

No. 737,874.

PATENTED SEPT. 1, 1903.

M. D. SHIPMAN.
FASTENER.

APPLICATION FILED DEC. 26, 1902.

NO MODEL.

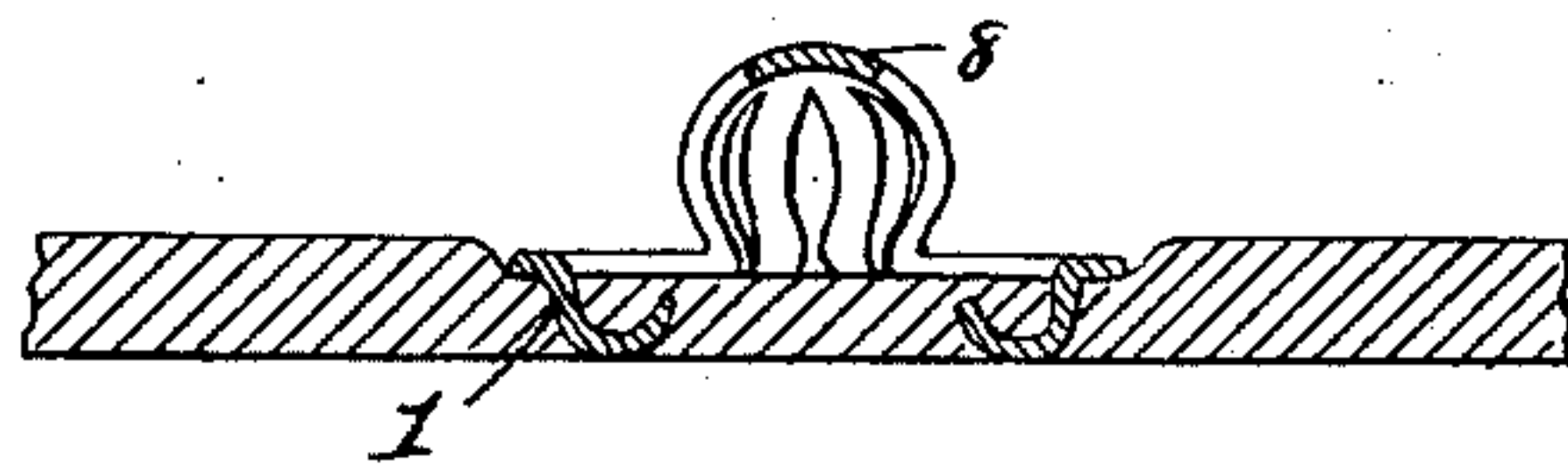


Fig. 1.

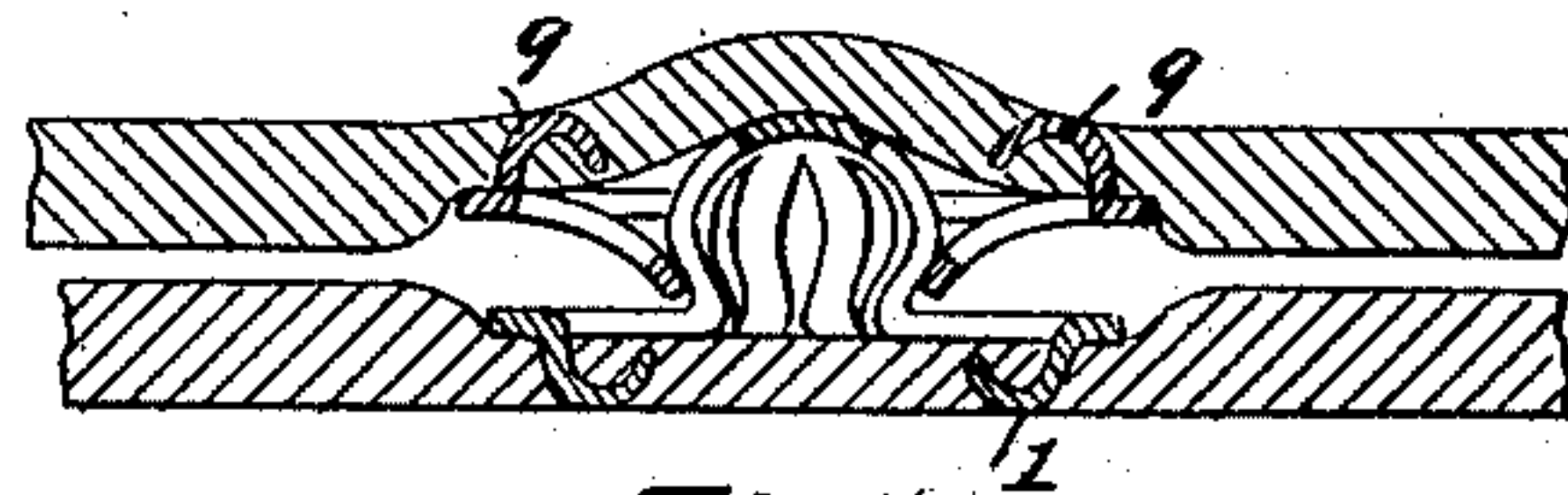


Fig. 4.

