(No Model.) 2 Sheets—Sheet 1.

F. H. RICHARDS.

BUTTON FASTENER SETTING INSTRUMENT.

No. 338,554. Patented Mar. 23, 1886.

Fig. 1

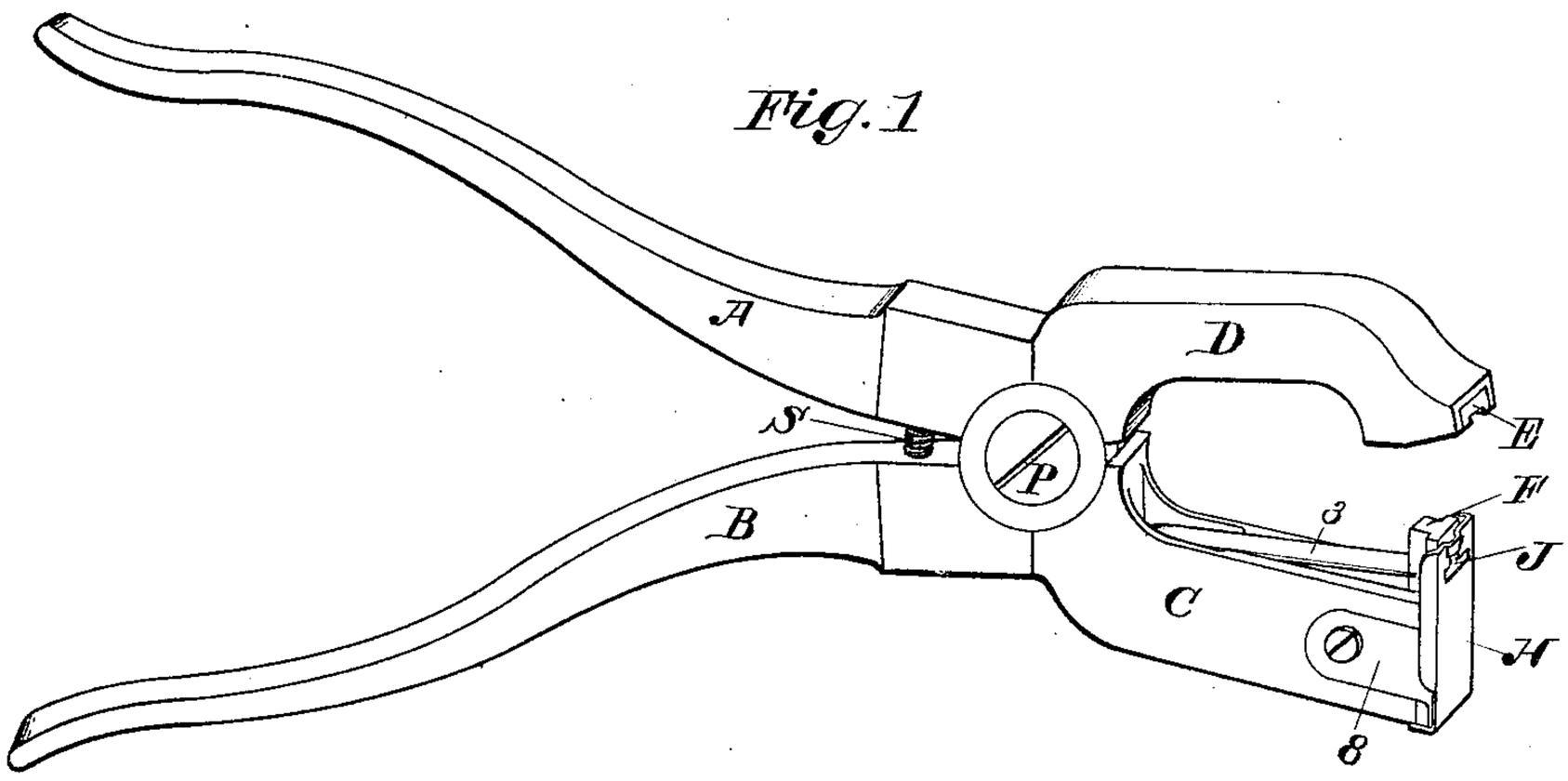

Fig. 2

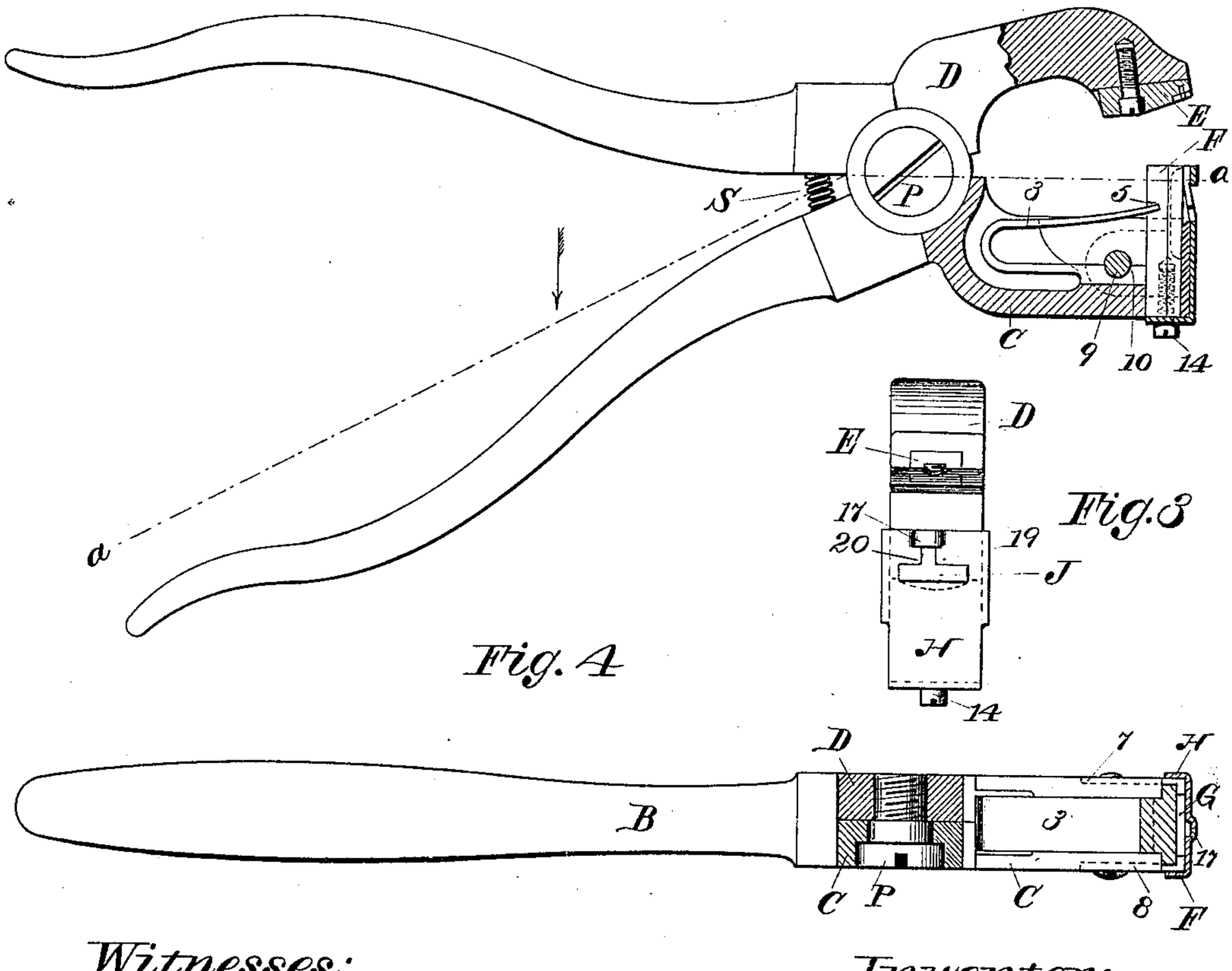

Fig. 4

Fig. 3

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 5

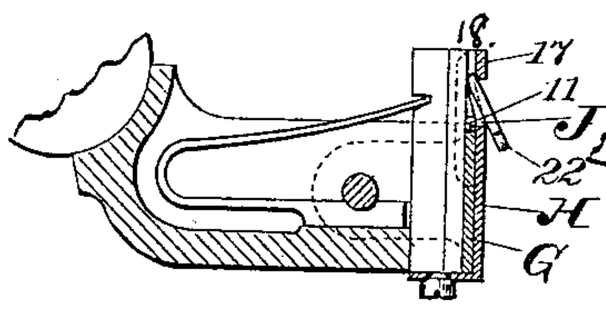


Fig. 6

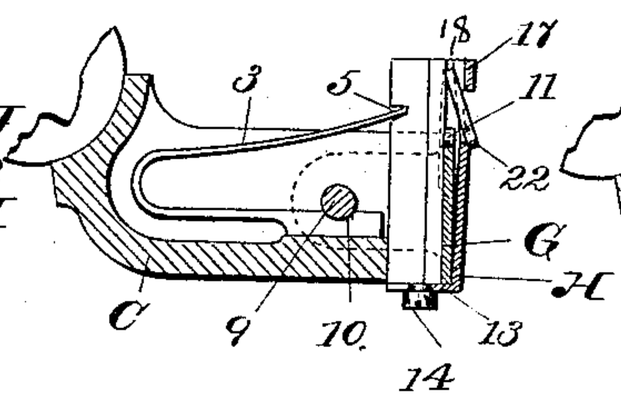


Fig. 7

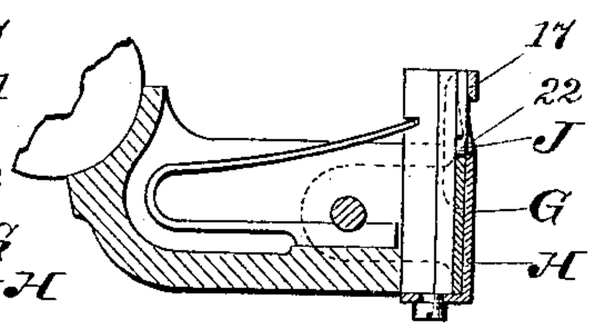


Fig. 8

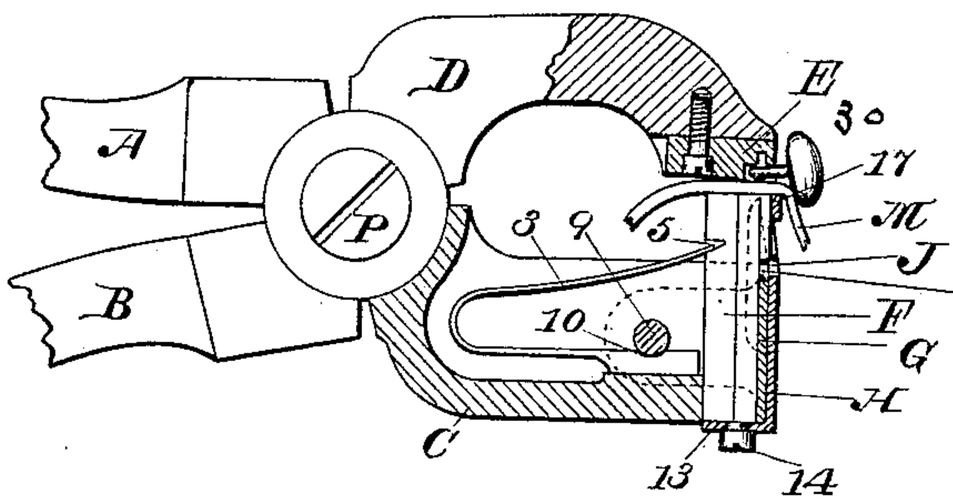


Fig. 9

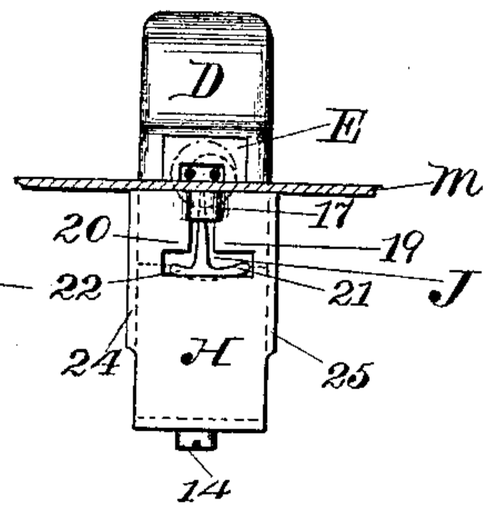


Fig. 10

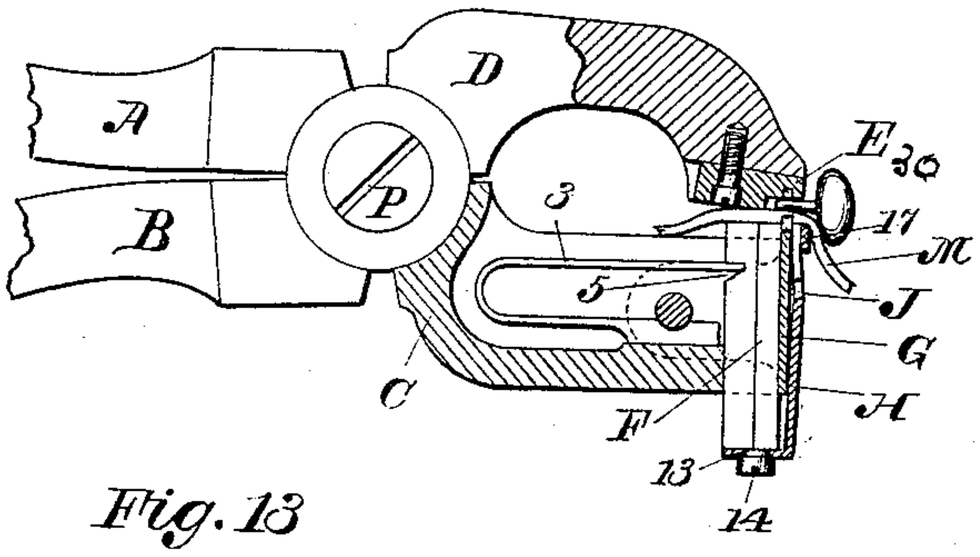


Fig. 11

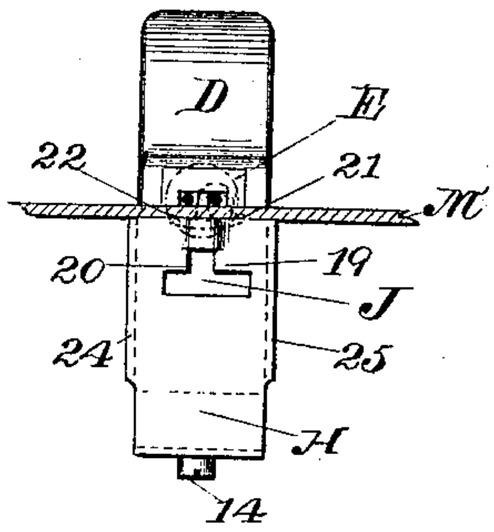


Fig. 13

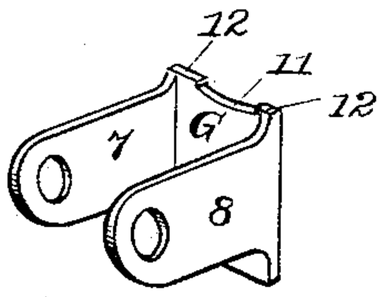


Fig. 12

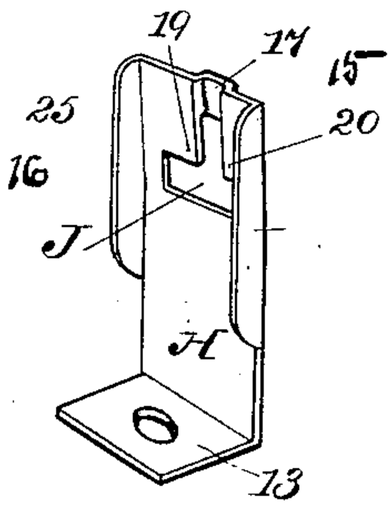
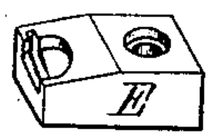


Fig. 14



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

FRANCIS H. RICHARDS, OF SPRINGFIELD, MASS., ASSIGNOR TO THE AMERICAN BUTTON FASTENER COMPANY, OF NEW BRITAIN, CONN.

