

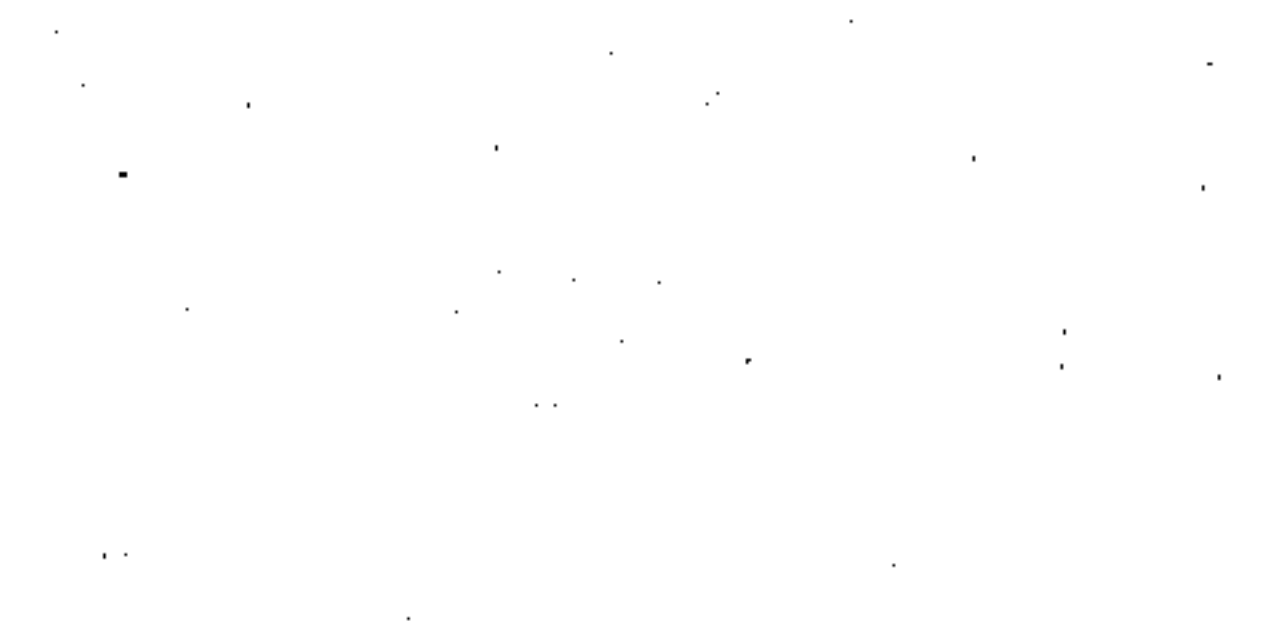
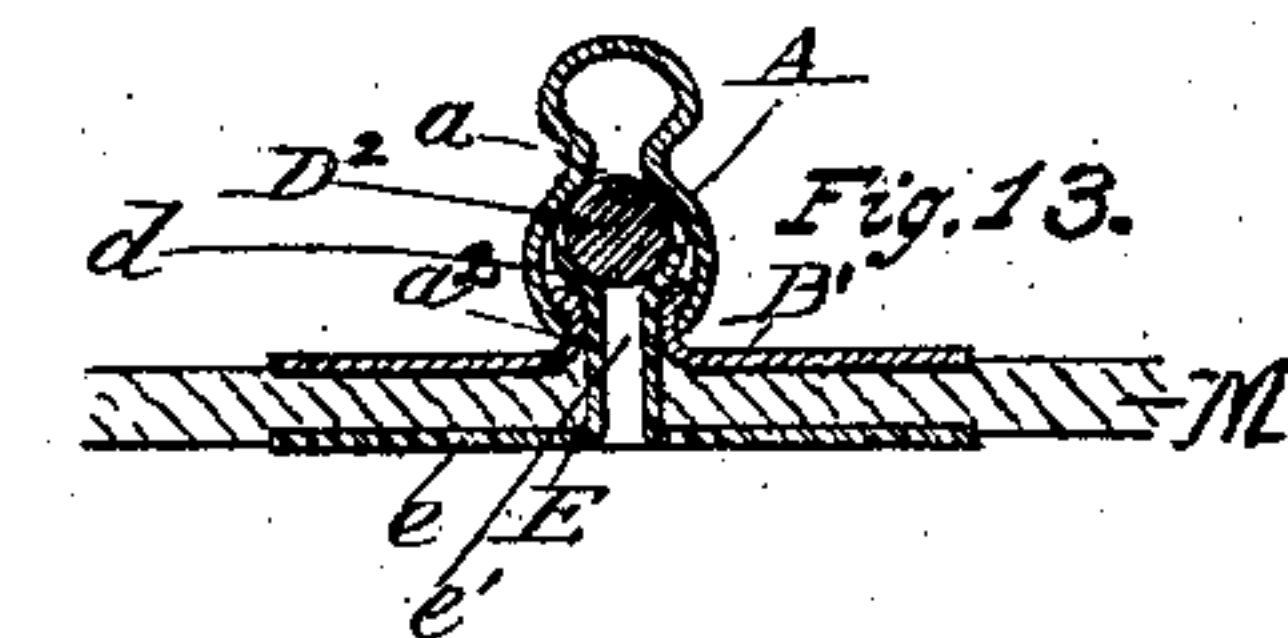
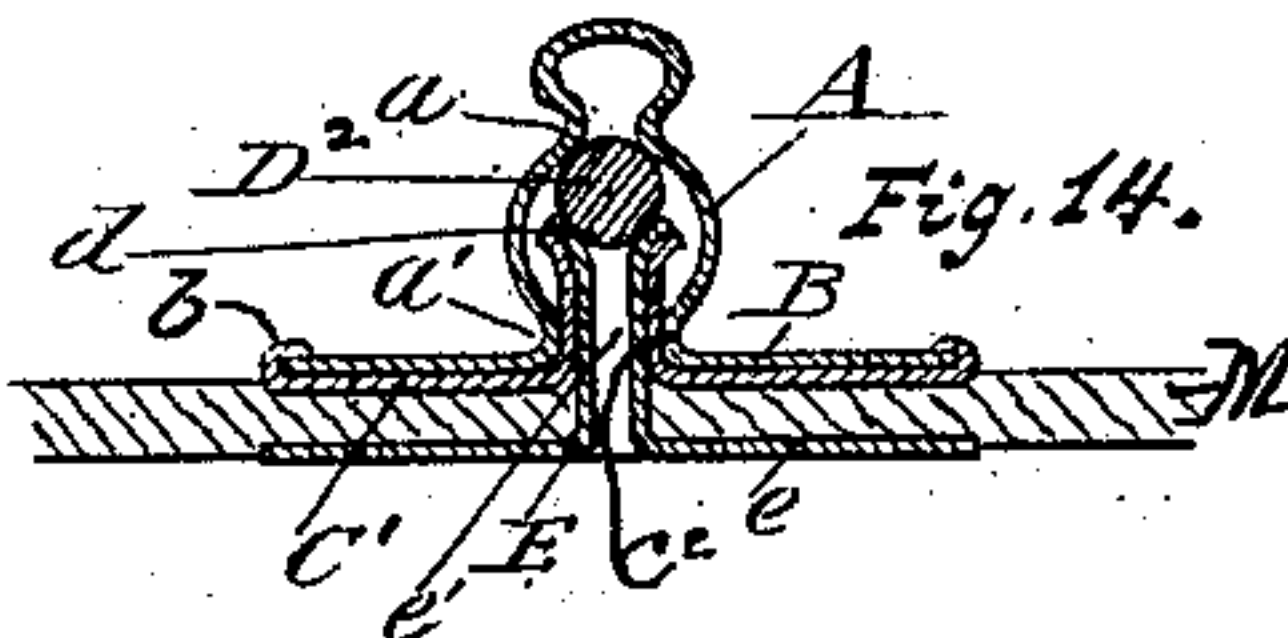
