March 5, 1929. F. POLZER 1,704,444

WORK LOCATING DEVICE FOR STAPLING MACHINES

Filed Sept. 17, 1927

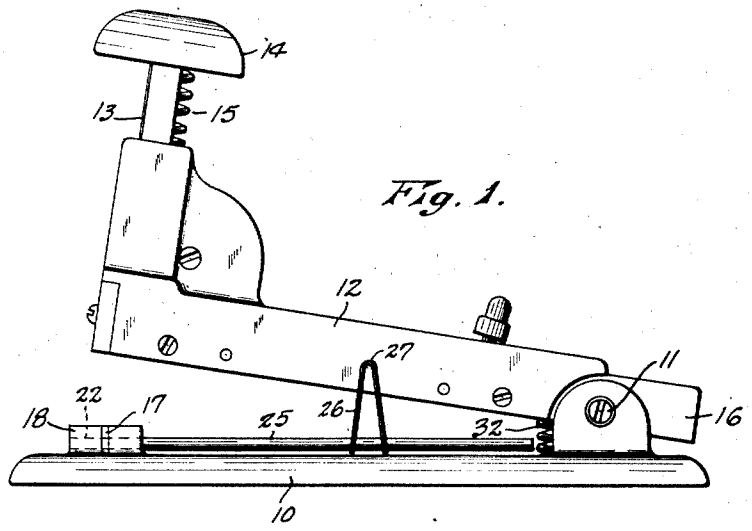


Fig. 1.

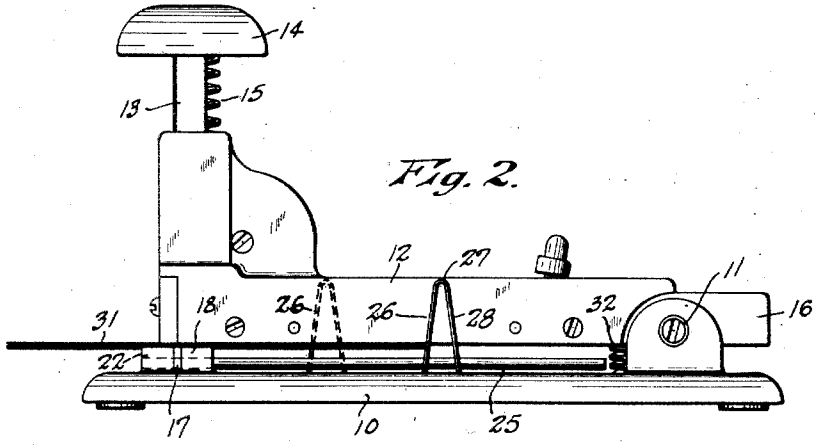


Fig. 2.

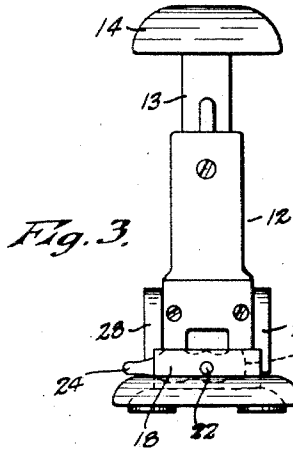


Fig. 3.

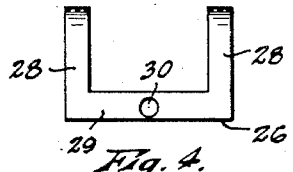


Fig. 4.

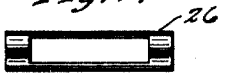


Fig. 5.

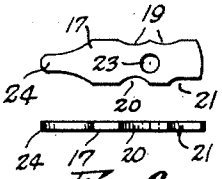


Fig. 6.

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Patented Mar. 5, 1929. 1,704,444

UNITED STATES PATENT OFFICE.

FRIDOLIN POLZER, OF NORWALK, CONNECTICUT, ASSIGNOR TO THE E. H. HOTCHKISS COMPANY, OF NORWALK, CONNECTICUT, A CORPORATION OF CONNECTICUT.

WORK-LOCATING DEVICE FOR STAPLING MACHINES.

Application filed September 17, 1927. Serial No. 220,095.

This invention relates to stapling machines, especially those that are adapted for securing together two or more sheets of paper or similar articles, and has for an object to provide a simple, effective and easily adjustable stop or locating means which may be used to locate the work so that a series of staples may be set at the same distance from the edge of the article or the same distance from the edges of a plurality of similar articles.

With the foregoing and other objects in view, I have devised the construction illustrated in the accompanying drawing forming a part of this specification. In this drawing,

Fig. 1 is a side elevation of a stapling machine showing my improved work locating device applied thereto, this machine being in the normal position of rest.

Fig. 2 is a similar side elevation showing the work in position to be stapled.

Fig. 3 is a front elevation of the device.

Fig. 4 is a front elevation of the work locating element.

Fig. 5 is a bottom view of this element, and

Fig. 6 is a front elevation and an edge view of the anvil.

