(No Model.)

F. H. RICHARDS.

BUTTON SETTING IMPLEMENT.

No. 397,471. Patented Feb. 5, 1889.

Fig. 1.

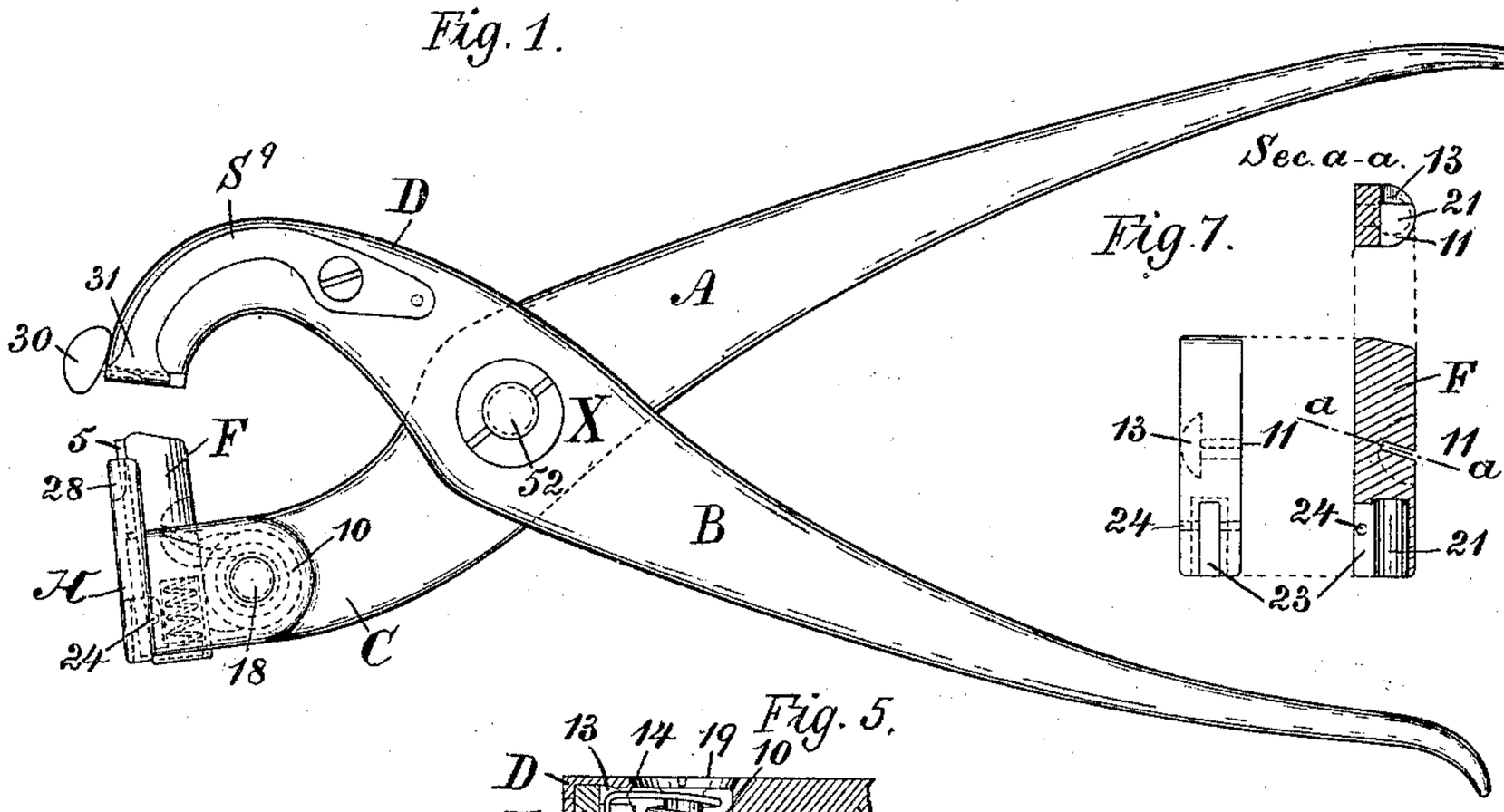


Fig. 7.

Fig. 5.

Fig. 2.

