

March 7, 1933.

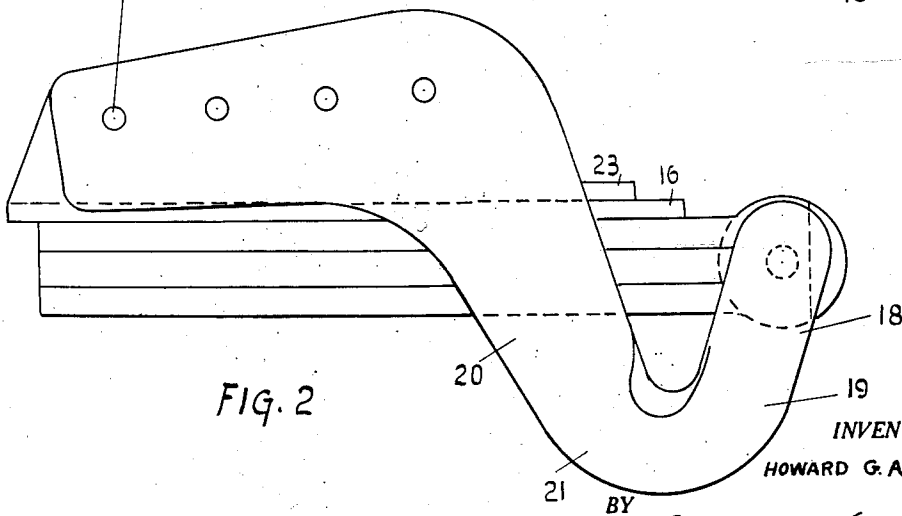
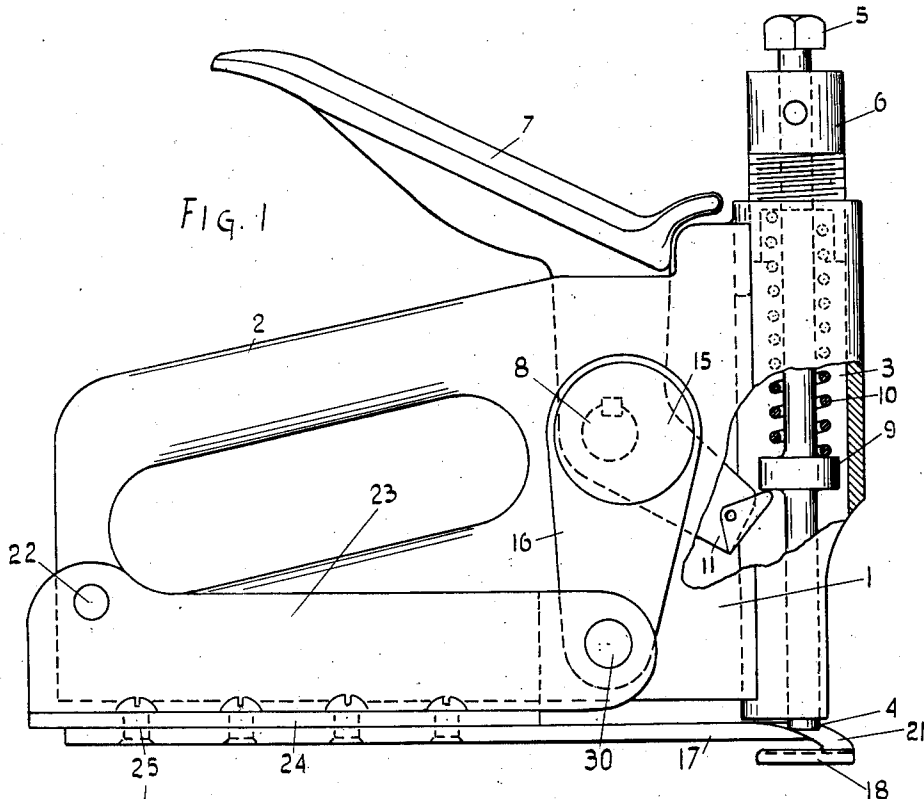
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1,900,683

