

Description

This invention relates to the dispensing of fasteners, particularly fasteners which are included in an assemblage from which individual fasteners are dispensed as desired.

One common form of fastener is of the type disclosed in U.S. Patents 3,103,666; 3,444,597; 3,733,657; and 4,039,078. The individual fasteners in assemblages of the kind disclosed in the foregoing patents include opposite end members that are interconnected by a transverse segment commonly designated a "filament". Generally one of the end members is a "cross bar" in the form of a short cylindrical element disposed at a right angle to the filament and proportioned to be dispensed through the bore of a slotted hollow needle. In the course of dispensing a fastener, its cross bar is moved through the bore with the filament extending through the slot of the needle. The member opposite the cross bar is in accordance with the intended function of the fastener. One common form of opposite end member is a transverse enlargement commonly known as a "head" or "paddle". It is used, for example in supporting an information bearing tag which is attached to an item of merchandise such as a garment by the dispensing device.

The dispensers for such fasteners are generally of the kind disclosed in U.S. patents 3,103,666; 3,470,834; Re 29,310; 3,893,612; 3,875,648; and 4,111,347.

The expulsion mechanism of the foregoing dispensing devices generally includes an elongated slide as shown in U.S. patents 3,103,666 and Re. 29,310 in order to achieve simultaneous operation of the feed mechanism and the plunger by which individual fasteners are expelled from the device.

An alternative construction is of the type shown in U.S. patents, 3,650,451; 3,650,452; and 3,924,788. This construction requires that the housing for the dispensing apparatus allow for the pivoting of a lever which acts upon the feed and dispensing mechanisms. The result is an increase in bulk over and above what would otherwise be required.

A further arrangement is shown in US-A-4288017. This displays the features of the pre-characterising clause of Claim 1. In this device, the actuating lever is arranged so that its tip moves in a substantially linear path, thus not requiring the additional space needed in the device as mentioned above (although additional space is in fact required for a bulky feeding mechanism). A linearly moving plunger support includes a detent which catches behind a corresponding detent on a flexible finger of a slide actuating the feeding mechanism. When the trigger is released the flexible finger is brought into contact with a fixed cam surface, which forces it to unlatch from the detent on the plunger support. The slide then moves back to its forward position, and operates the feeding mechanism. One disadvantage with such an arrangement is that it

requires a relatively complicated feeding mechanism. Furthermore, the repeated latching and unlatching of the plunger support and the finger means that the device is likely to be susceptible to substantial wear.

In addition it is desirable to provide a release mechanism to permit clearing of the device or release of any occasional jams that may occur. One type of release mechanism operates only when the trigger is depressed. This is cumbersome and inoperable in many situations. Another type of release mechanism disables both the drive and feed mechanisms of the gun. This adds complexity to the mechanism. It is additionally undesirable since operation of the drive mechanism is often useful in clearing a jam. Thus if the drive is interrupted during clearance, the clearance procedure becomes more difficult to accomplish. Still another type of release mechanism disables the feed mechanism at a portion remote from the pawl. As a result the clearance procedure must be undertaken with care.

Another characteristic of the ordinary dispensing device is that the feed takes place using a pawl which engages, for example, sprocket teeth of a feed wheel. In the ordinary construction there is a significant amount of wear that takes place in the pawl over the course of time. The result is that the ordinary attachment gun has a limited life. It is not possible for the customer to repair the worn pawl and the dispensing device must therefore be returned to a service center for repair.

Accordingly, it is an object of the invention to facilitate the dispensing of fasteners. A related object is to facilitate the dispensing of individual fasteners from an assemblage in which each individual fastener includes end members that are joined by a cross member commonly referred to as a filament.

A further object of the invention is to simplify the control level that is used in actuating both the feed and expulsion mechanisms simultaneously. A related object is to achieve compactness in the design of devices for dispensing fasteners by reducing slide length and eliminating the customary pivoted lever of the prior art.

