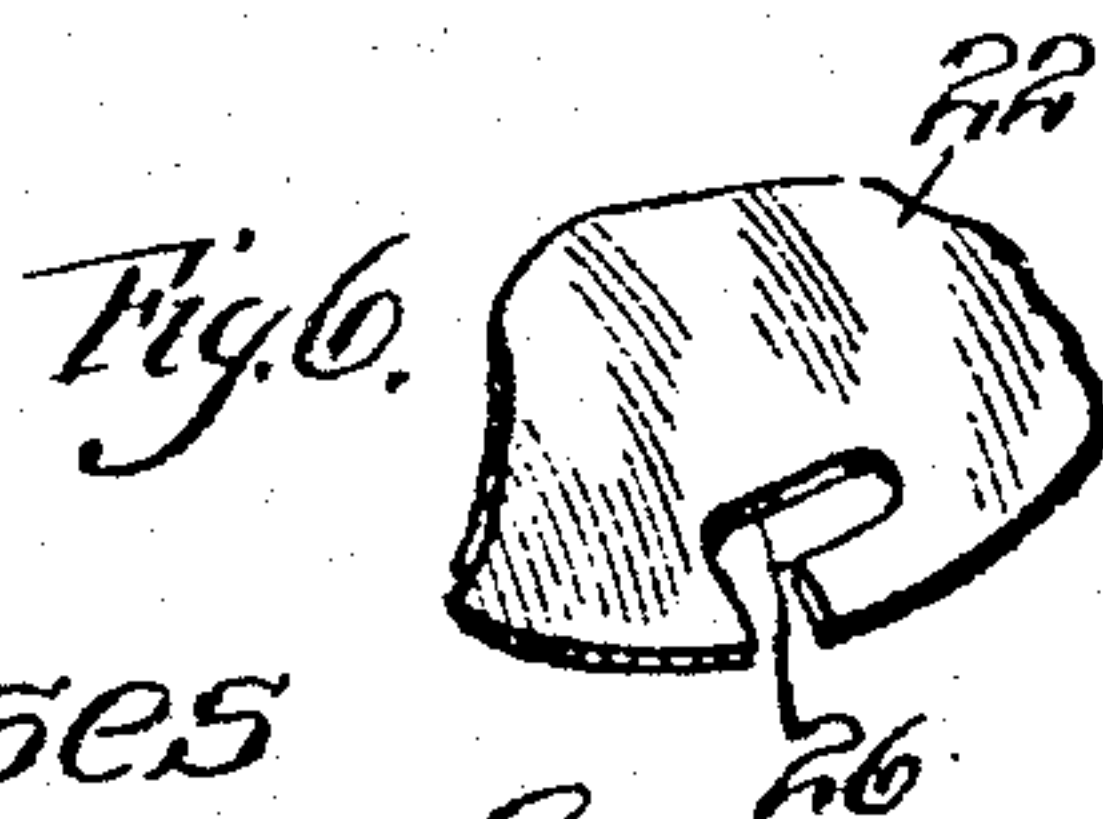
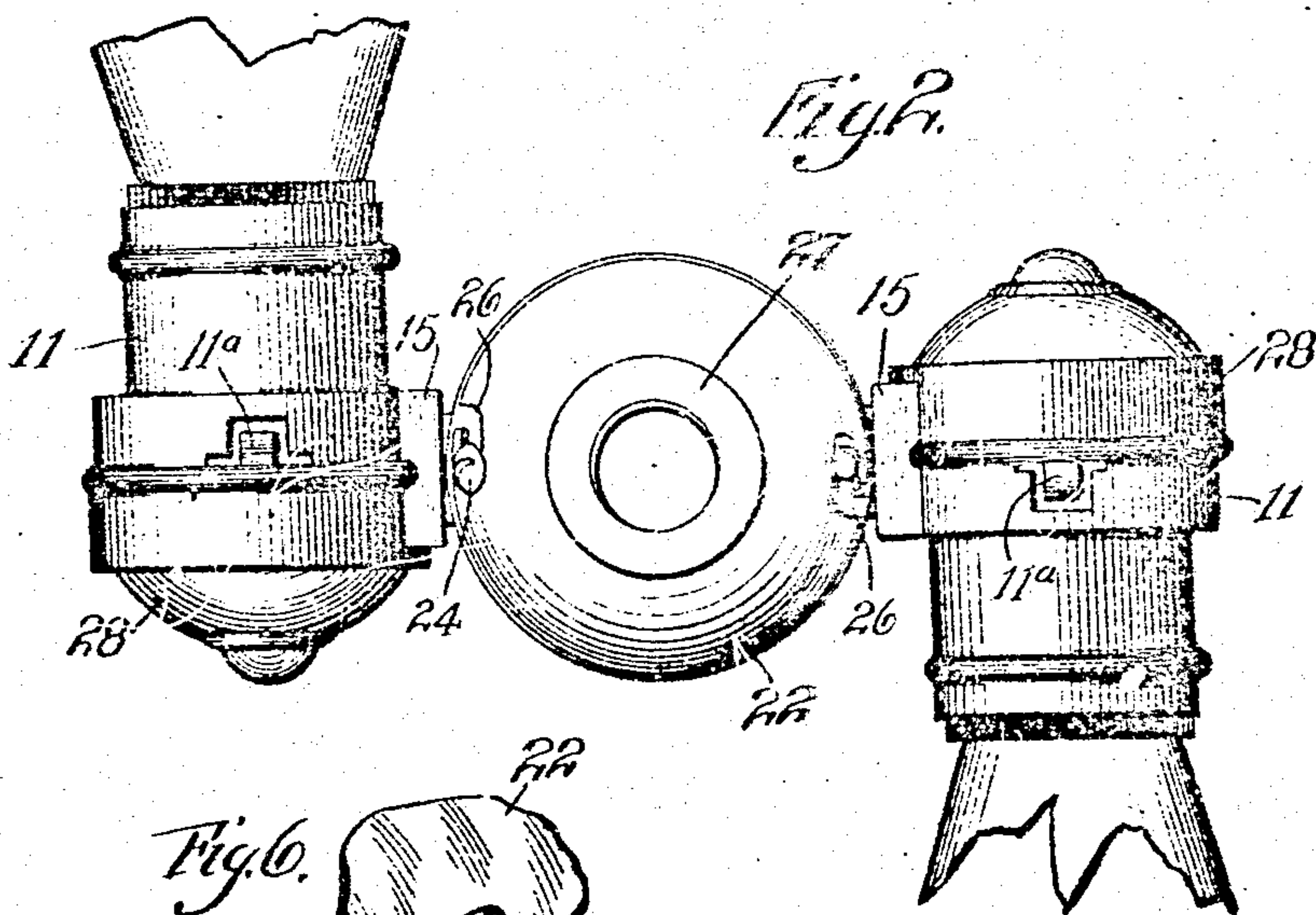
