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(54) Safety tape dispenser

(57) A safety tape dispenser includes a casing (1,12,14), which has a split hub (111) supporting a tape roll (3), a guide roller (112) for guiding the lead-out end portion (31) of the tape roll out of the casing, and a front wall (13) for the resting of the lead-out end portion of the tape roll after each dispensing operation, a cutter holder (120) holding a downwardly extending cutter (2) for cutting the lead-out end portion of the tape roll without causing injury to the user accidentally, and a side cover (10) hinged to the casing.

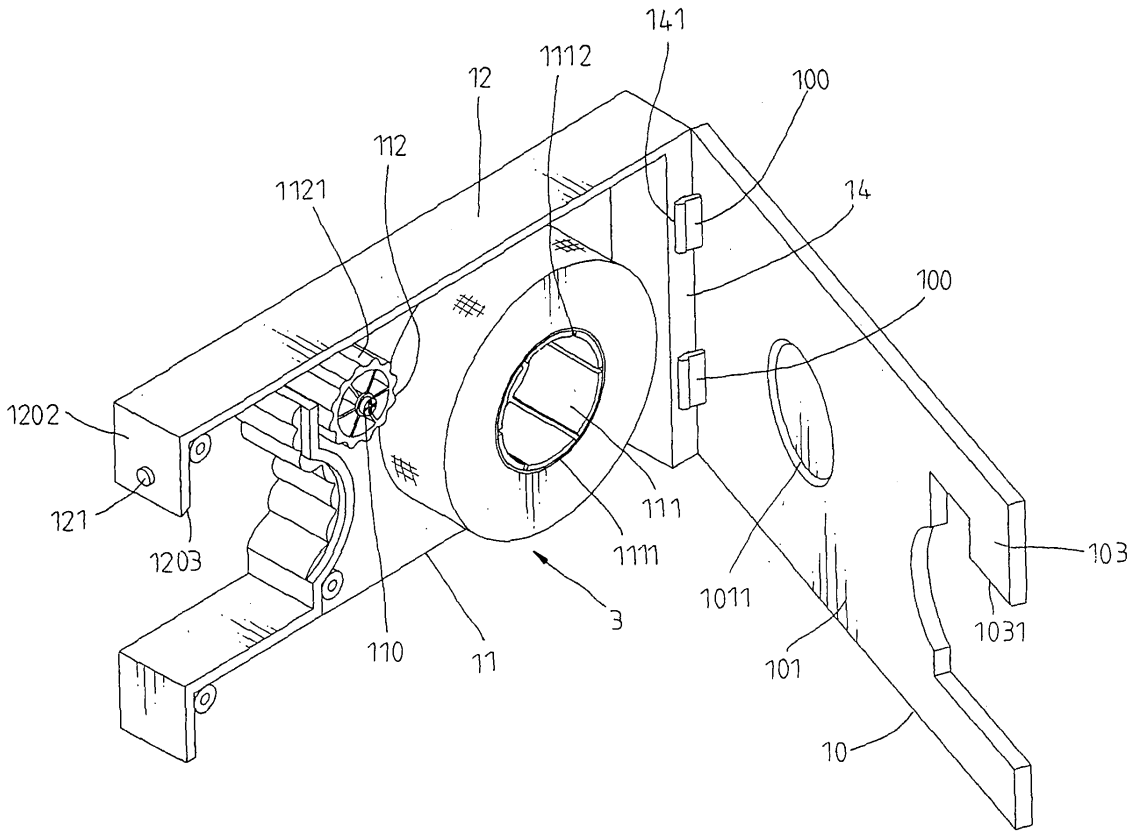

Fig. 4

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Description

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] The present invention is a type of tape dispenser, unique in its safety feature being its cutter held in a downward extending position, preventing accidental injuries.

[0002] The conventional tape dispenser **8,** as shown in Figures 1 and 2, has the serrated cutting edge **81** of the cutter facing upwards. After pulling the extended portion **91** of the tape-roll **9** out the tape dispenser to a desired distance, the user must pull the extended portion **91** of the tape-roll **9** downwards against the serrated cutting edge **81** of the cutter to sever. At this moment, the user's hand may be injured by the serrated cutting edge **81** of the cutter accidentally. Furthermore, after each dispense, the newly formed extended portion **91** of tape-roll **9** may stick back on to the surface of the tape-roll **9,** making it difficult to form a new extended portion **91,** and pull the newly formed extended portion **91** from the surface of the tape-roll **9.**

[0003] The present invention has been accomplished under the following circumstances in view. It is one object of the present invention to provide a tape dispenser which is accident-proof. It is another object of the present invention to provide a safety tape dispenser which allows the user convenient dispense of adhesive tape. It is a third object of the present invention to provide a safety tape dispenser which is inexpensive to manufacture.

[0004] As a result, the safety tape dispenser of the present invention comprises a body, which has a split hub supporting a tape roll, a guide-roller for guiding the extended portion of the tape-roll out the body, a front wall for resting newly formed extended portion of the tape-roll after each dispense, a cutter-holder holding a downward extending cutter for severing the extended portion of the tape-roll in a manner that is accident-proof, and a side cover hinged to the body. Moreover, the cutter-holder of the safety tape dispenser can have two side-guards and a front guard that further accident-proof the cutter, better preventing accidental injury to the user's hands during each dispense of adhesive tape.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005]

Figure 1 is an exploded view of a safety tape dispenser in accordance with the prior art.

Figure 2 is an elevated assembly view of Figure 1.

Figure 3 is an exploded view of a safety tape dispenser in accordance with the present invention.

Figure 4 is an elevated assembly view of the safety tape dispenser before closing of the side cover in accordance with the present invention.

Figure 5 is an elevated assembly view of the safety tape dispenser after closing of the side cover in accordance with the present invention.

Figure 6 is a schematic sectional view of the safety tape dispenser in accordance with the present invention.

Figure 7 is a schematic drawing of the present invention, showing the extended portion of the tape-roll of the safety tape dispenser pulled upwards before the cut.

Figure 8 is similar to Figure 7 but showing the extended portion severed from the roll of tape.

Figure 9 is a sectional view of the present invention but showing only the positioning of the cutter in the cutter holder.

