

Sept. 9, 1947.

R. A. PERCOCO

2,427,156

STAPLING MACHINE

Filed Nov. 9, 1944

2 Sheets-Sheet 1

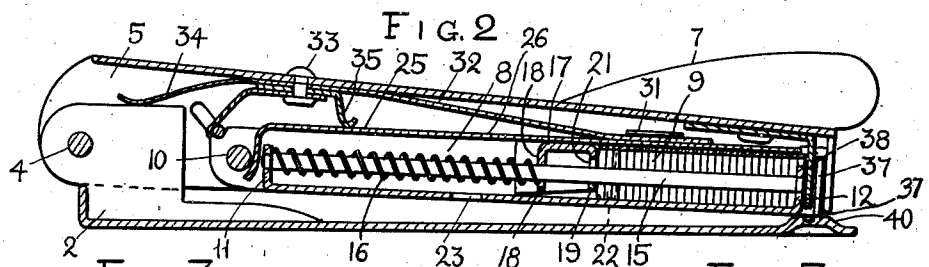
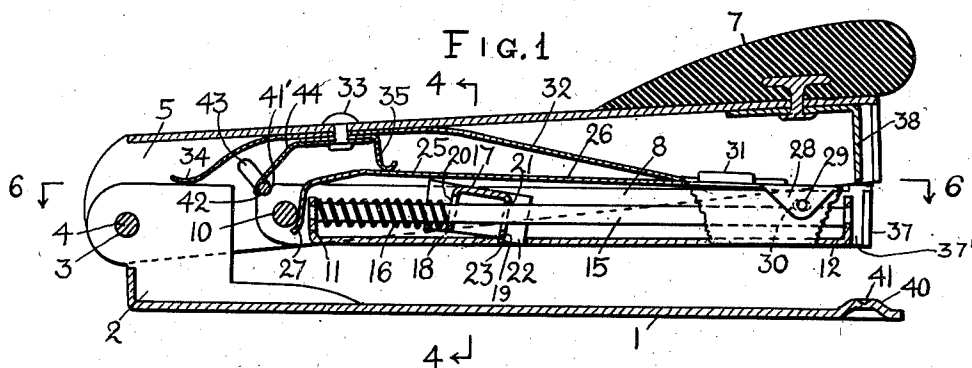


FIG. 3

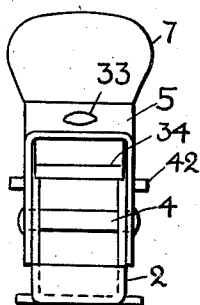


FIG. 4

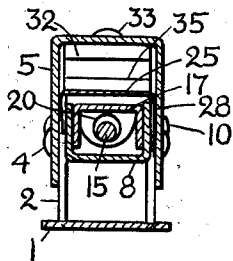
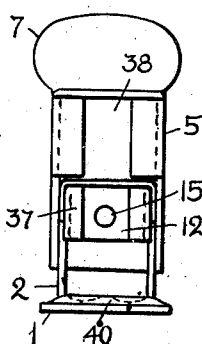


FIG. 5



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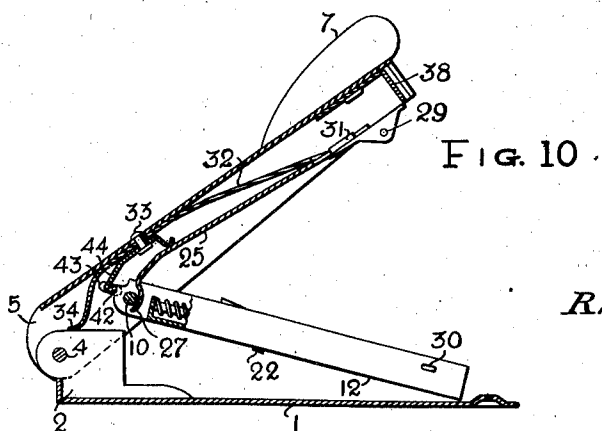
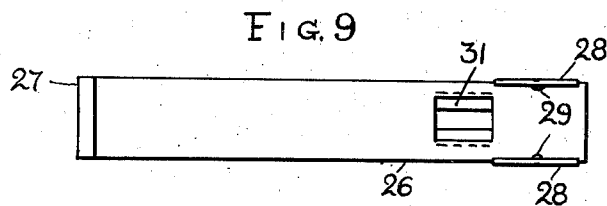
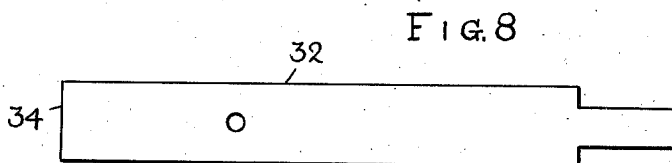
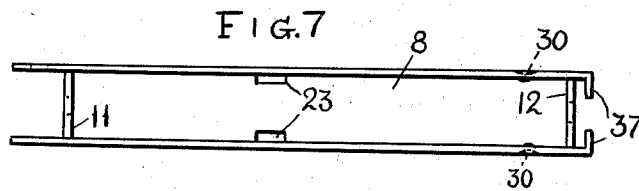
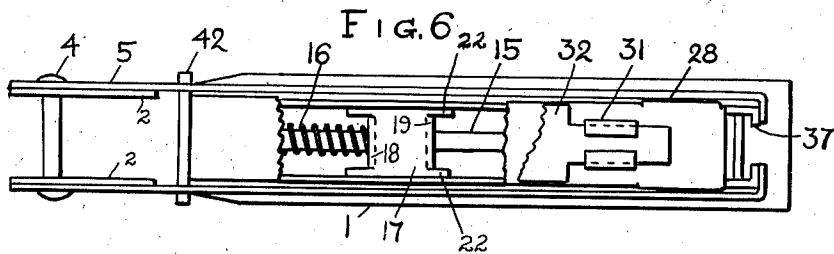
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STAPLING MACHINE