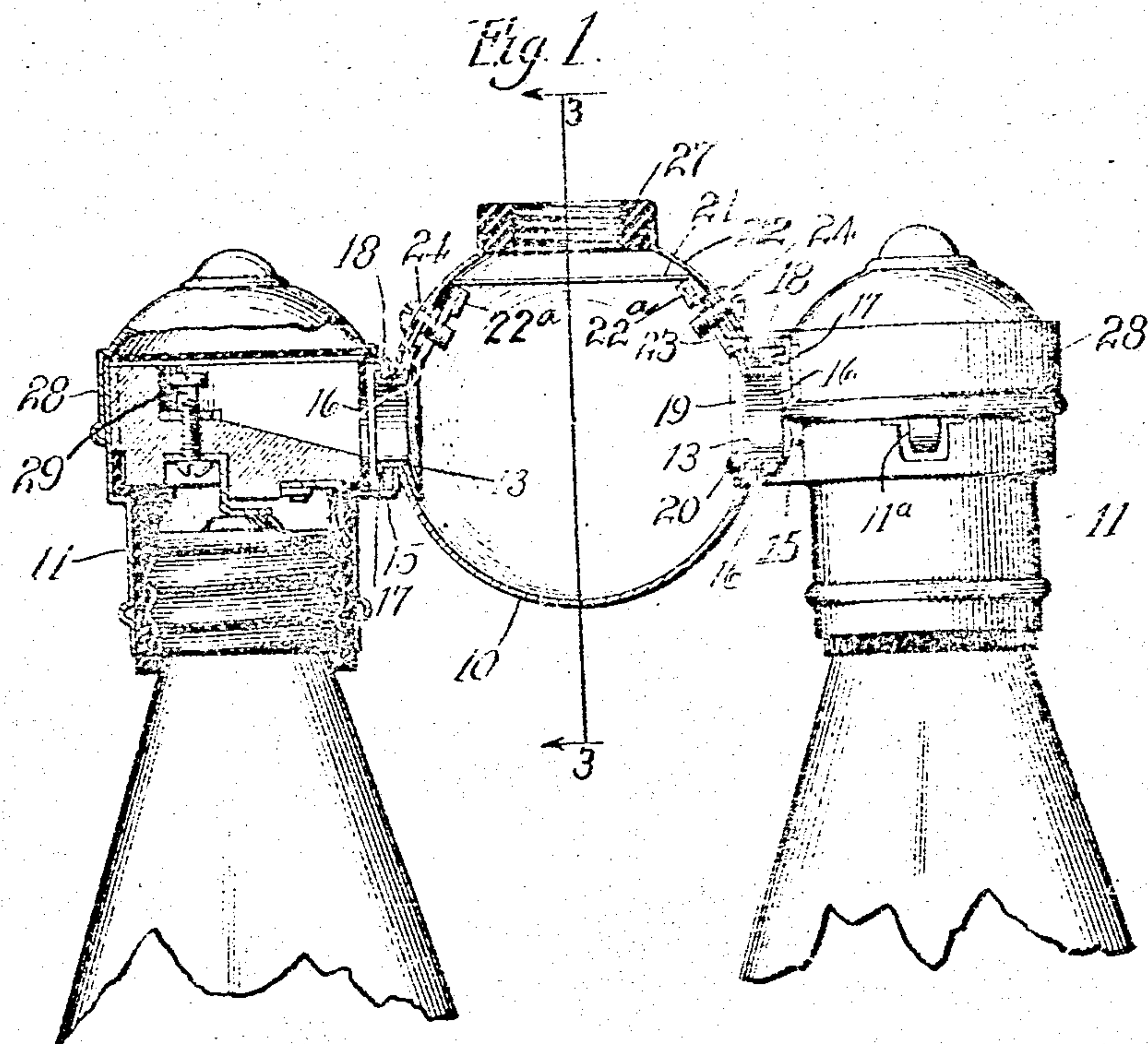


