

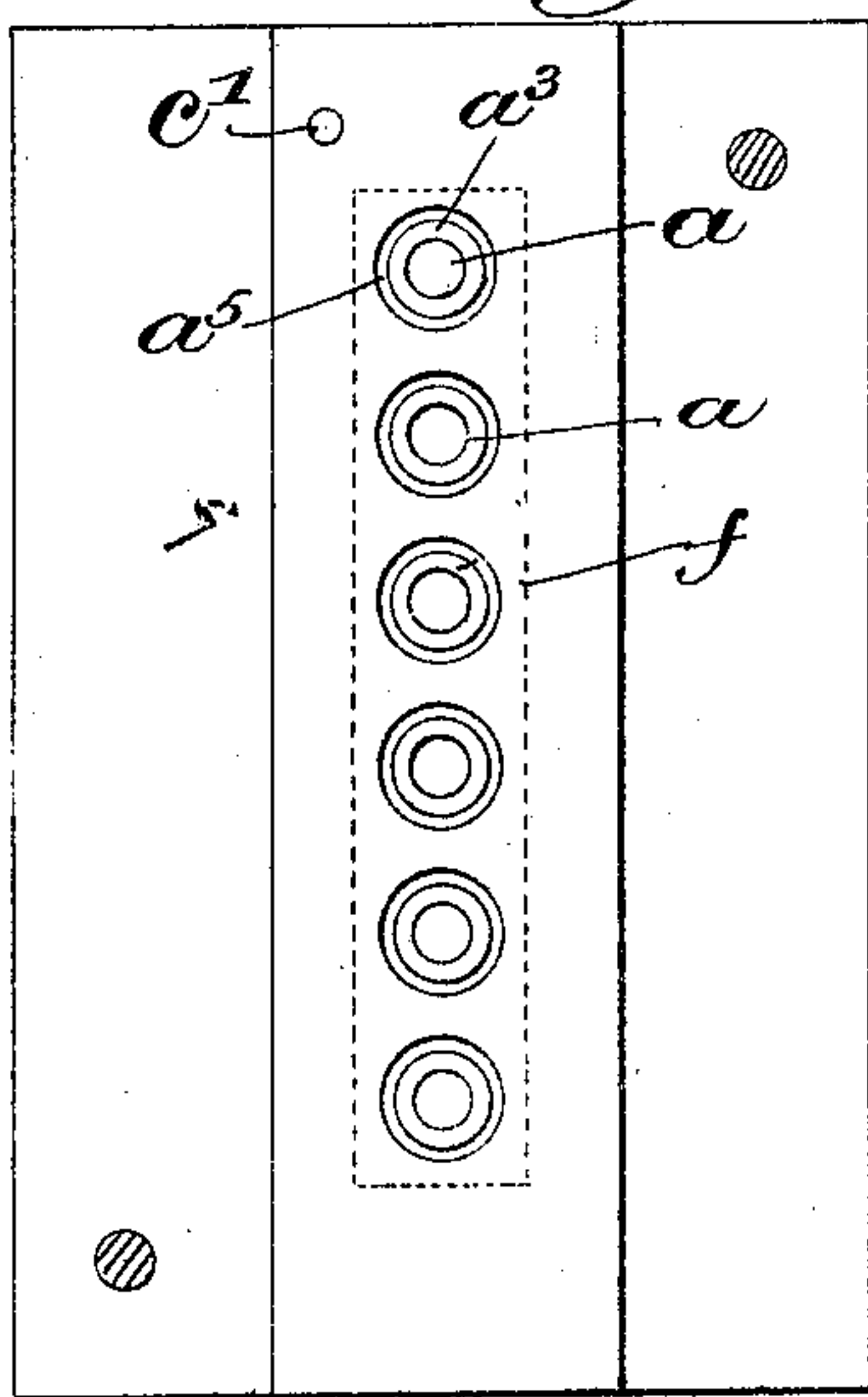
