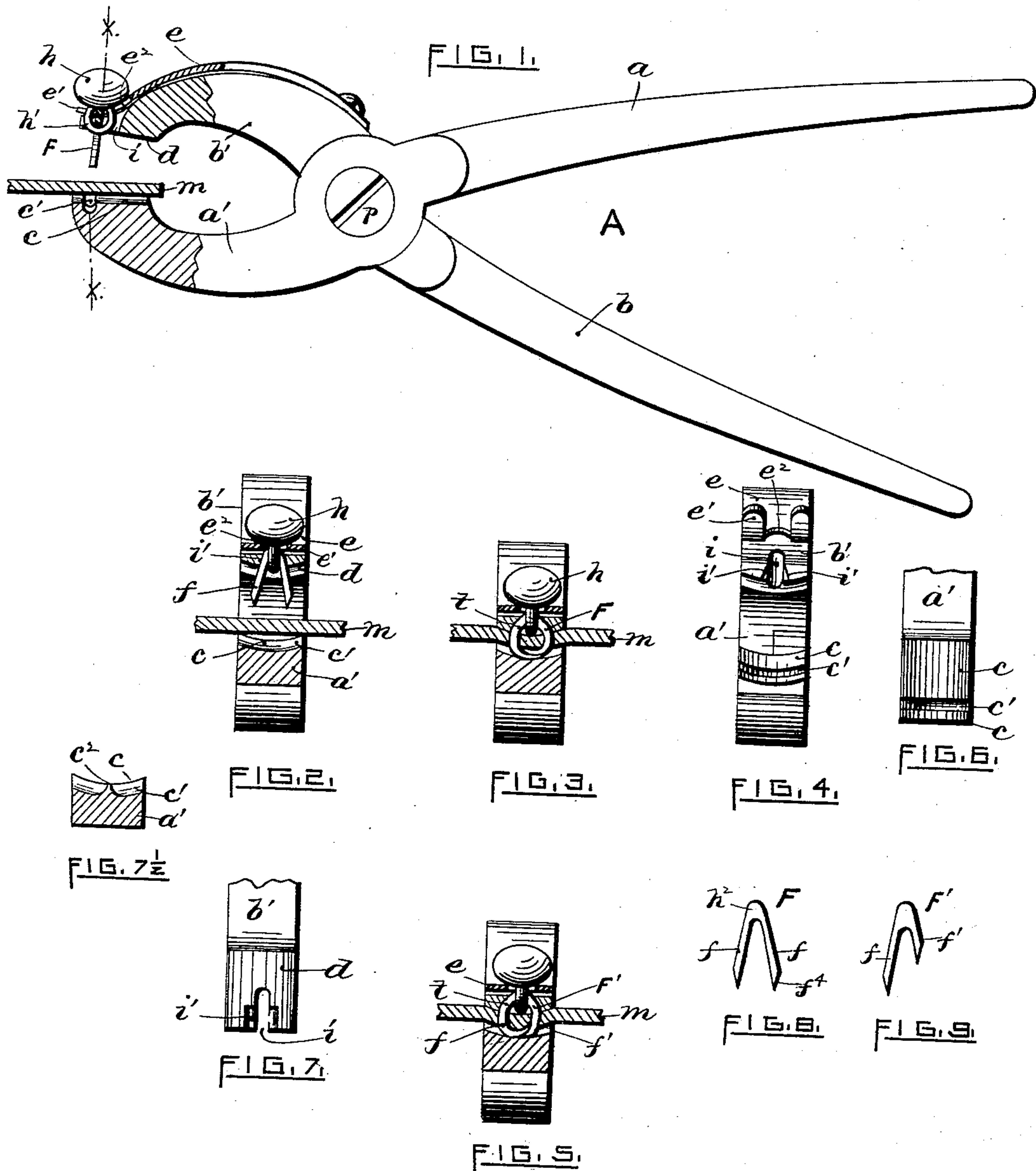


(No Model.)

J. F. THAYER.  
BUTTON ATTACHING INSTRUMENT.

No. 322,655.

Patented July 21, 1885.



WITNESSES,

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# UNITED STATES PATENT OFFICE.

JAMES F. THAYER, OF PROVIDENCE, RHODE ISLAND.

## BUTTON-ATTACHING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 322,655, dated July 21, 1885.

Application filed May 25, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. THAYER, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Instruments for Attaching Buttons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to instruments for attaching buttons to fabrics, &c.; and it consists, primarily, in the novel form and construction of the faces of the jaws, in combination with means for retaining the button and its fastener in position, and means for deflecting and clinching the prongs of the fastener, all as will be more fully hereinafter set forth and claimed.

The object of my present invention is to provide a simple and efficient instrument which is more especially adapted to deflect and clinch the two diverging prongs of the fastener, the latter being produced from a continuous strip of metallic stock, and forming the subject of a separate application for Letters Patent of the United States.

