(No Model.)

F. H. RICHARDS.

BUTTON SETTING IMPLEMENT.

No. 397,388. Patented Feb. 5, 1889.

Fig. 1

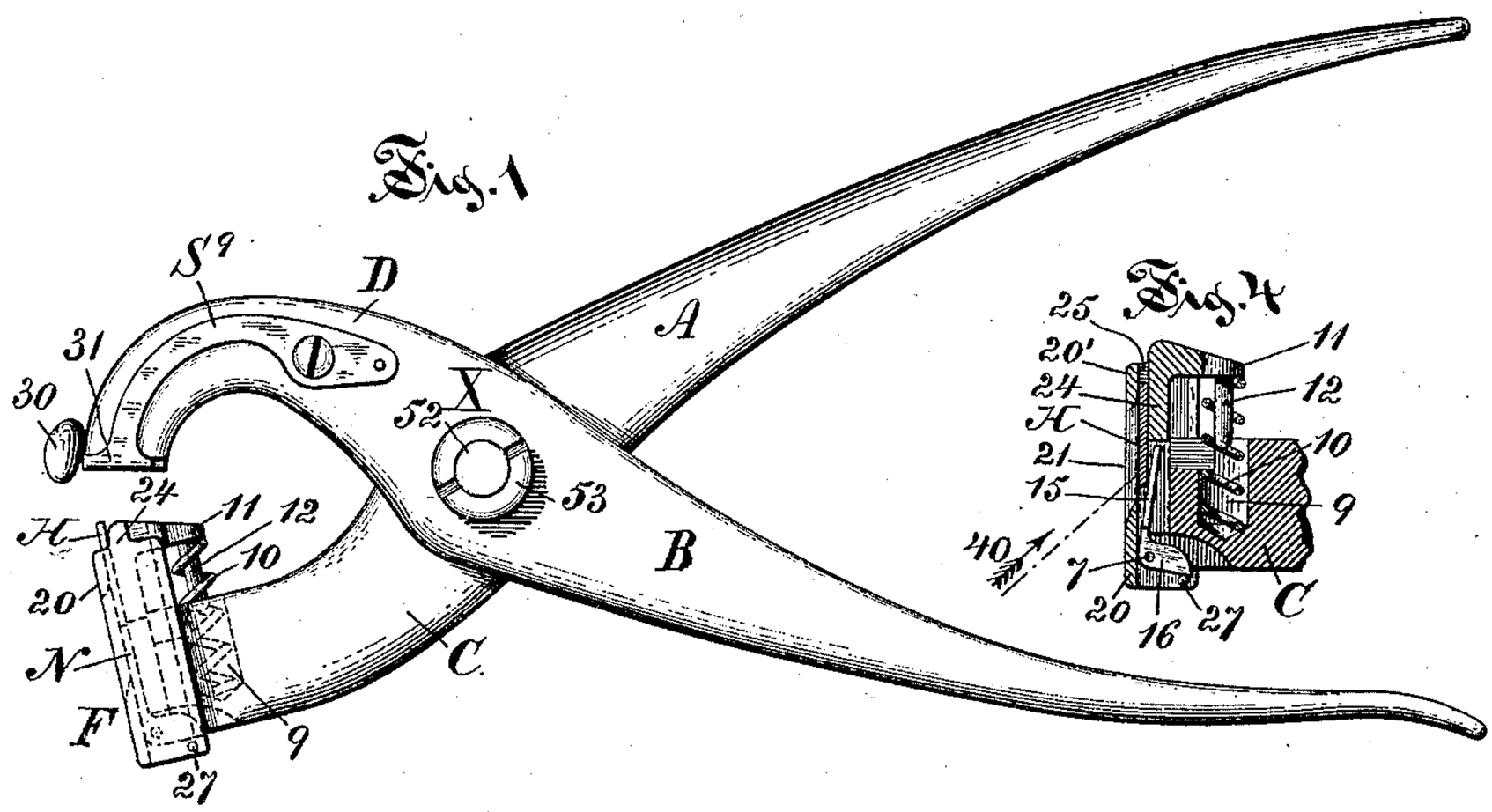


Fig. 4

Fig. 2

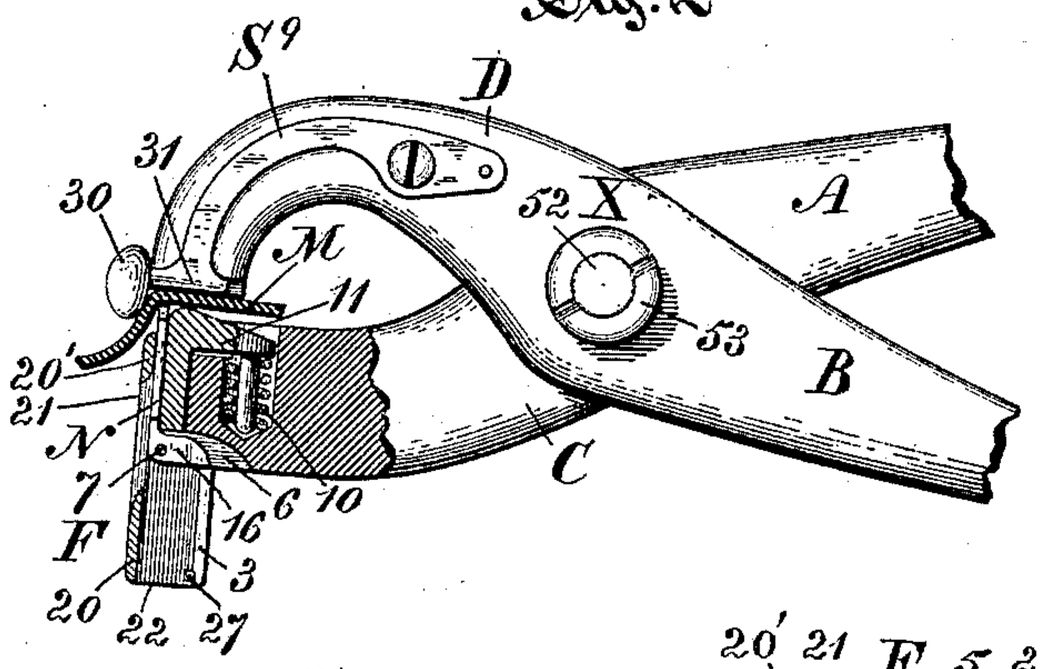


Fig. 3

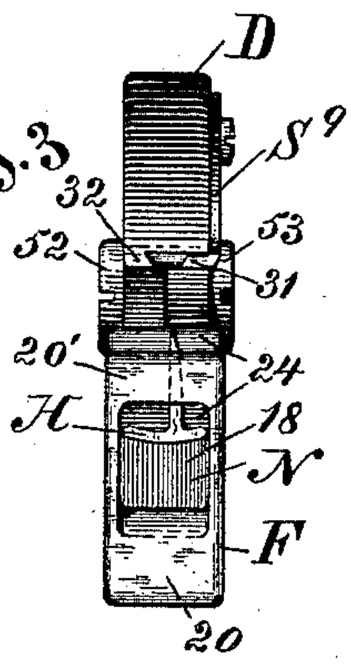


Fig. 5

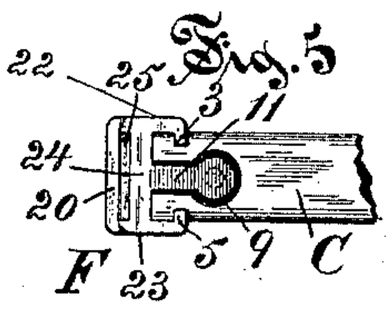


Fig. 6

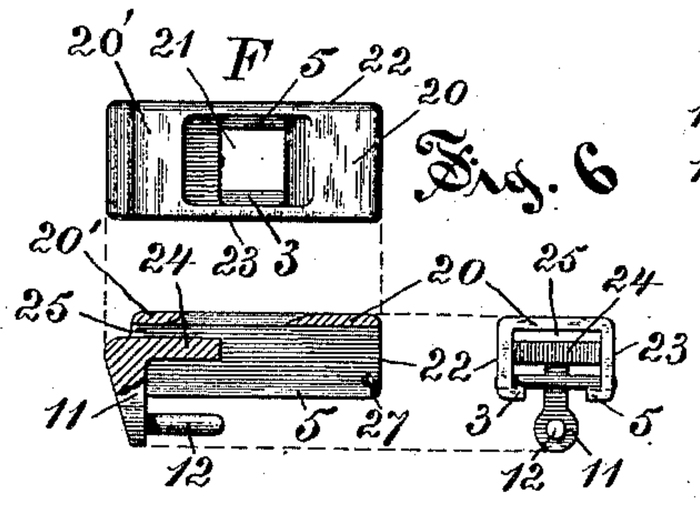
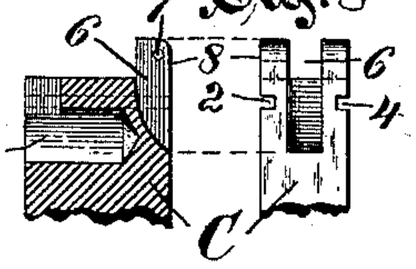


Fig. 7

Fig. 8



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UNITED STATES PATENT OFFICE.

FRANCIS H. RICHARDS, OF HARTFORD, ASSIGNOR TO THE AMERICAN BUTTON FASTENER COMPANY, OF NEW BRITAIN, CONNECTICUT.

BUTTON-SETTING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 397,388, dated February 5, 1889.

Application filed June 20, 1888. Serial No. 277,651. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Button-Setting Instruments, of which the following is a specification.

This invention is in the nature of an improvement on the button-setting instrument described in United States Patent No. 338,554, granted to me March 23, 1886.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side elevation of a button-setting instrument embodying my present improvements, and showing the jaws (or members) open, with a button in place ready for setting. Fig. 2 is a similar and corresponding view, partially in section, showing the jaws closed, as at the close of the setting operation. Fig. 3 is a front elevation of the instrument. Fig. 4 is a vertical longitudinal section through the lower jaw and the mechanism carried thereon. Fig. 5 is a top view of the lower jaw with the presser-slide thereon. Fig. 6 shows the presser-slide in three views. Fig. 7 shows the driver in two views. Fig. 8 is a detail of the front (left-hand) end of the lower jaw, showing how the same is constructed to carry the several parts assembled thereon.