R. B. BENJAMIN.  
ELECTRIC LAMP CLUSTER.  
APPLICATION FILED AUG. 6, 1908.

Patented July 4, 1911.  
2 SHEETS-SHEET 1.

996,963.



Witnesses  
Wm. H. Maconel  
Arthur H. Brötcher

By

Inventor:  
Reuben B. Benjamin  
Jas. Addison & Amos  
Attorneys



R. B. BENJAMIN.  
ELECTRIC LAMP CLUSTER.  
APPLICATION FILED AUG. 6, 1908.

Patented July 4, 1911.

2 SHEETS-SHEET 2.

996,963.

Fig. 3.

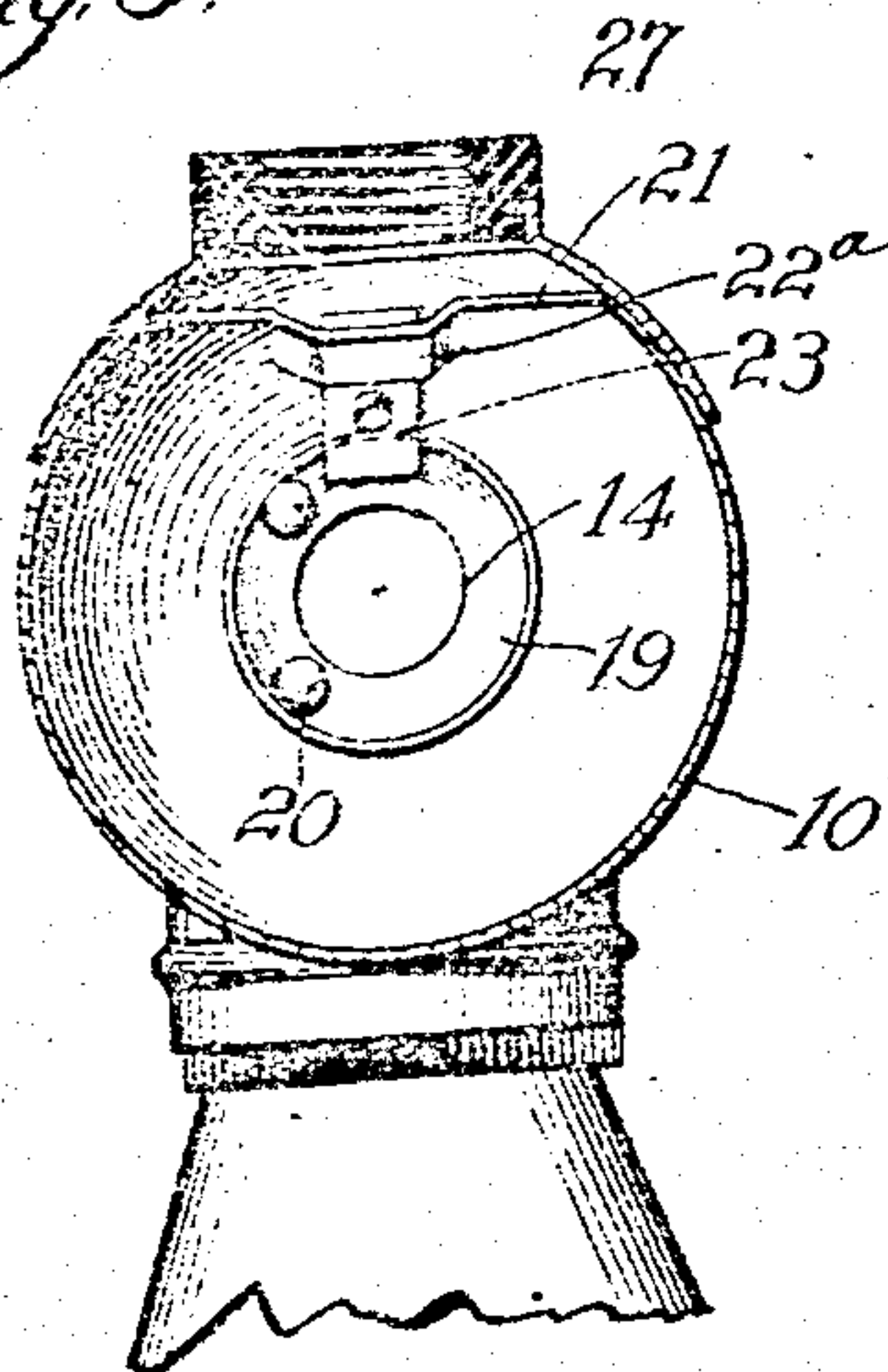


Fig. 4.

