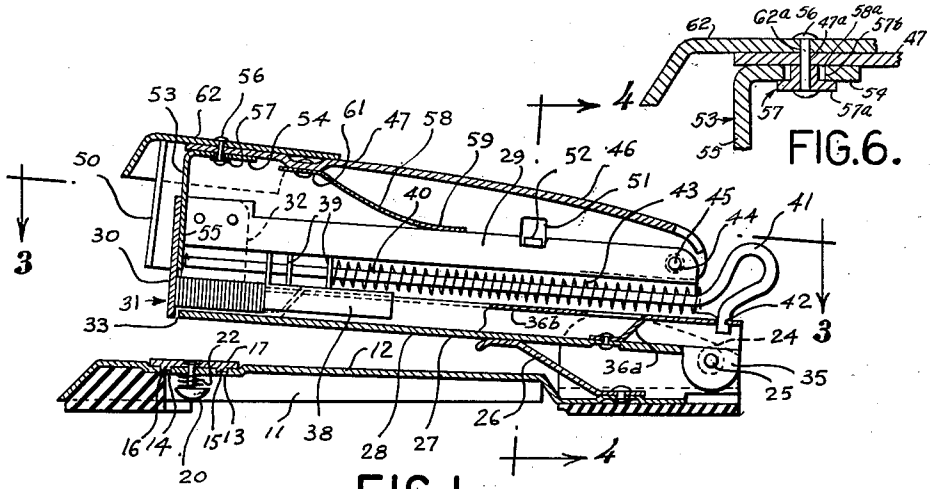
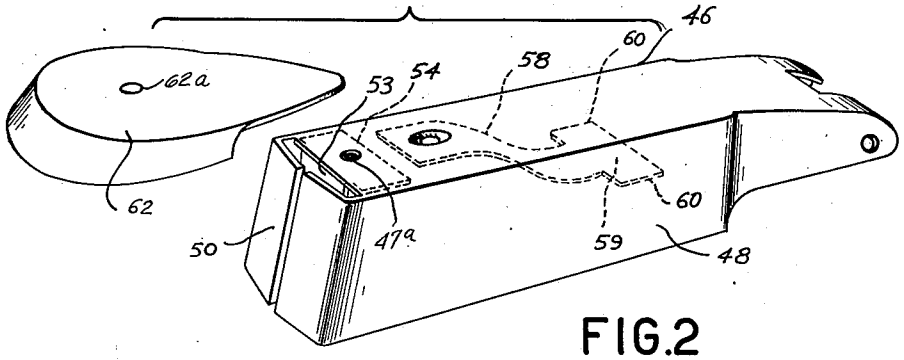
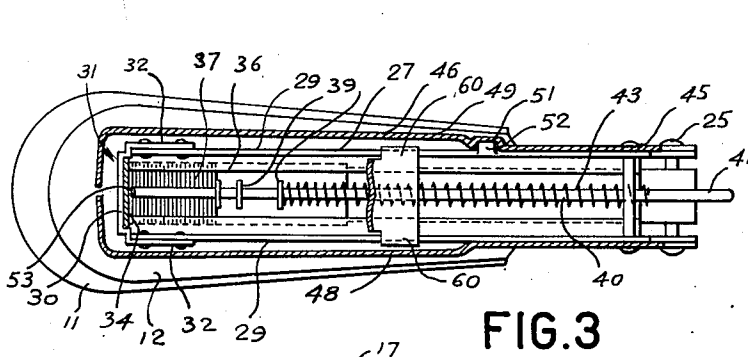
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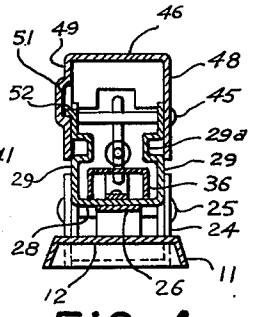
STAPLING MACHINE

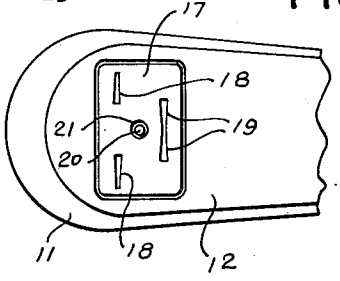
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STAPLING MACHINE

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3 Claims. (Cl. 1—3)

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This invention relates to stapling machines.

