

No. 688,431.

Patented Dec. 10, 1901.

F. G. NEUBERT.  
EYELET.

(Application filed May 9, 1901.)

(No Model.)

Fig. 1.

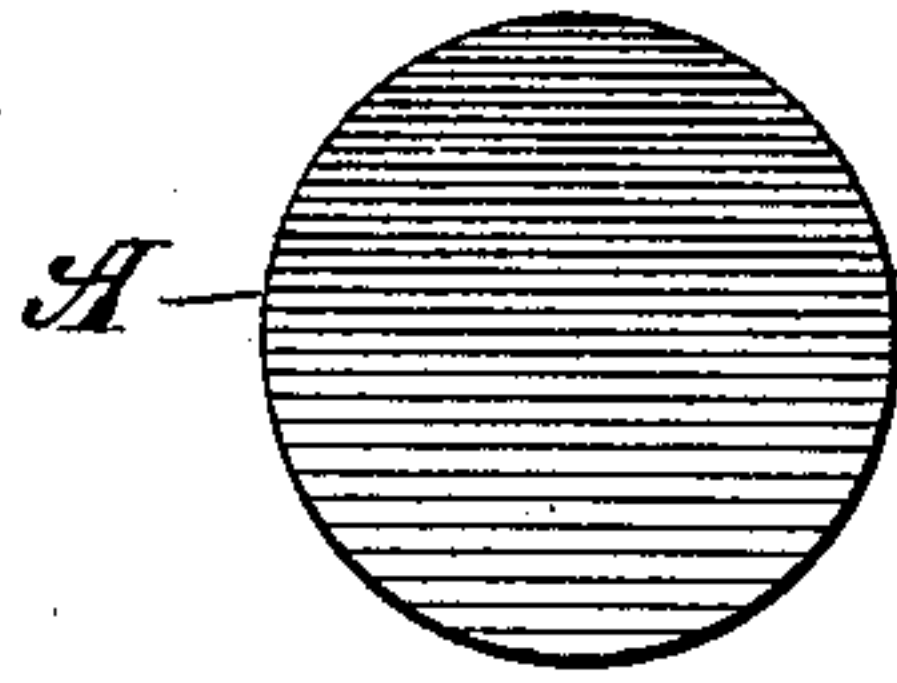


Fig. 2.

