No. 647,422. Patented Apr. 10, 1900.

R. McKAY.

STAPLE SETTING IMPLEMENT.

(Application filed May 10, 1899.)

(No Model.)

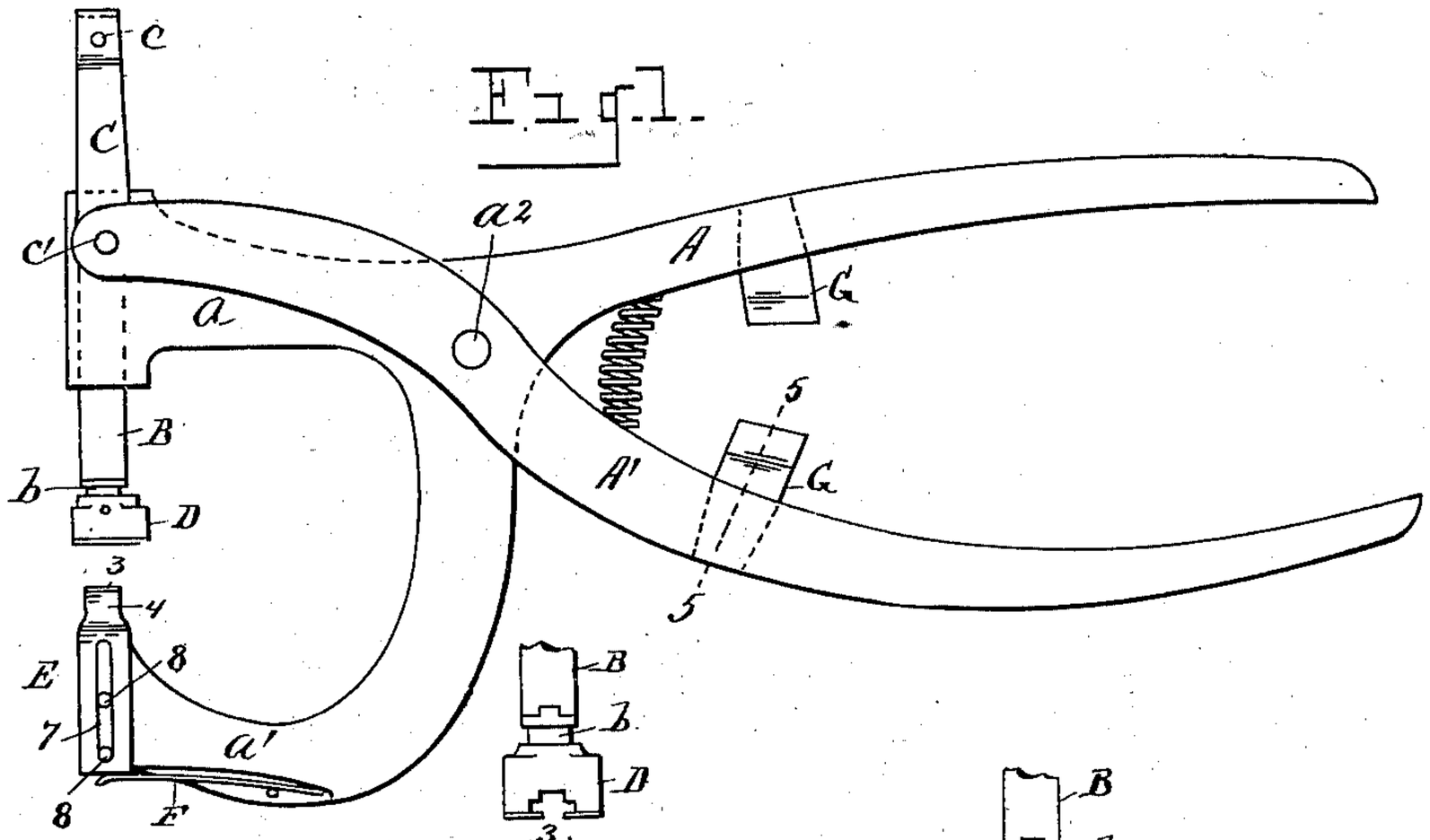
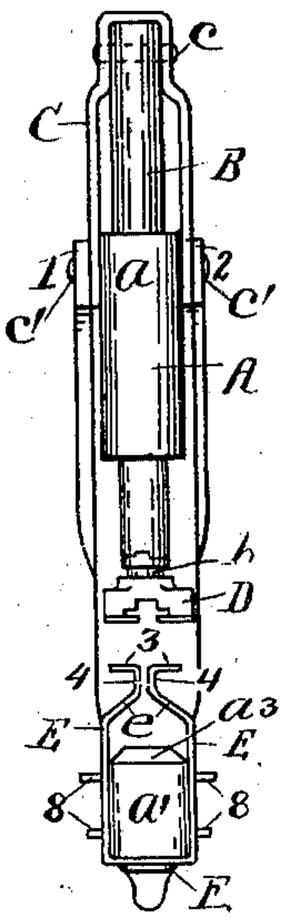


Fig. 1.