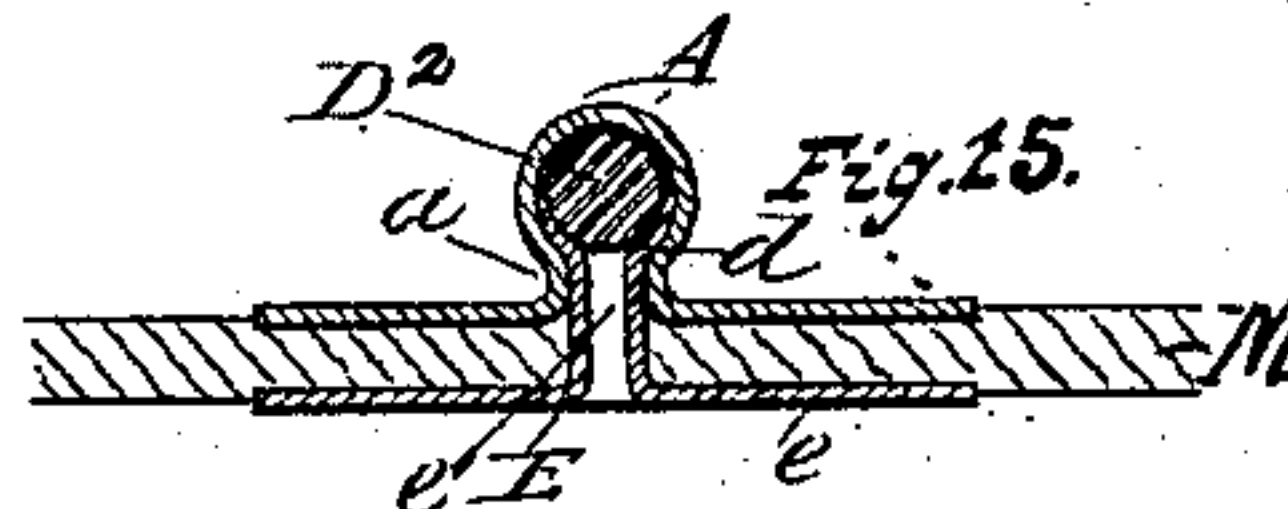
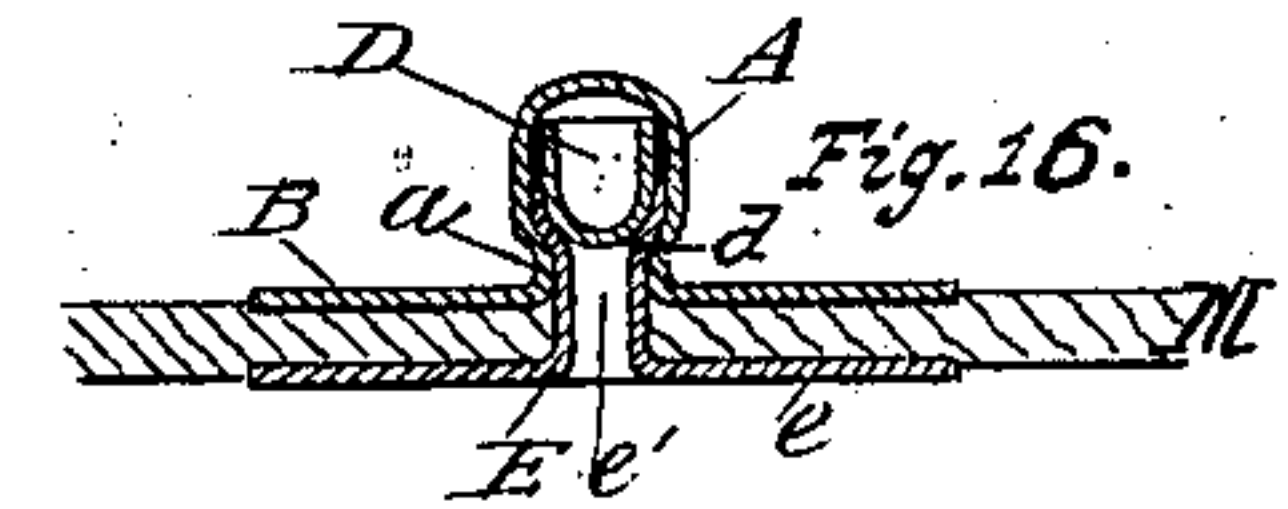