Fig. 2.

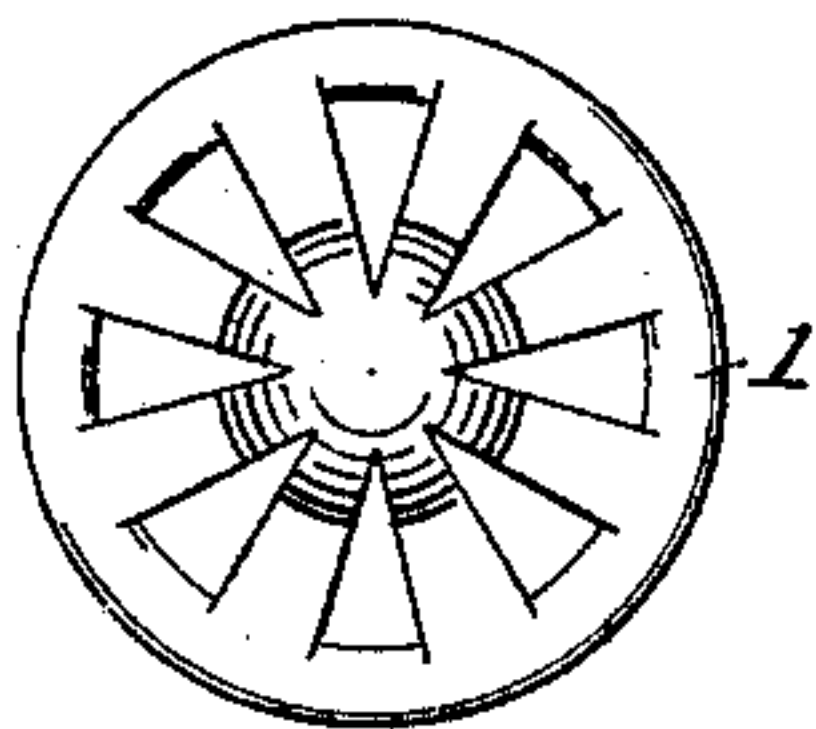


Fig. 13.

