Sept. 8, 1970 J. S. DUDLEY 3,527,396

PINNING MACHINE

Filed May 17, 1968 3 Sheets-Sheet 1

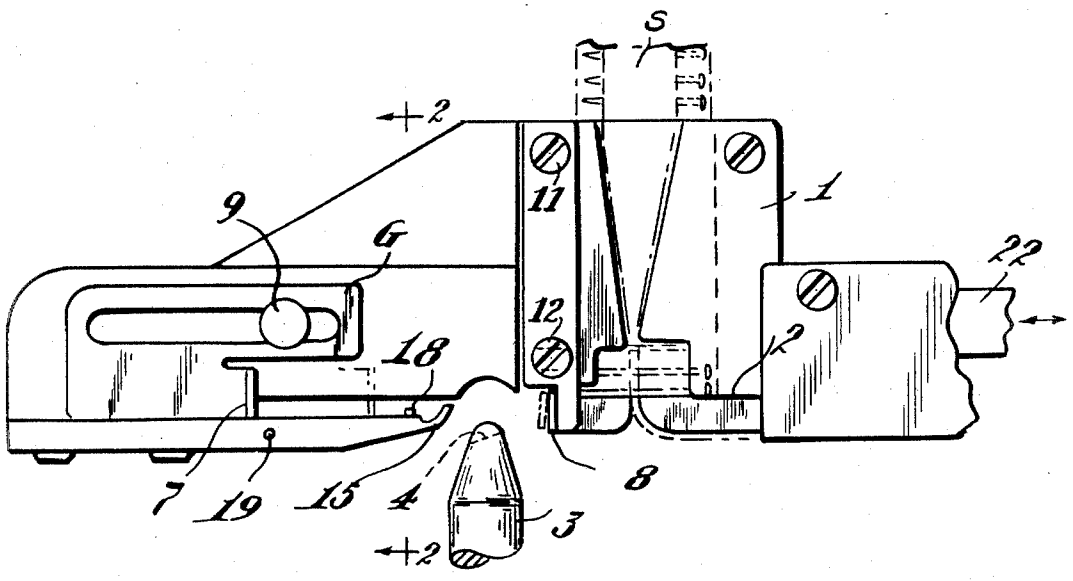

Fig. 1

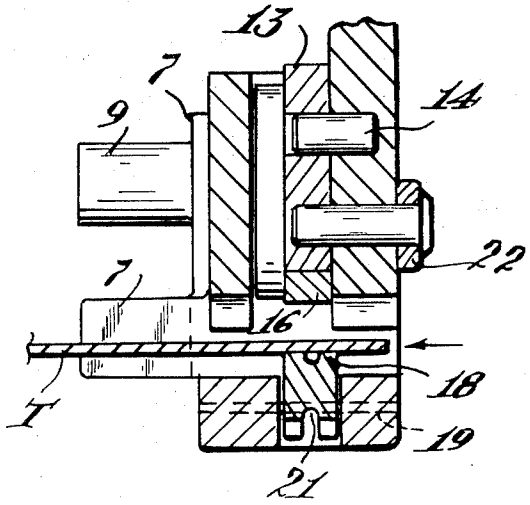

