

No. 891,024.

PATENTED JUNE 16, 1908.

M. D. WILLARD.
FASTENER.

APPLICATION FILED APR. 30, 1906. RENEWED FEB. 21, 1908.

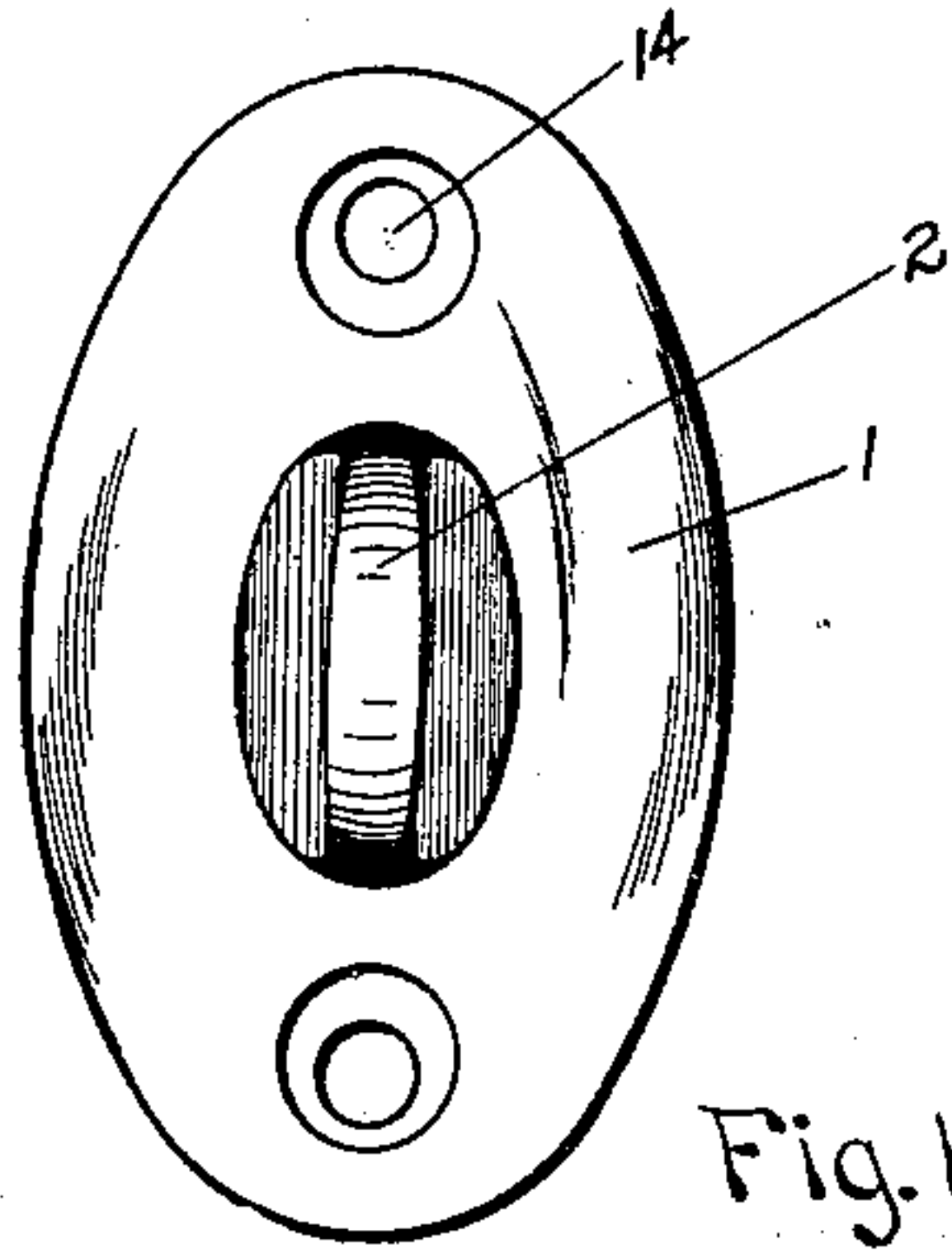


Fig. 1.

