

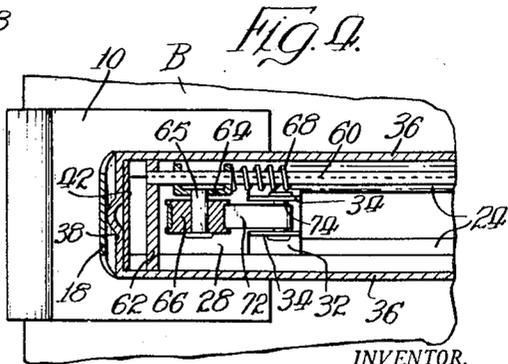
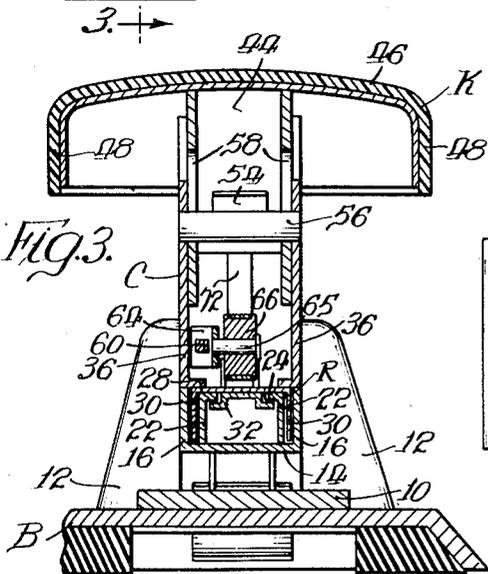
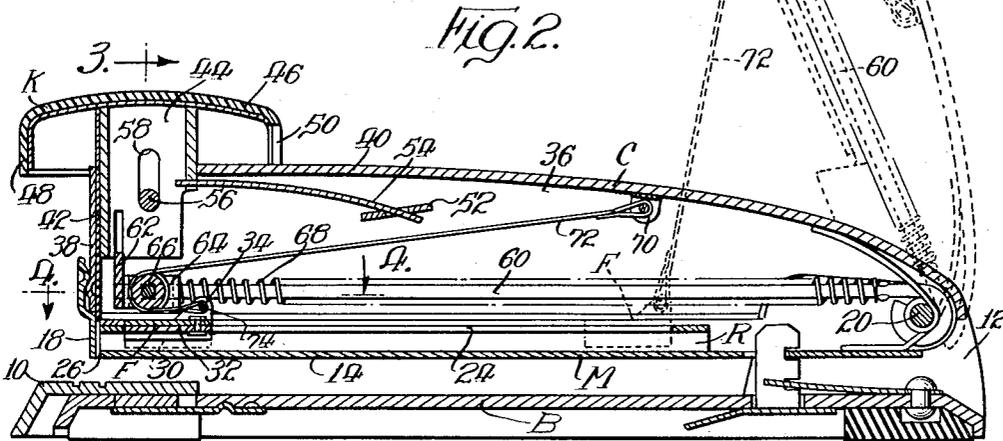
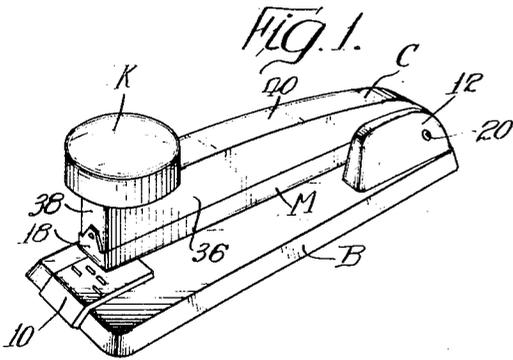
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DESK STAPLER

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DESK STAPLER

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5 Claims. (Cl. 1-3)

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This invention relates to stapling machines and more particularly to the manually operated desk type of stapler.

One object of this invention is to provide a stapler having novel and improved magazine staple advancing means.

Another object is to provide a new and improved means for automatically retracting the magazine staple follower when it is desired to replenish the staple supply.

Another object is to provide a stapling machine which is efficient in operation, and economical to produce.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein a preferred embodiment of my invention is shown. However, it will be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

Figure 1 is a perspective view of my stapler;

Fig. 2 is a central longitudinal sectional view, showing in dotted lines the cover in partly open position;

Fig. 3 is a transverse sectional view, taken on line 3-3 of Fig. 2; and

Fig. 4 is a fragmentary view in section, taken on line 4-4 of Fig. 2.

Referring now in detail to the drawings, the desk stapler of this invention comprises a base B having an anvil 10 thereon near the front end and a pair of ears 12 upstanding near the rear end. Pivotaly mounted on a pin 20 extending between the ears 12 is a staple magazine arm M of U-shaped cross section (Fig. 3) having a bottom 14, sides 16, and a vertical front end wall 18. Positioned longitudinally between and spaced away from the sides 16 of the magazine arm M is a staple supporting rail R comprising two parallel and spaced-apart walls 22 each having at its top a flange 24 which extends slightly toward the other so as to leave a slot therebetween. A vertical staple driving passageway 26 extends through the bottom 14, as shown in Fig. 2, at a point which is adjacent the front end wall 18 of the arm M.

Mounted on the staple rail R is a staple follower F in the form of a downwardly-facing channel having a top 28, sides 30 depending therefrom, a center lug 32 depending from the top 28 between the sides 30, and two parallel tines 34 struck upwardly from the top 28 near the rear

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thereof (see Fig. 2). This staple follower F is arranged to slide upon the staple rail R with its sides 30 vertically disposed between the rail walls 22 and the arm sides 16 and the center lug 32 depending between and beneath the inturned flanges 24 so as to be confined thereby.

