

RUBBER STRIP INSERTING AND CUTTING DEVICE

Field of the Invention

5 The present invention relates to a device having combined functions of introducing and cutting material, and in particular to a device for inserting a rubber strip into a mounting slot of a profile and then cutting off the strip.

Background of the Invention

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 In prior arts, some profiles should be inserted therein with a rubber strip so as to achieve effects such as water-proofing, sound-insulating, or the like. An example thereof is the profile used for a door frame or a window frame. For this purpose, the profile is provided along its lengthwise direction with a rubber strip mounting groove, in which the rubber strip can be inserted. A front end face and a rear end face of the profile are each generally configured as a beveled one, so as to facilitate jointing of two profiles arranged in a horizontal direction and in a vertical direction respectively. Correspondingly, the rubber strip inserted in the profile should have two end faces that are also configured as beveled ones with corresponding angles.

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 Conventionally, the rubber strip is inserted in the profile and then cut off there by hands. However, an operator can insert only one rubber strip in one profile at a time, and after the rubber strip is inserted, the rubber strip is manually cut off at both ends of the profile by means of a pair of scissors. In particular, when the rubber strip is inserted in a relatively long profile, it is necessary to cut the rubber strip at one end of the profile first and then cut the rubber strip at the other end thereof after turning over the profile. This is labor intensive, and the operator has to take a break every once in a while. Accordingly, this process is not only inefficient, labor intensive, and easy to cause the operator tired, but also difficult to ensure consistent quality of the products

obtained.

For this purpose, an automated device has been developed. For example, CN207711403U discloses a rubber strip inserting and cutting device, including: a rubber strip inserting assembly for conveying the rubber strip, a cutting assembly for cutting off the rubber strip, a profile positioning assembly for fixing the profile in the cutting position, a control system connected with electric members or parts to control the operation thereof, and so on. The above-mentioned automated device can automatically introduce and cut the rubber strip, thus improving productivity and reducing labor costs. However, such an automated device can also only feed one rubber strip to the profile and cut off said one rubber strip at a time, which renders it difficult to further improve productivity. In the meantime, it cannot be applied to profiles having widely varying lengths at the same time. Moreover, this automated device can only cut off the rubber strip at a fixed angle, thus cannot be applied to profiles with different cutting angles. Thus it can be seen that the existing rubber strip inserting and cutting device is not efficient enough in productivity, and exhibits poor performances in versatility, practicability and adjustment flexibility.

Summary of the Invention

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The present invention aims to provide a rubber strip inserting and cutting device, which can introduce the rubber strip and cut off the same efficiently and rapidly, and present high degree of versatility and practicability.

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To solve the above technical problems, the present invention proposes a rubber strip inserting and cutting device, used for introducing a rubber strip into a rubber strip mounting slot of a profile and then cutting off the rubber strip according to angles of two end faces of the profile. The device comprises a rubber strip introducing assembly for conveying the rubber strip, a profile engaging assembly for engaging the

rubber strip from the rubber strip introducing assembly with the rubber strip mounting slot of the profile, a cutting assembly for cutting off the rubber strip, a profile positioning assembly for holding the profile in a cutting position, a profile supporting assembly for supporting the profile, and a control system connected to electrically-
5 powered assemblies or members for controlling the operations thereof. Two rubber strip introducing assemblies, including a left one and a right one, and two profile engaging assemblies, including a left one and a right one, are provided. Said cutting assembly comprises two front cutting assemblies, including a left one and a right one, and two rear cutting assemblies, including a left one and a right one, wherein said two
10 front cutting assemblies and said two rear cutting assemblies are used to cutting off two rubber strips at front and rear ends of two profiles, respectively.

Said profile positioning assembly comprises a front limiting member and a rear limiting member that are arranged on in front and rear of the profiles respectively, a
15 longitudinal-powering member, and longitudinal slide rails. Said front limiting member and said rear limiting member both are arranged transversely, and each have a side facing to each other that is provided with an inclined surface corresponding to the end face of each profile. Said front limiting member is mounted on the longitudinal slide rails. Said longitudinal-powering member acts on the front limiting
20 member, so that the front limiting member moves forward or rearward along the longitudinal slide rails to release or clamp the profiles.

Said profile supporting assembly comprises a front and a rear supporting members both arranged transversely, for supporting the profiles placed thereon.

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Said profile supporting assembly further comprises a vertical-powering member, transverse slide rails and a transverse-powering member. Said vertical-powering member is mounted on said transverse slide rails and acts vertically on said supporting members to move them up or down, and said transverse-powering member acts

transversely on said vertical-powering member, so that said vertical-powering member drives said supporting members to move leftward or rightward along said transverse slide rails.