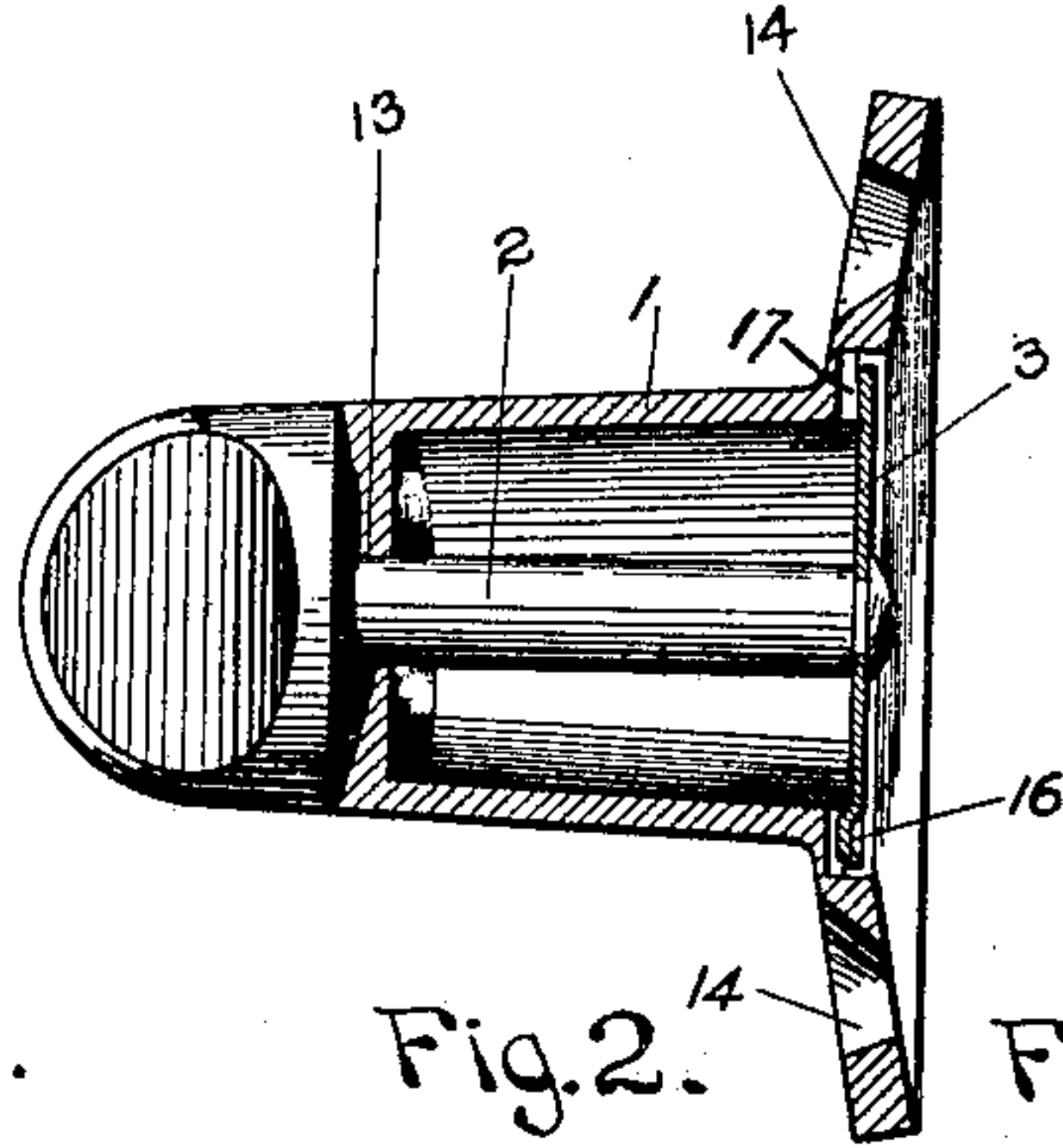


Fig. 2.

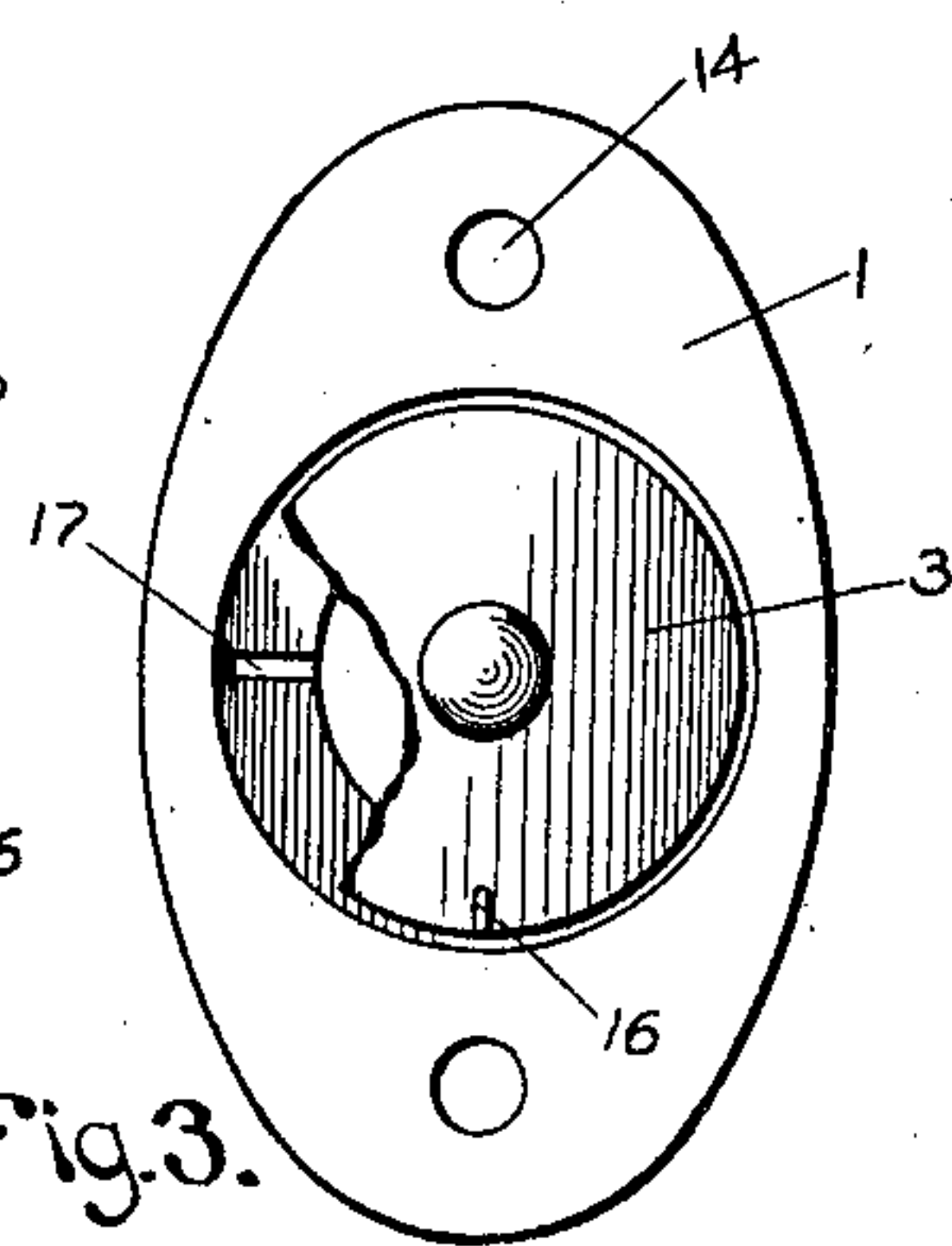


Fig. 3.

