(No Model.)

J. H. GOODFELLOW.

INSTRUMENT FOR SETTING BUTTONS.

No. 288,228. Patented Nov. 13, 1883.

Fig. 1.

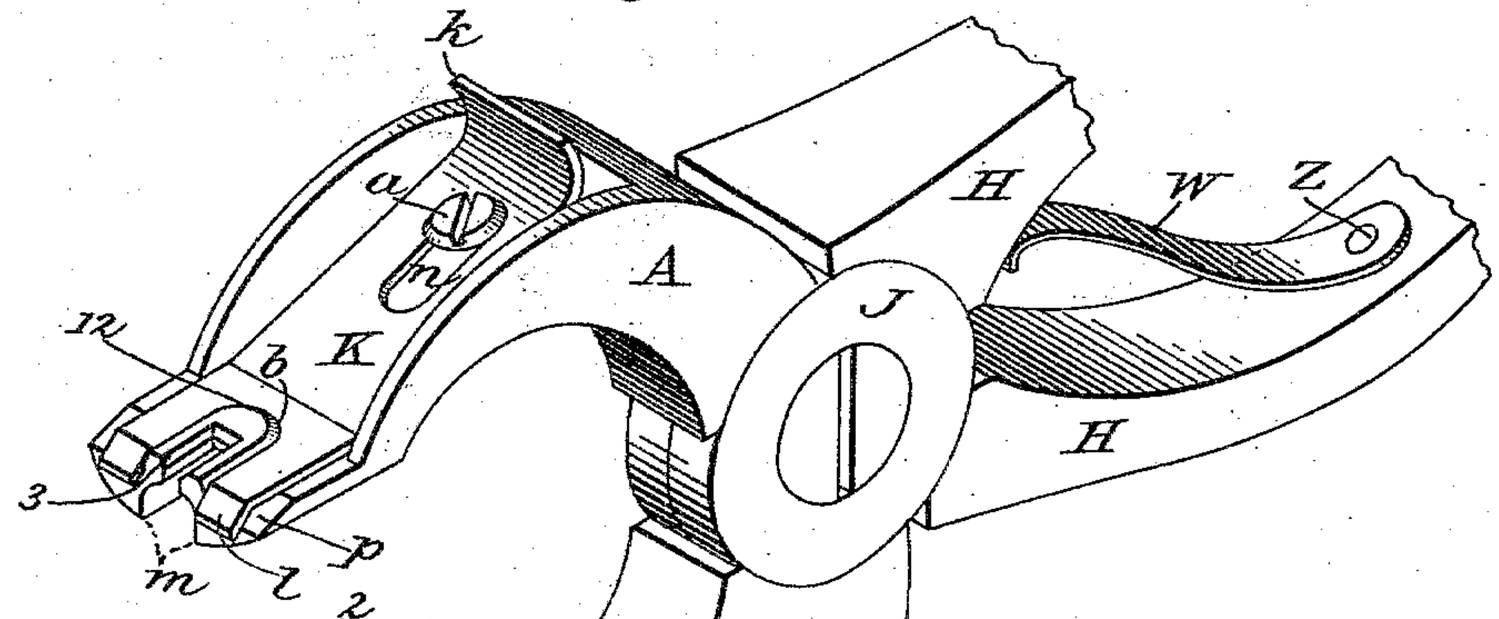


Fig. 2.

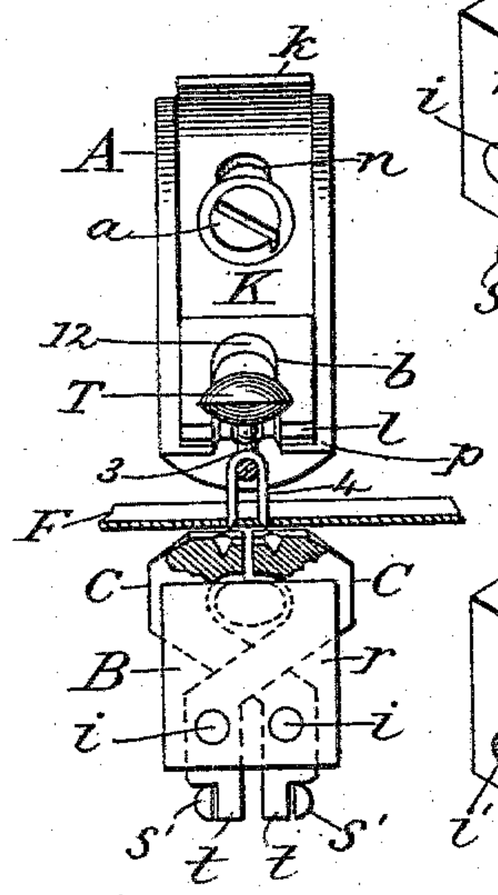


Fig. 3.