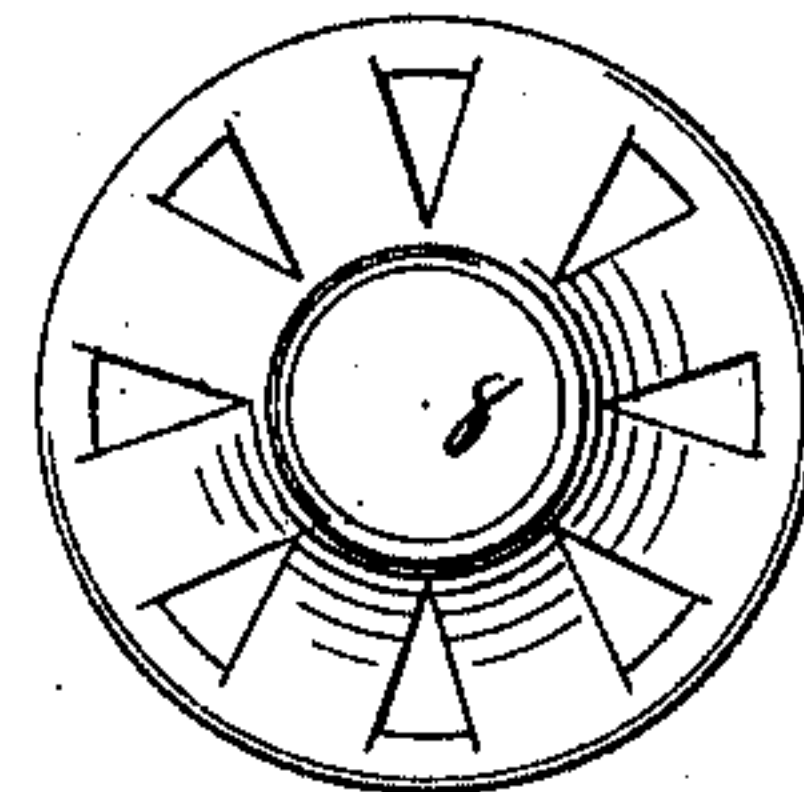
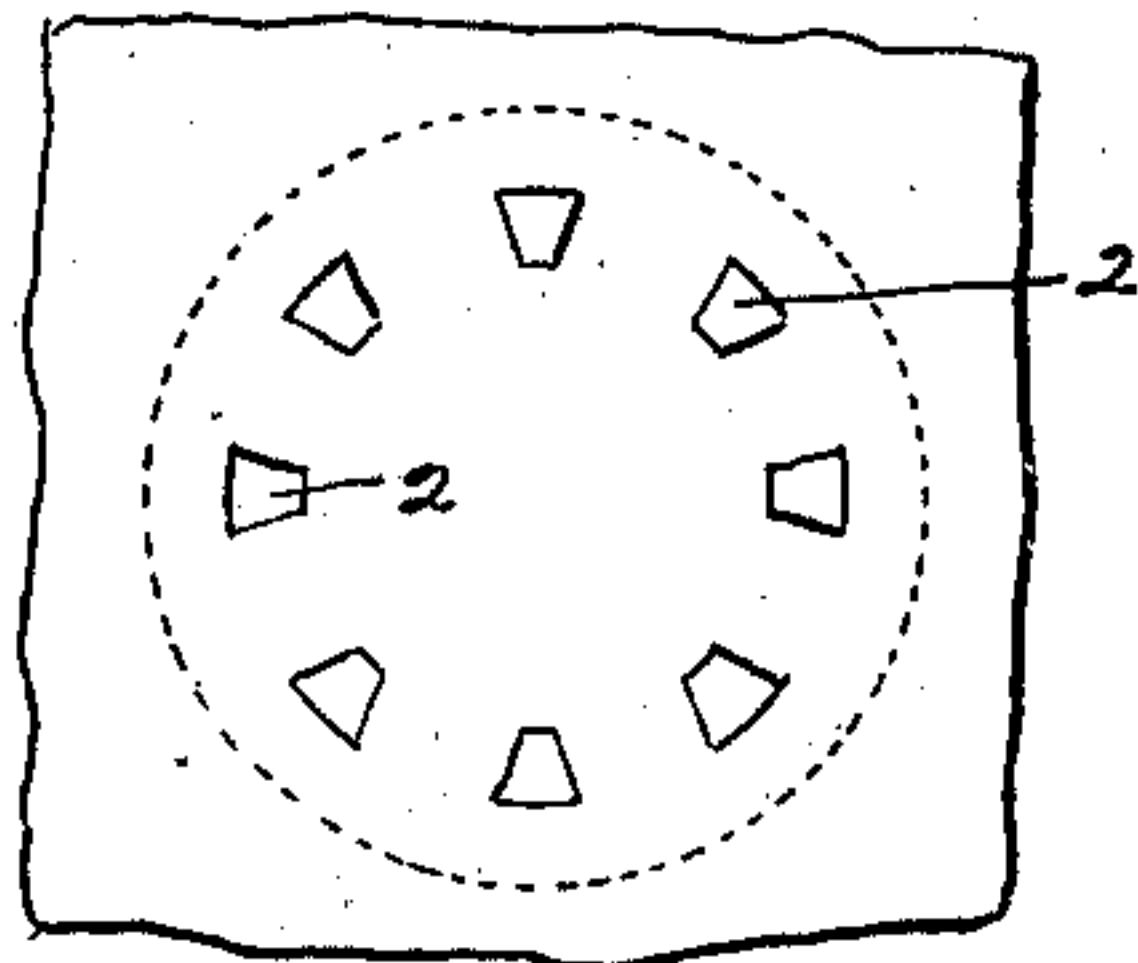


Fig. 5.

Fig. 3.