Figure 10 is an extended view of the safety tape dispenser in an alternate form as according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0006] Referring to Figures 3~9, a safety tape dispenser in accordance with the present invention is shown comprising a body 1, a cutter-holder 120, and a cutter 2. The body 1 has a base-wall 11, a roof 12 extending perpendicularly at the top edge of the base-wall 11, a rear wall 14 extending perpendicularly at the back edge of the base-wall 11 which is joined with the roof 12 at the rear, and a front wall 13 extending perpendicularly at the front edge of the base-wall 11 which is positioned below the roof 12 underneath a gap, a hub 111 for supporting a tape-roll 3 which perpendicularly extends from the base-wall 11 near both the roof 12 and the rear wall 14, and a pivoting 110 for supporting a guide-roller 112 which perpendicularly extends from the base-wall 11 near the front edge. The cutter-holder 120 is fastened to the front end of roof 12, just above the guide-roller 112. The cutter 2 is fastened on the cutter-holder 120 with a fastening member 121 in a vertical position with the serrated cutting edge facing down (see Figure 6). After installation of tape-roll 3 on the hub 111, the extended portion 31 of the tape-roll 3 is pulled outwards extending over the guide-roller 112 out the body 1, through the gap between the roof 12 and the front wall 13 (see Figure 6). After the extended portion 31 of the tape-roll 3 is pulled out the body 1 to a desired length, it is pulled upwards (see Figure 7) to be severed by the cutter 2 (see Figure 8). After the cut, the newly formed extended portion 31 of tape-roll 3 falls from the guide-roller 112 onto the front wall 13, making it convenient for next dispense.

[0007] Now onto the surface of the front edge, the front edge 130 of front wall 13 does not have a smooth surface 1301. It can be made corrugated 103 to reduce available contact area between extended portion 31 of tape-roll 3 and front wall 13, so the user can easily pull extended portion 31 of the tape-roll 3 off the front wall 13. When the user pulls the extended portion 31, the tape-roll 3 is held in place by the hub 111. Since the outer diameter of the hub 111 is slightly greater than the inner diameter of the tape-roll 3, and the hub 111 has longitudinal crevices 1112 equally spaced around the periphery, it can be constricted for the tape-roll 3 to fit over. Once the tape-roll 3 is loaded on hub 111, the hub 111 imparts an outwards pressure on the tape-roll 3, holding it in place. The side cover 10 is then fitted over the body 1 with a circular recess 1011 on the inner wall 101 receiving the outer end edge 1111 of the hub 111 upon closing. Given that the rear wall 14 has a plurality of coupling-sockets 141 arranged at different elevations, and respective to these coupling-sockets 141 are the coupling-insertions 100 on side cover 10 positioned the same way as the coupling-sockets 141, the side cover firmly fits over the body 1. Thus, when fitted the coupling-insertions 100 into the coupling-sockets 141, the coupling-insertions 100 are coupled to and pivoted by the coupling-sockets 141 of the rear wall 14, allowing the side cover 10 to be turned relative on the body 12, switching back-and-forth between open position (see Figure 4) and close position (see Figure 2).

[0008] Next, since the guide-roller 112 has a peripheral wall 1121 made corrugated for a minimized contact area between extended portion 31 of tape-roll 3 and guide-roller 112, the user can pull the extended portion 31 of tape-roll 3 out the body 1 with less effort.

[0009] In addition, the cutter-holder 120 can also have two side guard walls 103 and a front guard wall 1202, forming a front extension guard strip 1031, keeping the cutter 2 out of contact with the user's hand. The front guard wall 1202 has a beveled bottom edge 1203 sloping at a forward-tilting elevation towards the end of the serrated cutting edge of cutter 2 (see Figure 9), preventing accidental contact with the downwardly extended serrated cutting edge of the cutter 2 by the user. Figure 10 shows another possible addition to the safety tape dispenser by the present invention, exemplified using an alternate form. According to this embodiment, a thin hinge leaf 140 is formed integral to both the rear wall 14 of body 1 and the back edge of side cover 10, allowing the side cover 10 to turned relative to the body 1, switching between close position and open position.

[0010] As indicated above, the invention has the following advantages:

1. The cutter 2 is held in a vertical position with the serrated cutting edge facing downward to prevent accidental injury.

2. The arrangement of hub 111 and side cover 10 facilitates loading/unloading of tape-roll 3.

3. After each dispense, a newly formed extended portion 31 of the tape-roll 3 is left resting on front wall 13 to facilitate future dispenses.

4. The whole structure of the safety tape dispenser is simple, and is convenient for mass production to reduce cost.

5. The side guard walls 103 and front guard wall 1202 of cutter-holder 120 are to protect from the cutter 2, and the front guard wall 1202 has a beveled bottom edge 1203 sloping in a forward-tilting elevation towards the end of the serrated cutting edge of the cutter 2 to prevent contacts which might result in accidental injuries between the user and the downward extending serrated cutting edge of the cutter 2.

Claims

1. A safety tape dispenser comprising:

a body, which is comprised of a base-wall, a roof extending perpendicularly at top edge of said base-wall, a rear wall extending perpendicularly at back edge of said base-wall which is joined to rear end of said roof, a front wall extending perpendicularly at front edge of said base-wall which is positioned below said roof underneath a gap, and a hub for supporting tape-roll having an extended portion which extends perpendicularly from said base-wall near said roof and said rear wall;
a side cover adapted to cover said body;
a cutter-holder fastened to said roof of said body at front edge;
a cutter fastened in a vertical position to said cutter-holder for severing extended portion of tape-roll on said hub, with said cutter having serrated edge facing down.

2. The safety tape dispenser as claimed in claim 1, wherein said rear wall of said body has a plurality of coupling-sockets; said side cover has a plurality of coupling-insertions specially positioned to fasten onto respective coupling-sockets of said rear wall of said body.

3. The safety tape dispenser as claimed in claim 2, wherein said side cover has a recessed area on inner wall thereof for receiving said hub when closing said side cover on said body.

4. The safety tape dispenser as claimed in claim 1, wherein said front wall of said body has a corrugated front surface.

5. The safety tape dispenser as claimed in claim 1 further comprises a guide-roller pivoted on said base-wall of said body for guiding extended portion of tape-roll on said hub out said body, with said guide-roller having a corrugated peripheral wall.