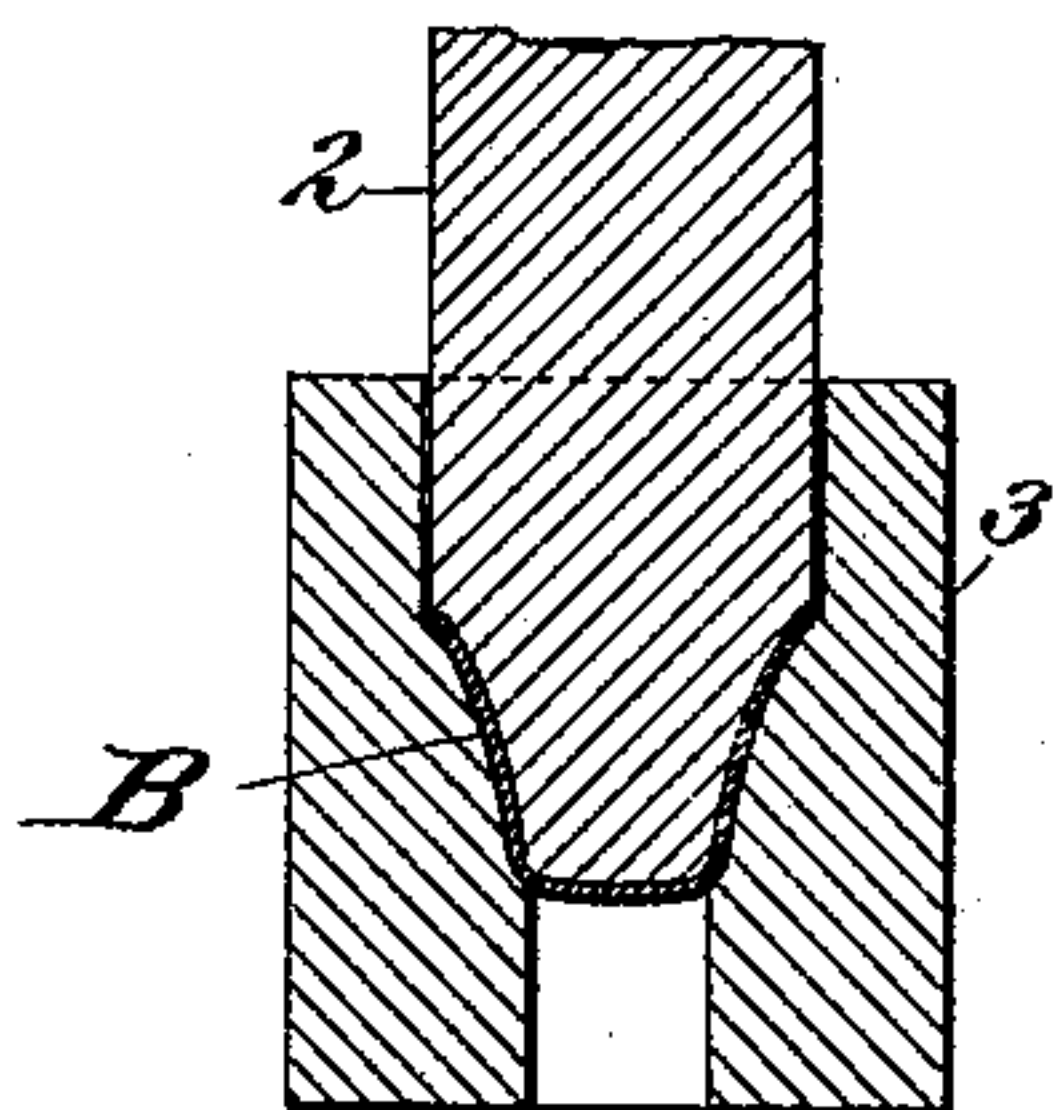


Fig. 3.

