No. 821,007. PATENTED MAY 22, 1906.

F. R. WHITE.

FASTENER.

APPLICATION FILED AUG. 9, 1904.

Fig. 1.

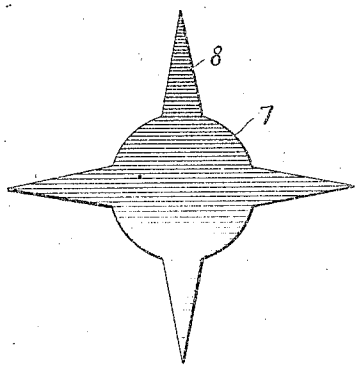

Fig. 3.

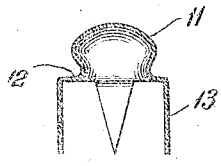

Fig. 2.

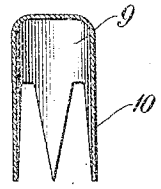

Fig. 4.

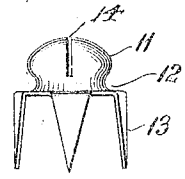

Fig. 5.

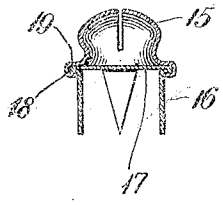

Fig. 6.

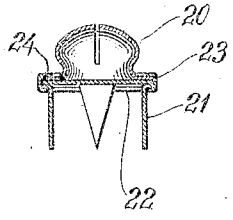

Fig. 7.

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FRANKLIN R. WHITE, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE PLATT BROTHERS & COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FASTENER.

No. 821,007. Specification of Letters Patent. Patented May 22, 1906.

Application filed August 9, 1904. Serial No. 220,036.

To all whom it may concern:

Be it known that I, FRANKLIN R. WHITE, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have made and invented certain new and useful Improvements in Fasteners, of which the following is a specification.

My invention relates to the ball member of a ball-and-socket fastener—such as are employed for use upon gloves, suspenders, &c.—the object being to produce an article of this kind or character which shall be of few parts, cheap to manufacture and assemble, and which may be easily and readily attached to the garment.

With these and other ends in view my invention consists in certain novel features of construction, as will be hereinafter fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 shows the blank from which the article is formed. Fig. 2 is a sectional view after the blank has been drawn down into cup form. Fig. 3 is a similar view of the finished fastener. Fig. 4 is a view of the same slotted in order to render the same resilient. Figs. 5 and 6 are sectional views of modified forms thereof. Fig. 7 is a plan view showing ball distorted.

My improved fastener is preferably constructed from a single piece of metal, the first step in the process being the formation of a blank of the shape as illustrated in Fig. 1—that is, a blank consisting of the disk 7, having pointed teeth or prongs 8 radiating therefrom. By means of proper tools (not shown) the blank is drawn down into cup shape, as illustrated in Fig. 2—that is, in somewhat the form of an eyelet 9, the lower edge of which is provided with the downwardly-projecting teeth or prongs 10. The eyelet is then upset, producing the ball 11, as illustrated in Fig. 3, and the base-flange 12, the pointed teeth or prongs 13 depending from the latter. It will of course be understood that the ball 11 when so constructed is devoid of resiliency and is to be employed in connection with a resilient socket member. When, however, the resiliency is to be obtained in the ball member instead of in the socket member, the ball 11 may be provided with a slot 14, as illustrated in Fig. 4, this slot 14 being formed after the eyelet 9 has been upset and converted into the shape of the ball 11. In securing this fastener in place the pointed teeth or prongs 13 are forced through the fabric until the shoulder or flange 12 rests on the latter, the piercing ends of the teeth being clenched or upset on the opposite side of the fabric, clamping the latter between said shoulder and upset ends of the prongs.

While I prefer to form the fastener of a single piece of metal, as before described, it will be evident that the fastener may be made of two or more parts—as, for instance, in Fig. 5 I have illustrated the fastener as made in two pieces—namely, the ball proper, 15, and the teeth or prongs 16, depending from the disk or plate 17—the lower edge 18 of the ball being bent or curled around the shoulder 19, formed at the junction of the teeth 16 and disk 17. Again, in Fig. 6 I have illustrated the fastener as consisting of three parts—namely, the ball proper, 20, the teeth 21, depending from the disk or plate 22, and a collet 23, fitting over and around the lower edge of said ball and under the shoulder 24, formed at the junction of said teeth and disk—said collet being employed for holding the remaining two parts in their proper relative positions. In each and all of these instances it will be noticed, however, that the fastener is complete in itself and ready to be attached in place without the aid of additional parts—such, for instance, as the fastening-eyelet now usually employed for securing and clamping the ball member to the fabric—the self-piercing teeth or prongs provided for the purpose of securing the ball in place being made integral with the ball proper or permanently secured thereto. This feature materially reduces the cost of the article and also the time and labor in attaching it to the garment or fabric.

As illustrated in Fig. 7, the ball 25 may be distorted from its round or spherical shape—that is, may be provided with one or more flat sides 26 or may be provided with an enlargement on its surface, so that its periphery, or impinging edge will be distorted from a round or circular shape. When so constructed, I have found that the ball will enter the socket with the same snapping effect as when made resilient by means of slots in the

ordinary way, it making little or no difference whether said ball be flattened at one of more places or provided on the surface or impinging edge with one or more enlargements, it simply being necessary to have the impinging edge distorted from the round or circular shape.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The ball member of a ball-and-socket fastener said member consisting of a ball proper provided with a base-flange and having the perimeter of said base provided with depending teeth or prongs, said head being upset in the direction of its axis and having one or more of its sides flattened.

Signed at Waterbury, in the county of New Haven and State of Connecticut, this 13th day of July, A. D. 1904.

FRANKLIN R. WHITE.

Witnesses:

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