Feb. 24, 1942. H. C. FELTMAN 2,274,051

TAG DISPENSER

Filed Oct. 23, 1939 2 Sheets-Sheet 1

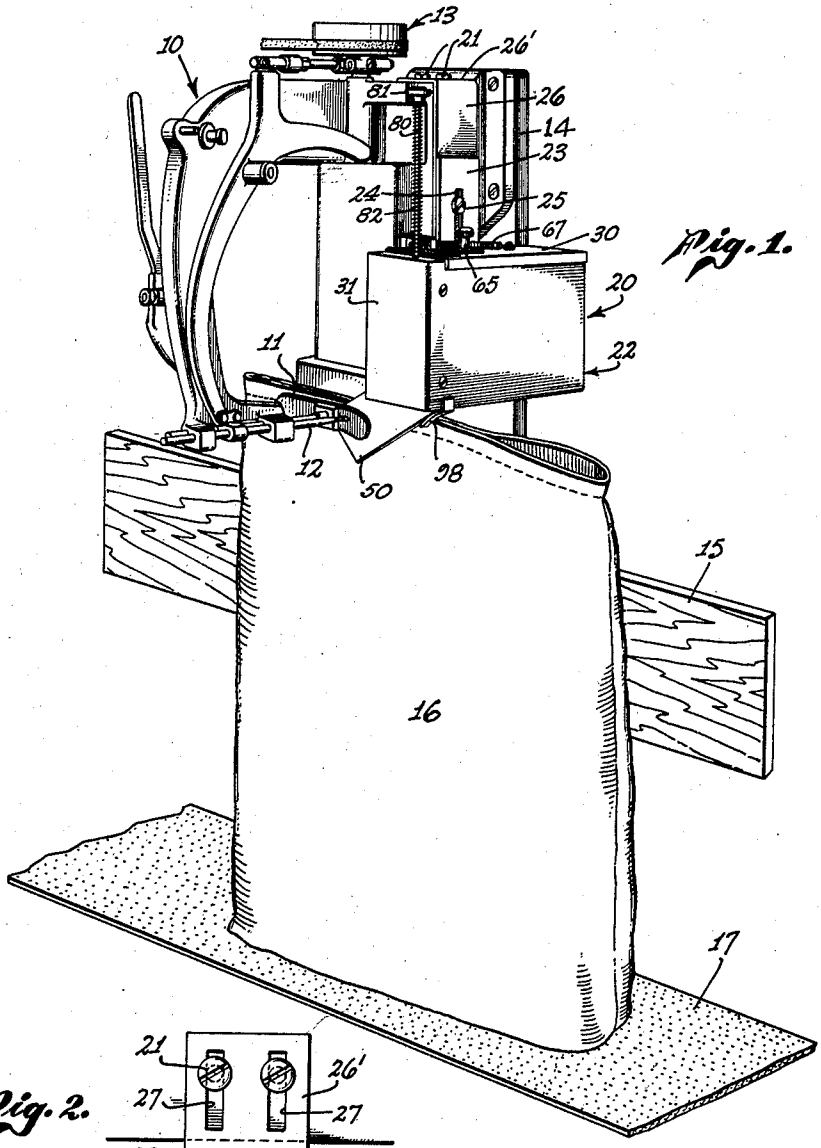


Fig. 1.

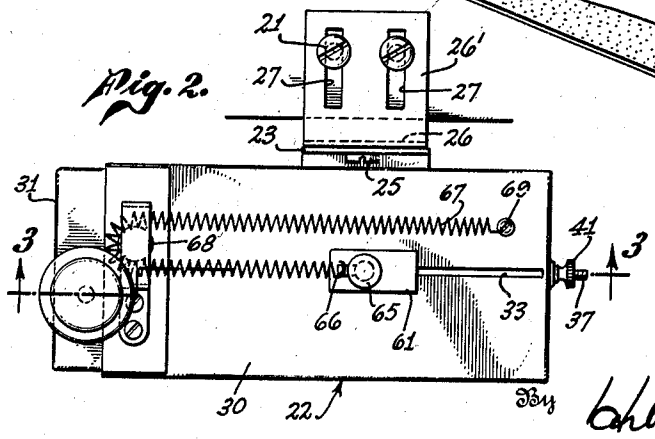


Fig. 2.