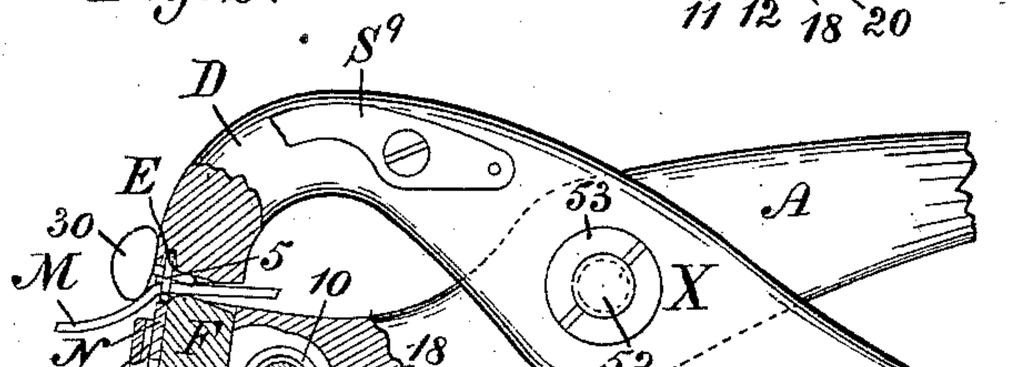


Fig. 6.

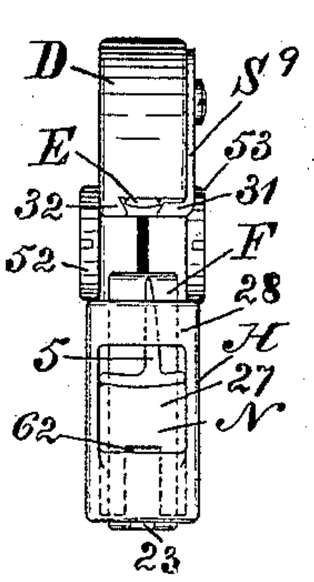


Fig. 3.

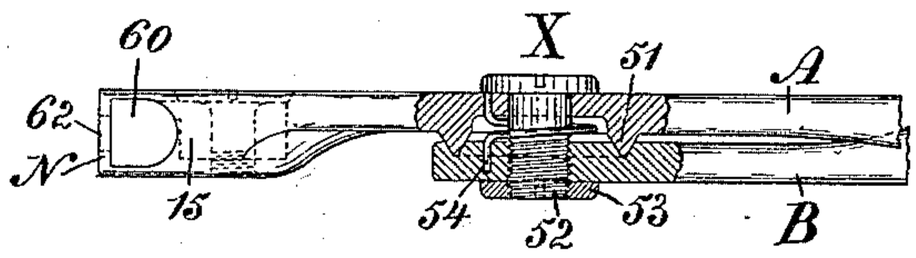


Fig. 4.

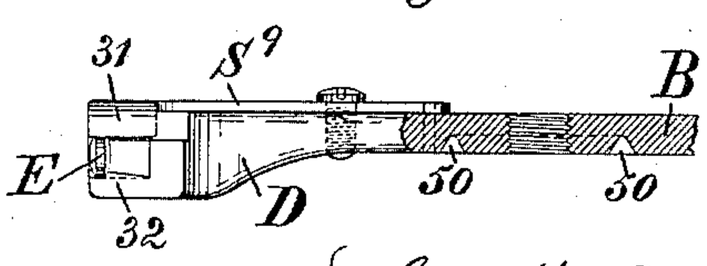
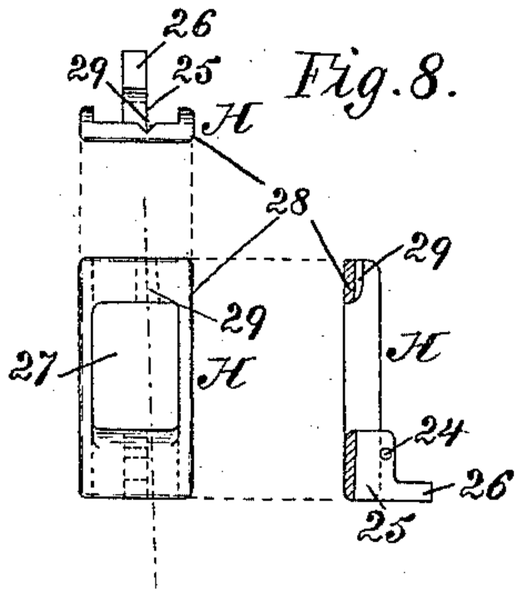


Fig. 8.



