

No. 834,035.

PATENTED OCT. 23, 1906.

J. V. WASHBURNE.

SOCKET MEMBER.

APPLICATION FILED MAR. 16, 1903.

Fig. 1.

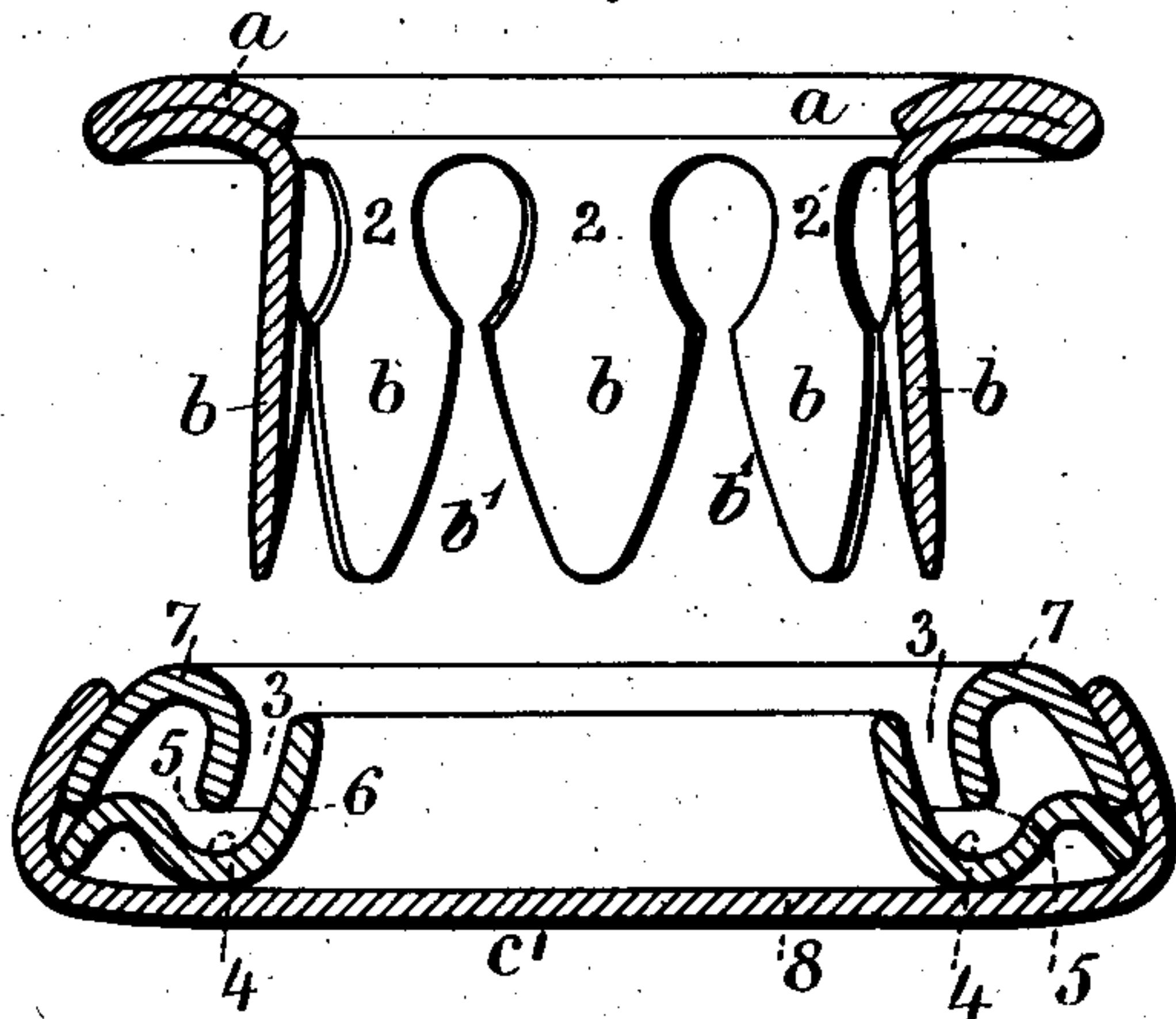


Fig. 2.