6. The safety tape dispenser as claimed in claim 1, wherein said cutter-holder comprises two side-guards that protect said cutter at two sides.

7. The safety tape dispenser as claimed in claim 1, further comprises a thin hinge formed integral to both the said rear wall of said body and the one edge of said side cover to connect said side cover to said body, enabling said side cover to turn relative on said body switching back-and-forth between open position and close position.

8. The safety tape dispenser as claimed in claim 1, wherein said body further comprises a pivoting extending perpendicularly from said base-wall near front edge, and a guide-roller mounted in a pivoted manner on said pivoting for guiding extended portion of tape-roll at said hub out the said body.

9. The safety tape dispenser as claimed in claim 1, wherein said cutter-holder comprises a front guard for protection suspended at front of said cutter.

10. The safety tape dispenser as claimed in claim 9, wherein said front guard has a beveled bottom edge sloping at a forward-tilting elevation towards the end of the serrated edge of said cutter.

11. The safety tape dispenser as claimed in claim 1, wherein said hub has a plurality of longitudinal crevices spaced along the periphery with an outer diameter not smaller than the inner diameter of tape-roll mounted thereon.

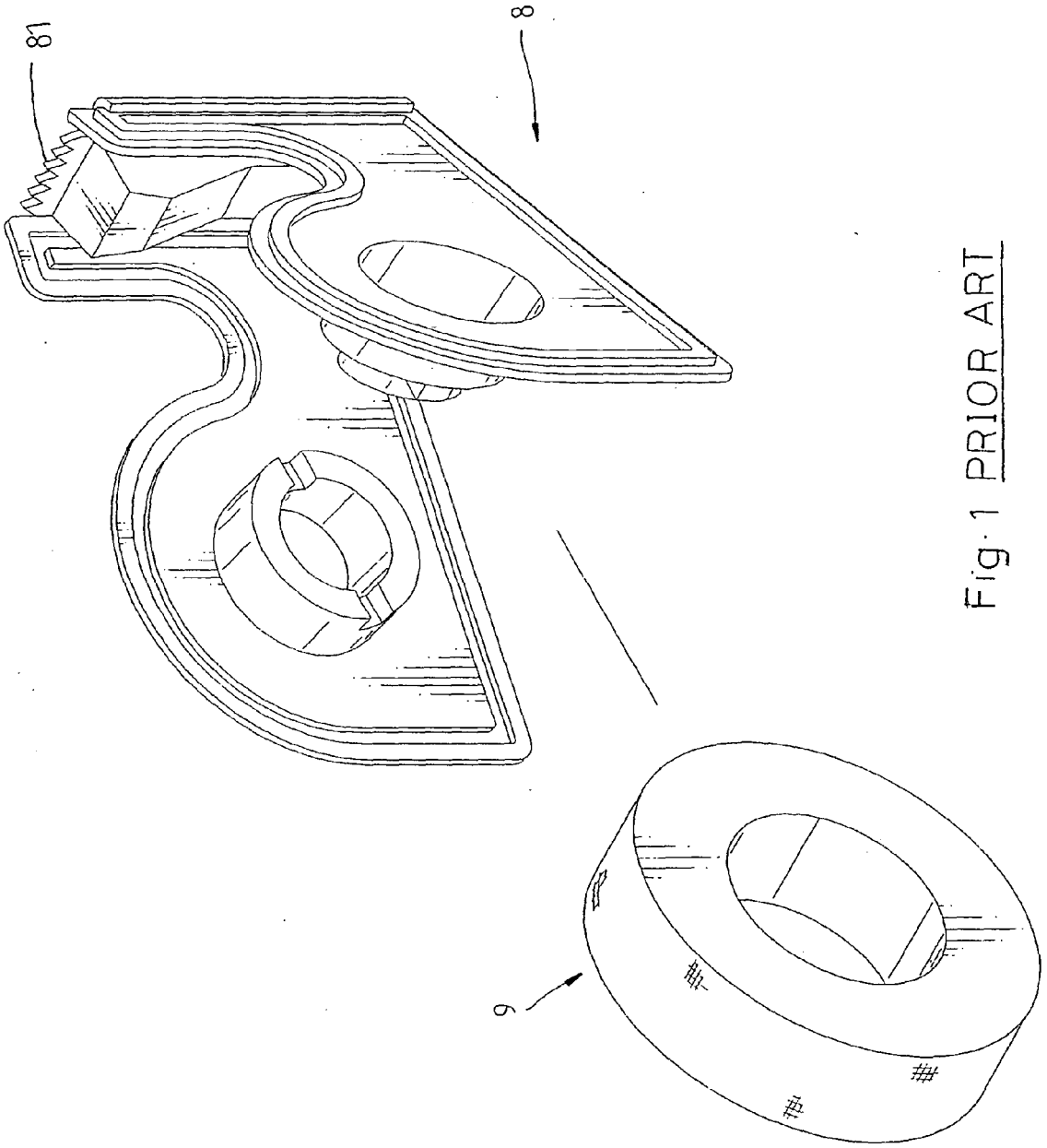

Fig. 1 PRIOR ART

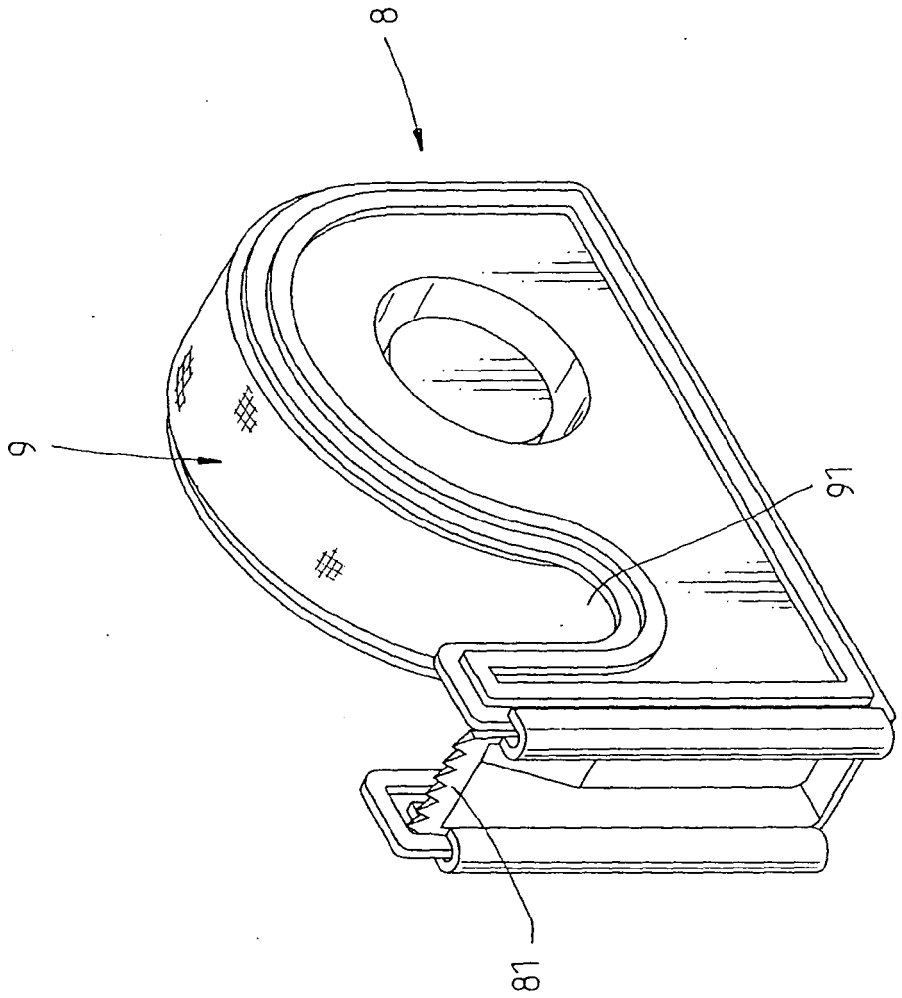

Fig. 2 PRIOR ART

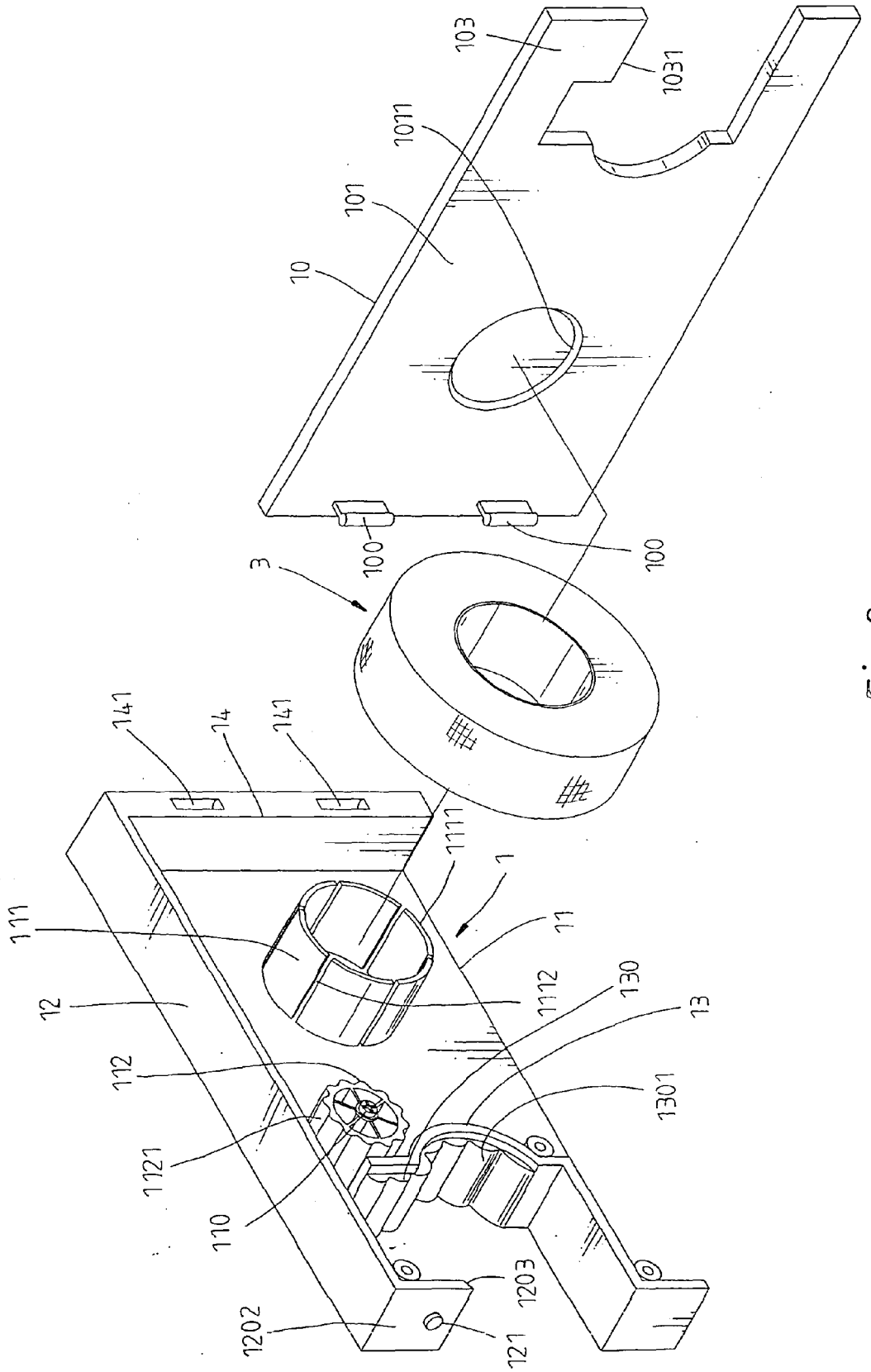
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Fig. 3