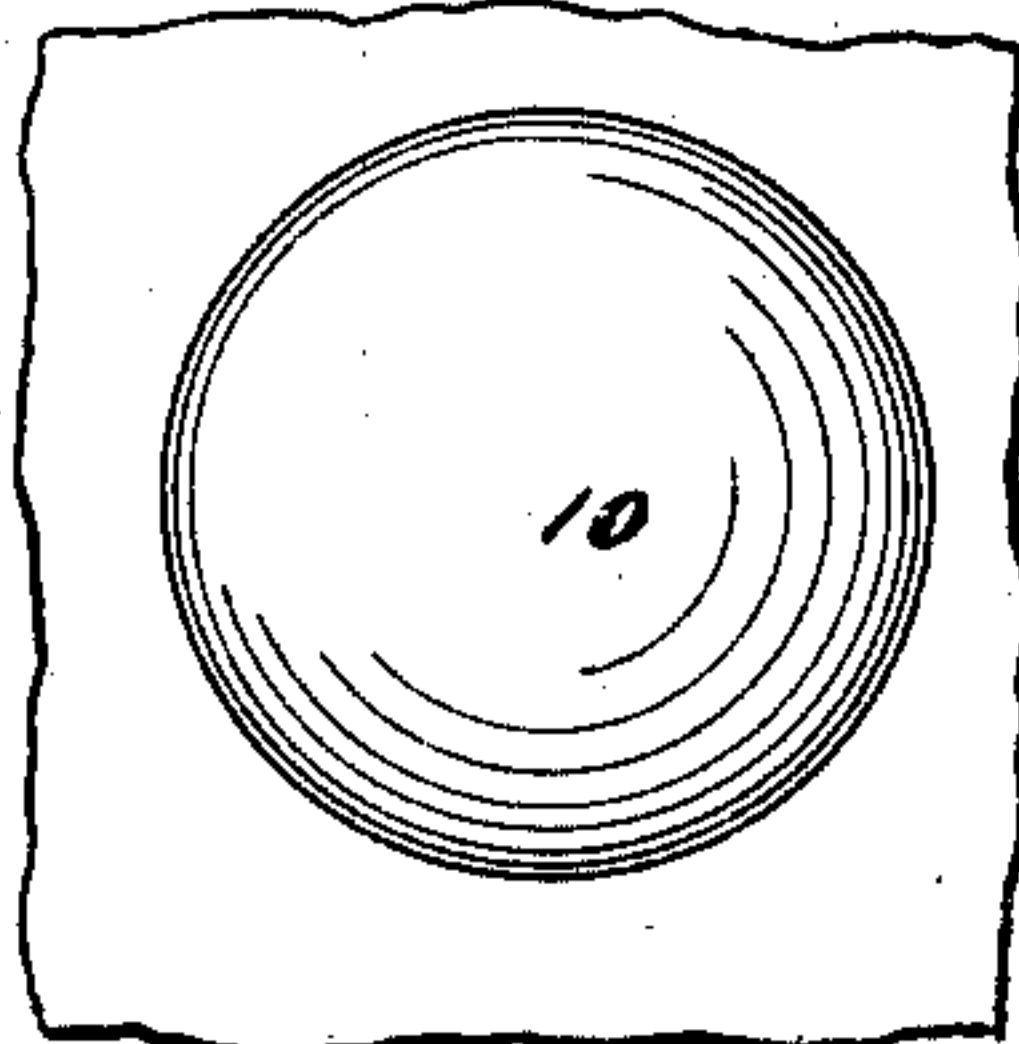
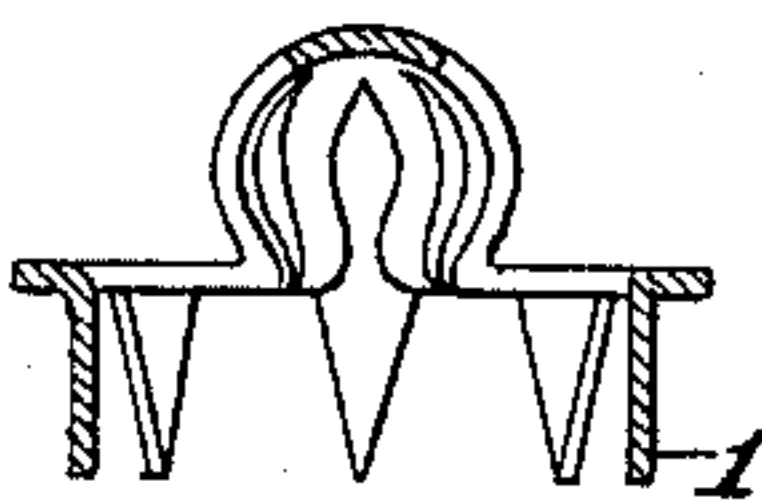


Fig. 14.

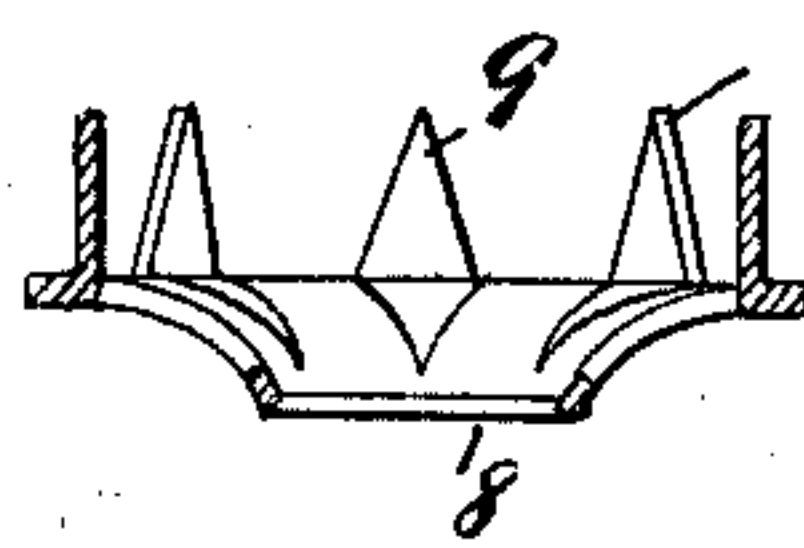


Fig. 6.