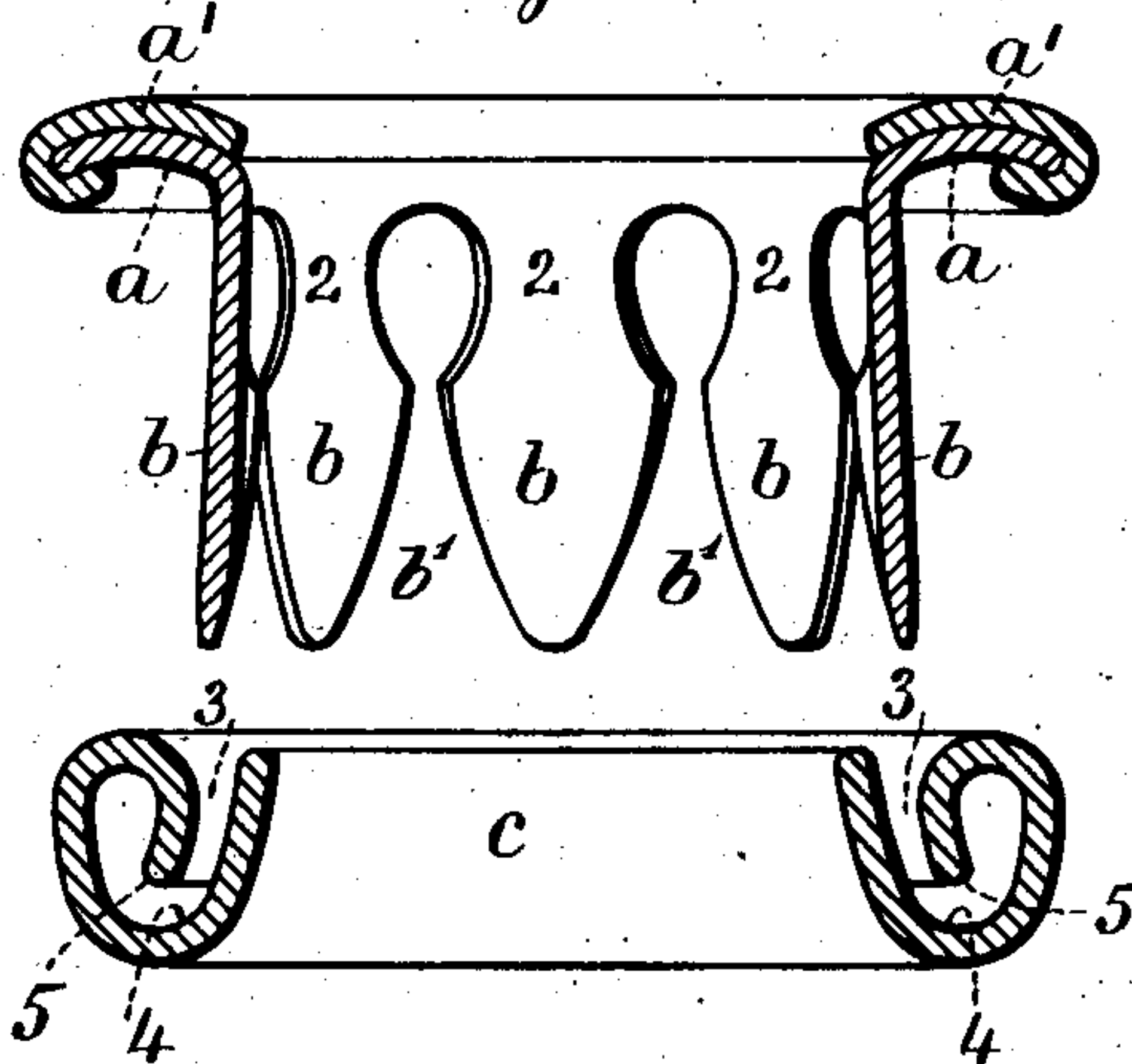


Fig. 3.