Still another object of the invention is to facilitate the release of assemblages that have been inserted into dispensing devices, as well as the clearance of jams. A related object is to achieve release and clearance without disabling the drive function of the device.

Another object of the invention is to prolong the life of the device by reducing the incidence of wear that commonly takes place between a feed pawl and a drive sprocket. A related object is to achieve increased wear with a simplified pawl.

According to the present invention, there is provided apparatus for dispensing fasteners comprising a device for receiving and feeding an assemblage of fasteners; means for expelling individual fasteners from the device; means for feeding the fasteners; and means for simultaneously controlling the expelling and feeding

means comprising a lever which engages the expelling means at a fixed point at or near the end of the lever, the said point being arranged for motion along a linear path; characterised in that the feeding means engages the lever, the said engagement being at a location which is spaced along the level from the said point.

In accomplishing the foregoing and related objects the invention provides a dispenser which receives and feeds an assemblage of fasteners and expels individual fasteners. The expulsion and feed of the fasteners may be controlled by a lever which has a top that moves along a linear path.

The control lever may be operated by a trigger that is pivotally connected to the device and includes a fixed projection which moves along a slot of the lever.

A link may be pivotally connected to the control lever between its end positions and pivotally attached to the device. The link is desirably spring biased at its pivot position by a support rod that extends from the pivot position to a trigger and enters an apertured portion of the trigger, with the support rod surrounded by a coil spring.

Expulsion of the fasteners may be achieved by a plunger pivotally secured to the lever, while feeding takes place using a slide containing spaced-apart projections on opposite sides of the lever, which engages the projections during the feeding operation.

The dispenser may include a linkage with two separate pivot positions for controlling the feed of fasteners. Feeding takes place with a feed wheel having peripheral indentation for engaging the fasteners and a pawl that is pivotally connected to the double pivot linkage. This construction reduces the incident wear in the feed mechanism which advantageously includes a slide pivotally connected to the linkage.

Feeding may take place by a pawl in the form of a planar member with a transverse tooth that engages a feed wheel. In the arrangement, the pawl is pivotally connected to a slide. The latter includes spaced-apart projections that are successively engaged during the feeding of fasteners by engagement of a trigger operated lever. The projections are desirably in the form of cylindrical posts of unequal size to permit final adjustment of the stroke in the manufacture of the device.

The dispenser for fasteners may include a feed pawl with an antibackup member and a further member for simultaneously disengaging the feed pawl and the antibackup. The disengagement member desirably engages a planar portion of the feed pawl. The disengagement desirably moves transversely with respect to the direction of feed fasteners and includes a shoulder that disengages the antibackup member.

Desirably, the disengagement member releases the feed pawl from the feeding mechanism without affecting the drive portion of the device.

The dispenser may further be provided with a frontal configuration that facilitates the use of the device in the labelling of merchandise. This is

accomplished in part by the provision of a flattened nose with a lower concavely curved lip that accommodates the index finger of the operator and by the position of the operating trigger closer to the nose than in other devices. In addition a curved exit chute may be provided for the runners that are associated with the fasteners to direct the exiting runners away from the fingers of the operator and limit the inconvenience and interference associated with runner expulsion in other dispensers.

Description of the Drawings

Other aspects of the invention will become apparent after considering several illustrative embodiments taken in conjunction with the drawings in which:

FIGURE 1 is a perspective view of a device for dispensing fasteners in accordance with the invention;

FIGURE 2A is a cross-sectional view of the interior of the dispenser of FIGURE 1;

FIGURE 2B is a sectional view of a disengagement mechanism in accordance with the invention;

FIGURE 2C is a sectional view of a disengagement mechanism in accordance with the invention;

FIGURE 2D is a top sectional view of the dispenser of FIGURE 1 showing a fastener in position for being dispensed;

FIGURE 2E is a sectional view of the rear portion of the dispenser of FIGURE 1 including its handle;

FIGURE 3A is a sectional view showing a pivoted feed linkage mechanism in accordance with the invention;

FIGURE 3B is a sectional view showing the dispenser of FIGURE 1 in the course of being operated to expel a fastener;

FIGURE 3C is a phantom view illustrating the operation of the feed mechanism for the dispenser of FIGURES 1, 2A and 3A; and

FIGURE 3D is a sectional view of the handle portion of the dispenser of FIGURE 3B.