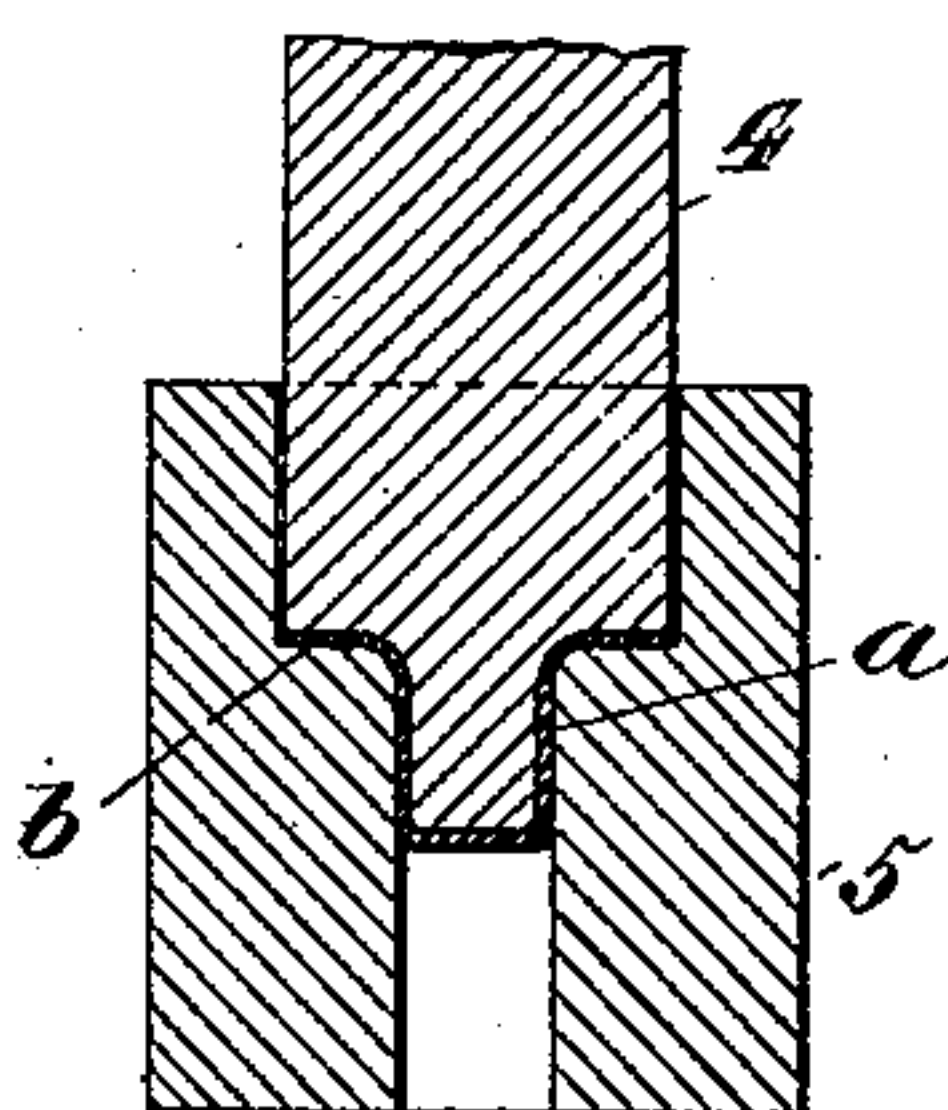


Fig. 4.

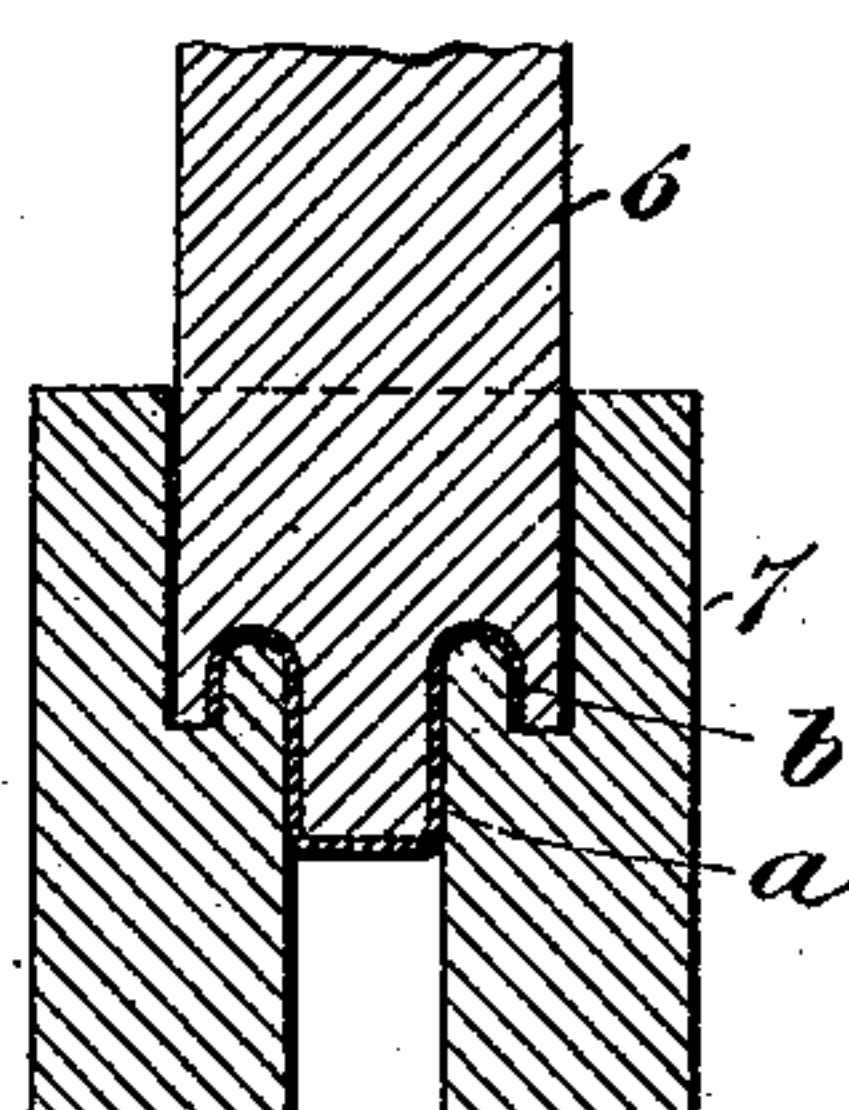


Fig. 5.