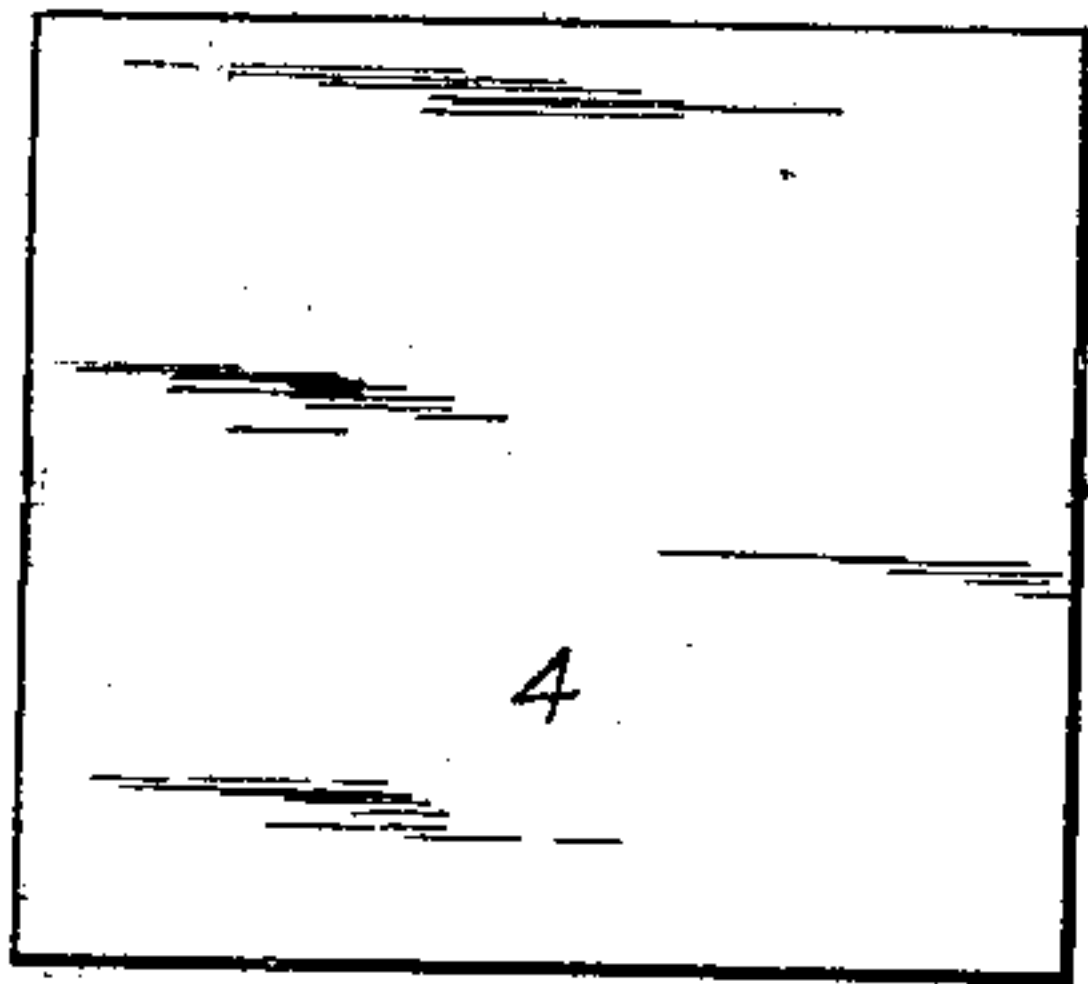


Fig. 5.

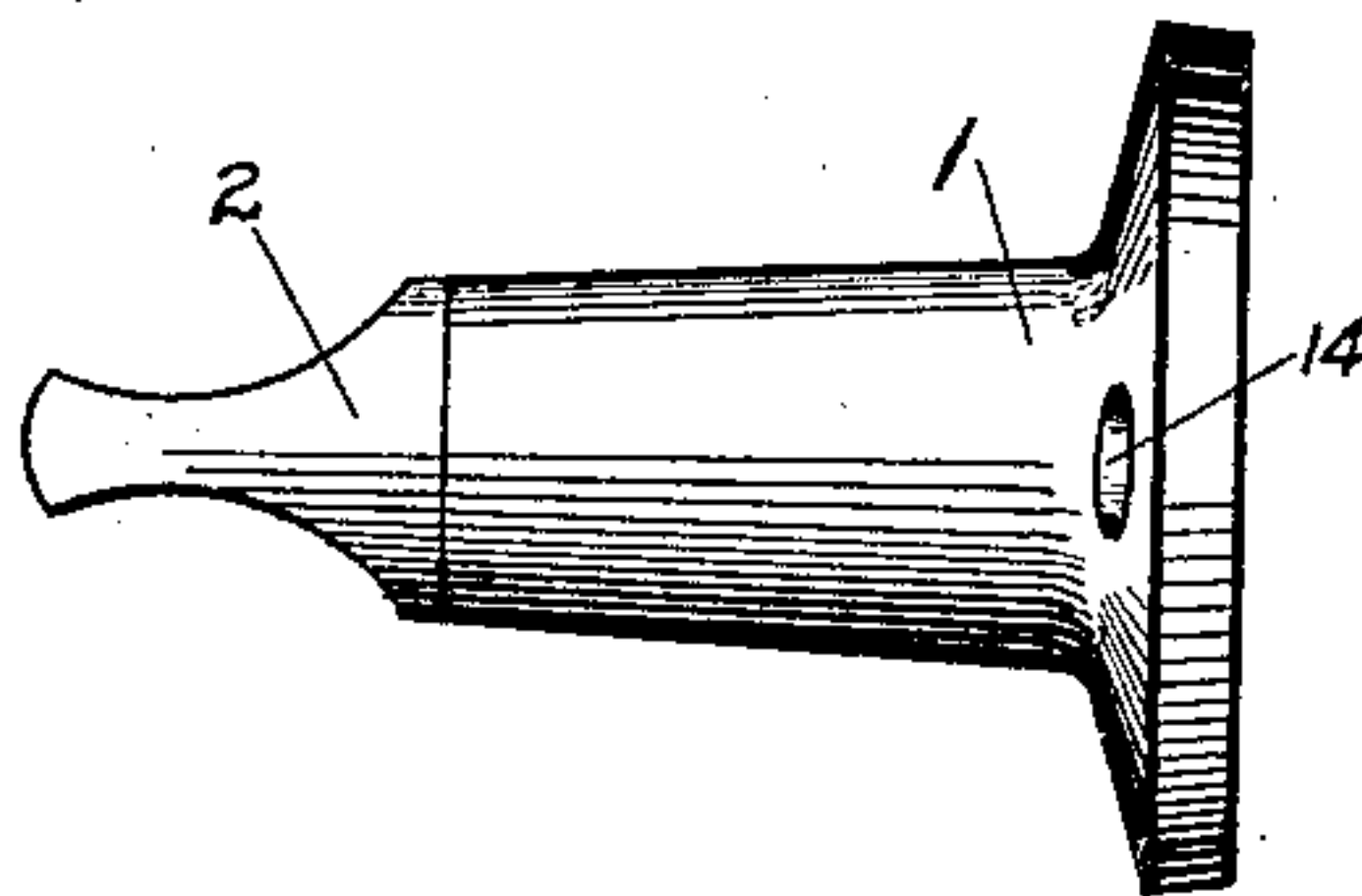


Fig. 4.