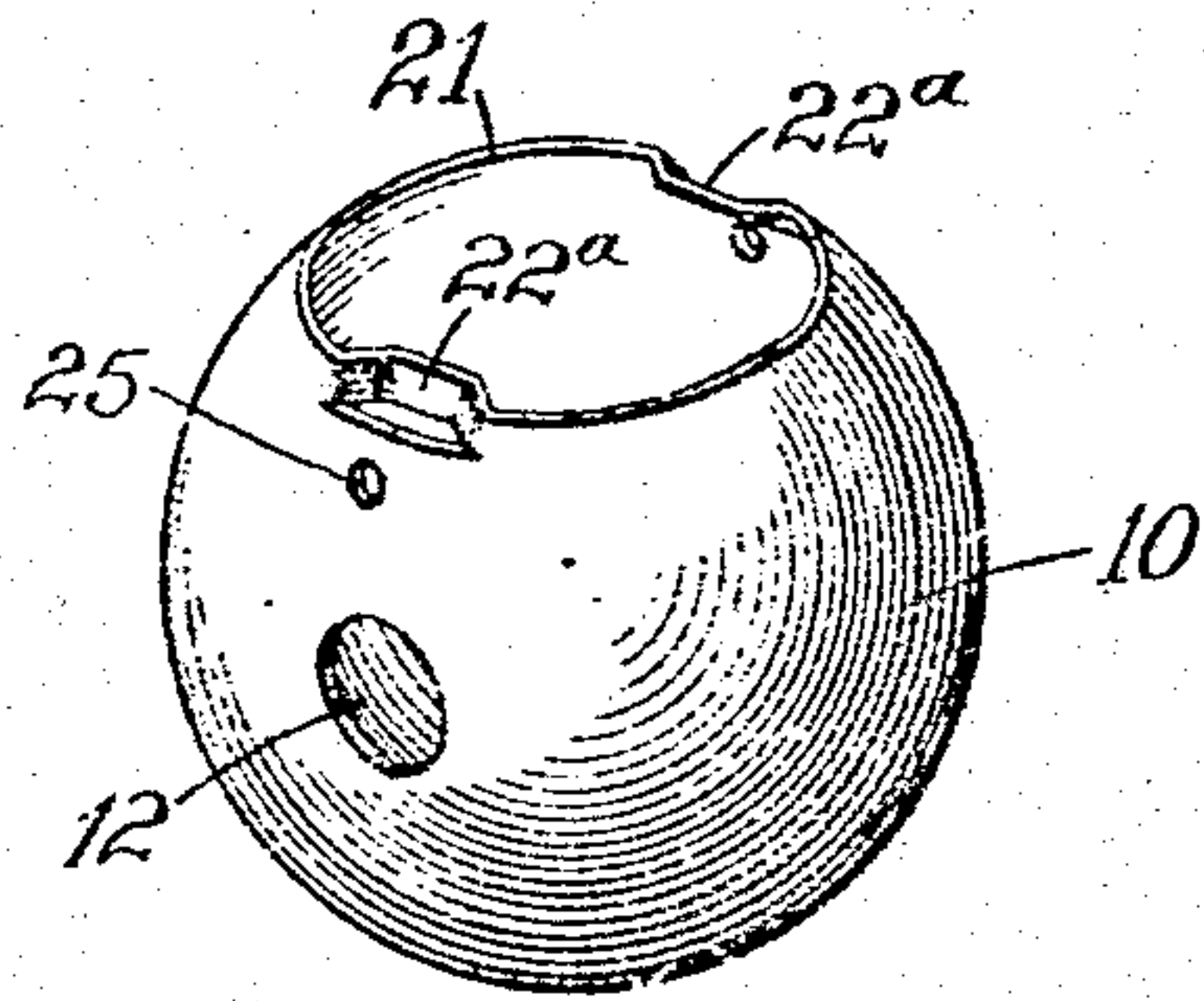


Fig. 5.

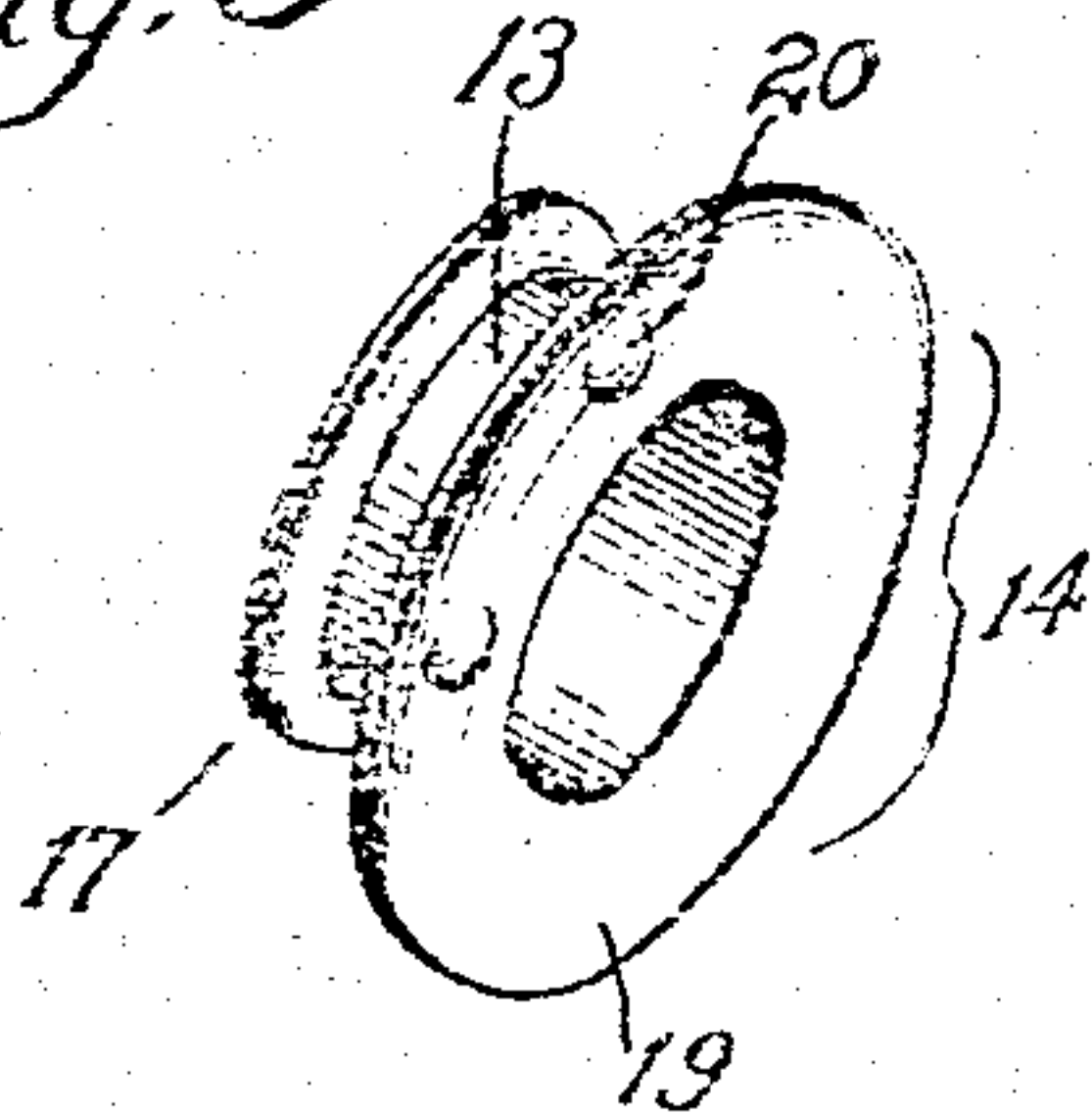


Fig. 7.