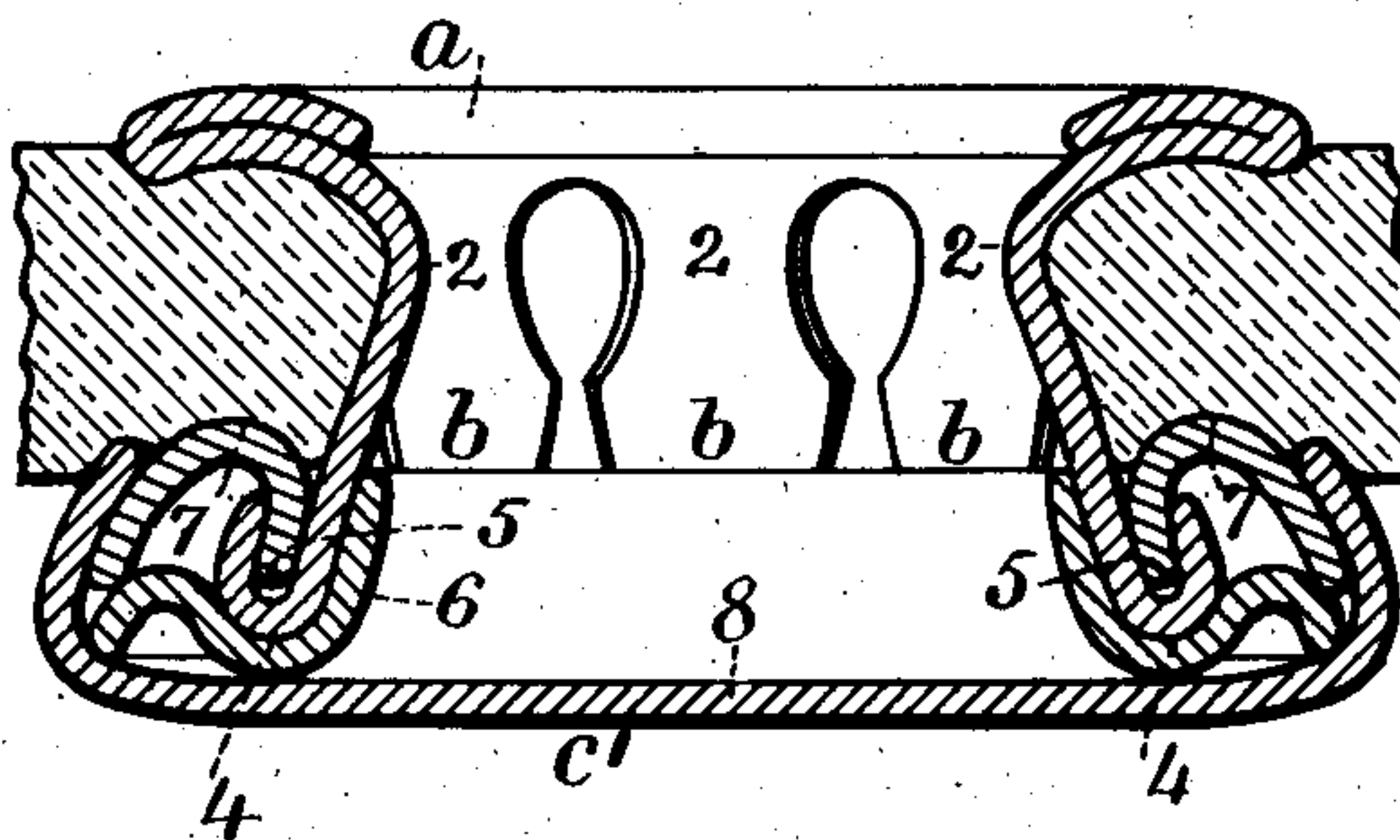


Fig. 4.