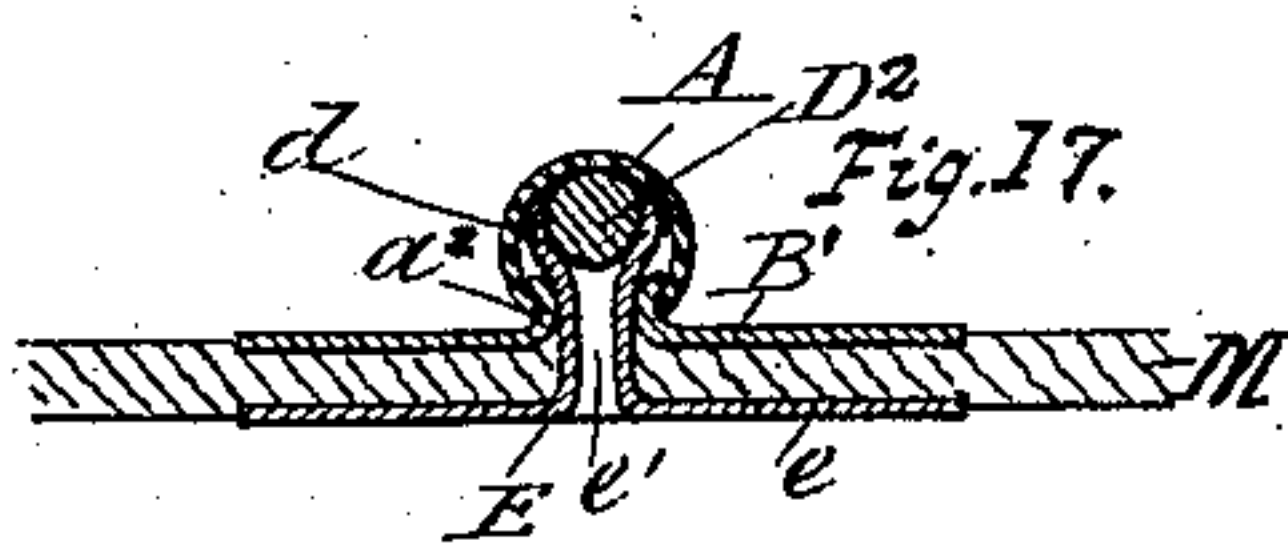
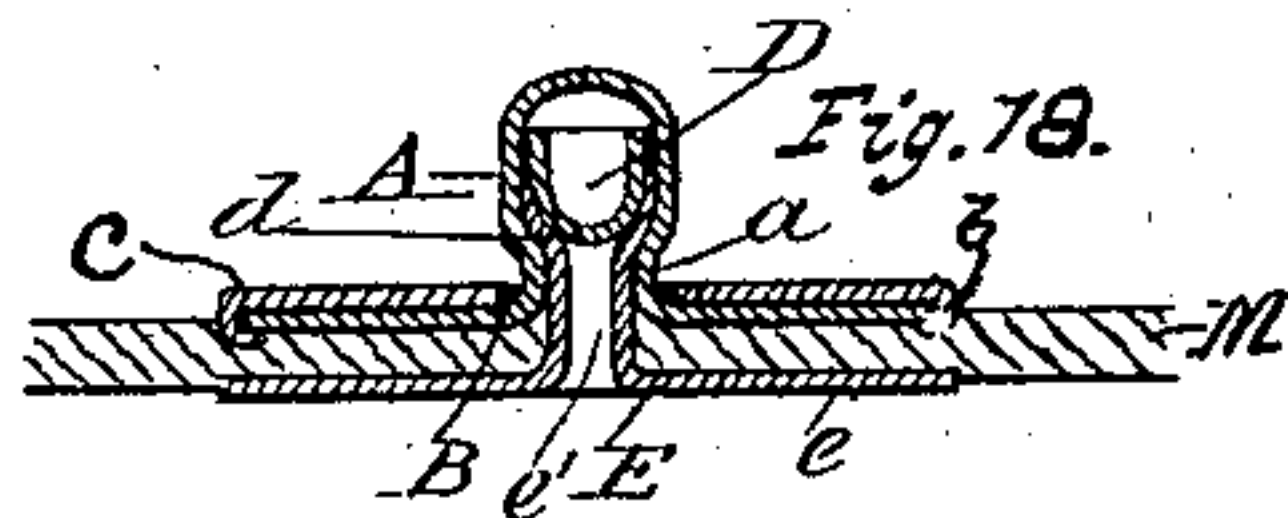
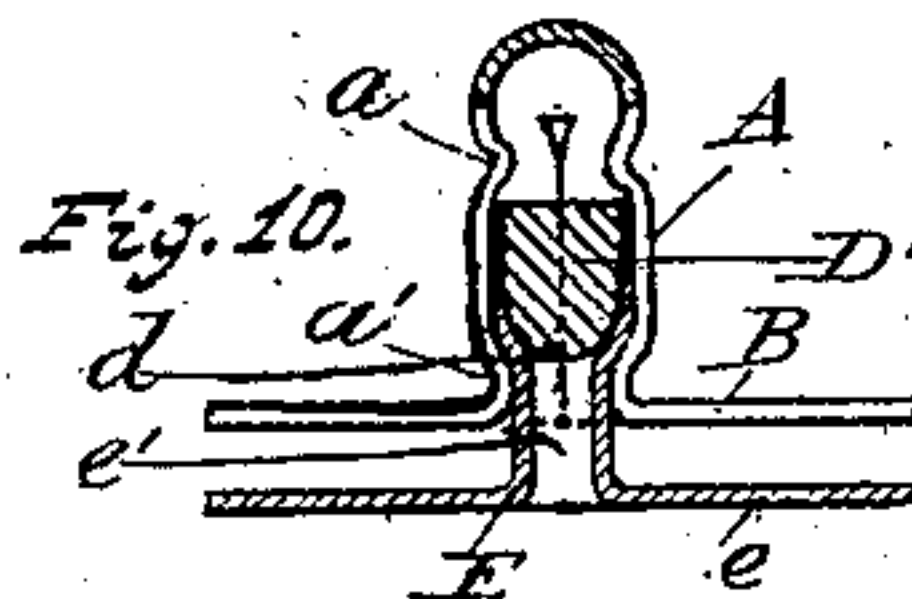