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TAG DISPENSER

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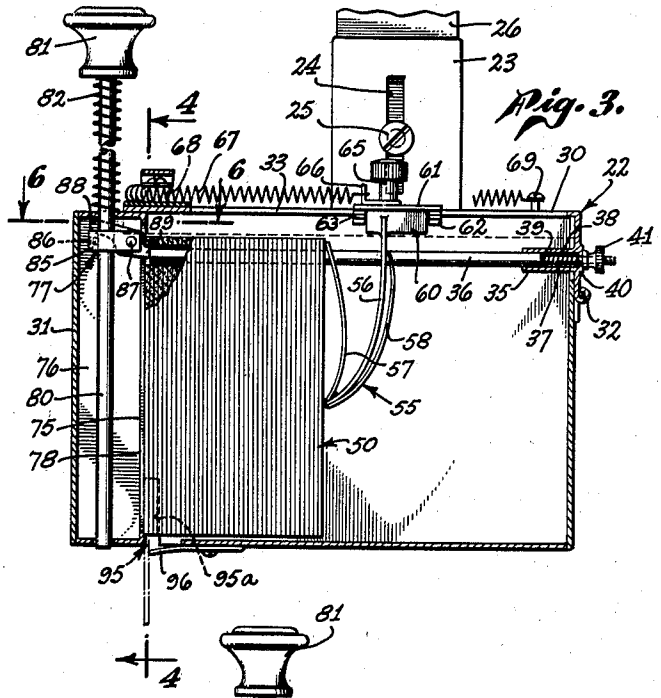


Fig. 3.

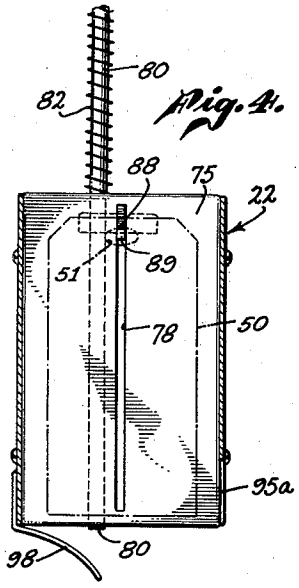


Fig. 4.

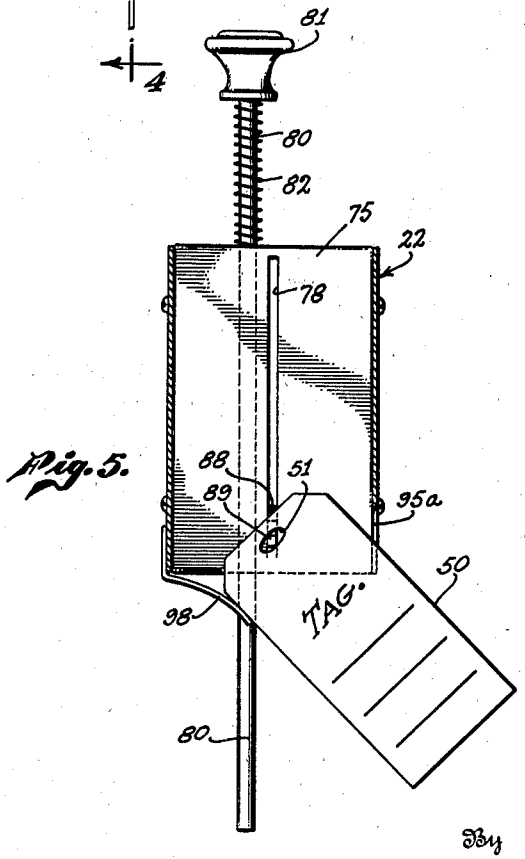


Fig. 5.

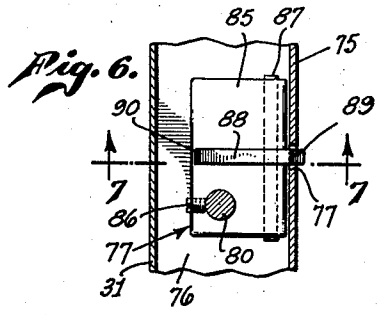


Fig. 6.

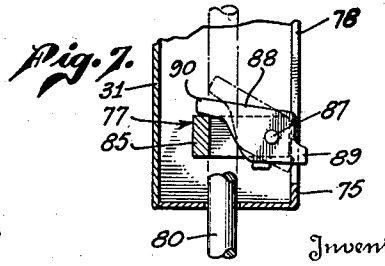


Fig. 7.

