(No Model.)

A. B. SILVERSTON.

FASTENER.

No. 574,009. Patented Dec. 29, 1896.

Fig. 1.

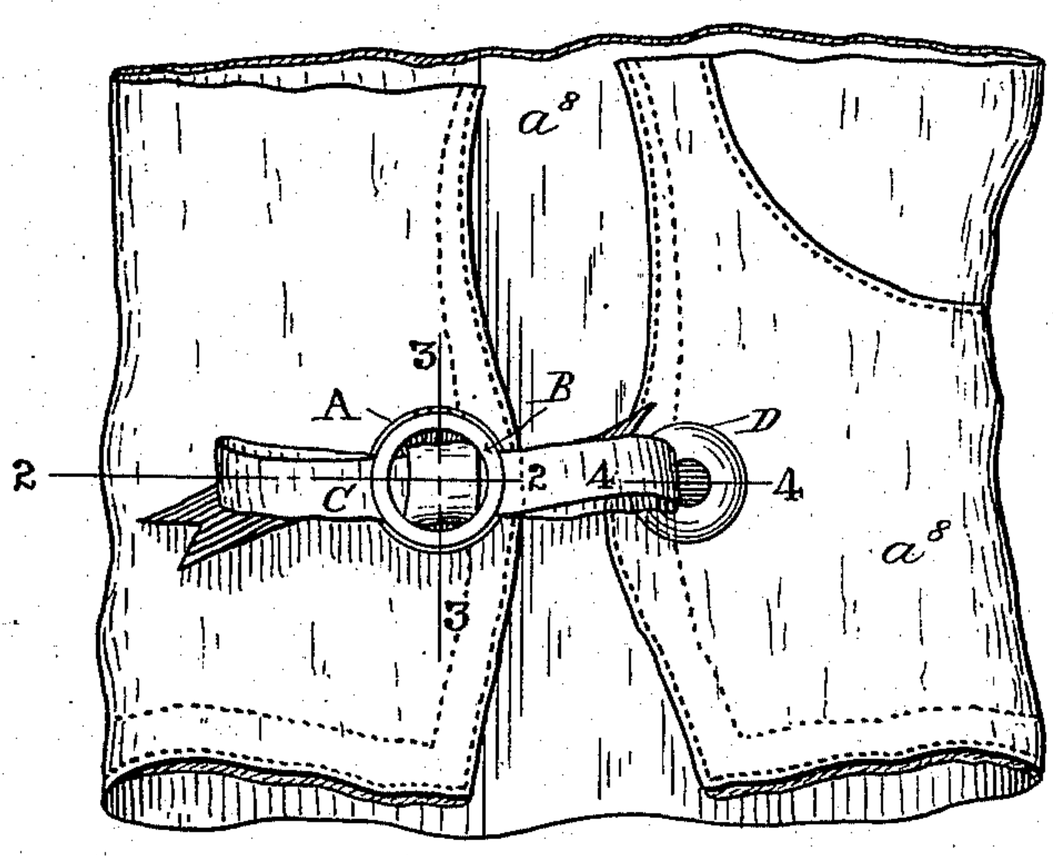


Fig. 2.

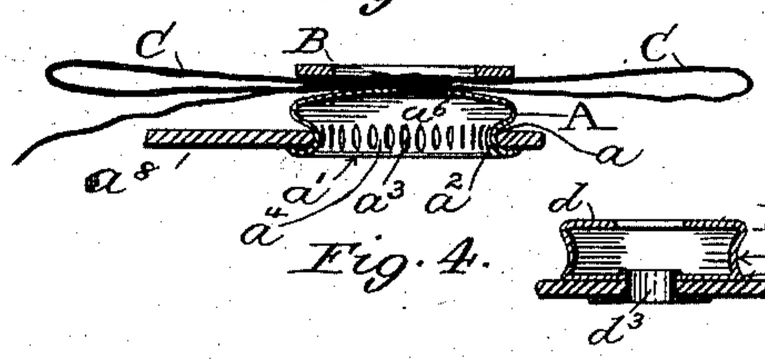


Fig. 3.

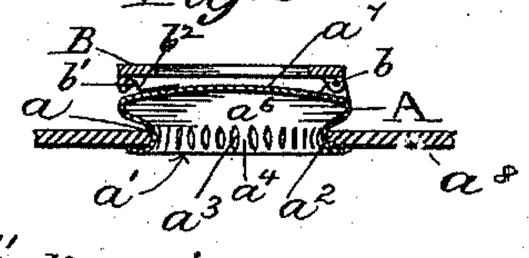


Fig. 4.

Fig. 5.