Fig. 2

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PINNING MACHINE

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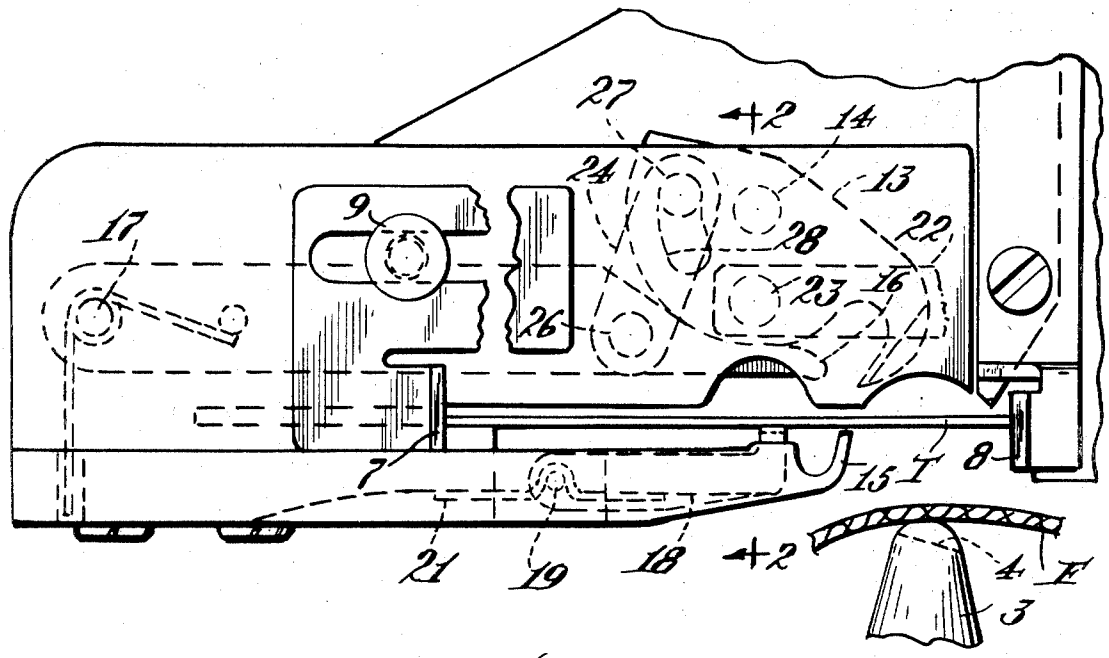