BUTTON-FASTENER-SETTING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 338,554, dated March 23, 1886.

Application filed August 24, 1885. Serial No. 175,236. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing at Springfield, in the county of Hampden, State of Massachusetts, have invented certain new and useful Improvements in Button-Fastener-Setting Instruments, of which the following is a specification, reference being had to the accompanying two sheets of drawings, forming a part thereof.

This invention relates to improvements in hand-instruments especially adapted for setting into shoes or fabrics the button-fasteners shown, described, and claimed in United States Patent No. 314,684, granted to E. Kempshall March 31, 1885, the chief object being to provide an instrument in which the fasteners can be more conveniently put into position ready for setting.

To this end the invention consists in the novel features hereinafter described and claimed.

Figure 1 is a perspective view of an instrument embodying my invention, showing the jaws in their open position. Fig. 2 is a side elevation of the same, partially in section. Fig. 3 is a view of the front end, which is at the right hand in Fig. 2. Fig. 4 is a sectional view in line *a a*, Fig. 2. Figs. 5, 6, and 7 are views the same as a part of Fig. 2, showing how the button-fasteners are put into the instrument preparatory to using them. Fig. 8 is a side view, partially in section, showing a button-fastener, button, and fabric in place ready for the setting operation. Fig. 9 is a front view of what is shown in Fig. 8. Fig. 10 is a view similar to Fig. 8, showing the parts at the close of the setting operation. Fig. 11 is a front view, similar to Fig. 9, of what is shown in Fig. 10. Figs. 12, 13, and 14 are perspective views of certain parts of the instrument.

Similar characters designate the same parts in all the figures.

