

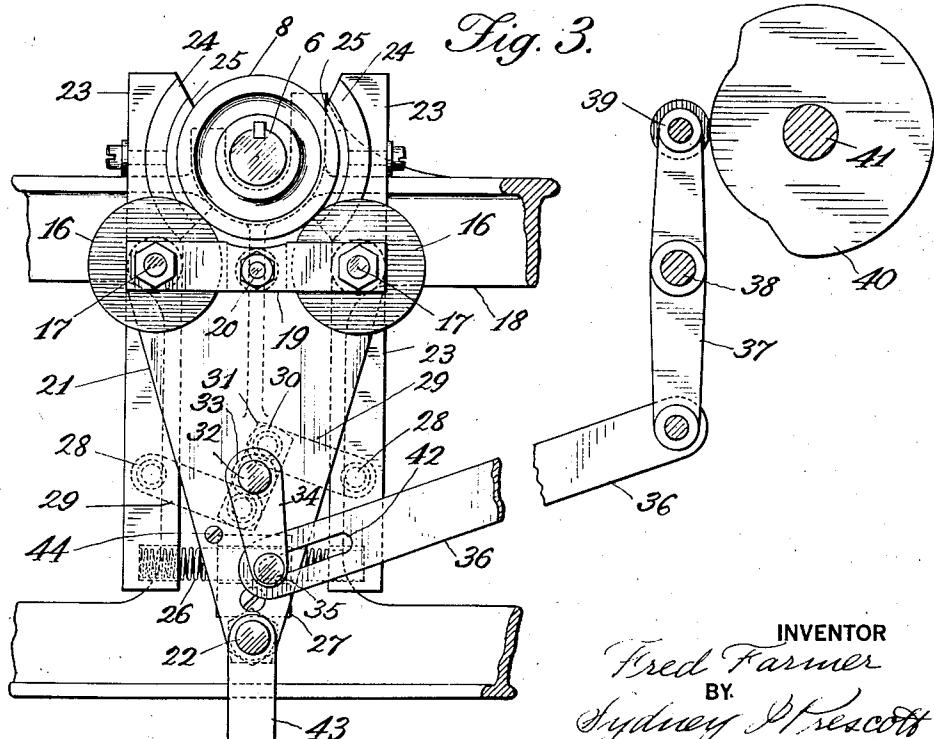
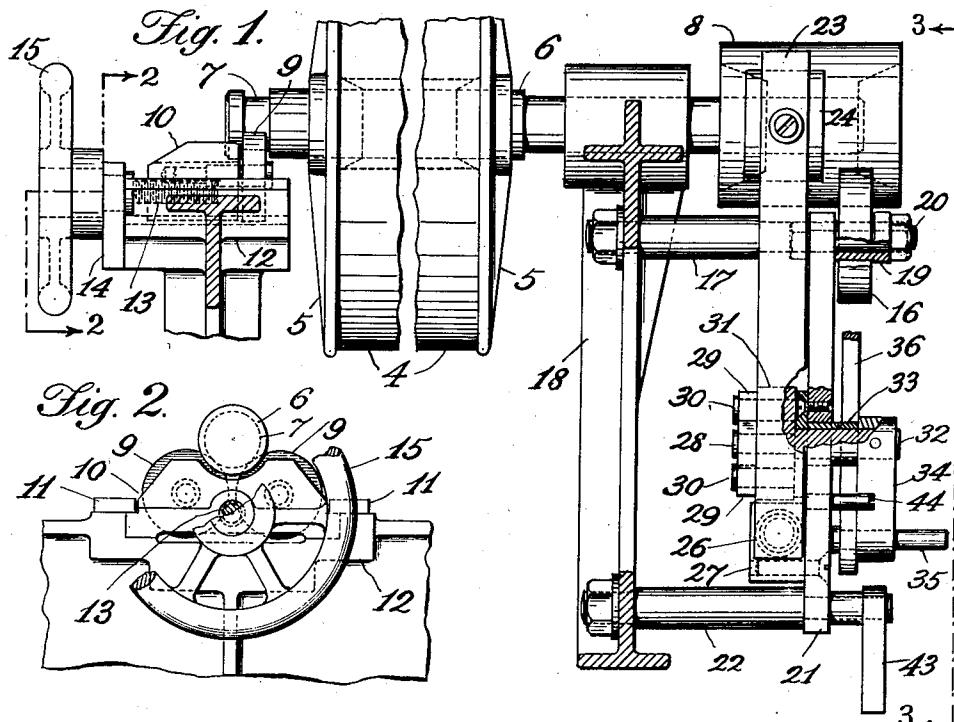
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PAPER FEED CONTROL

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# UNITED STATES PATENT OFFICE.

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## PAPER-FEED CONTROL.

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This invention relates to an improved paper feed control for wrapping machines.

