(No Model.) 2 Sheets—Sheet 1.

J. F. ATWOOD.

BUTTON SETTING INSTRUMENT.

No. 285,782. Patented Oct. 2, 1883.

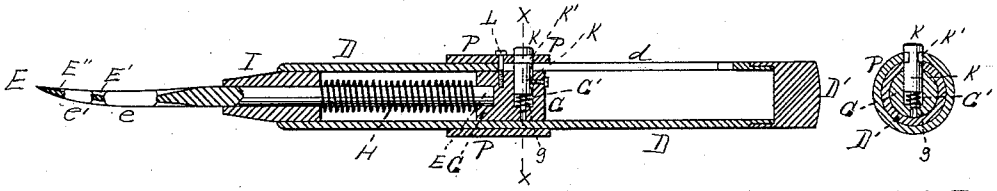


Fig. 1.

Fig. 2.

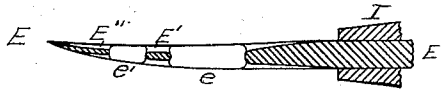


Fig. 3.

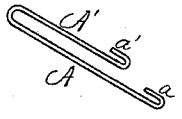


Fig. 4.

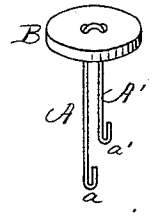


Fig. 5.

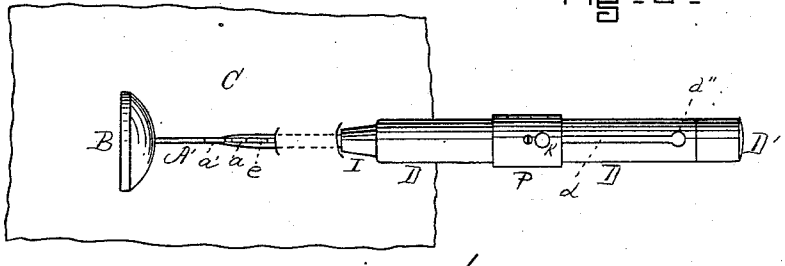


Fig. 6.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

J. F. ATWOOD.

BUTTON SETTING INSTRUMENT.

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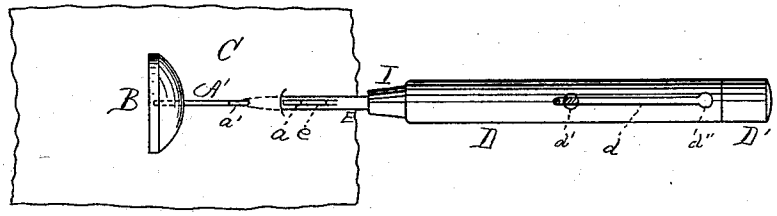


Fig-7-

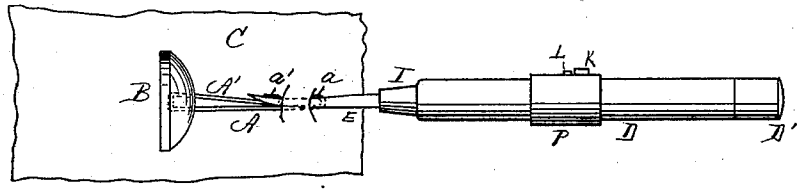


Fig-8-

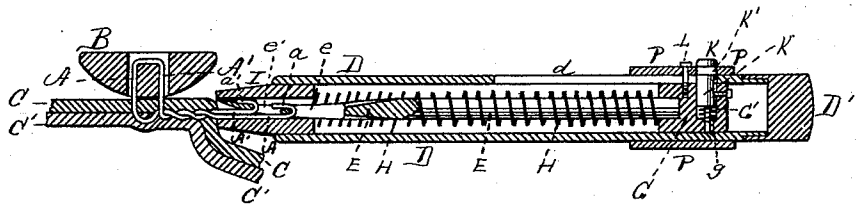


Fig-9-

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES F. ATWOOD, OF BOSTON, MASSACHUSETTS.

BUTTON-SETTING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 285,782, dated October 2, 1883.

Application filed February 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. ATWOOD, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Instruments for Setting Buttons, of which the following is a specification.

This is an instrument for securing buttons to articles or garments, preferably to those made from textile fabric; and it is particularly adapted to be applied in securing the buttons by means of a button-fastening device made of wire bent into the form of a staple, having arms of unequal length, and each arm terminating in a hook, such device being illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a button-setting instrument embodying my invention. Fig. 2 is a section on line *x*, Fig. 1. Fig. 3 is a longitudinal section of the needle enlarged. Fig. 4 is an enlarged view of the wire-fastening, to utilize which my setting-instrument is especially constructed. Fig. 5 is a view of a button with the fastening device in position to be grasped by the setting-instrument. Figs. 6, 7, and 8 are views of the setting-instrument in the different positions assumed at different stages of the operation below described, Figs. 6 and 7 being plans, the latter with the ring P removed, and Fig. 8 an elevation. Fig. 9 is a sectional view of the button, fabric, and setting-instrument at the last stage of the operation.