Fig. 3.

Fig. 4.



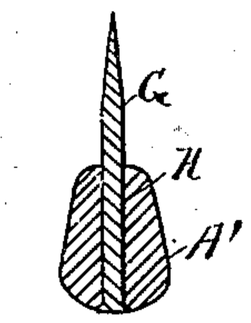


Fig. 5.

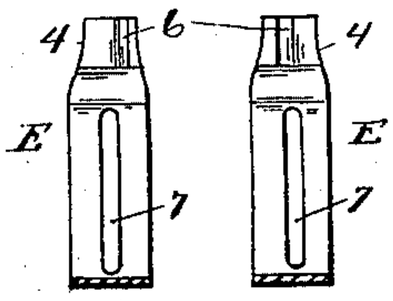


Fig. 7.

Fig. 2.

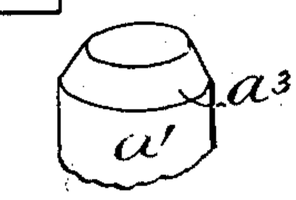


Fig. 8.

Fig. 6.

WITNESSES.

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STAPLE-SETTING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 647,422, dated April 10, 1900.

Application filed May 10, 1899. Serial No. 716,222. (No model.)

To all whom it may concern:

Be it known that I, ROBERT McKAY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Hand Staple-Setting Implements; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object certain new and useful improvements in a hand staple-setting implement; and it consists of the construction, combination, and arrangement of devices hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of my improved implement. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged detail view of certain features of the invention, showing the guards in normal position. Fig. 4 is a similar view showing the guards forced apart by the descent of the setting-die. Fig. 5 is a view in cross-section on the line 5 5, Fig. 1. Fig. 6 is a plan view of the guards. Fig. 7 shows the inner faces of the guard-arms. Fig. 8 is a detail view of the setting-die.

The aim of my invention is to simplify the construction of a hand implement for setting fastenings upon buttons and analogous uses, to reduce the number of parts as much as possible, and render the device more efficient and more economical in its manufacture.

I carry out my invention as follows:

A and A′ represent two jointedly-connected jaws provided with operating-handles, one of said jaws, as the jaw A, formed, essentially, G-shaped at its forward end—*i. e.*, with an upper and with a lower portion, (indicated at *a* and *a′*,) the upper portion *a* of the jaw A formed with an orifice through which may reciprocate a punch B, carrying a setting-die *b*. The two jaws are shown jointedly connected at a^2. The under portion *a′* of the jaw A carries a die-seat a^3. The jaw A′ is shown bifurcated at its forward end. (Indicated more particularly in Fig. 2 by the numerals 1 and 2.) The upper end of the punch is connected with the bifurcated portions of the jaw A′ by means of a yoke C, which may be connected to the upper end of the punch in any suitable manner, as by a connecting-pin *c*. The lower ends of the yoke may be united to the adjacent bifurcated arms of the jaws A′ in any suitable manner, as by pins at *c′*.

Connected with the setting-die, which is preferably made removable, is a button-carrying device, (indicated at D,) which may be of any desired construction.

My invention is designed more particularly for setting a two-pronged fastening, and obviously it is very important that means should be provided to always hold the prongs in exactly the right position relative to the setting-die. It will be understood that the face or lower end of the setting-die is shaped in such a manner that when it contacts with the points of the fastener-prongs and pressure is applied the prongs will be suitably clenched in the work and about the attaching portion of the button.

To positively insure the two prongs of a fastening always being engaged and held in proper position upon the setting-die or beneath the setting-die, my invention contemplates providing the lower portion *a′* of the jaw A with fastener-holding blades, (indicated at E E,) which are preferably formed of a single integral piece and shaped to embrace opposite faces of the adjacent end of the portion *a′* of the jaw A, the portion intermediate the ends of the blades E E passing underneath the end of the jaw A, as shown, the fastener-holding blades having a sliding engagement upon the lateral faces of the lower arm *a′* of the jaw A. A spring F is engaged with the arm *a′* and bearing against the adjacent portion of the blades E E to hold said blades in normal position. The upper ends of the blades E E, above the die-seat, are bent inward, the one toward the other, as shown, a little below the upper extremities of said blades, as at *e*, the upper extremities of said blades being flanged outwardly or in opposite directions, as indicated by the numeral 3. The blades thus closely approach each other just below the flanged extremities 3, forming a fastener-holding neck, (indicated at 4 4.) At the forward edges the necks of the blades are

separated a little distance the one from the other sufficient to admit the prongs of a fastening, the head slipping into place above the die-seat below the portions *e e*. At the rear edges the necks of the blades preferably contact the one with the other, as indicated at 5. The inner faces of the necks of the blades toward the rear edges thereof are slightly grooved vertically, as indicated by the numeral 6, the edges of the necks contacting at the rear of said grooves, said grooves receiving the adjacent prong of the fastening and the contacting edges to the rear of the grooves effectually forming a stop to limit the insertion of a fastening into the blades, the necks of the blades thus formed readily permitting a two-pronged fastening to be received between the necks of the blades, and when so received to be held firmly in exactly the right position for the work and for the proper operation of the setting-die.