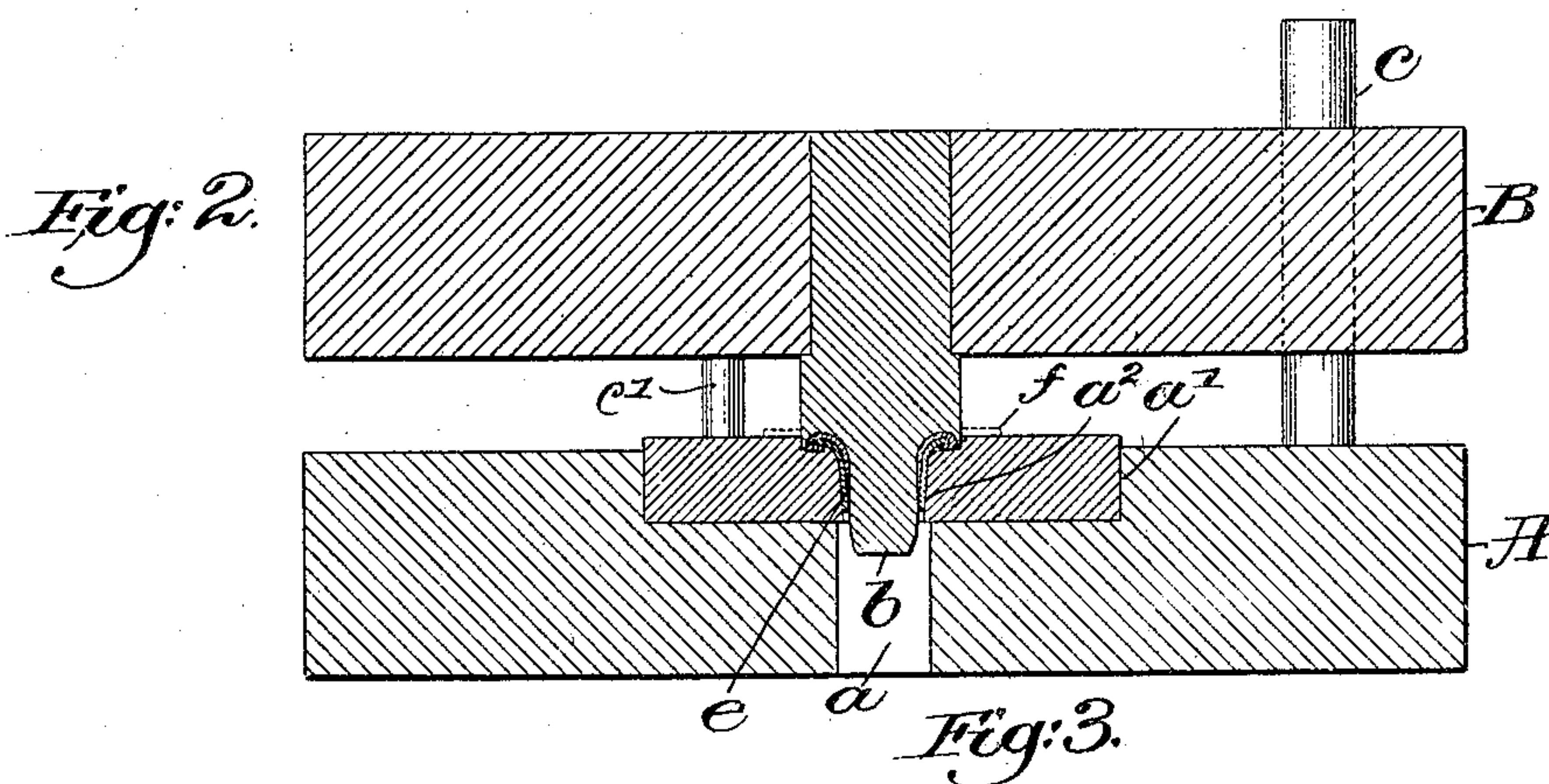