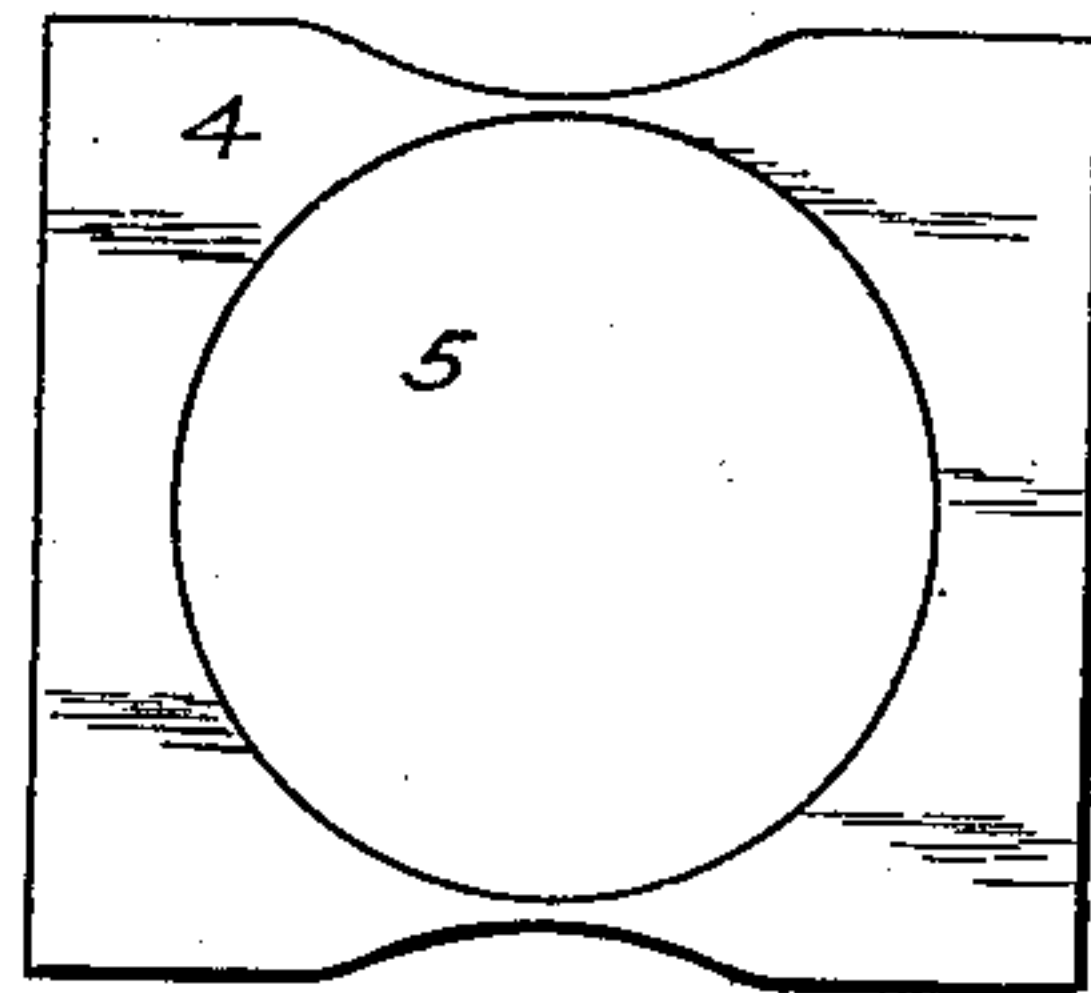


Fig. 6.

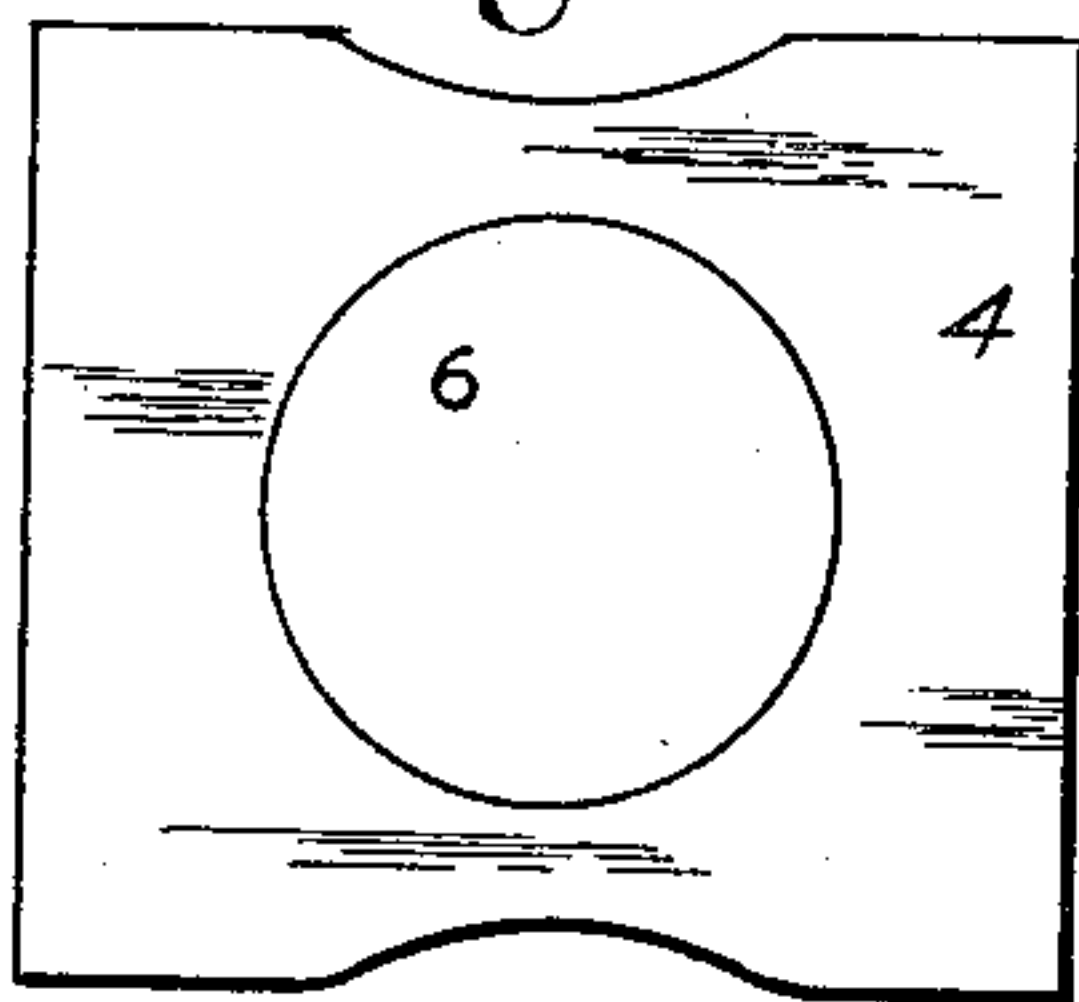


Fig. 7.

