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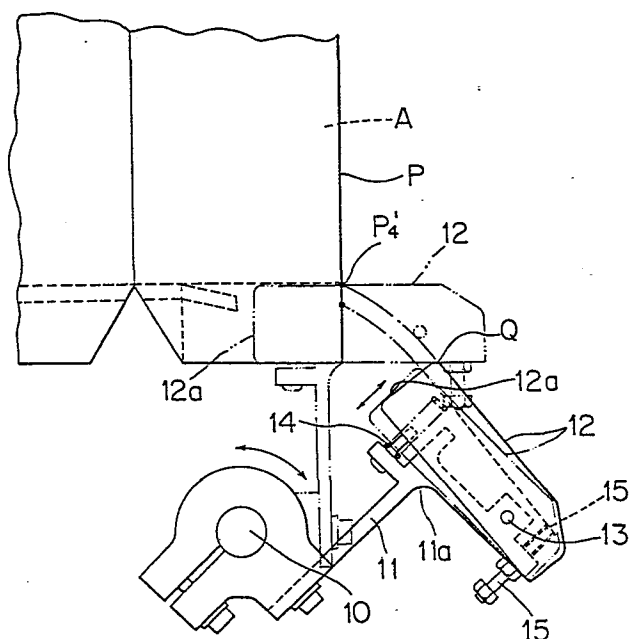
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54 **Swingable claw for wrapping machine.**

57 A swingable claw for a wrapping machine. The rear portion of the swingable claw (12) is pivotally coupled to the support plate (11a) of a turnable arm (11). The free end (12a) of the swingable claw is urged by a spring (14) in such a direction as to open and is normally kept at a prescribed degree of opening.



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BACKGROUND OF THE INVENTION

The present invention relates to a swingable claw for a wrapping machine, which acts to fold the end face of soft wrapping paper in a process of wrapping a product with the paper.

In prior art, a conventional wrapping process shown in Figs. 2 to 8 is effected. As shown in Fig. 2, soft wrapping paper P cut to prescribed dimensions is moved down into a wrapping passage. As shown in Fig. 3, a product A to be wrapped such as a pile of cigarettes is pushed forward into the soft wrapping paper P by a pusher 1 and the product and the paper are passed through between an upper and a lower guide plates 16 (shown in Fig. 9) so that the paper P is wound as U on the product A. The product A and the paper P are pushed forward further by the pusher 1 so that a swingable claw 2 waiting in a closed position performs the front end face folding P_1 of the paper P, as shown in Fig. 4. The product A and the paper P are then pushed forward furthermore so that a guide plate 3 holds the end face folding P_1 of the claw 2. At that time, the pusher 1 finishes pushing the product A and the paper P forward and the swingable claw 2 is opened to a non-folding position, as shown in Fig. 5. A lower portion folding plate 4 is then moved up to perform a lower portion folding P_2 , as shown in Fig. 6. An upper portion folding plate 5 is then moved down to perform an upper portion folding P_3 , and the lower portion folding plate 4 is simultaneously moved down, as shown in Fig. 7. The swingable claw 2 is then turned to the closed position to perform a rear end face folding P_4 , as shown in Fig. 8.

When the swingable claw 2 performs the rear end face

folding P_4 , the soft wrapping paper P is not bent exactly along the folding line P_4' of its folded portion, due to the locus of turning of the end of the swingable claw 2. For this reason, there is a problem that said folded portion becomes loose or the rear end face folding P_4 is not neatly performed.

SUMMARY OF THE INVENTION

The present invention was made in order to solve said problem. The purpose of the present invention is to provide a swingable claw for a wrapping machine, which makes it possible to neatly perform the rear end face folding of soft wrapping paper exactly along its folding line.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a plan view of an embodiment of the present invention;

Figs. 2 to 8 are explanatory views showing a conventional wrapping process; and

Fig. 9 is a sectional view of a support mechanism for wrapping paper.