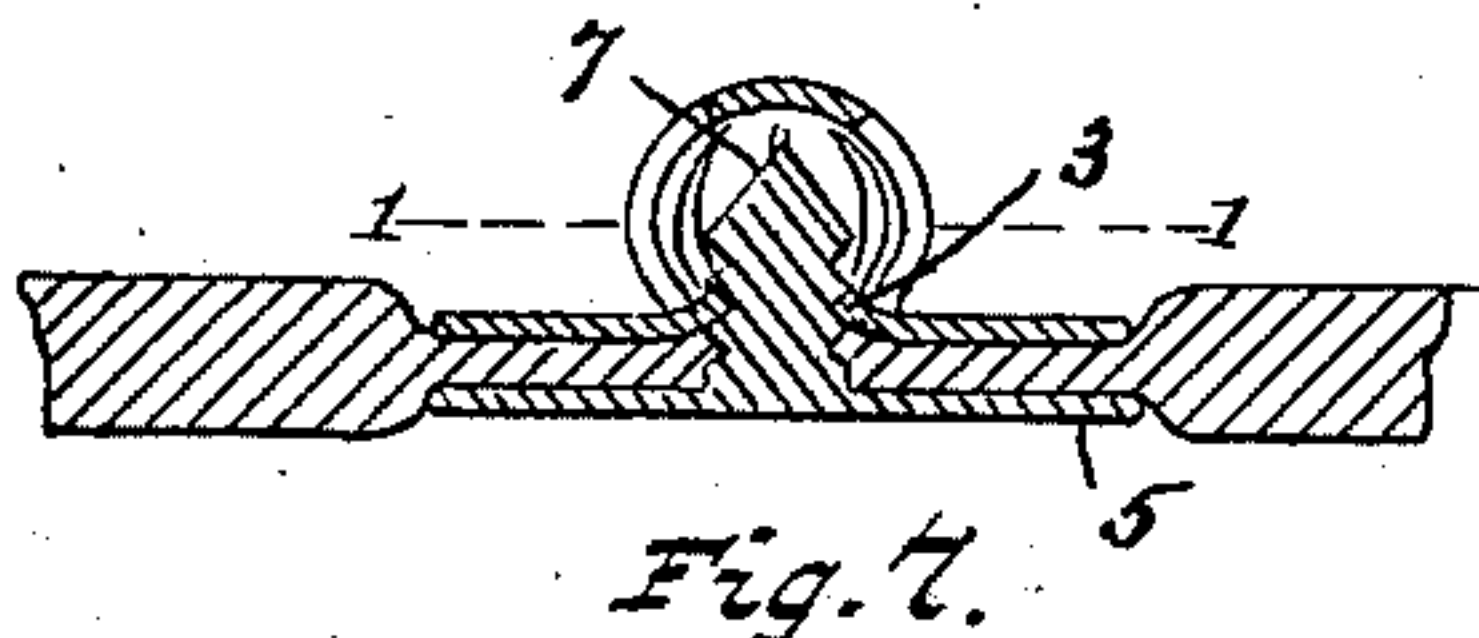


Fig. 7.

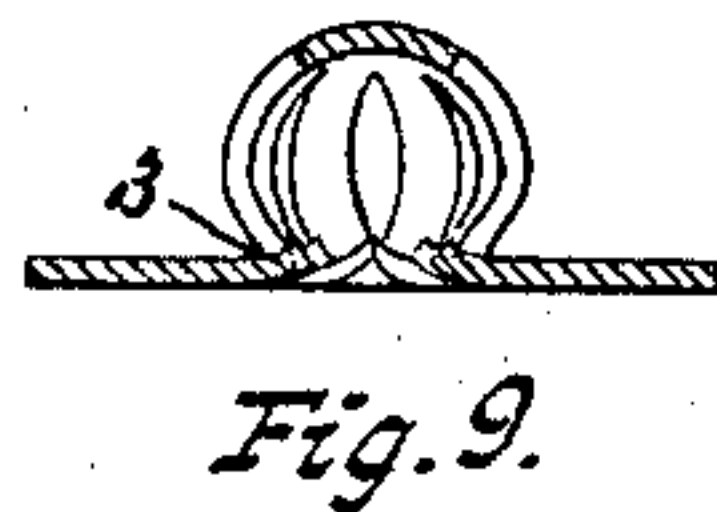


Fig. 9.