Fig. 3

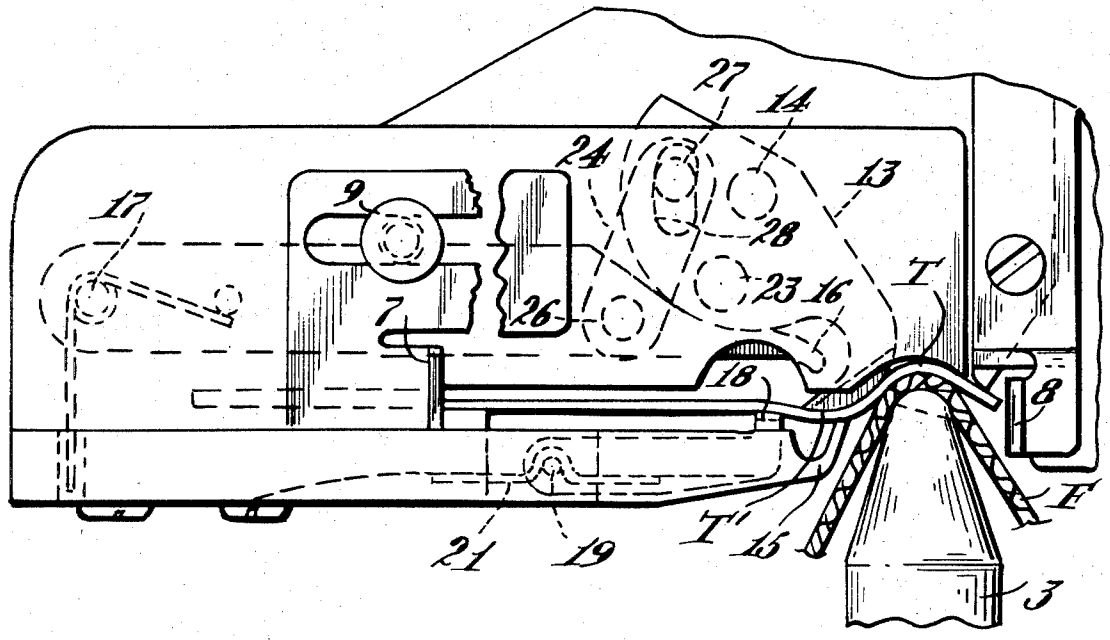

Fig. 4

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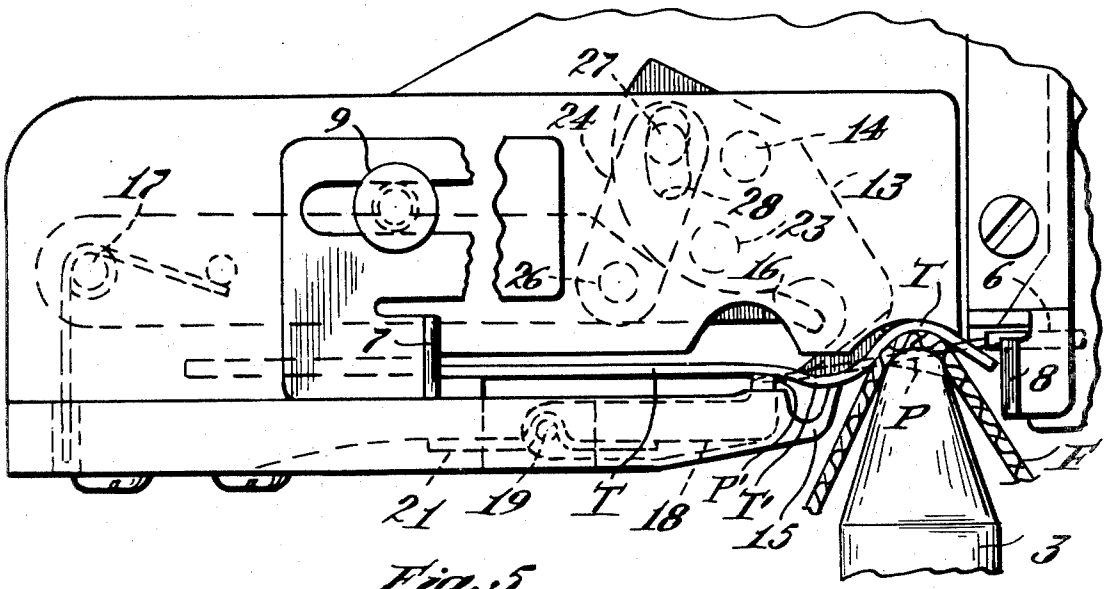