I prefer that the blades shall be bent inward at a point a little above the upper edge of the die-seat, the blades being in normal position, so that the blades may be moved a limited distance downward before the inwardly-bent portions of the blades will contact with the setting-die. This movement will allow the extremities of the prongs to project a little distance beyond the laterally-turned flanges 3 of the blades, so that the extremities of the fastening may be forced slightly into the work and sufficiently to hold the prongs in the work. The outer face of the die-seat is beveled, so as to contact with the inwardly-turned beveled faces *e e* of the blades, and thereby force said blades apart when pressure is applied upon the upper ends of said blades. It will be perceived that when the setting-die is forced downward the under surface of the button-holding device D will contact with the upper surfaces of the flanges 3 3, and thereby the blades E E will be forced downward, the necks being carried toward the die-seat, the die-seat separating the blades and spreading the necks apart.

To provide for the reciprocation of the blades, they are each constructed with an elongated slot 7, and the adjacent face of the arm *a'* is provided with one or more pins 8, projecting laterally through the corresponding slot 7. These pins hold the jaws in place.

Another feature of the invention aims to provide the jaws A A' with cutting-blades, (indicated at G G'.) My present invention contemplates the provision of said jaws with these cutting-blades in the simplest and most economical as well as most efficient manner. To this end the jaws are each provided with a cored socket, as at H, preferably made tapering, and the cutter-blades G G' are also made tapering at one end thereof to be forced into said cored sockets. In this manner the cutter-blades are firmly supported and held in place in a very simple and firm manner.

The sockets H in the handles of the jaws are cored out in the handles intermediate the lateral edges thereof and preferably extend therethrough, so that the cutting-blades may be headed into the sockets at their outer ends.

What I claim as my invention is—

1. The combination with a staple-setting implement provided with a die-seat and with a reciprocatory setting-die, of expansible fastener-holding blades having a reciprocatory movement adjacent to the die-seat, said blades constructed with adjacent necks toward their upper ends, said necks provided with a front opening to receive a two-pronged fastening, the inner faces of the necks toward the rear thereof located adjacent one to another to form a rear stop to limit the insertion of the fastening between said blades, the front portions of said necks arranged to engage the prongs of a fastening and hold the prongs firmly therebetween, substantially as set forth.

2. The combination with a staple-setting implement provided with a die-seat and with a reciprocatory setting-die, of expansible fastener-holding blades having a reciprocatory movement adjacent to the die-seat, said blades constructed toward their upper ends with adjacent necks having their adjacent faces grooved to receive the adjacent prong of the fastening, said necks constructed with an opening therebetween in front of said grooves, the edges of the necks to the rear of said grooves closely approaching one another to form a stop for the prongs of a fastening, substantially as set forth.

3. In a staple-setting implement, the combination with pivotally-connected jaws provided with a reciprocatory setting-die and with a die-seat, of expansible fastener-holding blades adjacent to the die-seat, said blades having a reciprocatory movement with an adjacent portion of one of said jaws, said blades constructed with adjacent fastener-holding necks toward their upper ends, the front portions of said necks arranged to permit the reception of a two-pronged fastening therebetween, the rear portions of said necks constructed to form a stop to limit the insertion of the fastening, the upper ends of the blades flanged outwardly the one from the other, substantially as set forth.

4. In a staple-setting implement, the combination with pivotally-connected jaws provided with a reciprocatory setting-die, a button-holding device, and a setting-die beveled on its outer face, of expansible fastener-holding blades adjacent to the die-seat, said blades having a reciprocatory movement with an adjacent portion of one of said jaws, means to hold said blades in normal position, said blades constructed with adjacent fastener-holding necks toward their upper ends, said necks arranged to permit the reception of a two-pronged fastener therebetween, at the front edges thereof, and forming a stop at the rear edges thereof, the upper extremities of the blades provided with outwardly-turned flanges, and said blades inwardly beveled be-

low the necks, whereby when the setting-die approaches the die-seat the button-holding device will contact with the flanges of said blades to force the blades in a corresponding direction, and whereby the blades will be expanded by contact with the die-seat, substantially as set forth.

5. In a staple-setting implement, the combination with pivotally-connected jaws provided with a reciprocatory setting-die and a die-seat, of expansible fastener-holding blades having a reciprocatory engagement with an adjacent portion of one of said jaws, said blades constructed with elongated orifices, and the adjacent portion of one of said jaws provided with pins projecting through said orifices, a spring underneath said portion of one of said jaws to hold the blades in normal position, said blades constructed toward their upper ends with adjacent necks recessed on their inner adjacent faces, and made open at their front edges to receive a two-pronged fastening, the rear edges of said necks forming a stop for one of the prongs of the fastening, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

ROBERT McKAY.

Witnesses:
N. S. WRIGHT,
M. HICKEY.