5 The rubber strip inserting and cutting device of the present invention further comprises a first working table and a second working table that are both detachable. Said rubber strip introducing assemblies, said profile engaging assemblies, said rear cutting assemblies, said rear limiting member, said rear supporting member, said rear vertical-powering member, said rear transverse slide rails and said rear transverse-
10 powering member are all mounted on said first working table. Said front cutting assemblies, said front limiting member, said longitudinal-powering member, said longitudinal slide rails, said front carrying member, said front vertical-powering member, said front transverse slide rails and said front transverse-powering member are all mounted on said second working table .

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Said longitudinal-powering member, said vertical-powering member and said transverse-powering member are each an air cylinder, and said front cutting assemblies and said rear cutting assemblies are each pneumatic scissors.

20 The rubber strip inserting and cutting device of the present invention further comprises a cutting-angle adjusting assembly, which includes a adjustment powering member connected to said two rear cutting assemblies and acting thereon, a first limit block fixed at one side of the rear cutting assemblies, and a second limit block fixed and positioned opposite to the first limit block. The first limit block and the second
25 limit block are provided with beveled surfaces opposite to each other. The adjustment powering member drives said two rear cutting assemblies to move, so that the beveled surface of the first limit block is abutted with or separated from the beveled surface of the second limit block.

The front cutting assemblies and the front limiting member are mounted on a connecting plate, a left end and a right end of which are mounted on a left and a right longitudinal slide rails, respectively. Said longitudinal-powering member acts on the front limiting member, so that the front limiting member, the connecting plate and the front cutting assemblies move forward or rearward along said longitudinal slide rails simultaneously.

Said control system is a PLC control system.

Compared with the prior arts, the rubber strip inserting and cutting device according to the present invention can simultaneously cut off the rubber strips at the front and rear ends of two profiles, respectively, by means of two sets of rubber strip introducing assemblies, profile engaging assemblies and cutting assemblies, which greatly improves the production efficiency, saves labor costs, reduces labor intensity, and ensures consistent quality of the products obtained. Moreover, the rubber strip inserting and cutting device can be applied to profiles of different sizes through adjusting the distance between the front and the rear cutting assemblies, and the cutting angle can be adjustable also. Therefore, the rubber strip inserting and cutting device exhibits high versatility, practicability and adjustment flexibility.

Brief Description of the Drawings

Fig. 1 schematically shows a side view of a rubber strip inserting and cutting device according to the present invention, on which a profile to be processed is placed;

Fig. 2 schematically shows a perspective view of the rubber strip inserting and cutting device according to the present invention, on which the profile to be processed is placed;

Fig. 3 schematically shows a perspective view of members and parts arranged on a first table, as viewed from a front direction;

5 Fig. 4 schematically shows a perspective view of members and parts arranged on the first table, as viewed from a rear direction;

Fig. 5 schematically shows a perspective view of members and parts arranged on a second table, as viewed from the front direction;

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Fig. 6 schematically shows a perspective view of members and parts arranged on the second table, as viewed from the rear direction;

Fig. 7 is an enlarged view showing a cutting-angle adjusting assembly in Fig. 4;

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Fig. 8 schematically shows the structure of a longitudinal-powering member;

Fig. 9 schematically shows the structure of a first limit block; and

20 Fig. 10 schematically shows the structure of a second limit block.

Detailed Description of the Embodiments

25 In the following the present invention will be described in further detail with reference to the embodiments as shown in the accompanying drawings.

The present invention proposes a rubber strip inserting and cutting device, for introducing a rubber strip 20 into a rubber strip mounting slot 81 of a profile 8, and then cutting off the rubber strip according to angles of two end faces of the profile 8.

As shown in Figs. 1 and 2, the rubber strip inserting and cutting device comprises a rubber strip introducing assembly 1 for conveying the rubber strip, a profile engaging assembly for engaging the rubber strip from the rubber strip introducing assembly 1 with the rubber strip mounting slot 81 of the profile 8, a cutting assembly for cutting
5 off the rubber strip, a profile positioning assembly for holding the profile 8 in a cutting position, a profile supporting assembly for supporting the profile 8, and a control system connected with electrically-powered assemblies or members to control the operations thereof.