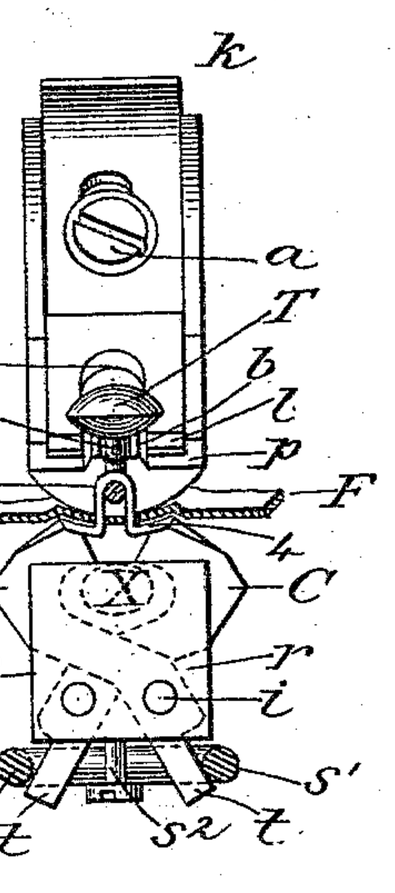


Fig. 6.

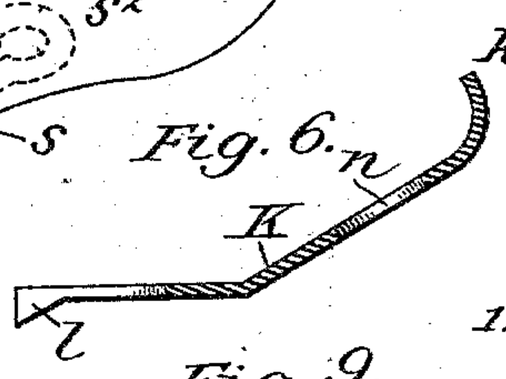


Fig. 7.

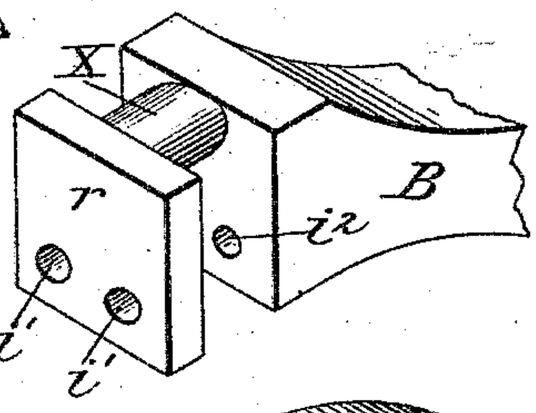


Fig. 9.

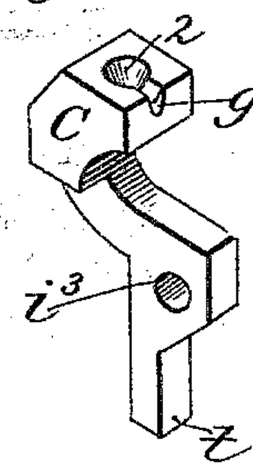


Fig. 4.

