

No. 855,782.

PATENTED JUNE 4, 1907.

J. V. HULL.

CLOSURE FOR BOTTLES, JARS, AND OTHER RECEPTACLES.

APPLICATION FILED JULY 27, 1905.

Fig. 1.

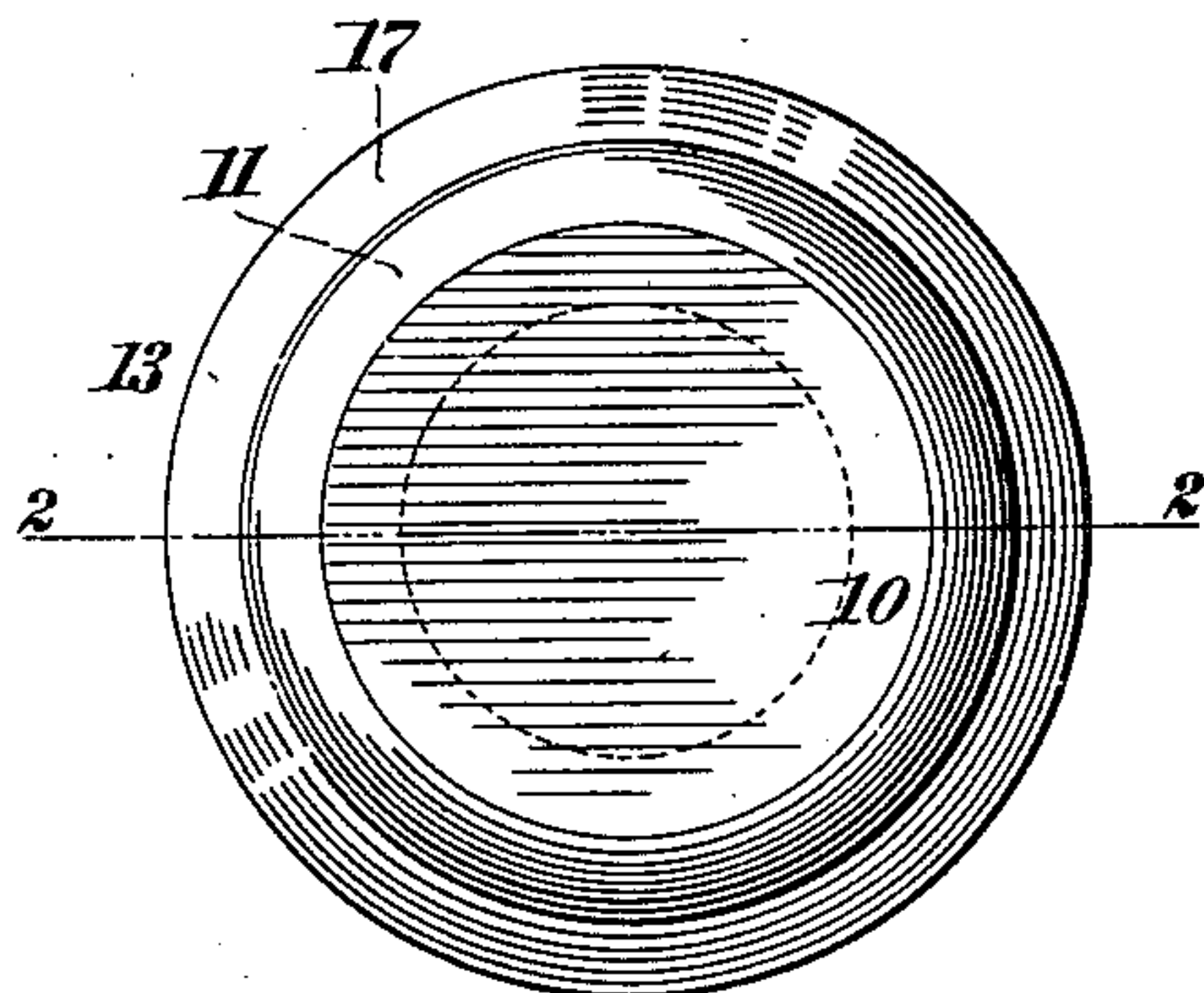


Fig. 3.