The two handles A B of my improved instrument are of the same description, are pivoted together at P, and are thrown open by a spring, S, as instruments of this class which are now in common use, all which the drawings sufficiently show. Each of said members A and B extends past the joint, forming jaws C and D, respectively, somewhat similar to the jaws of the other instruments aforesaid. Jaw D is furnished with the ordinary prong-bending die, E, for turning over the point of the prong into a hook through the eye of a button. Jaw C is provided with a presser-slide, F, which is arranged to have a reciprocating motion vertically across the jaw. Back of said slide the jaw is or may be (for this location of the spring is obviously non-essential) recessed to receive a spring, 3, the point 4 of which enters notch 5 in slide F to move this upward. The downward movement of the slide is caused by pressure of die E or of fabric beneath it on the top, Fig. 6, of said slide. In front of slide F the driver G is held in a fixed position relative to jaw C by means of the two side wings, 7 8, which extend rearward and are secured by screw 9 into recesses formed in said jaw. By this construction the driver not only fulfills its special office, but also serves to securely hold the slide in position. It will be noticed, also, that the screw 9, which holds in place the driver, serves as well to hold in place spring 3 by means of a notch, 10, formed therein. This arrangement of the mechanism is therefore a very economical and effective one, requiring few parts, and these compactly assembled. The top 11 of driver G is preferably, though not necessarily, shaped, as at 11, to receive and guide the fastener-head, which then rests between the raised edges 12. On the front of the slide, and moving therewith outside of driver G, is a guide-plate, H, whose office it is to hold a fastener against the front of slide F above the driver. This plate has a pair of side guides, 24 25, for preventing any objectionable lateral movement of its upper end.