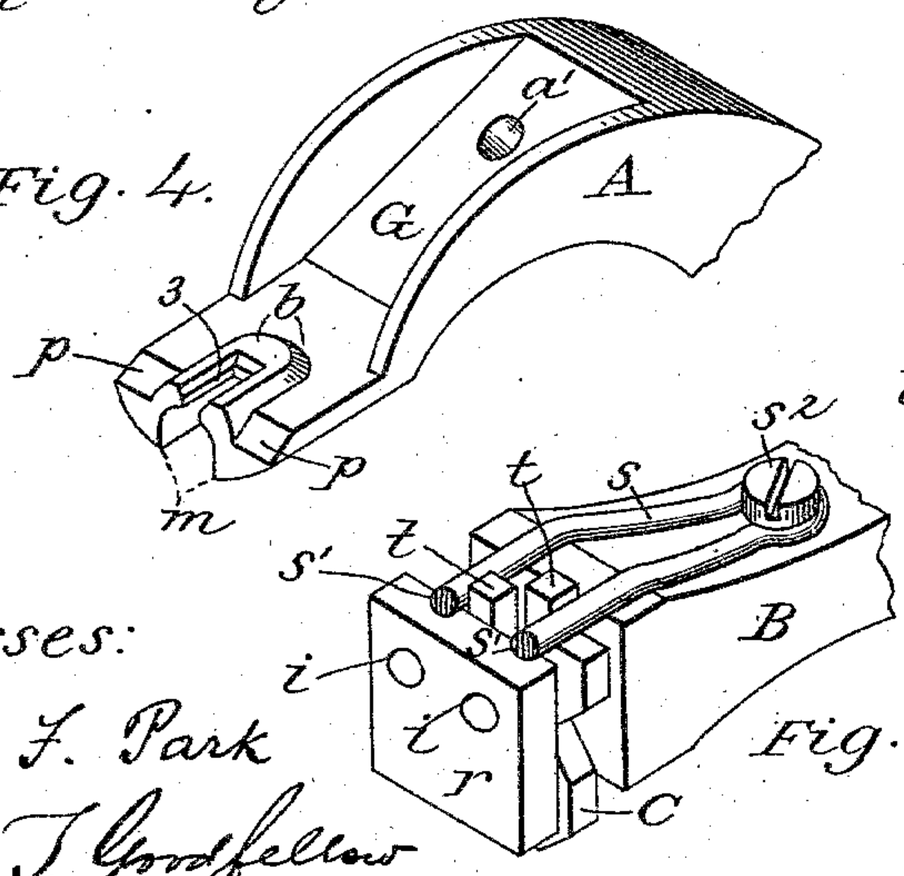
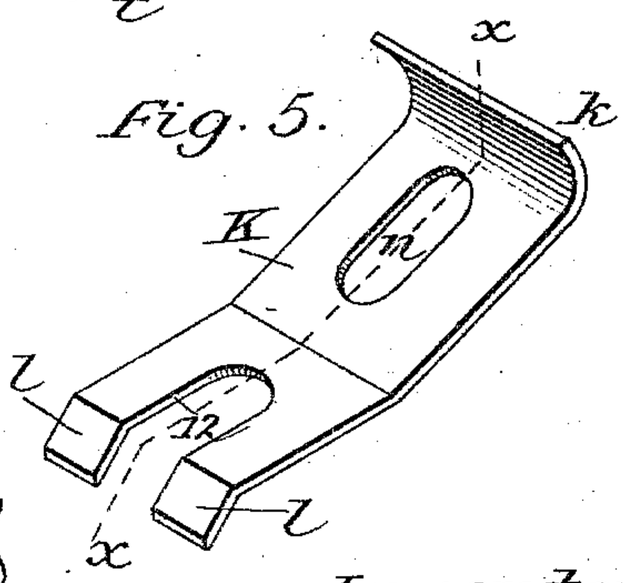


Fig. 5.



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INSTRUMENT FOR SETTING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 288,228, dated November 13, 1883.

Application filed June 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOODFELLOW, in the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Implements for Attaching Buttons, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the improvement of that class of implements which are made for attaching buttons to shoes and other similar articles by means of staples that are passed through the eye of the button and leather or material, and are turned outward and upwardly on the under side of the latter. These implements have been constructed with two jaws and handles connected by a joint-pivot, and furnished with various devices for holding the staple and button while driving the staple through the fabric.

The object of my invention is to produce means whereby the staple may be very firmly held and readily released and the staple bent with great ease and accuracy.

In the accompanying drawings, forming a part of this specification, there are shown nine figures illustrating my invention, in all of which like parts are designated by similar letters.

Figure 1 is a perspective view of a complete implement containing my improvements, (with part of the handles omitted.) Fig. 2 is a front end elevation, partly in section, of the implement with a button and staple in the upper jaw and the fabric arranged over the carriers C C in the lower jaw, hereinafter described. Fig. 3 is a front end elevation, same as Fig. 2, showing the upper jaw, A, closed upon the fabric, and the position of the pivoted carriers after the ends of the staple-prongs have been firmly set, hereinafter set forth. Fig. 4 is a perspective view of the upper jaw with the sliding wedge K removed. Fig. 5 is a perspective view of the sliding wedge detached from the upper jaw. Fig. 6 is a longitudinal section of Fig. 5, taken through the line *x x;* Fig. 7, a perspective view of the jaw B with the conveyers C C removed; Fig. 8, a perspective view of the opposite sides of the lower jaw, as shown in Fig. 1, hereinafter described; and Fig. 9 is a perspective view of one of the carrier-jaws C removed from the implement, hereinafter set forth.

