(No Model.)

A. I. CROWELL.

SHOE LACE FASTENING.

No. 473,615. Patented Apr. 26, 1892.

Fig. 1.

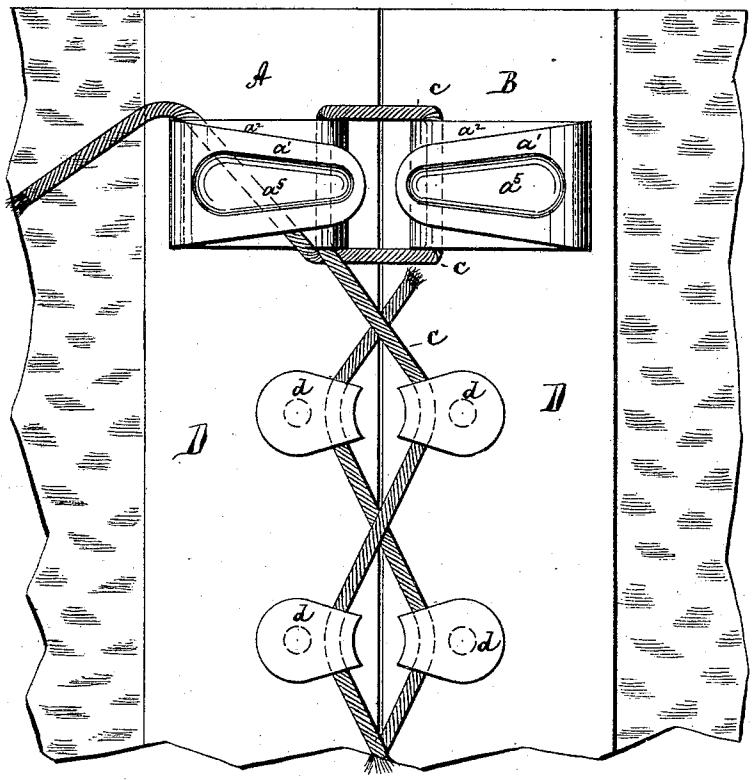


Fig. 2.

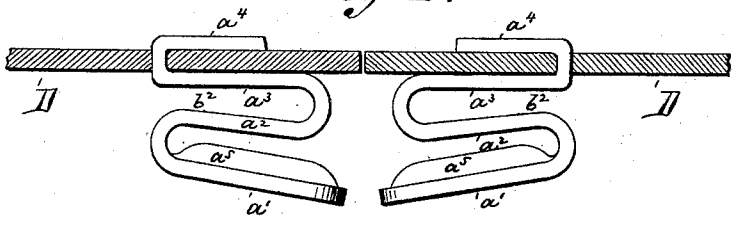
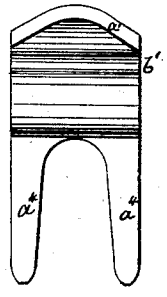


Fig. 3.



WITNESSES:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALBERT I. CROWELL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO FREDERICK B. GODDARD, OF SAME PLACE.

SHOE-LACE FASTENING.

SPECIFICATION forming part of Letters Patent No. 473,615, dated April 26, 1892.

Application filed June 22, 1891. Serial No. 397,044. (No model.)

To all whom it may concern:

Be it known that I, ALBERT I. CROWELL, of New York city, New York, have invented an Improved Button, of which the following is a specification.

This invention relates to a button of the kind which grasps the end of a lacing-string, so as to avoid tying, such as illustrated in Patent No. 418,689, granted to me January 7, 1890.

The invention consists in the various features of improvement more fully pointed out in the claim.

In the accompanying drawings, which are on an enlarged scale, Figure 1 represents a top view of a pair of the buttons, showing them in use; Fig. 2, a side view of the same; Fig. 3, a front view of the button before the prongs are upset.

The entire button is made of one piece of bent sheet metal; but for the sake of greater clearness the different parts will be designated by different letters of reference.

The button consists of a long and narrow strip of metal bent twice upon itself, first forward and then backward. Thus there is formed a top section a', a central section a^2, and a bottom section a^3. Between the sections a' a^2 there is formed a hook b', opening forward, and between the sections a^2 a^3 there is formed a hook b^2, opening rearward. The sections a' a^2 a^3 may be either parallel or slightly converging, as shown, so as to better grasp the string c. The upper section a' is somewhat longer than the central section a^2, and it is sunk at the center, as at a^5, so as to readily engage or clasp the string. This sunk portion forms an inwardly-projecting bulge, which permits the string to be readily guided into the fastener, and which then bears with its center upon the string to tightly clasp it in place. In this way the string may be readily inserted, and it will not be cut or injured under strain. The lowermost section a^3 terminates in a pair of prongs a^4. These prongs are upset after having been driven through the shoe or other article D to which the button is attached.

In use ordinary lacing-hooks d are applied to the shoe, corset, &c., excepting at the top, where two of my improved hooks are attached. Each string c is, after being drawn through the hooks d in the usual manner, confined at the top by being drawn through the hooks b' b^2 of my improved buttons A B. The preferable mode of attaching each string is by drawing it first through the hook b^2 of the button A, thence through hook b^2 of button B, and thence through the hook b' of button A. This operation can be quickly performed and will tightly bind the string, the button at the same time presenting a neat appearance.

What I claim is—

The lacing-button described, consisting, essentially, of a single piece of sheet metal having one end formed with the penetrating-prongs a^4 a^4 and its opposite end depressed so as to form an inward bulge a^5, which presents a smooth clamping-surface to the lace, said strip being bent twice upon itself so as to form oppositely-directed loops and the upper loop having the bulged portion a^5 lying within its plane, substantially as specified.

ALBERT I. CROWELL.

Witnesses:

F. B. GODDARD,

F. V. BRIESEN.