

No. 656,475.

Patented Aug. 21, 1900.

W. S. RICHARDSON.
FASTENER FOR GLOVES, &c.

(Application filed July 21, 1897.)

(No Model.)

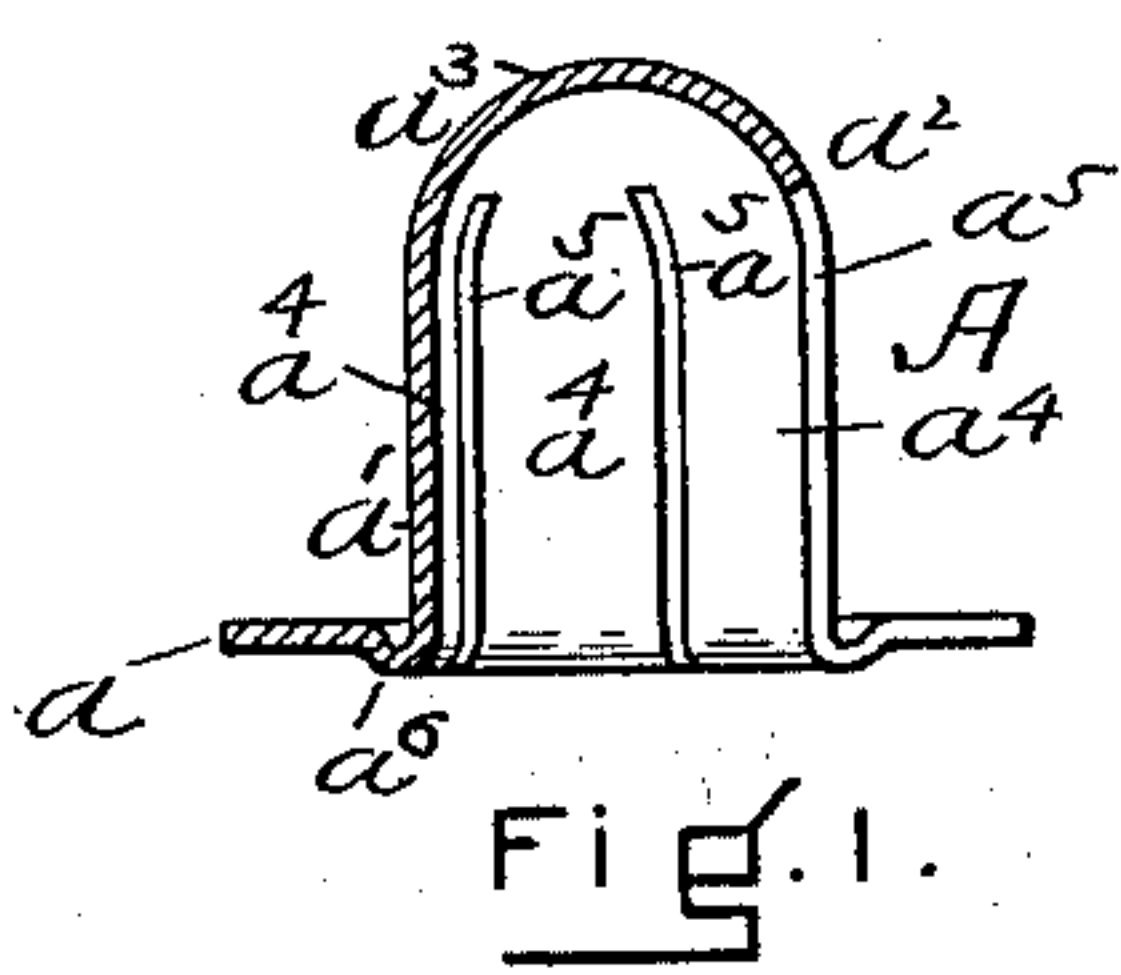


FIG. 1.