The several parts of the implement containing my invention are designated by letters of reference, as follows:

A indicates the upper jaw, and B the lower jaw, of the device, and H H its handles, which are connected by means of the intermediately-placed joint-pivot, (indicated at J;) and W is a spring placed between the handles and attached to one of them by the rivet Z, while its free end bears against the other handle near its joint-pivot, to keep them and their jaws apart.

The letter K designates a sliding plate or wedge (shown in Figs. 5 and 6) attached to the jaw A, as seen in Figs. 1, 2, and 3, by means of the screw *a* in the hole *a'*. After passing through the elongated slot *n* in said plate, one end of which, at *k*, near the joint-pivot, is bent upward therefrom, by which said plate can be moved to and fro the length of the slot *n*. The opposite end of said plate is provided with a front slot, 12, which surrounds a raised platform, *b*, in the top of said jaw, as shown in Figs. 1, 2, and 3. The free ends of said plate are bent down, as indicated at *l l*, which ride upon the inclines *p p*, while the body of the plate K slides upon the incline G of the jaw as moved to and fro to wedge or release the button and staple.

The end of the jaw A is provided with a front vertical slot, 3, the upper edges of which are made concave, also an arched groove, *m*, extending parallel therewith, as shown in Figs. 1 and 4.

The platform *b* performs a distinctive feature in connection with the plate K, and the object of which is to reduce the thickness of the jaw at its center part, thereby admitting of a short eye button being placed within the slot having a staple in its eye, and the concave part thereof to provide room for any irregular projections on the bottom of the button, also room for the forks of the plate K below the level of said platform.

The operation of these parts is as follows: The jaws are held apart by the spring W, as seen in Fig. 1, with the plate K as far forward as possible on the jaw. A shoe-button having a staple inserted in its eye is placed with the button-eye flatwise in the slot 3, and its body

T above the platform *b* and wedge-plate K, and the staple-loop beneath in the arch-groove *m* of the upper jaw. As thus placed, the plate K is pulled back toward the joint-pivot by its upturned end *k*, the former riding upon the incline bed G beneath, and its free ends *l l* also ride upon similar inclines, *p p*, on the end of the jaw, thus raising the button vertically and wedging the staple-loop firmly in the arch-groove *m*. As thus held, the downwardly-pointed staples' ends can be easily forced through the leather or material when placed between the staple and lower jaw.

In Fig. 1 is shown other distinctive features of my invention, located in the lower jaw, B, in which are pivoted two carriers, C C, mounted between the part *r* and B in an upright position, so as to present their upper faces above the connecting-anvil X, which joins the end guide and support plate, *r*, to the main portion of the lower jaw, a perspective view of which with the carriers omitted is shown in Fig. 7. *i' i'* are holes through the part *r*, and i^2 i^2 are corresponding holes in the part B, and i^3 are holes in the lower portion of the carriers C.

The manner of mounting these parts is such that the conveyer on the left side, having its lower portion about one-half the thickness of its upper part, as shown in Fig. 9, is mounted with the hole i^3 on the right of the center of the jaw, taken vertically, as seen by dotted lines, Fig. 2, by the pin *i* passing through the hole i^3, and secured in the hole i^2, and the conveyer on the right side being a fac-simile in shape, but made for the right side, the thinner parts of which are inserted between the part *r* and the carrier-arm, so as to cross each other, in which position it is also pivoted by the pin *i* upon the left of the center line. The conveyers C C being thus mounted with their upper faces supported directly beneath the upper jaw and in a line parallel with each other over the anvil X, as seen in Figs. 1, 2, and 3, and their upper faces provided with recesses or countersunk holes 2 2 near their line of contact, said holes or recesses being of sufficient depth and suitable shape adapted to receive and control the points of the staple in their outward movement, as will hereinafter appear, said countersunk recesses 2 2 may have their adjacent sides filed out, so they will partially converge when placed together, as shown in Fig. 1, or at *g*, Fig. 9, into each other as one when in an upright position, and when spread apart provide guides for the staple-points as they slip across their face in the act of being clinched against the fabric.

In Fig. 8 is shown a double spring, S, secured to the lower jaw at S^2 by any suitable means. S' S' are the free ends thereof, which project forward to and on the outside of the sides of the lever-extensions *t t* of the said carriers, as seen in Figs. 1, 2, 3, and 8. The object of this spring S is to return the conveyers C C to their normal or upright position, as will hereinafter appear.