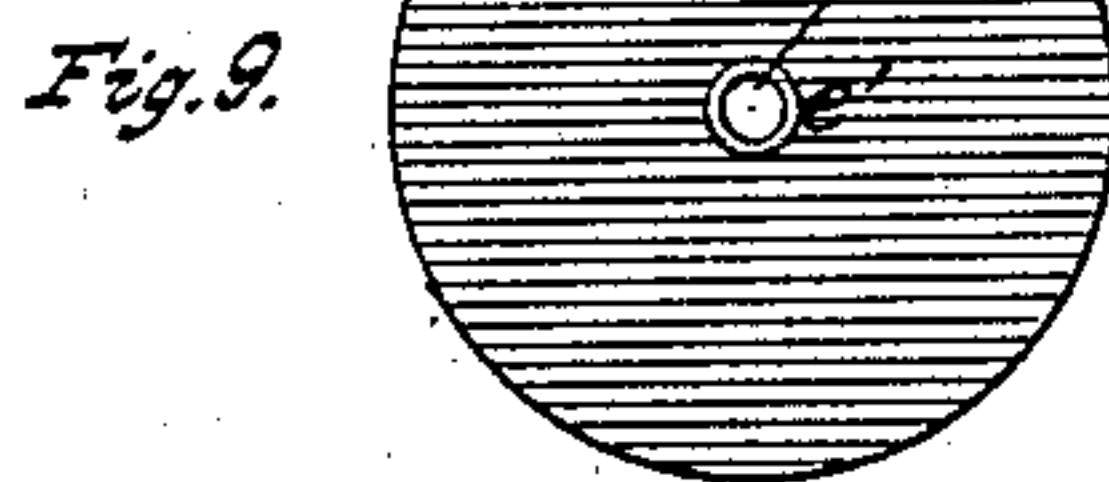
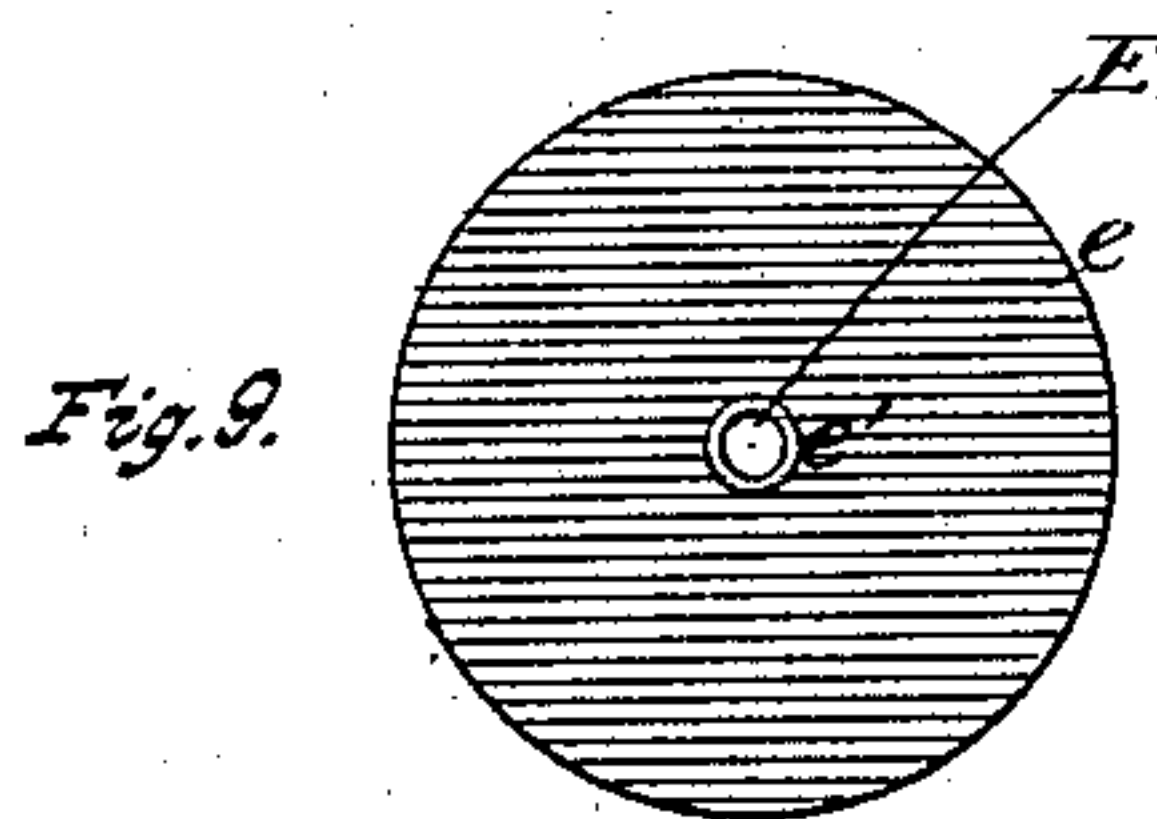
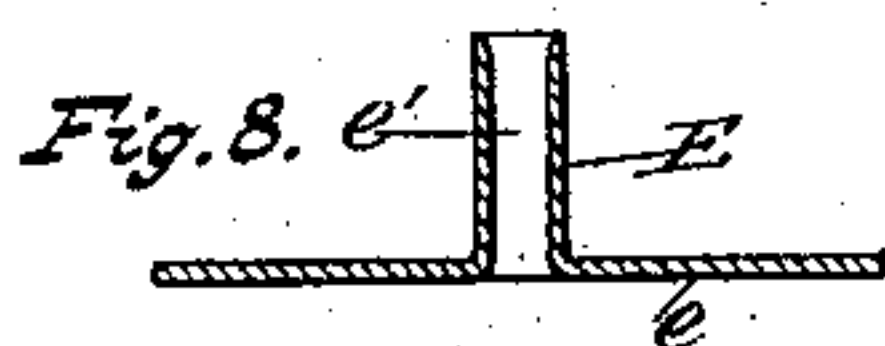