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Inventor: Francis H. Richards.

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. 397,471, dated February 5, 1889.

Application filed June 5, 1888. Serial No. 276,099. (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 top view of the lower jaw, and showing also some other details of construction. Fig. 4 is a plan view of the under side of the upper jaw, which is shown partially in section. Fig. 5 is a horizontal section through the front end of the lower jaw and contained parts. Fig. 6 is a front elevation of the instrument. Fig. 7 shows the presser-slide in three views. Fig. 8 similarly shows the front plate in three views.

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. Accordingly, the handle B is shown having a groove, 50, Fig. 4, into which is fitted the projecting ring or track 51, formed on handle A. (See Fig. 3.) The bolt 52, passing through both handles and held in place by check-nut 53, serves to firmly hold together the two parts A B. A spring, 54, which may be contained in a space within the joint, may be used to hold the jaws normally in their open position. (Shown in Fig. 1.)

The upper jaw, D, which is the button-holding member, has formed therein the usual setting-die, E. 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 Figs. 1 and 6.) The lower jaw, which is the fastener-driving member, is perforated to form a passage, 60, Fig. 3, for the presser-slide F. The wall N in front of said perforation forms the driver, on the upper edge of which the fastener-head rests, as shown in Figs. 2 and 6. The driver-plate is slotted at 62, for a purpose which will hereinafter be explained. As a means of connection with its actuating-spring 10, said slide F has a suitable notch or notches formed therein. The lateral notch 11 receives the projecting end 12 of said spring, while the side notch, 13, gives room for the movement of the arm 14 of said spring. The spring 10 is itself contained within a pocket or recess, 15, formed within the jaw C immediately back of the slide F and opening to said slide within the member C. This recess is closed by the head 19 of a screw, 18, which forms a guide for the spring 10 when this is made spiral, as shown. The opposite end, 20, Fig. 5, of said spring 10 is suitably fixed to or in the jaw C in a well-known manner.

The front plate, H, is pivotally attached to the slide F, and is spring-actuated to hold the fastener 5, Fig. 6, in place against said slide above the driver. For this purpose the slide has a hole or chamber, 21, Fig. 7, for containing the spring 22, Fig. 2, and a slot, 23, Fig. 7, in which is pivoted at 24 the rib or arm 25 of said plate H. The rib 25 enters slot 62 and serves as a stop to limit the upward movement of slide F, the said slot thus serving to reduce the otherwise necessary length of said slide. Spring 22 acts on the projecting end 26 of said arm 25 to press the upper end, 28, of said plate H toward the slide F. By this means the fastener 5, whose prong fits in the guiding slot or groove 29, formed in the side of said part 28, is held in place against slide F above the driver N, as shown in Figs. 1 and 6. The large opening 27 through the plate H permits the fastener to be readily pushed into place.

The mode of operating my improved instru-

ment 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 jaws C D being open, a fastener is pushed through the opening 27 into position ready for setting, as in Fig. 6. In passing upward the fastener wedges or pushes off the plate 28, and when the fastener passes up and off from the driver this plate, being spring-actuated, presses the fastener itself firmly up against slide F. 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 to receive the presser-slide and the slide-actuating spring, of the slide F, and the coiled spring 10, the slide having a notch for receiving the projecting end of said spring, all substantially as described.

2. In a button-setting instrument, the combination, with the fastener-driving member thereof, of the slide F, passing through said member, and the spring-actuated plate pivoted in said slide and having a projecting arm acted upon by a spring carried by said slide, all substantially as described.

3. In a button-setting instrument, the combination, with the driver having slot 62, of the slide F, having slot 23, and the plate H, having a rib or arm, 25, pivoted to said slide in said slot 23 and adapted to enter said slot 62, substantially as described.

4. In a button-setting instrument, the combination, with the fastener-driving member thereof, of the slide F, having slot 23, and the chamber 21, the plate H, pivoted to said slide and having arm 26, and the push-spring 22, contained in said chamber and acting on said arm, as set forth.

5. The combination of the member C, carrying the slide F, and having the chamber or recess 15, opening to said slide within said member, of the spring 10, connecting with and actuating said slide, and the guide-screw 18, having the head 19, forming a cover for said recess, as set forth.

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