10 Each of the above assemblies will be described in further detail below. For better illustration, in the following a front-to-rear direction is termed as longitudinal direction and a left-to-right direction is termed as transverse direction, while a direction along which the rubber strip is convey is termed as forward direction and a direction opposite to the forward direction is termed as rearward direction.

15 As shown in Fig. 4, two rubber strip introducing assemblies 1, a left one and a right one, are arranged at the rearmost part of the whole device. Each rubber strip introducing assembly 1 includes a rubber strip receiving member 11, a limit wheel set 12, and a powering member (not shown) for conveying the rubber strip forward. The
20 rubber strip receiving member 11 is provided with a longitudinal through-hole, through which the rubber strip can be conveyed forward. Thus, the rubber strip receiving member 11 can realize a preliminary guiding function, and determine the position where the rubber strip is fed. The limit wheel set 12 is arranged in front of the rubber strip receiving member 11 in the forward direction, and comprises multiple
25 pairs of rollers. Each pair of rollers consists of an upper roller and a lower roller opposite to each other vertically. The rubber strip is conveyed forward between the upper and lower rollers after passing through the through-hole of the rubber strip receiving member 11, and thus is guided and limited accordingly. The structure and principle of the rubber strip introducing assembly 1 is known in the field, and will not

be discussed in detail here.

As shown in Figs. 1, 3 and 4, two profile engaging assemblies, a left one and a right one, are provided. Each profile engaging assembly includes an engaging member 21, an engagement powering member 22, a rear engagement sensor 23 and a front engagement sensor 24. The engaging member 21 is provided with a longitudinal engagement hole, for allowing the rubber strip to pass therethrough. The front end face of the engaging member 21 is inclined that can be in engagement with the rear end face of the profile 8. When the engaging member 21 is in engagement with the profile 8 located at a cutting position, the longitudinal engagement hole of the engaging member 21 is aligned with the rubber strip mounting slot 81 of the profile 8, so as to facilitate the introduction of the rubber strip from the engaging member 21 into the profile 8. The engagement powering member 22 may be an air cylinder, for driving the engaging member 21 to move forward and rearward. The rear engagement sensor 23 and the front engagement sensor 24 are arranged at a rear part and a front part of the movement journey of the engagement powering member 22, respectively, in order to detect whether the engagement powering member 22 moves to its respective destinations in the rearward and forward directions.

As shown in Figs. 1 and 2, the cutting assembly includes two front cutting assemblies 31, a left one and a right one, and two rear cutting assemblies 32, also a left one and a right one. The two front cutting assemblies 31 and two rear cutting assemblies 32 are used to cut off the rubber strips at the front end and the rear end of two profiles 8 (again, a left one and a right one) respectively, so that the rubber strips can be cut off relative to two profiles 8 simultaneously, whereby the production efficiency can be doubled. Correspondingly, a front rubber strip sensor 34 and a rear rubber strip sensor 33 are provided in front and rear of the profile 8, respectively, for detecting whether the rubber strips are in place so that the cutting assemblies can perform cutting operations. In this embodiment, the front cutting assembly 31 and the

rear cutting assembly 32 each adopt pneumatic scissors, which have the advantages of fast response, fast cutting speed, and quick release when the mouth of the scissors need to be polished.

5 In order to adjust the cutting angle of the cutting assembly so that the cutting assembly can be applied for profiles of different end angles, in this embodiment, the rubber strip inserting and cutting device of the present invention further includes a cutting-angle adjusting assembly arranged at the rear cutting assembly 32. As shown in Figs. 4 and 7, the cutting-angle adjusting assembly includes an adjustment
10 powering member 61, a first limit block 62 and a second limit block 63. The adjustment powering member 61 can be an air cylinder, on which a front adjustment sensor 65 and a rear adjustment sensor 64 are arranged for detecting whether the adjustment powering member 61 is in place in the forward and rearward directions, respectively. The adjustment powering member 61 is mounted on a working table, and
15 has one end connected to a connecting plate 35, which is, in turn, connected with the two rear cutting assemblies 32. In this manner, the adjustment powering member 61 can drive said two rear cutting assemblies 32 to move at the same time, so as to adjust the cutting angle thereof. The first limit block 62 is fixed on a side of each of the rear cutting assemblies 32. As shown in Fig. 9, the first limit block 62 is provided with a
20 first beveled surface 621. The second limit block 63 is fixed on the working table, and positioned opposite to the first limit block 62. As shown in Fig. 10, the second limit block 63 is provided with a second beveled surface 631, which is opposite to the first beveled surface 621. Said adjustment powering member 61 can drive said two rear cutting assemblies 32 to move, so that the first beveled surface 621 of the first limit
25 block 62 can abut on or separate from the second beveled surface 631 of the second limit block 63. When the first beveled surface 621 abuts with the second beveled surface 631, the cutting angle of the rear cutting assembly 32 will be fixed. Accordingly, the cutting angle of the rear cutting assembly 32 can be adjusted by using the first limit block 62 and the second limit block 63 with beveled surfaces of

different angles.