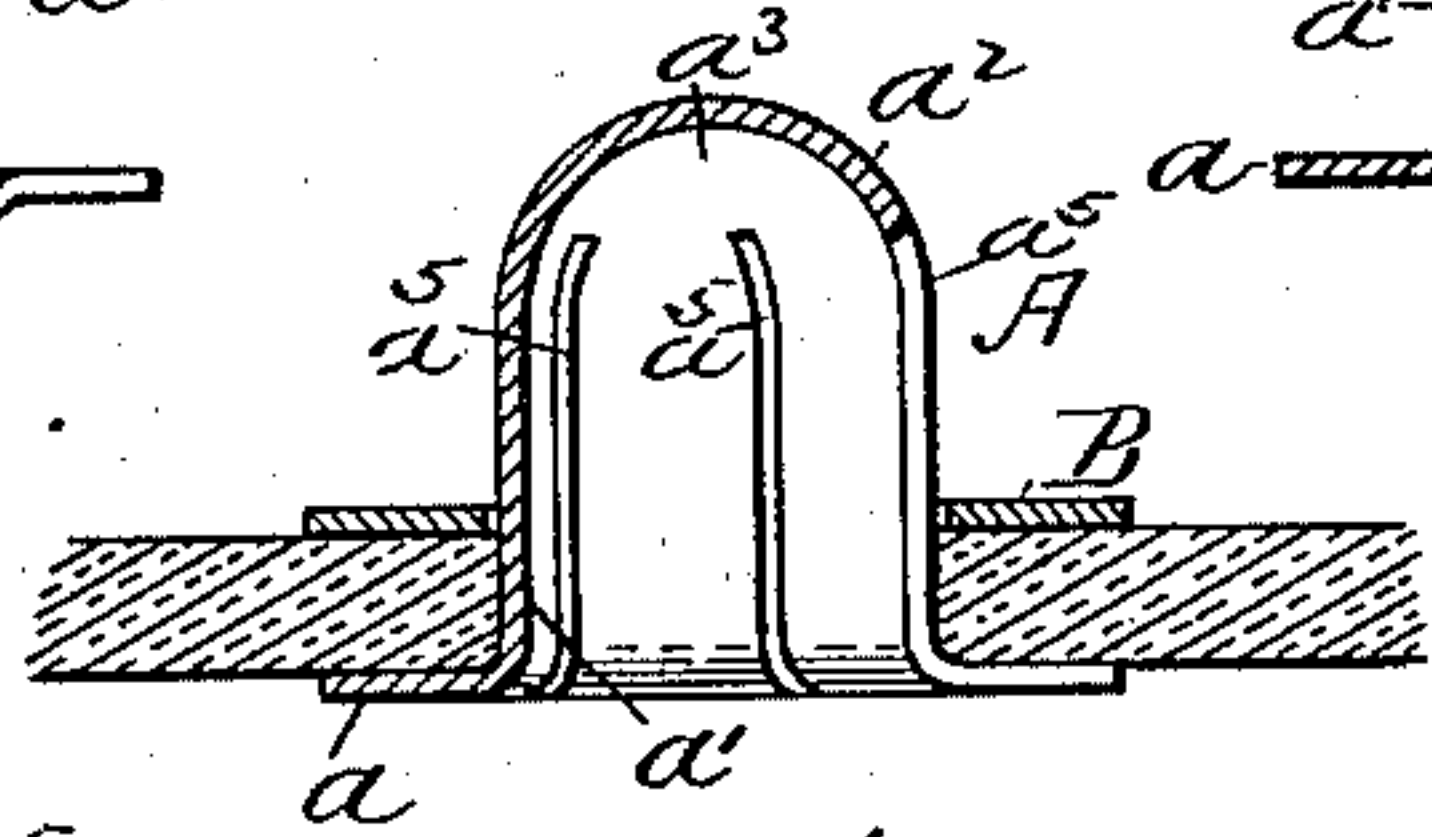


FIG. 2.

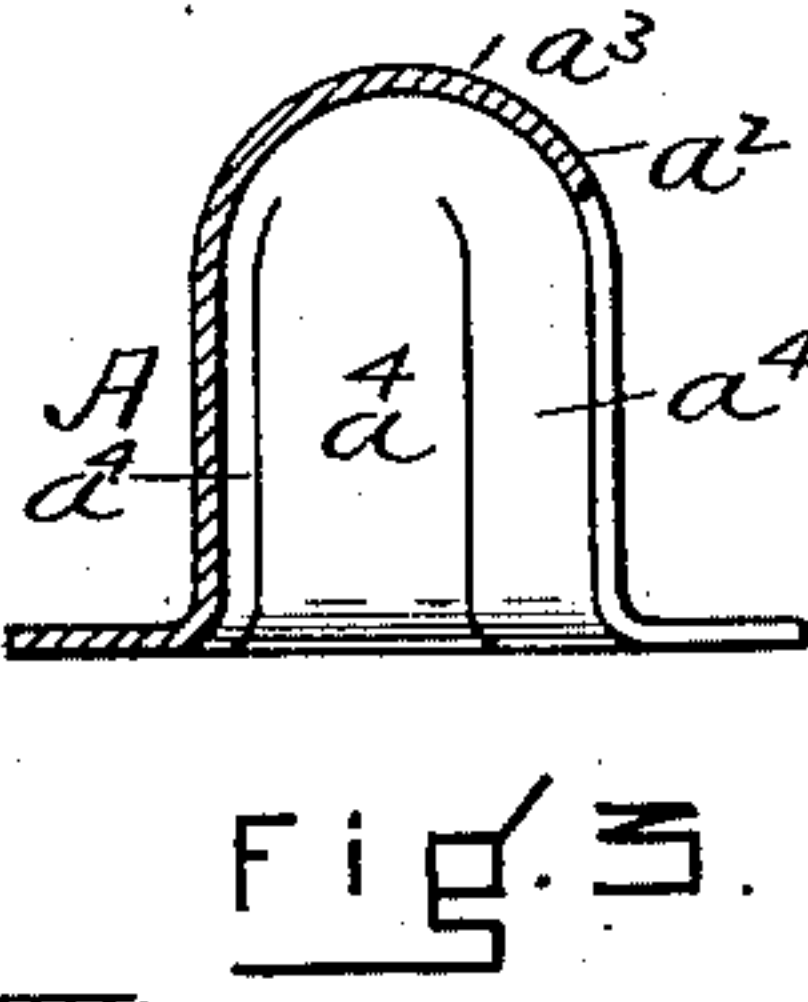


FIG. 3.