Similar characters designate like parts in all the figures.

The two handles of my improved instrument are or may be of the usual description and pivoted together at X in any usual manner. I prefer, however, to use for said pivot, and as shown herein, the plier-joint described in my application, Serial No. 279,237, and having the pivot-bolt 52 and check-nut 53. The upper jaw, D, which is the button-holding member, has formed therein the usual setting-die. (Not shown.) It is also provided with a button-holding spring, S^9, after the manner described in my United States Patent No. 311,033, dated January 20, 1885. The button 30 is held by its shank between the end 31 of said spring and the lip 32 of said jaw. (See Fig. 3.)

The lower jaw, which carries the fastener-driver, is grooved at 2 and 4, Fig. 8, to form ways for the guides 3 and 5 of presser-slide F. Said jaw is also slotted at 6 to receive the laterally-movable driver N, which is pivoted at 7 between the projections 8 thereof. A recess, 9, is also formed in said lower member, C, for receiving the push-spring 10, for throwing up the presser-slide. As a means of connection with its actuating-spring 10, said slide F has a suitable arm, as 11, formed thereon and projecting to a point above recess 9. This arm carries usually and preferably a depending guide-pin, 12, standing within said spring, as shown in Figs. 1, 2, and 4.

The driver, on the upper edge of which the fastener-head rests, consists, as shown best in Figs. 2, 4, and 7, of the plate 15, having the arm 16, which is perforated at 17, corresponding to the pivot 7, Figs. 2 and 4. The upper end, 18, of the driver is shaped conformably to the fastener-head H, as will be understood from Fig. 3.

The presser-slide has a front plate, 20, having an opening, 21, therein, through which to insert the fasteners. This plate 20 is connected by side walls, 22 23, with the guides 3 and 5, respectively. Between said front plate and guides there is a back plate, 24, and between said two plates 20 and 24 (which are fixed relatively to each other) there is the driver-channel 25, through which the driver N passes as it forces up the fastener, as shown in Fig. 2. The lower end of the slide F has a stop-pin, 27, for limiting the upward stroke thereof. This pin also acts or may act on the driver-arm 16 to throw forward the driver-point 18—a feature well illustrated in Fig. 4.

The mode of operating my improved instrument is the same as that of operating the instrument described in my aforesaid patent, No. 338,554, and will be obvious to those skilled in this art from the drawings and preceding description. The large opening 21 through the front plate permits the fastener H to be readily pushed into place in the driver-channel, the members C D of course being open, as in Fig. 1. To do this, the fastener-point is put under the upper part, 20, of the front plate, and the fastener-head H in Fig.

3 is pushed backward and upward, as illustrated in Fig. 4 by the dotted line and arrow 40. This operation forces back the driver, as shown in Fig. 4, under the back plate, 24. On the upward movement of the fastener the driver comes forward again and stands underneath the same ready to drive said fastener up through channel 25 and against the setting-die. The button 30 being now put in place, and the fabric or shoe-upper M being properly placed over the slide F, the two jaws are now forcibly brought together. This pushes down slide F and drives the fastener-prong up through the fabric and button-shank against the setting-die, thereby clinching the prong and completing the setting operation.

Having thus described my invention, I claim—

1. In a button-setting instrument, the combination, with the jaw C, formed substantially as described, to receive the presser-slide and the laterally-movable driver, of the slide comprising two fixed members or plates with a driver-channel between them, and having an opening in the front plate or member, through which to insert a fastener into said channel, and the laterally-movable driver arranged to be pushed back at the top by said fastener and to drive the fastener through said channel, substantially as described.

2. In a button-setting instrument, the combination, with the fastener-driving member thereof, of the slide comprising two fixed plates or members with a driver-channel between them carried on said driving member, and the driver pivoted at its lower end to said member and laterally movable at its upper end, all substantially as described.

3. In a button-setting instrument, the combination, with the pivotally-supported driver having the arm 16, of the spring-actuated slide F, having the pin 27, substantially as described.

4. In a button-setting instrument, the combination, with the fastener-driving member thereof and with the slide having the longer front plate, 20, the shorter back plate, 24, and the opening 21, formed in said plate 20, of the driver pivoted to said slide and constructed and arranged to have a lateral movement under said shorter plate, substantially as described.

5. In a button-setting instrument, the combination, with the member C, grooved to carry the slide F and having the chamber or recess 9, and with the slide F, having guides 3 and 5, and having the arm 11, of the spring 10, set in said recess and actuating said slide through said arm, substantially as shown and described.

6. In a button-setting instrument, the combination, with the member C, grooved to receive spring-actuated slide F and having slot 6, of the slide F, constructed substantially as described and having a stop-pin, 27, below said member, and the driver N, pivoted in said slot 6 and having the arm 16, substantially as described, and for the purpose specified.

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