As a convenient way of holding and causing the proper vertical motion of said plate, I bend the lower end thereof, as at 13, and secure it by screw 14 to the bottom of slide F. Thus fixed, and being made of slightly-elastic material—as, for instance, of sheet-steel—the upper end of the guide-plate is elastically held to the top of the slide. A button-fastener placed between those parts will obviously be elastically held thereby as it is forced up between them by the driver.

To permit the convenient putting in place

for setting of a button-fastener, the guide-plate has formed therein a T-shaped opening, J, somewhat larger than said fastener. Said opening, as will be seen in the drawings, consists of a vertical slot, 15, and a horizontal slot, 16. The top of the vertical slot is bridged over, as shown at 17, forming the point-guiding notch 18. The lips 19 20 are at their lower ends curved outward to allow the head parts 21 22 of an upward-moving fastener to slide under them. The depth of notch 18 should be slightly less than the thickness of a fastener, so that when the point of the fastener is introduced under bridge 17 it will, when pushed upward, operate as hereinafter described.

The operation of my improved instrument is very simple, and will be obvious from the drawings and the preceding description. The two members A B being open, as in Fig. 2, a fastener of the kind specified is placed with its point under bridge 17, as shown at 22 in Fig. 5, and is then pushed by the operator upward, acting as a wedge to slightly lift the top of plate H from slide F. This allows the bridge 17 to press with some force on the fastener-prong at a point below its upper end, so that when the fastener is further forced upward, as in Fig. 6, said pressure acts to bring the fastener throughout its length against the slide, as shown in Fig. 7. A shoe-upper or fabric, M, is now put in proper position between the die and slide, which are closed onto it, as in Figs. 8 and 9. A button, 30, is next put with its eye in the die, when the members A B are forcibly brought together, pushing down slide F and driving the fastener-prong up through the fabric and the button-eye against the die, as shown in Figs. 10 and 11. When the prong first enters the fabric, its point is guided in notch 18; but as the fastener-head moves up its ends pass under lips 19 20, lifting the plate and bridge 17 off from the prong, which does not longer need such guidance. The operation being completed, the members A B are opened by hand or by a spring (not shown) and the slide returned to its original position by spring 3, as hereinbefore described.

Having thus described my invention, I claim—

1. In a button-fastener-setting instrument, the combination, with a member provided with a prong-bending die, and with a member which carries a presser-slide and has a fixed driver next to said slide, of a guide-plate in front of said driver and slide, and adapted to be moved with said slide, said members being arranged to be moved toward and from each other, and said plate having an opening through which to put fasteners above the driver, all arranged substantially as set forth.

2. In a button-fastener-setting instrument, the combination, with a member having a driver fixed thereon, of slide F, and a guide-plate elastically held to said slide, substantially as described, said plate having an opening through which to put fasteners above the driver, and at its upper end a prong-guiding notch, substantially as set forth.

3. The combination of slide F, driver G, plate H, having opening J, notch 18, and lips 19 20, and means, substantially as described, for operating said slide, substantially as set forth.

4. The combination of jaw C, having a space for the reception of spring 3, slide F, driver G, having wings 7 and 8, spring 3, and a screw, 9, arranged to hold in place both the driver and spring, substantially as set forth.

5. The combination of slide F, driver G, and plate H, secured at its lower end to said slide, and having on its upper end the side guides, 24 25, substantially as set forth, and for the purpose specified.

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OLUF TYBERG.