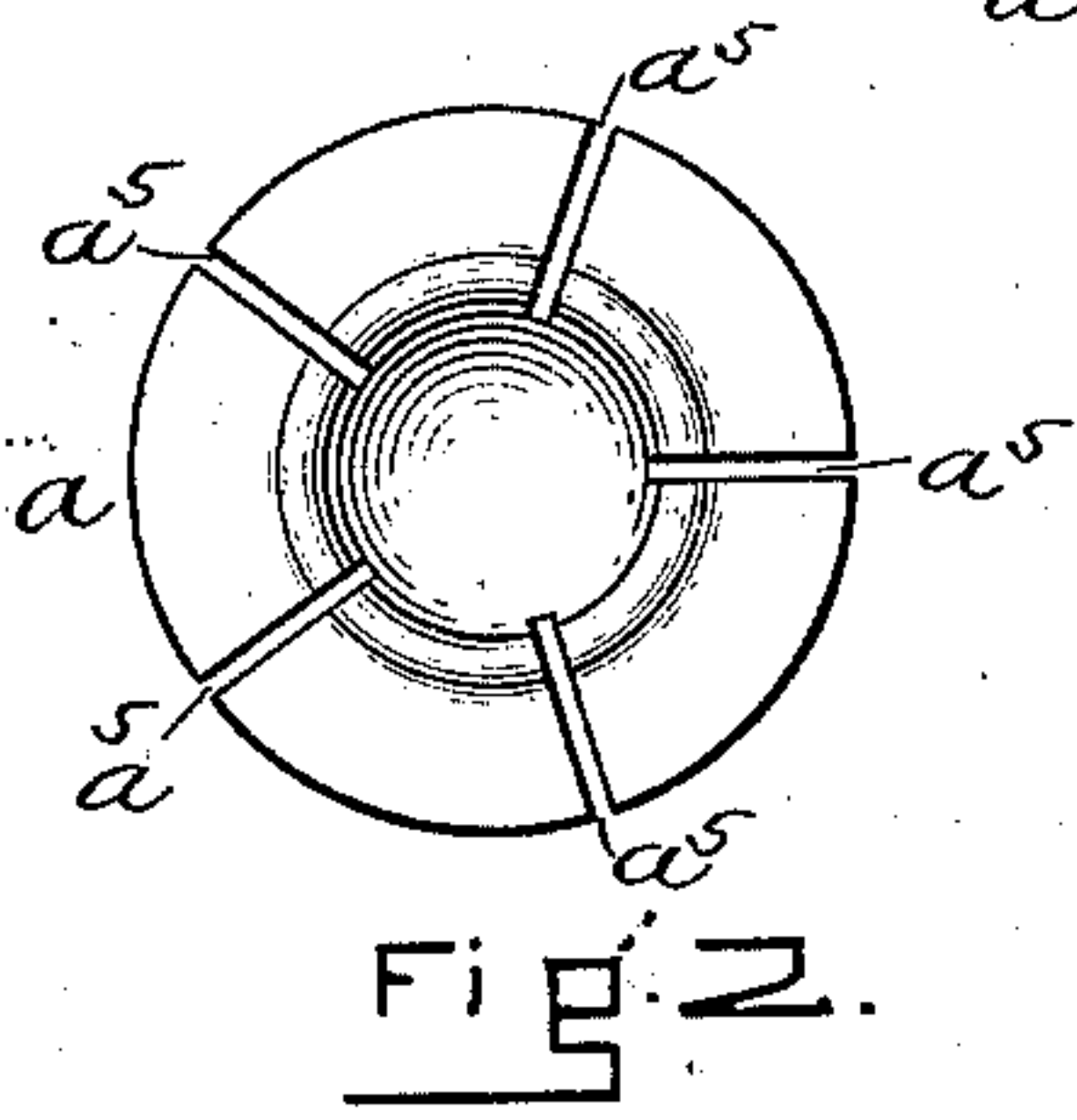


FIG. 4.

