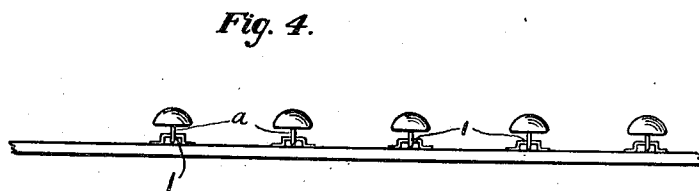
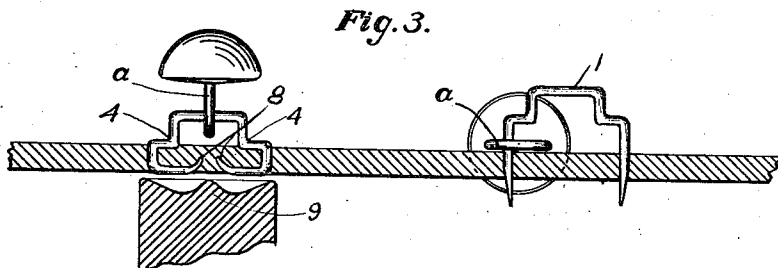
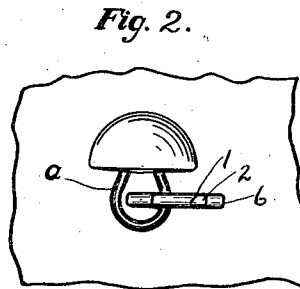
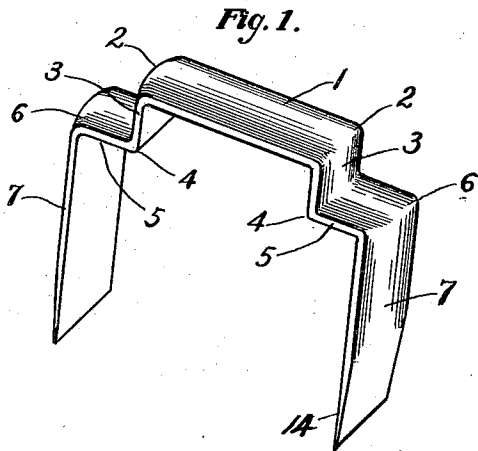


F. L. HARMON.
SHOE BUTTON STAPLE.
APPLICATION FILED APR. 28, 1914.

1,262,782.

Patented Apr. 16, 1918.



Witnesses:

Louise A. Jordan
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by Clyde L. Rogers
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UNITED STATES PATENT OFFICE.

FRANK L. HARMON, OF BEVERLY, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHOE-BUTTON STAPLE.

1,262,782.

Specification of Letters Patent.

Patented Apr. 16, 1918.

Application filed April 28, 1914. Serial No. 834,914.

To all whom it may concern:

Be it known that I, FRANK L. HARMON, a citizen of the United States, and resident of Beverly, county of Essex, Commonwealth of Massachusetts, have invented an Improvement in Shoe-Button Staples, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts in each of the several views.

This invention relates to staples and particularly to staples for special uses. For purposes of illustration the invention is shown as embodied in a button attaching staple a particular object of the invention being an improved staple for attaching shoe buttons or the like whereby the buttons may be attached more securely and yet with greater adaptability to the purposes which they subserve.

Other objects and important features of the invention will appear from the following description and claims when considered in connection with the accompanying drawings, in which,—

Figure 1 is a perspective view of one of the staples which constitute the subject-matter of this invention;

Fig. 2 is a plan view, illustrating the manner in which the securing of the shoe button to the upper by means of the staple is effected;

Fig. 3 is a sectional view showing portions of the staple applying mechanism and the manner in which the staple is inserted and clenched, and

Fig. 4 is a perspective view of a piece of stock to which buttons have been attached by means of the staples, this view illustrating particularly the adjustability of the buttons when thus secured.

Ordinary button fastening staples comprise a pair of legs and a head having a curved button eye receiving notch or recess and two inclined connecting portions extending from this notched or recessed portion to the legs. These staples are usually formed of round wire and the notch or groove is just large enough to receive the button eye. A driver embracing the notched or recessed portion of the staple and engaging the shoulders or connecting portions just described is used to drive the staple

when a button is to be attached and the staple is so driven and clenched that its ends curl back up into the stock. With this type of staple it is essential that the buttons be attached with great care and in locations exactly corresponding to the locations of the buttonholes in the other side of the upper, a condition which it has been found impossible to more than approximate in practice. The result is that there is more or less strain upon the buttons lengthwise of the staple and thus they tend to wedge under the rounded shoulder between the notch and the inclined connecting portions of the head whereby they tend to work the staple loose in the stock and thus to cause the button to become detached. Frequently this strain lengthwise of the staple tends to turn the staple over in the stock owing to the insecure fastening which is possible with a staple of the construction described.