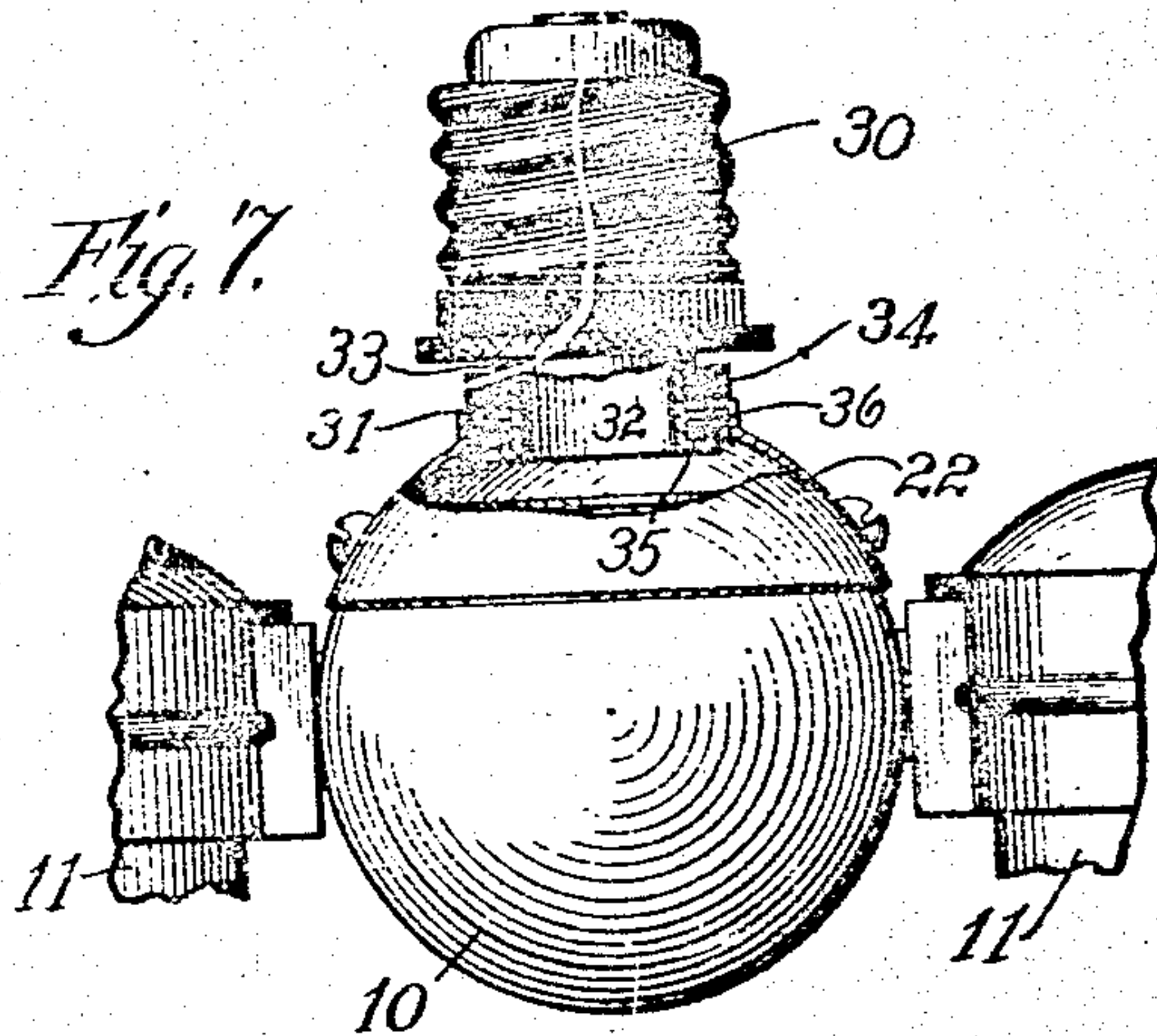
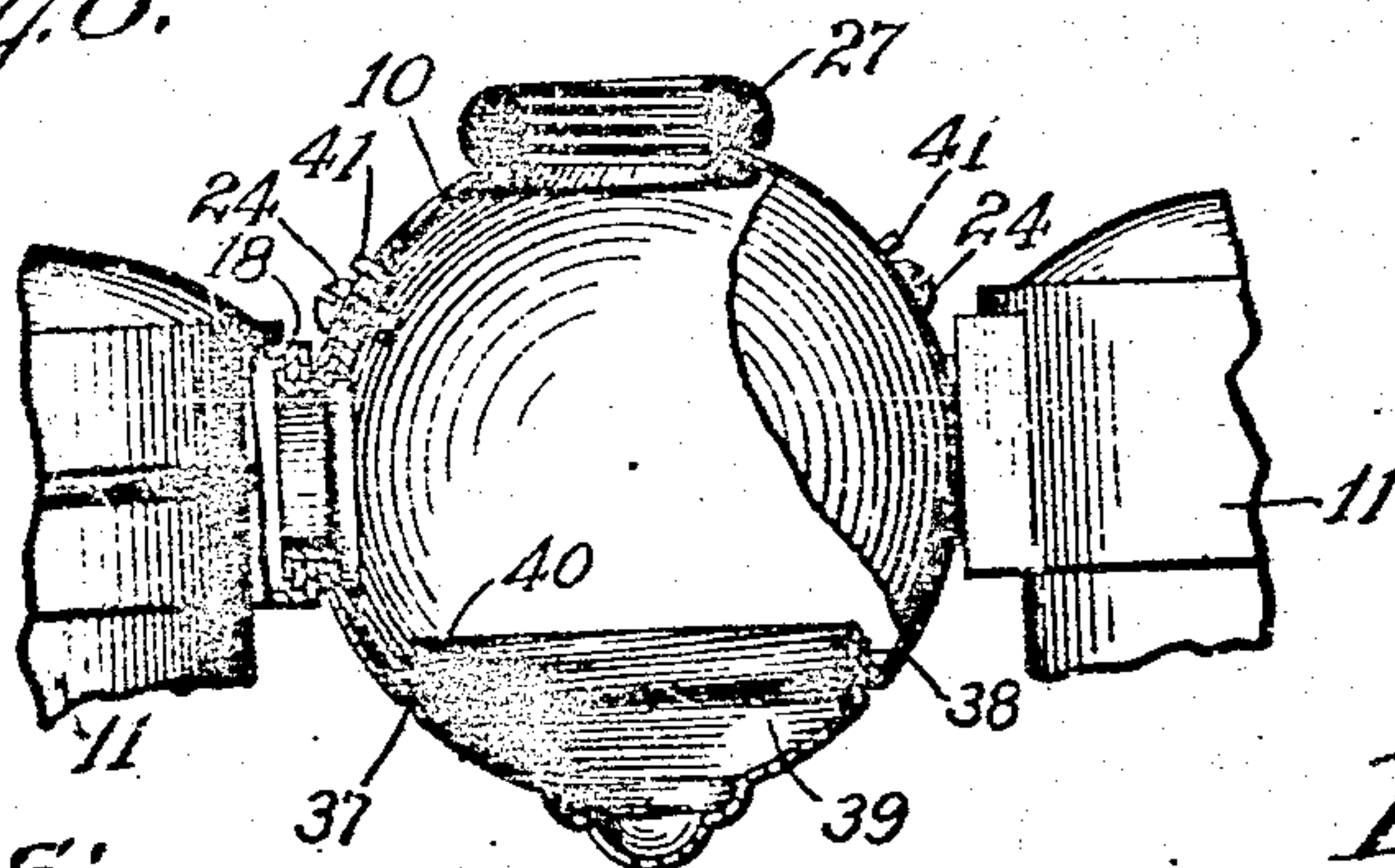