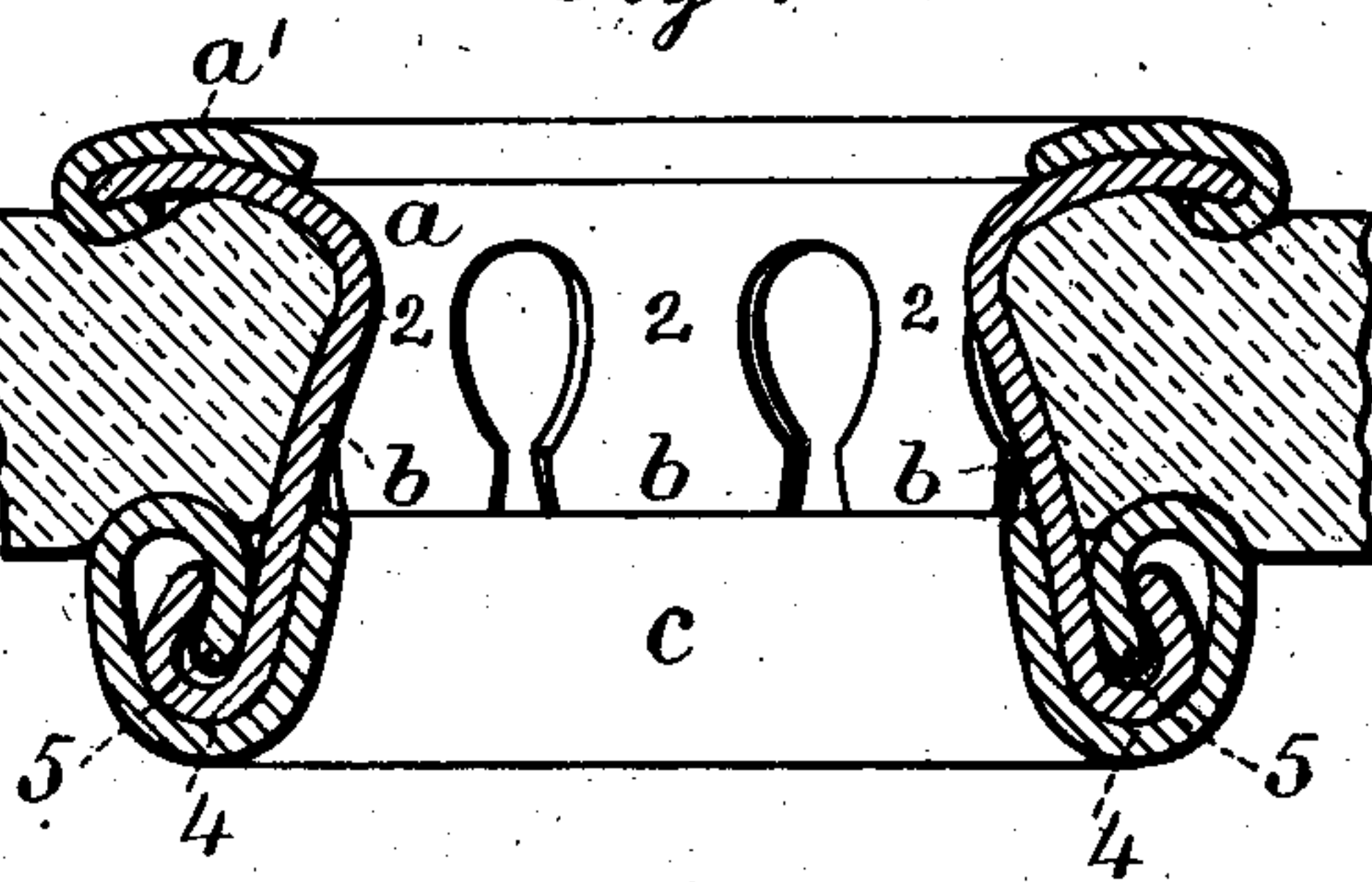