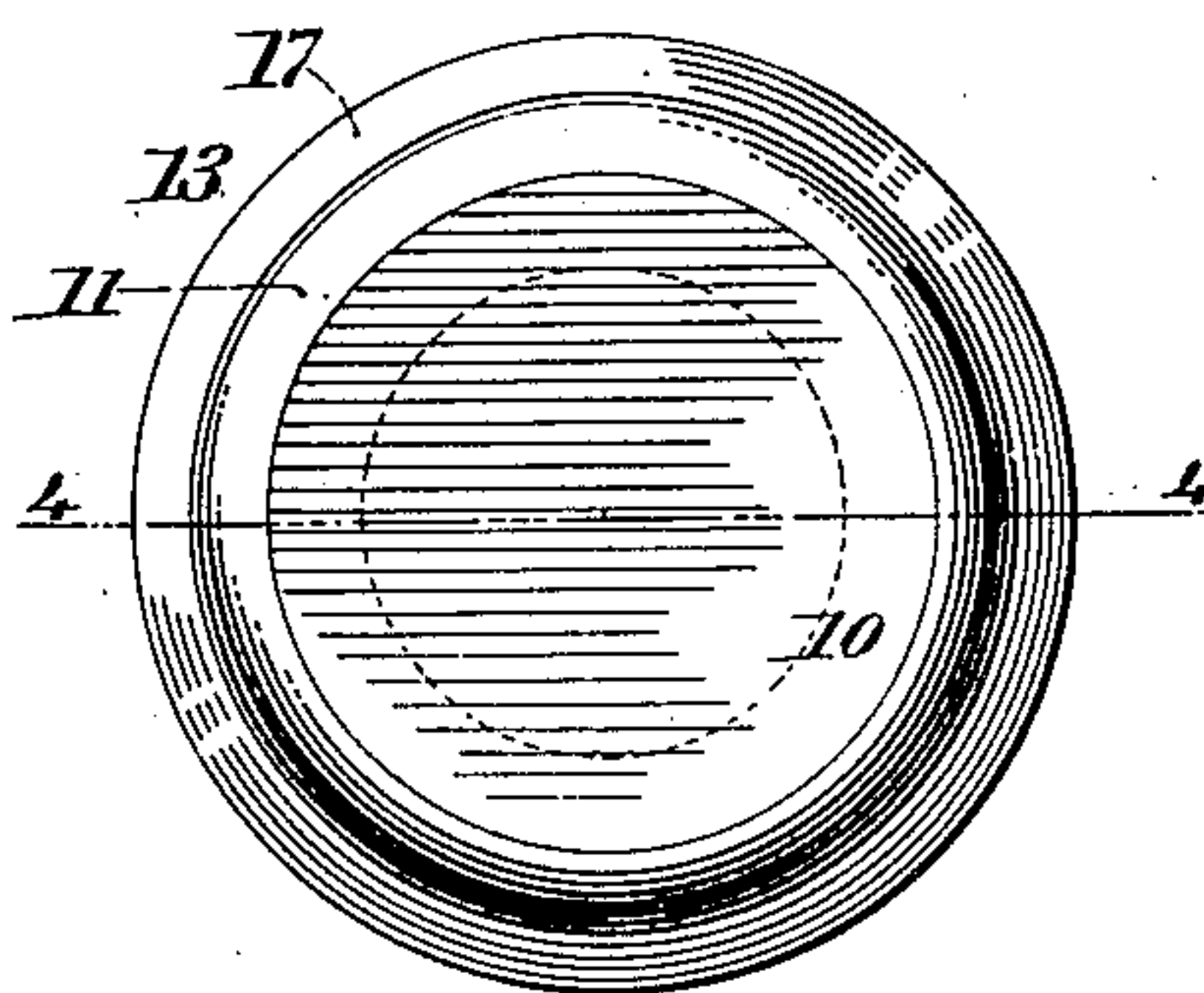


Fig. 2.