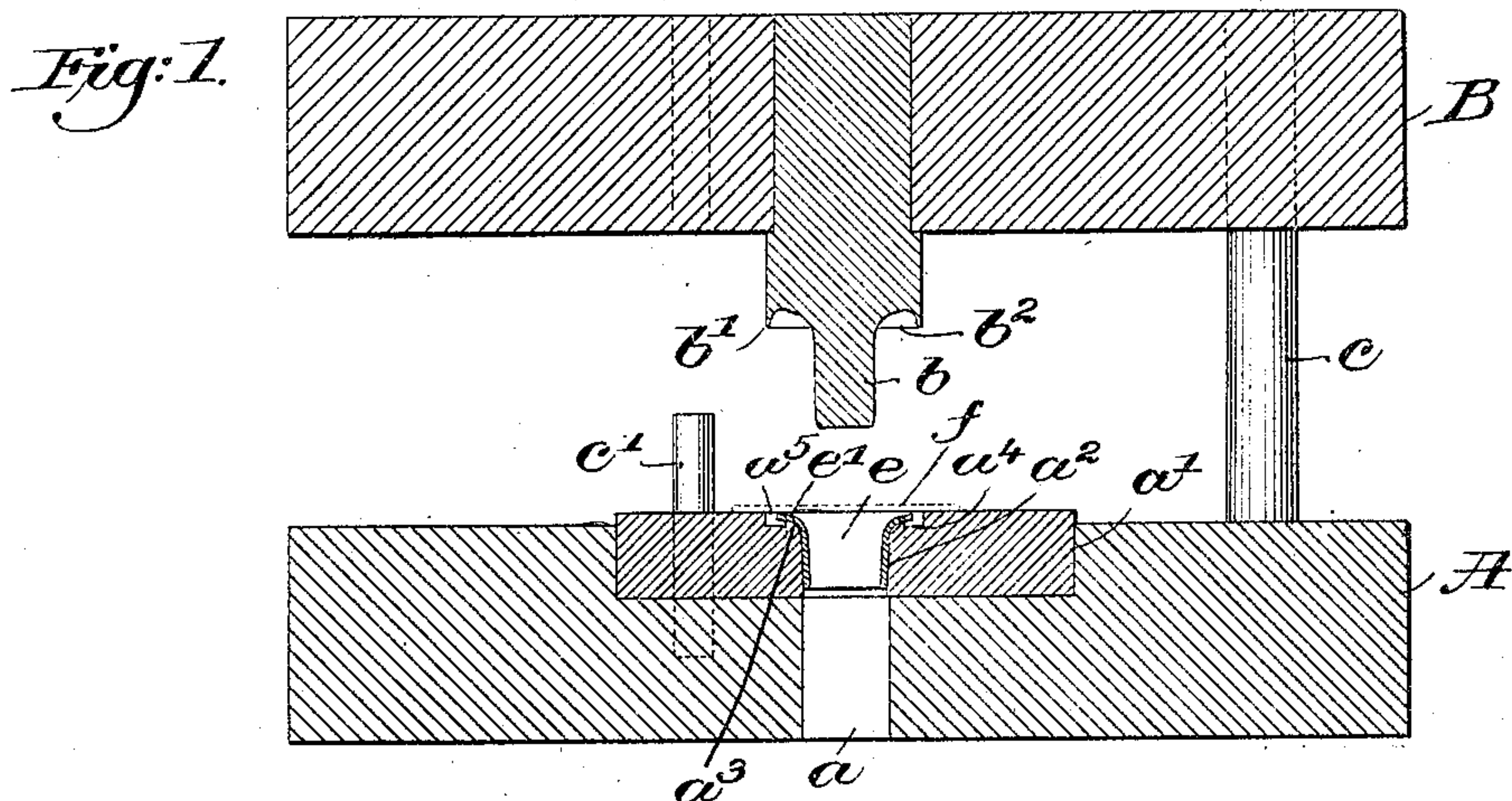
No. 789,694.