An object of the invention is to provide in a stapling machine of the character described, a staple magazine having side walls, front wall and a floor member, the latter extending substantially up to said front wall and leaving only enough space therebetween for the passage of a staple.

Another object of the invention is to provide in a stapling machine of the character described, a staple magazine, a lever pivoted to the magazine and a driver in the form of a right angle member carried on the underside of the lever for driving staples one at a time from the magazine, said driver being slidably arranged for limited movement longitudinally of the lever for automatic self-alignment with the staple to be driven and with the front wall of the staple magazine.

A further object of the invention is to provide a machine of the character described in which there is a spring separate from the driver, interposed between the magazine and the lever to swing the lever relative to the magazine, said spring being fixed at one end to the lever and having laterally extending ears engaging the staple magazine.

Still another object of the invention is to provide a machine of the character described in which the staple magazine has a nose piece forming its front wall, and having a catch comprising a tongue on one of the side walls of the magazine and a recess formed in the abutting portion of the lever for receiving said tongue, to limit rotation of the lever relative to the magazine.

Another object of the invention is to provide a stapling machine of the character described, having a two position anvil which may be swiveled to either position as desired.

Yet another object of this invention is to provide a compact and rugged stapling machine of the character described which shall be relatively inexpensive to manufacture, sure and positive in operation and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown various possible illustrative embodiments of this invention,

Fig. 1 is a side elevation in longitudinal section of my improved stapling machine;

Fig. 2 is a perspective detail of the lever and knob;

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Fig. 3 is a plan view in section taken on line 3—3 of Fig. 1;

Fig. 4 is a sectional elevation taken on line 4—4 of Fig. 1;

Fig. 5 is a fragmentary plan view of the anvil on the base.

Fig. 6 is an enlarged cross-sectional view illustrating the sliding connection between the plunger and the lever.

Referring to the drawings, there is shown a base 11 having an elevated floor 12 having recesses 13 and 14 for the reception of feet 15 and 16 on the underside of an anvil 17, the latter having staple point guide recesses 18 for spreading staple points apart and 19 for bending them together in the well known manner. Said anvil has a pin 20 extending through and secured in an aperture 21 in the anvil, and a corresponding aligned aperture in the floor 12 of the base member. The spring 22 acts between the lower head of the pin 20 and the undersurface of the floor 12, thereby yieldingly biasing the anvil downward. To change the position of the guide recesses 18 and 19, it is only necessary to press upward on the lower head of the pin 20, and to rotate the anvil by 180 degrees, allowing the spring to again pull the feet of the anvil into their corresponding recesses to lock the anvil against pivotal movement until desired.

At the rear end of base 11 are upstanding side walls 24 carrying a horizontal pivot pin 25. Riveted to the floor 12 of the base 11 adjacent its rear end, is a strip spring 26 which is inclined upwardly and forwardly and engaging the underside of the staple magazine 27.

The staple magazine comprises a bottom wall or floor 28, and side walls 29. Its front end is closed by a front wall 30 formed by means of a nosepiece 31 which is substantially U-shaped as seen in Fig. 3 with recessed corners, its legs 32 being riveted to the forward sides of the side walls of the staple magazine. It will be observed that the floor 28 of the staple magazine extends substantially up to the front wall 30, with only sufficient space therebetween to form a passageway 33 for the passage therethrough of a staple 34 being pushed through said passageway.

Extending downward from the rear end of the magazine side walls are ears 35 formed with lateral openings to receive the transverse pivot pin 25 for pivotally connecting the staple magazine to the base.

Attached to the upper side of magazine floor member 28 is a channel shaped rail member 36 on which the staple strip 37 is mounted. Tongues 36a are depressed from the top wall 36b of the rail member and are riveted to said floor member. The side walls 29 of the staple magazine are formed with longitudinal, inwardly pressed guide

channels 29a which serve to keep the staple strip on the rail member 36.