Fig. 8.



Witnesses:  
*Arthur H. Boettcher*

By

Inventor:  
*Reuben B. Benjamin*  
Attorneys



# UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## ELECTRIC-LAMP CLUSTER.

996,963.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed August 6, 1908. Serial No. 447,327.

*To all whom it may concern:*

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Electric-Lamp Clusters, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to electric lamp clusters of that class in which a plurality of lamp sockets are supported from a central hollow body. In such clusters, as heretofore constructed, it has been usual to connect the socket to the hollow body by means of intermediate conductor-containing pipes. One method consisted in securing a plurality of hollow stems to the hollow body in such manner as to project radially therefrom, the other ends of said hollow stems carrying elbows and the outer branches of the elbows being provided with stub pipes, upon which latter were screwed the caps of the lamp sockets. Such methods, however, have been subject to the disadvantages that the lamp cluster has been clumsy in appearance and difficulty has been experienced in inserting the conductors through the connecting pipe between the hollow body and the lamp sockets.

One of the objects of the present invention is to provide a lamp socket of the above class which will be economical in manufacture and neat in appearance, while affording facilities for the ready insertion and connection of the conductors.

It is another object of this invention to provide means for securing the lamp sockets to the hollow body without the necessity of using intermediate pipes or the like.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a partly sectional elevation of a cluster according to my invention, adapted to be secured to a conduit; Fig. 2 is a plan of the device shown in Fig. 1, showing the lamp sockets turned through a right angle; Fig. 3 is a section on the line 3-3 of Fig. 1, looking in the direction of the arrows; Fig. 4 is a perspective view of the hollow supporting body with the cap and the lamp sockets removed; Fig. 5 is a

perspective view illustrating my preferred means for connecting the lamp sockets to the supporting body; Fig. 6 is a fragmentary view showing a portion of the cap; Fig. 7 is a partly sectional elevation of a device similar to that shown in Fig. 1, but provided with a plug for use in connection with a socket; and Fig. 8 shows a modified form of my device.

Like characters of reference refer to like or corresponding parts throughout the specification and drawings.

The lamp cluster consists of a hollow supporting body 10, preferably of spherical shape, to which are secured a plurality of lamp sockets 11, these sockets being of the class known as "angle sockets". I have illustrated a device having two of these lamp sockets attached to the supporting body 10, but three or more may be used if desired, the number being limited only by the relative size of the supporting body 10 and the sockets 11.

