

United States Patent

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[56] **References Cited**
UNITED STATES PATENTS
2,938,212 5/1960 Lerner..... 227/86
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[54] DISPENSER FOR BELT-TYPE STAPLES
3 Claims, 7 Drawing Figs.

[52]	U.S. Cl.....	226/151, 227/86
[51]	Int. Cl.....	B65h 17/44
[50]	Field of Search.....	226/151, 146: 227/86

ABSTRACT: Improvements to a dispenser for belt-type staples having a container and feed mechanism operatively connected therewith are shown. The improvements include a control spring which has a portion at one end thereof adapted to abut the belt and prevent retrograde movement thereof.

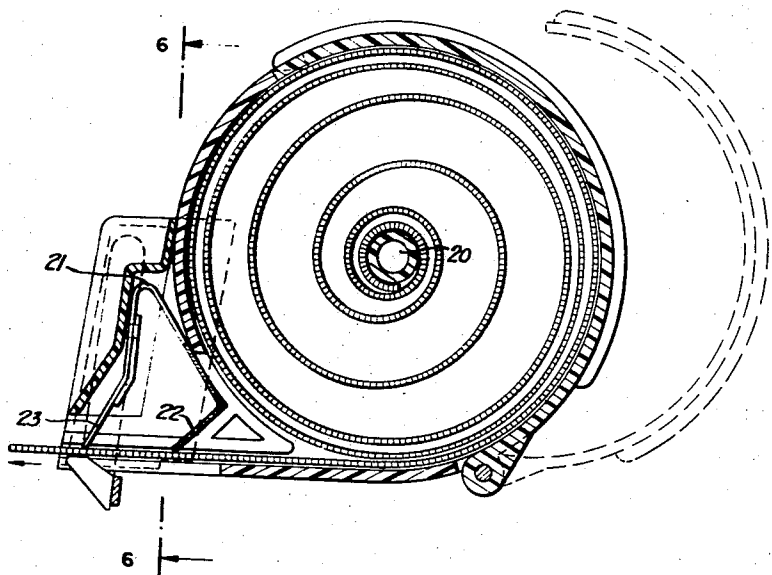


FIG. 1

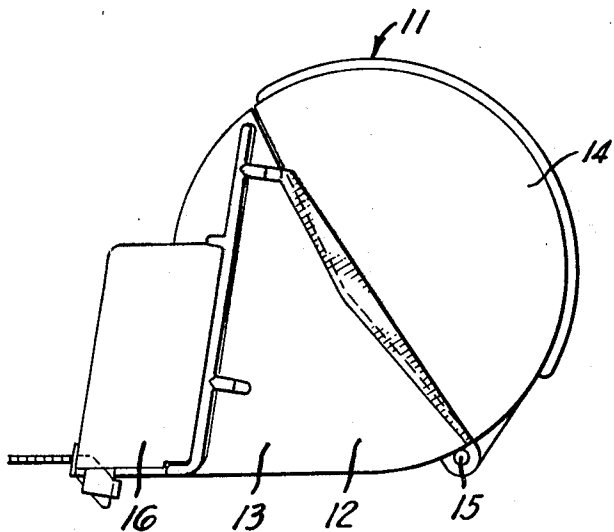


FIG. 3

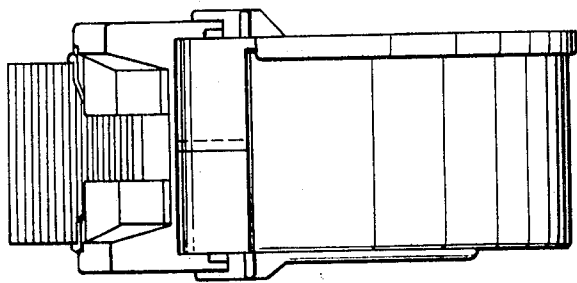
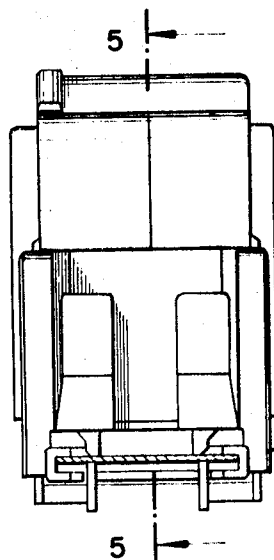


