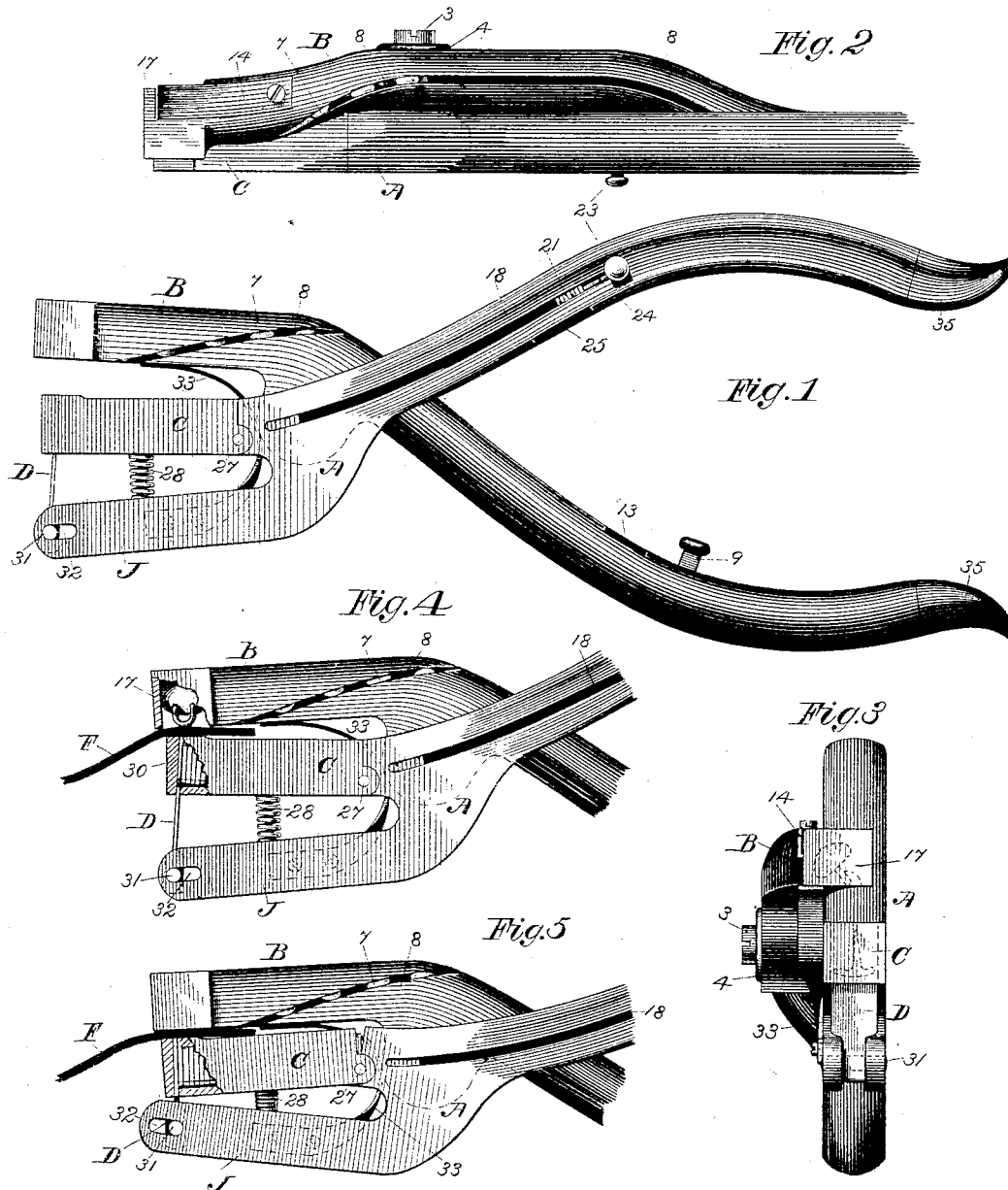


F. H. RICHARDS.
BUTTON SETTING INSTRUMENT.

No. 348,237.