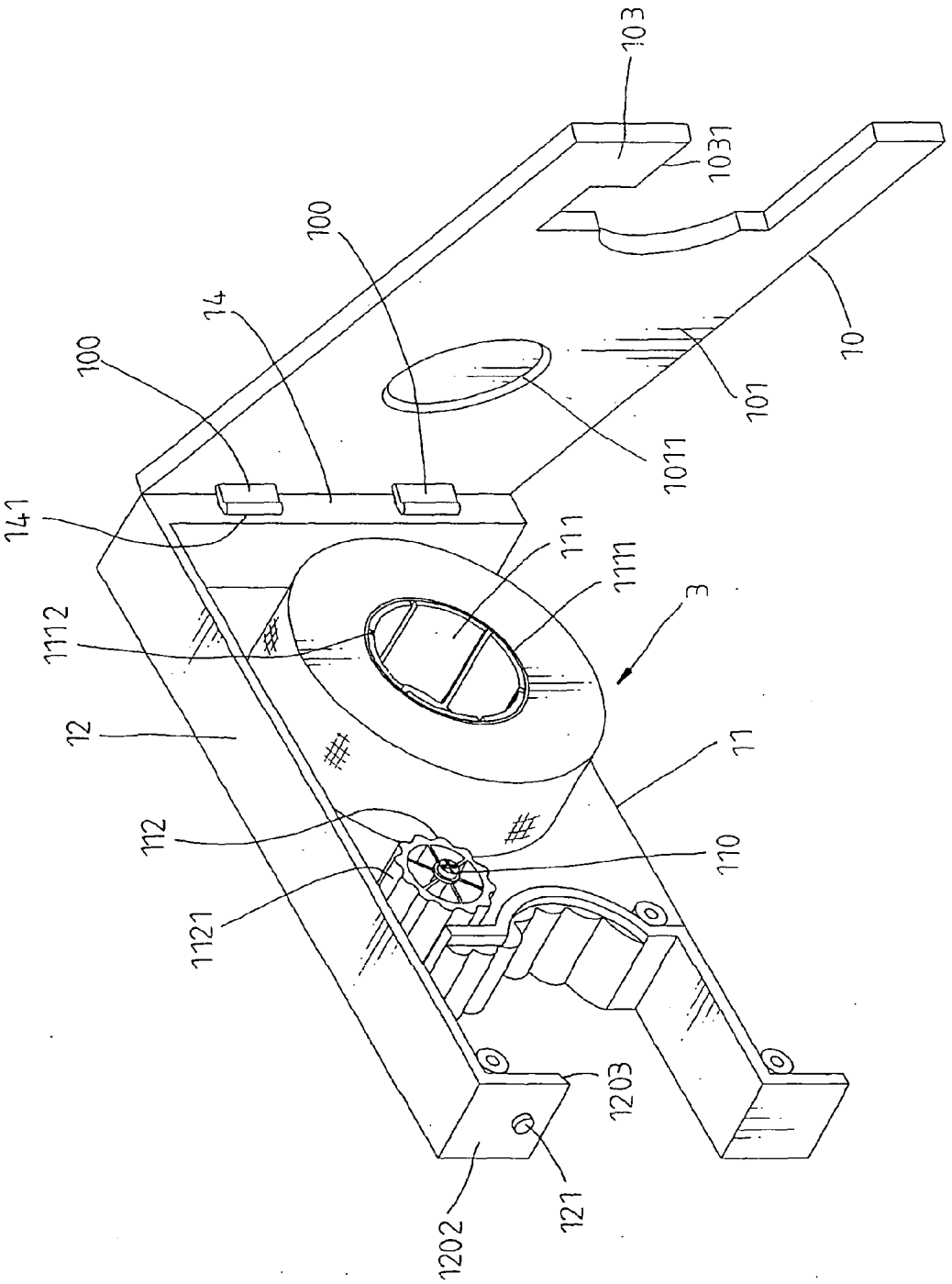
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Fig. 4