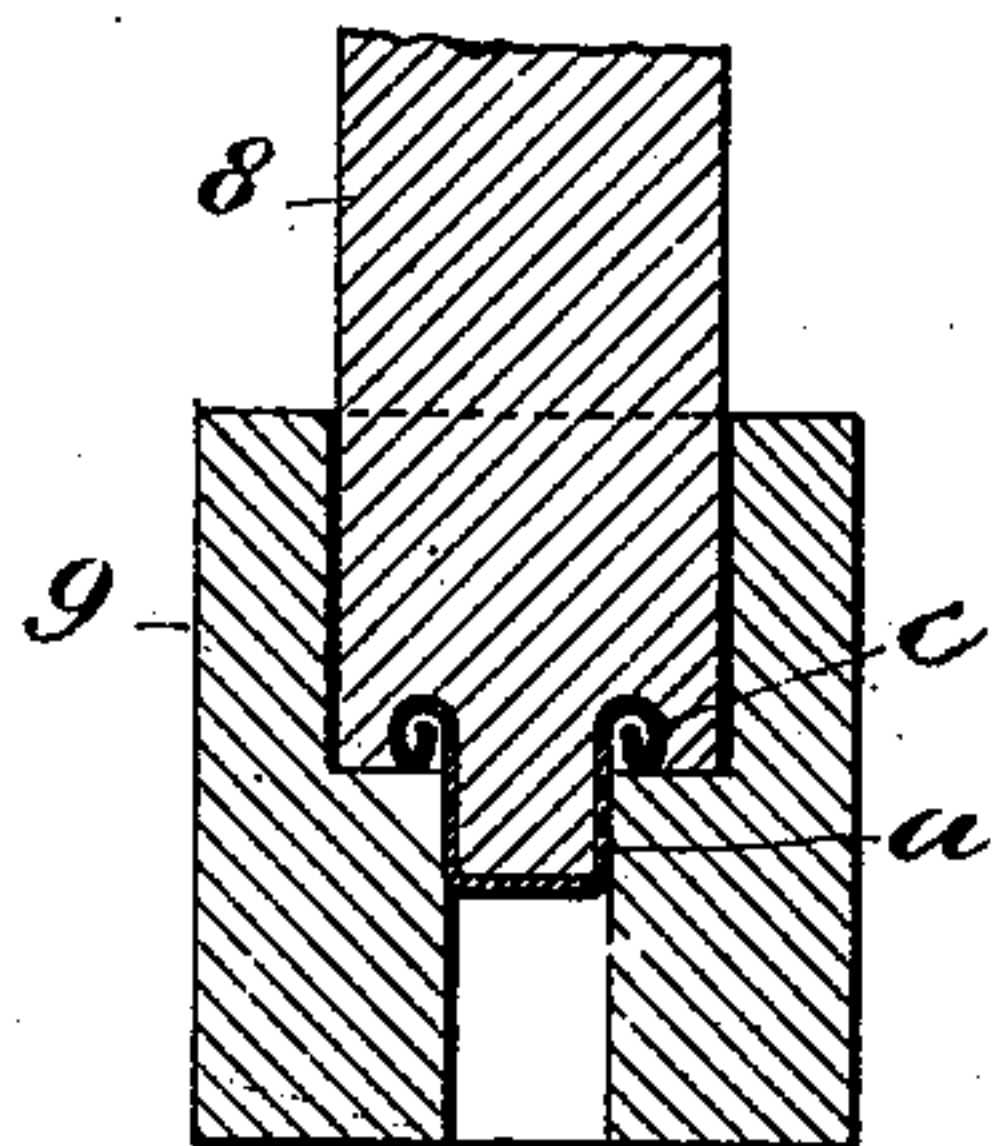


Fig. 6.

