

D. HEATON.
Setting-Instrument for Attaching Buttons to
Wearing-Apparel.

No. 168,016.

Patented Sept. 21, 1875.

Fig. 1.

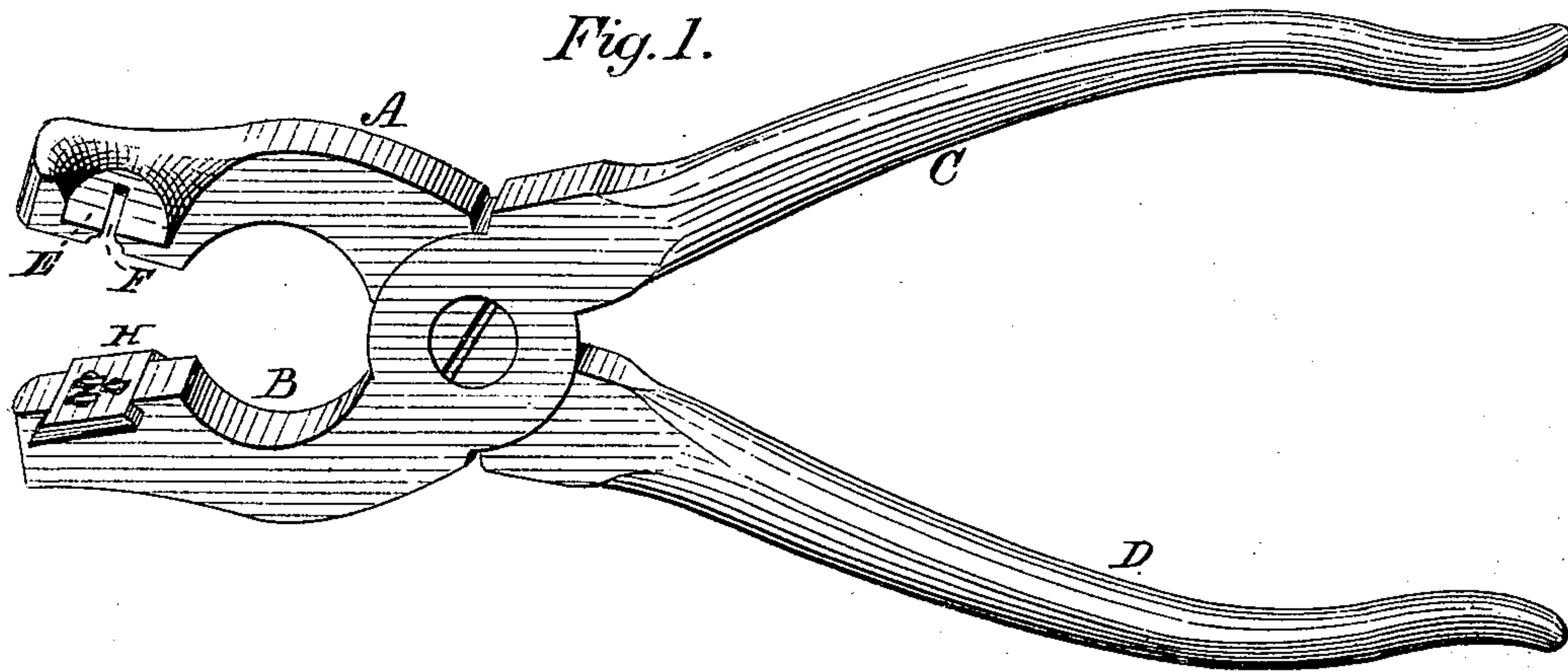


Fig. 2.

