Jan. 5, 1954 J. W. CAMERON 2,664,562

POSITIONING DEVICE FOR STAPLING MACHINES

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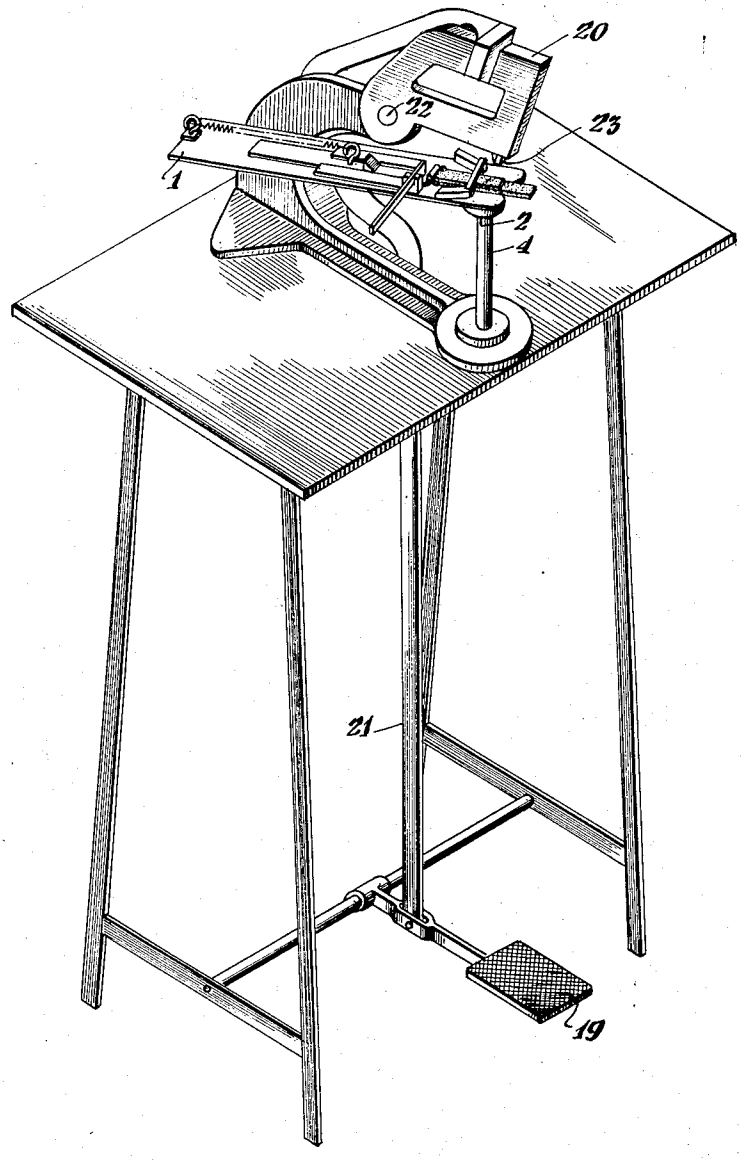
Fig. 1



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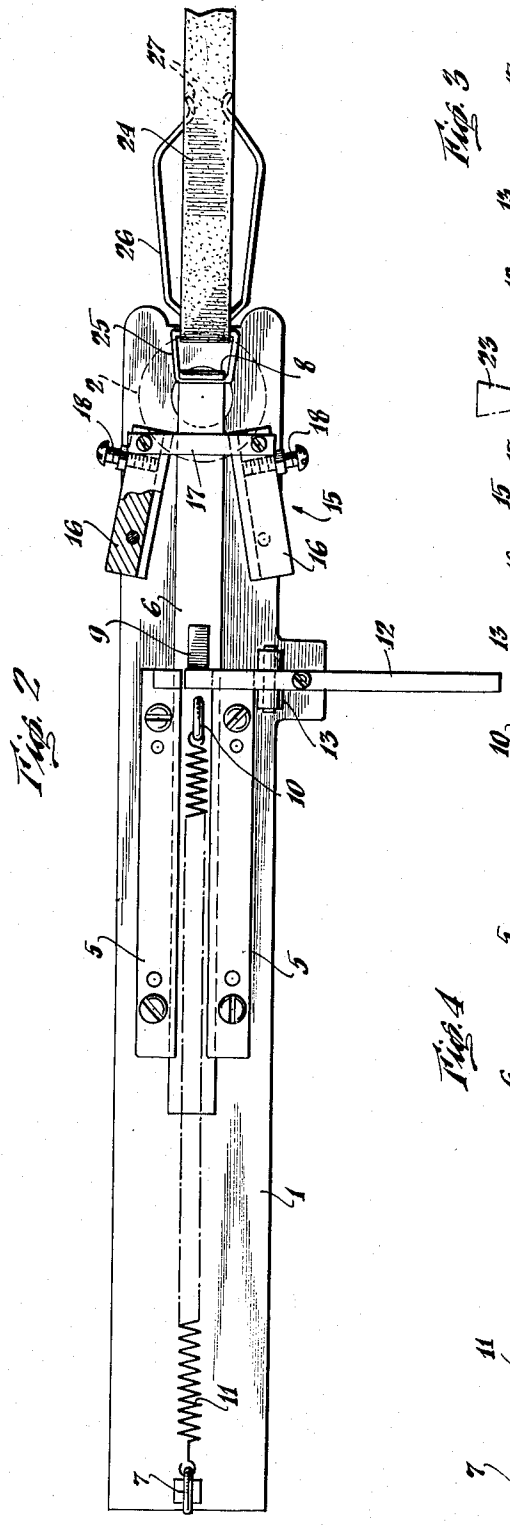

