(No Model.) 2 Sheets—Sheet 1.

# F. H. RICHARDS.

## BUTTON SETTING INSTRUMENT.

No. 343,546. Patented June 8, 1886.

Fig. 1

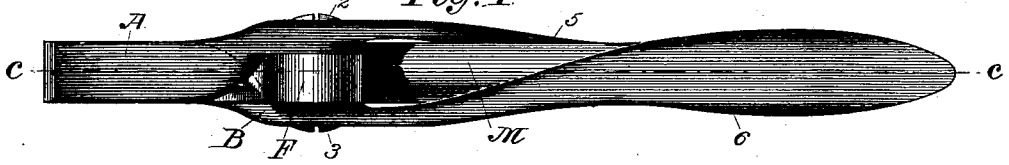



Fig. 2

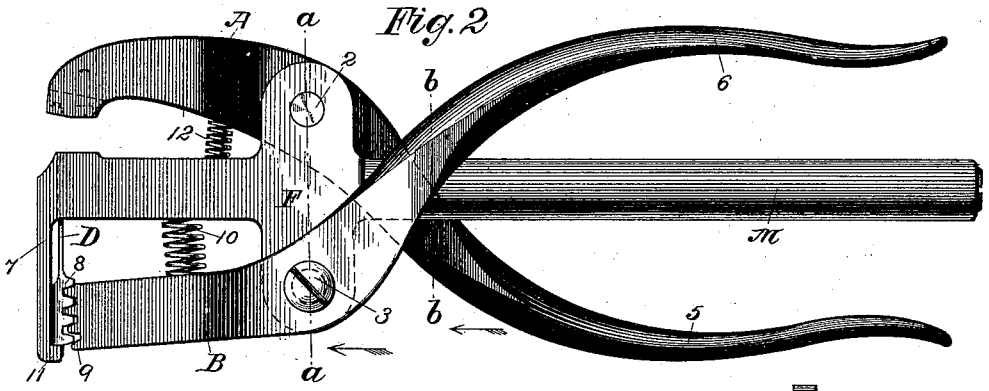



Fig. 3

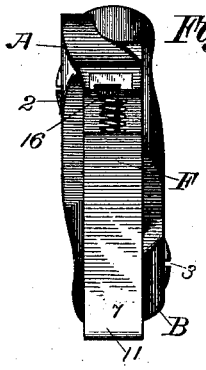



Fig. 5

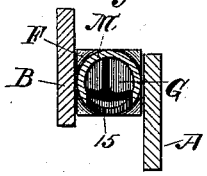



Fig. 4

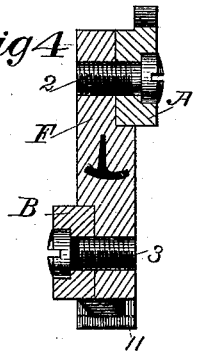
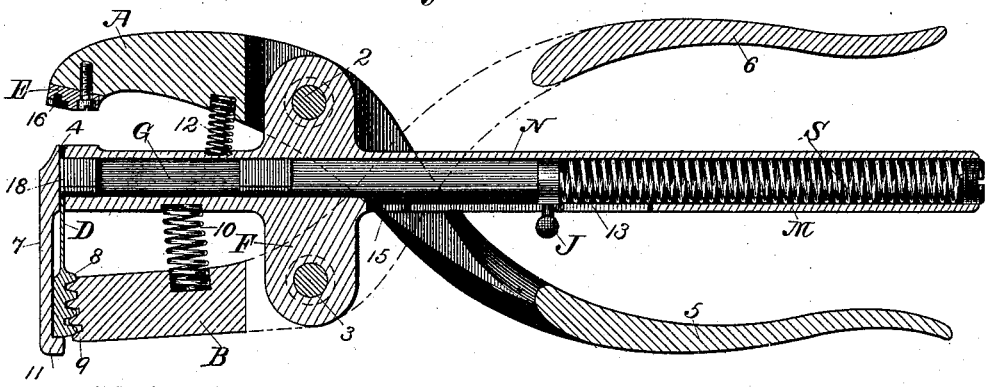



Fig. 6




Witnesses:

Frank H. Pierpont

Wilbur M. Stone.

Inventor:

Francis H. Richards.

(No Model.) 2 Sheets—Sheet 2.

# F. H. RICHARDS.

## BUTTON SETTING INSTRUMENT.

No. 343,546. Patented June 8, 1886.

