(No Model.)

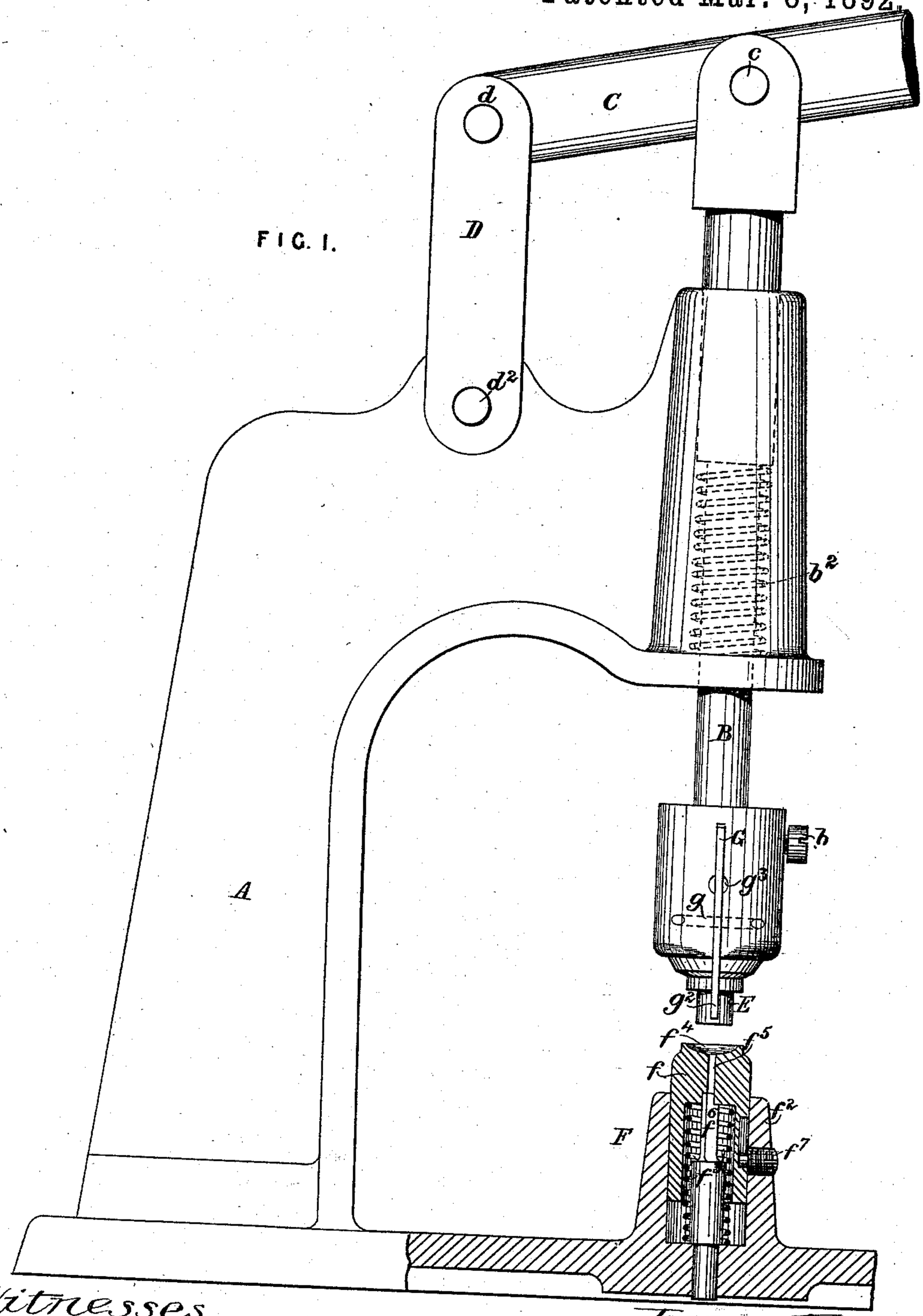
2 Sheets—Sheet 1.

E. NOELLE.

BUTTON SETTING TOOL.

No. 470,628. Patented Mar. 8, 1892.

FIG. 1.



Witnesses
Thornton Culley
R. G. Hunton

Inventor:
Edward Noelle
by Pollok & Mauro
his attorneys

(No Model.) 2 Sheets—Sheet 2.

E. NOELLE.

BUTTON SETTING TOOL.

No. 470,628. Patented Mar. 8, 1892.

FIG. 5.