FIG. 2

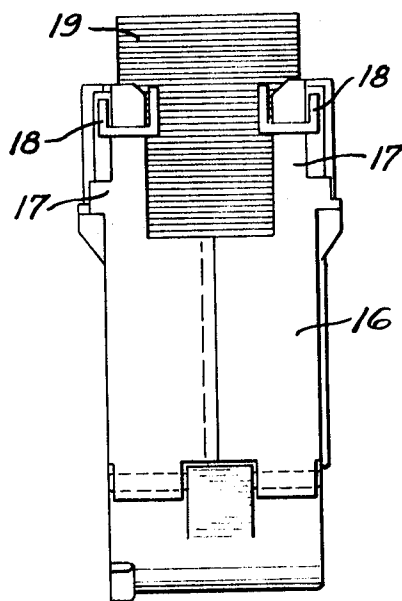


FIG. 4

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FIG. 5

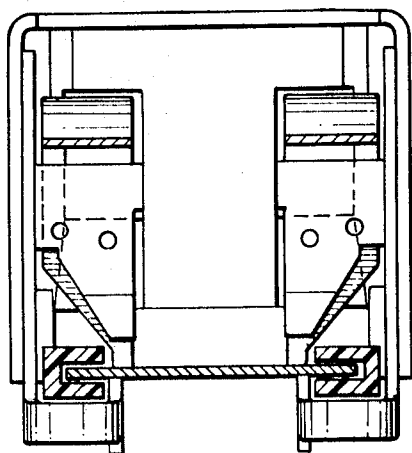
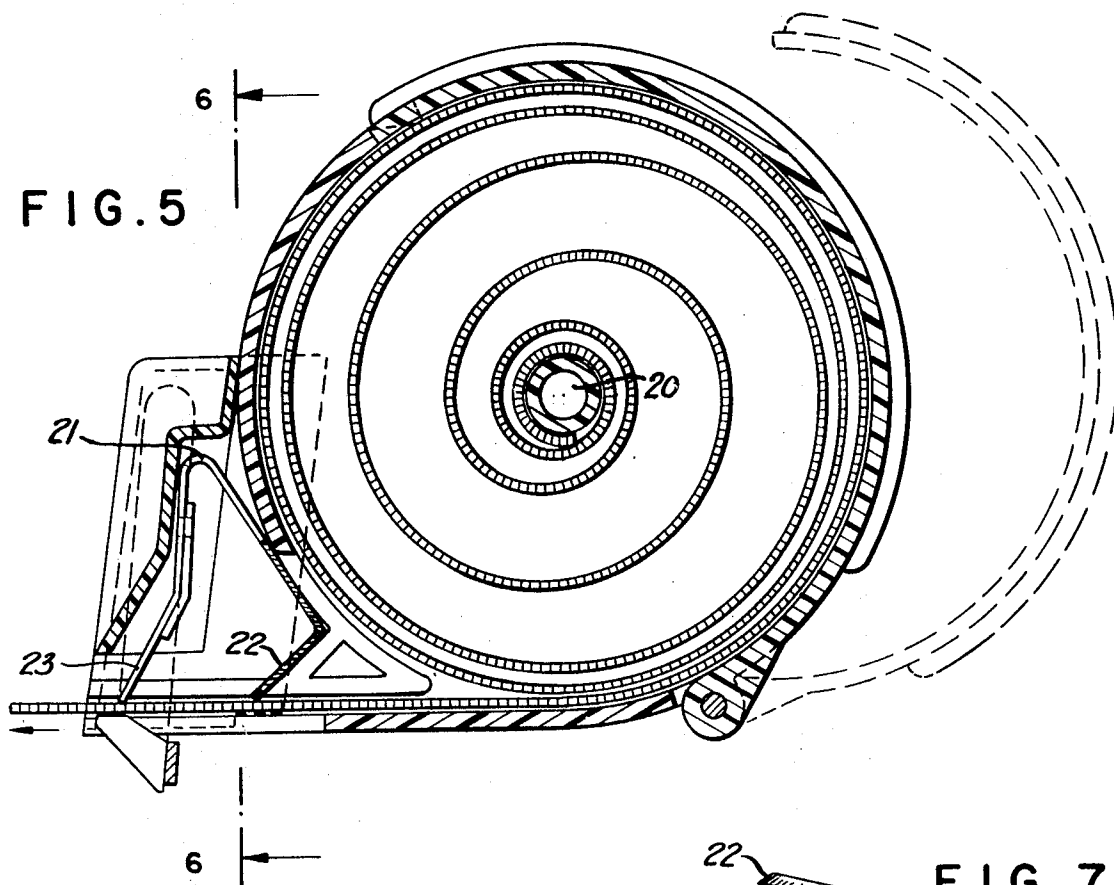
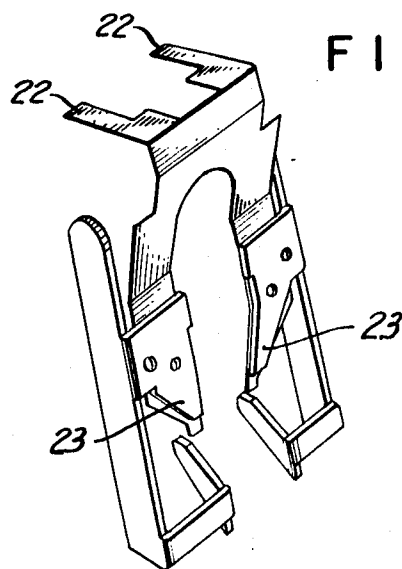


FIG. 6

FIG. 7



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DISPENSER FOR BELT-TYPE STAPLES

DESCRIPTION OF THE INVENTION

This invention relates to improvements to a dispenser for belt-type staples. The dispenser to which the improvements are directed includes a container and feed mechanism operatively connected therewith.