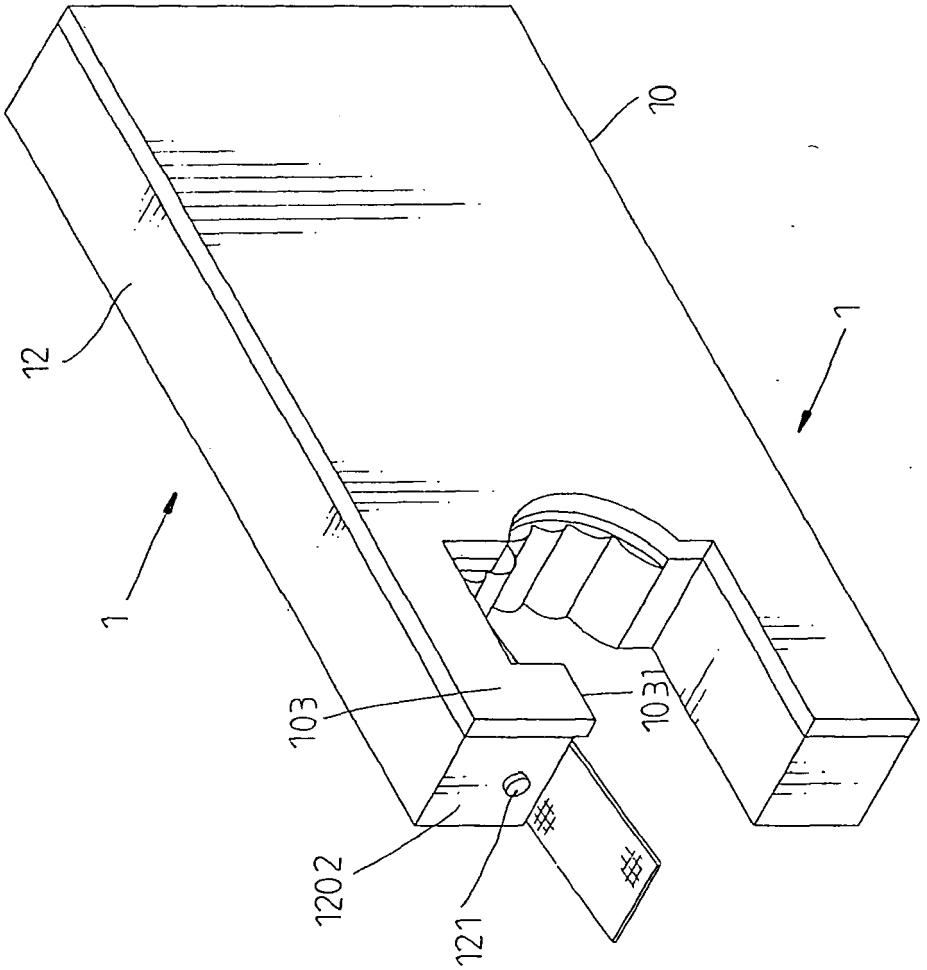

Fig. 5

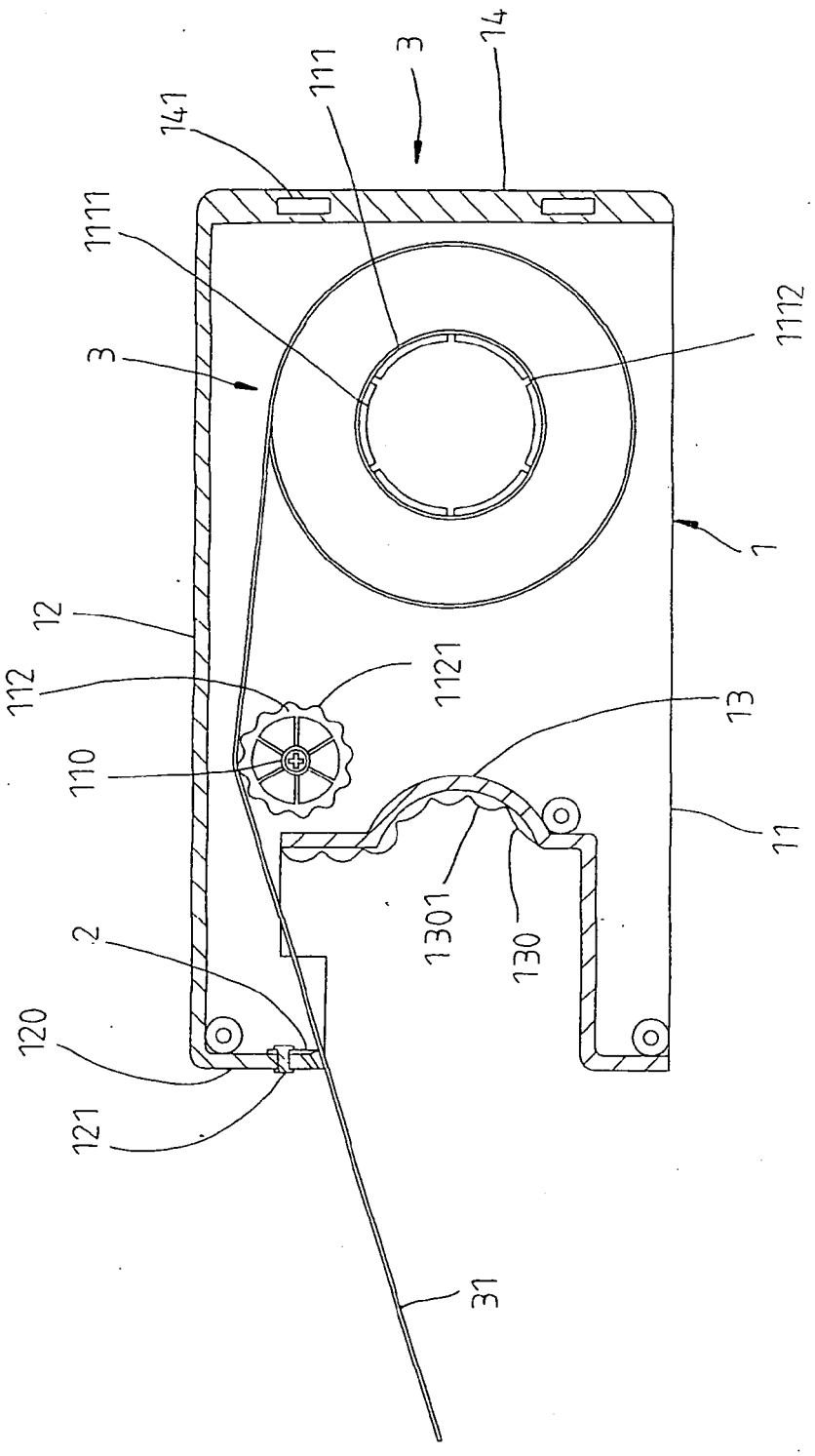
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Fig. 6

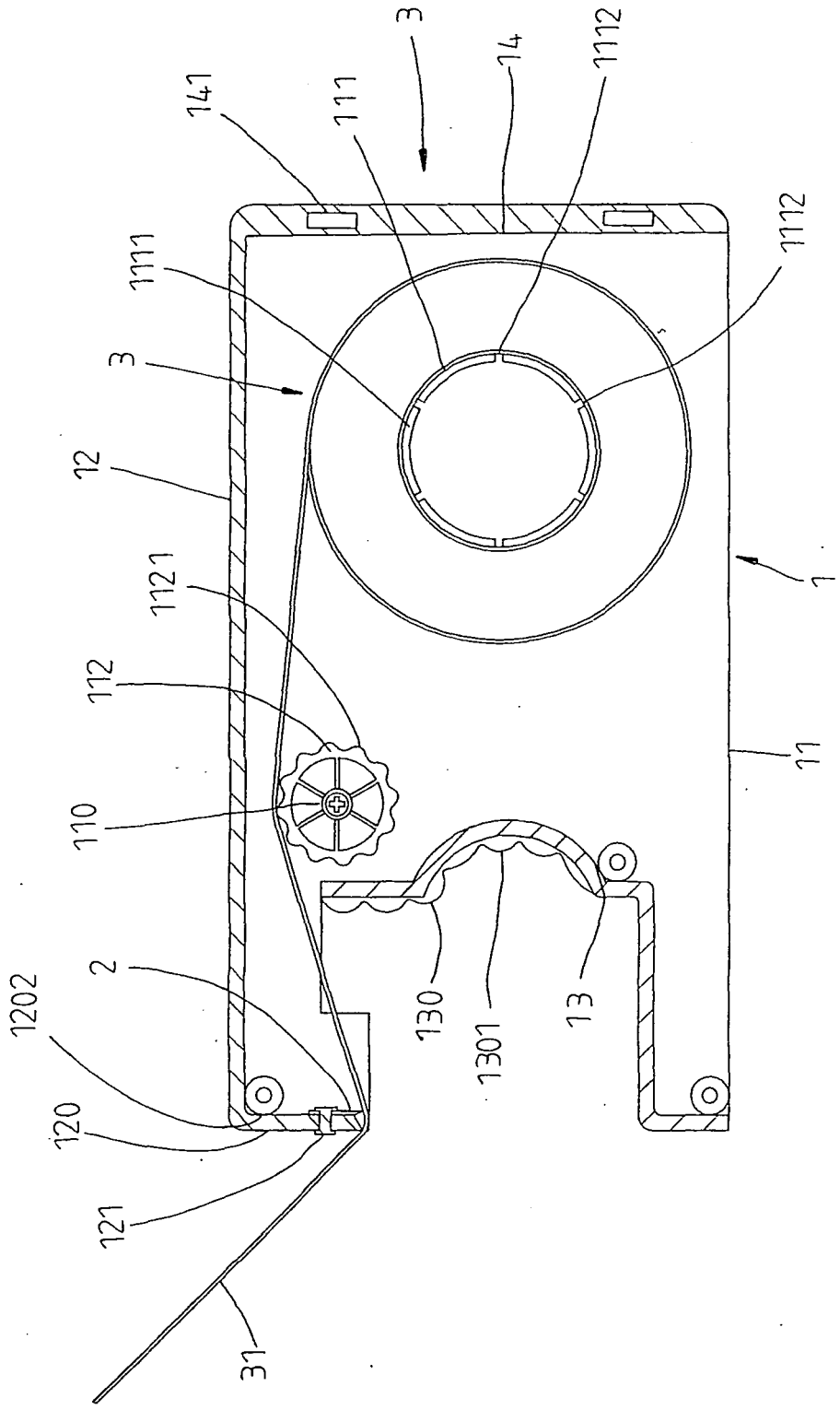
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Fig. 7