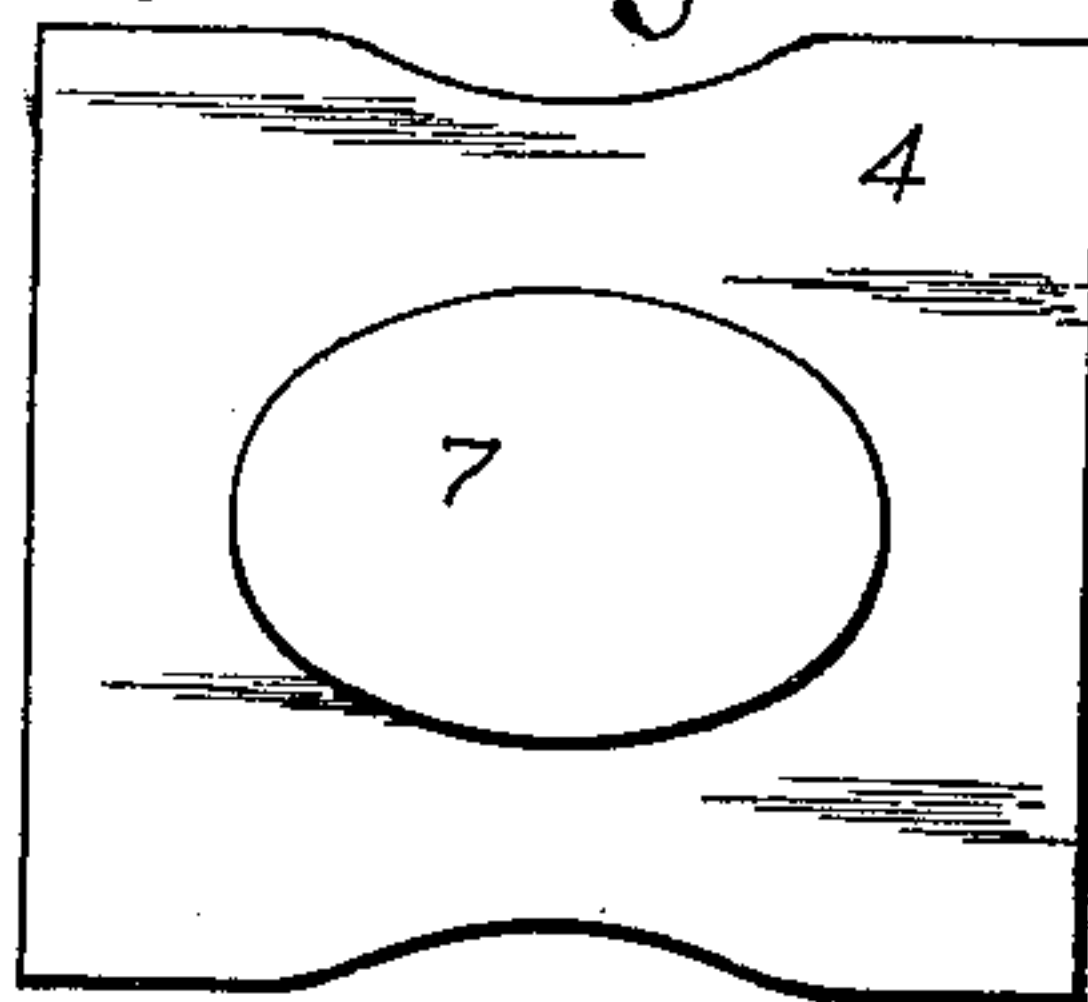


Fig. 8.