Fig. 2

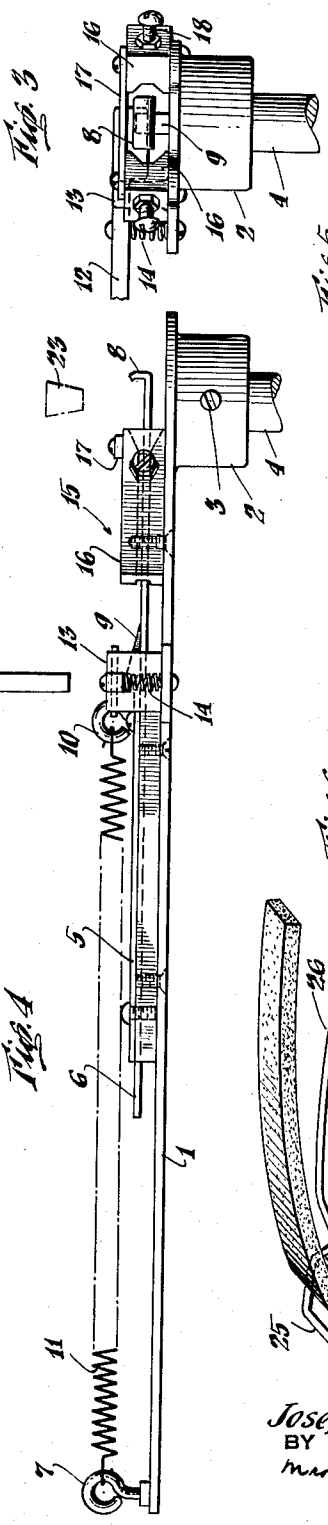

Fig. 4

Fig. 3

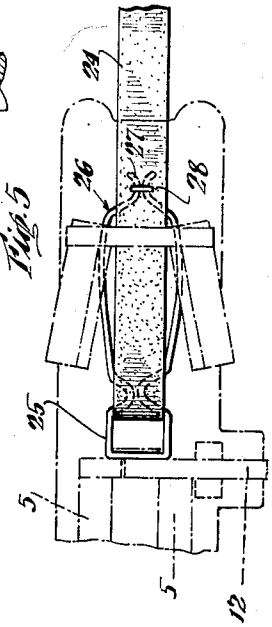

Fig. 5

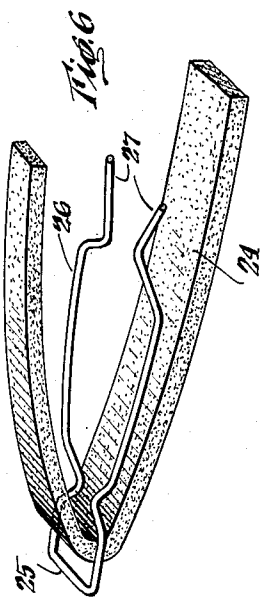

Fig. 6

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POSITIONING DEVICE FOR STAPLING MACHINES

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4 Claims. (Cl. 1—3)

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This invention relates to a positioning device for a stapling machine adapted to position fabric wicks around wire wick supports in preparation for stapling the wicks to the supports.

The stapling machine itself does not constitute part of my invention; it may be of any conventional type, power- or hand-operated, and preferably includes provision for automatically feeding staples to the dies as is well known in the art.

My device is designed to provide a simple and economical means for positioning wicks and wick holders in such a machine in preparation for the stapl'ng operation, and to permit ready removal of the stapled wick-and-wick-support assemblies. It is particularly adapted to handle wicks and supports such as are employed to diffuse deodorant or perfuming vapors from a liquid contained in a bottle into the air of a room.

Such wicks are usually strips of woven or felt fabric doubled over and stapled to a wire support. The latter is of a suitable shape, size and material to retain the wick by friction in the neck of the bottle at any desired height. A typical wick may, for example, be a felt strip 12–14 inches long, ⅝–1 inch wide and ⅛–¼ inch thick, but these dimensions are not limiting.

My device consists essentially of a long narrow base plate with means to position the forward end firmly about the lower die or anvil of the stapler, a sliding member mounted in guides on the base plate and having a hook or other means at the forward end to engage a wick support, a tension spring or other device at the rear end for retracting the sliding member, a detent on the sliding member and a trigger on the base plate for holding the sliding member in extended position, and guide means mounted on the base plate for guiding a wick and associated support into stapling position.

One embodiment of my invention is described in detail in the following disclosure and in the drawings, but these are intended to be illustrative only and not to limit the invention, the scope of which is defined in the appended claims.