Fig. 5

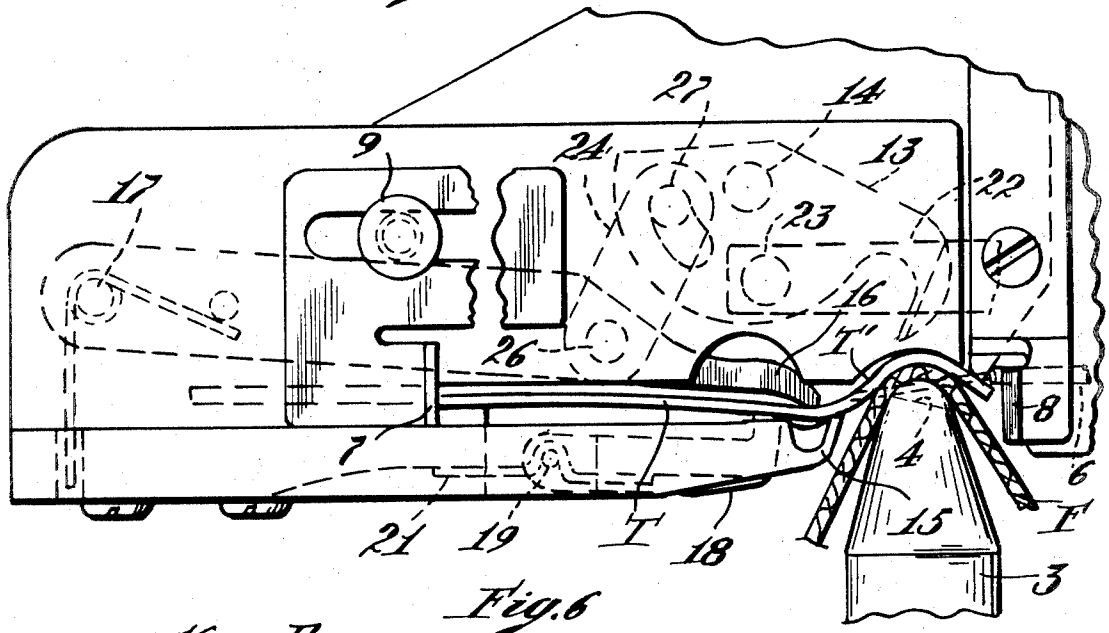

Fig. 6

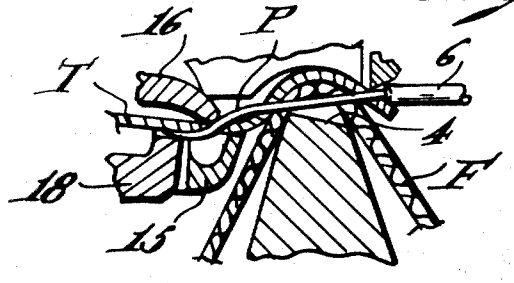

Fig. 7

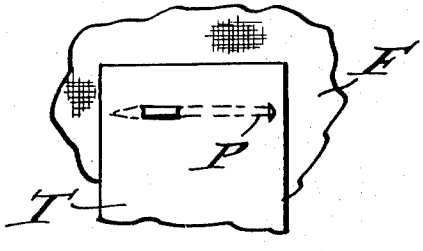

Fig. 8

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PINNING MACHINE

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Int. Cl. B27f 7/06
U.S. Cl. 227—25 4 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus for pinning tags to an article comprising means for placing the point of the pin between the tag and article and means for crimping the point of the pin toward the back of the tag.

Objects of the invention are to provide a machine for pinning tags to fabric or other flexible articles which leaves the point of the pin between the tag and article so as not to catch on fingers or other articles, which is economical to produce and reliable in use, and which does not require special tags.

According to this invention the apparatus comprises means for holding the tag and article in bent condition, means for inserting a pin through the tag and article from the front and thence through the tag and article from the back and thence through a portion of the tag from the front so that the point of the pin is between the tag and article, and means to bend said portion of the tag into the path of the pin for said last insertion. Preferably the apparatus comprises a guide on the front to guide the pin through said portion of the tag and a crimper for crimping the point of the pin toward the back of the tag. In the preferred embodiment the apparatus comprises an oscillator having movement back and forth in opposite directions, means for advancing said guide into said path in response to one of said movements and means for advancing said crimper to crimping position in response to the other movement.

For the purpose of illustration a typical embodiment of the invention is shown in the accompanying drawings in which

FIG. 1 is a front elevation;

FIG. 2 is a section on line 2—2 of FIG. 1;

FIG. 3 is an enlarged front showing the parts in idle position;

FIG. 4 is a similar view with the parts in position for a pin insertion;

FIG. 5 is a similar view with a pin inserted;

FIG. 6 is a similar view with the pin guide retracted and the point of the pin crimped toward the back of the tag;

FIG. 7 is a view like FIG. 6 showing the parts in section; and

FIG. 8 is a plan view of a tag pinned on a piece of fabric.