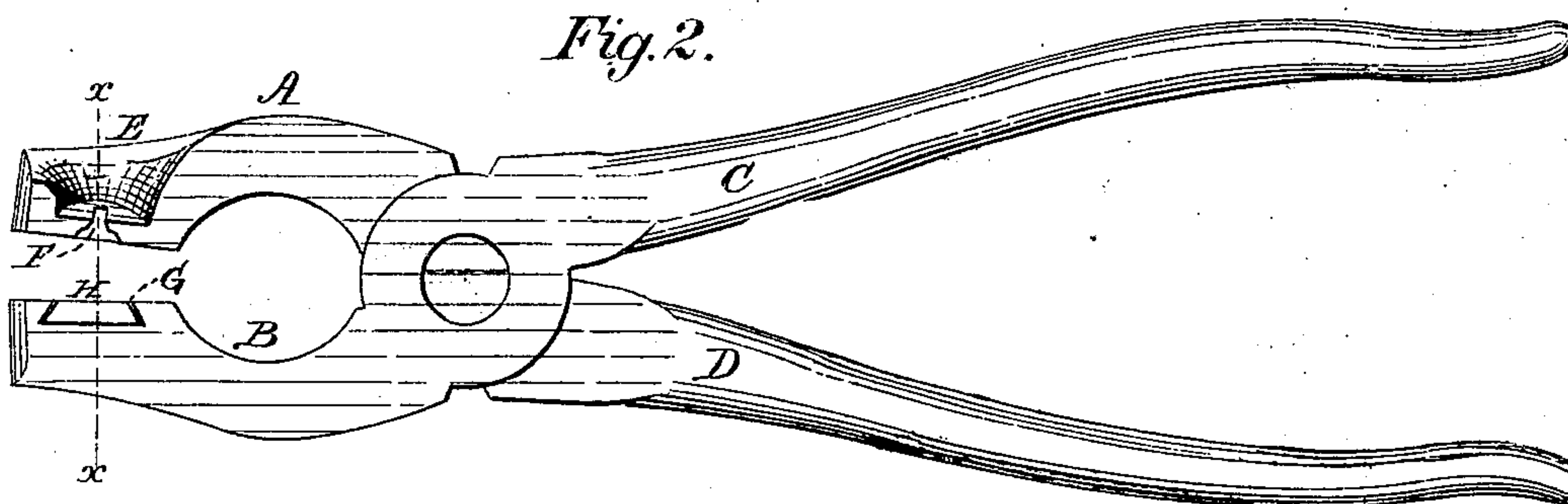


Fig. 4.

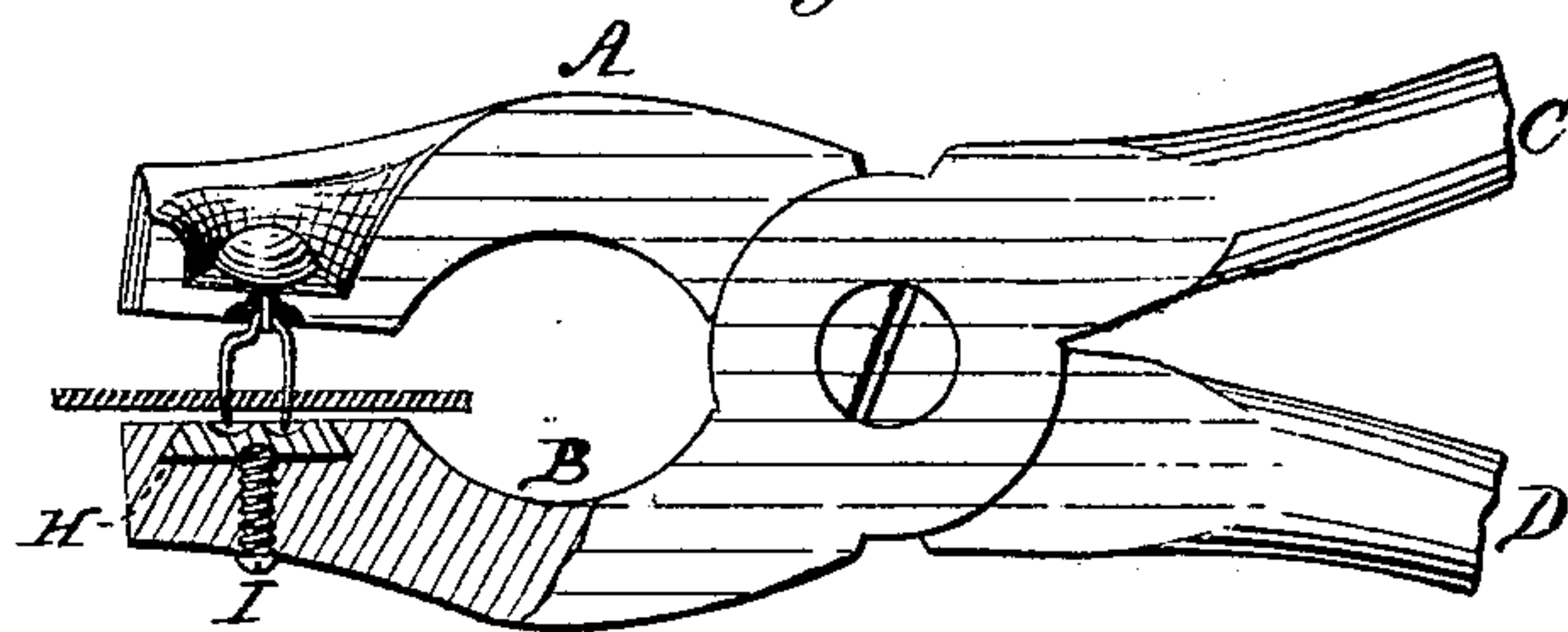


Fig. 3.