PATENTED MAY 9, 1905.

E. KEMPSHALL.

DIES FOR APPLYING COVERING MATERIAL TO THE FACES OF EYELETS.

APPLICATION FILED FEB. 9, 1895. RENEWED AUG. 23, 1902.



Witnesses,

Fred S. Grumbine.

Thomas J. Sumner.

Inventor.

Fleazer Kempshall

by Crosby Gregory, attys.

UNITED STATES PATENT OFFICE.

ELEAZER KEMPSHALL, OF SHARON, MASSACHUSETTS, ASSIGNOR TO
BOSTON FAST COLOR EYELET COMPANY, OF BOSTON, MASSACHU-
SETTS.

DIES FOR APPLYING COVERING MATERIAL TO THE FACES OF EYELETS.

SPECIFICATION forming part of Letters Patent No. 789,694, dated May 9, 1905.

Application filed February 9, 1895. Renewed August 23, 1902. Serial No. 120,856.

To all whom it may concern:

Be it known that I, ELEAZER KEMPSHALL, of Sharon, county of Norfolk, State of Massachusetts, have invented an Improvement in
5 Dies for Applying Covering Material to the Faces of Eyelets, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to eyelets for boots, shoes, and other articles, the object of my invention being to provide a novel apparatus for pressing a covering material or substance upon and beneath the face flanges or lips of
15 the eyelets.

An apparatus embodying my invention contains at least two dies, one of which is adapted to hold the eyelet and the other to press the covering material thereupon.

20 One of the novel features of the apparatus embodying my invention is a support on the eyelet-holding die for the face flange or lip of the eyelet, and over which said face flange or lip projects, to leave a space beneath and
25 surrounding the edge of the same, into which space the covering material may be pressed, and thereby perfectly inclose or cover said flange or lip.

Another feature of an apparatus embody-
30 ing my invention consists in providing the pressure-die with a depending portion of a size preferably to fit the smallest diameter of the eyelet-shank, but leaving a sufficient space between the said portion and the wall of the
35 recess in the eyelet-holding die to receive the shank or body of the eyelet, the purpose of said depending portion being to enter or, it may be, pass through the eyelet shank or body and work or wipe the covering material
40 smoothly and nicely down to and upon the metal at the interior of the eyelet or its shank or body.

In the drawings, Figure 1, in vertical section, shows a pair of dies constituting part
45 of an apparatus embodying my invention, the eyelet being shown in position, with the covering material indicated in dotted lines above it. Fig. 2 is a similar view showing the two

dies brought together and the covering material forced or compressed about the face 50
flange or lip of the eyelet; Fig. 3, a top or plan view of the eyelet-holding die, showing a series of seats or supports for eyelet-shanks; and Figs. 4 and 5, a side elevation and vertical section, respectively, of an eyelet covered 55
by means of the dies shown.

I will first describe one form of apparatus as embodying my invention, and, referring to the drawings, A and B are two dies, which I shall hereinafter designate, respectively, as 60
"eyelet-holding" and "pressure" dies.

The eyelet-holding die A is provided with one or more, preferably a series of, holes *a*, the tops of which are formed within a separate face-piece *a'*, shown as let into the face 65
of the die A, but, in effect, forming a part of the die A and as such will be hereinafter designated. The face-piece *a'* has one or more holes or recesses *a''* registering with the holes *a* in the die A, and surrounding the preferably flaring entrance to the several holes in the face-piece *a'* are the supports *a'''* for sustaining the eyelets, said supports elevating the eyelets to leave clear spaces between their respective face flanges or lips and the subjacent face of the face-piece *a'*, said supports being herein shown as raised above the surrounding surfaces *a''''*, which latter preferably constitute the bottoms of as many ring-like or annular depressions or recesses *a'''''* concentric with and surrounding the entrance to the said holes *a''*. 80

The pressure-die B is shown as provided with one or more depending portions *b*, for the best results made somewhat tapering or 85
conical at their ends, as shown, there being one depending portion for each hole *a*, each depending portion being of a size to fit the smallest diameter of the eyelet and enough smaller than the surrounding hole of the die 90
A to leave an intervening space between it and the depending portion for the reception of the body or shank of the eyelet, each depending portion at its base being surrounded by a preferably concentric ring-like cutting 95
edge or shoulder *b'*, between which and the

base of said portion is the cup-shaped and annular depression b^2 of a shape corresponding to the contour desired for the face of the eyelet when completed and covered.

5 The dies are guided in their movements toward and from each other by usual pins c c' , which bring the working parts of the dies always in proper registering positions.

10 In operating the dies the eyelets e , preferably of a shape substantially as shown in Fig. 1 and provided at their tops with suitable face flanges or lips e' , are placed with their shanks or bodies in the holes a^2 of the die A with their face-flanges resting upon the supports a^3 , the edges of the said flanges, however, projecting over the said supports sufficiently to leave a clear space beneath and around their edges within the depression a^5 .

20 The covering material, preferably some plastic material—such, for example, as celluloid—and which may be in the form of a strip f , (shown in dotted lines, Figs. 1, 2, and 3,) is laid above the flanges of the eyelets in the holding-die A, covering the eyelets and the depressions surrounding the same.