HAND STITCHING TOOL

Filed Nov. 7, 1930

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

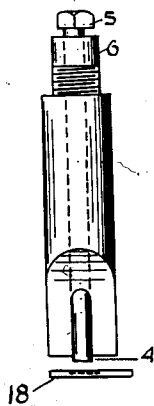
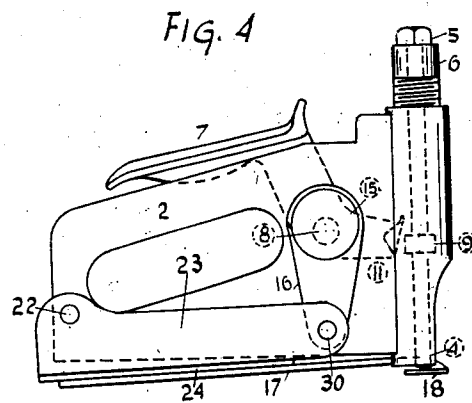
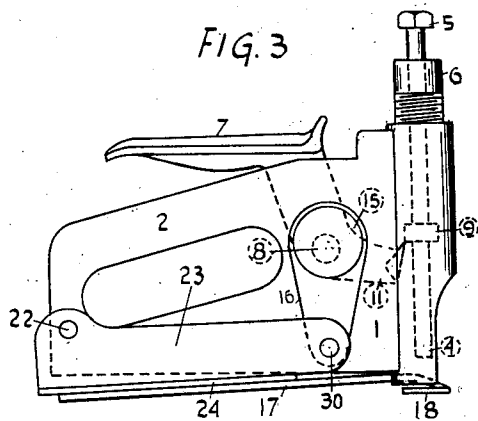


FIG. 5

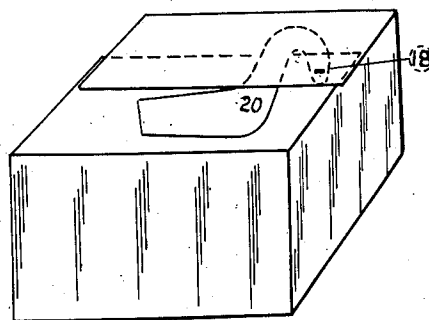


FIG. 7

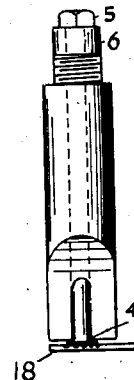


FIG. 6

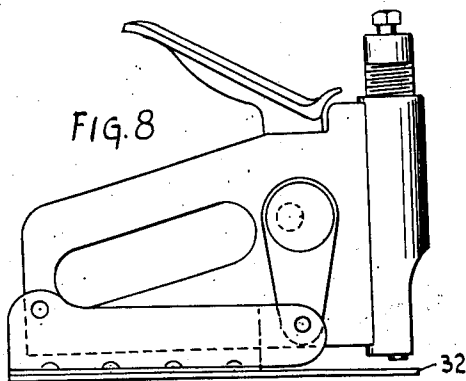


FIG. 8

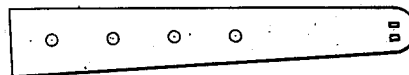


FIG. 9

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HAND STITCHING TOOL

Application filed November 7, 1930. Serial No. 494,088.

This invention relates to a stitching or stapling tool, particularly one of a portable nature. More specifically, the tool is what may be termed a hand tool in that it may be manipulated or carried in the hand of an operator. A tool of this nature is useful for many purposes, and it is advantageous for stitching fiber board containers, especially where the number of containers to be stitched are such that the installation of larger and more expensive non-portable stitching machines is not warranted.

In the accompanying drawings:

Fig. 1 is a side elevational view of the stitching machine with parts cut away depicting some of the structural features.

Fig. 2 is an underside view of the same.

Fig. 3 is a view of the machine illustrating the position of the parts when partially operated.

Fig. 4 shows the position of the parts just when the stitch is driven.

Fig. 5 is an end view illustrating the normal at-rest position.

Fig. 6 is an end view showing the driver and anvil in stitch-driving position.

Fig. 7 is a perspective view showing a container and an anvil which may be used with the stitching machine illustrating one manner of use.

Fig. 8 is a view of a stitching tool equipped with a straight blade anvil.

Figure 9 is a top plan view of a straight blade anvil.

The tool may comprise a body portion 1 having a handle 2 by means of which it may be manipulated, a head 3, in which there is situated a driver 4, the upper end of which is shown at 5; an adjustable plug 6 is screw threaded in the head. The machines may be operated as by means of a lever 7 fulcrumed as at 8. The particular anvil driving means is subject to variation, and as shown herein, may take the form of a shoulder 9 on the anvil, a coil spring 10 situated between the shoulder and adjusting plug 6. The lever 7 includes a projection 11 arranged to engage the head 9 and raise it, thus compressing spring 10. As the lever is depressed substantially to its limit, as shown in Fig. 4, the

arm 11 disengages head 9 and the anvil is driven under action of the spring. Suitable means (not shown) may be provided for feeding stitches or staples to a position underneath the anvil.