*Fig. 7*

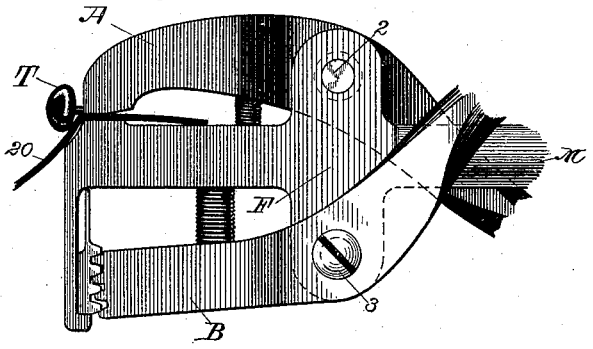



*Fig. 8*

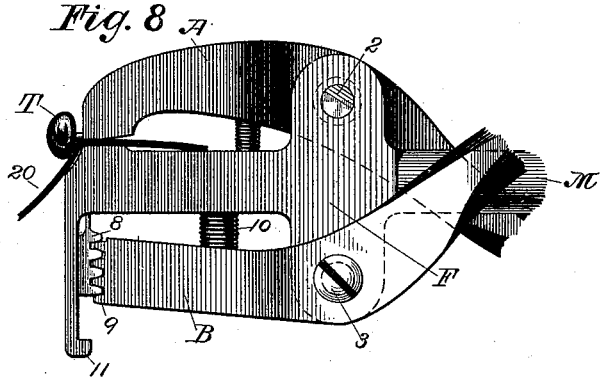



*Fig. 9*

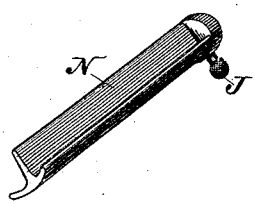



*Fig. 10.*

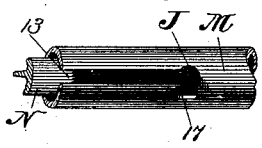
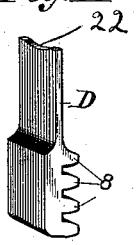



*Fig. 11*




*Witnesses:*

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*Inventor:*

Francis H. Richards,

# 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. 343,546, dated June 8, 1886.

Application filed October 30, 1885. Serial No. 181,382. (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 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 hand-instruments for attaching buttons to fabric or other goods by means of malleable-pointed fasteners, the object being to provide such an instrument having a button-fastener magazine, from which the fasteners are automatically fed to the driver one at a time as required for use.

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

In the drawings accompanying and forming a part of this specification, Figure 1 is a top view of an instrument embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is an elevation of the front end, which is at the left hand in the preceding figures. Fig. 4 is a section in line *a a*, Fig. 2. Fig. 5 is a section in line *b b*, Fig. 2. Fig. 6 is a vertical longitudinal section through the entire instrument. Fig. 7 is a side view of the front end of the instrument, showing the first stage of the setting operation. Fig. 8 is a similar view showing the second stage of said operation. Fig. 9 is a perspective view of the plunger. Fig. 10 is a perspective view of a part of the button-fastener magazine. Fig. 11 is a similar view of the driver.

Similar characters designate like parts in all the figures.

My improved button-setting instrument comprises three principal parts—a central part or frame containing the magazine, and two members pivoted to said frame and provided with handles whereby they are operated.

The frame is designated by F, the upper member by A, and the lower one by B. Said frame is suitably formed to receive two pivot-screws, 2 and 3, on which the two said members, respectively, have their bearings.

The magazine is a T-shaped groove, G, formed in the frame, and it opens at the front end into the vertical driver-channel 4, Fig. 6, in front of which the frame has a depending guide, 7, for supporting in place the driver D. This has one or more rack-teeth, 8, meshing with gear-teeth 9, formed on lower member, B. A stout spring, 10, serves to throw down said member and the driver until this is stopped by hook 11, with its point 22 just below groove G. A similar but much lighter spring, 12, acts to throw up the upper member, A. This member carries at its front end the ordinary setting-die, E, whose concave depression, 16, stands, when the die is down, as in Figs. 7 and 8, directly over driver-channel 4.

The magazine-groove is supplied with the button-fasteners through an opening, 15, Figs. 5 and 6, the instrument being inverted for the purpose. A sliding follower, N, pushes the fasteners along in said groove. Said follower is thrown forward by a spring, S, contained within a tubular extension or case, M, extending rearward from frame F. This case has a slot, 13, and a common lantern-catch, 17, for the passage and locking of the follower-handle J. The follower being drawn back entirely within the round bore or case M, it may be turned in that bore to bring handle J into engagement with catch 17, when groove G may be filled by putting into it by hand a few fasteners at a time. The groove being sufficiently supplied, the follower is unlocked and the spring pushes it forward against the fasteners, and the foremost one of these into the driver-channel, above driver D, ready to be set into a fabric or shoe-upper.

The operation of the instrument will be readily understood from the drawings and preceding description, being as follows: The magazine being properly loaded, and the instrument as in Fig. 2, the handles 5 and 6 of members A B are grasped by the operator, who then places under the setting-die a piece or fabric, 20, or other goods to which a button is to be attached. On now closing together the handles the member A—spring 12 being weaker than spring 10—is closed down onto the fabric, as in Fig. 7. A button, 7, is next placed, as usual, with its shank under the setting-die, ready for setting. Next the handles are further closed, forcing up member B, as in Fig. 8, the driver D forcing the foremost fastener, 18, Fig. 6, up through channel 4, through the fabric and the button-shank, into depres-

sion 16, which turns the fastener over into a hook that incloses said shank. This completes the setting operation, after which the said members are allowed to resume their first positions, and follower N forces another fastener into channel 4.

The general arrangement and operation of the magazine and driver-channel, the setting-die, and driver are substantially the same herein as in United States Patent No. 310,541, granted to me January 6, 1885, to which reference may be had for a more detailed account of the fastening made by means of the instrument.

Having thus described my invention, I claim—

1. The combination, in a button-setting instrument, of a frame having a magazine and a driver-channel, substantially as described, driver D, member A, carrying the setting-die and having a handle, and member B, operating said driver, and also having a handle, substantially as set forth.

2. The combination, in a button-setting instrument, of a frame having the T-shaped groove G and the tubular extension M, provided with slot 13 and a catch, 17, follower N, having handle J, adapted to fit into said catch, and spring S, all arranged to operate substantially as set forth.

3. The combination, in a hand button-setting instrument, of the member A, frame F, having the channel 4, and the guide 7, provided with stop 11, driver D, member B, pivoted to frame F and operating said driver, and means, substantially as described, for operating said member, all substantially as shown and described.

FRANCIS H. RICHARDS.

Witnesses:

WILBUR M. STONE,

GEO. A. REYNOLDS.