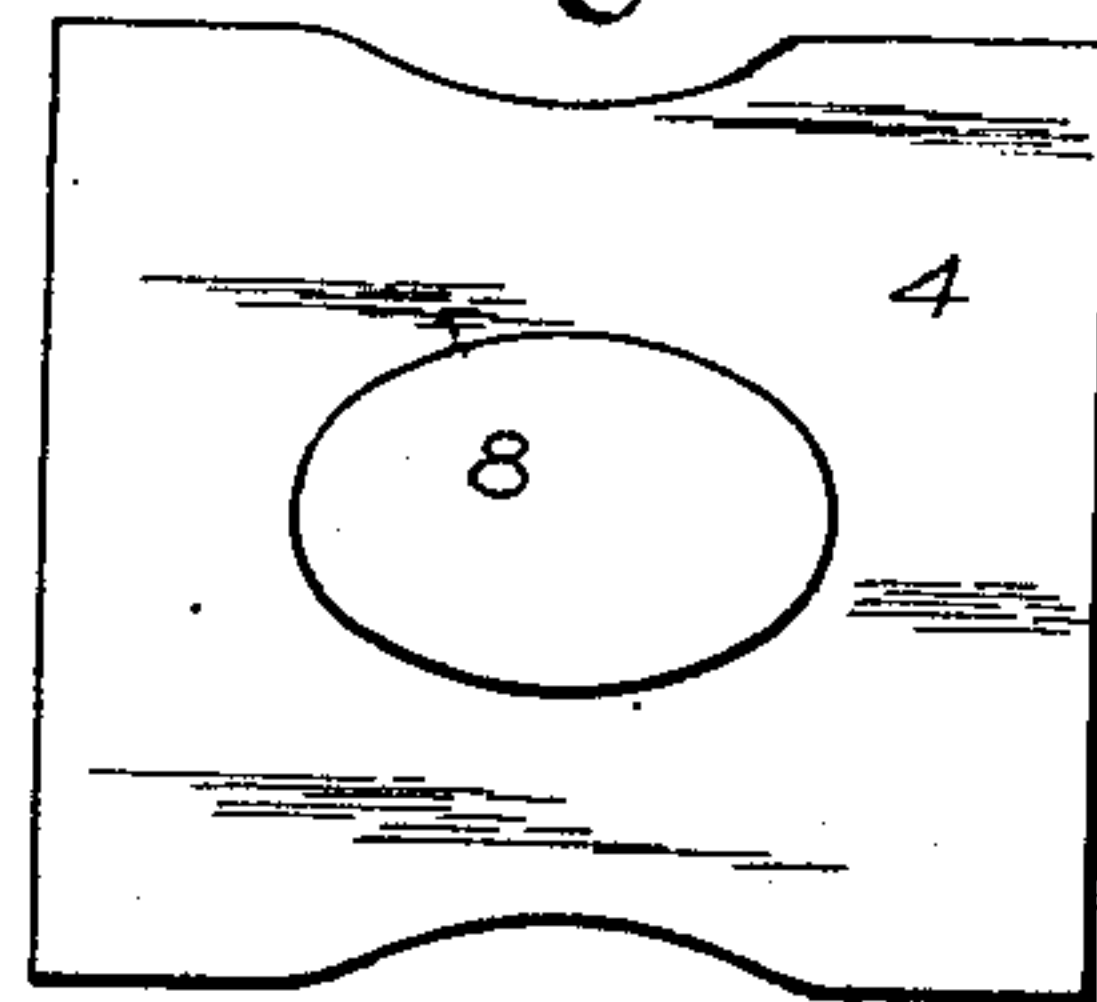


Fig. 9.

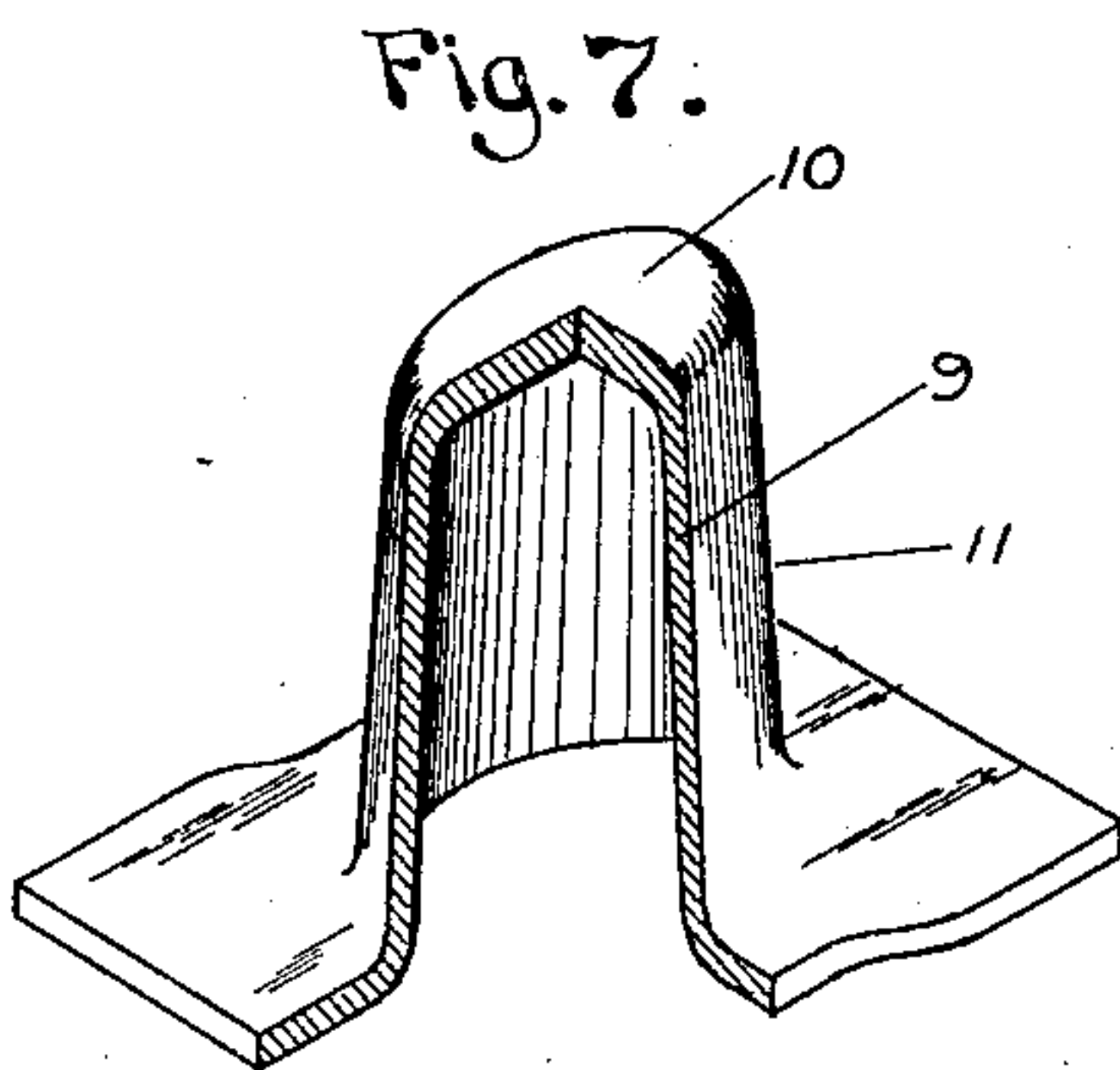


Fig. 10.