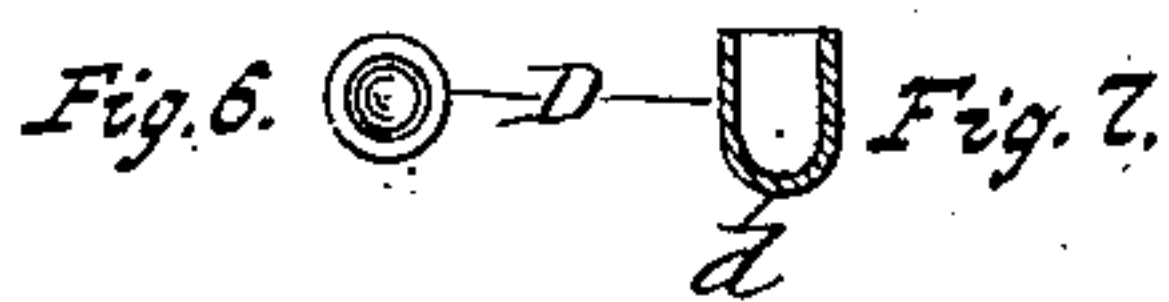
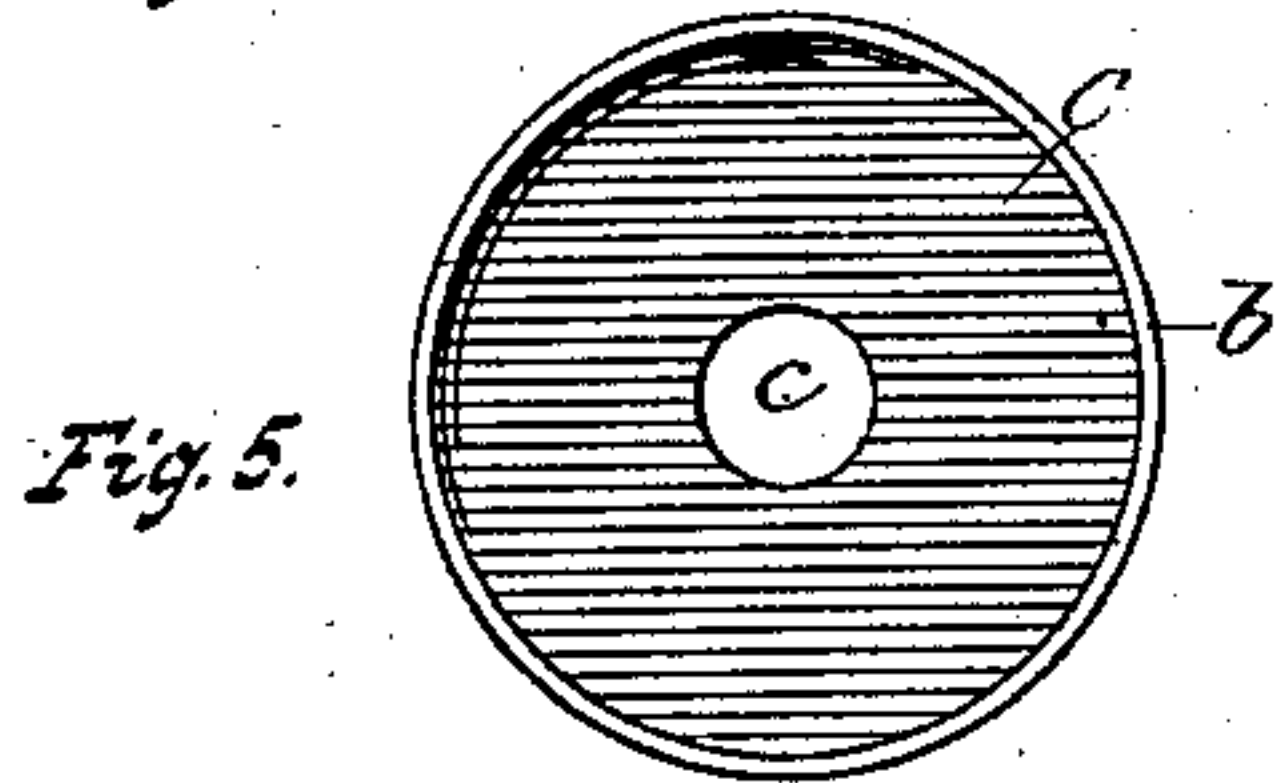
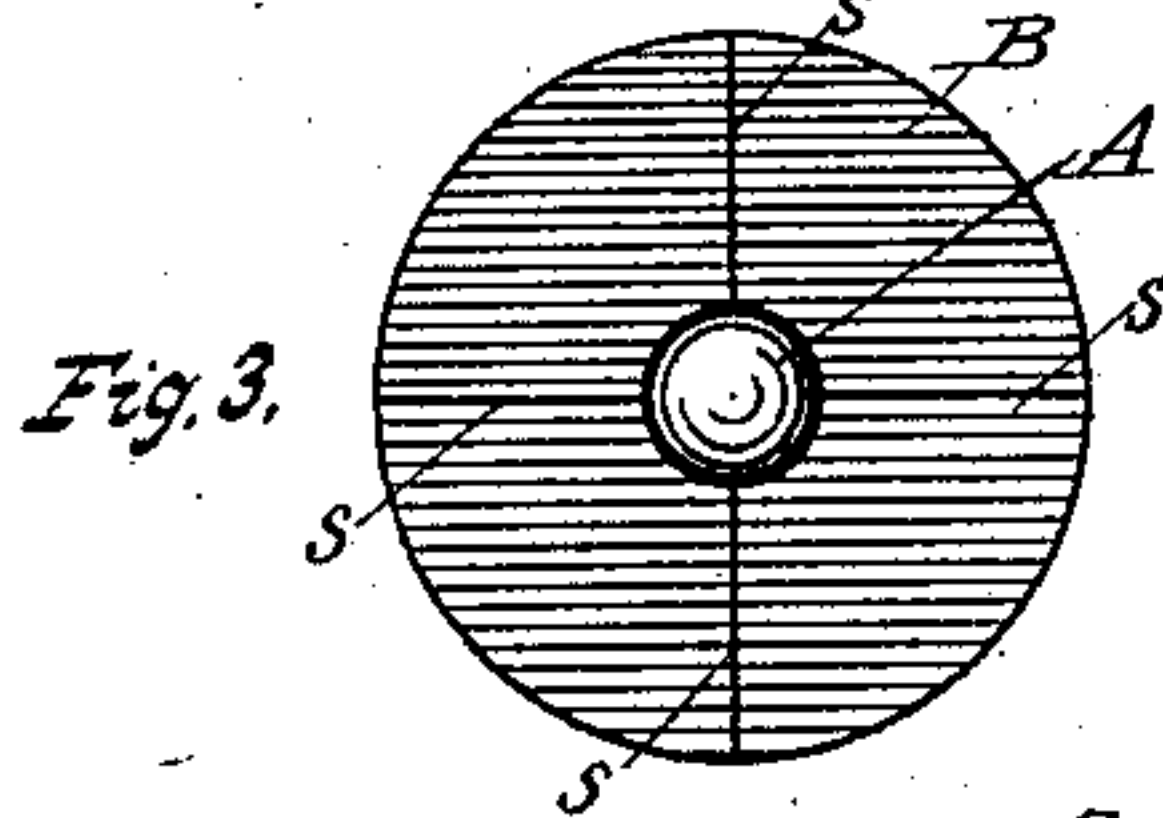