In a wrapping machine, it is desirable that the paper reel which supplies the wrapping material should rotate as easily as possible in order to prevent undue strain and possible tearage of the strip of paper, but should stop moving while the paper is being cut to form an individual wrapper in order to avoid accumulation of slack material which is liable to feed improperly when a subsequent package is being wrapped. The main object of the present invention is the production of a paper feed control having these desirable attributes. With this and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same or like parts, Fig. 1 is a side elevation, partly broken away, of a control constructed in accordance with the invention; Fig. 2 is a fragmentary view taken on the line 2—2 in Fig. 1; and Fig. 3 is an end elevation of the structure shown in Fig. 1.

In carrying the invention into effect, there is provided a shaft for supporting a reel of paper in strip form to be cut into individual wrappers for packages, means for permitting free rotation and axial adjustment of said shaft during paper feeding intervals in order to insure accurate feeding of the paper, and mechanism for preventing shaft rotation during non-feeding intervals in order to avoid slack material interfering with a subsequent feeding operation. These parts may be varied in construction within the scope of the claims, for the specific structure selected to illustrate the invention is but one of numerous possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, the roll of paper, marked 4, is mounted on the reel ends 5 on a shaft 6 which has an annular channel 7 near one of its ends; and on the other carries a drum 8. The channeled end of the shaft 6 engages bearing rollers 9 carried by a slide 10 which is slidably mounted between gibs 11 on the frame 12 of the

machine. The slide 10 is tapped to receive a screw 13 which is shouldered on an end plate 14 of the frame 12, so that by turning the hand wheel 15 mounted on the outboard end of the screw 13 the slide 10 may be moved axially on the frame 12, thereby giving an axial adjustment to the shaft 6, the rollers 9 engaging one or the other shoulder of the channel 7, in accordance with the direction of movement of the slide 10. This enables the machine operator to easily and accurately adjust the free running strip of paper while it is being fed to the wrapping machine, or, in other words, during the feeding interval.

The drum 8 rests on stationarily mounted rollers 16 supported on studs 17 carried by the frame bracket 18, the rollers 16 being held in proper relationship by a spacer 19 clamped by the bolt 20 to the triangular plate 21 supported by the studs 17 and 22.

On the studs 17 are fulcrumed brake arms 23, to which are fastened brake shoes 24 having linings 25 fitting the periphery of the drum 8 and being forced into contact with the same by a coil spring 26 socketed in the ends of the arms 23 and passing through a sleeve 27 attached to the plate 21. To each of the brake arms 23 is pivoted, by pins 28, a link 29, the other ends of which are pivoted, by pins 30, to the ends of a lever 31 having a centre stud 32 turnable in a bushing 33 fastened to, and passing through, the plate 21. To the end of the stud 32 is fastened an arm 34, on the pin 35 of which is pivoted a connecting rod 36 attached to one end of a cam lever 37 fulcrumed on the shaft 38 and carrying a cam bowl 39 engaging the cam 40 mounted on a cam shaft 41 of the wrapping machine in connection with which the control is employed.

The rod 36, at the brake operating end, is provided with a slot 42 which permits counter clock-wise movement of the arm 34 without affecting the rod 36. Thus, if it is desired to release the brake for the purpose of lifting the shaft 6 to mount a fresh reel of paper thereon, the arm 34 is turned up in the slot 42 and is held up by propping it up with the bar 43 which is loosely pivoted for this purpose at the end of the stud 22. The backward movement of the arm 34 is limited by a stop 44 attached to the plate 21. The track of the cam 40 is so designed that the brakes 25 are released only during

the feeding interval, the spring 26 holding them in engagement with the drum 8 during the remainder of the cycle.

What is claimed is:

- 5 1. The combination with a shaft for supporting a reel of paper, of means for permitting free rotation and effecting axial adjustment of said reel during paper feeding intervals, and mechanism for preventing shaft rotation during non-feeding intervals, said means including an annular channel in and near one end of said shaft, roller bearings working in said channel, distant roller bearings supporting the other end of said shaft.
- 10 2. The combination with a shaft for supporting a reel of paper of means for permitting free rotation and effecting axial adjustment of said reel during paper feeding intervals, and mechanism for preventing shaft rotation during non-feeding intervals, said means including an annular channel in and near one end of said shaft, roller bearings working in said channel, distant roller bearings supporting the other end of said shaft, and screw-actuated means for axially moving said channel bearings.
- 15 3. The combination with a shaft for supporting a reel of paper, of means for per-

mitting free rotation and effecting axial adjustment of said reel during paper feeding intervals, and mechanism for preventing shaft rotation during non-feeding intervals, said mechanism including a drum on said shaft, and a spring-pressed and cam-controlled braking device engaging said drum during non-feeding intervals only.

4. The combination with a shaft for supporting a reel of paper, of means for permitting free rotation and effecting axial adjustment of said reel during paper feeding intervals, and mechanism for preventing shaft rotation during non-feeding intervals, said means including an annular channel in and near one end of said shaft, roller bearings working in said channel, distant roller bearings supporting the other end of said shaft, and screw-actuated means for axially moving said channel bearings, and said mechanism including a drum on said shaft engaging said distant bearings, and a spring-pressed and cam-controlled braking device engaging said drum during non-feeding intervals only.

In testimony whereof, I have signed my name to this specification.

FRED FARMER.