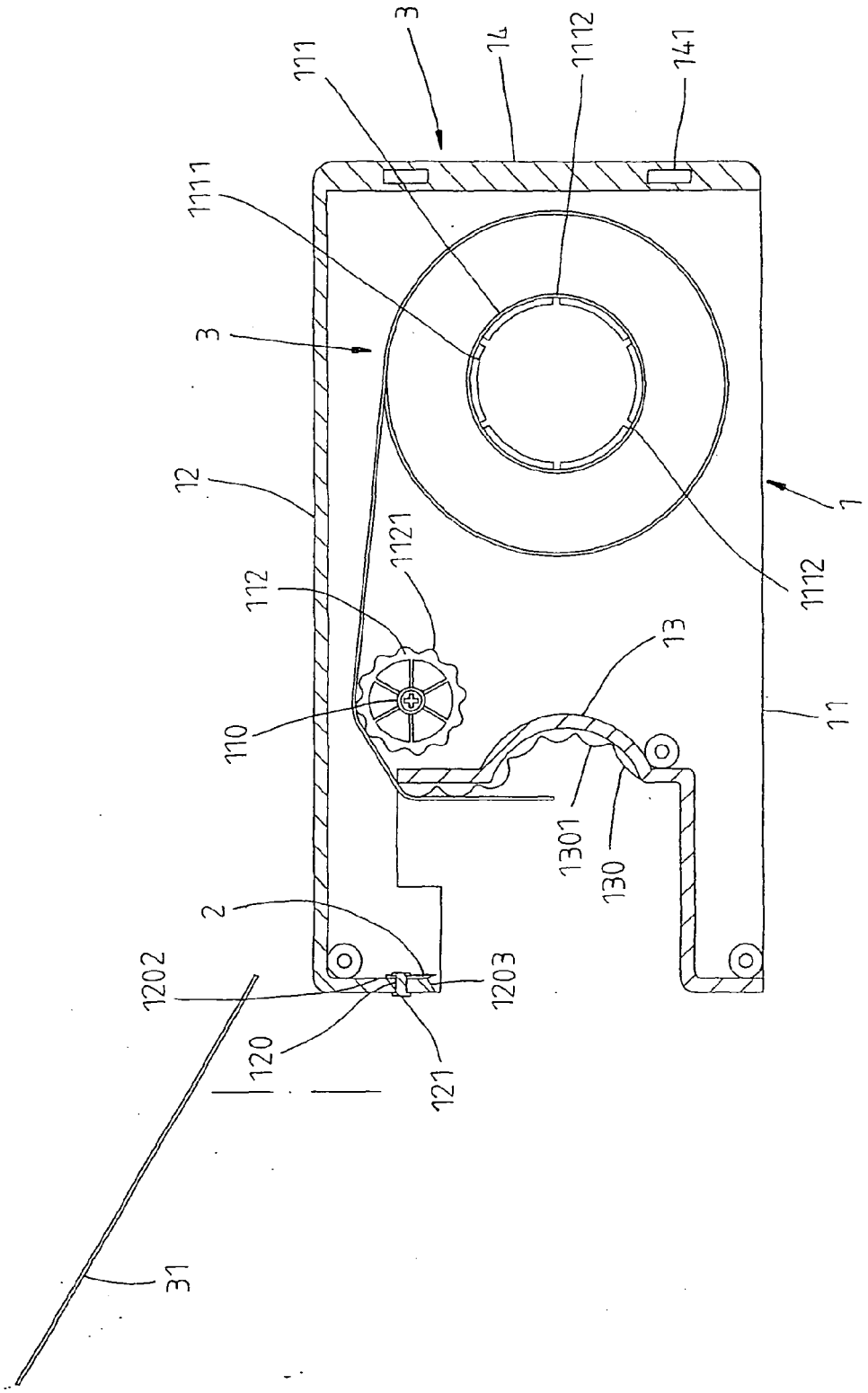
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Fig. 8