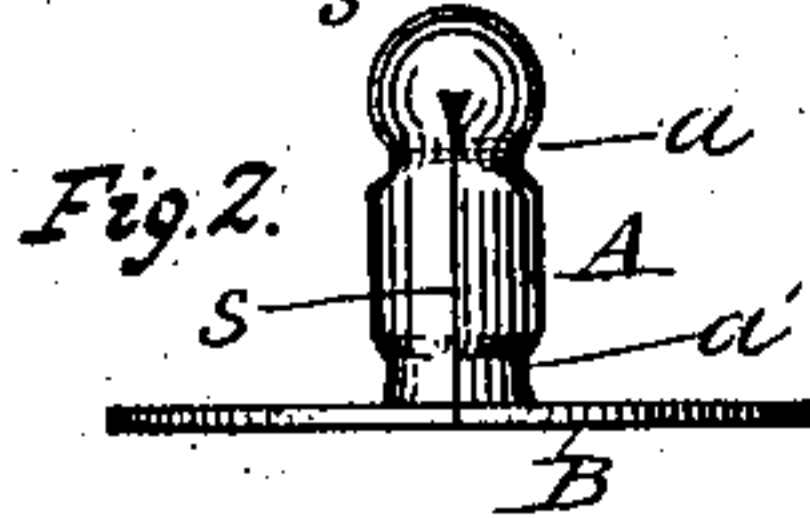
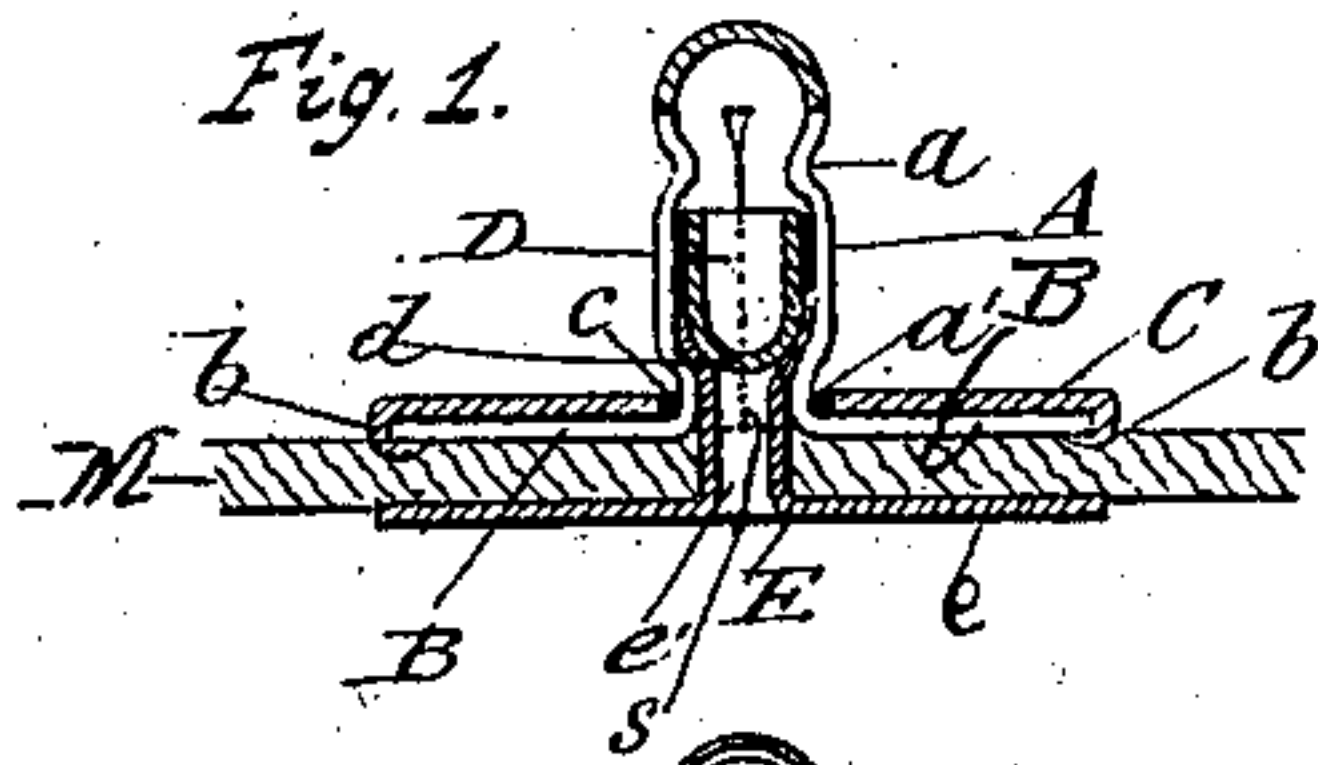
No. 720,616.

