

No. 799,042.

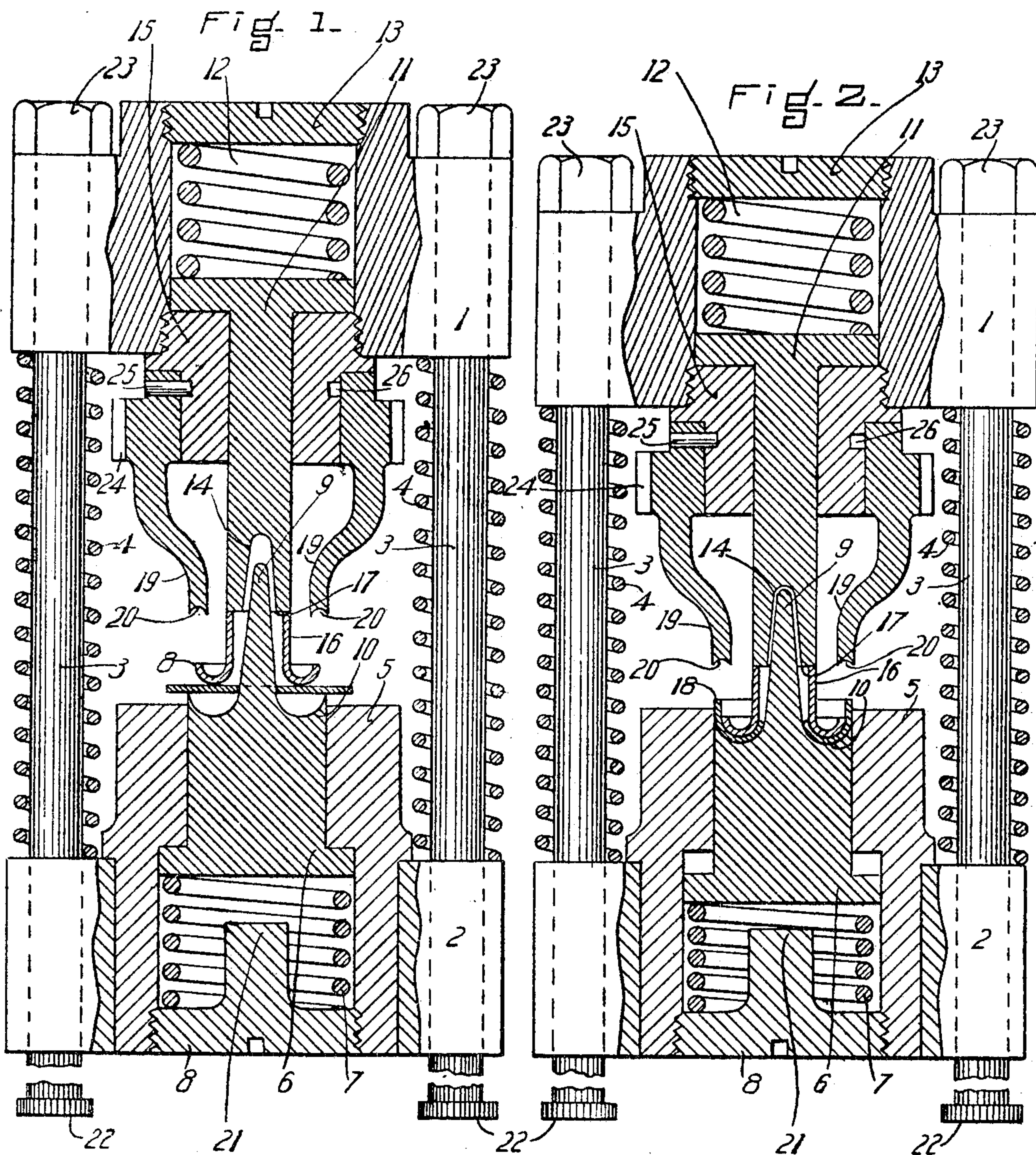
PATENTED SEPT. 12, 1905.

P. R. GLASS.

METHOD AND APPARATUS FOR COVERING EYELETS WITH FLEXIBLE MATERIAL.

APPLICATION FILED APR. 5, 1905.

2 SHEETS—SHEET 1.



WITNESSES.