Detailed Description

With reference to the drawings, FIGURE 1 depicts a dispenser 10 for the controlled pistol grip expulsion of fasteners 20. A user's hand, indicated in phantom, grips the dispenser 10 in the fashion of a pistol, with the result that the dispenser 10 can be regarded as a pistol grip dispenser.

The particular dispenser 10 of FIGURE 1 expels successive fasteners from a clip 20 along the bore of a slotted hollow needle 30. As illustrated below, individual fasteners are dispensed by being fed successively into alignment with the bore of the needle 30. Each fastener is then expelled through the bore with its filament 22 extending outwardly through the slot 31 of the needle 30.

In an illustrative use, a merchandising tag (not shown) is positioned on the needle 30 against the

front end 12 of the dispenser 10. The needle is then inserted into an item of merchandise to be tagged. When the trigger 13 is operated by being depressed into the pistol grip housing 14, a cross bar 21 is moved along the bore of the needle 30 until it is expelled on the reverse side of the garment. When the dispenser 10 is withdrawn, the cross bar 21 is on the opposite side of the garment and the filament 22 extends through the garment to the tag which rests against a head 23.

In order to promote the utility of the dispenser 10, the invention provides, among other things, a plunger lever with a linear operated tip, as described below, by contrast with the pivotted levers of the prior art which require an enlarged area in the housing for lever swing during each dispensing operation. As a result of the linear path provided for the tip of the lever operating the plunger, the dispenser 10 is of limited height. This promotes the usability of the product by permitting better visibility in tagging operation.

In addition, the dispenser 10 permits ready clearance of the passageway into which the clip of fasteners 20 is inserted. Such clearance can be helpful in the event of a jam in the needle or elsewhere in the dispenser. The invention also provides a limited possibility of jamming by the use of a double pivot for controlling the feed mechanism that is used to advance the individual fasteners into position for being dispensed.

The features provided by the invention are illustrated in the cross-sectional view of FIGURE 2A. A plunger 15 is reciprocated in the upper portion of the housing 10 by a pivotally connected control lever 16. The latter is operated by the trigger 13 which contains a post 13p that confines the motion of the lever 16 with respect to a slot 16s. Because the tip of the lever 16 moves linearly, it can be pivotally connected at position 16p to the plunger mount 15m.

The desired linear motion of the pivot 16p is achieved by the use of a link 17 that is in turn pivotally connected at a position 17p—1 intermediate the ends of the lever 16. The opposite end of the link 17 is pivotally fixed to the handle 14 at a position 14p. Desired biasing is provided by a spring 18s which is compressed as a supporting post 18 is depressed into an aperture 13a at a pivot position 13t of the trigger 13.

In addition to reciprocating operation of the plunger 15, the lever 16 also serves to control the feed mechanism 19. The latter consists of a slide 19s with spaced-apart posts 19p—1 and 19p—2 between which the upper portion of the lever 16 is movable during reciprocation of the plunger 15.

The forward portion of the slide 19 is pivotally connected to a pawl 19w by a link 19h. The pawl 19w contains a tooth 19t which acts upon a feed wheel 19f during reciprocation of the slide 19 by virtue of the linear motion of the pivot point 16p associated with the lever 16. The feed wheel 19f is restrained by a lever 19r which is maintained in position against the feed wheel 19f by a torsional spring 19c. The latter has one extended arm which bears against the lever 19r and another

which bears against the frontal inside surface of the housing 10. The pawl 19w is resiliently held against the face of the feed wheel 19f by a curve biasing washer 19b. This washer provides sufficient resiliency so that the pawl tooth 19t can move the feed wheel and also allow pawl disengagement as explained below.