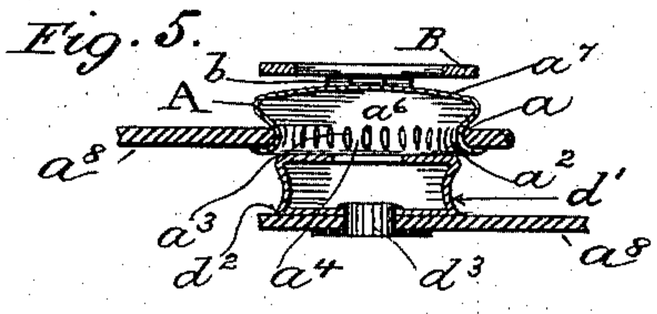


Fig. 6.

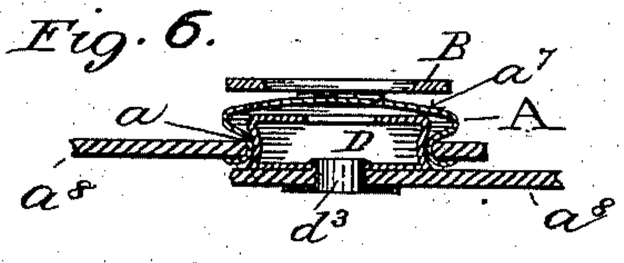
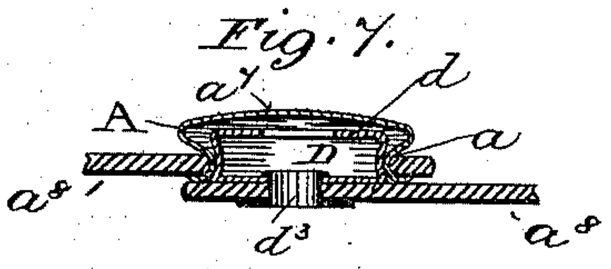


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

ANTHONY B. SILVERSTON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO CHARLIE THAW, OF SAME PLACE.

FASTENER.

SPECIFICATION forming part of Letters Patent No. 574,009, dated December 29, 1896.

Application filed January 27, 1896. Serial No. 577,063. (No model.)

To all whom it may concern:

Be it known that I, ANTHONY B. SILVERSTON, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented an Improvement in Fasteners, of which the following is a specification.

My invention relates chiefly to improvements in button-fasteners of the class now commonly used as glove-fasteners and in which a socket attached to one piece or portion of material receives a stud attached to another piece or portion; and the main objects of my improvements are, first, to provide a button of the class referred to in which a spring-socket will engage and hold the head of a stud; second, to provide a fastening which will be suitable for use as a shoe-button as well as a fastener for gloves and other like purposes; third, to provide a button which, while easily unfastened when an attempt is made to pull the stud straight out of the socket, will strongly resist the strain brought upon it when the pieces or portions of material to which the stud and socket are respectively attached are pulled sidewise in opposite directions; fourth, to provide a button which will be simpler, cheaper, stronger, and more durable than any fastener of the same general class heretofore devised, and, fifth, to provide means for detachably fastening bows or ornamental strips of fabric to a garment. I attain these objects by mechanism whose preferred form is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my improvement applied to a glove, shown unfastened. Fig. 2 is a cross-section, on an enlarged scale, of the outer portion of the fastening on line 2 2, Fig. 1. Fig. 3 is a similar view at right angles to Fig. 2 on line 3 3, Fig. 1, with the bow shown in Figs. 1 and 2 omitted. Fig. 4 is a cross-section, on an enlarged scale, through the stud on line 4 4, Fig. 1. Fig. 5 is a combination of Figs. 2 and 4 with the bow omitted, showing the stud and socket in position to be fastened by pressing the socket down over the head of the stud. Fig. 6 is a similar view showing the parts fastened together; and Fig. 7 is a view similar to Fig. 6, showing the button-fastener with the means for retaining a bow or strip of fabric omitted.

Similar letters refer to similar parts throughout the several views.

A represents the socket portion of the fastening. It is preferably made of an elastic sheet metal, such as sheet-brass, and preferably so stamped or otherwise formed into shape as to produce an annular depression or groove a, running around its outside between its mouth and its opposite end and preferably substantially parallel with the lip a' of the socket, and on its inner side a corresponding inwardly-projecting annular shoulder or ring a^2.

The shoulder or ring a^2 is divided by means of a series of perforations a^3 into a series of elastic segments a^4, which, however, do not necessarily extend clear across the ring. The forms of the perforations and segments shown are not essential, though desirable. The segments a^4 are curved or bowed between thread ends or points of attachment to the edges of the ring a^2 or the body of the socket-piece A, their convex faces being turned inward. Their outer ends are preferably joined by the lip or mouth a' of the socket and their opposite ends by the opposite portion a^6. The perforations a^3 are preferably in the form of slots running at substantially right angles to the central longitudinal line a of the shoulder or ring a^2, as shown. It is not essential that they shall extend clear across said ring. The top a^7 of the socket-piece A is shown closed, but that, though desirable, is not essential.