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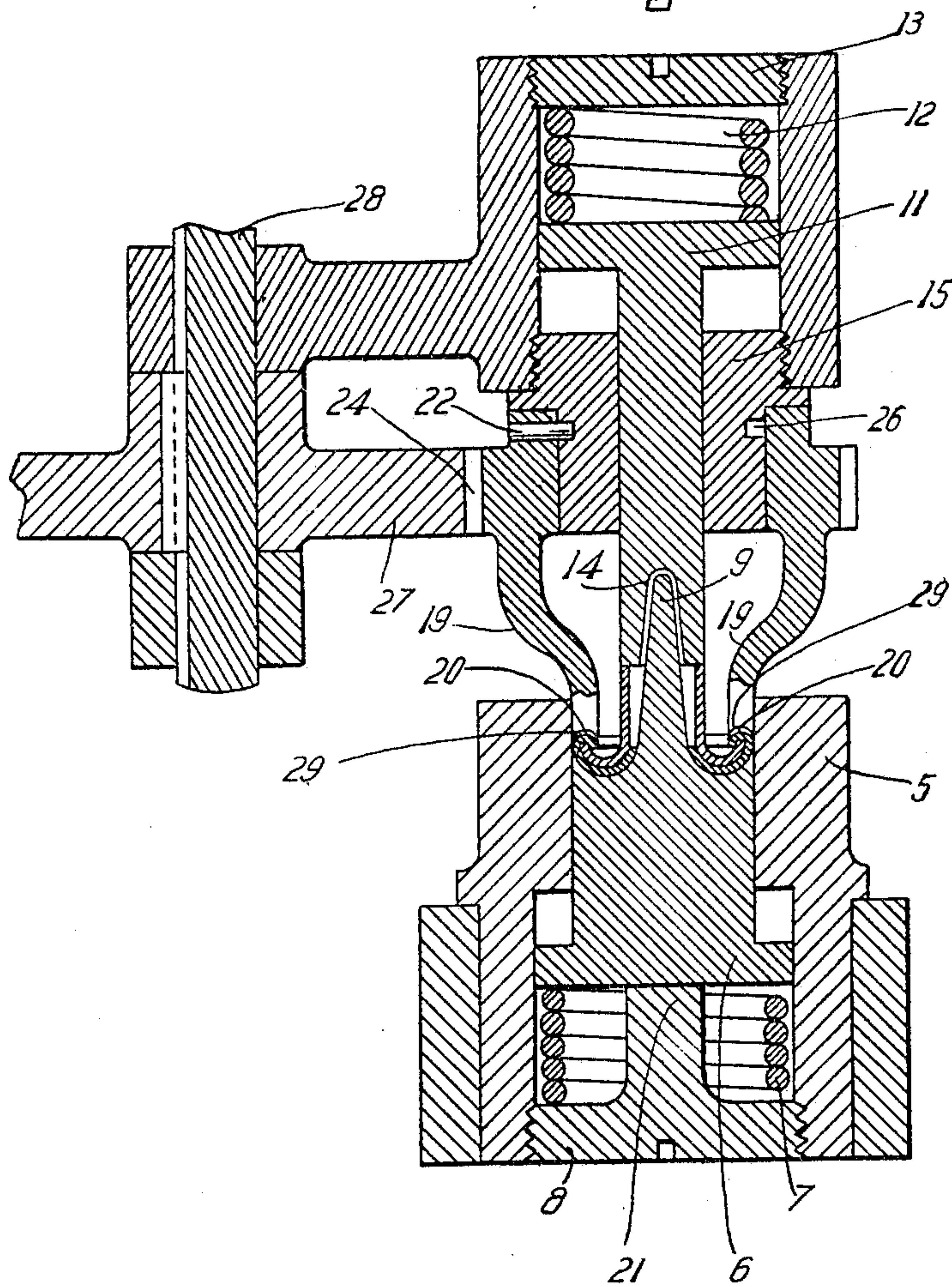
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

PERLEY R. GLASS, OF QUINCY, MASSACHUSETTS.

METHOD AND APPARATUS FOR COVERING EYELETS WITH FLEXIBLE MATERIAL.

No. 799,042.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed April 5, 1905. Serial No. 254,065.

To all whom it may concern:

Be it known that I, PERLEY R. GLASS, a citizen of the United States, residing at Quincy, county of Norfolk, and State of Massachusetts, have invented certain new and useful Improvements in Methods and Apparatus for Covering Eyelets with a Flexible Material, of which the following is a specification, reference being had to the drawings accompanying the same.

My invention relates to a method for covering eyelets with a flexible material, such as celluloid or rubber or a like material, and the means for putting on said covering.

The objects of my invention are as follows: to provide a method for covering eyelets with a material cut or formed of the proper form and thickness to form the covering for an eyelet.

Another object is to provide an apparatus that will cover eyelets with celluloid, rubber, or a like material from a piece of such material of the proper form and thickness.

My invention comprehends the covering of eyelets with celluloid or rubber when in a hardened or a flexible condition by forming or shaping the material in the proper form and thickness and thereafter pressing it upon the head of the eyelet with a former shaped to cover said head with a uniform thickness and to form it around the head by a rubbing or sliding contact with the material, to so form and arrange the apparatus that the forming-dies will have a frictional contact with the material sufficient to develop a frictional heat that will soften and prevent the material from cracking, to assist in shaping it to the form of the head of the eyelet.

In the drawings accompanying this specification, Figure 1 is a sectional elevation of my eyelet-covering apparatus, showing an eyelet and the material in position ready to be around the head of the eyelet. Fig. 2 is a sectional elevation same as Fig. 1, showing the dies partially closed and the material partially bent or formed around the head of the eyelet. Fig. 3 is a partial sectional elevation of the forming-dies, taken at right angles to the elevation shown in Fig. 1, and shows the completion of the process of forming the material around the head of the eyelet and the eyelet in cross-section as completed.