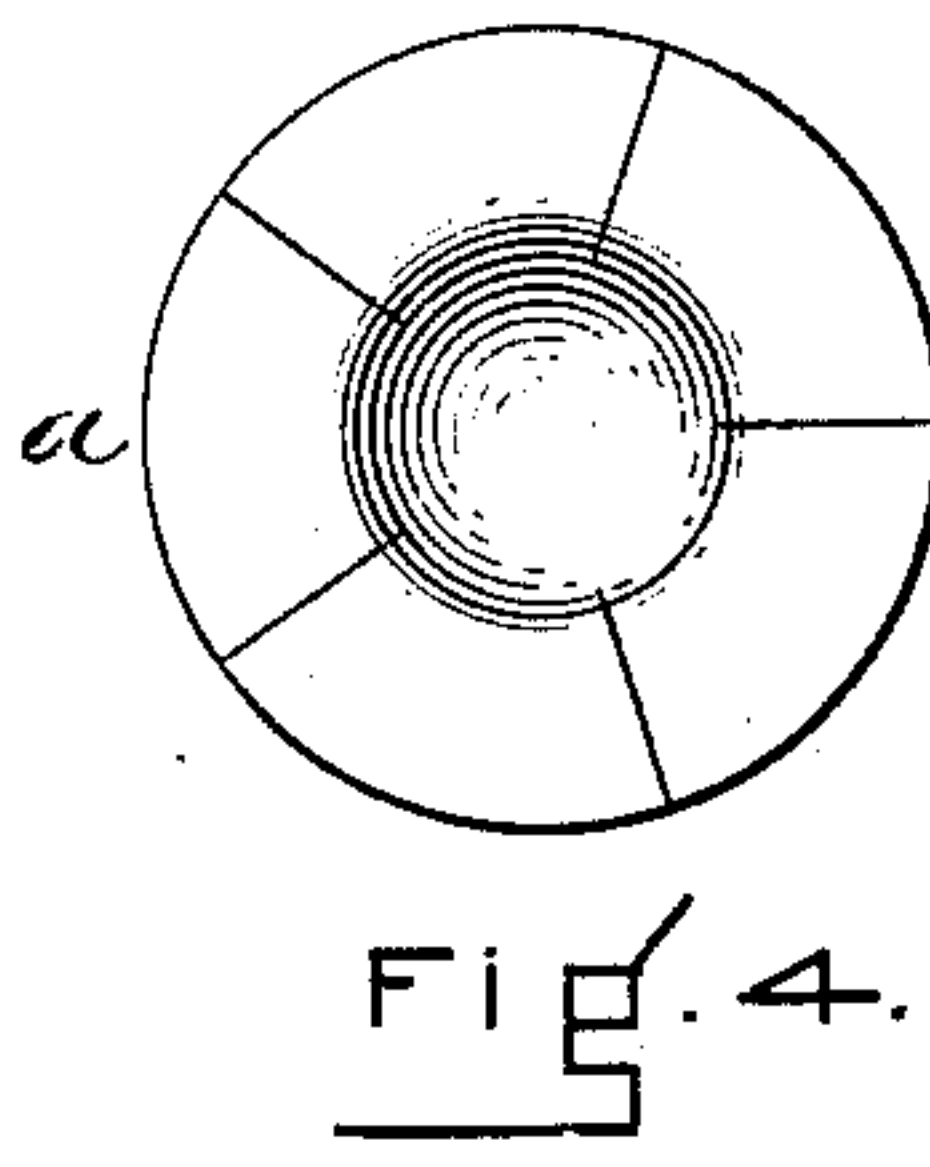


FIG. 5.

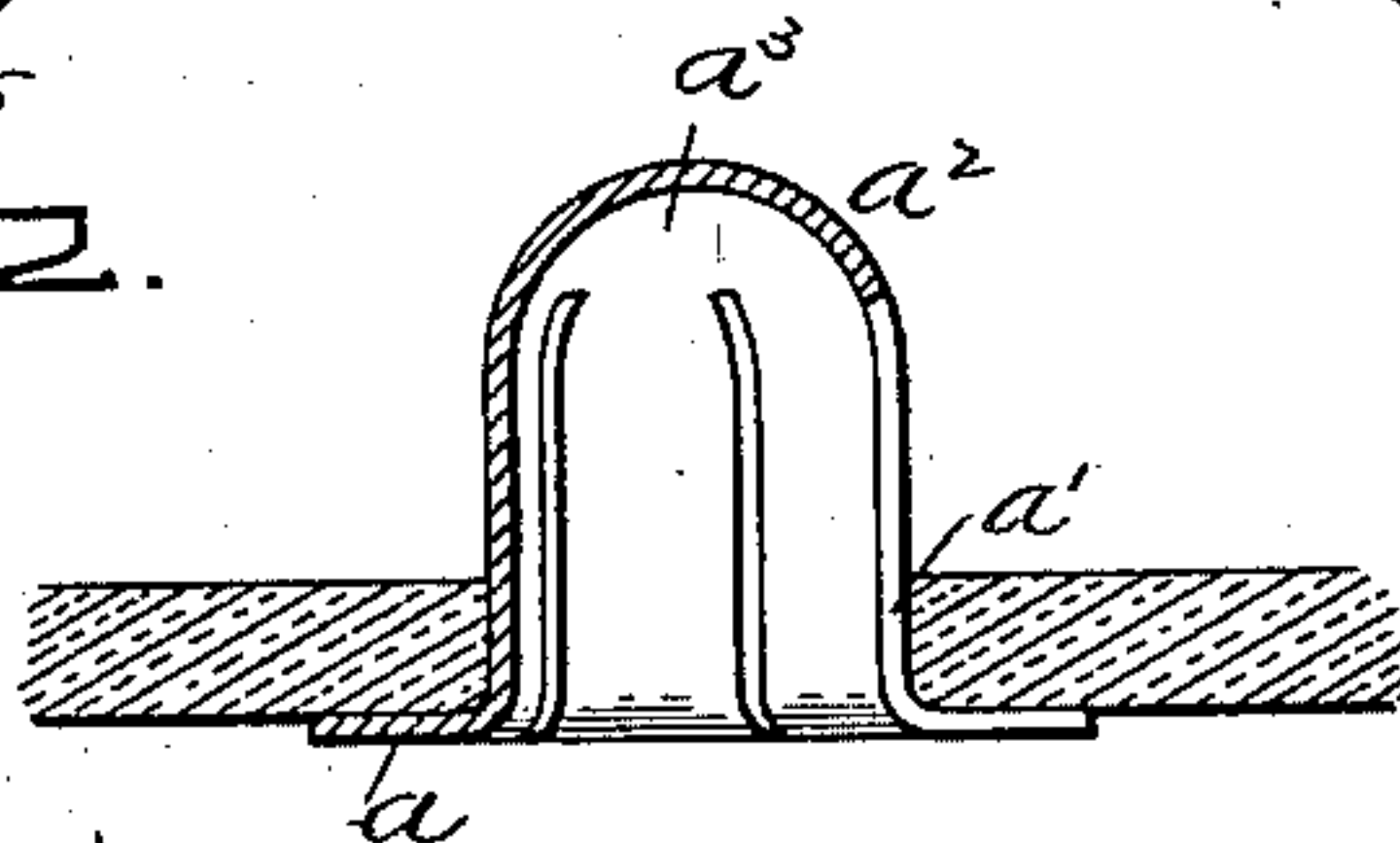


FIG. 6.