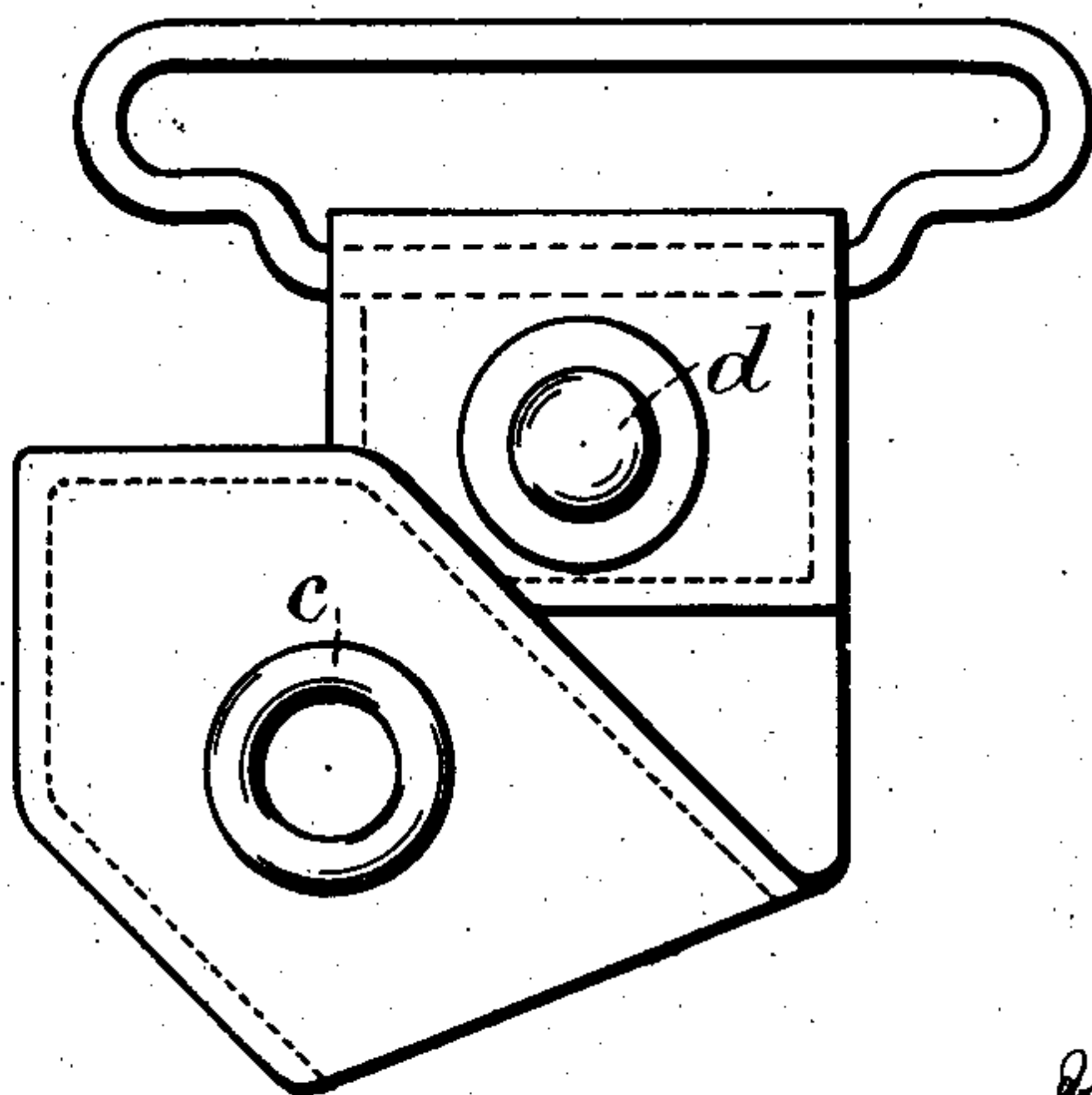