As shown in Figs. 2, 3, 5 and 6, in this embodiment, the profile supporting assembly includes: a front and a rear supporting members 51 for supporting the profile 8 disposed thereon, a front and a rear vertical-powering members 52, a front and a rear transverse slide rails 53, and a front and a rear transverse-powering members 54. Two supporting members 51 are both arranged along the transverse direction, so that the profile 8 can be disposed and supported along its longitudinal direction on the front and rear supporting members 51. Accordingly, two profiles 8 can be processed each time when cutting off the rubber strips. Each vertical-powering member 52 can be an air cylinder, which is connected with a corresponding supporting member 51 and thus support said supporting member 51 from bottom, so that the supporting member 51 can be driven to move up or down vertically by the vertical-powering member 52. An upper in-place sensor 55 and a lower in-place sensor 56 are provided on both sides of each vertical-powering member 52, respectively, in order to detect whether said vertical-powering member 52 moves to its place in the vertical direction. Each transverse slide rail 53 is transversely arranged under a corresponding vertical-powering member 52, so that said vertical-powering member 52 is mounted on the transverse slide rail 53 to move leftward and rightward along the transverse slide rail 53. The transverse-powering member 54 can be an air cylinder, which acts transversely on the vertical-powering member 52, so as to drive the vertical-powering member 52 and the supporting member 51 arranged thereon to move leftward or rightward along the transverse slide rail 53. At the same time, a left in-place sensor 58 and a right in-place sensor 57 are provided on the left and right sides of a travelling direction of the transverse-powering member 54, respectively, for detecting whether the transverse-powering member 54 moves to its place in the leftward and rightward directions. Accordingly, the vertical-powering members 52 and the transverse-powering members 54 can drive the supporting members 51 and the profiles 8 placed thereon to move up or down and to move left or right.

As shown in Figs. 2, 3 and 5, the profile positioning assembly comprises a front limiting member 41 and a rear limiting member 42 that are arranged in front and rear of the profile 8, respectively, a longitudinal-powering member 43, and two longitudinal slide rails 44. The rear limiting member 42 is arranged transversely behind the rear supporting member 51, and has a side facing the supporting member 51 that is provided with an inclined surface corresponding to the rear end face of the profile 8. The front limiting member 41 is arranged transversely in front of the front supporting member 51, and has a side facing the supporting member 51 that is provided with an inclined surface corresponding to the front end face of the profile 8. Said two longitudinal slide rails 44 are arranged along the longitudinal direction. The front limiting member 41 is fixedly mounted on two connecting plates 73 (a left one and a right one), which are, in turn, mounted on the left and right longitudinal rails 44, respectively. The longitudinal-powering member 43 can be an air cylinder acting on the front limiting member 41, so that the front limiting member 41 and the connecting plates 73 can collectively move forward or backward along the longitudinal slide rails 44, so as to cooperate with the rear limiting member 42 to release or clamp the profile 8. As shown in Fig. 8, the longitudinal-powering member 43 is provided with a front in-place sensor 45 and a rear in-place sensor 46 on the left and right sides thereof, respectively, for detecting whether the longitudinal-powering member 43 moves to its place in the forward and rearward directions. The above structure of the profile positioning assembly allows the rubber strip inserting and cutting device of the present invention can be applied for profiles 8 with different lengths.

In addition, the front cutting assemblies 31 are also mounted on the connecting plates 73, so that the front cutting assemblies 31 can move forward or backward simultaneously with the front limiting member 41, thus facilitating to cut off the rubber strips at the front ends of the profiles 8.

In this embodiment, there are a first working table 71 and a second working table 72 on which the above-mentioned assemblies, parts, members or the like are mounted. The first working table 71 and the second working table 72, a front one and a rear one, are detachable from the device. The rubber strip introducing assemblies 1, the profile
5 engaging assembly, the rear cutting assemblies 32, the cutting-angle adjusting assembly, the rear limiting member 42, the rear supporting member 51, the rear vertical-powering member 52, the rear transverse slide rail 53 and the rear transverse-powering member 54 are all mounted on the first working table 71. The front cutting assemblies 31, the front limiting member 41, the longitudinal-powering
10 member 43, the longitudinal slide rail 44, the front supporting member 51, the front vertical-powering member 52, the front transverse slide rail 53 and the front transverse-powering member 54 are all mounted on the second working table 72. In this way, even profiles 8 with very different lengths can be suitably processed by the rubber strip inserting and cutting device of the present invention only with a proper
15 adjustment of the distance between the first working table 71 and the second working table 72.

