

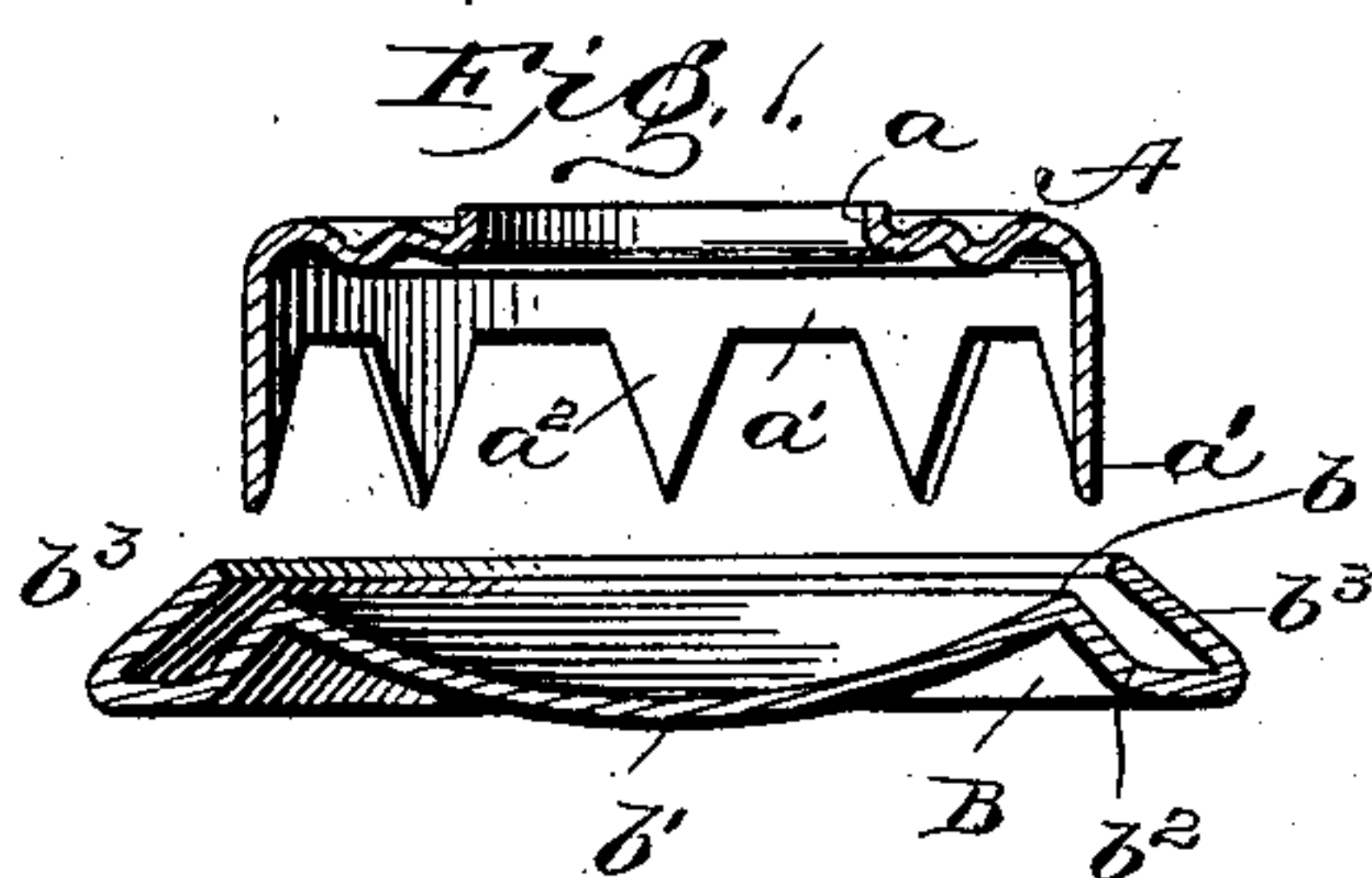
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Patented Dec. 10, 1901.

G. E. ADAMS.
SEPARABLE FASTENER.

(Application filed May 8, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE E. ADAMS, OF NEW BRITAIN, CONNECTICUT.

SEPARABLE FASTENER.

SPECIFICATION forming part of Letters Patent No. 688,278, dated December 10, 1901.

Application filed May 8, 1901. Serial No. 59,302. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. ADAMS, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Separable Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in so-called "ball-and-socket" fasteners or "snap-buttons," the object of the invention being to provide a simple device each member of which is composed of but two parts adapted to be applied to the fabric in a simple expeditious manner without previous perforation of the fabric and without puckering or distorting the fabric around the fastener.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be hereinafter described, and pointed out particularly in the appended claim.