Mounted upon the fulcrum pin 8 of the lever is an eccentric 15, and rotatably mounted upon this eccentric is an arm 16. The anvil against which the legs of the stitch are clinched as shown in Fig. 6, shown at 18. This anvil may be of a shape as shown in Fig. 2 having an anvil portion proper, as shown at 18 underlying the driver and extending out to the side of the machine, as shown at 19, a body portion as at 20 connected by an intermediate angularly disposed bent part 21 to the part 19. The anvil is movably mounted, and for this purpose may be pivoted at 22 to the body of the machine through the means of a plate 23 having a flange 24 secured to the anvil as by means of screws 25. The anvil is connected to the arm 16 as at the point 30, and this may be done through the means of plate 23. The anvil shown is what may be termed a blade anvil, and moreover, an anvil of the shape shown is of the type which can be inserted between two overlapping flaps of the container with the anvil proper positioned below both flaps after the manner illustrated in Fig. 7. However, a straight anvil may be placed upon the machine if desired.

In operating the tool it is manipulated to position with the anvil underneath two or more elements which are to be stitched together, as for example, overlapping flaps of a fiber board container, and this is facilitated because, as will be noted by reference to Fig. 1, the anvil is spaced from the driver and the body of the machine. With the tool in proper position the operator depresses lever 7. When depressed until about the position shown in Fig. 3, the anvil is raised by reason of the eccentric 15 pivoting the anvil about the point 22, at the same time the projection 11 raises the driver against the action of the spring 10. When the lever is moved substantially to its final position the arm 11 disengages the head 9, and at this time the anvil is close to the body of the stitching machine.

As soon as the arm 11 disengages the head 9 the driver is driven by the spring 10 and a stitch is driven through the articles to be stitched and clinched, as shown in Fig. 6.

Thus in handling this tool, the body and anvil are spaced apart to permit of easily inserting the anvil underneath the work to be stitched, but this space is greater than that desired to effect efficient stitching or stapling, but this problem is met by the movable anvil which moves up so that the work is gripped between the anvil and the body of the machine just prior to and during movement of the driver. It will be appreciated that suitable means (not shown) may be provided for locating a stitch or staple underneath the anvil as it is about in the position shown in Fig. 3, so that when it is released the same is driven and clinched.

As above stated, the anvil may be of a straight type and such as shown in Fig. 8 wherein the stitching tool is equipped with a straight blade anvil 32. This straight anvil may also be movably mounted as regards the body of the tool and may be used for stitching two or more parts of work together where it is unnecessary to have a reverse bend to underlie both parts of the overlapping work.

It will be understood that the particular means for moving the anvil is subject to a large range of variation and equivalents.

The parts may be arranged so that the work may be gripped and more or less held by being engaged between the anvil and the body during stitching operation. In other words, as the anvil comes up close to the body these parts tighten against the work. This is not essential to the invention as it may be operated without this gripping action, but it may be advantageous in some instances.

I claim:

1. A hand stitching tool comprising a body, a driver, a spring acting upon the driver, means for raising the driver against the spring action and to release the same for spring-actuated driver action, a pivotally mounted anvil having a stitch clinching part normally spaced from the body and in alignment with the driver, and means connecting the anvil with the first mentioned means whereby the anvil is rocked when the driver spring is compressed to position the stitch clinching part of the anvil in close proximity to the body for driver action.

2. A hand stitching tool comprising a body, a driver, a spring acting on the driver, a lever, means on the lever for compressing the spring and then releasing the same to effect driver operation, a pivoted anvil having a stitch clinching part in alignment with the driver but normally spaced from the body, an eccentric controlled by the lever, and means operated by the eccentric for moving the anvil on its pivot toward the body as the

spring is compressed whereby to position the stitch clinching part of the anvil in close proximity to the body for driver operation.

3. A hand stitching tool comprising a body, a stitch driver adapted to be projected from the body in the driving of a stitch, a manually movable element for controlling the driver action and movable through a portion of its movement prior to driver action, an anvil mounted for movement relative to the body having a stitch clinching portion in alignment with the driver, means connecting the manually movable element and anvil, the anvil and body being normally spaced apart for the reception of work between them, said anvil upon actuation of the movable element moving toward the body, and the body and anvil being adapted to grip the work between them, and means associated with the movable element and the driver for effecting driver action after the work has been gripped between the body and the anvil.

In testimony whereof I affix my signature.

HOWARD G. ALLEN.