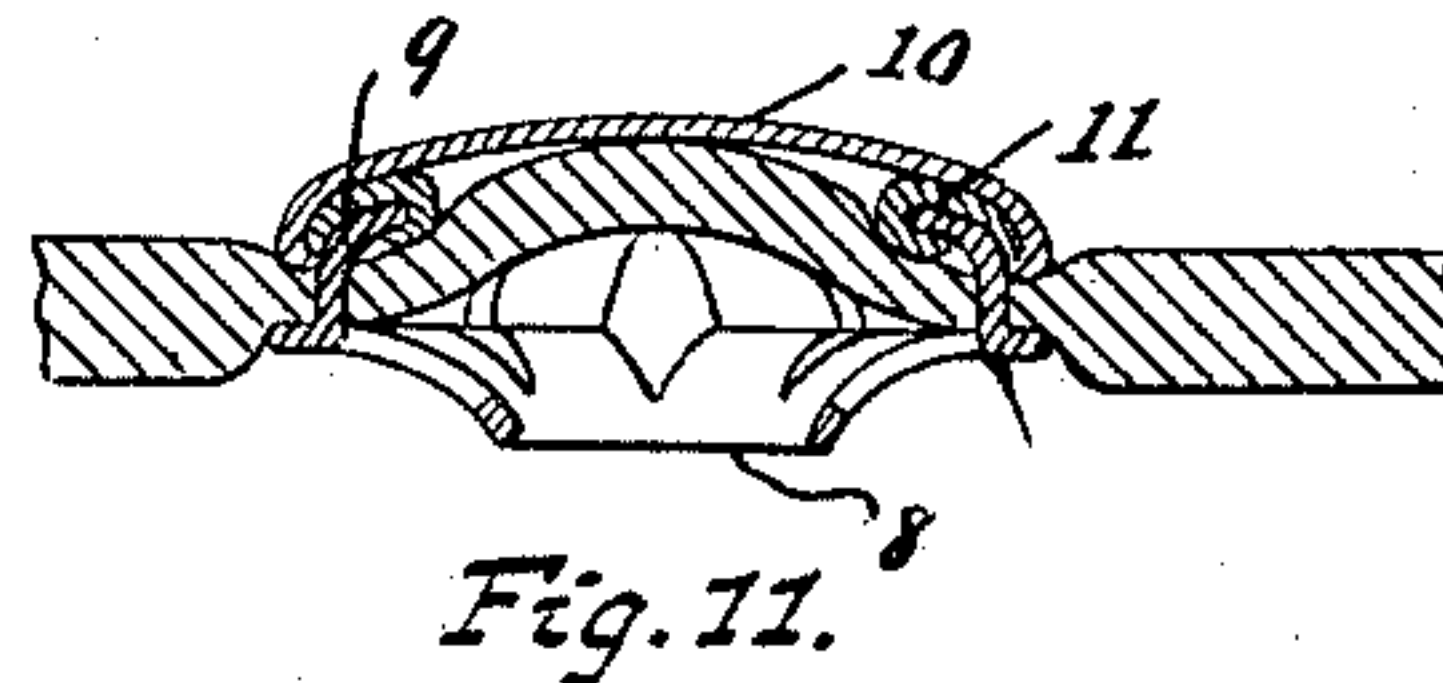


Fig. 11.

Fig. 8.