In the drawings:

Fig. 1 represents my positioning device mounted on a conventional foot-operated stapling machine;

Fig. 2 is a plan view of my device with the sliding member in extended position and a wick and wick support in place;

Fig. 3 is an end view of my device as seen viewing Fig. 2 from the right, but without the wick and wick support;

Fig. 4 is a side elevation of my device as seen viewing Fig. 2 from the trigger side;

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Fig. 5 is a plan view of the forward end of my device with the sliding member retracted, showing a wick and wick support in position after stapling; and

Fig. 6 is a perspective view of a wick-and-wick-support assembly before placing in my positioning device.

Base plate 1 is provided with an annular boss 2 at its forward end having set screws 3 by which it is firmly mounted on the lower die or anvil 4 of the stapling machine. The base plate is also provided with guides 5 in which slides the sliding member 6. An eyebolt 7 is mounted on the rear end of the base plate.

Sliding member 6 is provided with a hook 8 at its forward end, a wedge-shaped detent 9 near its center and an eyebolt 10 just behind the detent. A tension spring 11 connects eye-bolt 7 and eyebolt 10, and tends to retract slide 6 to the left, as shown in the drawings.

Mounted on base plate 1 is a trigger 12 pivoted between posts 13. A compression spring 14 urges the outer end of the trigger upwards to bring its inner end into engagement with detent 9 when sliding member 6 is drawn to the right as seen in the drawings, and thus to retain the sliding member in this position against the pull of spring 11.

Also mounted on plate 1 is a guide assembly 15 for guiding a partially assembled wick and wick support when my device is in use. This guide assembly consists of two short channel bars 16 mounted on the base, a cross bar 17 bridging them at their forward ends and two adjusting screws 18 with associated lock nuts. The channel bars 16 are preferably mounted at a slight converging angle with channels facing each other as shown.

My device is shown in Fig. 1 mounted on a conventional stapler operated by a pedal 19. Depression of the pedal operates the stapling head 20 by means of pitman 21. The stapling head 20 is pivoted at 22. It includes a device for feeding staples to upper die 23.

In operating my device a wick 24 is loosely threaded through the upper loop 25 of a wire wick support 26 with one end of the wick extending some 2–4 inches further than the other, as shown in Fig. 6. Sliding member 6 is drawn forward until detent 9 is engaged by trigger 12, and loop 25 is passed over hook 8 as shown in Fig. 2. The outer end of trigger 12 is depressed, releasing sliding member 6 which is retracted by spring 11. This draws the wick and its wire support through guide assembly 15, thus folding the wick tightly over the support by action of the bar 17,

forcing together the tips 27 of the bowed legs of the support and positioning the wick and support tips under the upper stapler die 23. Depression of stapler head 20 by means of pedal 19 then inserts a staple 28 through both layers of wick and clinches it around tips 27 of support 26 as shown in Fig. 5. Wick and sliding member are then drawn forward until trigger 12 again engages detent 9 and the stapled wick-and-wick support assembly is removed from hook 8. The device is then ready for a repetition of the operation.

From the above description it will be clear to those skilled in the art that various modifications may be introduced into my device departing from the scope of my invention as defined in the claims.

I claim:

1. A positioning device for use with a stapling machine having a die and an anvil, said device comprising a base plate, a sliding member, guide means therefor, the base plate having at one end means for securing it firmly in operating position with respect to the anvil of the stapling machine, the sliding member being reciprocable in guide means on the base plate relatively to the anvil from a loading position to a stapling position and having at its forward end means for removably attaching a wick to be stapled by means of a wick support, and additional guide means adjacent the anvil surrounding the path of travel of the wick, and mounted on the base plate, the additional guide means being so positioned with relation to the anvil that, on reciprocation of the sliding member with attached wick and wick support from the loading position to the stapling position, the wick will thereby be drawn through said additional guide means and positioned with respect to the anvil for stapling.

2. A positioning device as defined in claim 1 comprising resilient biasing means acting on the sliding member to urge it in one direction of its travel, the sliding member being manually reciprocable in the other direction of its travel.

3. A positioning device as defined in claim 1

comprising resilient biasing means acting on the sliding member to urge it towards the stapling position, the sliding member being manually reciprocable towards the loading position, and comprising retaining means for retaining the sliding member against the bias in loading position, said retaining means comprising a trigger and a detent.

4. A positioning device for use with a stapling machine provided with an anvil, said device comprising an elongated base plate provided with means comprising an annular boss at its forward end for fixedly securing said base plate about the anvil of a stapling machine, an elongated sliding member adapted to reciprocate lengthwise of the base plate in guides mounted on the latter, biasing means urging the sliding member rearwardly of the base plate, a detent on the sliding member cooperating with a trigger on the base plate to releasably retain the sliding member when moved to a forward position, means at the forward end of the sliding member for removably attaching a looped wick support through which has been threaded a wick to be stapled, and additional guide means comprising side and top portions so positioned on the base plate that when the sliding member with attached wick and wick support is retracted by the biasing means, the wick and wick support are drawn through said additional guide means and positioned for stapling.

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