In the drawings, 1 represents the upper die-holder, and 2 the lower die-holder.

3 3 represents the rods connecting the up-

per and lower die-holders, which rods have for their purpose to keep the die-holders in proper alinement and to limit their movement away from each other.

4 4 represent spiral springs surrounding the rods 3 3 and pressing against the upper and lower die-holders 1 and 2 and serve to press them apart.

5 represents the lower die-holding block in which there is a bearing in which the lower forming-die 6 is free to move vertically.

7 is a spiral spring pressing upwardly against the bottom of the lower forming-die 6, its lower end pressing against the adjusting-screw 8. The adjusting-screw 8 is threaded into the bottom of the die-holder 5.

9 is an upwardly-projecting point in the forming-die 6, adapted to receive and center the material and the eyelet.

10 is a concave annular groove in the top of the forming-die 6, formed in the shape of a covered eyelet.

11 is a pressing-die which has a sliding bearing in the upper forming-die 15. It is pressed downwardly by the spiral spring 12, which contacts with its top portion. The spiral spring 12 has a bearing at its upper end against the adjusting-screw 13, screw-threaded into the top of the die-holder 1. The part 15 is threaded into the die-holder 1.

16 represents an eyelet, and 17 the lower end of the presser-die 11, which is adapted to press against the top of the eyelet 16 to move it downwardly to form the material 18 around the head of the eyelet in the annular forming portion 10 of the die 6.

19 19 represent the upper forming-die, and 20 20 represent the concave lower end of said upper forming-die. The forming-die 19 19 is adapted to press against the upper edge of the covering material 18 and turn it inwardly and form it around the edge of the head of the eyelet, as shown in Fig. 3.

21 is a stop on the adjusting-screw 8, which is adapted to contact with the bottom of the lower forming-die 6 and limit its downward movement.

22 22 represent heads on the lower ends of the rods 3 3 to limit the movement of the holding-dies 1 and 2 away from each other, and 23 23 are nuts on the upper end of said rods 3 3, serving the same purpose as the heads 22 22—i. e., to limit the movement of the holding-dies 1 and 2 away from each other.

The operation of my eyelet-covering apparatus and the method by which it covers an eyelet is as follows: The holding-dies 1 and 2 are moved a sufficient distance away from each other to allow the placing of the material 18 and the eyelet 16 upon the end of the centering-point 9. Thereafter the presser-die 11 is moved downwardly by any suitable means, as a power-press, to press the eyelet 16 downwardly against the material 18, thereby pressing it into the concave-forming portion 10 of the lower die 6 to bend it, as shown in Fig. 2. This pressure continues until the forming-die 6 contacts with the stop 21. Thereafter the spring 12 will be compressed, the upper forming-dies 19 19 continuing downward until the concave edges 20 20 contact with the upper edge of the material. The upper forming-dies 19 19 are mounted on the portion 15 in such manner as to revolve freely thereon and are held in their adjusted position by means of the pin 25, projecting into the groove 26. The forming-dies 19 19 have gear-teeth 24 on their upper edge adapted to enmesh with the revolving gear 27, which is revolved in any suitable manner through the medium of the shaft 28. The frictional revolving contact of the upper forming-grooves 20 20 against the edge of the material will gradually spin and turn it inwardly around the outer edge of the eyelet 16 until it is in the form shown in Fig. 3. The dies 19 19 have sections cut out to leave a plurality of downwardly-projecting portions, which downwardly-projecting portions have annular grooves, as 20, and are rounded slightly on their edges, as shown in Fig. 3 at 29 29. The spiral spring 7 is slightly weaker than the spiral spring 12, so that it will be deflected to a point where the contact portion 21 of the adjusting-screw 8 will contact with

the bottom of the forming-die 6 before the spring 12 will be compressed.

I do not limit myself to the precise form of holding-dies 1 and 2 and the form of the forming-dies 19 19, as they may be varied slightly in form, and the supports may be arranged differently without departing from the spirit of my invention.

What I claim is—

1. In an apparatus for covering eyelets, a yielding, holding and forming die; means to limit the movement of said die; and a rotatable forming-die.

2. In an apparatus for covering eyelets, means for holding and centering the eyelet and the covering material; yielding means for pressing the eyelet upon the material; spiral springs for both said means; an annular forming-recess in the holding-die; and an upper rotatable forming-die arranged and formed to press the material and form it over the head of the eyelet.

3. In an apparatus for covering eyelets, yielding means for holding and centering an eyelet and the material to cover it; a spring for said holding means; a yielding pressing-die; a spring for said pressing-die; a lower forming-die formed in the holding means; a stop to limit the vertical movement of the lower holding-die; an upper rotatable forming-die; means for pressing said dies together and for rotating the upper forming-die; means for guiding said dies; and means for pushing them apart.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses, this the 3d day of April, 1905.

PERLEY R. GLASS.

Witnesses:

H. M. KELSO,
R. P. ELLIOTT.