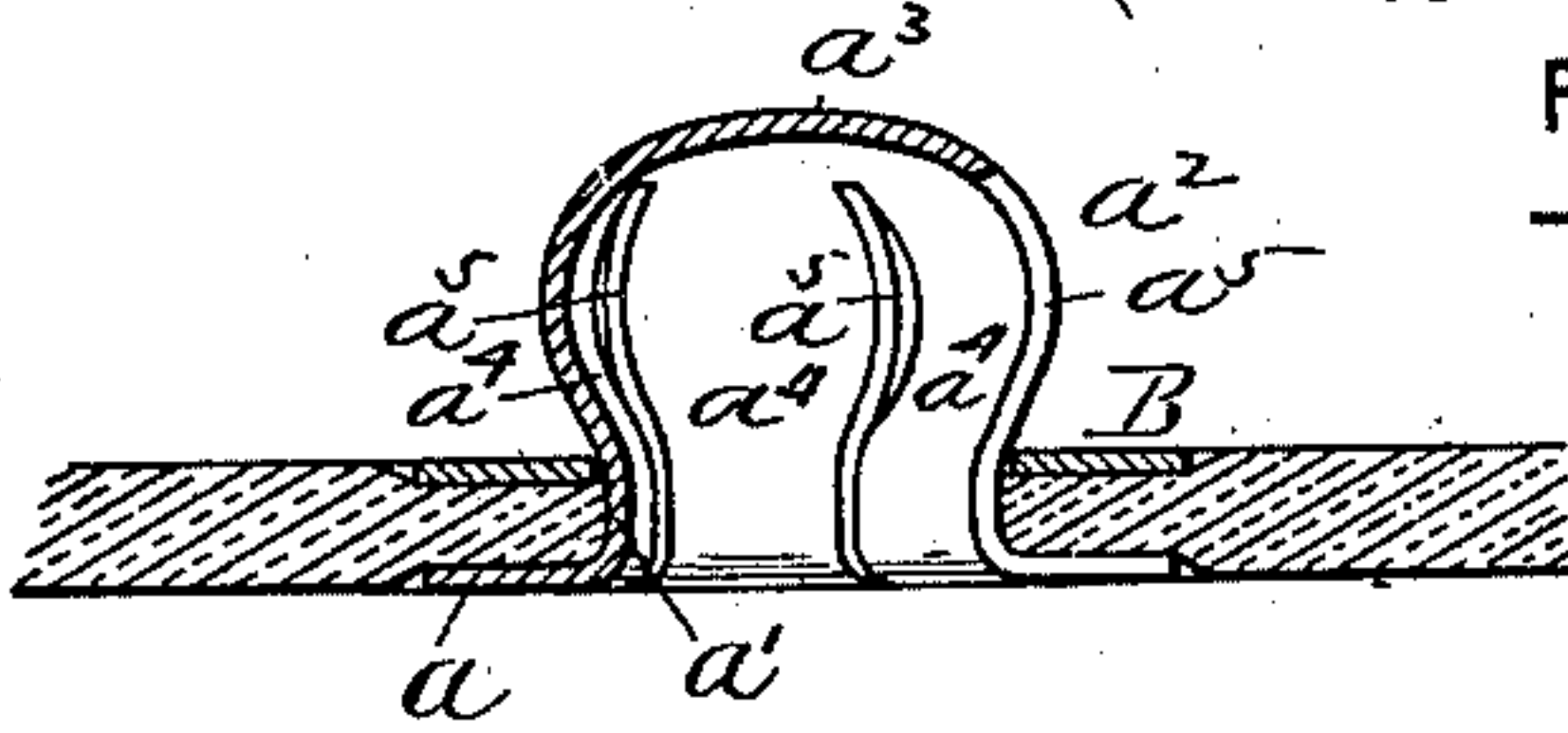


FIG. 7.

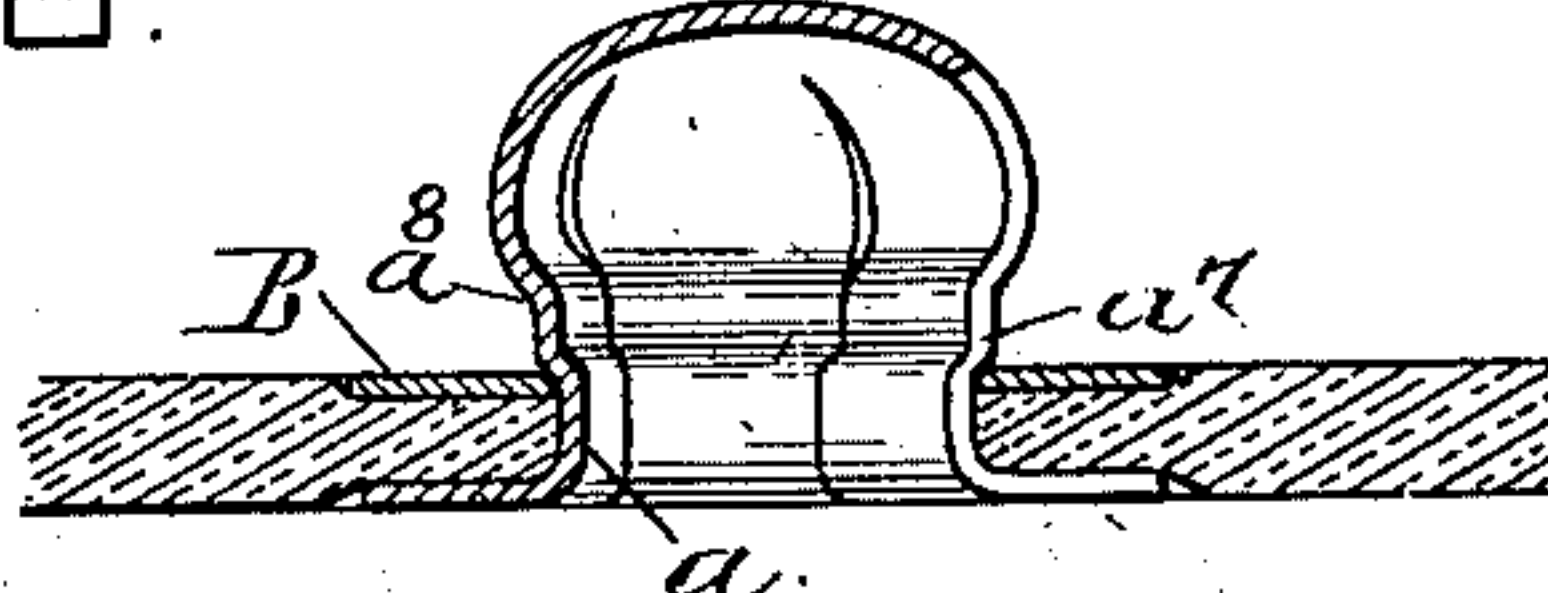


FIG. 8.