Referring to the accompanying drawings, Figure 1 is a section through the two parts of the socket member of the fastener before they are assembled. Fig. 2 is a similar section taken through the two members of the fastener applied to two pieces of fabric.

Like letters of reference in both figures indicate the same parts.

Each member of the fastener—that is to say, the socket member and the ball member—is formed of but two parts, such parts being struck up from sheet metal, one part of each member having prongs or teeth for penetrating the fabric or goods to which the fastener is applied and the other part being provided with an annular retaining-recess for the points of the prongs or teeth, whereby the two parts are securely fastened in place on the fabric.

The two parts of the socket member are lettered A and B, the letter A indicating what I shall term the "inner" part, and B indicating the "outer" or "cap" part. The inner part A is formed with a central opening a , through which the stud C of the cooperating member may be passed, and with a peripheral down-

wardly-turned flange a' , from the edge of which prongs or teeth a^2 project, forming straight continuations in line with the flange. Prongs or teeth a^2 are somewhat widely separated and sharpened to readily penetrate the fabric or goods to which the member is applied, and they project straight or with their central lines parallel, whereby in passing through the fabric they do not tend to draw the same to a center, nor, on the other hand, do they tend to spread the fabric away from a point central of the body of teeth. With such an arrangement of teeth they may be passed through even very thin fabric and leave it smooth and free from wrinkles around the fastener. The outer or cap part, which coöperates with the inner part, is formed with an inwardly-projecting annular projection or ridge b , the inner side of said projection being extended to form a central outwardly-bulging dome b' and its outer side or wall being extended diagonally outward to form a deflecting-surface b^2 for turning the points of the teeth outwardly. The extreme edge b^3 of the cap is bent back substantially parallel with the incline b^2 , forming an annular chamber into which the ends of the teeth pass, the points of the teeth seating at the sharp outer corner of the chamber and their outer sides engaging the top of the chamber and edge b^3 . The opening into the chamber is of a width equal to the thickness of the teeth, and the diameter of the annulus formed by the edge b^3 is just large enough to admit the points of the teeth before they are deflected. By this construction relatively heavy teeth may be employed, and the holding edge engages them as near their bases as the thickness of the fabric will permit, or, in other words, the point of strain is brought near to the base of the teeth instead of being borne by the points or ends of the teeth. The flange a' between the teeth binds the fabric firmly down against the edge b^3 and ridge b , thereby preventing the fabric from pulling out around the fastener, and at the same time securing the fastener more firmly in place.

The stud member is formed with a resilient head C, having a base-flange c and teeth c' , corresponding in form and function to the like parts of the socket member. The outer

part of the stud member is preferably a concave disk D, adapted to turn the points of the teeth outward into an annular chamber or beneath the intumed flange d, the said
 5 teeth being of a thickness to substantially fill the chamber. This construction brings the point of strain near the base of the teeth or at their strongest point, whereby the liability of separation is reduced, and, furthermore,
 10 the fabric is firmly clamped by the flange c between the teeth.

No special machinery is necessary to apply either member of the fastener, as by placing the outer parts on a support and applying
 15 pressure, either steady or percussive, to the base of the annular flanges of the inner parts the teeth will be forced through the fabric and be spread and seated in the annular chambers, thereby completing the attaching
 20 operation. The fabric is not weakened and requires no previous perforation or other preparation. It will thus be seen that the fastener is well adapted for application as a substitute for ordinary buttons on garments,
 25 &c., and when applied the parts present a finished appearance closely simulating ordinary buttons.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

A member for separable fasteners of the character specified, composed of two parts; one part having an annular projection on the inner side, the outer wall of said projection being extended diagonally outward thereby
 35 forming a deflecting-surface, the inner side of said projection being extended to form a central dome, while the extreme edge of the outer wall is doubled sharply back on itself forming an annular retaining-chamber with
 40 substantially parallel walls; the other part of said fastener having a base-flange, a series of teeth projecting in line with and forming continuations of the flange and with their
 45 axes parallel, and said teeth being of sufficient thickness to engage the edge of the retaining-recess when deflected into said recess by the deflecting-surface whereby the said edge engages the teeth remote from their
 50 points, and the fabric is clamped down by the flange in the spaces between the teeth; substantially as set forth.

GEORGE E. ADAMS.

Witnesses:

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 STANLEY PARKER.