Pivotaly carried between the ears 12 by the pin 20 is a channel-shaped cover C having sides 36, a front wall 38 and a top 40 which slopes downwardly towards the rear. A staple driver 42 is positioned adjacent the inner side of the front wall 38 and in vertical alignment with the passageway 26. This driver is affixed to the front side of a four-sided tubular post 44 which is arranged for guided vertical movement within the cover C. A hand knob K covered by a circular cap 46 having a flange 48 depending therefrom is mounted on top of the post 44. The flange 48 is cut away directly over the cover top 40 so as to provide an opening 50 for receiving the cover top when the knob is depressed during the staple driving operation.

Extending between the sides of the cover C medially of its ends is a plate 52 having an opening 54 therein through which one end of a leaf spring 54 is inserted, as shown in Fig. 2. The other end of this spring engages the lower edge of the rear side of the post 44 so that when the staple driver 42 is forced downwardly in response to pressure on the knob K the spring 54 exerts an upward tension which causes the staple driver 42 to be raised following each stroke. The movement range of the staple driver is limited by a transverse pin 56 extending between the sides 36 of the cover C and through vertical slots 58 in the sides of the post 44, thereby restricting its vertical movement to the length of the slots 58.

A rod 60, which is square in cross section, is positioned longitudinally within the cover C and nearer to one of the sides 36 thereof. The rearward end of this rod is formed into an eye which encircles the pin 20, and its front end which terminates just short of the staple driver 42 is secured to a transverse supporting bracket 62. Slidably mounted on the rod 60 is a carriage bracket 64 to which is affixed a horizontally extending pin 65 whereon a sheave 66 is rotatably secured (see Figs. 2 and 4). A coil spring 68 encircling the rod 60 serves to constantly urge the carriage 64 and sheave 66 forwardly.

Affixed to the under side of the cover top 40 and toward the rear thereof is a depending ear 70 to which is pivotaly attached one end of a flexible ribbon 72 which extends over the sheave 66 on the carriage 64, and thence rearwardly to

the staple follower F where its other end is fastened to a pin 74 traversing the tines 34. This ribbon may be made from any suitable material such as rubber, nylon, leather, flexible metal, etc. In operation, the spring 68 constantly urges the carriage 64 forwardly, which in turn keeps a constant tension on the ribbon 72 and this is transmitted to the staple follower F so as to pull it forwardly against the staples on the rail.

When it is desired to replenish the staple supply it is merely necessary to swing the cover C open through the distance necessary for this purpose. The ribbon 72 will then automatically pull the follower to the rearward end of the staple rail (see Fig. 2). After a fresh supply of staples has been loaded on the rail, the closing of the cover C will automatically cause the ribbon 72 to pull the follower F forwardly against the staples. From this description it can be seen that the means I have devised to automatically propel the staple follower forwardly and rearwardly, as desired, is novel, effective for its intended purpose, and trouble-free.

The present embodiment is to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are, therefore, intended to be embraced therein.

I claim:

1. In a stapling machine, a base, a staple supporting arm, a staple follower slidably mounted on the arm, a cover, a hinged connection between the cover and the base at the rear ends thereof, said cover adapted to be swung upwardly and rearwardly away from said arm, a guide rod longitudinally disposed within the cover, a spring pressed carriage mounted on the rod and arranged for endwise sliding movement thereon, a rotatable sheave secured to the carriage, an ear depending from the cover nearer the rear end thereof, and a flexible ribbon attached to and extending from the ear thence over the sheave and attached to the staple follower, the arrangement being such that when the cover is swung upwardly away from said arm the staple follower is pulled rearwardly by the ribbon and when the cover is in its closed position the follower is pulled forwardly in response to tension imparted to the ribbon by the spring pressed carriage and sheave.

2. In a stapling machine, a staple supporting rail, a staple follower carried by the rail, a cover pivotally connected to and arranged for swinging movement upwardly and rearwardly from the rail, a flexible ribbon attached to and extending from the cover and attached to the follower, and a spring actuated carriage arranged for guided lengthwise movement within the cover engaging the ribbon between the cover and follower and exerting pressure thereagainst whereby to maintain said ribbon under constant tension.

3. In a stapling machine, a base, a staple supporting arm pivotally attached to the base, a staple follower slidingly mounted on the arm, a cover pivotally attached to the base, a flexible cord interconnecting the cover and follower, and guided spring-actuated forwardly-urged means within the cover pressing against the flexible cord intermediate the cover and follower whereby to maintain the flexible cord under tension.

4. In a stapling machine, a base, a staple supporting arm, a staple follower slidingly carried by the arm, a cover pivotally connected to the base and arranged to be swung upwardly therefrom, a guided carriage carried by and arranged for lengthwise movement within the cover, spring means urging the carriage toward the cover forward end, a rotatable sheave on the carriage, and a flexible ribbon attached to and extending from the cover over the sheave thence to the follower to which it is attached whereby to cause the follower to be pulled rearwardly when the cover is swung upwardly and forwardly when the cover is swung downwardly to its closed position.

5. In a stapling machine, a staple supporting arm, a staple follower on the arm, a cover arranged to be swung upwardly and rearwardly away from said arm, a spring-actuated forwardly-urged carriage carried by the cover, and a ribbon attached to and interconnecting the cover and follower and engaging said carriage intermediate its ends.

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