In this embodiment, the control system may be a PLC control system (i.e., a programmable controller), wherein each of the above-mentioned sensors and electric
20 members or parts is connected to and thus controlled by the PLC.

In summary, according to the rubber strip inserting and cutting device of the present invention, the cutting angle can be adjusted according to the angle of the end face of the profile 8, and the distance between the front and rear cutting assemblies
25 can be adjusted to accommodate profiles 8 of different sizes. Moreover, the cutting assemblies disposed on the first working table 71 or the second working table 72 can be individually used in various machines involving cutting functions, for cutting different materials with different cutting tools. For example, after being equipped with corresponding tools, the cutting assemblies can be used to cut different materials

(such as metal, non-metal or the like), thus presenting higher versatility, practicality and adjustment flexibility than traditional counterparts.

The rubber strip inserting and cutting device of the present invention operates as follows.

1. The profiles 8 are placed on the front and rear supporting members 51. Then, the front and rear vertical-powering members 52 are lowered simultaneously, till the lower in-place sensor 56 transmits a signal to the control system PLC, which sends out a command to activate the longitudinal-powering member 43.

2. The longitudinal-powering member 43 drives the front limiting member 41 to move toward the profiles 8, and finally fixes the profiles 8 in cooperation with the rear limiting member 42.

3. The rubber strips enter from the rubber strip receiving members 11, pass through the limit wheel set 12 and the engaging members 21, and then stop moving when reaching the rear rubber strip sensor 33.

4. When the rubber strips reach the position where the rear rubber strip sensor 33 is located, the rear rubber strip sensor 33 transmits a signal to the PLC, which commands the engagement powering member 22 to move the engaging members 21 forward to abut with the profiles 8, and at this time, each of the rubber strips just engage with the rubber strip mounting slot 81 of a corresponding profile 8.

5. The rubber strips are fed to the profiles 8, and the feeding of the rubber strips is terminated when the front rubber strip sensor 34 detects the rubber strips.

6. The adjustment powering member 61 is activated to push the rear cutting

assemblies 32 to the rubber strip cutting position, where the front adjustment sensor 65 detects the rubber strips and then transmits a signal to the PLC.

7. The PLC commands the front cutting assemblies 31 and the rear cutting
5 assemblies 32 to cut off the rubber strips simultaneously.

8. After the rubber strips are cut off, the adjustment powering member 61 and the longitudinal-powering member 43 return to their initial positions respectively, at which time the rear adjusting sensor 64 and the rear in-place sensor 46 are both
10 activated to send signals to the PLC, which, in turn, commands the front and rear vertical-powering members 52 to move upward simultaneously, thus lifting the profiles 8.

9. The front and rear vertical-powering members 52 move upward to their places
15 respectively, and are detected by the upper in-place sensor 55, which transmits a signal to the PLC, which, in turn, commands the transverse-powering member 54 to drive the vertical-powering member 52 and the support members 51 to move leftward under the guidance of the transverse slide rails 53.

20 10. After the transverse-powering member 54 moves to its place and is detected by the left in-place sensor 58, the relevant assemblies or members for driving the profiles finally turn off, at which time the profiles 8 can be taken away and the inserting and cutting operations of the rubber strip is completed.

25 By repeating the above steps, the operations of inserting the rubber strip in the profile and cutting off the rubber strip can be automatically realized through the control system 5.

The foregoing merely illustrates preferred embodiments of the present invention,

and is not intended to limit the present invention. Various changes and modifications may be made on the present invention by one skilled in the art. Any modifications, equivalent substitutions, improvements or the like within the spirit and principle of the present invention shall fall within the scope of protection of the present invention.