When the feed slide 19 is moved forwardly, by engagement of the lever 16 with the post 19p—1, the pawl is moved in a clockwise direction of the arrow B as illustrated in FIGURE 3B, with the tooth 19t clearing the teeth of the feed wheel 19f because the latter is prevented from moving by the antibackup lever 19r. When the lever 12 is released, the sequence of events is as indicated in FIGURE 3C, with the tooth 19t of the pawl 19w engaging a tooth of the feed wheel 19f and moving it in the counterclockwise direction indicated by the arrow C in FIGURE 3C.

In the event that a jam occurs, for example during the successive feeding of fasteners of the clip 20 shown in FIGURE 2B, a release slide 23 is operated, having the construction illustrated in FIGURE 2C. The release slide 23, when depressed along the direction indicated by the arrow D disengages the antibackup lever 19r from the feed wheel 19f and simultaneously disengages the pawl 19w from the feed wheel 19f. As noted above the washer 19b returns the pawl to operating position when the slide 23 is released.

As indicated in FIGURE 2C, before the translation force is applied to the release slide 23 a narrow tip 23f is in contact with a side face of the pawl 19w and a ramp 23r is in position for pivoting the antibackup lever 19r downwardly as indicated by the phantom arrow E in FIGURE 2C.

A fastener in position for being dispensed is shown in FIGURE 2D before contact is made with its cross bar 21 by the tip of the plunger 15.

In the cross-sectional view of FIGURE 2E the various components of the lever mechanism in relation to the handle 13 is shown. In particular the trigger 13 is fixed pivotally at pivot points 13—1 and 13—2 and includes a platform 12p through which the support post 18 is able to be depressed when the trigger 12 is squeezed into the housing 13.

A specific view showing the relationship of the link 19h to the pawl 19w and the slide 19 at pivot points 19—1 and 19—2 is shown in FIGURE 3A. It is the double pivot connection of FIGURE 3A that permits a dispenser in accordance with the invention to provide extended life for the pawl 19w and simultaneously limit the likelihood that a jam will occur or a malfunction will occur by virtue of improper operation of the feed slide 19.

FIGURE 3B shows the dispenser 10 with the trigger 13 fully depressed into the handle 14. In this position the lever 16 has its tip at the pivot 16p of the mounting block 15m and the plunger 15 is in its most forward position with the tip of the plunger fully forward in the needle 30, the fastener 20 of FIGURE 2D having been fully expelled. In this position the lever 16 rests against the forward post 19p—1 of the feed mechanism

19 with the pawl 19w in its lowermost position by virtue of the forward motion of the link 19h.

When the trigger 13 is released, the result, as noted above is in accord with FIGURE 3C. The link 19h moves upwardly at the same time that the feed mechanism 19 moves rearwardly. The upward motion of the link produces a pivoting action of the pawl 19w, and the tooth 19t of the pawl 19w engages a feed notch of the feed wheel 19f and rotates it in a counterclockwise direction by one notch position to advance the fasteners 20 of FIGURE 3B so that the lowermost fastener is in line with the bore of the needle 30.

Referring again to FIGURE 3B it is seen that with the trigger 13 fully depressed the post 13p occupies the uppermost position of the slit 16s in the lever 16. It is also seen that the supporting post 18 is fully depressed through the aperture 13a and the spring 18s is fully compressed. These matters are further illustrated in the cross-sectional view of FIGURE 3D.