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UNITED STATES PATENT OFFICE

2,274,051

TAG DISPENSER

Harry C. Feltman, Los Angeles, Calif., assignor of thirty-five per cent to William Tannenbaum, fifty per cent to Richard Landauer, and fifteen per cent to Herman J. Stern, all of Los Angeles, Calif.

Application October 23, 1939, Serial No. 300,771

5 Claims. (Cl. 312—56)

This invention relates to the art of sealing and labeling packages such as filled bags, and in particular to a tag dispenser for attachment to a filled bag sewing machine.

It is common practice in sewing closed the tops of filled bags to hold a tag, containing data regarding the contents or other information, in the line of stitching, to be caught by the needle of the machine and sewed onto the bag. Heretofore the placing of such tags has been done by hand, requiring an operator to select a tag, wait until the stitching on the bag has progressed to the right point, and then hold the tag in place to be caught by the needle. Much of the attention of the operator must be given to that part of the operation, whereas the operator's time can more advantageously be given to the handling of the bags and operation of the machine.

It is an object of my invention to provide a tag dispenser in connection with a standard filled bag sewing machine which will contain a supply of tags and dispense them one at a time by the simple action of depressing a plunger.

It is a further object of my invention to provide a device of the character described which will eject a tag in position to be caught by the needle of the sewing machine, and hold it in such position until the stitching secures it to the bag and carries it away.

It is a further object of my invention to provide a tag dispenser of the character described which may be attached to any standard filled bag sewing machine and be adjusted to position for operation on tags of different sizes.

Other objects and advantages will appear from the further description in this specification.

In the drawings,

Figure 1 is a perspective view of a filled bag sewing machine with my tag dispenser attached.

Figure 2 is a top plan view of the tag dispenser.

Figure 3 is a vertical section taken on the line 3—3 of Figure 2.

Figure 4 is a section taken on the line 4—4 of Figure 3 with a tag indicated in dotted lines.

Figure 5 is a similar view illustrating a tag in position as ejected.

Figure 6 is a fragmentary section taken on the line 6—6 of Figure 3.

Figure 7 is a view of the same parts as shown in Figure 6 taken on the line 7—7 of that figure.

Referring to Figure 1, I show a sewing machine 10, including a conventional foot 11, needle 12, and operating mechanism generally designated 13. These parts are supported on a frame 14, which also carries a smooth board 15 to guide and support the bags 16 which are to be sewed across the top. A traveling belt conveyor 17 is suitably supported on rollers, not shown, which are driven synchronously with the sewing machine to move the bag along in timed relation to the operation of the needle in accordance with standard practice.

My tag dispenser, indicated by the reference numeral 20, is bolted or otherwise secured at 21 to a part of the frame 14.

This device comprises a magazine or box 22, on one side of which is attached a plate 23 formed with a slot 24 through which an adjusting screw 25 passes. The adjusting screw serves to clamp the plate 23 to a bracket member 26 which has an overhanging extension 26' with adjusting slots 27 for receiving screws 21, the latter securing the bracket to the frame of the machine.

The box has a top 30 which ends short of the front end 31 and is hinged to the rear end at 32. This top is formed with a longitudinal slot 33.

Formed in the rear part of the top 30 is a socket 35 for the reception of one end of a rod 36. This rod has a reduced portion 37, threaded at the end. A compression spring 38 encloses the reduced portion of the rod, bearing at one end against shoulder 39 and at the other against a flange 40 on the outer end of the socket. A thumb nut 41 threaded on the rod 36 against pressure of the spring 38 enables the longitudinal position of the rod to be adjusted according to the thickness of the tags to be dispensed, as later explained.

The tags 50 used are of the type with a hole 51 near the top. A plurality of tags are shown loaded in the box in Figure 3, being supported by the rod 36 which passes through the holes in the tags.

The tags are urged toward the front end of the box by leaf spring 55, consisting of a main spring 56, a second spring 57, and an auxiliary spring 58, all secured together at their lower ends. The spring 57 contacts the tags at their upper ends and at their centers in order to exert a pressure in a horizontal plane which will push the tags flat without causing or permitting them to tilt and wedge.