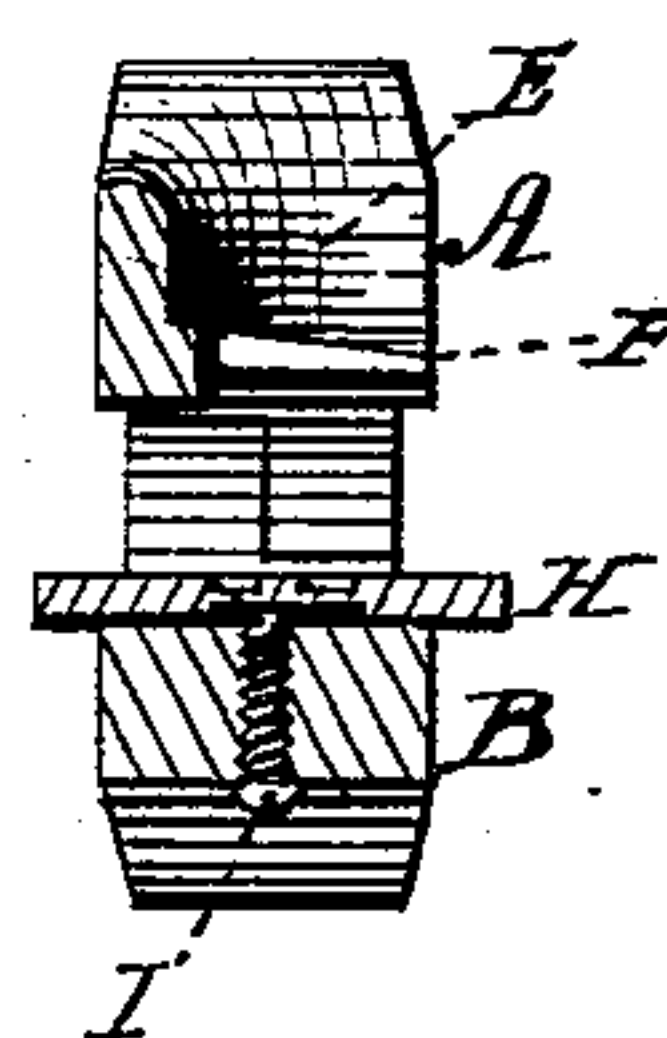


Fig. 5.



Fig. 6.

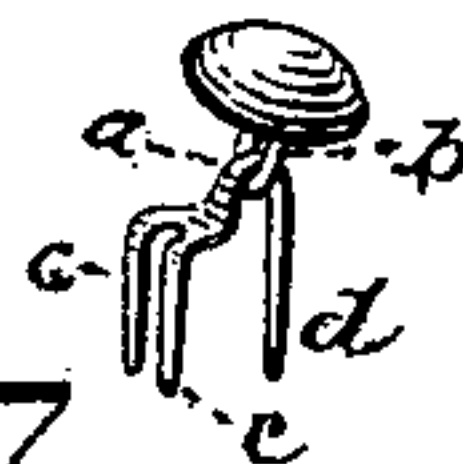


Fig. 7.



WITNESSES:

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UNITED STATES PATENT OFFICE

DAVID HEATON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SETTING INSTRUMENTS FOR ATTACHING BUTTONS TO WEARING APPAREL.

Specification forming part of Letters Patent No. **168,013**, dated September 21, 1875; application filed July 26, 1875.

To all whom it may concern:

Be it known that I, DAVID HEATON, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Setting Instrument for Attaching Buttons to Wearing Apparel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a perspective view of a setting instrument embodying my improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view taken on the line *xx* of Fig. 2. Fig. 4 is an elevation in partial section. Fig. 5 is a detail view of the dovetailed sliding piece. Fig. 6 is a perspective view of the button and fastener before being attached to material. Fig. 7 is a side view of the same as attached to the material.

Similar letters of reference occurring on the several figures indicate corresponding parts.

This invention relates to new and useful improvements in the construction of the setting instrument for which Letters Patent were granted to me under date of February 23, 1875, and numbered 160,056, and to which reference will be had for a proper description of the present invention. The said setting instrument is designed to attach buttons, studs, &c., having penetrating-prongs, for fastenings to shoes and other wearing apparel by putting the prongs through the material, and clinching their ends on the back part of the same, the object being to simplify the construction of the instrument and the operation of setting or attaching the buttons, or other articles of the kind, in order to render the use of the same easy and effective in the hands of unskillful persons, as well as others. As herein shown, the setting instrument is arranged to set or attach the common shoe-buttons with a wire eye or shank, united with a metallic fastener having penetrating-prongs for passing through the material and clinching underneath; and the plan adopted in the construction of the said instrument is such that the button shall

be properly held in one jaw of the pinchers, and the other jaw being provided with a die, so that by the single operation of closing the two jaws together the fastening-prongs are made to penetrate the material and clinched flatly on the back part of the same.