CLAIMS

1. A rubber strip inserting and cutting device, used for introducing a rubber strip into a rubber strip mounting slot (81) of a profile (8) and then cutting off the rubber strip according to angles of two end faces of the profile (8), comprising a rubber strip introducing assembly (1) for conveying the rubber strip, a profile engaging assembly for engaging the rubber strip from the rubber strip introducing assembly (1) with the rubber strip mounting slot (81) of the profile (8), a cutting assembly for cutting off the rubber strip, a profile positioning assembly for holding the profile (8) in a cutting position, a profile supporting assembly for supporting the profile (8), and a control system connected to electrically-powered assemblies or members for controlling the operations thereof,

characterized in that:

two rubber strip introducing assemblies (1), including a left one and a right one, and two profile engaging assemblies, including a left one and a right one, are provided; and

said cutting assembly comprises two front cutting assemblies (31), including a left one and a right one, and two rear cutting assemblies (32), including a left one and a right one, wherein said two front cutting assemblies (31) and said two rear cutting assemblies (32) are used to cutting off two rubber strips at front and rear ends of two profiles (8), respectively.

2. The rubber strip inserting and cutting device according to claim 1, characterized in that:

said profile positioning assembly comprises a front limiting member (41) and a rear limiting member (42) that are arranged on in front and rear of the profiles (8) respectively, a longitudinal-powering member (43), and longitudinal slide rails (44),

wherein said front limiting member (41) and said rear limiting member (42) both are arranged transversely, and each have a side facing to each other that is provided

with an inclined surface corresponding to the end face of each profile (8);

said front limiting member (41) is mounted on the longitudinal slide rails (44);
and

said longitudinal-powering member (43) acts on the front limiting member (41),
5 so that the front limiting member (41) moves forward or rearward along the
longitudinal slide rails (44) to release or clamp the profiles (8).

3. The rubber strip inserting and cutting device according to claim 2,
characterized in that:

10 said profile supporting assembly comprises a front and a rear supporting
members (51) both arranged transversely, for supporting the profiles (8) placed
thereon.

4. The rubber strip inserting and cutting device according to claim 3,
15 characterized in that:

said profile supporting assembly further comprises a vertical-powering member
(52), transverse slide rails (53) and a transverse-powering member (54),

wherein said vertical-powering member (52) is mounted on said transverse slide
rails (53) and acts vertically on said supporting members (51) to move them up or
20 down, and said transverse-powering member (54) acts transversely on said
vertical-powering member (52), so that said vertical-powering member (52) drives
said supporting members (51) to move leftward or rightward along said transverse
slide rails (53).

25 5. The rubber strip inserting and cutting device according to claim 4,
characterized in that:

the device further comprises a first working table (71) and a second working
table (72) that are both detachable,

wherein said rubber strip introducing assemblies (1), said profile engaging

assemblies, said rear cutting assemblies (32), said rear limiting member (42), said rear supporting member (51), said rear vertical-powering member (52), said rear transverse slide rails (53) and said rear transverse-powering member (54) are all mounted on said first working table (71), while said front cutting assemblies (31), said
5 front limiting member (41), said longitudinal-powering member (43), said longitudinal slide rails (44), said front carrying member (51), said front vertical-powering member (52), said front transverse slide rails (53) and said front transverse-powering member (54) are all mounted on said second working table (72).

10 6. The rubber strip inserting and cutting device according to claim 4, characterized in that:

said longitudinal-powering member (43), said vertical-powering member (52) and said transverse-powering member (54) are each an air cylinder, and said front cutting assemblies (31) and said rear cutting assemblies (32) are each pneumatic
15 scissors.

7. The rubber strip inserting and cutting device according to any one of claims 1 to 6, characterized in that:

the device further comprises a cutting-angle adjusting assembly, including a
20 adjustment powering member (61) connected to said two rear cutting assemblies (32) and acting thereon, a first limit block (62) fixed at one side of the rear cutting assemblies (32), and a second limit block (63) fixed and positioned opposite to the first limit block (62),

wherein the first limit block (62) and the second limit block (63) are provided
25 with beveled surfaces opposite to each other, and

the adjustment powering member (61) drives said two rear cutting assemblies (32) to move, so that the beveled surface of the first limit block (62) is abutted with or separated from the beveled surface of the second limit block (63).

8. The rubber strip inserting and cutting device according to any one of claims 2 to 6, characterized in that:

the front cutting assemblies (31) and the front limiting member (41) are mounted on a connecting plate (73), a left end and a right end of which are mounted on a left and a right longitudinal slide rails (44), respectively; and

said longitudinal-powering member (43) acts on the front limiting member (41), so that the front limiting member (41), the connecting plate (73) and the front cutting assemblies (31) move forward or rearward along said longitudinal slide rails (44) simultaneously.

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9. The rubber strip inserting and cutting device according to any one of claims 1 to 6, characterized in that:

said control system is a PLC control system.