DETAILED DESCRIPTION OF THE EMBODIMENTS

The present invention is hereinafter described in detail referring to an embodiment. As shown in Fig. 1, the rear portion of a swingable claw 12 as to the direction of proceeding of a product A to be wrapped is pivotally coupled by a pin 13 to the support plate 11a of a turnable arm 11 secured on a turning shaft 10, and the free front and

12a of the claw 12 is urged in such a direction as to open away from the support plate 11a, by a helical spring 14 provided between the free front end 12a and the support plate 11a. The degree of opening of the swingable claw 12 from the support plate 11a is adjusted by a stopper 15 secured on the rear portion of the support plate by a screw.

As shown in Fig. 9, a support mechanism is provided for the pasted upper folded portion P_3 of soft wrapping paper P and an upper guide plate 16 has a vacuum suction port 16a. As a result, paste 17 applied to the upper folded portion P_3 of the paper P is prevented from irregularly clinging to other portions as the paper P is wound as U on the product A.

The turnable arm 11 and the swingable claw 12 are moved between an opened position shown by a full line in Fig. 1 and a closed position shown by a two-dot line therein, respectively. In the closed position, the free end 12a of the swingable claw 12 is closed by the wrapped product A against the helical spring 14.

When the swingable claw 12 is in the closed position and the wrapped product A is pushed out by a pusher, the free end 12a of the swingable claw is pushed down by the wrapped product A against the helical spring 14 and simultaneously performs a front end face folding P_1 . When the swingable claw 12 is in the opened position to be closed onto the wrapped product A, the outer edge Q of the free end 12a whose degree of opening is previously adjusted by the stopper 15 takes a locus to come into contact with the folding line P_4' of the folded end face portion P_4 of the wrapping paper P at the rear of the wrapped product A so that the swingable claw 12 is moved to the closed position shown by the two-dot

line in Fig. 1, as the claw performs the rear end face folding P_4 of the wrapping paper P and is simultaneously pushed down by the wrapped product A.

Because the rear portion of the swingable claw 12 is pivotally coupled to the support plate 11a of the turnable arm 11 and the free end 12a of the swingable claw is urged by the spring 14 in such a direction as to open and is normally kept at a prescribed degree of opening, the rear end face folding of the soft wrapping paper P on the wrapped product A is neatly performed along the folding line of the paper.

WHAT IS CLAIMED IS:

A swingable claw for a wrapping machine, characterized in that the rear portion of the swingable claw is pivotally coupled to the support plate of a turnable arm and the free end of the swingable claw is urged by a spring in such a direction as to open and is normally kept at a prescribed degree of opening.

