted in and be positioned in the positioning hole, so that after the circumcision cover is positioned, the blood vessel corresponding grooves on the circumcision cover are in one-to-one correspondence with the U-nail grooves;

a ring of blood vessel docking grooves/graduations is annularly arranged on the outer surface of the comprehensive cover, and the blood vessel docking grooves/graduations are in one-to-one correspondence with the U-nail grooves and/or the blood vessel corresponding grooves.