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2 Sheets-Sheet 2



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2,427,156

STAPLING MACHINE

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Application November 9, 1944, Serial No. 562,587

3 Claims. (Cl. 1—3)

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My invention relates to stapling machines and has particular reference to machines for stapling together sheets of paper or similar material, with or without clinching the ends of the staples.

My invention has for its object to provide a stapling machine of a light portable type which can be economically manufactured and conveniently used for various types of work such as stapling sheets of paper or for driving staples into various materials without clinching the ends of the staples.

My stapling machine is provided with a magazine for the staples, the staples being urged toward the operating end of the magazine by a slide engaged by a spring. The slide is arranged to be locked in an inoperative position for refilling the magazine with the staples. I also provide means for automatically releasing the slide when the magazine is placed in an operative position in the machine.

Another object of my invention is to provide means to firmly retain the staples in the magazine so as to prevent their buckling or displacement when the slide and spring are quickly released.

Still another object of my invention is to provide means to yieldably retain the magazine portion of the machine in an operative relationship with the main body of the machine and to release the magazine from the body for refilling the magazine with the staples.

My invention is more fully described in the accompanying specification and drawings in which—

Fig. 1 is a sectional elevational view of my machine in an inoperative position, showing the slide for the staples locked in an inoperative position;

Fig. 2 is a similar view of the machine in an operative position with the slide released;

Fig. 3 is a rear end view of the machine;

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

Fig. 5 is a front end view of the machine;

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 1;

Fig. 7 is a top plan view of the magazine;

Fig. 8 is a top plan view of the spring for the cover of the magazine;

Fig. 9 is a bottom plan view of the spring cover of the magazine. Fig. 10 is a sectional elevational view of the device showing the upper portion in a raised position.

My stapling machine consists of a base plate 1 having raised side portions 2 at the rear with holes 3 for a pin 4 pivotally supporting a body

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5. The latter is of an inverted channel or U-shaped section and is provided with a handle 7 at the front end. A magazine 8 for staples 9 is of a channel or U-shaped section and is provided with holes in the rear ends of the side walls for a pin 10 passing also through corresponding holes in the side walls of the base plate 1. The magazine has end walls 11, 12 with holes for the ends of a rod 15. A helical spring 16 is placed on the rod back of a slide 17. The slide has end walls 18, 19 with holes 20, 21 for the rod 15. The diameter of the holes is larger than the diameter of the rod so that the slide can be moved up or down on the rod. The front ends of the side walls of the slide are provided with lugs 22 (Figs. 1 and 6) which can be placed in slots 23 in the bottom wall of the magazine by depression the front end of the slide as shown in Fig. 1 for locking the slide in an inoperative position with the spring 16. The staples are then relieved from the spring pressure and can be replaced in the magazine. The slide in this position assumes a tilted position with its rear end raised above the level of the upper edges of the side walls of the magazine, under a raised portion 25 of a resilient spring cover 26 of the magazine. The rear end 27 of the spring cover is bent downwards and is placed between the pin 10 and the rear end wall 11. The front portion of the spring cover is provided with depending side cheeks 28, frictionally engaging the sides of the magazine. The cheeks are provided with inwardly extending projections 29 engaging corresponding depressions 30 on the side walls. The depressions 30 are elongated towards the front end of the magazine for allowing a certain sliding movement of the spring cover on the magazine. The front portion of the spring cover 26 is also provided with raised lips 31 (Figs. 1 and 6) slidably engaging the front end of a leaf spring 32. The latter is attached to the upper wall of the body 5 by a rivet 33. The rear end of the spring 32 is bent downwards at 34 and rests on the upper edges of raised portions 2 of the base plate 1. A lug 35 is also attached by the rivet 33 to the body 5 and engages the raised portion 25 of the cover 26 as shown in Fig. 1. The lug depresses the raised portion 25 when the body 5 is moved downwards as shown in Fig. 2 thereby flattening the spring cover 26 and depressing the rear end of the slide 17 thereby releasing the lugs 22 from the holes 23 and allowing the slide to be moved forward under action of the spring 16 for moving the staples 9 towards the front end of the magazine, until they abut the bent-over ends 37 of the

