

(No Model.)

J. H. GOODFELLOW.

TOOL FOR ATTACHING BUTTONS TO SHOES.

No. 288,229.

Patented Nov. 13, 1883.

Fig. 1.

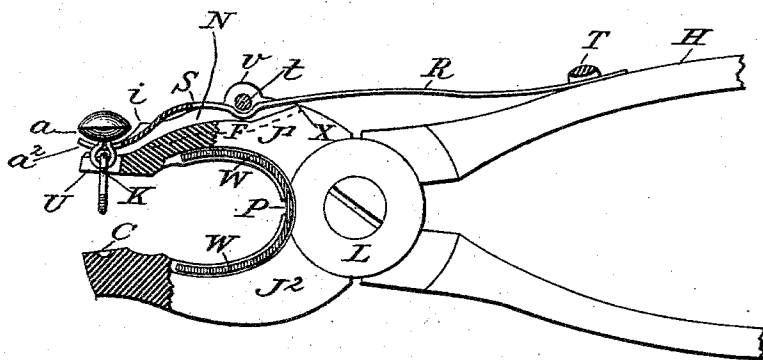


Fig. 4.

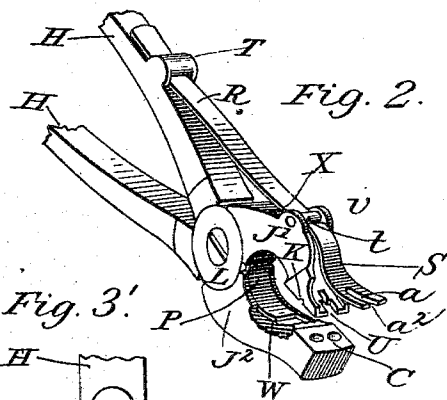
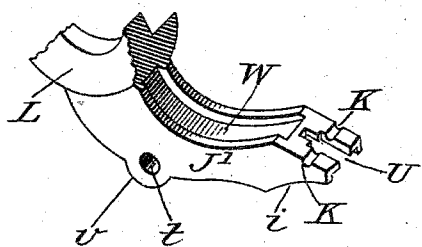


Fig. 3.

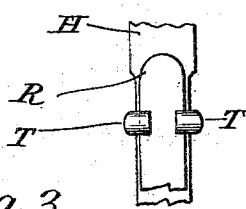
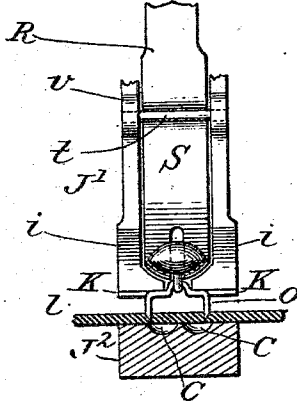


Fig. 3.



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UNITED STATES PATENT OFFICE.

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TOOL FOR ATTACHING BUTTONS TO SHOES.

SPECIFICATION forming part of Letters Patent No. 288,229, dated November 13, 1883.

Application filed April 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOODFELLOW, of 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 forced through the leather or material, and are clinched on the other side of the latter by devices in which the jaws are provided with various additional mechanism to attach the button and staple.

Heretofore in this class of implements the various arrangements for holding the button and staple, the latter in a vertical position to the upper jaw, have in many cases been unreliable in controlling the position of the staple while being driven through the fabric, and in others the button and staple would fly from the implement upon moving its levers; also, the clinching mechanism of the lower jaw were inadequate in controlling the course of the staple-points while being clinched against the fabric.

My invention has for its objects to simplify the construction of such devices, so as to reduce the cost of production, and to make them better applicable for the use designed without any of the aforesaid defects.

In the accompanying drawings, forming a part of this specification, there are five figures illustrating my invention, and in all of which the same designation of parts by letter reference is used.

Figure 1 shows a side elevation of my improved device, with parts of the upper jaw and a top release-spring shown in vertical section, also shows part vertical and side elevation of an auxiliary spring partly embedded in a groove on the inside of the jaws, between the nipper-points and their joint-pivot. Fig. 2 illustrates in part sectional and perspective

the same device that is shown in Fig. 1, parts of the handles omitted. Fig. 3 represents an end elevation, partly in section, of Fig. 1. Fig. 3' represents a plan view of a portion of one of the levers connected to a spring-lever, shown broken in Fig. 3. Fig. 4 represents a perspective view of the under side of the upper jaw, all hereinafter described.

Similar letters of reference in the several figures of the drawings refer to like parts.

J' and J² indicate the two jaws of the device, and H H its two handles, which are connected by means of the intermediately-placed joint-pivot, (indicated at L.)

The letter S designates a release-spring, retained at V by the pin t to the top of the jaw J'. Said spring is provided with an extension marked R, the latter being movably connected to the handle H by passing beneath the nibs or bars T, and, being also attached at V, forms a lever to move the end of the spring S vertically in an opposite direction to the jaw as the handles are opened or closed.

The letter a' represents a slot in the end of the spring S, which has its ends a turned slightly up to prevent the button from slipping off.

The jaw J' has in its end a slot, U, directly beneath the slot a', and has in its under surface two half-round grooves, K K, (see Fig. 4,) extending at right angles to the slot U, on either side thereof.

The lower jaw, J², has in its upper face two concave recesses, c c, shaped and arranged as shown in Figs. 2 and 3. The recesses c c are made smooth and shaped so as to guide and turn inward the end parts of the staple when forced into the recesses by the upper jaw.