Patented Aug. 31, 1886.



Witnesses:
Frank H. Purpont
C. E. Buckland

Inventor:
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Fig. 10

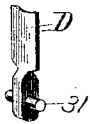


Fig. 9

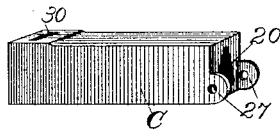


Fig. 7

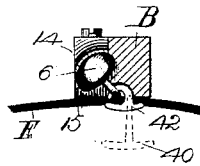


Fig. 8

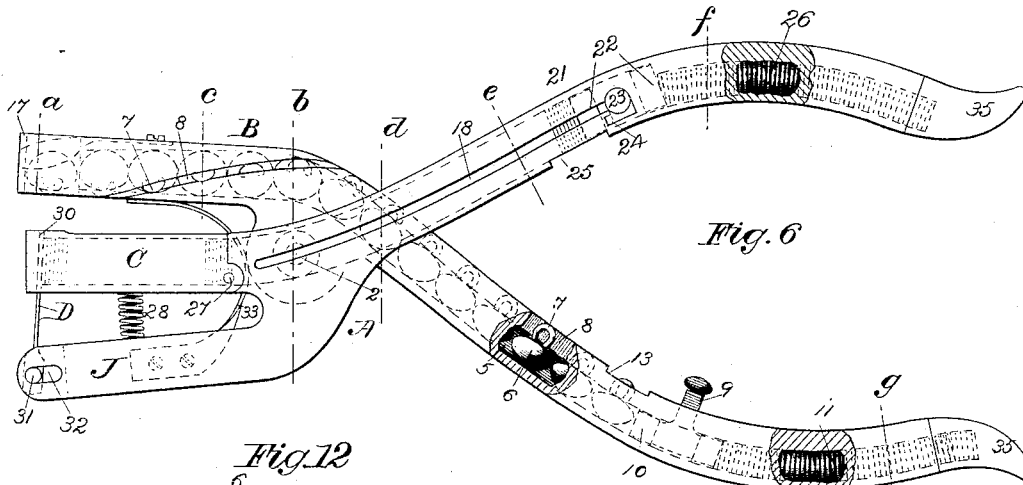
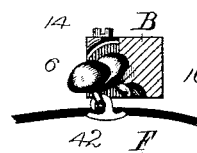


Fig. 6

Fig. 12

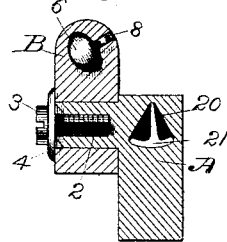


Fig. 11

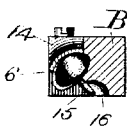


Fig. 13

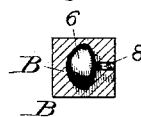


Fig. 14

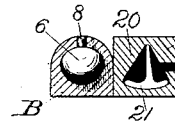


Fig. 15



Fig. 16



Fig. 18

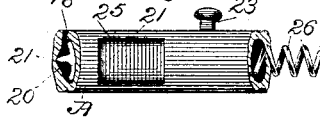


Fig. 19

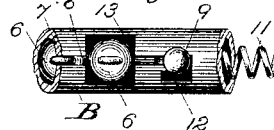


Fig. 17

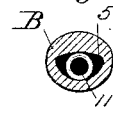
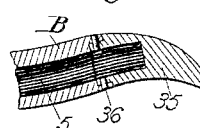


Fig. 20



Fig. 21



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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-SETTING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 348,237, dated August 31, 1886.

Application filed February 13, 1886. Serial No. 191,884. (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-Setting Instruments, of which the following is a specification.

This invention relates to instruments to be used by hand for attaching shank-buttons to shoes and fabrics by means of malleable pointed metallic fasteners.

The object of the invention is to provide an instrument of that class which shall contain in suitable magazines a supply of both fasteners and buttons, to be taken therefrom, one at a time, as wanted for use.