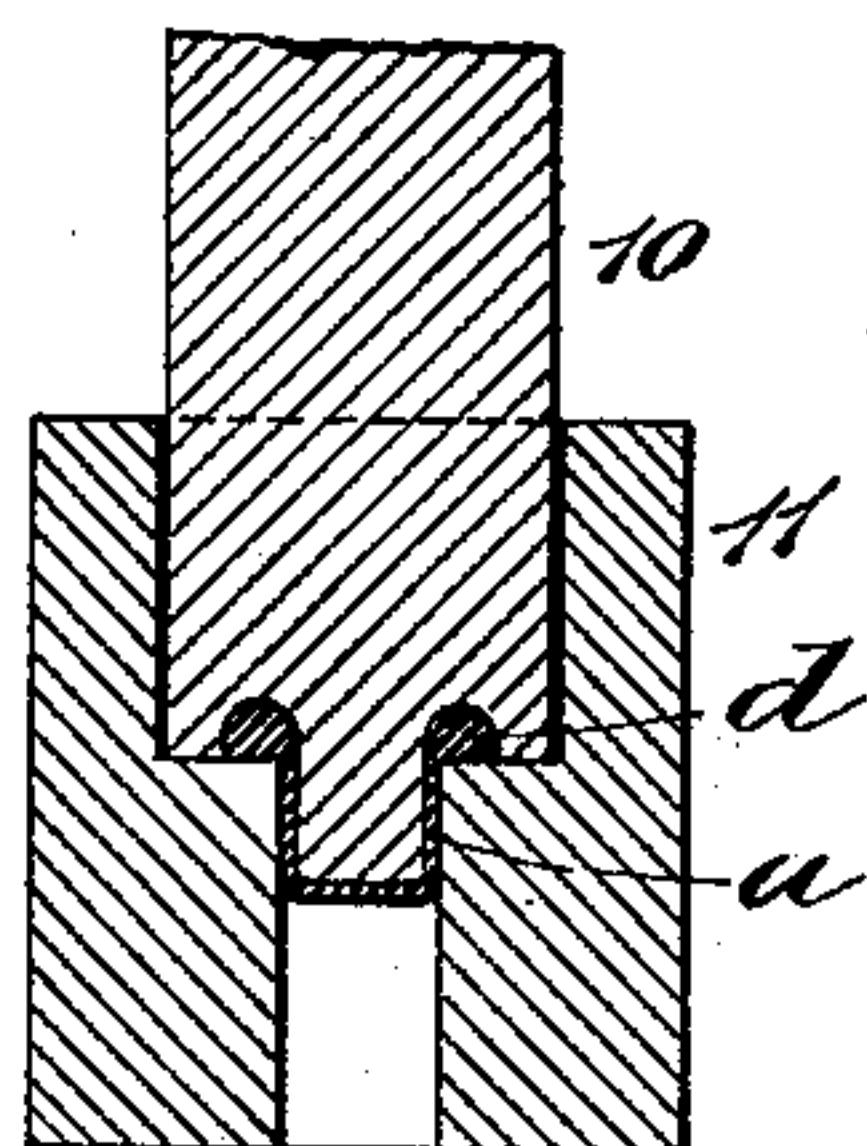


Fig. 7.