This invention is an improvement on Pats. 2,014,726 and 2,083,150 of Carl A. Flood. The parts disclosed in these patents need be described only briefly as follows. A pin strip S is fed downwardly through a chute **1** until the foremost pin P seats on the bottom **2**. The tags T are fed in strips from the rear in FIGS. 1 and 3 to **6** between guides **7** and **8**. The guide **7** is adjustable to strips of different width and is held in adjusted position by a thumb screw **9** and the guide **8** is adjustable about screw **11** and is held in position by a screw **12** extending through a slot in the guide as shown in FIG. 1. The fabric F is laid over an anvil **3** which moves up from the retracted position shown in FIGS. 1 and 3 to the pinning position shown in FIGS. 4, 5 and 6, the anvil having a pin-guiding groove **4** in its upper end. With the parts in the position shown in FIG. 4 the pin P is inserted to the position shown in FIG. 5 by a pin driver **6**.

According to this invention a pin guide **13** swings about a stationary pivot **14** from the retracted position shown in FIG . 6 to the advanced position shown in FIGS. 4 and 5, standing at the intermediate position shown in FIG. 3 at the end of each cycle of operation. At the beginning of each cycle the pin guide **13** swings clockwise about pivot **14** from the idle position shown in FIG. 3 to the operative position shown in FIG. 4, and the anvil lifts the fabric to press the tag against the pin guide, thereby bending the portion T' of the tag into the pin path, a stationary support **15** and an arm **18** helping to hold the tag in said path. Then the driver **6** advances to drive the pin P through the tag and fabric from the front of the tag (the top in FIGS. 3 to 7), thence through the groove **4** in the anvil, thence through the tag and fabric from the back, thence through the aforesaid portion T' from the front, and thence against the end of arm **18**. Then the pin guide **13** swings from the advanced position shown in FIGS. 4 and 5 to the retracted position shown in FIG. 6 and a crimper **16** swings clockwise about a stationary pivot **17** from the retracted position shown in FIGS. 3 to 5 to the operative position shown in FIGS. 6 and 7, thereby to crimp the point of the pin against the back of the tag, the point being held up yieldingly by the arm **18** pivoted at **19** and urged counterclockwise by a spring **21**.

The parts are moved as aforesaid in the following manner. The pin guide **13** is actuated by an oscillator **22** which is oscillated back and forth in any suitable way as, for example, disclosed in the aforesaid patents, the oscillator being pivotally connected to the pin guide by a pin **23**. The crimper **16** is actuated by the pin guide through a link **24** pivotally connected to the crimper by a pin **26**, the link carrying a pin **27** which extends into a slot **28** in the pin guide. When oscillator **22** moves to the left (FIGS. 3 to 5) from the idle position shown in FIG. 3 it swings pin guide **13** clockwise to the operative position shown in FIGS. 4 and 5. When the oscillator moves from left to right it swings the pin guide **13** from the operative position shown in FIGS. 4 and 5 to the retracted position shown in FIG. 6, and the crimper **16** is moved from the inoperative position shown in FIGS. 3 to 5 to the operative position shown in FIG. 6 by engagement of the upper end of slot **28** with the pin **27**. At the end of each cycle the anvil **3**, pin guide **13**, crimper **16** and oscillator **22** return to the idle positions shown in FIG. 3.

I claim:

1. For pinning a tag to a flexible article, a machine comprising means for holding the tag and article in bent condition, means for inserting a pin through the tag and article from the front and thence through the tag and article from the back and thence through a portion of the tag from the front to the back so that the point of the pin is between the tag and article, and means movable

relatively to said first means to bend said portion of the tag into the path of the pin for said last insertion.

2. A machine according to claim 1 further characterized by a guide on the front to guide the pin through said portion of the tag.

3. A machine according to claim 2 further characterized by a crimper for crimping the point of the pin toward the back of the tag.

4. A machine according to claim 3 further characterized by an oscillator having movement back and forth in opposite directions, means interconnecting said oscillator with said guide for advancing said guide into said path in response to one of said movements and means

interconnecting said oscillator with said crimper for advancing said crimper to crimping position in response to the other movement.

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