PATENTED FEB. 17, 1903.

E. PRINGLE.
STUD.

APPLICATION FILED MAR. 20, 1888.

NO MODEL.



Eugene Pringle

Witnesses:

William F. Seltink
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Inventor.

UNITED STATES PATENT OFFICE.

EUGENE PRINGLE, OF GLOVERSVILLE, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED STATES FASTENER COMPANY, OF PORTLAND, MAINE, AND BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

STUD.

SPECIFICATION forming part of Letters Patent No. 720,616, dated February 17, 1903.

Application filed March 20, 1888. Serial No. 267,861. (No model.)

To all whom it may concern:

Be it known that I, EUGENE PRINGLE, a citizen of the United States, and a resident of Gloversville, in the county of Fulton and State of New York, have invented certain new and useful Improvements in Studs, of which the following is a specification.

My invention relates to studs for separable buttons or fasteners—such, for instance, as are employed on gloves and other articles of apparel; and it consists of structural improvements in the stud member of such fasteners.

The object of my invention is to provide means whereby a stud member of a stud-and-socket fastener adapted to engagement with a complementary socket may be secured in place upon the fabric, leather, or what not by means of an eyelet, of which the barrel passes through the fabric, enters the stud, and is upset or clenched within the stud itself to form a fastening-flange on the barrel by means of a turning-piece or deflector contained within the body of the stud, which deflector by contact with the eyelet-barrel determines the direction and degree of its deflection as the eyelet and stud on opposite sides of the fabric are forced together by means of a suitable tool or press. These objects are attained by means of the devices shown in the accompanying drawings, which serve to illustrate the invention, wherein—

Figure 1 is a vertical cross-section of a stud with its parts assembled and the fabric to which it is attached. Fig. 2 is a vertical elevation of the stud part of Fig. 1. Fig. 3 is a plan view of the stud from above. Fig. 4 is a vertical cross-section of a binding-piece which may be used to hold the base portion of the stud. Fig. 5 is a bottom plan view of the same. Fig. 6 is a bottom plan view of an eyelet-turning piece. Fig. 7 is a vertical cross-section of the same. Fig. 8 is a vertical cross-section of the eyelet. Fig. 9 is a top plan view of the same. Fig. 10 is a vertical cross-section of a stud with its eyelet-turning piece shown as a solid block and the eyelet with its barrel clenched by the turning-piece within the stud. Fig. 11 is a vertical cross-section of a stud prior to the for-

mation of an annular groove near the base thereof. Fig. 12 is a bottom plan view of the same. Figs. 13, 14, 15, 16, 17, and 18 show in vertical cross-sections sundry modified forms of the invention presently to be described.