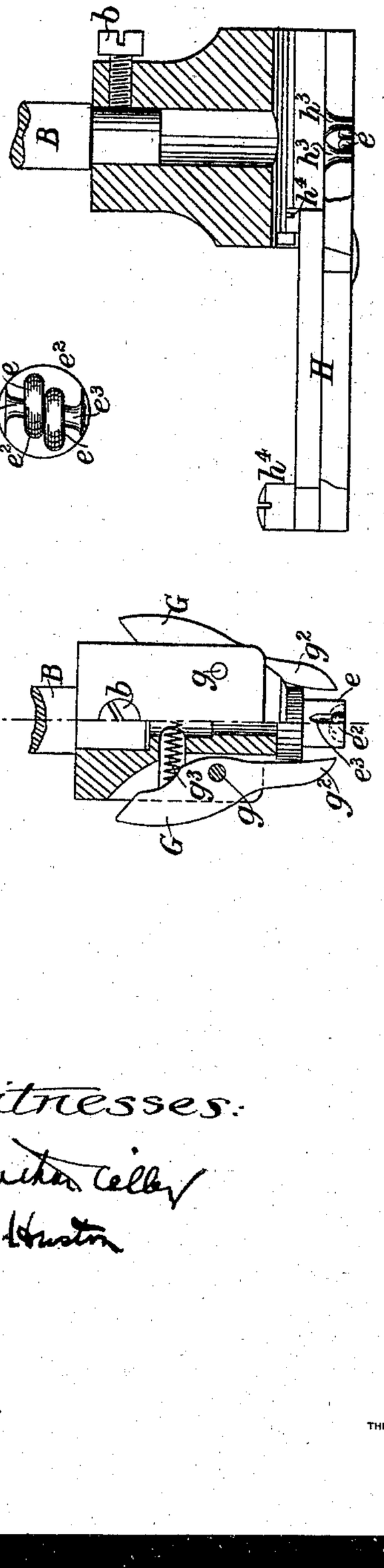


FIG. 6.

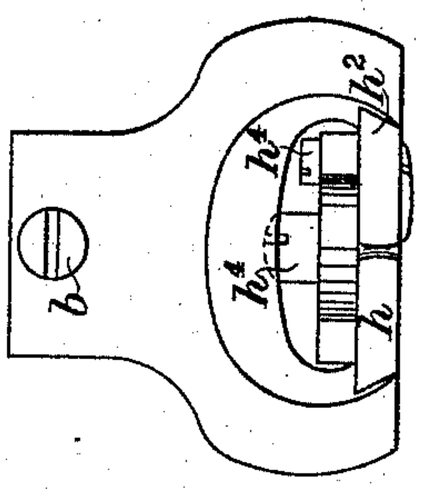


FIG. 4.

FIG. 3.

FIG. 7.

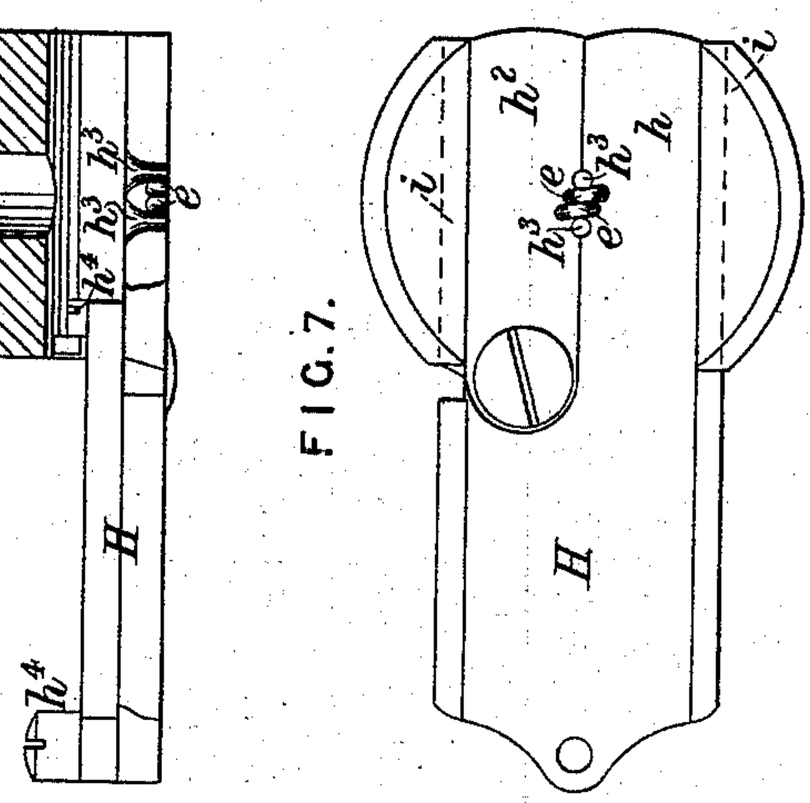


FIG. 12.