FIG. 1

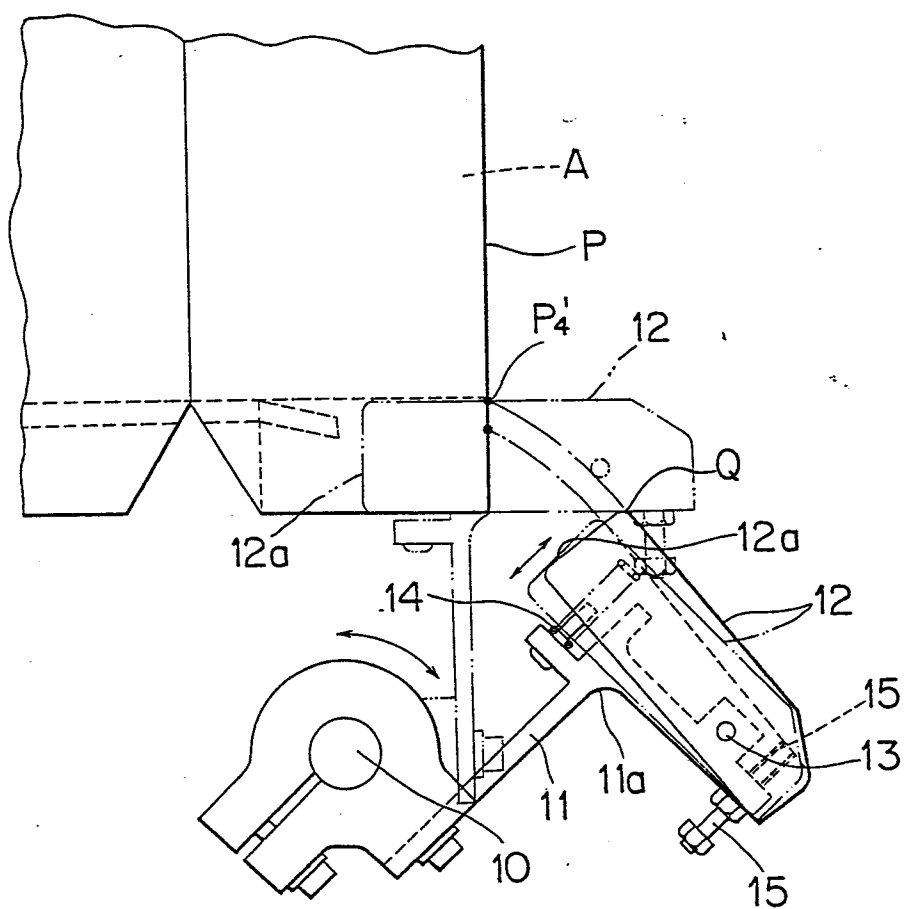


FIG. 2

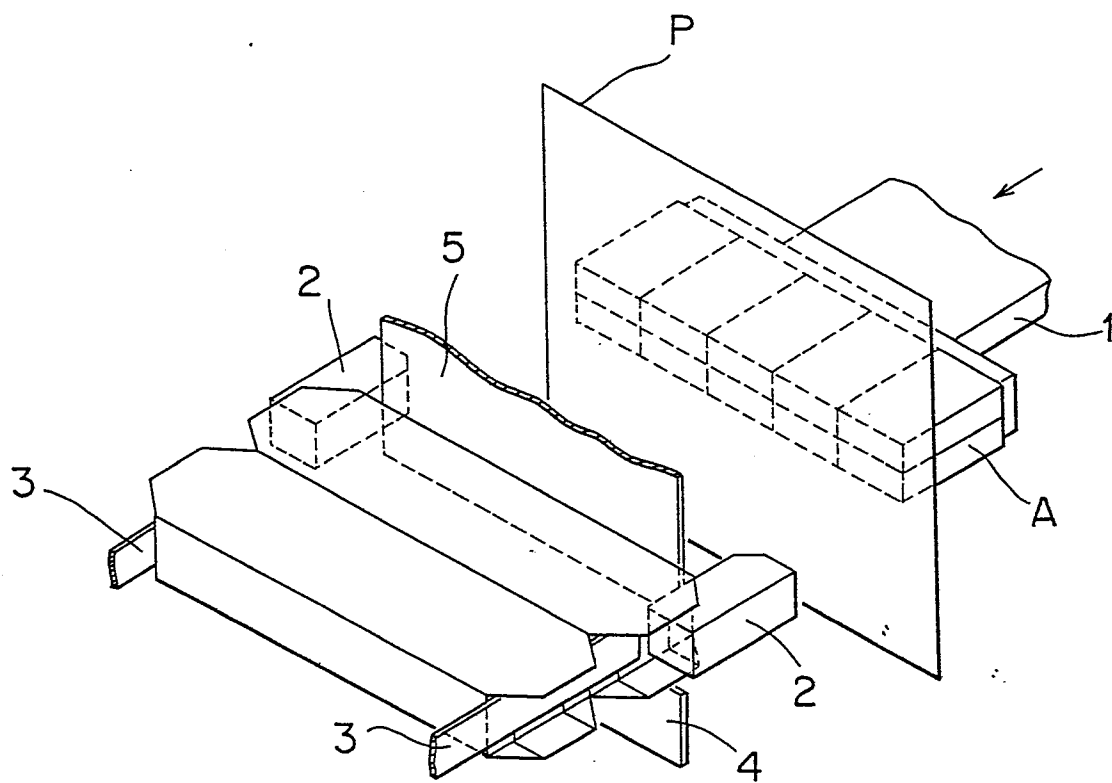


FIG. 3

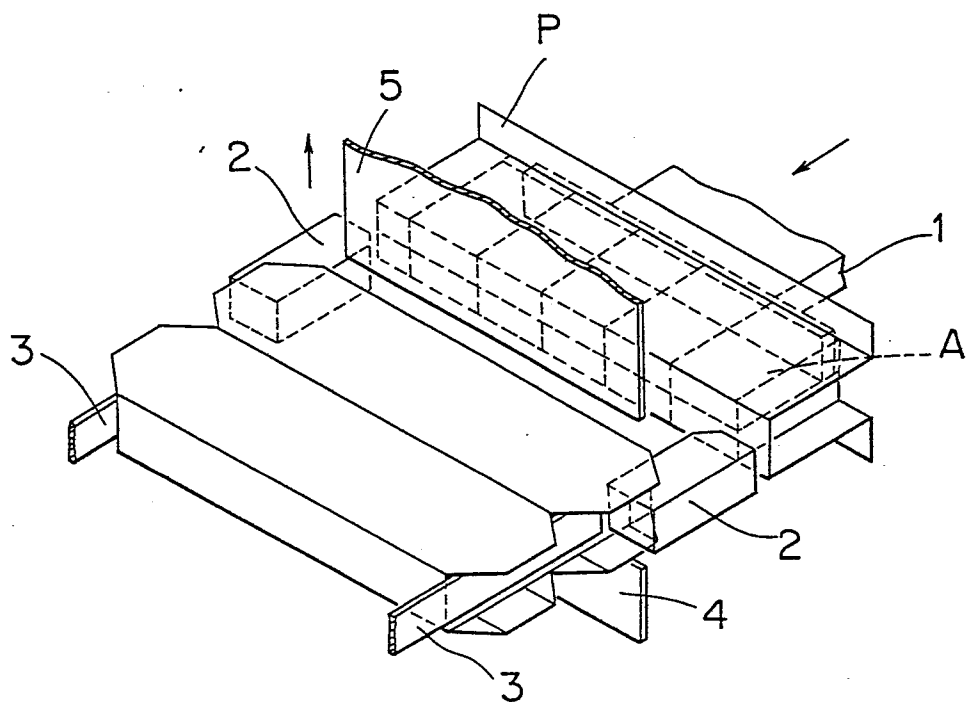


FIG. 4

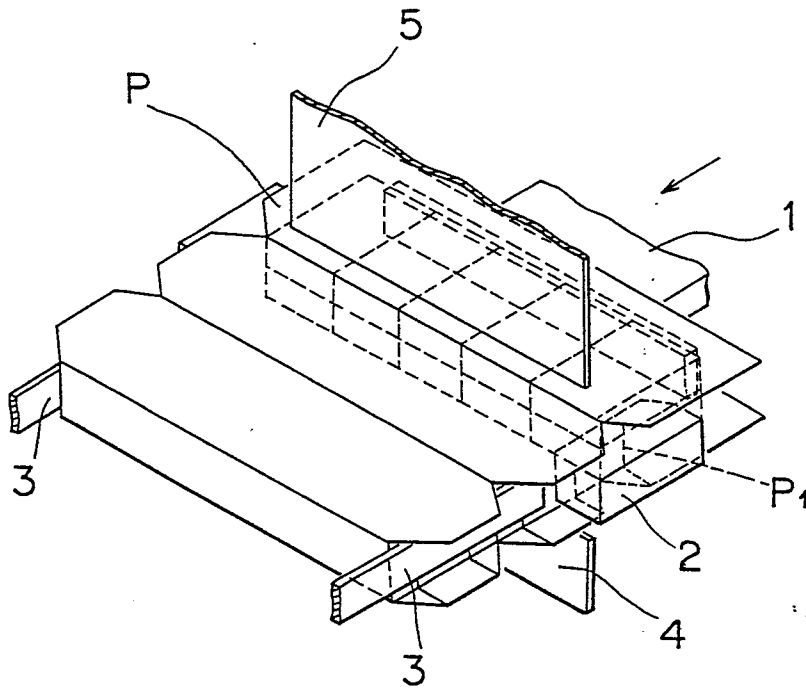


FIG. 5