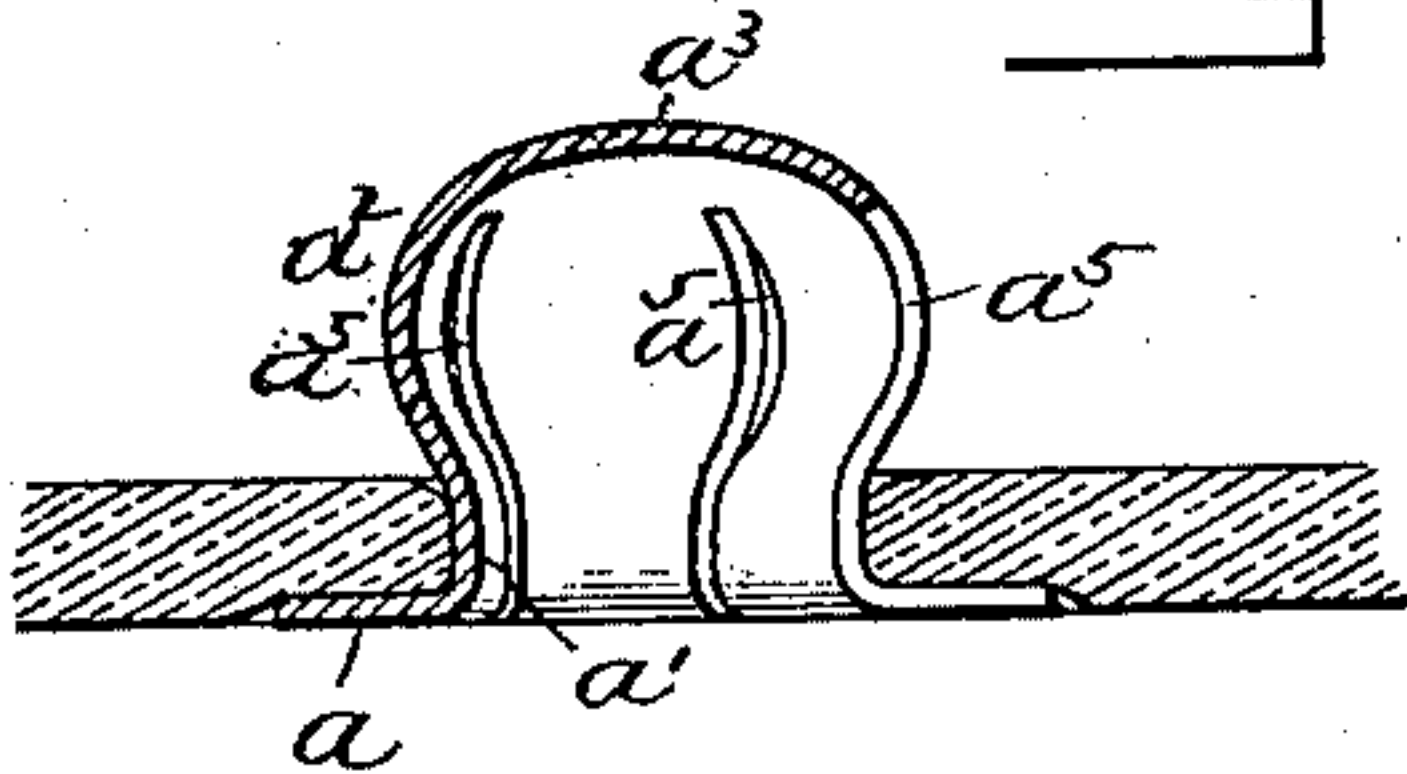


FIG. 9.