The main spring 56 is mounted at its upper end in a sliding block 60 which has an upper guide member 61 and a lower guide member 62 engaging the upper and lower faces respectively of the top 30, being joined by a web 63 which

moves in the slot 33. On the upper guide member 61 is a removable pin 65 which anchors a spring clip 66. Attached to this clip is a retraction coil spring 67 which passes around a free pulley guide 68 mounted on the top 30 and is fastened at its other end to a pin 69 near the rear end of the box. This spring urges the block 60 forwardly.

Spaced rearwardly from the front end 31 is a parallel panel 75 forming a compartment 76 within which a plunger mechanism 77 operates. The panel has a vertical slot 78. Reciprocating through holes in the top and bottom of the compartment is a plunger rod 80 at the upper end of which is a handle 81. A compression spring 82 is positioned on the rod between the handle and the top of the compartment to normally return the rod to the position shown in Figures 1 and 3.

A slotted collar 85 is secured on the plunger rod by a set screw 86. Mounted within the slot of the collar on a pin 87 is a dog 88 which has a tip 89 at one end, and a stop 90 at the other. When the stop is resting on the collar as shown in full lines in Figures 3 and 7 this tip is extended through the vertical slot 78 in the panel 75 in tag engaging position. The upper face of the tip is curved, as shown, to cause the dog to rotate by contact with the face of a tag on its upward return movement so that the tip recedes into the slot 78 in non-engaging position. As the dog reaches the top of the compartment the stop 90 strikes this top and rotates the dog into tag engaging position.

There is a tag ejecting slot 95 in the bottom of the box adjacent the panel 75. A continuation 95*a* of this slot extends part way up the side of the box next to the stitching mechanism. Adjustably mounted on the bottom of the box is a flat spring 96 whose free lip partly overlaps the slot 95, being positioned to engage the rear face of a tag as it is ejected, and frictionally retain it until seized by the stitching mechanism.

On the side of the box away from the stitching mechanism is a deflector 98, the function of which is to send the tag out of the box at an angle, as illustrated in Figures 1 and 5, so that the tag will be delivered with an edge in position to be caught by the needle 12.

In the use of my invention, to insert tags the pin 65 is loosened and the spring 67 freed. The top is opened, and the guide block 60 with spring 55 is slid to the rear end. A supply of tags 50 is slid into the rod 36, the lid of the box is closed and the spring 67 is again connected through the clip 66 to the pin 65. This puts a tension on the block 60, the leaf spring 55 of which contacts the rearmost tag, as shown in Figure 3, and urge the supply of tags into a firm pack with the foremost tag resting flat against the panel 75.

If the rod 36 is not already adjusted it is necessary to turn the nut 41 on the threaded end of the rod one way or the other so that the forward end of the rod stops short of the forward tag. The adjustment must be made with sufficient care that the forward tag will slide past the end of the rod but all the remaining tags will be held in position on the rod. It should be clear that when the nut is turned to the left the springs 37 urges the rod toward the forward end and when the nut is turned to the right the rod is withdrawn toward the rear end.

When the tags are positioned as last described the plunger rod 80 will normally be elevated in the position shown in Figures 1, 3, and 4, in which position the dog 88 is in tag engaging position with the tip 89 located in the hole 51 of the foremost tag and substantially abutting the forward end of the rod 36.

The operator places a filled bag on the belt conveyor 17 and starts the sewing machine. When the stitching has progressed to approximately the point at which it is desired to attach the tag the operator depresses the plunger rod 80. This causes downward movement of the dog, the tip of which engages an edge of the tag in the hole 51 and slides the tag downwardly through the slot 95 and the slot extension 95*a*, the tag being deflected toward the stitching mechanism by the deflector 98. The spring 96 imposes a tension against the face of the tag serving to retain it in position until the progress of the stitching and movement of the filled bag causes the tag to be completely withdrawn from the dispenser.

It is not necessary for the operator to keep the plunger rod depressed. This rod can be instantly released for return to the normal position under influence of the spring 82. On upward movement of the plunger rod 80 the dog is pivoted into the position shown in dotted lines in Fig. 7 in which it rides upwardly against the face of the next succeeding tag without affecting the position of it.

The upper end of the leaf spring 57 moves the upper ends of the tags forwardly to position the upper end of the next succeeding tag and as soon as the tag being ejected is completely removed from the box the lower end of spring 57 and its associated springs moves the central and lower portions of the tags forwardly, upon completion of which the next tag is in position to be dispensed.