To the outer portion of my improved fastener a clasp or other fastening is preferably attached where the device is used at a point where it is desirable to place a bow or strip of ribbon or other fabric as an ornament. The special form of this fastener is not essential. It may be made in the form of a ring B, hinged to the outer portion of the fastener on one side and fastened opposite the hinge by means of a spring-catch. In the drawings this portion of the improvement is shown attached to the part A, the hinge being lettered b and the two portions of the

catch b' and b^2, respectively. As will be observed, the hinge and catch are of common and well-known forms.

C, Figs. 1 and 2, represents a bow of ribbon held in place by the ring B.

The socket-piece A is preferably attached to the material a^8, in connection with which it is used, by inserting it in a hole in such material and preventing its escape by causing the edges of the material to enter the annular groove a and be clasped between the lip a' and the top a^7, thus substantially riveting the part A in place. When the part A is thus attached, the perforations through it are preferably hidden by the material to which it is fastened, except when the inside of the socket is examined.

D, Figs. 1, 4, 5, 6, and 7, represents a stud adapted to enter and be engaged by the socket A. Its head d is slightly larger than the inside of the shoulder or ring a^2 of the socket, and in order to pass such ring it has to bend the latter's segments outward, and thus slightly enlarge its inside diameter. Below the head d the diameter of the stud should be smaller than that of the head at its widest part, substantially as shown at d', so as to allow the segments of the ring a^2 to spring inward when the head d of the stud passes them. It is immaterial whether the diameter of the inner end d^2 of the stud be widened so as to be approximately the same as that of the head, as shown, or not, as will be obvious. As shown, the seat d' in the stud for the ring a^2 curves outward toward the outer end, and this form of seat is preferred, as it enables the stud to escape from the socket more readily than would otherwise be possible without preventing the socket from holding the stud as strongly as is necessary. The stud may be made in the shape shown and fastened in position by means of a rivet d^3, but, as will be obvious, that special shape and method of fastening are not essential.

It is easy to regulate the force required to fasten and unfasten my button-fastener by making the diameter of the head of the stud larger or smaller in proportion to the inner diameter of the socket-ring. Where considerable force is necessary to expand the ring far enough to admit the head of the stud, it is almost impossible to disengage it by pulling the pieces of material to which the stud and socket are respectively attached in opposite directions sidewise. The elastic strength of the ring a^2 may also be varied in ways which will be obvious.

My improved fastener is not only strong, simple, and durable, but may be manufactured very cheaply.

I claim—

1. In a fastener-socket, an annular concavity on the outside and a corresponding annular convex portion on the inside; a series of perforations dividing said concavo-convex portion into inwardly-curved elastic segments, an annular unbroken outer part joining the outer ends of the segments together and an annular unbroken inner part joining the inner ends of said segments together substantially as described.

2. In a fastener-socket, an annular concavity on the outside and a corresponding annular convex portion on the inside; a series of perforations dividing said concavo-convex portion into inwardly-curved elastic segments; an annular unbroken outer part formed integral with said segments and joining their outer ends together, and an annular unbroken inner part, made integral with said segments and joining their inner ends together substantially as described.

3. In a fastener-socket formed of an elastic material, an annular concavity on the outside, a corresponding convex portion on the inside; a series of perforations dividing said concavo-convex portions into inwardly-curved segments an annular unbroken lip a', joining the inner ends of said segments; the annular unbroken part a^6 joining the outer ends of said segments; and the top a^7 all formed in one piece substantially as described.

4. A fastener-socket formed in one piece of an elastic material, and having an annular concavity on the outside, a corresponding convex portion on the inside a series of perforations dividing said concavo-convex portion into inwardly-curved segments, an annular unbroken lip a' connecting the inner ends of said segments and the annular unbroken part a^6 joining the outer ends of said segments and the top a^7, and a piece of fabric surrounding said socket and held within the said annular concavity and between the lip a' and the part a^6 substantially as described.

5. The combination in a fastener of a stud; a socket having an annular concavity on the outside, and a corresponding annular convex portion on the inside, a series of perforations dividing said concavo-convex portion into inwardly-curved elastic segments, an annular unbroken outer part, joining the outer ends of the segments, and an annular unbroken inner part joining the inner side of said segments together; and a clasp attached to the outer member of said fastener for the purpose of detachably securing a bow thereto, substantially as described.

6. The combination in a fastener of a stud, a socket formed in one piece and having the inwardly-curved segments a^4 joined together at each end by unbroken annular parts; a ring B, a hinge securing said ring at one side to the outer member of the fastener and a catch securing it to the outer member of the fastener at the other side substantially as and for the purposes set forth.

ANTHONY B. SILVERSTON.

Witnesses:
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CHARLIE THAW.