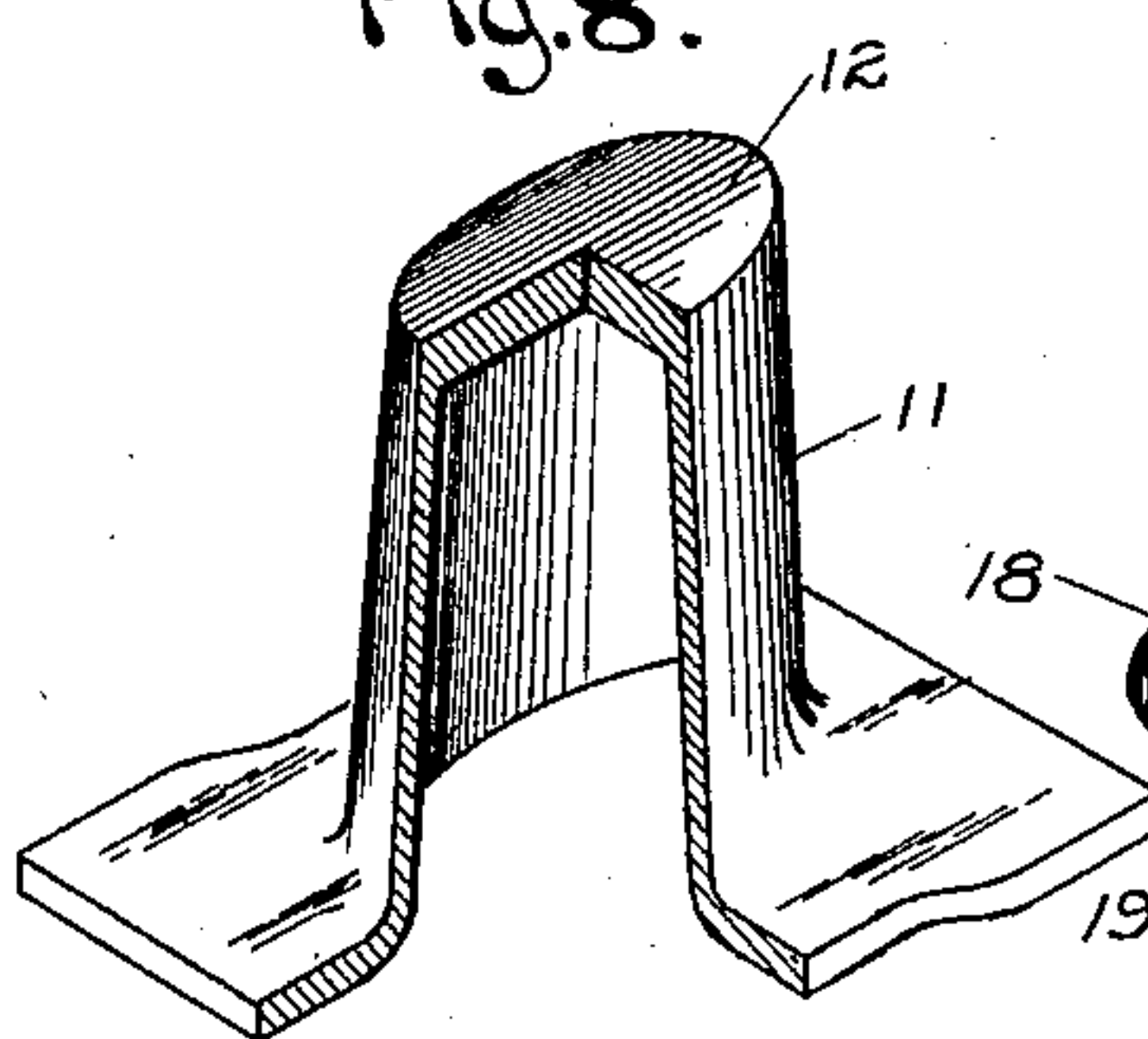


Fig. 11.

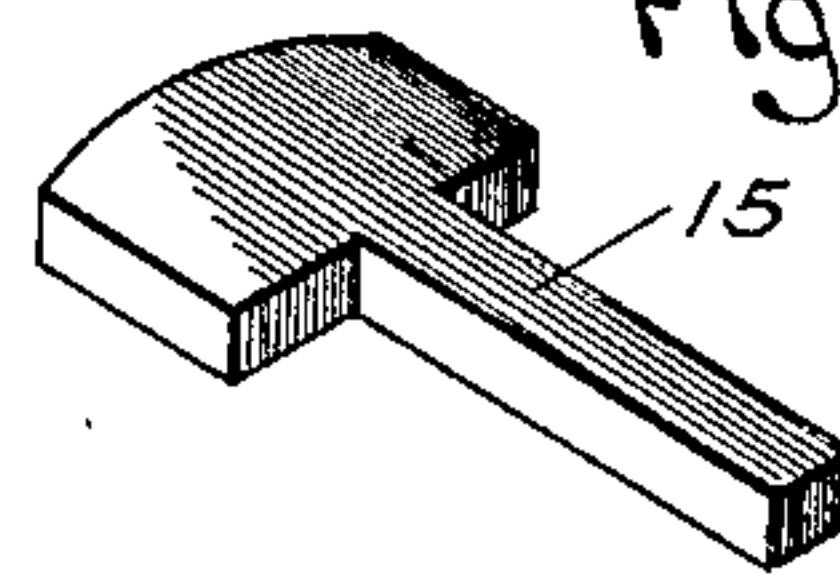


Fig. 12.

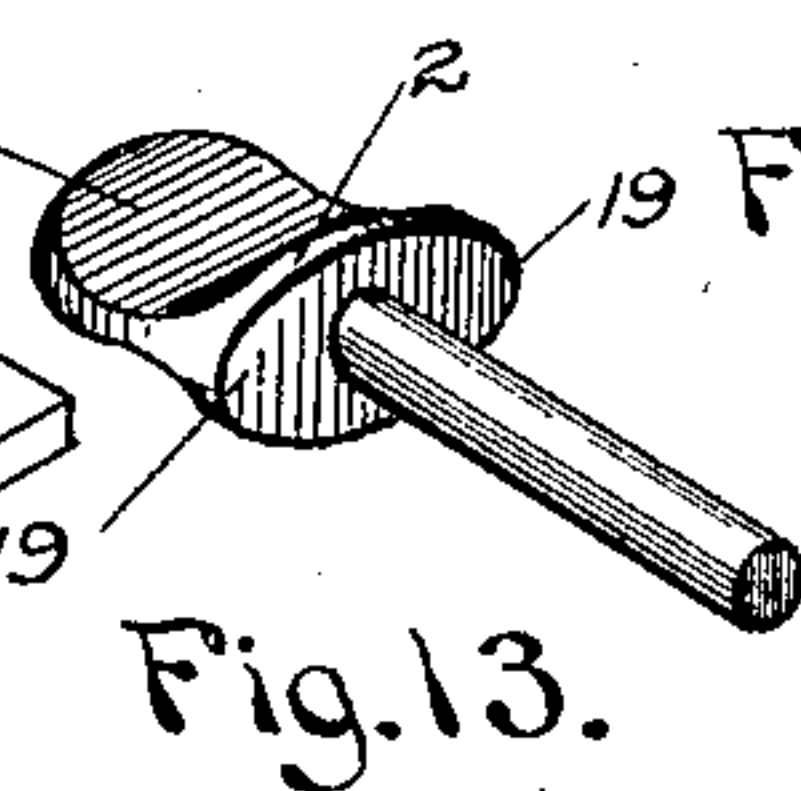


Fig. 13.