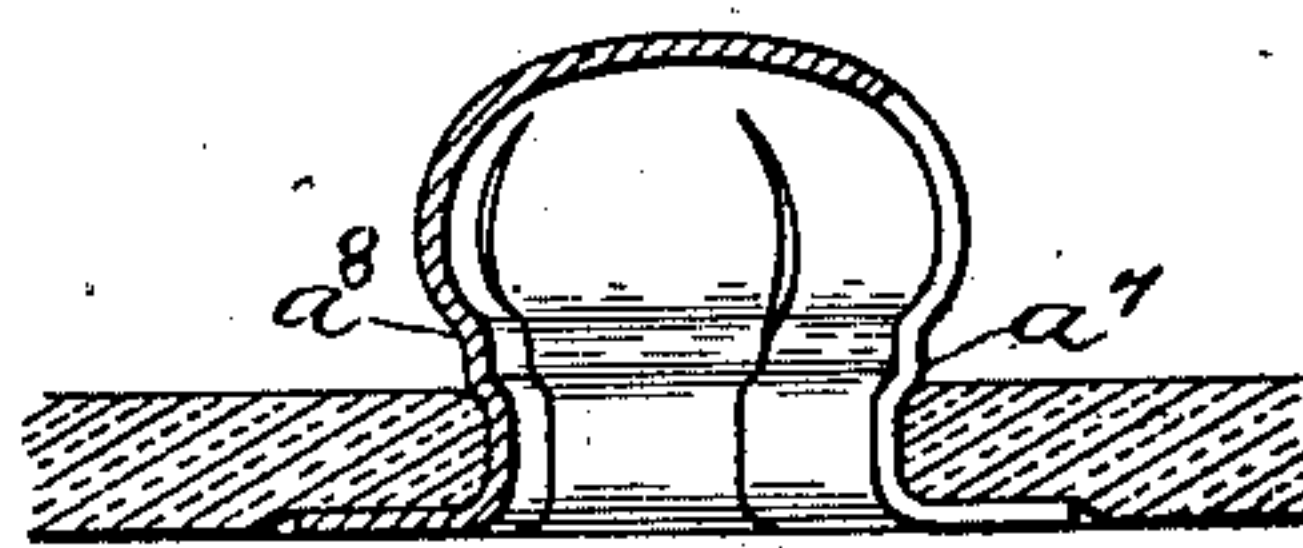


FIG. 10.

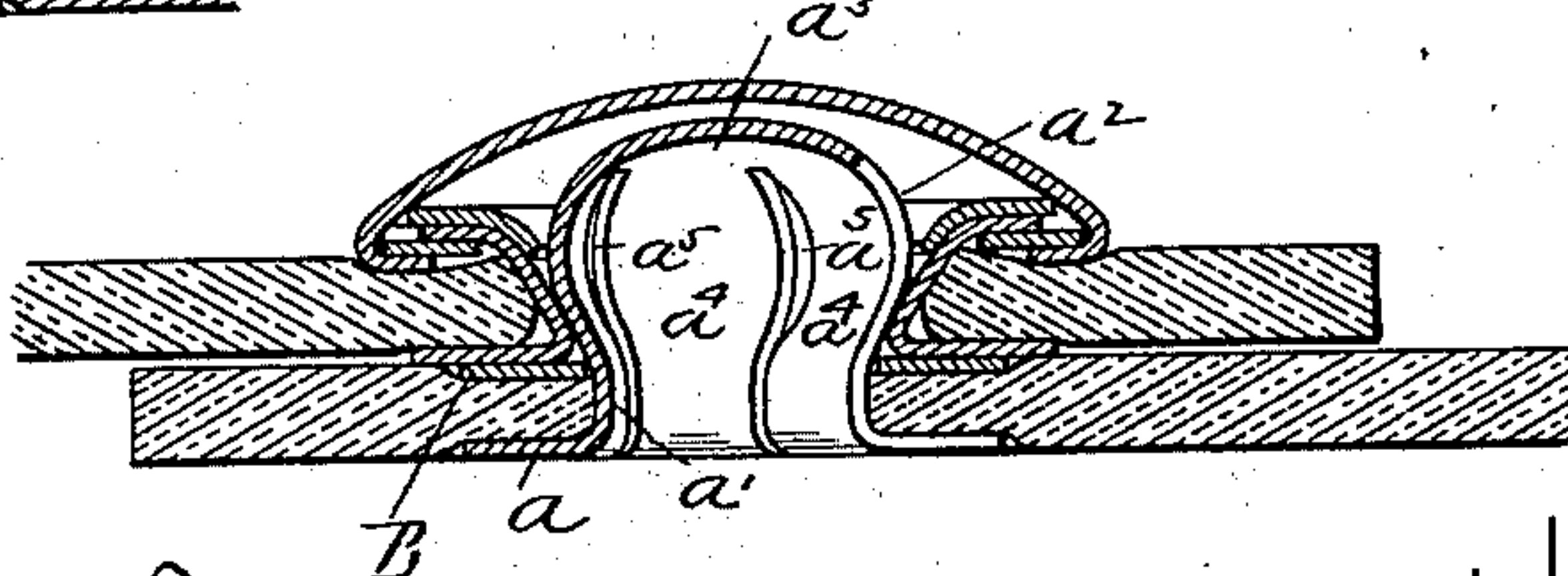


FIG. 11.

WITNESSES:
F. F. Raymond.
J. W. Golen.

INVENTOR:
William S. Richardson

UNITED STATES PATENT OFFICE.

WILLIAM S. RICHARDSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
BALL AND SOCKET FASTENER COMPANY, OF SAME PLACE AND NASHUA,
NEW HAMPSHIRE.

FASTENER FOR GLOVES, &c.

SPECIFICATION forming part of Letters Patent No. 656,475, dated August 21, 1900.

Application filed July 21, 1897. Serial No. 645,361. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. RICHARDSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Fasteners for Gloves and other Uses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to that class of fasteners known as "ball-and-socket" fasteners, and particularly to the ball member thereof; and it consists in a peculiarly-formed piece which is adapted to be converted or formed into a ball, which may be resilient or yielding in the act of attaching it to the glove or article with which it is used.

In the drawings, Figure 1 is a view in longitudinal section of a ball-piece from which a resilient ball member is adapted to be formed. Fig. 2 is a view in plan thereof. Fig. 3 is a view in longitudinal section of a ball-piece from which an unresilient ball member is adapted to be formed. Fig. 4 is a view in plan thereof. Fig. 5 represents a ball-piece and a washer associated with the material to which the ball member is to be attached. Fig. 6 represents the ball-piece associated with the material and without the additional washer represented in Fig. 5. Fig. 7 represents the completed yielding ball member fastened to the material and in conjunction with a washer upon the outer surface of the material. Fig. 8 represents the completed yielding ball member secured to the material without a washer. Fig. 9 represents a ball member of the character shown in Fig. 7 and a socket member having an unyielding socket-entrance as engaged with each other. Fig. 10 represents an unyielding ball member with a washer attached to the material upon which the ball is used. Fig. 11 shows an unyielding ball member attached to the material with which it is used, but without the washer of Fig. 10.