25 Celluloid and others of the so-called "plastic" materials are normally in a relatively hard or stiff condition, they being commonly rendered plastic for the purpose of working or molding by the application of heat, and for this purpose prior to the filing of this application for patent it has been my custom to place both dies A and B, the former filled with eyelets, upon a steam-heated table until sufficiently heated, when the covering material f is placed upon the eyelets. The heated die B is then taken from the steam-table and placed in working position, as shown in Fig. 1, and the heat renders the covering material plastic, enabling the latter to be freely molded by the pressure-die B. As the die B descends its depending portions b first act upon the plastic covering material f and easily pass through the same and enter the eyelets, the ring-like cutting edges b' acting upon the said plastic covering material and cutting the same to form as many disks or washers of a diameter substantially that of the depressions a^5 , into which said disks or washers are forced.

50 The depending portions b center or position the plastic washers, and the cup-shaped depressions b^2 immediately thereafter press or force the surplus material into the depressions a^5 surrounding and beneath the edges of the face flanges or lips of the eyelets, thus completely covering or inclosing the same. The edges b' cooperate with the edges of the depressions a^5 in forming the peripheral edges of the disks or washers, and by seating firmly upon the bottoms of the depressions the said edges thereafter operate to form clean peripheral edges to the coverings for the eyelets. The depending portions b , which first enter the shanks of the eyelets in the dies herein shown, reach the bottom of the smallest diam-

eter of the said shanks by the time the edges b' act upon and force the then ring-like covering material into the depressions a^5 , so that the bringing of the two dies together causes the plastic covering material to be not only tightly compressed about the face-flanges of the eyelets, but also by means of the depending portions the said covering material is worked or tapered down to the material of the interior of the eyelet shanks or bodies, leaving when the depending portions are removed cleanly-finished edges which in no way obstruct the open center of the eyelet.

I do not herein claim the particular form of eyelet with the covering material applied thereto, as the same forms the subject-matter of United States Letters Patent No. 557,992, granted to me April 7, 1896.

80 So far as known to me, I am the first to rest the face flange or lip of the eyelet upon a support at the entrance to the shank-receiving opening of the die, leaving the said face flange or lip to project over the support in order to leave a space around and beneath its edge to be subsequently filled by the plastic covering material, my invention thus providing for a continuous clenching-lip of covering material turned inwardly under the face-flange.

I believe that I am also the first to devise an apparatus comprising means for supporting an eyelet with its head exposed and means for applying covering material to both sides of the head. I believe, further, that I am the first to employ in such an apparatus means to enter the hole in the flange of an eyelet for applying covering material within the flange of the eyelet or for determining the extent to which the covering material shall extend into the interior of the eyelet.

105 While some features of my invention are limited to devices for covering eyelets having central lacing-passages, it should be understood that other features of the invention may advantageously be employed in devices for applying covering material to lacing-hooks or other similar articles, and therefore the word "eyelet" wherever occurring in the specification or claims should when the context permits be construed as including eyelets, lacing-hooks, and other similar articles.

115 Having described my invention and without limiting myself as to detail, what I claim, and desire to secure by Letters Patent, is—

1. In an apparatus for applying covering material to eyelets, an eyelet-supporting die having a shank-receiving opening, a ring-like raised supporting-lip surrounding said opening for and over which the face-flange of the eyelet projects, and a pressure-die to press the plastic covering material upon and beneath the face-flange of the eyelet, substantially as described.

2. In an apparatus for applying covering material to eyelets, an eyelet-supporting die having a shank-receiving opening, a surround-

ing circular depression, a supporting-lip separating said shank-receiving opening from the circular depression forming a ring-like raised support, and a pressure-die to press the plastic covering material upon and beneath the face-flange of the eyelet at the outside of the said support, substantially as described.

3. In an apparatus for applying covering material to eyelets, an eyelet-supporting die having a shank-receiving opening, a ring-like raised support surrounding the same, and a circular depression outside said support, and a combined cutting and pressure die to sever the plastic covering material and press the same into the said depression surrounding the said ring-like support and the projecting flange thereupon, substantially as described.

4. In an apparatus for applying covering material to eyelets, an eyelet-supporting die having a shank-receiving opening to receive a tapering eyelet-shank, a depression surrounding said opening, a raised support for and over which the flange of the eyelet projects, said support separating the opening from the said depression, and a pressure-die provided with a depending portion of a size to fit the smallest diameter of the eyelet, and a ring-like depression at the base of the said depending portion to press the covering material upon and about the face-flange of the eyelet, and between the depending portion and the tapering shank of the eyelet, substantially as described.

5. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of the eyelet and with means for sustaining the eyelet with its flange out of contact with the subjacent face of the die, whereby covering material may be forced between said flange and the die.

6. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of the eyelet and a support extending above the adjacent surface of the die for supporting the flange of the eyelet to permit the covering material to be forced under said flange.

7. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of an eyelet and with means for supporting said eyelet with its flange out of contact with the subjacent face of the die, in combination with means for forcing covering material between said flange and the die.

8. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of the eyelet, the wall of said opening having a support extending above the surrounding face of the die, whereby to hold the flange of the eyelet out of contact with said face of the die to permit covering

material to be secured to the under side of the flange.

9. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of the eyelet, and means extending above the adjacent surface of the die for supporting the flange of the eyelet to permit covering material to be forced under said flange, and a cooperating die having a depending portion fitting the lower end of the tubular shank of the eyelet but smaller than the upper part of said shank, and a face surrounding said depending portion and adapted to force the covering material between the depending portion and the shank of the eyelet and also around and under the flange of the eyelet.

10. In an apparatus for applying covering material to eyelets, a die for holding an eyelet, said die being provided with an opening to receive the shank of the eyelet and with means for supporting the flange of the eyelet out of contact with the subjacent face of the die, in combination with a die to press the covering material about and under the flange of the eyelet, said dies being adapted to receive between them a strip of covering material, and having cooperating cutting portions to sever from the strip the portion of the material to be used.

11. In an apparatus for applying covering material to eyelets, a die having an opening, in combination with a second die having a depending projection concentric with the opening in the first-mentioned die and of such size as to leave a space around said projection for the shank of the eyelet when the dies are closed, a concavity around the base of the projection, and an annular rim surrounding said concavity.

12. In an apparatus for applying covering material to eyelets, a male die having a depending projection and a cylindrical shoulder surrounding and concentric with said projection, in combination with a female die having a chamber to receive the depending projection and larger than the greatest diameter thereof, and a recess around the mouth of said chamber to receive and fit the cylindrical part of the male die.

13. In an apparatus for applying covering material to eyelets, a die having an opening to receive the shank of an eyelet and provided with a molding-face surrounding said opening, in combination with a second die having a depending portion to enter the shank of the eyelet, and a recess surrounding said depending portion for molding the top face of the eyelet.

14. An apparatus for applying covering material to eyelets, comprising means for supporting an eyelet with its flange exposed, means to enter the hole in the flange of the eyelet and means for applying covering material to said flange.

15. Mechanism for applying covering material to eyelets, comprising means for supporting an eyelet with its head exposed, a plunger to enter the hole in the flange of the eyelet, and means for forcing the covering material on both sides of the head of the eyelet.

16. In an apparatus for applying covering material to eyelets having central lacing-passages, means for supporting an eyelet with its flange exposed, and means for forcing covering material on the top of the flange and under the flange, said means being constructed and arranged to provide a lacing-passage in the covering material in alinement with the lacing-passage in the eyelet.

17. The combination with means for supporting an eyelet with its flange exposed, of mechanism for forcing covering material on the flange of the eyelet, comprising means to enter the hole in the flange of the eyelet for applying the material to the inside of the flange, means for applying covering material to the top of the flange, and means for forcing the covering material into contact with the under side of the flange.

18. In an apparatus for applying covering material to eyelets, a die having an opening to receive the shank of an eyelet and having a molding-face, in combination with a cooperating die provided with a depending portion

which is less in diameter than the diameter of said shank-receiving opening whereby a space is left for the shank of the eyelet when the dies are closed together, and also provided with an annular depression at the base of the depending portion for pressing the covering material upon and about the flange of the eyelet, said dies cooperating to force the covering material under the flange of the eyelet.

19. In an apparatus for applying covering material to eyelets, means for supporting an eyelet, and means for molding the covering material upon the flange of the eyelet and down into the shank of the eyelet, said means being constructed and arranged to provide a lacing-passage in said material.

20. In an apparatus for applying covering material to eyelets, means for supporting an eyelet with its flange exposed, and a combined cutting and pressure die for severing the covering material and molding the same upon and under the flange of the eyelet.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELEAZER KEMPSHALL.

Witnesses:

JOHN C. EDWARDS,
EMMA J. BENNETT.