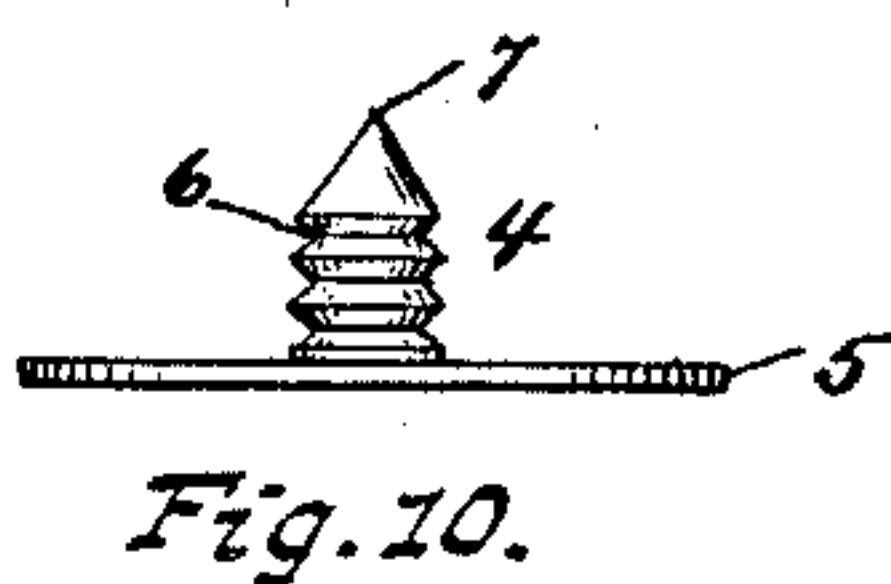
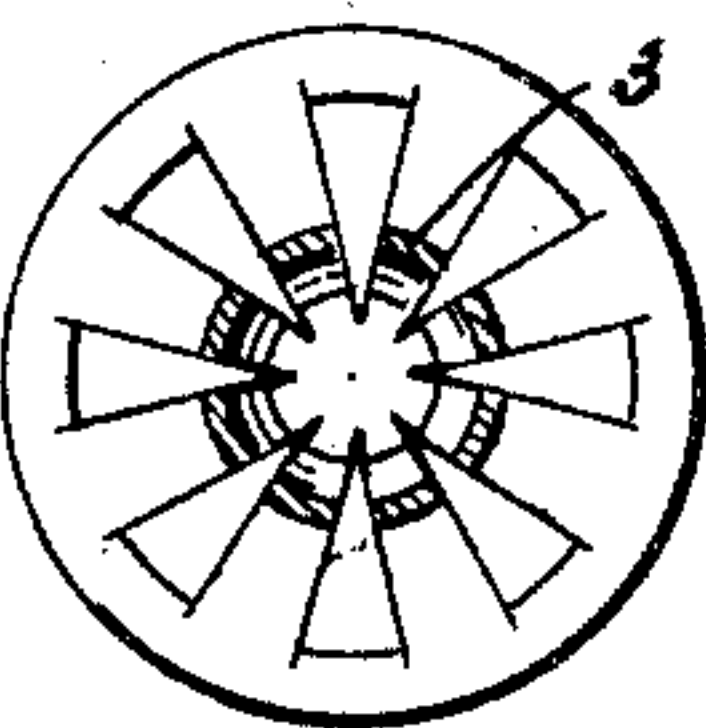


Fig. 10.

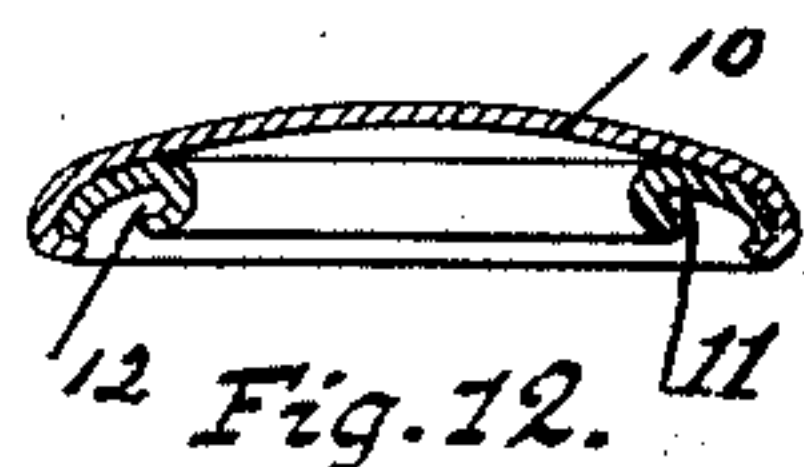


Fig. 12.

Witnesses.

G. H. Flannery
G. H. Flannery

Inventor.

Madison S. Shipman
by H. B. Brown
att.

UNITED STATES PATENT OFFICE.

MADISON D. SHIPMAN, OF DEKALB, ILLINOIS, ASSIGNOR TO THE UNITED STATES FASTENER COMPANY, OF PORTLAND, MAINE.

FASTENER.

SPECIFICATION forming part of Letters Patent No. 737,874, dated September 1, 1903.

Application filed December 26, 1902. Serial No. 136,592. (No model.)

To all whom it may concern:

Be it known that I, MADISON D. SHIPMAN, of Dekalb, in the county of Dekalb and State of Illinois, have invented a new and useful
 5 Improvement in Fasteners, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to ball-and-socket fasteners; and the objects of the same are to
 10 provide a resilient ball member which may be formed from a single piece of metal in the form of a disk, the blank from which the ball member is formed having a series of attaching points or prongs cut from within the body of
 15 the blank to serve the double purpose of rendering the ball resilient and providing means for attaching the ball member to the material; and another object is to provide a non-resilient socket member which may also be formed
 20 from a sheet-metal disk and have attaching points or prongs cut from within the body of the blank to be attached to the material in a simple and efficient manner.

Another object is to provide a stud member
 25 having a resilient head and a base-flange having means within the head for engaging an attaching rivet or prong adapted to be inserted from the opposite side of the material.