It will be noted that the frontal portion of the dispenser 10 is specifically configured to facilitate use of the device in the tagging of merchandise. That part of the front 12 below the needle 30 has a slightly curved surface. The curvature is such that no part of the surface forms an angle of more than 15° with a line of tangency at the needle mounting position. As a result there is a surface at the front of the dispenser below the needle that is particularly suitable for the positioning and retention of a tag on the needle during the tagging operation. It is customary for users to place a tag that is to be applied to merchandise on the needle and hold that tag during the tagging operation. Prior art dispensers made it relatively cumbersome and inconvenient to maintain the tag in position at the front of the gun. As a result during use of the gun the tags commonly fell from the needle with an attendant disruption and delay in the tagging operation. The frontal surface provided by the invention permits the operator to position the tag on the needle in the customary way and hold the balance of the tag on the frontal surface with the forefinger. This has significantly increased the efficiency with which this type of dispenser can be used. Moreover the front 12 is provided with a chin point which extends to the trigger 13 by an arc that accommodates the middle finger of the user and further promotes facility in the use of the dispenser. Additional advantage is also achieved by location of the pivot point 13—1 at a position which is below the axis of the feed wheel 19f and along the tangency to the notch position of the feed wheel at the axis for the plunger 15. It is important in this context that the angle between a tangent from the pivot position 13—1 to the central gripping surface of the handle 13 is no greater than 30°. The front profile of the trigger essentially forms a right angle with respect to the axis of feed for the device. This angle can vary between approximately 85 and 95°.

While various aspects of the invention have been set forth by the drawings and the specification, it is to be understood that the foregoing

detailed description is for illustration only and that various changes in parts, as well as the substitution of equivalent constituents for those shown and described, may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

Claims

1. Apparatus for dispensing fasteners comprising a device (10) for receiving and feeding an assemblage of fasteners (20); means (15) for expelling individual fasteners from the device; means (19) for feeding the fasteners; and means for simultaneously controlling the expelling (15) and feeding (19) means comprising a lever (16) which engages the expelling means (15) at a fixed point at or near the end of the lever, the said point being arranged for motion along a linear path; characterised in that the feeding means (19) engages the lever (16), the said engagement being at a location which is spaced along the lever from the said point.

2. Apparatus as claimed in claim 1 in which the controlling means is operated by a pivotal trigger (13) having a fixed projection (13p) which moves along a slot (16s) of the lever (16) for the control thereof.

3. Apparatus as claimed in claim 1 or claim 2 including a linkage (19h) having two separate pivot positions for controlling the feeding means (19).

4. Apparatus as claimed in claim 3 in which the feeding means (19) includes a feed wheel (19f) having peripheral indentations for engaging individual fasteners and a pawl (19w) for operating the feed wheel, pivotally connected to the linkage (19h).

5. Apparatus as claimed in any one of claims 1 to 3 in which the feeding means (19) are actuated by a pawl (19w), the device further including an antibackup mechanism (19r) for the feeding means and means (23) for simultaneously disengaging the pawl and antibackup mechanism.

6. Apparatus as claimed in claim 5 in which the pawl (19w) includes a planar portion and the disengagement means (23) is engageable with that planar portion.

7. Apparatus as claimed in any one of claims 4 to 6 including means for disengaging the pawl (19w) from the feeding means (19) without affecting a drive portion thereof.

8. Apparatus as claimed in any one of the preceding claims when dependent upon claim 2 in which the trigger (13) is pivotally mounted along a line of tangency with a feed wheel of the device at an axis of expulsion of the fasteners.

9. Apparatus as claimed in any one of the preceding claims in which the device includes a slotted hollow needle (30) at the frontal portion thereof through which the fasteners are expelled; and the device having a frontal portion below the needle which lies within an angle no greater than 15° at a plane tangent to the frontal portion at the position of the needle.

19 with the pawl 19w in its lowermost position by virtue of the forward motion of the link 19h.

When the trigger 13 is released, the result, as not shown above is in accord with FIGURE 3C. The link 19h moves upwardly at the same time that the feed mechanism 19 moves rearwardly. The upward motion of the link produces a pivoting action of the pawl 19w, and the tooth 19t of the pawl 19w engages a feed notch of the feed wheel 19f and rotates it in a counterclockwise direction by one notch position to advance the fasteners 20 of FIGURE 3B so that the lowermost fastener is in line with the bore of the needle 30.