It will be seen that the portion of the jaw B marked X, Fig. 7, and dotted lines, Fig. 3, provides a rigid connection to the end guard-plate, and also serves as an anvil to further clinch the staple when brought in contact by the upper jaw. The part *r* may be made detachable and secured to the end of the jaw by other means, such as a screw passing through it into the anvil X. In some cases it may be found preferable to omit the lower portion of said part *r* and secure the pivoted carriers to the end of the jaw B by screws or rivets in such a manner as to admit of the movement of said carriers, as described, and the upper part thereof remaining as a guard to steady the jaws C C in their outward movement.

The operation of these parts is as follows: The button T having the staple 4 in its eye and arranged in the upper jaw, as heretofore described, and as seen in Figs. 2 and 3, with the points of the staple directly over the recesses 2 2 in said carriers, and the fabric placed over the lower jaw, the levers H H are then pressed together, the staple-points pierce the fabric and enter the countersunk depressions 2 2, (see Fig. 2,) the spring S retaining the conveyers C C in the upright position shown until the staple ends have entered said depressions. Then, as the pressure continues, the said staple-points begin to spread and drive the jaws C C apart, confining the said points in said depressions until they have reached their limit in spreading apart in a line with each other, when the said points escape the outer edges of the said depressions 2 2, thereby changing the pressure of the upper jaw upon the staple-points to that of the middle or inner part directly beneath the arched groove *m*, from which they are bent in an acute angle up against the fabric.

The converging recess-guides at *g* (shown plainly in Fig. 9) act as guides to the staple-legs in their upward movement, and prevent the staple from slipping from the carriers while being further pressed against the anvil X, Fig. 3 showing the movement completed and the staple firmly set to the fabric. While the several parts of the implement are in the positions described, the spring S has had its ends S' S' spread apart by the lever-extensions *t t*, as shown. When the levers H H are released, the jaws open automatically by the spring W, and the conveyer-jaws C C are returned to their upright position by the spring S. The sliding wedge K is then pressed forward to release the button and staple.

In carrying out my invention it will be observed that the button-holding device K would secure a button and staple by sliding upon the incline G only with the inclines on the end of the jaw and plate omitted, provided the plate were made of sufficiently heavy material to retain its form without bending; also, the said plate would operate to hold the button were the inclines *p p* omitted, in which case the inclined ends *l l* would act as a support to that portion of the plate, which would enable the said plate to be made of very thin

sheet metal. It will also be observed that the said button-holding device K would operate the same were the platform *b* omitted; but by doing so in many cases would so weaken the jaw as to impair it for hard use in attaching staples. The main object of this part of my invention is to firmly hold a button and staple by a slide plate raising upon inclines, after which said plate is retained in position by friction between the latter and the jaw at G.

Having thus described my invention, what I claim is—

1. In an implement for attaching buttons by staples, the jaw A, having the incline G, and slot 3, and furnished with the sliding plate K, having the slot 12, and means for securing said slide to the jaw, substantially as described.

2. The jaw A, having the slot 3 and incline G and *p p*, and furnished with the plate K, having the slot 12 and inclined ends *l l*, movably secured to said jaw, substantially as described.

3. The jaw A, having the slot 3, incline G, and platform *b*, and furnished with the slide-plate K, having slot 12 and inclined ends *l l*, and movably secured to said jaw, substantially as described.

4. In an implement for attaching buttons, the jaw B, furnished with the conveyers C C, provided with recesses 2 2, and pivoted to the jaw so as to cross each other, and adapted to carry the staple-points apart after being forced through the fabric, substantially as described.

5. In an instrument for attaching buttons, the combination, with a jaw provided with means for holding a button and staple, of the jaw B, furnished with the carriers C C, jointed to the jaw so as to cross each other, and adapted to carry the staple-points apart after being forced through the fabric, substantially as described.

6. In an implement for attaching buttons, the jaw B, furnished with the carriers C C, jointed to the jaw so as to cross each other, and adapted to carry the staple-points apart, and provided with a spring for returning the carriers inward, substantially as described.

7. In an implement for attaching buttons by staples, the jaw B, having the anvil X, and furnished with the conveyers C C, pivoted to the jaw, and adapted to operate substantially as described.

8. In an implement for attaching buttons by staples, the jaw B, having the end guide, *r*, and furnished with the upright carriers pivoted to the jaw, and the spring S, substantially as described.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 18th day of June, 1883.

JOHN H. GOODFELLOW.

Witnesses:
MICHAEL JOYCE,
A. E. PRENTISS.