It should be observed that although the rod 36 does not support the tag which is in position to be dispensed this tag is prevented from falling by the dog 88 which snaps into the position shown in Figure 3 as the plunger rod completes its upward return movement and the dog is retained in this position by reason of the stop 90 engaging the top of the compartment 76, thus the end tag is held in position until the next downward movement of the plunger rod 80.

Tags of different weights, lengths, and thicknesses may be dispensed by my device. A tag of different width requires no adjustment unless possibly a different angle on the deflector 98. Ordinarily, however, this is not necessary. The length of the tag does not matter because the tags are supported from their upper ends on the rod 36 and the complete stroke of the plunger rod 80 will eject the tag regardless of its length. Varying thickness of tags is compensated for by adjustment of the nut 41 on the rod 36.

The box may be adjusted to positions of different heights by loosening the screw 25 and sliding the plate 23 up or down on the bracket 26, tightening the screw at the proper position. The lateral position of the box may be changed by loosening the screws 21 and sliding the horizontal bracket 26 to the desired position, tightening the screws at the correct position.

What I claim as my invention is:

1. A tag dispenser comprising a box, a panel disposed within said box dividing the box into an ejector compartment and a magazine for containing a supply of tags, a discharge slot at the forward end of the magazine, a vertical slot in the panel, a top on the box, a longitudinal slot

formed in the said top, means for suspending and maintaining the tags in position within the magazine, means mounted on the top and extending through the longitudinal slot for following and urging the tags toward the front end of the magazine, and reciprocating means within the ejector compartment extending through the vertical slot into the magazine for successively ejecting the foremost tag from the magazine.

2. A dispenser for tags having holes therein comprising a box, a magazine within the box for containing a supply of tags, an ejector compartment within the box, means for suspending and maintaining the tags in position within the magazine, said means comprising a horizontal rod disposed within the magazine to extend through the holes in the tags, said rod being adjustable longitudinally so that the position of the rod may be set to conform to the thickness of the tags and permit the forward tag to slide between the forward end of the rod and the corresponding end of the magazine, means for following and urging the tags toward the front end of the magazine, a discharge slot at the front end of the magazine, and reciprocating means within the ejector compartment extending into the magazine for successively ejecting the foremost tag from the magazine.

3. A dispenser for tags having holes therein comprising a box having a cover, a magazine within the box for containing a supply of tags, a discharge opening at the front end of the magazine, a longitudinal slot formed in the cover of the box, means for suspending and maintaining the tags in position within the magazine, means for following and urging the tags toward the front end of the magazine comprising a block sliding within the longitudinal slot in the cover, a retraction coil spring and free pulley guide mounted on the cover acting to urge the block toward the front of the box, a plurality of leaf springs secured to the block and joined together at their lower ends whereby the foremost spring will contact the rearmost tag at vertically separated points to urge the supply of tags in the magazine forward into position where the foremost tag is over the discharge opening in position to be ejected, and reciprocating means to eject the foremost tag from the magazine.

4. A dispenser for tags having holes therein comprising a box, a panel dividing the box into a compartment and a magazine for containing a supply of tags, a discharge slot in the magazine, a vertical slot formed in the panel, a supporting rod in the magazine to extend through the holes in the tags to support them, said rod having adjustable means on the rear end thereof whereby the longitudinal position of the rod relative to the panel can be adjusted to conform to the thickness of the tags in the magazine to permit the forward tag to slide between the end of the rod and the panel, means for following and urging the tags toward the front end of the magazine, and reciprocating means within the front compartment operating through the slot in the panel for successively ejecting the foremost tag from the magazine through the discharge slot, said reciprocating means comprising a vertical plunger rod having a compression spring thereon to maintain the rod normally in a raised position and having a pivoted dog mounted thereon, the front tip of the dog being designed to engage the edge of the hole in the foremost tag when the vertical plunger rod is manually depressed and to partially rotate and slide by the next succeeding tag on the upward return movement of the vertical plunger rod and thereafter to assume its normal tag engaging position.

5. A dispenser for tags having holes therein comprising a box, a magazine within the box for containing a supply of tags and having a delivery slot at the front end for ejection of tags, a front compartment within the box, means for suspending and maintaining the tags in position within the magazine, means for following and urging the tags toward the front end of the magazine, reciprocating means within the front compartment having a member extending from the front compartment into the magazine to move the foremost tag out through the delivery slot, means to deflect the tags as they are ejected to position them for further handling, and means adjacent the delivery slot to frictionally engage the tags and hold them until seized by external means.

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