Referring again to FIGURE 3B it is seen that with the trigger 13 fully depressed the post 13p occupies the uppermost position of the slit 16s in the lever 16. It is also seen that the supporting post 18 is fully depressed through the aperture 13a and the spring 18s is fully compressed. These matters are further illustrated in the cross-sectional view of FIGURE 3D.

It will be noted that the frontal portion of the dispenser 10 is specifically configured to facilitate use of the device in the tagging of merchandise. That part of the front 12 below the needle 30 has a slightly curved surface. The curvature is such that no part of the surface forms an angle of more than 15° with a line of tangency at the needle mounting position. As a result there is a surface at the front of the dispenser below the needle that is particularly suitable for the positioning and retention of a tag on the needle during the tagging operation. It is customary for users to place a tag that is to be applied to merchandise on the needle and hold that tag during the tagging operation. Prior art dispensers made it relatively cumbersome and inconvenient to maintain the tag in position at the front of the gun. As a result during use of the gun the tags commonly fell from the needle with an attendant disruption and delay in the tagging operation. The frontal surface provided by the invention permits the operator to position the tag on the needle in the customary way and hold the balance of the tag on the frontal surface with the forefinger. This has significantly increased the efficiency with which this type of dispenser can be used. Moreover the front 12 is provided with a chin point which extends to the trigger 13 by an arc that accommodates the middle finger of the user and further promotes facility in the use of the dispenser. Additional advantage is also achieved by location of the pivot point 13—1 at a position which is below the axis of the feed wheel 19f and along the tangency to the notch position of the feed wheel at the axis for the plunger 15. It is important in this context that the angle between a tangent from the pivot position 13—1 to the central gripping surface of the handle 13 is no greater than 30°. The front profile of the trigger essentially forms a right angle with respect to the axis of feed for the device. This angle can vary between approximately 85 and 95°.

While various aspects of the invention have been set forth by the drawings and the specification, it is to be understood that the foregoing

detailed description is for illustration only and that various changes in parts, as well as the substitution of equivalent constituents for those shown and described, may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

Claims

1. Apparatus for dispensing fasteners comprising a device (10) for receiving and feeding an assemblage of fasteners (20); means (15) for expelling individual fasteners from the device; means (19) for feeding the fasteners; and means for simultaneously controlling the expelling (15) and feeding (19) means comprising a lever (16) which engages the expelling means (15) at a fixed point at or near the end of the lever, the said point being arranged for motion along a linear path; characterised in that the feeding means (19) engages the lever (16), the said engagement being at a location which is spaced along the lever from the said point.

2. Apparatus as claimed in claim 1 in which the controlling means is operated by a pivotal trigger (13) having a fixed projection (13p) which moves along a slot (16s) of the lever (16) for the control thereof.

3. Apparatus as claimed in claim 1 or claim 2 including a linkage (19h) having two separate pivot positions for controlling the feeding means (19).

4. Apparatus as claimed in claim 3 in which the feeding means (19) includes a feed wheel (19f) having peripheral indentations for engaging individual fasteners and a pawl (19w) for operating the feed wheel, pivotally connected to the linkage (19h).

5. Apparatus as claimed in any one of claims 1 to 3 in which the feeding means (19) are actuated by a pawl (19w), the device further including an antibackup mechanism (19r) for the feeding means and means (23) for simultaneously disengaging the pawl and antibackup mechanism.

6. Apparatus as claimed in claim 5 in which the pawl (19w) includes a planar portion and the disengagement means (23) is engageable with that planar portion.

7. Apparatus as claimed in any one of claims 4 to 6 including means for disengaging the pawl (19w) from the feeding means (19) without affecting a drive portion thereof.