The staples are pushed forwardly by a channel shaped slider 38 slidably mounted on member 36 and having upstanding ears 39 receiving a rod 40 which is formed with a hook 41 at its rear end adapted to engage within a notch 42 at the rear end of the staple magazine. On rod 40 is a coil compression spring 43 adapted to push the slider 38 forwardly for pressing the staples against the front wall 30 of the magazine. At the rear ends of the side walls 29 are pivot openings 44 to receive a transverse pivot pin 45 which serves to pivotally connect the lever 46 to the magazine.

The lever or cover 46 has a top wall 47 and downwardly extending side walls 48 and 49 receiving the magazine between them. At the front end of the cover 46 is a front wall 50 formed by bending the forward ends of the side walls 48 and 49 inwardly as shown.

The side wall 49 has a recess 51 for the reception of a tongue 52 formed in the side wall 29 of the staple magazine to limit rotative movement of the lever relative to the staple magazine. The side walls of the cover lever 46 are formed with bearing openings to receive the pivot pin 45 for pivotally connecting the lever to the staple magazine.

Carried by the underside of the cover member 46 is a plunger member 53 comprising a portion 54 slidably contacting the underside of top wall 47 and a downwardly extending plunger portion 55 for contacting the inner side of front wall 30 between the recessed corners of the said front wall of the staple magazine. The top wall 47 is formed with a through opening 47a. Member 62 is formed with an opening 62a registering therewith. Extending through the openings 47a and 62a is a rivet 56. Portion 54 of member 53 is formed with an elongated slot 58a through which the rivet likewise passes. The rivet 56 passes through a bushing 57. Said bushing 57 has an enlarged lower head 57a contacting the underside of portion 54 of member 53. Said bushing 57 also has a reduced portion 57b which is loosely received in the opening 58a. In other words, the opening 58a is longer in a longitudinal direction than the reduced portion 57b of the bushing 57. With such construction the plunger member 53 may be longitudinally adjusted to a limited extent for automatically aligning itself against the front wall 30 of the nose piece 31 and above the first staple, as shown in Figs. 1 and 3.

A step spring 58 has its lower end 59 formed with lateral ears 60 and bearing against the upper edges of the side walls of the magazine, the upper end 61 of the spring being riveted to the underside of the top cover 47, thus biasing the top cover 47 and the magazine apart. A knob 62 is secured to the forward portion of the top cover 47 and may be fastened thereto by means of the same rivet 56.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a stapling machine, a staple magazine, a lever pivoted to said magazine, a driver comprising a right angle member, said driver having an arm contacting the underside of said lever and formed with an opening, a bushing having a reduced portion projecting into said opening, and an enlarged portion contacting the underside of said arm, the opening in said arm being larger than the portion of the bushing which projects into said opening, whereby to permit limited sliding movement of said arm relative to the bushing, and a rivet passing through said bushing and lever for attaching said bushing to said lever.

2. In a stapling machine, a staple magazine, a lever pivoted to said magazine, a driver comprising a right angle member, said driver having an arm contacting the underside of said lever and formed with an opening, a bushing having a reduced portion projecting into said opening, and an enlarged portion contacting the underside of said arm, the opening in said arm being larger than the portion of the bushing which projects into said opening, whereby to permit limited sliding movement of said arm relative to the bushing, a rivet passing through said bushing and lever for attaching said bushing to said lever, and a knob on said lever and attached thereto by means of said rivet.

3. In a stapling machine, a staple magazine, a lever pivoted to said magazine, a driver comprising a right angle member, said driver having an arm contacting the underside of said lever and formed with an opening, a bushing having a reduced portion projecting into said opening, and an enlarged portion contacting the underside of said arm, the opening in said arm being larger than the portion of the bushing which projects into said opening, whereby to permit limited sliding movement of said arm relative to the bushing, a rivet passing through said bushing and lever for attaching said bushing to said lever, and a knob on said lever and attached thereto by means of said rivet, said lever being formed with a recess below said knob, a blade spring contacting the underside of the recessed portion of the lever, a rivet passing through said recessed portion and spring for attaching said spring to said lever, said spring having a free end contacting said staple magazine.

GEORGE BERGER.

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