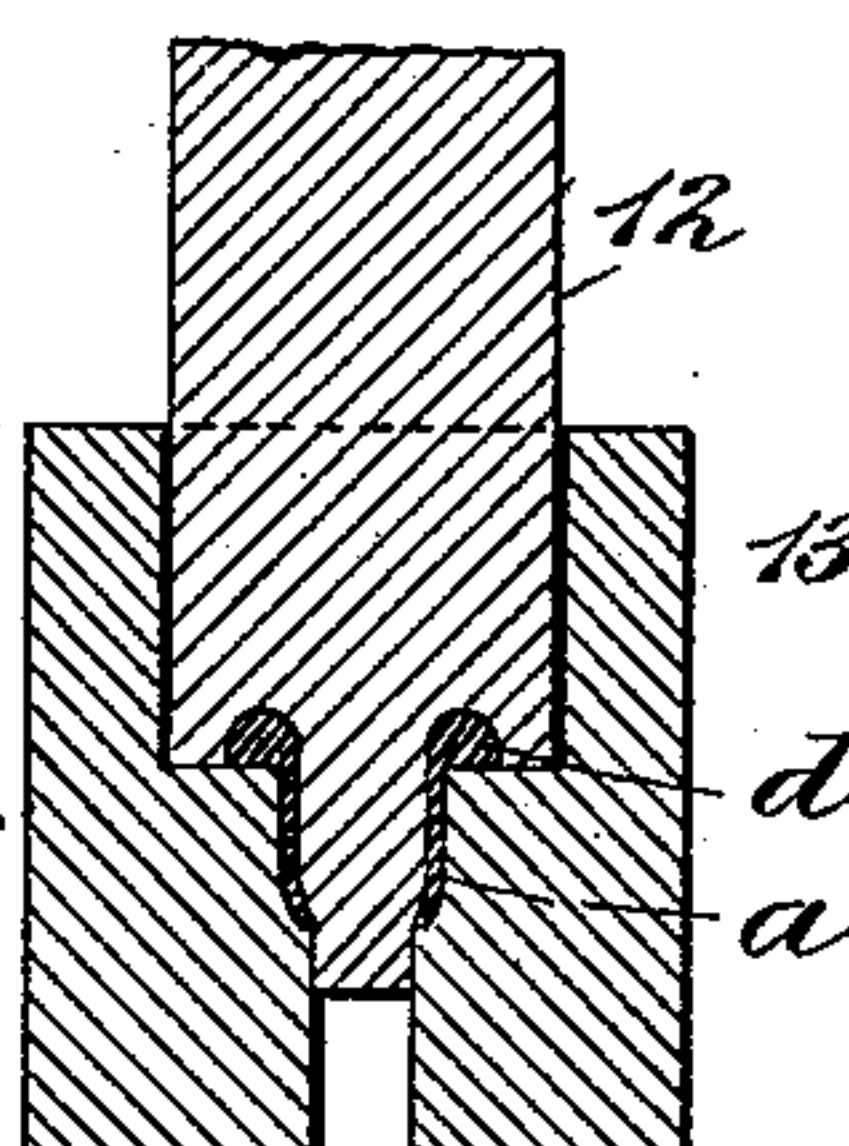
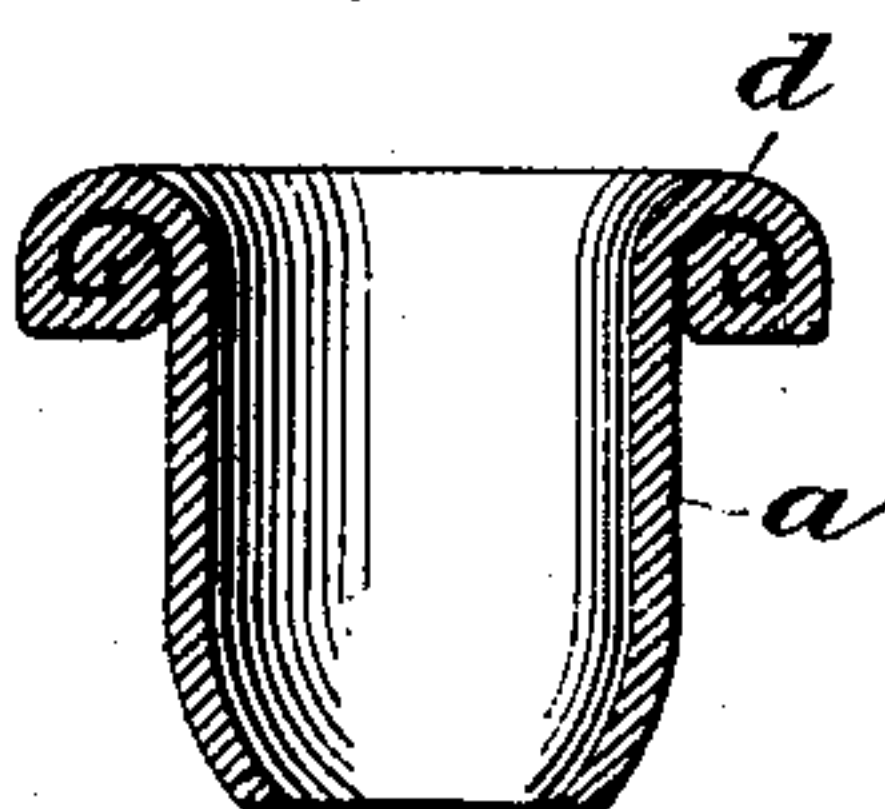


Fig. 8.



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## EYELET.

SPECIFICATION forming part of Letters Patent No. 688,431, dated December 10, 1901.