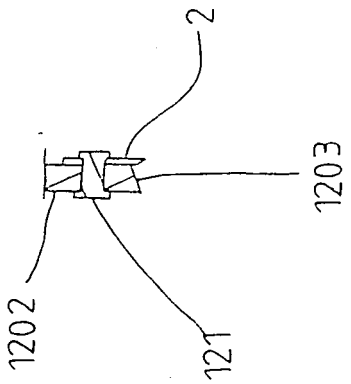

Fig. 9

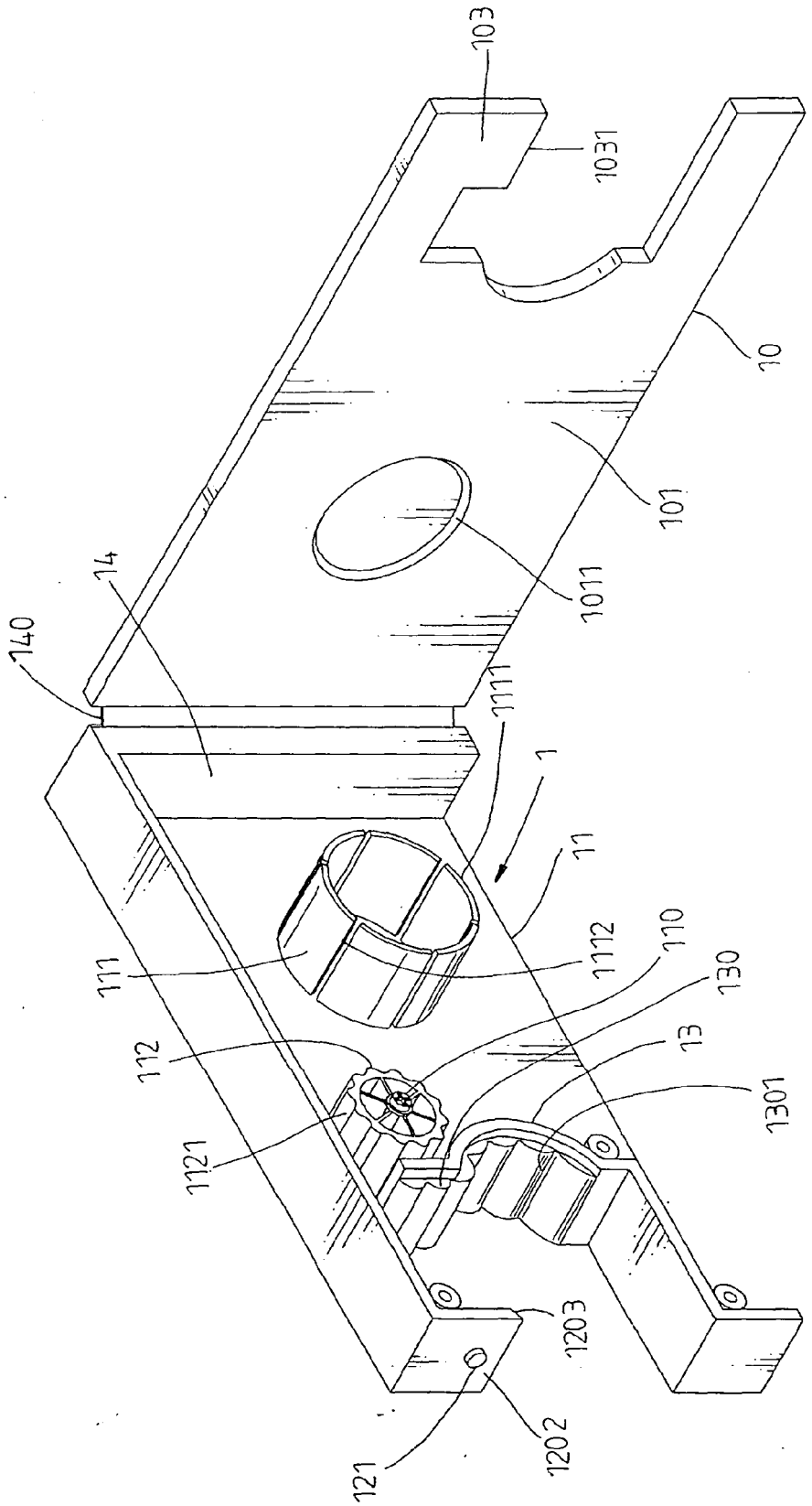
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Fig.10

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EUROPEAN SEARCH REPORT

Application Number
EP 05 01 1715

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 13, 5 February 2001 (2001-02-05) & JP 2000 302315 A (WAKAMATSU YOSHIHIDE), 31 October 2000 (2000-10-31) * abstract *	1-3,5,6, 8,11	B65H35/07
X	US 3 132 783 A (DUNCAN COLIN RONALD) 12 May 1964 (1964-05-12) * figures 1-5 *	1-3,6,11	
X	US 2 727 646 A (DAVID BLANCHE R) 20 December 1955 (1955-12-20) * column 1, line 71 - column 2, line 53; figures 1-4 *	1,3,4,6, 9,10	
X	DE 92 03 495 U1 (LERM, ALBRECHT, DR; LERM, MICHAEL, O-6900 JENA, DE) 11 June 1992 (1992-06-11) * page 5, paragraph 3 *	1,7	
X	US 2 324 204 A (FISCHER HOWARD L) 13 July 1943 (1943-07-13) * page 1, column 2, line 5 - line 55; figures 1-7 *	1,3,5,6, 9	TECHNICAL FIELDS SEARCHED (IPC) B65H
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 23, 10 February 2001 (2001-02-10) & JP 2001 163509 A (YOSHIDA SHIGEO), 19 June 2001 (2001-06-19) * abstract *	1-3,6	
X	US 6 065 519 A (LEE ET AL) 23 May 2000 (2000-05-23) * figures 1,2 *	1,3,5,6, 9	

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	22 March 2006	Pollet, D

CATEGORY OF CITED DOCUMENTS

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EUROPEAN SEARCH REPORT

Application Number
EP 05 01 1715

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 07, 3 July 2003 (2003-07-03) & JP 2003 089467 A (HIDA TAKASHI), 25 March 2003 (2003-03-25) * abstract * -----	1	
			TECHNICAL FIELDS SEARCHED (IPC)

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22-03-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2000302315 A	31-10-2000	NONE	
US 3132783 A	12-05-1964	NONE	
US 2727646 A	20-12-1955	NONE	
DE 9203495 U1	11-06-1992	NONE	
US 2324204 A	13-07-1943	NONE	
JP 2001163509 A	19-06-2001	NONE	
US 6065519 A	23-05-2000	NONE	
JP 2003089467 A	25-03-2003	NONE	

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