8. Apparatus as claimed in any one of the preceding claims when dependent upon claim 2 in which the trigger (13) is pivotally mounted along a line of tangency with a feed wheel of the device at an axis of expulsion of the fasteners.

9. Apparatus as claimed in any one of the preceding claims in which the device includes a slotted hollow needle (30) at the frontal portion thereof through which the fasteners are expelled; and the device having a frontal portion below the needle which lies within an angle no greater than 15° at a plane tangent to the frontal portion at the position of the needle.



10. Apparatus as claimed in any one of the preceding claims when dependent upon claim 2 in which the trigger (13) has a central finger gripping portion which has a line of tangency that extends to the axis of feed of the device and forms therewith an angle in the range from 85 to 95°.

Patentansprüche

1. Vorrichtung zur Ausgabe von Befestigungsorganen mit einem Gerät (10), das einen Satz Befestigungsorgane (20) aufnimmt und zuführt; mit Mitteln (15) zur Ausgabe einzelner Befestigungsorgane aus dem Gerät; mit Mitteln (19) zum Zuführen der Befestigungsorgane; und mit Mitteln zur gleichzeitigen Steuerung von Ausgabe- (15) und Zufuhrmechanismus (19), der einen Hebel (16) aufweist, der am Ausgabemittel (15) an einem fixen Punkt am oder nahe dem Ende des Hebels eingreift, wobei sich der besagte Punkt entlang einer linearen Strecke bewegt; dadurch gekennzeichnet, daß das zur Zufuhr dienende Mittel (19) mit dem Hebel (16) in Eingriff steht, wobei sich die besagte Verbindung an einer Stelle befindet, die entlang dem Hebel in einem bestimmten Abstand vom besagten Punkt liegt.

2. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß die Steuerung von einem drehbar gelagerten Auslöser (13) bedienbar ist, welcher einen fixen vorspringenden Teil (13p) besitzt, der sich entlang eines Schlitzes (16s) des Hebels (16) zur Steuerung desselben bewegt.

3. Vorrichtung nach Anspruch 1 oder 2 mit einem Verbindungsglied (19h), welches zur Steuerung des Zufuhrmechanismus (19) zwei separate Drehzapfenpositionen besitzt.

4. Vorrichtung nach Anspruch 3, dadurch gekennzeichnet, daß der Zufuhrmechanismus (19) ein Zulieferrad (19f) enthält, welches am Rand Einbuchtungen zum Einrasten einzelner Befestigungsorgane und eine Schaltklinke (19w) zum Bedienen des Zulieferrades besitzt, welche drehbar gelagert mit dem Verbindungsstück (19h) verbunden ist.

5. Vorrichtung nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß der Zufuhrmechanismus (19) mittels einer Schaltklinke (19w) bedienbar ist, wobei die Einrichtung weiters einen Antistaumechanismus (19r) für die Zufuhrorgane und eine Einrichtung (23) zum gleichzeitigen Lösen der Schaltklinke und des Antistaumechanismus enthält.

6. Vorrichtung nach Anspruch 5, dadurch gekennzeichnet, daß die Schaltklinke (19w) einen ebenen Abschnitt enthält und die Einrichtung zum Ausklinken (23) mit diesem ebenen Abschnitt in Eingriff bringbar ist.

7. Vorrichtung nach einem der Ansprüche 4 bis 6, dadurch gekennzeichnet, daß die Vorrichtung Mittel beinhaltet, die Schaltklinke (19w) aus dem Zufuhrmechanismus (19) auszuklinken, ohne daß ein treibender Abschnitt desselben beeinträchtigt wird.

8. Vorrichtung nach einem der vorhergehenden Ansprüche, wenn abhängig von Anspruch 2,

dadurch gekennzeichnet, daß der Auslöser (13) drehbar gelagert entlang einer Berührungslinie mit einem Zulieferrad der Vorrichtung an einer Ausgabeechse der Befestigungsorgane montiert ist.