Fig. 5.



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SOCKET MEMBER.

No. 834,035.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed March 16, 1903. Serial No. 147,897.

To all whom it may concern:

Be it known that I, JAMES V. WASHBURN, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented an Improvement in Socket Members, of which the following is a specification.

My invention relates to a novel form of the resilient socket members of separable fasteners, with the object of providing a light-appearing compact socket member.

In carrying out my invention the socket member with a central opening to receive the ball or head portion of the stud member has a part comprising an annulus and a series of circularly-disposed resilient arms or sections arranged substantially at right angles to the plane of the annulus. These arms or sections are of varying width and are preferably pointed and of reduced width near their union with the annulus. The other part of the socket member comprises an uncapped or capped annulus having an aperture to receive the preferably pointed ends of said resilient arms, and a substantially half-round portion forming an anvil for outwardly turning said pointed ends, so as to engage the edge of an overturned wall located at about the center of the half-round portion, all of which are hereinafter more particularly described.

In the drawings, Figures 1 and 2 represent vertical sections of detached parts, illustrating modified forms of my invention. Fig. 3 is a vertical section of the parts, Fig. 1, as connected to intervening material. Fig. 4 is a vertical section of the parts, Fig. 2, as connected to intervening material; and Fig. 5 is an illustration of the application of the connected parts, Fig. 4, to a suspender-end.

a represents an annulus formed with a series of circularly-disposed resilient arms or sections *b* at approximately right angles to the plane of the annulus. In Fig. 1 this annulus is a double or overturned rim or flange. In Fig. 2 the annulus is a single rim or flange stiffened by a collet *a'*, the periphery of which is overturned upon the periphery of the annulus. The series of circularly-disposed resilient arms or sections *b* are preferably pointed at their free ends, between which notches *b'* are formed, and they may to advantage be reduced in thickness, and these parts constitute the resilient socket part. These arms or sections are of varying width and are provided with reduced parts 2, which come between the annulus and the parts of greatest width.

These parts 2 are the parts which bend or bow inward in connecting this portion of the socket member to the rim portion to complete the socket member, and the width of the arms is regulated by the openings between the same, which are made of liberal area. This relation and condition are described in the last few lines of the specification.

In the simpler form of the invention, Figs. 2 and 4, the annulus *c* is the rolled-over integral part, between which is an aperture 3, adapted to receive the free pointed ends of the arms or sections *b*, with a part 4 of half-round section forming an anvil around which the free pointed ends of the arms or sections *b* are bent when the parts are brought together under pressure. 5 is the edge of the overturned wall around which the free ends of the arms or sections *b* are bent by said half-round portion or anvil and against which the pointed ends bear when the parts are brought into the relation Fig. 4.

In Figs. 2 and 4 the annulus *c* is an integral structure and is so formed as to produce the aperture 3, the half-round portion 4, and the edge 5. In Figs. 1 and 3 the annulus *c'* comprises the parts 6, 7, and 8, the parts 6 and 7 being held in a connected relation by the overturned edge of the part or cap 8, which extends across the open center of the annulus and in the socket part produces a finished appearance, it being possible to ornament the outer surface of this cap part 8 in any desired manner. The part 6 is provided with a double bend, and in this the half-round portion or anvil 4 is produced. The edge 5 of the overturned wall is the inner edge of the convex portion 7, and the aperture 3 is produced between the opposing surfaces of the parts 6 and 7, and when the parts shown in Fig. 1 are connected, as shown in Fig. 3, the free pointed ends of the arms or sections *b* pass into the aperture 3, between the parts 6 and 7, and are turned against the round portion or anvil 4 of the part 6 against the edge of the wall 5 produced in the part 7, all of said parts being held together by the overturned edge or periphery of the cap 8.

In Fig. 5, *c* represents the annulus side of the connected portion shown in Fig. 4 as applied to a suspender-end, and *d* the stud member of said suspender-end adapted to be received in the parts, Fig. 4, entering from the side of the annulus *a*, and the neck of the stud portion being engaged by the reduced portions 2. Figs. 3 and 4 serve to illustrate the

fact that when the separable parts shown in Figs. 1 and 2 are forced into connection the reduced parts 2 of the resilient arms or sections bend or bow inward, forming the major resilient portions of the socket member, which must yield with the entrance into the socket member of the stud member in connecting the parts of the separable fastener.