In order to properly illustrate this invention I have prepared the accompanying sheet of drawings, in which—

Figure 1 represents a side view of the instrument, having a button and fastener retained in its upper jaw or member as in use, the end portions of said jaws being shown in central section. Fig. 2 is a transverse sectional view through the jaws, taken on line *xx* of Fig. 1. Fig. 3 is a similar view showing the button attached to the fabric. Fig. 4 is an end view of the jaws, the button and fastener being removed. Fig. 5 is a view similar to that represented in Fig. 3, showing the button attached to the fabric, the fastener, however, having one short prong and one long prong. Fig. 6 is a plan view of the lower jaw, showing the clinching-die formed therein. Fig. 7 is an inverted plan of the upper jaw, showing the fastener-retaining device.

Fig. 7½ is a modification of the clinching-die. Fig. 8 is a view of the fastener having two equal and diverging prongs or legs, and Fig. 9 represents the fastener having one prong considerably shorter than the other, both said forms of fasteners being used with the present improved instrument.

The following is a detailed description of the invention, including the manner of its operation.

A, again referring to the drawings, designates the instrument as a whole, having two handles or members, *a* and *b*, halved together and fulcrumed at *p*, substantially as shown, said handles terminating in upper and lower jaws, *b'* *a'*, respectively. The under surface, *d*, of the upper jaw is convexly-shaped in the direction of its length, and has a slotted aperture, *i*, Fig. 7, formed in the end thereof to receive the shank or eye *h'* of the button *h*, as fully shown.

*i' i'* designate the angular sides formed in the jaw adjacent to said aperture for the purpose of supporting and receiving the upward thrust or pressure of the fastener during the attaching operation.

*e* is a flat spring secured to the jaw *b'*, the same being slotted at *e'*, to receive the shank of the button. Said spring and slot *i* are, however, shown and claimed, in combination with a raised die of the opposite jaw, in my United States Patent No. 274,053, of March 13, 1883.

*a'* indicates the lower jaw, having the concavity *c* in its top surface and forming the counterpart of the convex surface *d* of the upper jaw, *b'*, before described. Near the outer end of the jaw *a'* is formed the transversely arranged concave clinching die or groove *c'*, the bottom of which is substantially parallel with the concave face of the jaw, the die in its cross-section being U-shaped, as fully shown in Fig. 1.

In Fig. 7½ I have represented a wedge-shaped deflector, *c'*, formed at the center of the die, by means of which the points *f'* of the fastening-prongs are made to repenetrate the fabric when clinched.

F indicates the fastener, consisting of the head *h'*, from which diverge the two legs or prongs *f f*, terminating in sharpened points.

My invention, as hereinbefore stated, being



more particularly adapted to attach buttons to leather, &c., wherein the fastening F just described is used.

The operation may be substantially described as follows: A button, *h*, carrying the fastener F, is first placed in the retaining or upper jaw, *b'*, of the instrument, as shown in Figs. 1 and 2. Now, upon placing the leather or fabric *m* upon the face *c* of the lower jaw, and by suitable pressure bringing the jaws together, the points *f*<sup>4</sup> of the fastener are thereby forced through the leather and into the concave semicircular-shaped die *c'*. A further continuance of the pressure deflects the points of the fastener-prongs toward each other down the inclined or concave bottom surface of said die. As the points approach each other, or at the instant of meeting, the upward pressure or thrust causes the prongs to spread out slightly, as shown at *t*, Figs. 3 and 5.

By means of the curved-face surfaces *d c* of the jaws the button, with its fastener, is adapted to be more closely and firmly attached to the fabric as compared with setting-instruments having flat-face jaws, as in the former case the fabric is crimped somewhat, (see Figs. 3 and 5,) thus causing the shank of the button to rest or bear in the center of the depression, while the lateral sides or edges of said surfaces, being higher, permit the prongs to penetrate more deeply into the fabric; or, in other words, the head or table *h*<sup>2</sup> of the fastener is, by means of the combined convex and concave shaped faces *d c* of the jaws, brought nearer to the surface of the fabric. said prongs when clinched having the form shown in Fig. 3, wherein one prong overlaps the other for the purpose of strengthening the fastening.

The combined long and short prong fastener F', (shown in Fig. 9,) when clinched by means of my improved instrument, appears substan-

tially as represented in Fig. 5, wherein the long prong is first bent and deflected along the face of the die *c'*, when, finally, the point of the short prong *f'* is deflected beneath the end of the other, both prongs then being clinched.

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

1. The button-attaching instrument herein described, consisting of two jointed or fulcrumed handles having upper and lower jaws, the upper jaw being provided with means, substantially as shown, for retaining the button and fastener in position, and also having the convex-shaped face, the lower or opposite jaw having the concave-shaped face provided with the transversely-arranged U-shaped groove or clinching-die, substantially as and for the purpose set forth.

2. In a button-attaching instrument, the pivoted upper jaw, *b'*, having the convex under surface or face *d*, constructed to retain a button and fastening, in combination with the pivoted lower jaw, *a'*, having the concave face *c*, provided with the transversely-arranged clinching-die, substantially as shown and hereinbefore set forth.

3. In a button-attaching instrument, the jaw *b'*, provided with the convex face *d*, slot *i*, having beveled walls *i' i'*, and retaining-spring, in combination with the lower or opposite jaw, *a'*, provided with the concave face *c*, and clinching-die *c'*, arranged transversely of said jaw, substantially as shown and for the purpose hereinbefore set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

JAMES F. THAYER.

Witnesses:

GEO. W. PRENTICE,  
CHARLES GREENE.