Witnesses.

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FASTENER.

No. 891,024.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed April 30, 1906, Serial No. 314,474. Renewed February 21, 1908. Serial No. 417,087.

To all whom it may concern:

Be it known that I, MATTHEW D. WILLARD, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Fasteners, of which the following is a specification.

My invention relates to fasteners and more particularly curtain fasteners which are especially designed for securing vehicle curtains although, obviously they may be put to many other desirable uses.

Among other things I have endeavored to provide means for eliminating much of the laborious and expensive work heretofore considered necessary in the production of articles belonging to this class of goods and I have also sought by means of my improved methods to prevent much of the waste of material that has been characteristic of methods heretofore in vogue for producing articles of this description.

Referring to the accompanying drawings consisting of one sheet and several figures in which like characters of reference indicate like parts throughout the several figures, Figure 1 is a top plan view of my improved fastener. Fig. 2 is a side elevation partly in section of the same. Fig. 3 is a bottom plan view of the same the spring washer being partly broken away. Fig. 4 is an end elevation of the same. Fig. 5 represents the blank from which, by means of my method of manufacture I am able to produce the base of my fastener. Figs. 6, 7, 8, 9, 10 and 11 represent the condition of the blank shown in Fig. 5 as it is progressively subjected to treatment under my method of manufacture. Fig. 12 is a perspective view of the blank for the stem or tang. Fig. 13 represents the blank shown in Fig. 12 after it has been subjected to treatment under my method of manufacture.

The fastener herein illustrated is made of three parts which I term the base 1; the stem or tang 2 and the spring washer 3. In the manufacture of products like that herein shown it has been heretofore customary to cast the stem 2 and the base 1 separately and then to machine and buff and polish them. One of the difficulties encountered by such methods has been the practical impossibility of casting these parts so that they would match as to size and for this reason a great amount of machine work has been necessitated and much waste of material has resulted.

By my improved method I form the base 1 from a blank 4 by successively treating it by suitable dies which give it its desired shape and size. Thus by the first operation the blank 4 is struck with a cup-shaped die which forms in the center of the blank 4 a circular cup-shaped raised portion 5.

In my second operation a die of less diameter strikes the raised portion 5 and produces a raised portion 6 of the same diameter as the die and of a greater height than the portion 5.

In my third operation an oval or elliptical die strikes the raised portion 6 and forms it into the oval or elliptical portion 7 which may be made of any desired height.

In my fourth operation another die substantially oval or elliptical in shape strikes the portion 7, and forms the oval or elliptical portion 8 which may be of any desired height.

In my fifth operation another die of suitable shape strikes the oval or elliptical portion 8 and forms the oval or elliptical portion 9 which has the rounded top 10 and the straight tapering portion 11.

In the last operation the rounded top 10 is struck back with a suitable die and the flat top 12 is thus formed.

I so form the dies that when they strike the blank they reduce the thickness of the sides or raised portions 5, 6, 7, 8 and 9, leaving the end portions substantially the same thickness as the original blank; and upon the last operation of the dies, that is forming the blank of Fig. 10 into that of Fig. 11, the top 10 is upset and thickened. Thus in the last operation when the rounded top 10 is struck back the flat top 12 is formed with a greater thickness of metal than the original blank had and greater also than the straight portion 11. By thus forming the base with a comparatively thick top portion 12 there is provided a strong solid bearing for the stem 2 which keeps said stem in its proper position. After these operations have been performed, the base is ready to have the hole 13 for the stem 2 and the holes 14 for the screws punched in it. The blank 15 shown in Fig. 12 is then subjected to a die or dies and formed into the stem 2 as shown in Fig. 13. The spring washer 3 is cut out of suitable material and adapted to fit into the bottom of the base 1. This washer 3 is provided with a raised portion 16 which is adapted to fit into and lock with one or more corresponding depressions 17 in the base 1. Thus when the washer 3 is suitably secured to the stem

2 as clearly shown in Figs. 2 and 3 and the stem 2 is turned so that the raised portion 16 registers with one of the depressions 17 the stem 2 will be locked against further movement.

From the foregoing it will be evident that by my method of manufacture I am able to produce a product which necessitates no waste of material nor machine grinding or buffing. Manifestly, too, the parts produced as herein described fit so truly that they are capable of being interchanged and used with other complementary parts as desired without the necessity of any fitting since they are all the product of the operation of the same dies.

After the parts are all assembled as clearly shown in Figs. 1, 2, 3, and 4 the fastener is suitably secured by means of screws or otherwise as desired to the vehicle and the curtain is passed over the head 18 of the stem 2 and the stem turned a quarter revolution so that the wings 19 of the head 18 of the stem 2 pass beyond the straight face 11 of the raised portion 9 of the base 1 and thus lock the curtain on the fastener.

Having thus described my invention what I claim is:

1. A sheet metal fastener comprising a struck up concavo-convex base formed in one piece with screw holes, with an inner cylindrical recess and with a hollow body having a flat end provided with a stem hole, a rotatable spring washer located in the inner

cylindrical recess, and a struck up rotatable stem fixedly riveted to the spring washer, journaled in the stem hole, and having a head working upon the flat top of the hollow body.

2. A sheet metal fastener comprising a struck up concavo-convex base formed in one piece with screw holes, with an inner cylindrical recess and with a hollow body having a flat end provided with a stem hole, a rotatable spring washer located in the inner cylindrical recess, means for locking the spring washer and stem to the concavo-convex base, and a struck up rotatable stem fixedly riveted to the spring washer journaled in the stem hole and having a head working upon the flat top of the hollow body.

3. A sheet metal fastener comprising a struck up concavo-convex base formed in one piece with screw holes, with an inner cylindrical recess having radial depressions and with a hollow elliptical tapering body having a flat end provided with a stem hole, a rotatable spring washer located in the inner cylindrical recess, formed with a raised portion adapted to seat in a radial depression, and a struck up rotatable stem fixedly riveted to the spring washer journaled in the stem hole and having a head working upon the flat top of the hollow body.

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