9. Vorrichtung nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß das Gerät an seiner Vorderseite eine mit einem Schlitz versehene Hohnadel (30) enthält, durch die die Befestigungsorgane ausgegeben werden, und das Gerät einen vorderen Abschnitt unter der Nadel besitzt, der in einem Winkel von nicht mehr als 15° an einer Tangentialebene zum vorderen Abschnitt bei der Position der Nadel liegt.

10. Vorrichtung nach einem der vorhergehenden Ansprüche, wenn abhängig von Anspruch 2, dadurch gekennzeichnet, daß der Auslöser (13) in der Mitte einen Fingergreifabschnitt besitzt, welcher eine Tangentiallinie besitzt, die sich zur Zufuhrachse des Geräts erstreckt und mit ihr einen Winkel im Bereich zwischen 85 und 95° bildet.

Revendications

1. Appareil pour distribuer des attaches comprenant un dispositif (10) pour recevoir et débiter un ensemble d'attaches (20); un moyen (15) pour expulser des attaches individuelles du dispositif; un moyen (19) pour faire avancer les attaches; et un moyen pour commander simultanément le moyen d'expulsion (15) et le moyen d'avancement (19) comportant un levier (16) qui attaque le moyen d'expulsion (15) en un point fixe situé à l'extrémité du levier ou près de celle-ci, ledit point étant disposé de manière à se déplacer suivant un trajet linéaire; caractérisé en ce que le moyen d'avancement (19) attaque le levier (16), le contact s'effectuant en un endroit qui est espacé dudit point le long du levier.

2. Appareil suivant la revendication 1, dans lequel le moyen de commande est actionné par une détente pivotante (13) comportant une saillie fixe (13p) qui se déplace le long d'une boutonnière (16s) du levier (16) pour la commande de celui-ci.

3. Appareil suivant la revendication 1 ou 2, comprenant une bielle de liaison (19h) présentant deux points de pivotement distincts pour commander le moyen d'avancement (19).

4. Appareil suivant la revendication 3, dans lequel le moyen d'avancement (19) comprend une roue d'avancement (19f) présentant des crans périphériques destinés à attaquer des attaches individuelles et un cliquet (19w) pour actionner la roue d'avancement, articulé à la bielle de liaison (19h).

5. Appareil suivant l'une quelconque des revendications 1 à 3, dans lequel le moyen d'avancement (19) est actionné par un cliquet (19w), le dispositif comprenant, en outre, un mécanisme antirecul (19r) pour le moyen d'avancement et un moyen (23) pour dégager simultanément le cliquet et le mécanisme antirecul.

6. Appareil suivant la revendication 5, dans



lequel le cliquet (19w) comprend une partie plane et un moyen de dégagement (23) peut attaquer cette partie plane.

7. Appareil suivant l'une quelconque des revendications 4 à 6, comprenant un moyen pour dégager le cliquet (19w) du moyen d'avancement (19) sans affecter une partie d'entraînement de ce dernier.

8. Appareil suivant l'une quelconque des revendications précédentes découlant de la revendication 2, dans lequel la détente (13) est montée à pivot le long d'une ligne de tangence à une roue d'avancement du dispositif, au niveau d'un axe d'expulsion des attaches.

9. Appareil suivant l'une quelconque des reven-

dications précédentes, dans lequel le dispositif comprend une aiguille creuse à fente (30) à sa partie avant par l'intermédiaire de laquelle les attaches sont expulsées et le dispositif comporte une partie antérieure située en dessous de l'aiguille qui forme un angle ne dépassant pas 15° avec un plan tangent à la partie antérieure, à l'endroit de l'aiguille.

10. Appareil suivant l'une quelconque des revendications précédentes découlant de la revendication 2, dans lequel la détente (13) comporte une partie centrale offrant prise aux doigts, qui présente une ligne de tangence s'étendant vers l'axe d'avancement du dispositif et formant avec celui-ci un angle compris entre 85° et 95° .

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