An important object of this invention is to provide a staple which will allow the button to adapt itself to inaccuracies in its setting and which, moreover, will so securely attach the button that the button cannot work the staple loose, even if the provision for adjustment is not sufficient to prevent longitudinal strain upon the staple. To this end the illustrated staple is preferably made from material of such a cross-section that its inside face is perfectly flat and will lie flat against both sides of the stock, the staple being so shaped that the button receiving recess is of such an extent as to provide for a movement of the button eye lengthwise thereof upon the bar 1 to permit the button to adapt itself to inaccuracies either in the setting of the staple or in the location of the buttonholes, this recess being herein shown as formed by bending the material so that there are two substantially right angles 2 between the top 1 and sides 3 of the recess, and two more substantially right angles 4 between the sides 3 of the recess and the portions 5 which connect the recess with the vertical legs 7 of the staple. The connecting portions 5, being parallel to the bar 1, will thus lie flat upon the upper surface of the stock, as shown at the right portion of Fig. 3, when the staple is clenched and there will be no opportunity for the button eye to wedge itself under either of the shoulders 4 between the

horizontal portions 5 and the sides of the recess. The connecting portions 5, or at least one of them, are preferably of such length that a staple leg and its adjacent portion 5 may be driven through the eye of the button in the button stapling operation, as shown at the right, in Fig. 3.

To provide for effective gripping of the inner or under face of the stock when the legs are clenched, the points upon the staples are formed by simply beveling the outer faces of the legs down to or approximately to the inner surfaces, as shown at 14 in Fig. 1. Thus the flat inner faces of the staple legs are effective in securing a firm grip upon the stock when the staple is clenched, as shown in Fig. 3. Moreover this permits the use of a clenching cavity which is comparatively shallow, since the bevels tend to turn the staple legs toward each other and therefore the staple when clenched will not project appreciably, if at all, above the inner or under surface of the stock, thus contributing to the comfort of the wearer of the shoe.

In connection with the use of the expression "right angle" in the specification and claims, it will be understood that allowance is made for such rounding of the corners as is necessary for or incidental to proper bending of the material from which the staple is formed, the expression being intended to define general directions and effects and substantial characteristics.

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

1. A staple formed of wire flat upon the inner faces of said staple, said staple comprising a head having a substantially rectangular elongated recess, a pair of legs and connecting portions between the recessed portion of said head and said legs extending outwardly from the recess at substantially right angles to said legs.

2. As a new article of manufacture, a button attaching staple comprising a pair of legs, a head having an elongated recess therein formed by a substantially straight button retaining bar upon which the button may adjust itself and two end bars arranged at right angles to the first mentioned bar, said staple having stock engaging portions connecting said recessed portion with said legs.

3. A staple having two legs of substantially equal length, a head provided with a substantially rectangular elongated recess

and comprising portions extending from said recessed portion to said legs at substantially right angles to said legs, said staple being formed of wire flat upon the inner faces of said staple and beveled at the entering ends of said legs from its outer surface substantially to its inner flat face.

4. A button attaching staple comprising a pair of legs, a head having formed therein an elongated button eye receiving recess with sides substantially parallel to said legs and having stock engaging portions connecting said sides with said legs, both of said stock engaging portions extending outwardly from the recess and at substantially right angles to said legs and one of them being of such length that it together with the adjacent leg may be inserted through the button eye in the button stapling operation.

5. A button attaching staple comprising a pair of legs, a head having formed therein an elongated recess providing a substantially straight elongated button retaining bar upon which the button may adjust itself and having stock engaging portions connecting said recessed portion with said legs, said stock engaging portions being substantially parallel to said button retaining bar and being of such length that one of them together with the adjacent staple leg may be driven through the eye of the button in the staple driving operation.

6. A button attaching staple having a head comprising end portions and a substantially straight elongated button retaining bar upon which the button may adjust itself, and stock engaging portions lying flat upon the stock, extending outwardly from the head in substantial rectangularity with the end portions thereof whereby the wedging of a button eye under a stock engaging portion is avoided, and a leg at the outer end of each stock engaging portion.

7. A button attaching staple having a pair of legs and a head comprising a substantially straight elongated button retaining bar upon which the button may adjust itself, and stock engaging portions lying flat upon the stock, extending outwardly from the head and joining the head to the legs.

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

FRANK L. HARMON.

Witnesses:

LOUISE A. JORDAN,
CLYDE A. ROGERS.