Application filed May 9, 1901. Serial No. 59,355. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN G. NEUBERT, a citizen of the United States, and a resident of Waterville, in the county of New Haven and State of Connecticut, have made and invented a certain new and useful Improvement in Eyelets, of which the following is a specification.

My invention relates to an eyelet, the object being to provide an article of this kind or character which shall be adapted for all purposes for which eyelets are now generally employed and which by reason of my improved method of forming the same will overcome certain objectionable features found in all other eyelets with which I am familiar.

As is well known, eyelets made of metal have applied thereto an outer coating or covering of paint, japan, or other material, which during the process of fastening the eyelets in place is oftentimes marred or damaged by reason of the yielding of the metal flange under the pressure of the setting-tools, resulting in the breaking or cracking of the japan or paint and the exposure of the metal of which the eyelet is formed. To overcome this objectionable feature, eyelets have been formed partly of metal and partly of rubber or other plastic material, and in other instances but a thin coating of japan or paint is applied, which soon wears through and renders the eyelet unsightly.

The object of my invention is to construct an eyelet wherein the yielding of the flange will be entirely overcome, and thereby permit of a thicker coating of japan than has heretofore been possible, and this by a new and novel method.

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

In the accompanying drawings, Figure 1 is a view of a round blank from which the eyelet is formed. Figs. 2, 3, 4, 5, 6, and 7 show the successive steps or operations in the formation of the eyelet; and Fig. 8 is a sectional view, on an enlarged scale, showing the adjacent folds of metal forming the flange in in-

timate contact with each other as the result of the swaging operation.

Referring to the drawings, A represents a round blank of brass, zinc, or other material. In the formation of the eyelet this blank is subjected to the action of the dies 2 3, which cause it to assume the form of a partially-completed eyelet B, after which it is acted upon by the dies 4 5, the result of which is that the shank *a* is somewhat lengthened or elongated and the flange *b* spread and flattened. During the next step in the operation, as shown in Fig. 4, the dies 6 7 bend or turn the flange *b* downwardly, which is then rolled or curled upon itself by means of the dies 8 9, (illustrated in Fig. 5,) it being understood that in the formation of this flange an excess of metal over that usually employed is utilized to provide for the rolling or curling. The eyelet is then subjected to the action of the dies 10 11, as illustrated in Fig. 6, whereby the curled flange, as indicated at *c* in Fig. 5, is swaged or upset, the result being that the adjacent folds, bends, or turns are brought into intimate contact with each other, as illustrated on an enlarged scale in Fig. 8, and form a thickened, widened, and practically solid flange. The final operation is illustrated in Fig. 7, wherein the dies 12 and 13 cooperate to remove or cut out the lower end of the eyelet.

The method above described—that is, first bending and then curling the metal upon itself to form a curled flange and finally upsetting or swaging this curled flange in order to bring the adjacent folds of the metal into intimate and close contact with each other, and thereby form a solid flange—results in a structure wherein there can be no yielding under the pressure of the setting-tools, by reason of the fact that the dies which swage and upset the metal exert a far greater pressure thereon during its formation. It will also be noticed that the top and outer surface of this solid flange is properly arched or curved, while the under side or bearing-surface is flattened, thereby insuring a perfect set of the eyelet upon the material to which it is fastened. By thus overcoming all danger of yielding under the setting-tools it will

be evident that a much thicker coating of paint or japan may be applied to the article, materially increasing the length of time during which the eyelet may be in use before the same is worn through to the metal.

I am aware that it is not new to turn the edge of a flange inwardly to form a strengthening or stiffening lip, and hence I make no claim thereto, the gist of my invention lying in an eyelet formed of a single piece of metal and wherein the flange at one end consists of several bends, turns, or folds, the adjacent folds being in intimate contact with each other by reason of their being swaged or upset.

Having fully described my invention, what

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

An eyelet formed of a single piece of metal, and having its tubular portion provided with a flange at one end, said flange consisting of several folds of metal, the adjacent folds being in intimate contact with each other, substantially as described.

Signed at Waterville, in the county of New Haven and State of Connecticut, this 3d day of May, A. D. 1901.

FRANKLIN G. NEUBERT.

Witnesses:

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CHAS. H. ANDRUS.