The ball-forming piece has a predetermined flange, a hollow neck or shank, and a hollow

split section above the neck or shank, which is before the ball member is attached or set of about the size of the neck or a trifle larger than it and which during the act of setting is shortened and enlarged by end pressure applied to both ends of the ball-piece, and, if desired, by the assistance of suitable forming-dies to the shape of a ball, the sides of which may be yielding. The ball-piece may be made from a flat blank having any desired number of arms which are disposed to form the ball-shaping portion of the ball member, its shank, and preformed flange, or it may be made from a flat blank struck up to practically the same shape and split into a number of sections either throughout its length to the top or between the flange and the top.

In the drawings, A represents the ball-piece which I prefer to use. It has the preformed flange a , the shank a' , and the ball-forming section a^2 above the shank, which consists of the integral top a^3 and separate sides a^4 . The slits a^5 , which form the lines of separation between the sides, may extend through the shank and the preformed flange, and in some instances may be relatively of enough width in the shank and flange to permit of slight inward movement of one or more of them as the ball is being entered and removed from the socket member of the fastener.

To set the ball-piece, the material is formed with a hole of about the size of the shank of the ball-piece. The ball-piece is passed into the hole, the preformed flange resting against one surface of the material in which the hole is formed, the shank of the ball-piece filling the hole, and the ball-forming section extending above or beyond the other surface of the material. The ball may be set either with or without a washer, and I have represented it as set in both ways. In Figs. 7, 9, and 10 it is represented as set with a washer, B representing the washer which lies against the surface of the material opposite that against which the flange a bears and which has a hole of the size of the shank or a trifle larger than the shank or of the ball-forming section of the piece above the shank. In Figs. 8 and 11

I have represented the ball as set without this washer. As a rule, I prefer to use the washer, because it forms a fastening extension upon the side of the material opposite the flange of the ball and because it also forms a desirable finish. In Fig. 1 the flange of the washer is represented as provided with a shoulder a^6 , which acts in connection with an opposing shoulder in the setting-die to prevent the flange and shank from opening during the setting operation.

The ball portion may be yielding or resilient or unyielding. It is made resilient either by not joining or abutting the edges of the shank and flange, thereby providing means by which they may yield inward slightly with the sides, or by forming the sides of the button-head of metal thin enough to yield upon the application of pressure thereto without causing the shank to be moved or by making the ball member of a relatively-large number of arms or separate sides. For an unyielding ball it is desirable that the sides of the shank should abut and that the metal sides be of a suitable thickness to withstand the compressing strain of entering and leaving a resilient socket-entrance.

I prefer to set the ball-piece by means of suitable dies which hold its flange, preserve the bore of its shank, form the sides into a ball, and when a shank is used set the sides above it upon the surface thereof about the hole therein to bind it or clamp it against the integral washer of the ball member. I prefer to employ a die having a structure which will be described in an application about to be filed; but I do not confine myself to any especial means for setting the ball-piece.

I prefer that the ball have five sides, but do not confine myself to one of that number. The ball may engage a socket member having an entrance which is yielding or one which is unyielding, as may be desired.

In Figs. 10 and 11 I have represented the ball member as having above the shank a slight enlargement a^7 , which serves to form a shoulder to lap upon the outer surface of the washer, as represented in Fig. 10, or the surface of the material, as represented in Fig. 11, and also to provide the ball member with the crease a^8 below its enlargement. The shoulder upon the flange may be formed as represented in Fig. 1 or by the edge of the flange or any other desired way.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A ball-piece for forming a yielding ball member of a fastener, the same having the preformed flange a , the shank a' , the separate sides a^4 in substantial contact with each

other and the integral connection a^3 , as and for the purposes set forth.

2. A ball-forming piece or part having the preformed sectional flange a and sectional shank a' , the separate sides a^4 in substantial contact with each other and integral top a^3 , as and for the purposes set forth.

3. A ball-forming piece or part having the preformed sectional flange a , the sectional shank a' , the sides a^4 and integral top a^3 , the sides and sections of the shank and flange being slightly separated from each other.

4. A ball-forming piece or part having the preformed sectional flange a , each section of which is provided with a shoulder, the sectional shank a' , the independent sides a^4 and the integral top a^3 , as and for the purposes set forth.

5. A yielding ball member of a ball-and-socket fastener having a flange a , a shank a' , separate sides a^4 and an integral top a^3 , said sides a^4 connecting said shank and said integral top and bulging outwardly, whereby the horizontal diameter of said ball member is greater through said sides than through said shank.

6. A yielding ball member of a ball-and-socket fastener having an integral top, a shank, an integral under flange and bulging yielding sides connecting said shank and said top, as and for the purposes set forth.

7. A yielding ball member of a ball-and-socket fastener having an integral top, a shank, a preformed flange, outwardly-yielding sides connecting said shank and said top, in combination with a washer located about the junction of the shank and sides and held in place by said bulging sides, as and for the purposes set forth.

8. A ball member of a ball-and-socket fastener having a sectional under flange, a sectional shank which is adapted to extend through a hole in the material to which the member is secured, an upper washer and rounded sides above the washer, the said sides, members of the sectional shank and sectional flange being separated by relatively-narrow spaces, whereby provision for contraction of the sides, shank and flange in the act of engaging and disengaging the ball portion from the socket member is obtained.

9. The ball member made from a single blank or piece of metal having a sectional under flange, a sectional shank a' , a sectional enlargement a^7 to form a shoulder and crease a^8 , and a sectional enlargement above said crease.

WILLIAM S. RICHARDSON.

Witnesses:

F. F. RAYMOND, 2d,
J. M. DOLAN.