FIG. 8

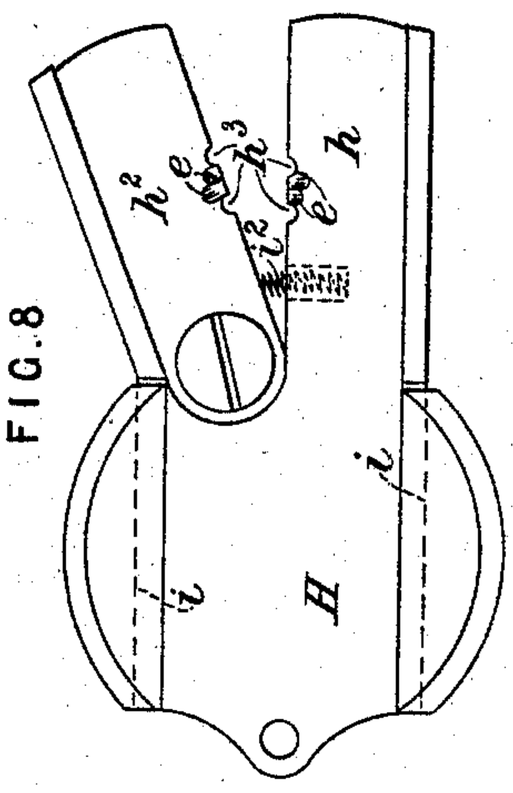


FIG. 2.

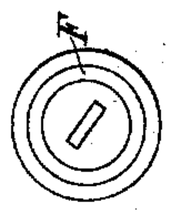
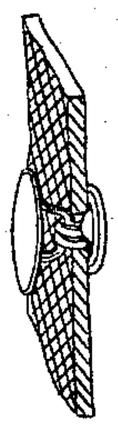


FIG. 11.

FIG. 10.

FIG. 9.



Witnesses:
Jonathan Colby
R. G. Houston

Inventor:
Ewald Noelle
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his attorneys.

UNITED STATES PATENT OFFICE.

EWALD NOELLE, OF LÜDENSCHEID, GERMANY, ASSIGNOR TO ROBERT AUGUSTUS PANCHAUD, OF LONDON, ENGLAND.

BUTTON-SETTING TOOL.

SPECIFICATION forming part of Letters Patent No. 470,628, dated March 8, 1892.

Application filed October 21, 1891. Serial No. 409,396. (No model.)

To all whom it may concern:

Be it known that I, EWALD NOELLE, a subject of the German Emperor, residing at 47 Kölnerstrasse, Lüdenscheid, Westphalia, in the German Empire, have invented certain Apparatus for Securing Buttons to Garments or other Articles, of which the following is a specification.

This invention relates to apparatus mainly intended for securing buttons to garments or other articles, wherein the ends of a wire staple (passed through a disk situated on one side of the cloth or material to which the button is to be secured) are caused to pass through the cloth or material, the said ends being then turned through the shank or loop of the button, as hereinafter described. To effect this the disk and the staple, which is passed through it, are placed on a support or holder therefor, and the button is held by a holder provided with a recess or recesses situated on either side of the shank or loop of the button, so that when the cloth or material to which the button is to be attached is placed between the said holders and they are brought toward each other by a lever or screw-press or other suitable device the ends of the staple enter the recesses on each side of the shank or loop, and, by bearing on the sides of the said recess or recesses, are caused to pass through the shank or loop and then to be turned down, so as to secure the button to the cloth or material.

I will describe, with reference to the accompanying drawings, the manner in which this invention may be carried into effect; but I do not limit myself to the precise details which I shall describe and illustrate.

Figure 1 represents in side elevation, partly in section, a machine constructed according to this invention. Fig. 2 represents in plan the preferred form of support for the disk and shank. Fig. 3 represents in half-section and half-elevation a form of holder for a button of a ring form; and Fig. 4 is a plan of under side of the lower end thereof, drawn to a larger scale. Figs. 5 and 6 are elevations, Fig. 5 partly in section; and Figs. 7 and 8 are plans of under side of a holder suited for a button with a solid top, Fig. 7 showing the holder in the closed position, in which it holds the button, and Fig. 8 showing it opened out for receiving the button. Fig. 9 shows a button secured to a garment or other article; and Figs. 10 and 11 show the disk and staple and the ring form of button, respectively. Fig. 12 shows the way in which the ends of the staple are bent inward, as hereinafter described.