Similar letters of reference indicate like parts.

A and A′ are, respectively, the longer and shorter arms of the staple-shaped wire, which is adapted, by means of my instrument, to fasten the button B to the garment, of which C is the outer and C′ the inner thickness. The arms A and A′ terminate, respectively, in hooks *a* and *a′*.

The setting instrument consists of a tubular case, D, of which D′ is the cap, and which is provided with a longitudinal slot, *d*, provided, near its forward end, with an enlarged opening, *d′*, and at its rear end with an enlarged opening, *d″*. (See Fig. 7.)

A needle, E, having two longitudinal slots or eyes, *e e′*, has its shank fixed in the slide G, and is surrounded by a spiral spring, H, confined between the slide G and the mouth-piece I, fixed in the case. A chamber, G′, is formed in the slide G, in which is a spring, *g*, and above the spring a bolt, K, provided with the notches or grooves K′. The bolt K is of a size to fit into the enlarged openings *d′ d″*, excepting at the grooves K′, where its neck is of a size to slip easily in the slot *d*. (See Figs. 1 and 2.) When the bolt, which, for convenience sake is held in a sliding ring, P, is in the position shown in Figs. 1 and 2, it is held in the forward enlarged opening *d′* by the spring *g*, and the needle E is extended. To withdraw the needle, the bolt K is pressed down until the notches or grooves K′ reach the case D, and the bolt is carried back by the power of the spring H against the slide G through the slot *d* to the rear enlarged opening *d″*, into which it springs. A small screw, L, extending from the ring P into the slot *d*, acts as a buffer for the bolt K, and strikes the forward end of said slot in place of the bolt. The opening *d″* can be omitted, if desired. Longitudinal grooves E′ and E″ are formed in the needle E, in front of and connecting with the eyes or slots *e* and *e′* respectively, for reasons below explained.

The operation of setting the button is as follows: Pass the wire through the button-holes into the position shown in Fig. 5, the said wire being small enough and the hooks bent close enough to it to allow of such passage. Place the setting-instrument in the position shown in Fig. 1—*i. e.*, with the needle extended and the bolt K in the opening *d′*. Place the point of the needle E on the cloth, say, one-half an inch from the place where the button belongs. Push it in through the first thickness, C, and partly through the second thickness, C′, and then out at the surface where the button belongs. Then catch the hook *a* on the long arm A of the wire in the inner slot, *e*, the said hook *a* lying in the groove E, (see Fig. 3,) so as not to catch in the goods or enlarge the hole made therein by the needle, and the instrument is in the position shown in Fig. 6. Next, draw the hook *a* through by withdrawing the instrument, as shown in Fig. 7. Next, leave the hook *a* and long arm A projecting through, and push in the needle E again, without, however, entering the second thickness, C′, and out through the surface, and then catch the hook *a′* on the short arm A′ in the slot *e′*, said hook *a′* lying in the groove E″, all as shown in Fig. 8, and draw this hook and arm through the

cloth. The two arms A A′ are now both outside the surface of the cloth, and their hooks *a a′* in the slots *e e′*. Now draw them through tightly, press in the bolt K, and the needle will be withdrawn into the case D, and twist the arms of the wire firmly, as in Fig. 9. When they are sufficiently twisted, cut them off near the cloth, straighten out the goods, and the remainder of the wire will slip in between the thicknesses C C′, lying flat therein, concealed from view.

One of the slots in the needle could be omitted; but two are preferred.

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

1. In an instrument for setting buttons, the needle E, provided with one or more slots, *e*, and one or more grooves, E′, constructed and arranged substantially as and for the purpose specified.

2. In an instrument for setting buttons, the combination of the casing D, provided with the fixed mouth-piece I, the needle E, provided with one or more slots, *e*, the spring H, and the slide G, all constructed and arranged substantially as and for the purpose set forth.

3. In an instrument for setting buttons, the combination, with the casing D, provided with the slot *d*, having one or more enlargements *d′*, of the chambered slide G G′, spring *g*, bolt K, provided with the notches or grooves K′, and sliding ring P, all constructed and arranged substantially as and for the purpose described.

JAMES F. ATWOOD.

Witnesses:
HENRY W. WILLIAMS,
JOSEPH ISHBAUGH.