The fastener member consists of two main pieces—the stud A and fastening-eyelet E. The stud A is a shell of sheet metal formed with a constricted neck or groove *a*, Fig. 1, or *a*², Figs. 13 and 17, adapted to engage the complementary socket member of the fastener (which is not herein shown) and with a swelled or bulbous head above the said groove. When, as is usual, the socket member of the fastener has a comparatively flat or shallow chamber for the reception of the stud, it will be practicable to employ only one engaging groove on the stud, as shown in Figs. 15, 16, 17, and 18; but when the socket part of the fastener is deep it may be desirable to give the stud deeper penetration into the socket and to afford it a double hold, in which case a second engaging groove *a'*, Figs. 1, 2, 10, 14, or *a*², Fig. 13, may be formed on the stud and supplement the first groove *a*, as shown in Figs. 2, 10, 13, and 14.

In the embodiments of my invention shown in Figs. 1, 2, 3, 11, and 12 the base-flange B and the upright part of the stud A are shown as slitted at *s*, and thus separated into sectors. When the base-flange B is thus slitted, it is well to reinforce it. This may be accomplished by clenching the flange *b* of the binding-piece C, Figs. 1, 18, or C', Fig. 14, over the edge of the base-flange B, as shown, placing the binding-piece either below the flange B, as in Fig. 14, or above it, as in Fig. 1. Slitting the base-flange B facilitates the insertion of the deflecting or eyelet-turning piece D. The slits continued into the bulb-shaped head of the stud A will lend it that resiliency which is common to several forms of studs used prior to this invention.

The eyelet-turning piece D, Figs. 1, 16, 18, is contained within the stud A and is held confined in such position. In all the examples herein shown in the drawings the deflecting-piece D or its solid substitute D', Fig. 10, or D², Figs. 13, 14, 15, 17, presents such a

surface d in opposition to the tubular portion or stem e' of the eyelet E that it deflects the end or rim of the same, spreading it into a flange, which on expanding finds a sufficient annular space around the effective surface of the deflecting-piece to give the flange a proper holding expansion or deflection and to enable the flange to bind the stud A, deflector D, (or D' or D²), and eyelet E into a substantially solid unity upon the material. The act of uniting the stud A and eyelet E in this manner causes the base-plate B, Figs. 1, 18, or the piece C', Fig. 14, to engage the material M on one side, while the plate or lower flange e of the eyelet E engages the material on the opposite side.

For insuring the stability of the stud A, I provide the binding-piece C, Figs. 1, 4, 5, 18, or C', Fig. 14, of which the flange b is adapted to be turned or clenched over the base-piece B, and whereof the aperture c (of the piece C) is of sufficient size to permit the passage of the bulbed head of the stud. Where, as in the illustrations shown in Figs. 1, 2, 10, and 11, the base B and stud A are slitted, the attachment of the binding-piece C or C' secures and holds the separated parts of the stud A and base-piece B, which might otherwise spread and loosen the entire stud fastening.

In Figs. 13, 14, 15, and 17 the deflecting-piece D² is in the form of a small solid ball, and in Fig. 10 the deflecting-piece D is solid and has the shape of a blunt-nosed rifle-bullet. In Fig. 13 the stud A is shown as a piece originally separate from the base B and attached thereto by the constriction of the lower part of the stud A, which thus forms the groove or neck marked a^2 .

Fig. 17 shows a form of stud and fastening which while constructed and assembled on the same principle as the other forms illustrated involves a slight modification similar

to that shown in Fig. 13. The bulbed head of the stud A and base-piece B are herein originally separate and are joined by the act of forming the constricted neck a^2 , and the eyelet-tube e' is spread around the deflector D², which in this instance is a small ball.

In the modification shown in Fig. 14 the central tubular portion or neck c^2 of the binding-piece C' reaching into the stud A acts a sleeve through which the eyelet stem or tube e' is inserted and which lends lateral support to the said stem or tube.

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

1. In a member of a stud-and-socket fastener, a stud, comprising a head, an engaging groove below the head, and a flange below the groove, an eyelet-turning piece within the stud, and an eyelet to attach the stud to material, having its tubular portion passed through the material and upset against the eyelet-turning piece.

2. In a member of a stud-and-socket fastener, the combination of a hollow grooved stud seated on one side of material, a fastening-eyelet therefor, seated on the opposite side of the material and having its stem projected through the material into the stud, and a binding-piece, secured to the stud and having a central tubular portion entering the stud and surrounding the stem of the eyelet.

3. In a member of a stud-and-socket fastener, the combination of a hollow stud, having a head, a base, a groove between the head and base, the stud and base slitted radially, an eyelet-turning piece within the stud, a binding-piece confining the slitted base, and an eyelet, inserted in the stud from below, and upset against the eyelet-turning piece.

EUGENE PRINGLE.

Witnesses:

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CHARLES SELKIRK.