AMENDED CLAIMS

1. A rubber strip introducing apparatus, for guiding a rubber strip into a rubber strip mounting groove of a profile and cutting off the rubber strip according to angles of two end faces of the profile, the apparatus comprising a pushing device (04), an aligning device (06), a cutter device (07), a profile placing and conveying device (09), and a control device in communication with the above devices, which are arranged in this order along a direction of conveying the rubber strip,

characterized in that the apparatus further comprises a rubber strip supplying table (01) and a rubber strip twisting detection device (02),

wherein the rubber strip supplying table (01) includes a fixed frame (011), a rotatable bracket (012) rotatably coupled to the fixed frame (011), and a supplying tray (013) rotatably and detachably coupled to the rotatable bracket (012), and

wherein the rubber strip twisting detection device (02) is configured to detect a twisting angle of the rubber strip when the rubber strip is twisted during conveyance, and the control device is configured to control the rotatable bracket (012) to rotate for compensation with the same angle.

2. The rubber strip introducing apparatus according to claim 1, characterized in that the rubber strip twisting detection device (02) comprises a disc support (021), a rotating disc (022), and an angle sensor (025),

wherein the rotating disc (022) is rotatably connected to the disc support (021), and is provided at its side with an indexing disc (024),

wherein the angle sensor (025) is fixed on the disc support (021), and in communication link with the control device for detecting a rotating angle of the indexing disc (024), and

wherein the control device is configured to, after the angle sensor (025) detects that the indexing plate (024) rotates with a certain angle, control the rotatable bracket (012) of the rubber strip supplying table (01) to rotate for compensation with the same

angle.

3. The rubber strip introducing apparatus according to claim 2, characterized in that the rotating disc (022) is structured as a bearing, which has an outer ring fixedly connected to the disc support, and an inner ring fixedly connected to the indexing plate (024) and rotatably connected to the outer ring, and

at least one pair of rotating wheels (023) are mounted on the inner ring of said bearing, wherein the rubber strip passes between said at least one pair of rotating wheels (023), which are able to press toward the rubber strip from both sides.

4. The rubber strip introducing apparatus according to claim 1, characterized in that the apparatus further includes a pressing roller device (03), which has an upper pressing roller (031) and a lower wheel (032) that cooperate with each other,

wherein the upper pressing roller (031) and the lower wheel (032) are each provided with an annular groove on circumferential wall surfaces respectively, so that the rubber strip can pass through a gap formed by the annular grooves that are opposite to each other,

wherein the lower wheel (032) is fixed while the upper pressing roller (031) is slidable in a vertical direction through a sliding mechanism, and

wherein the upper pressing roller (031) is connected with a first pressure cylinder (033) that is able to provide a vertical driving force, so that the upper pressing roller (031) can press against the lower wheel (032) under the action of the first pressure cylinder (033).

5. The rubber strip introducing apparatus according to claim 1, characterized in that the pushing device (04) includes an active roller (041) and a driven roller (042) that cooperate with each other, wherein the active roller (041) and the driven roller (042) are each provided with an annular groove on circumferential wall surfaces respectively, so that the rubber strip can pass through a gap formed by the annular grooves that are opposite to each other, and

the driven roller (042) is arranged to be vertically slidable by a sliding mechanism, and connected to a second pressure cylinder (043) that is able to provide a vertical driving force, so that it can press against the driving roller (041) under the action of the second pressing cylinder (043), and

the driving roller (041) is connected to a pushing motor (044), and is rotated by the pushing motor (044) to push the rubber strip forward.

6. The rubber strip introducing apparatus according to claim 1, characterized in that the apparatus further includes a guiding device (05), which is arranged between the pushing device (04) and the aligning device (06), and includes a rubber strip passer (051) and a rubber strip guiding bridge (052),

wherein the rubber strip passer (051) is provided with a through hole for allowing the rubber strip to pass through, and the rubber strip guiding bridge (052) includes two sets of rollers opposite to each other, between which the rubber strip can pass.

7. The rubber strip introducing apparatus according to claim 1, characterized in that the aligning device (06) includes an aligning assembly and a clamping assembly,

wherein the aligning assembly includes a power cylinder (061), and a rubber strip conveyor (062), which has a front end surface that matches a rear end surface of the profile, and a connecting groove corresponding to the rubber strip mounting groove of the profile in position, the power cylinder (061) being configured to drive the rubber strip conveyor (062), either to move forward to a position where the front end surface of the rubber strip conveyor abuts with the rear end surface of the profile in its working position, or to move backward to its initial position,

wherein the clamping assembly includes a fixed rail (063), a horizontally slidable slider (064), and a spring for pressing the slider (064) against the rail, and

wherein the rubber strip passes through the rail (063) to the rubber strip conveyor (062).

8. The rubber strip introducing apparatus according to claim 1, characterized in that the apparatus further comprises a pulling device (08) arranged before the cutter device (07),

wherein the pulling device (08) comprises a clamping unit for clamping the rubber strip, and a delivering unit for driving the clamping unit to move so as to advance the rubber strip forward.

9. The rubber strip introducing apparatus according to claim 8, characterized in that the clamping unit includes a gripper cylinder (081), an upper rack (082) driven by the gripping cylinder (081), a gear (084) engaging with the upper rack (082), a lower rack (083) engaging with the gear (084), an upper gripper (085) connected to the upper rack (082), and a lower gripper (086) connected to the lower rack (083),

wherein the upper rack (082) and the lower rack (083) are each slidably coupled to a gripper mounting plate (080), and the gear (084) is coupled to the gripper mounting plate (080) via a shaft,

wherein the upper gripper (085) and the lower gripper (086) cooperate with each other to form a gripper mechanism, which can perform gripping and releasing operations under the control of the gripper cylinder (081), and

the delivering unit includes a screw rod mechanism (088), and a motor (087) for driving a screw rod of the screw rod mechanism (088) into rotation, wherein the clamping unit is coupled to the screw rod so that it moves as the screw rod rotates.

10. The rubber strip introducing apparatus according to claim 1, characterized in that that the profile placing and conveying device (09) includes two profile conveying carriages (090) that are sequentially disposed in the direction of conveying the rubber strip, for receiving and fixing one or more profiles, and

each of the profile conveying carriages is provided with a tongue (095), a tongue cylinder (096), and a profile sensor (097), wherein the tongue (095) is driven by the tongue cylinder (096) to extend out for fixing the profile when the profile sensor (097) detects that the profile is in position.

11. The rubber strip introducing apparatus according to claim 1, characterized in that the apparatus further includes a water circulation device (10), which comprises:

a water adding unit connected to a water tank (101), for dripping or spraying water on the rubber strip being conveyed or the rubber strip mounting groove of the profile in its working position; and

a recycling unit, which is connected to the water tank (101), and includes a water receiving box (103) disposed under the water adding unit, for returning water sprayed by the water adding unit to the water tank (101).

12. The rubber strip introducing apparatus according to any one of claims 1 to 11, characterized in that each device of the apparatus comprises at least two sets of components, so that at least two rubber strips can be introduced into a pair of profiles respectively at one time.