In dispensing devices for belt-type staples it is necessary to provide mechanism for feeding the staples sequentially into a driving mechanism where the staples are generally severed from the belt, formed, and driven.

In feeding such staples from the container into the driving mechanism it is necessary to provide a device to prevent unwanted retrograde movement of the belt. If this is not done the belt will buckle or will not feed properly and the device to which the dispenser is attached will not function properly.

Normally such devices for preventing such retrograde movement of the belt are disposed within the driving mechanism itself. As a result, in wear, such devices must be replaced. Such replacement means that the driving mechanism must be brought in for servicing and rendered inoperative for the period of servicing.

In the invention set forth in this specification, on the other hand, the means for preventing retrograde movement of the belt are incorporated within the dispenser itself. The dispenser is designed to have a relatively short life, either being thrown away after the belt-type staples therewithin are consumed or, at the most, utilized approximately five to 10 times with refill rolls of belt-type staples.

Therefore, in this invention, the means for preventing retrograde movement of the belt need have a relatively short life and therefore, when these means wear, they can be easily replaced by replacement of the dispenser itself without affecting the driving mechanism to which the dispenser is connected. Even if the means for preventing such retrograde movement should fall within a single dispenser it is easy for the operator of the device to merely substitute a second dispenser (of which many are generally available) and therefore continue to keep the driving mechanism in full operation.

The invention may be briefly described as comprising improvements to a dispenser for belt-type staples which dispenser has a container and feed mechanism operatively connected therewith. The improvement of this invention comprise a control element adapted to abut the belt and prevent retrograde movement thereof. In the preferred modification of this invention the control element is a spring member which is substantially U-shaped and has an offset portion at one end thereof which abuts the belt and prevents retrograde movement thereof. The opposite end of the spring is also offset and also adapted to abut the belt and is operatively connected to feed pawl mechanism.

The invention will now be further described by reference to the accompanying drawings which are made a part of this specification.

FIG. 1 is a side elevational view of a dispenser for belt-type staples including the improvements of this invention.

FIG. 2 is a top plan view thereof.

FIG. 3 is a front elevational view thereof.

FIG. 4 is a bottom plan view thereof.

FIG. 5 is a cross-sectional view of the dispenser shown in FIG. 3 taken along lines 5—5 of FIG. 3.

FIG. 6 is a front elevational view, on an enlarged scale, of the device shown in FIG. 3.

FIG. 7 is a detail perspective view of the control spring of this invention.

The invention will now be described by reference to the specific form thereof as shown in the accompanying drawings.

In this connection, however, the reader is cautioned to note that the specific form of this invention as shown in the specification herein is for illustrative purposes and for purposes of example only. Various changes and modifications can obviously be made within the spirit and scope of this invention.

Now referring to the specific form of this invention as shown in the drawings herein for a detailed description thereof the dispenser 11 of this invention is formed with a housing 12 having a lower portion 13 and a top portion 14. Lower portion 13 may be connected to top portion 14 by hinge member 15.

Connected to bottom 13 of housing 12 is a support member 16 having a plurality of forwardly extending portions 17 which carry a plurality of feed pawls 18. The belt of staples 19 is disposed within housing 12 and is supported therein in roll form upon pin 20.

Feed pawls 18 are connected to U-shaped spring member 21 which bears an offset portion 22 at one side thereof and an offset portion 23 at the opposite side thereof.

Offset portion 22 is preferably bifurcated (FIG. 7), is substantially at right angles to spring 21 and is adapted to abut the belt 19 as shown in FIG. 5.

The opposite portion 23 of spring 21 is also preferably offset and is also adapted to abut the belt 19.

With the foregoing specific description the operation of this invention can now be explained.

In order to feed belt 19 into the fastening device involved pressure is placed upon feed pawls 18 which are caused to move rearwardly. As a result these feed pawls apply pressure to spring 21 and release of this pressure will cause the feed pawls to move the belt forwardly.

On the other hand the portion 22 of spring 21 will prevent retrograde movement of the belt as the spring 21 is compressed. When spring 21 is released portion 23 will push the belt forwardly which will then slide over member 22.

The foregoing sets forth the manner in which the objects of this invention are achieved.

I claim:

1. A dispenser structure comprising, in combination, a container provided with an outlet opening therewithin, a roll of interconnected elongated staple blanks in the form of a belt disposed within said container with a portion of the said roll normally disposed within said outlet opening, a pair of reciprocatingly movable feed pawls operatively connected with said container and adjacent opposite sides of said outlet opening, said feed pawls being adapted to move said belt of staple blanks forwardly, an integral leaf spring member abutting said feed pawls, said leaf spring member having the dual function of controlling said feed pawls and preventing retrograde movement of said belt, said spring also being formed with a first pair of spaced offset portions at its front portion and a second pair of spaced offset portions at its rear portion, said first pair of offset portions biasing said feed pawls forwardly and said second pair of offset portions adapted to abut said belt of staple blanks rearward of the leading blank and thus prevent retrograde movement of said belt.

2. A dispenser as described in claim 1, said second pair of offset portions being substantially right angularly disposed with respect to said leaf spring member.

3. A dispenser as described in claim 2, said leaf spring member being substantially U-shaped.