In the form of my invention illustrated in Figs. 1 to 6 of the drawings, the supporting body 10 is provided with circumferentially disposed openings 12 through which pass the tubular portions 13 of hollow, eyelet-shaped connecting members 14 which are secured to the angle sockets 11 and serve to connect the latter to the supporting body. Each angle socket 11 is, in the form of my device illustrated, formed with a hollow preferably rectangular boss 15 extending from the side thereof. The boss 15 is formed with an aperture 16 of approximately the same size as the apertures 12 of the supporting body. Through the apertures 16 and 12 extends the tubular portion 13 of the eyelet, or connecting member 14, which latter is, at its outer end, flanged outwardly at 17 over a washer 18, so as to confine the latter between the flange 17 and the inner face of the hollow boss 15. In assembling the parts, the washer 18 is firmly gripped between the flange 17 and the inner face of the boss 15 so that a rigid connection is effected between the connecting member 14 and the boss 15. The connecting eyelet members 14 are flared outwardly within the supporting body 10 to form curved flanges 19, the curvature of which corresponds with the inner curvature of the supporting body 10. This operation of outwardly flaring the inner ends of the connecting members 14 is so conducted that



the outer surface of the flanges 19 will slidably bear against the inner surface of the supporting body, while the outer surface of the hollow bosses 15 will slidably bear  
 5 against the outer surface of the supporting body, whereby the lamp sockets 11 may be readily swiveled relatively to the supporting body 10. A pair of inwardly extending excrescences 20, the purpose of which will  
 10 hereinafter appear, are formed upon the flange 19.

The supporting body 10 is formed with a large aperture 21, over which is adapted to be placed a cover 22, to be hereinafter described. The body portion 10 is stamped  
 15 inwardly at certain points, located adjacent the edge of the aperture 21 approximately in a line with the apertures 12, to form guide strips 22<sup>a</sup>. Locking fingers 23 are so  
 20 placed in the supporting body that they bear, at the inner faces of their upper ends, against the strips 22<sup>a</sup>, and, at the outer faces of their lower ends, against the inner sur-  
 25 faces of the flanges 19 of the eyelet members 14. Screws 24, passing through apertures 25 formed in the body portion adjacent the strips 22<sup>a</sup> and entering the locking fingers 23, are adapted to tighten the locking fingers 23 against the flanges 19 and thus  
 30 clamp the latter against the inner surface of the supporting body 10, whereby the lamp socket is locked in any position to which it may have been turned. By engaging against the locking finger 23, the excrescences 20 prevent the turning of the lamp  
 35 sockets to more than a certain predetermined extent in either direction, so that any possibility is precluded of the lamp socket being turned several times in the same direc-  
 40 tion, thereby twisting the conductors and possibly detaching one of them from the binding terminal of the socket.

The cap 22 is of corresponding shape to the body portion and, in the construction  
 45 illustrated, is of partial spherical form. The cap 22 is provided with bayonet slots 26, which will usually be equal in number to the lamp sockets employed. The screws 24 are made to engage, with their shanks, in  
 50 the bayonet slots 26 before being tightened to clamp the angle sockets in position so that, when the screws 24 have been tightened the cap 22 is locked in position and cannot be removed without loosening the screws 24.  
 55 The cap 22 is suitably apertured to receive an internally screw-threaded collar 27 to be secured to a conductor-containing conduit or the like.

In using the lamp cluster, the cap 27 is  
 60 first firmly secured to a conduit or the like, the conductors being pulled through the collar 27. The conductors are then inserted into the supporting body 10 and passed through the connecting eyelet members 14  
 65 into the interior of the lamp sockets, which

latter are provided with removable caps 28. The sockets 11 are preferably formed with spring catches 11<sup>a</sup> normally engaging the caps 28 but capable of being moved, by the pressure of a finger, out of engagement  
 70 therewith. When the caps 28 are removed, the top faces of the insulating bases within the sockets and the binding terminals 29 carried by these bases are exposed so that the connecting of the conductors is a very  
 75 simple matter. When effecting these connections sufficient slack wire is left to enable the socket to be turned in either direction relatively to the hollow body. In previous  
 80 clusters of this class it has been necessary to remove the sockets in order to wire the same, since the sockets were supported by their caps which latter were carried upon  
 85 pieces of tubing secured to the hollow body through which pieces of tubing, and the caps, the conductors were led to the sockets. This operation took considerable time and, moreover, the conductors were liable to injury in being pulled to and fro in the bent  
 90 connecting pipes.

When the above connections have been established, and the caps 28 have been re-  
 placed in position, the supporting body 10 is attached to the cap 22 by engaging the  
 95 bayonet slots with the screws 24 and giving the body portion a slight twist. The lamp sockets 11 are then turned to the positions which they are required to assume and the screws 24 are tightened so as to clamp  
 100 the lamp sockets in position relatively to the supporting body 10 and to lock the latter in its connection with the cap 22.

In cases where it is desired to use the lamp cluster in connection with wall sockets or the like the cap 22 is provided, as shown  
 105 in Fig. 7, with a plug attachment 30. In this case the cap 22 is formed with a boss 31, through which passes a tubular portion 32 of the plug. The portion 32 is enlarged out-  
 110 side the cap 22 to form a shoulder 33 between which and the boss 31 is inserted a washer 34. The tubular part 32 is bent over within the cap 22 to form a flange 35, be-  
 115 tween which and the inner face of the boss 31 is inserted a washer 36. In assembling the parts, the washers 34 and 36 are firmly compressed between the shoulder 33 and the flange 35, whereby a secure connection is made between the plug and the cover 32.

In the modification illustrated in Fig. 8,  
 120 the cap 22 is dispensed with, the collar 27 being directly mounted in the supporting body 10. In this case an opening 37 is formed in the supporting body 10, such opening being preferably located diametri-  
 125 cally opposite the collar 27, the material of the supporting body 10 being bent inwardly at the edge of the opening 37 to form a screw threaded flange 38. A circular cover  
 130 39, having a screw threaded peripheral por-



tion 40, is adapted to screw into and close the opening 37. In this case the screws 24 are only required to secure the sockets against turning, hence the slitted and stamped-in strips 22\* may be dispensed with, the locking fingers 23 being provided with outwardly bent ends 41 projecting through suitable holes in the supporting body.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. An electric lamp cluster comprising a hollow supporting body; a plurality of lamp sockets; and a plurality of connecting members, one for each lamp socket, said connecting members being rigidly fixed at their outer ends to the sides of the lamp sockets and being attached at their inner ends to said supporting body.