side walls of the magazine. The bent-over ends of the walls are spaced from the front wall 12 for allowing the foremost staple to be positioned in a clearance between the wall 12 and the bent-over ends 37. An opening 37' is provided in a clearance between the walls 37 and 12. The body 5 is provided with a driver plate 38 at the front end adapted to enter the clearance between the wall 12 and the bent-over ends 37 for driving the foremost staple out against the upper side of the base plate 1. The latter is provided with a raised pad 40 having depressions 41 for clinching the ends of the staple.

The rear ends of the walls of the magazine 8 are provided with recesses 41' for a pin 42 slidably supported in elongated slots 43 in the walls of the body 5. A leaf spring 44 is attached at one end by the rivet 33 to upper plate of the body 5, the lower end of the spring 44 engaging the sliding pin 42 and urging the same into the recesses 41'. The pin 42, under pressure of the spring 44, tends to raise the front end of the magazine 8, assisting in this respect the spring 32. To fill the magazine, the latter is disengaged from the clamp 28, the magazine and the body 5 being then forced apart into a position shown in Fig. 10 with the magazine exposed. The slide 7 is moved rearward and locked in this position as shown in Fig. 1. Staples can be then placed in the magazine. The slide 7 is released by moving the body 5 and magazine 8 into mutual engagement until the clamp 28 snaps in its place on the magazine.

It will be understood that various features and principles of each of the embodiments of the invention above described or referred to may be utilized or substituted in the other embodiments.

While the invention has been described in detail with respect to certain particular preferred examples, it will be understood by those skilled in the art after understanding the invention, that various changes and further modifications may be made without departing from the spirit and scope of the invention, and it is intended therefore in the appended claims to cover all such changes and modifications.

What is claimed as new and desired to be secured by Letters Patent is:

1. A stapling machine comprising a base; an upper member of an inverted channel shape, the rear end of the upper member being pivotally supported on the base; a handle at the front end of the upper member; a lower member of a channel shape open at the top and forming a magazine for staples, the rear end of the lower member being pivotally supported at the rear portion of the upper member; a means at the front end of the lower member for retaining the staples; yieldable means to urge the staples towards the retaining means; the bottom wall of the lower member having an opening for the foremost staple; a cover plate for the staples extending over the upper edges of the lower member; depending lugs at the front end of the cover plate yieldably engaging corresponding depressions in the side walls of the lower member; and a wall at the front end of the lower member spaced from the staple retaining means so as to leave a staple driveway for the foremost staple.

2. A stapling machine comprising a base; an upper member of an inverted channel shape, the rear end of the upper member being pivotally supported on the base; a handle at the front

end of the upper member; a lower member of a channel shape open at the top and forming a magazine for staples, the rear end of the lower member being pivotally supported at the rear portion of the upper member; a means at the front end of the lower member for retaining the staples; a slide movably supported in the lower member for engaging the staples; yieldable means to urge the slide forward for moving the staples towards the retaining means; downward extending lugs at the lower edges of the slide, the bottom wall of the lower member having openings for the slide lugs in its rear portion, the slide being arranged to be tilted with its front end downward and rear end upward for engaging the openings by the lugs thereby preventing the slide from being moved by the urging means, a resilient cover plate extending over the lower member for covering the staples, the rear portion of the cover plate being raised to clear the raised rear portion of the slide; yieldable means for supporting the upper member at an elevation above the lower member; and means carried by the upper member for yieldably depressing the rear portion of the cover plate when the upper member is moved downwards thereby depressing the rear portion of the slide and releasing the slide for the forward movement under action of the urging means.

3. A stapling machine comprising a base; an upper member of an inverted channel shape, the rear end of the upper member being pivotally supported on the base; a handle at the front end of the upper member; a lower member of a channel shape open at the top and forming a magazine for staples, the rear end of the lower member being pivotally supported at the rear portion of the upper member; a means at the front end of the lower member for retaining the staples; a slide in the shape of an inverted channel movably supported in the lower member for engaging the staples; yieldable means to urge the slide forward for moving the staples towards the retaining means, the rear end of the lower member having a depression; a pin engaging the depression, the side walls of the upper member having elongated slots for the pin, the ends of the pin extending outside through the slot; and a spring supported in the upper member urging the pin into engagement with the depression in the lower member thereby locking the lower member in a spaced relationship with the upper member, the pin being adapted to be manually moved in the slot for releasing the lower member and for allowing the lower and the upper member to be rotated relative to each other.

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