I have illustrated a lever-press as the means for bringing the parts together for affixing the button; but any other suitable device may be used.

A is the body part of the press, in which slides the plunger B, to the lower end of which the button-holder is secured by the screw *b*. The said plunger can be moved down by the lever C, connected to the top of the plunger by the pin *c* and centered by the pin *d* to one end of a link D, the other end of which is centered by the pin d^2 to the body part A, and the said plunger is returned to its raised position by the spring b^2.

E is the holder for the button, carrying parts which grip the button between them, so that the shank is situated in a curved recess or curved recesses *e*, whose sides, when the press is operated, cause the ends of the staple to be bent through the shank and to be then turned down after they have passed through the shank.

F is the holder or support for the disk and staple, which support F preferably consists of the part *f*, projected upward in the case f^2 by a spring f^3.

f^4 is a cup for the disk, with a slot f^5 in it for the passage of the staple, which rests at its bent part on the anvil f^6, the ends passing through holes in the disk, as indicated by Fig. 10.

f^7 is a screw passing through the case and taking into a slot in the movable part, so that the said screw acts as a stop. If the ends of the wire staple be turned over so as only to be parallel with the opposite sides thereof, the button is liable to be detached by pulling by reason of the ends of the staple straightening out. To prevent this the recess or recesses *e* is or are directed inward at the parts e^2 (see Fig. 4) with which the respective staple ends last come into contact, so that the staple ends are directed or curved inward, as shown in Fig. 12, toward the opposite sides of the staple after the said ends have passed the

shank of the button. This causes the staple to be held very firmly in the cloth or material.

The button-holder, especially when intended for ring-shaped buttons, is provided (in the arrangement Figs. 1 and 3) with arms or levers G, centered to the holder at g and having jaws g^2 at one end, which jaws grip the button, and the other ends of the said arms or levers are pressed upon by a spring g^3 between them to hold the button, the last-named ends when pressed together opening the jaws g^2 to allow the button to be inserted or released. When the buttons are made of a ring form with a shank crossing from side to side of the ring, as shown in Fig. 11, the end of the holder engages in the opening in the ring, and the said end has recesses e^3 in its sides to receive the sides of the shank and steady the button, and also having therein the curved recess or recesses e to turn over and inward the ends of the wire staple as aforesaid. If the holder is to receive solid-topped buttons, it may be made as shown in Figs. 5 to 8. It is provided with a divided plate H for receiving the button, the parts h h^2 of the plate sliding in slots i in the holder, the part h^2 opening out from the part h by the spring i^2 acting on it, when the plate is protruded from the holder, so that the button can be placed with its shank between the plates and its under side resting on the said plates. The plates have in their meeting edges the recesses h^3 to receive the shank and on their under side the recesses e to direct and turn over and inward the ends of the wire staple, as aforesaid. When the button is put in place on the parts of the plate H and it and the button are moved back into the slot i in the holder, the said parts close together and hold the button firmly in position while the staple is passed through the shank.

h^4 are stops for limiting the motion of the plate II in either direction.

The holders may be made removable from the plunger of the press, so that holders to suit various kinds of buttons can be inserted as required.

The apparatus may of course be used to attach any articles together to which it may be applicable—such as, for instance, to attach papers or fabrics together—in which case no button need be used, the articles to be joined being introduced together between the parts E and F.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a machine for attaching buttons to articles of cloth and other material, the combination, with the staple-holder, of the two-part button-holder, having one part pivoted to the other end, provided with grooves or recesses for bending the staple ends, said grooves being at the parts which act last upon the staple curved inward, whereby the points of the staple pass into the fabric in an oblique direction to the surface thereof and are turned toward each other, substantially as and for the purposes specified.

2. In a machine of the character described, a button-holder comprising, in combination, a divided plate having one part pivoted to the other, a spring tending to separate the two parts, recesses being formed in and between the two parts for bending the staple, and other recesses for the shank of the button, and a slotted support in which said plate slides and whereby the two parts of the plate are firmly gripped and held together during the operation of attaching a button, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EWALD NOELLE.

Witnesses:

FRANK HESSENBRUCH,

EDW. ESSENWEIN.

Barmen.