I claim as my invention—

10 1. In the socket member of a separable fastener, a resilient socket part comprising a flanged portion and a series of integral circularly-disposed resilient arms formed substantially at right angles to the said flanged portion, and between which arms adjacent to the
15 flange are formed openings of liberal area materially reducing the width of the arms and weakening the same, thus causing them to yield readily under pressure.

20 2. In the socket member of a separable fastener, a resilient socket part comprising a continuous flange and a series of integral circularly-disposed resilient arms or sections formed at substantially right angles to the
25 said flange and of a length adapted to pass through the material of a glove or the like, and said arms having reduced portions adjacent to the said flange, in combination with means for connecting and holding the said
30 part to the said material.

3. In the socket member of a separable fastener, a resilient socket part comprising an integral double flange and a series of integral circularly-disposed resilient arms or sections
35 of a length adapted to pass through the material of a glove or garment and having reduced portions between the flange and the free end of said socket part, in combination with an anvil device including a capped part
40 coming at the opposite side of the material from said flange and adapted to engage and hold the free ends of said arms.

4. In the socket member of a separable fastener, a resilient socket part comprising a
45 continuous flange and a series of integral circularly-disposed resilient arms or sections of a length adapted to pass through the material of a glove or garment and having reduced portions between the flange and the free ends
50 of said socket part, in combination with an anvil device coming at the opposite side of the material from the said flange and adapted to engage and hold the free ends of said arms.

5. In a socket member of a separable
55 fastener, a resilient socket part comprising a double flange and a series of integral circularly-disposed resilient arms or sections adapted to pass through the material of a glove or the like and having reduced portions
60 adjacent to the flange which adapt the arms or sections to be bent inward at said reduced portions by the pressure employed in connecting the socket member to the material, in combination with an anvil device coming at
65 the opposite side of the material from said

flange and to which the said resilient arms are connected.

6. A resilient socket member of a separable fastener, comprising an annulus or rim, a series of integral circularly-disposed resilient
70 arms or sections arranged approximately at right angles to the annulus or rim and having their free ends pointed and having reduced portions between the annulus and the portions of greatest width, and an annulus structure having an aperture, a half-round portion
75 or anvil and the edge of the overturned wall coming at the center of the half-round portion and adapted to receive the free ends of the resilient arms or sections when the parts
80 are connected.

7. In the socket member of a separable fastener, a resilient part, comprising a continuous integral flange, and a series of integral circularly-disposed arms or sections
85 formed at substantially right angles to the said flange and within the boundary of the flange, which arms pass through intervening material and are provided with appreciably-reduced portions near the said flange and be-
90 tween the same and the free ends thereof, in combination with means coming at the opposite side of the material from the said flange, and adapted to engage and hold the free ends of the said arms.

8. A resilient socket member of a separable fastener, comprising an annulus or rim, a series of integral circularly-disposed resilient arms or sections at approximately right
100 angles to the said annulus or rim having pointed ends and reduced portions near their bases, and a coacting annulus structure composed of the compound curved part 6, the overlying convex part 7 and the cap 8 overturned at its periphery around the edges of said
105 parts 6 and 7 to engage and grip the same, there being an aperture 3, a half-round portion or anvil 4 and an edge 5 at about the center of said half-round portion between said
110 parts to receive the pointed free ends of the series of arms or sections and overturn the same in connecting the parts of the socket member.

9. In the socket member of a separable fastener, a resilient socket part comprising a
115 flange folded over upon itself and so doubled and stiffened, and a series of integral circularly-disposed resilient arms or sections within the boundary of the flange, and which arms are of a length adapted to pass through
120 the material of a glove or the like and are provided with reduced portions adjacent to the said flange, in combination with means for connecting and holding the said part to the material.

Signed by me this 14th day of March, 1903.

JAMES V. WASHBURNE.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.