To this end the invention consists in the improvements and combinations hereinafter described and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side elevation of an instrument embodying my invention. Fig. 2 is a top view of the principal portions of the same. Fig. 3 is a front elevation, as seen from left hand of Fig. 2. Fig. 4 is a side view of the working parts in their position at the beginning of the setting operation. Fig. 5 is a similar view thereof at the end of said operation. Fig. 6 is a construction drawing, in side elevation, of the entire instrument in its open position. Fig. 7 is a front cross-sectional view in line *a*, Fig. 6, showing the button and fastener at the close of the setting operation. Fig. 8 is a similar view showing the fastened button partly withdrawn and another one taking its place. Fig. 9 is a perspective view of a jointed portion of the fastener-magazine. Fig. 10 is a similar view of the driver. Fig. 11 is a view similar to Figs. 7 and 8, showing the button in place before the beginning of the setting operation. Fig. 12 is a cross-sectional view in line *b*, Fig. 6, through the joint connecting the two principal members of the instrument. Fig. 13 shows a cross-section in line *c*, Fig. 6, of the button-magazine. Fig. 14 is a similar section of both magazines in line *d*, as seen from the front end (left hand) in Fig. 6. Fig. 15 is a similar

view in line *e*, Fig. 16 in line *f*, and Fig. 17 in line *g*, Fig. 6. Fig. 18 is a plan view of the underside of the fastener-magazine where it is filled. Fig. 19 is a similar view of the upper side of the button-magazine where this is filled. Fig. 20 shows one of the followers, that for the button-magazine, in two views. Fig. 21 is a vertical longitudinal section through one of the handle-tips.

Similar characters designate like parts in all the figures.

This improved instrument comprises two principal members, (designated in a general way by A and B, respectively.) These members, the rear ends of which are so shaped as to serve as handles for the instrument, are crossed one past the other, somewhat after the manner of ordinary pliers. They are held normally open, as in Fig. 1, by a spring, as 33, and are connected by a joint so made as to permit a clear channel to be made in each. One suitable construction of said joint is well shown in Fig. 12, which conforms to the other figures. One member, A, has formed on one side of it a stud, 2, which fits a corresponding hole in the other member, and is held in place by the screw and washer 3 and 4. This construction may be reversed, the stud being formed on the other member. Other well-known kinds of joints may also be used in place thereof.

The member B, forming at its front end the upper jaw of the instrument, has within it a channel, 5, Figs. 6 and 17, serving as a button-magazine, which channel is shaped, in this instance, to receive the common oval shoe-button, 6, Figs. 12 and 14. The shanks 7 of the buttons run in a slot, 8, in one side of said member, which slot also guides the stem 9 of the button-follower 10. Said follower is pushed forward by a spring, 11, contained in the back part of channel 5. In filling this magazine with buttons the follower is drawn back to the position shown in Figs. 1, 6, and 19, and held there by swinging the stem 9 of the follower into the lantern-catch 12, Fig. 19. Next, the buttons are put in through an opening, 13, just forward of the locked follower, which is then unfastened, and pushes the but-

tons along in said channel to the front end of the instrument. Here the foremost button 6 rests against the front wall, 17, and under a spring, 14, the button-shank 15 being under the concave setting-die 16, which is shown formed in member B. (See Figs. 7 and 11.) In this position the button stands inclined to the instrument, so that it may clear the fabric, and so that the fastener may properly bend over through its shank. In passing from opening 13 to the front plate, 17, it will be noticed the groove 8 in one part of it takes a spiral course, which is for the purpose of turning the buttons over to the proper position for setting, since it is in practice deemed more convenient to have said channel on the upper side of the handle.