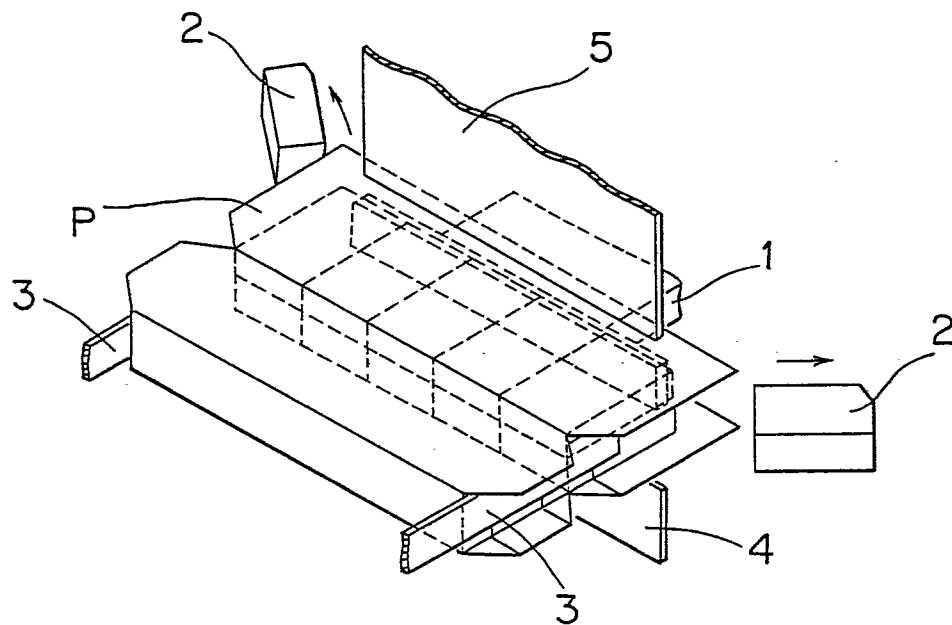


FIG. 8

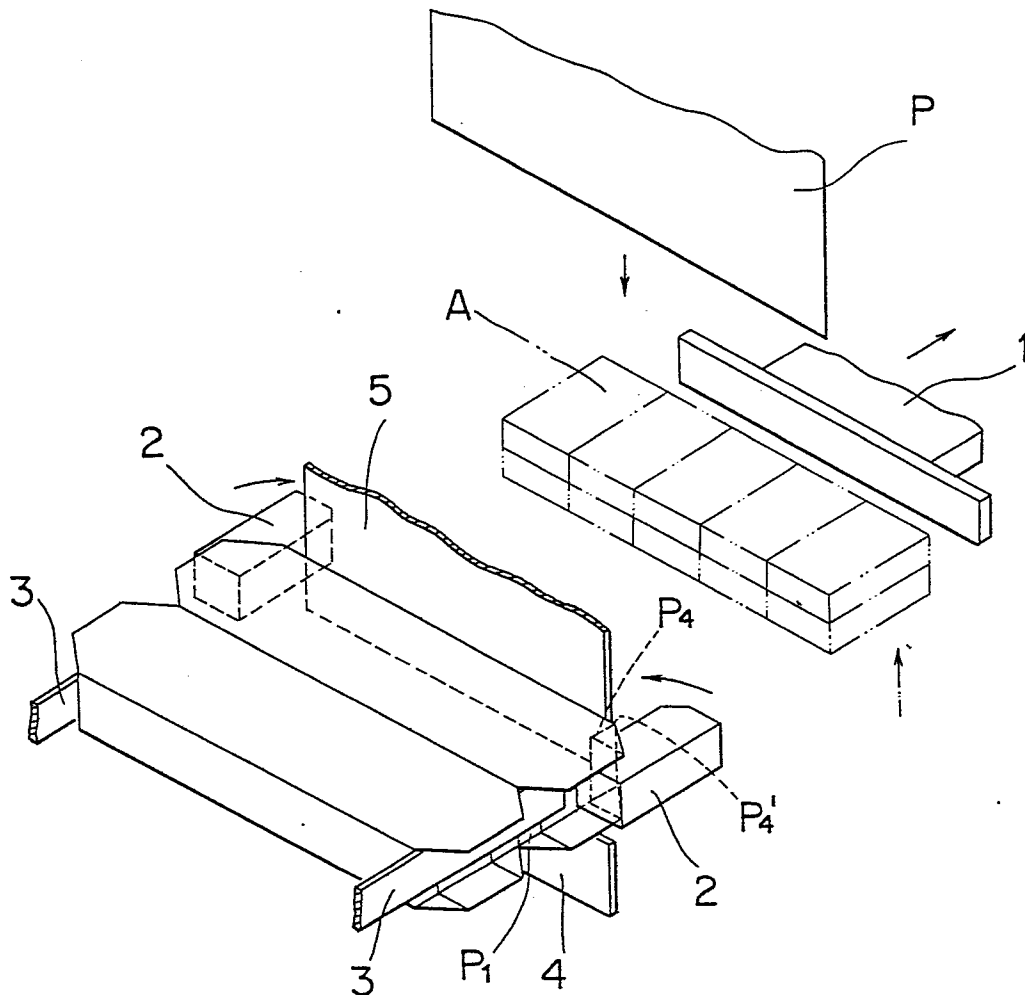
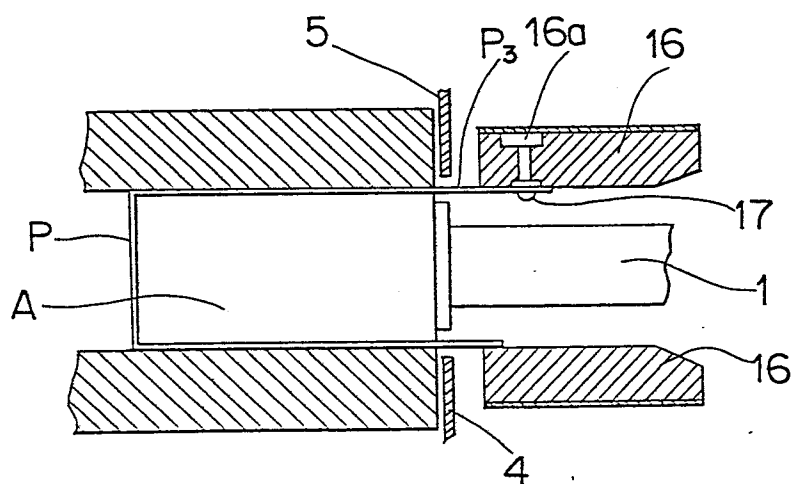


FIG. 9





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	US-A-2 584 529 (H.G. ALLEN) * Column 5, lines 29-47; column 6, lines 4-37; figures 8,9 *	1	B 65 B 49/08 B 65 B 11/12
X	DE-C- 280 452 (FIRMA F.E. JAGENBERG) * Page 3, lines 23-32; figures 3,4 *	1	
X	GB-A- 953 551 (H. GAMBLE) * Page 2, lines 97-117; page 3, lines 4-25; figures 1-3 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 65 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23-09-1985	Examiner GRENTZIUS W.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			