This work locating device may be employed with different types of stapling machines but particularly with the type as shown for driving substantially U-shaped staples either wire staples or flat staples in strips, comprising a base 10 to which is hinged at 11 a housing 12 carrying the usual staple driving and feeding mechanism. In this type of device the staple driving mechanism is usually a vertically reciprocable plunger 13 guided for movement in the housing and operated by a hand knob 14 which is normally held in the elevated position by the spring 15. The staples are fed to the machine through the rear end of the housing on a guide bar 16 and are fed to the driving position by any suitable automatic feed mechanism, not shown. The base carries an anvil 17 which is located under the plunger and cooperates therewith to clinch the individual staples in the manner well known. In the present construction the base is provided with an upward extension 18 having a slot in which the anvil is mounted. This anvil comprises a steel plate which is mounted in an upright plane and has on one edge a pair of curved notches or recesses 19 which will bend the staple prongs inwardly toward each other under the action of the plunger to clinch the staples. On its opposite edge it has notches 20 and 21 so located that when the anvil is positioned with these notches at the top the notch 20 will turn its staple prong inwardly while the notch 21 will turn its staple prong outwardly, thus giving a different set to the staples, as one type of set may be desired for certain work and the other for certain other work. The anvil is so mounted in the base that it may be reversed to use either set desired. It is mounted in the base by means of a pin 22 driven through the extension 18 and through an opening 23 in the anvil so that thus the anvil is pivotally mounted, and one end projects beyond the side of the extension 18 to form a handle 24 by means of which the anvil may be reversed simply by swinging this handle from one side of the extension to the other.

I utilize this pin 22 as means for mounting my work locating device. This is done by extending the pin 22 rearwardly just above the top of the base to provide a guide rod 25, and this rod is driven into openings in the extension 18 with a tight fit when the anvil is mounted. In the arrangement shown it, therefore, extends longitudinally of the base between the top of the base and the under side of the housing. The work locating element 26 comprises a piece of sheet metal stamped from a suitable blank and when so formed is substantially rectangular in shape with a rectangular opening. It is then bent or folded together on opposite sides of its mid length as indicated at 27, thus forming an element which is of inverted V-shape, as viewed from its opposite ends as shown in Figs. 1 and 2, and which is of general U-shape, as viewed from the front as shown in Fig. 4, thus providing upright side portions 28 and connecting base portions 29. These base portions each have an opening 30 which are in alignment and through which the rod 25 extends with a slide fit. The metal of which the element 26 is made is preferably resilient of more or less spring metal and when on the rod the free lower cross bars 29 tend to separate, and therefore, bind or cramp the opposite walls of the openings 30 on the bar to thus clamp this stop or locating element and frictionally

hold it in adjusted positions on the bar. If it is desired to adjust this stop or locating element all that is necessary is to force it along the bar against this frictional clamping action, or if the base portions 29 are pressed together it will unclamp from the bar and be easily shifted in either direction, but as soon as released will through its spring action tend to separate the two lower bars 29 and clamp itself to the bar in its adjusted position.

In this type of devices the front end of the housing is lifted, as indicated in Fig. 1, for insertion of the work, such as sheets of paper 31, on top of the anvil for the staple driving operation. This housing may be lifted by hand or through a spring 32, and it will be clear from Figs. 1, 2 and 3 that the housing extends between the upright side members 28. Therefore, when the sheets of paper 31 are inserted between the housing and the base their rear edges will engage the front wall of the member 26 and be located in proper position for driving the staples. It will be obvious this structure is very simple and that by forming the rod 25 as an extension of the anvil mount, the anvil and the support for the work locating device are mounted at a single operation, thus greatly reducing the cost of manufacture, while the work locating element 26 is of itself also very simple in construction and easily mounted in position. It is also easily adjusted and automatically clamps itself in adjusted position without requiring the use of any clamps or screws or other means which must be manipulated.

Having thus set forth the nature of my invention, what I claim is:

1. In a stapling machine, a base, a housing pivotally secured to the base, a guide rod mounted on the base and extending longitudinally of the base, and a stop member of resilient sheet metal bent to substantially inverted V-shape and having a transverse recess extending downwardly from its upper edge providing upwardly extending side members on opposite sides of the housing and of a height to always extend above the lower edge of the housing both when it is in its raised or lowered position to form limit stops for the work, and the lower portions connecting the side members having transverse openings for the rod the walls of which bind on the rod due to the resilient action of the metal to secure the member in adjusted positions.

2. In a staple driving machine, a base, an anvil mounted on the base, a housing secured to the base and carrying a movable plunger arranged to cooperate with the anvil to set the staples, a rod forming means for securing the anvil to the base and extending rearwardly from the anvil, and a stop forming a work locating element comprising a resilient sheet metal member of substantially inverted V-shape and having upward extensions on opposite sides of the housing, and said member having transverse openings for the rod and arranged to bind on the rod due to the resiliency of the metal to secure the member in adjusted positions.

In testimony whereof I affix my signature.

FRIDOLIN POLZER.