2. An electric lighting device comprising a hollow supporting body; a plurality of lamp sockets having binding terminals; and a plurality of connecting members, one for each lamp socket, said connecting members being hollow for the passage of conductors to the binding terminals and rigidly fixed at their outer ends to the sides of the lamp sockets and being rockably attached at their inner ends to said supporting body.

3. An electric lamp cluster comprising a hollow supporting body having a plurality of apertures therein; a plurality of lamp sockets, each lamp socket having a casing shell formed with a hollow boss extending at right angles with the axis of the lamp and having an aperture formed therein; and means for securing the outer faces of said hollow bosses directly against the outer surface of said supporting body in such manner that the apertures of the bosses will respectively register with the apertures of the supporting body.

4. An electric lamp cluster comprising a hollow supporting body having a plurality of apertures therein; a plurality of lamp sockets, each lamp socket being formed with a hollow boss having an aperture formed therein; and means for rockably securing the outer faces of said hollow bosses directly against the outer surface of said supporting body with the apertures of the bosses registering respectively with the apertures of the supporting body.

5. An electric lamp cluster comprising a hollow supporting body; a plurality of lamp sockets rockably connected at their sides to said supporting body; and means for limiting the rocking movement of said lamp sockets in either direction.

6. An electric lamp cluster comprising a hollow supporting body; a plurality of lamp sockets rockably connected at their sides to said supporting body; and means for locking said lamp sockets in any desired position.

7. An electric lamp cluster comprising a hollow supporting body; a plurality of lamp sockets having each a casing shell, a hollow embossment on each casing shell rockably connected to said supporting body; means for limiting the rocking movement of said lamp sockets in either direction; and means for locking said lamp sockets in any desired position.

8. An electric lamp cluster comprising a hollow supporting body having an aperture formed therein; a plurality of lamp sockets having each a casing provided with an integral lateral extension swiveling connection between said supporting body and each of said casing extensions; a cap detachably connected to said supporting body for closing the aperture thereof; and means for connecting the cluster to a conductor-containing support.

9. An electric lamp-holding device comprising a hollow supporting body having an aperture formed therein; a socket swivelingly connected to said supporting body; a cap for closing said aperture, said cap being provided with means for connecting the same with a conductor-containing support, and means for securing said body to said cap and simultaneously locking said socket against movement.

10. An electric lamp cluster comprising a hollow supporting body having an aperture formed therein; a plurality of lamp sockets having swiveling connection with said supporting body; a cap for closing said aperture, said cap having bayonet connection with said supporting body and said cap being provided with means for connection with a conductor-containing support, and means for locking said cap in position and simultaneously locking said sockets against rotation.

11. An electric lamp cluster comprising a hollow supporting body having an aperture therein; a plurality of lamp sockets rockably connected to said supporting body; a cap for closing the said aperture, said cap having bayonet slots therein; and means, cooperating with the bayonet slots of the cap, for locking the cap in position on the supporting body and at the same time locking the lamp sockets in position.

12. An electric lamp cluster comprising a hollow supporting body having a plurality of apertures formed therein; a plurality of lamp sockets; and a plurality of hollow eyelet-shaped connecting members, one for each lamp socket, each connecting member being rigidly secured at one end to a lamp socket and passing through one of said apertures of the supporting body and being flared out within the supporting body.

13. An electric lamp cluster comprising a hollow supporting body having a plurality



of apertures formed therein; a plurality of lamp sockets; a plurality of eyelet-shaped connecting members, one for each lamp socket, each connecting member being rigidly secured at one end to a lamp socket and passing through an aperture of the supporting body and being flared out within the supporting body so as to form a rocking connection between said lamp sockets and said supporting body; and means for limiting the rocking movement of the lamp sockets in either direction.

14. An electric lamp cluster comprising a hollow supporting body having an aperture formed therein; a lamp socket; an eyelet-shaped connecting member rigidly secured at one end to the lamp socket and passing through the aperture of the supporting body and being flared out to form a flange within the supporting body so as to effect a rocking connection between the lamp socket and the supporting body; and means, engaging said flange, for locking the lamp socket in any desired position.

15. An electric lamp cluster comprising a hollow supporting body having an aperture formed therein; a lamp socket; an eyelet-shaped connecting member rigidly secured at one end to the lamp socket and passing through the aperture of the supporting body and being flared out to form a flange within the supporting body, so as

to effect a rocking connection between the lamp socket and the supporting body, said flange being formed with an excrescence thereupon; and means, located in the path of said excrescence, for limiting the rocking movement of the lamp socket.

16. An electric lamp-holding device comprising a hollow supporting body having an aperture therein, a socket swivelingly connected to said body in position to cover said aperture, said socket having an aperture registering with the aperture of the body and having binding terminals, and a cap normally concealing said binding terminals and made removable to afford access to said terminals.

17. In a lamp-holding device, the combination of a hollow body having an aperture, with a socket comprising a casing having an aperture therein said casing being secured to said body with its aperture in register with the aperture of the body, binding terminals within said casing, and a cap normally concealing said terminals and made removable to expose the same.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

REUBEN B. BENJAMIN.

Witnesses:

CHARLES G. COPE,  
CHAS. L. HOPKINS.