The operation of these parts is as follows: The part R of the spring S opens the pliers wide enough to release the spring S and permit it to come in contact with the top face of the upper jaw. A button having a staple in its eye is placed over the spring S, with the eye of the button edgewise in the slot a' and U in the ends of the jaw and spring, the body of the button resting in the curved pocket formed by the upturned ends of the spring at a, the staple-shoulders o o resting in the

grooves K K in the under face of said jaw, the points of the staple now standing directly over the recesses *c c*, and parallel thereto. As thus placed, the handles H H are pressed together, move the lever-spring R, and by means of the fulcrum at *t* raise the spring S, bringing it into play vertically, lifting the body of the button, on which the pressure increases as the pliers are brought together, thereby holding the shoulders of the staple firmly in the cross-recesses K K. As thus held, the downward-pointed staple ends are forced through the fabric to clinch upon the under side thereof, as pressed against the depressions *c c* in the upper face of the under jaw, J².

In Fig. 1 is shown a stop or check, which may be made in the construction of the top of the jaw J', as shown at *x*. (A set-screw at that point, which might be raised or lowered, would answer the purpose.) The object of this stop is to provide means to intercept the downward movement of the spring-lever R at that point after the latter has raised the part S sufficient to hold the button, and also to cause the spring-lever R to react upon the handle H to open these jaws. Were this check omitted, the lever R would continue its leverage upon the button the whole distance of its stroke, and would act to open the implement only when the spring S was held down by a button and staple.

In Fig. 4 is shown a groove, *w*, cast or milled into the body of the jaw J' and J², on the inner side, between their joint-pivot and faces of their jaws, as plainly shown in Figs. 2 and 4, and when the two jaws are mounted together (see Fig. 1) said grooves are continuous between the jaws. In this groove *w*, I mount a U-shaped spring, P, which nearly fills said groove, there being sufficient room left for play of the spring endwise, as its expansion and contraction may require. The object of this spring is to provide means which, in connection with the spring R, will open the jaws when the check-seat *x* is not used. It is not absolutely necessary that the spring P should be embedded, but might simply be fastened in position by either a rivet or screw. It is not necessary that this spring should be located between the jaws, as shown in my drawings, but might be located between the handles or in the joint-pivot, as in any of the known ways of the art may answer my purpose in this particular.

The connection at *v* may be made in any of the known mechanical ways that may admit of the spring rocking. In this case I show an ordinary pin, *t*, and the connection at T may be made in like manner, (see Fig. 2,) or by nibs, as seen at Fig. 3', with sufficient play between them and the handle to admit of the free movement of the extension R on the handle H.

In some cases the nibs T may be dispensed with and the extension R extended farther over the handle and held between the hand

and handle or pressed by the thumb to raise the button and hold the staple.

In the drawings shown in Figs. 1 and 3 is a recess on the top of the jaw and beneath the spring S, and has its sides extended high enough at *v* to provide means for securing the pin *t*, and immediately beneath the latter is the bearing of the fulcrum-lever joint. The sides of said recess are cut away, as indicated at *i*, for the accommodation of larger buttons. (Plainly shown in Figs. 1, 2, and 4.)

Having thus described my invention, what I claim is—

1. In an implement for attaching buttons, the combination of the upper jaw, J', having a slot, and the spring S, having the extension R, engaging with the handle H, and attached to the said jaw in advance of the joint-pivot, as and for the purpose specified.

2. In an implement for attaching buttons, the combination of the upper jaw, J', having a front vertical slot, and the spring S, having the auxiliary extension R, engaging with the handle H, and its front end slotted and curved upwardly, and the spring S, movably attached to the jaw J' in advance of the joint-pivot, whereby a fulcrum is formed for raising and lowering the spring S as the jaws are opened and closed, as set forth.

3. In an implement for attaching buttons, the combination of the jaw J', constructed with an opening in its front end and cross-recesses K K in its under surface, at right angles to said opening, with the spring S, having the extension R, engaging with the handle H and attached to the jaw J' in advance of the joint-pivot, with its front end slotted and curved upwardly, as and for the purpose described and set forth.

4. In an implement for attaching buttons, the combination of the jaw J', constructed with a front vertical slot, the spring S, movably attached to the said jaw in advance of the joint-pivot, and its front end slotted and turned upwardly, and the lower jaw, J², constructed with the curved recesses *c c* in its upper surface, as and for the purpose described and set forth.

5. In an implement for attaching buttons, the combination of the upper jaw, J', constructed with a recess extending longitudinally in the top of said jaw, and its sides, at the front end thereof, curved at *i i*, and the spring S, having its fulcrum in advance of the joint-pivot and its front end slotted, with the extension R, whereby said extension may communicate leverage to the part S, as and for the purpose described.

6. In an implement for attaching buttons, the combination, with the upper jaw, J', having the grooves K K and front vertical slot, U, of a lever, R, provided with the part S, having its fulcrum in advance of the joint-pivot, and an auxiliary spring, P, arranged to operate in conjunction with the lever R, substantially as described and set forth.

7. In an implement for attaching buttons,
two jaws, J' and J², the latter provided with
means for deflecting the points of a staple, and
the former with the cross-grooves K K, ar-
5 ranged as described, a front vertical slot, and
means for raising vertically a button having
a staple provided with shoulders in its eye,
substantially as described.

In testimony whereof I have hereunto set
my hand, in the presence of two subscribing
witnesses, this 16th day of April, 1883.

JOHN H. GOODFELLOW.

Witnesses:

RICHARD GREEN,
AUSTIN F. PARK.