The member A has a handle portion substantially similar to that of member B, with the exception, of course, that in this case the magazine-groove is shaped and adapted to receive the fasteners, instead of the buttons. The cross-sectional form of this magazine (designated by 20) is well shown in Figs. 12, 14, 18, being substantially triangular and of a size proper to receive the well-known T-shaped fastener 21, and at the same time allow a spiral spring to work in it. This magazine has a follower, which is substantially similar to that above described, and is indicated by dotted lines 22, Fig. 6, and this follower has a stem, 23, which slides in groove 18 and fits into another lantern-catch, 24, for locking it back. The fasteners are put into the magazine through any suitable opening—as, for instance, 25, Figs. 6 and 18—and the follower, being unfastened, is pushed forward by another spring, 26, contained in the handle of this member.

Forward of the joint connecting the members the member A has pivoted thereto by means of the small ears 27 a part, C, which is an extension of the fastener-magazine, and has in its front end the driver-channel 30. In its normal position said extension C forms substantially a straight continuation of the fastener-magazine, as in Figs. 1, 4, and 6, being yieldingly upheld by a spring, 28, acting against the lower jaw, J, of the instrument. The axis of the pivot on which said part C swings is located at about the line of the fastener base or head, so that when said part C is depressed, as in Fig. 5, the fastener cannot fall out through the slight opening then made, as there shown, at said joint.

D designates the driver, which is made to slide in driver-channel 30, and normally stands with its point just below the fastener-magazine, as in Fig. 4. Said driver is operated by means of some suitable connection with the lower jaw, J—as, for instance, the pin 31, working in slot 32, which is formed in said jaw, this construction accommodating the lateral movement of the lower end of the driver due to the swinging motion of extension C.

To facilitate the construction and assembling of the instrument the ends of the handles

35 are preferably made separate and detachably affixed thereto by pins 36, as in Fig. 21, or by other convenient means.

The operation of my improved button-setting instrument is as follows: The respective magazines being properly supplied, and the jaws being open, as in Fig. 1, a fabric, F, or other material to which buttons are to be attached, is placed over the driver-channel, as in Fig. 4. The handles are then gradually and forcibly closed together, which first brings the upper jaw down on said fabric, as in Fig. 4, and next forces up the driver, as in Fig. 5, after which the parts are allowed to resume their former positions. At the beginning of this setting operation the fastener, as seen from the front, occupies the position shown by dotted lines at 40, Fig. 7, immediately above the driver, and at its close the fastener-prong, having been driven against the setting-die, is bent over into a hook through the button-shank 15, as at 42 in said figure. On opening the jaws the fastened button is readily pulled sidewise out from under spring 14, when the button next back of that is forced forward into position for setting, as in Fig. 8.

It will be understood that the instrument, and especially the more important details thereof, is capable of modification in various ways and degrees, after the manner of machines in general, without departing from my invention; also, that the proper operation of the improvements embodied in member A does not require that the member B should have the magazine or any of the improvements thereof herein described, except the usual setting-die.

Having described my invention, I claim—

1. The improved button-setting instrument herein described, it comprising two members pivoted together and respectively containing a button-magazine and a fastener-magazine, and means, substantially as described, operating to set the fasteners, said members being crossed, one past the other, and each provided with a handle, all substantially as set forth.

2. The combination, in a button setting instrument, of a handle containing a magazine-groove, and having a slot and lantern-catch, substantially as described, and follower 10, having stem 9, adapted to engage said catch, substantially as set forth.

3. The combination, in a button-setting instrument, and with a member having a button-magazine, of a front plate, 17, a setting-die, substantially as described, and the spring 14, holding a button with its shank to said die, substantially as set forth.

4. The combination, in a button-setting instrument, of two members pivoted together, substantially as described, one member having a fastener-magazine and carrying the driver D, and the swinging magazine-extension C, which has driver-channel 30, and is yieldingly upheld, the other member having a concave setting-die above said channel 30, substantially as set forth.

5. In a button-setting instrument, the combination of member A, having magazine 20, and extension C, pivoted to said member at about the line of the fastener head, substantially as set forth.
6. The combination of member A, having jaw J, slotted, substantially as described, extension C, having channel 30, driver D, having a pin, 31, fitting said slot, and a spring yieldingly upholding said part C, substantially as set forth.

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