These objects are attained by means of the
 30 construction illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section taken through a ball member made in accordance with my invention and secured to a piece of
 35 fabric or material. Fig. 2 is a plan view of the ball or stud member unattached to the material. Fig. 3 is a central vertical section through the ball or stud member before it is attached to the material. Fig. 4 is a central vertical
 40 section of the ball-and-socket fastener secured to pieces of material. Fig. 5 is a plan view of a socket member made in accordance with my invention. Fig. 6 is a central vertical section of the socket member. Fig. 7 is a
 45 central vertical section of a ball or stud member of a fastener of modified construction secured to a piece of material by a pointed fastening-rivet. Fig. 8 is a section on line 1 1 of the stud or ball member shown in Fig. 7.
 50 Fig. 9 is a central vertical section of said stud

member. Fig. 10 is a side view of the pointed attaching-rivet. Fig. 11 is a central vertical section of a socket member made in accordance with my invention secured to a piece of material by means of a combined cap and
 55 anvil. Fig. 12 is a central vertical section of the combined cap and anvil. Fig. 13 is a bottom plan view of a piece of material to which a ball member or a socket member has been attached as shown in Fig. 4. Fig. 14 is a top
 60 plan view of a socket member attached to a piece of material by means of a cap, as shown in Fig. 11.

The ball or stud member of my fastener is made from a disk of sheet metal and, as shown
 65 in Figs. 1, 2, 3, and 4, has a series of attaching points or prongs 1 cut from within the body of the blank, the terminal ends of the prongs extending toward the center of the blank before they are bent downward, as
 70 shown in Fig. 3. By cutting the prongs from within the body of the blank a double purpose is served—viz., the ball member is rendered resilient and the attaching-prongs are provided. To attach such a ball or stud member to the
 75 material, the prongs 1 are forced downward through the fabric and the terminal ends of the prongs are curled back and embedded within the material, as shown in Figs. 1 and 4, the opposite side of the material exposing
 80 small parts of the prongs in circular arrangement, as shown at 2 in Fig. 13.

As shown in Figs. 7, 8, 9, and 10, the stud member is modified slightly, the same blank
 85 being utilized and the ends of the attaching-prongs being cut off to form upwardly-curved lips 3, which lips are adapted to enter the grooves in the fastening-rivet 4. This fastening-rivet consists of a base-flange 5, having
 90 a grooved shank 6 and a pointed end 7. The upwardly-curved lips 3 on the stud member fit the grooves in the rivet 4 when the point of the rivet has been forced through the material and up into the stud.

The socket member of my fastener consists
 95 of a disk of metal having a central opening 8, forming a non-resilient stud-catch and attaching-prongs 9 cut from within the body of the blank. To attach this socket member to the material, the prongs are forced through
 100

the material and curled inward, as shown in Fig. 4. If it is desired to use the socket member with a cap or cover, the construction shown in Fig. 11 may be utilized. The combined
 5 cap and anvil may consist of a cap 10 and a clenching piece or anvil 11, which is provided with a recess 12 to engage the terminal ends of the prongs 9 after they have been forced through the material and up into the cap.

- 10 From the foregoing it will be obvious that my fastener, as shown in Fig. 4, may consist of but two pieces—viz., the ball member, made of a single piece provided with integral attaching-prongs, and the socket member, also
 15 made of a single piece of metal and provided with integral attaching-prongs.

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

- 20 1. A resilient stud member made from a single piece of a metal blank and having the portions which are cut out from within the body of the blank to render the stud resilient, available as means for securing the stud to
 25 the material or fabric.

2. A stud member having prongs cut from within the body of a metal blank to render the head resilient, and to serve as the attaching means.

- 30 3. A resilient stud member formed from a sheet-metal disk, and provided with fastening means cut from within the body of the disk to render the head resilient, said stud

member being attached to a piece of material, substantially as described. 35

4. A non-resilient socket member formed from a single-piece blank having an unbroken central opening forming a stud-catch, and a series of attaching-prongs, cut from within the body of the blank and bent at right angles
 40 thereto.

5. A non-resilient socket member consisting of a central unbroken stud-catch formed from a metal blank and integral prongs cut from within the body of the blank, said prongs
 45 being forced through the material to which the socket member is attached and upset within a combined cap and anvil.

6. A ball-and-socket fastener consisting of a non-resilient socket member made from a
 50 single piece of a metal blank having an unbroken central stud-catch and integral attaching-prongs cut from within the body of said blank, and a resilient stud member having the attaching-prongs cut from within the head
 55 or bulb to render the stud resilient, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of
 60 December, A. D. 1902.

MADISON D. SHIPMAN.

Witnesses:

EDWIN S. HUNT,
 HENRY E. ROLFE.