The first part of my invention relates to the improved construction of the upper jaw, in which the button and its metallic fastener are held preparatory to being set in the material of the apparel; and it consists in dispensing with the use of the slotted spring and lateral opening through the upper jaw, as shown in my patent above mentioned, and in place thereof providing the upper jaw with a semi-circular recess, the bottom of which is of an inclined or wedge-shaped form, and provided with a slot extending from the front to the rear part of the same, said slot being arched on the lower surface of the upper jaw to receive the connecting part of the metallic fastener.

The second part of my invention relates to the improved means by which the fastening-prongs of the button are driven through and clinched into the under part of the material; and this consists in constructing the lower jaw of the pinchers with a broad dovetailed slot, which is adapted to receive a dovetailed sliding piece, having a die wrought in its upper surface of the proper form to receive the points of the said prongs, and to deflect and bend the same together against and into the material by shutting the two jaws together, all as will be hereinafter more fully described, and pointed out in the claims.

Referring to the drawings, A represents the upper and B the lower jaw of the setting instrument, said jaws being operated by the handles C D in the usual manner. The upper jaw A is provided with a recess, E, opening at one side and extending partly through the jaw, the part forming the bottom of which is of a tapering or wedge shape in cross-section, as shown in Fig. 3, and is provided with a slot, F, which extends the entire length of the recess E, said slot being concaved or arched in the face of the jaw to correspond with the shape of the connecting part of the fastening-prongs *a*, as shown in Fig. 4. The lower jaw B is provided with a dovetailed groove or re-

cess, G, in which is adapted to be fitted a corresponding-shaped sliding piece, H, which is provided with a die upon its upper surface similar in shape to that described in my patent before mentioned; but the form of the die may be changed to accord with fastenings having a greater or less number of prongs, and for which purpose I provide several of the sliding pieces H, if desired, each having a different form of die suitable to receive the points of the prongs of the several constructions of fasteners.

By this means, it will be observed that one single instrument can be made applicable for the setting of all the different kinds of fasteners, as well as to accommodate the easy adjustment of the several lengths of the wire shanks of the buttons—a result which has never heretofore been accomplished in any device relating to the same subject of invention.

The sliding piece H may be adjusted at any required position in the dovetailed recess G by means of the set-screw I, as shown in Figs. 3 and 4, said sliding piece H being provided with a groove upon its lower surface in which the point of the screw rests.

Instead of the screw I a flat or coiled spring may be introduced under the die H, so as to retain said die in place when adjusted in any desired position, or a flat spring may be used in connection with the screw I for the same purpose.

The form of the button-fastener, used in connection with the present shaped die H, is shown in Fig. 6 as having three fastening-prongs, (two marked *c* at the front, and one marked *d* at the rear,) and these are preferably made bevel-pointed at the sides and edges and thinned flatwise from the outside, as fully shown and described in a previous patent granted to me under date of July 21, 1874, and numbered 153,220.

The improved construction of the said holding and clinching mechanism being as described, and arranged in the pincher-jaws, the setting operation is performed by first inserting the shank *b* of the button, after being attached to the connecting part *a* of the fastener, within the slot F of the recess E, and pushed back as far as it will go, which will be determined by the length of the said shank. The sliding piece H is then moved back until the

die in its upper surface comes directly under the points of the fastening-prongs, the sliding piece adjusted firmly in position by the set-screw I, when by a single impulsive shutting of the jaws A and B together the prongs are both driven through the material previously introduced between the two jaws, and clinched firmly upon the under side of the same in a most simple and efficient manner.

The advantages of my invention will be readily seen, inasmuch as by the present construction of parts the same is not likely to get out of order, the machine rendered more strong and durable, and the operation of setting the buttons simplified to a great extent.

Besides the use in connection with pincher-jaws, as above described, the said holding and clinching mechanism may be applicable to organized machines operated by a treadle or other suitable power, and these applications are herein contemplated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In the hereinbefore-described button-setting instrument, the upper jaw A, provided with a recess, E, having an inclined or wedge-shaped bottom and a slot and groove, F, in combination with the lower jaw B, provided with a dovetailed recess, G, adapted to receive a corresponding-shaped sliding piece, H, having a die upon its upper surface, and adjusted in position through the medium of the set-screw I, substantially as described, and for the purpose set forth.

2. The jaw A, provided with the recess E, having an inclined or wedge-shaped bottom and an arched grooved slot, F, substantially as shown and described.

3. The dovetail sliding piece H, constructed with a suitable die upon its upper surface, adapted to slide in the recess G, in combination with the set-screw I and the lower jaw B of a setting instrument, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own invention, I affix my signature in presence of two witnesses.

DAVID HEATON.

Witnesses:

CHAS. H. SMITH,
EDWIN C. POMROY.