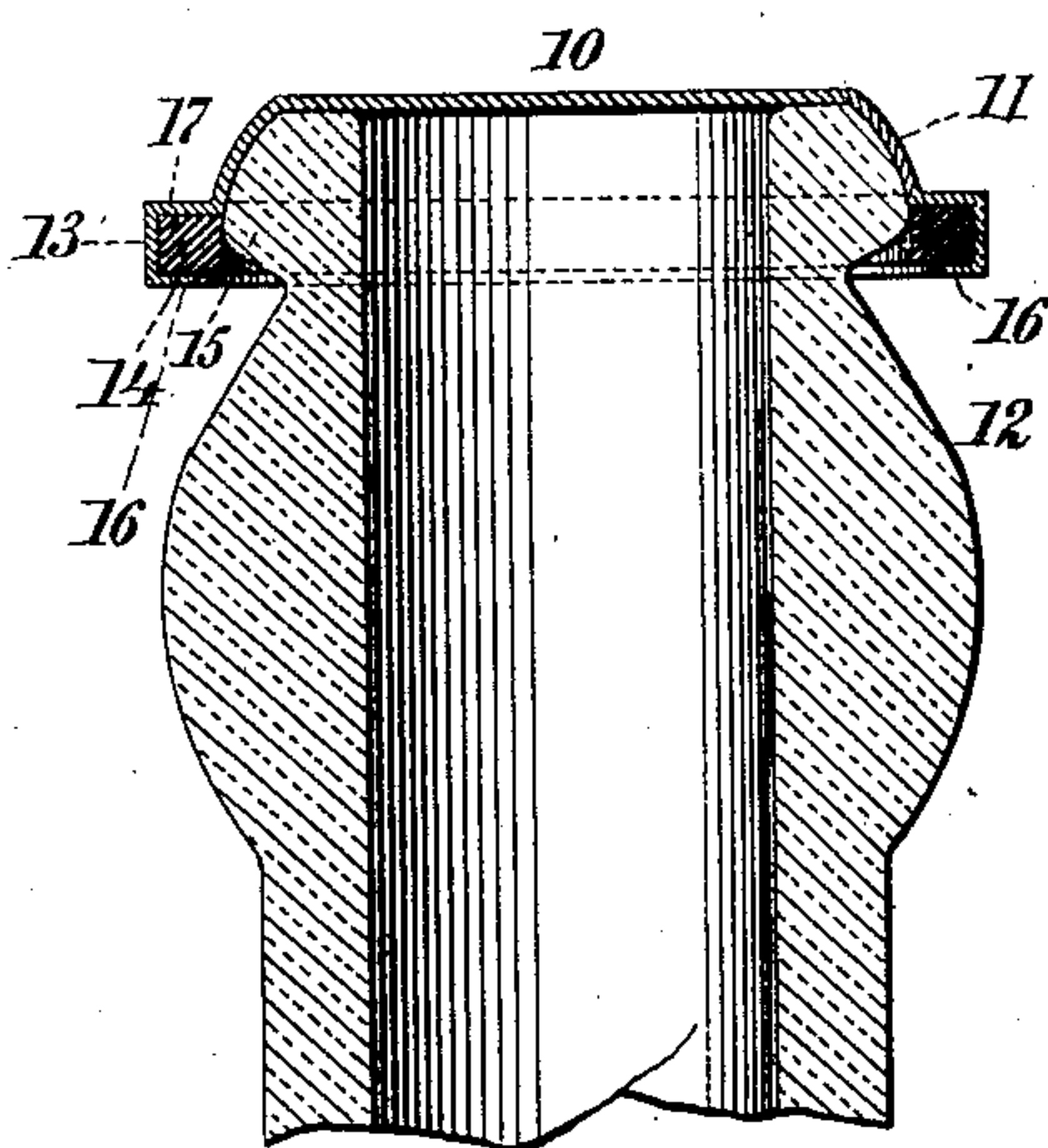


Fig. 4.

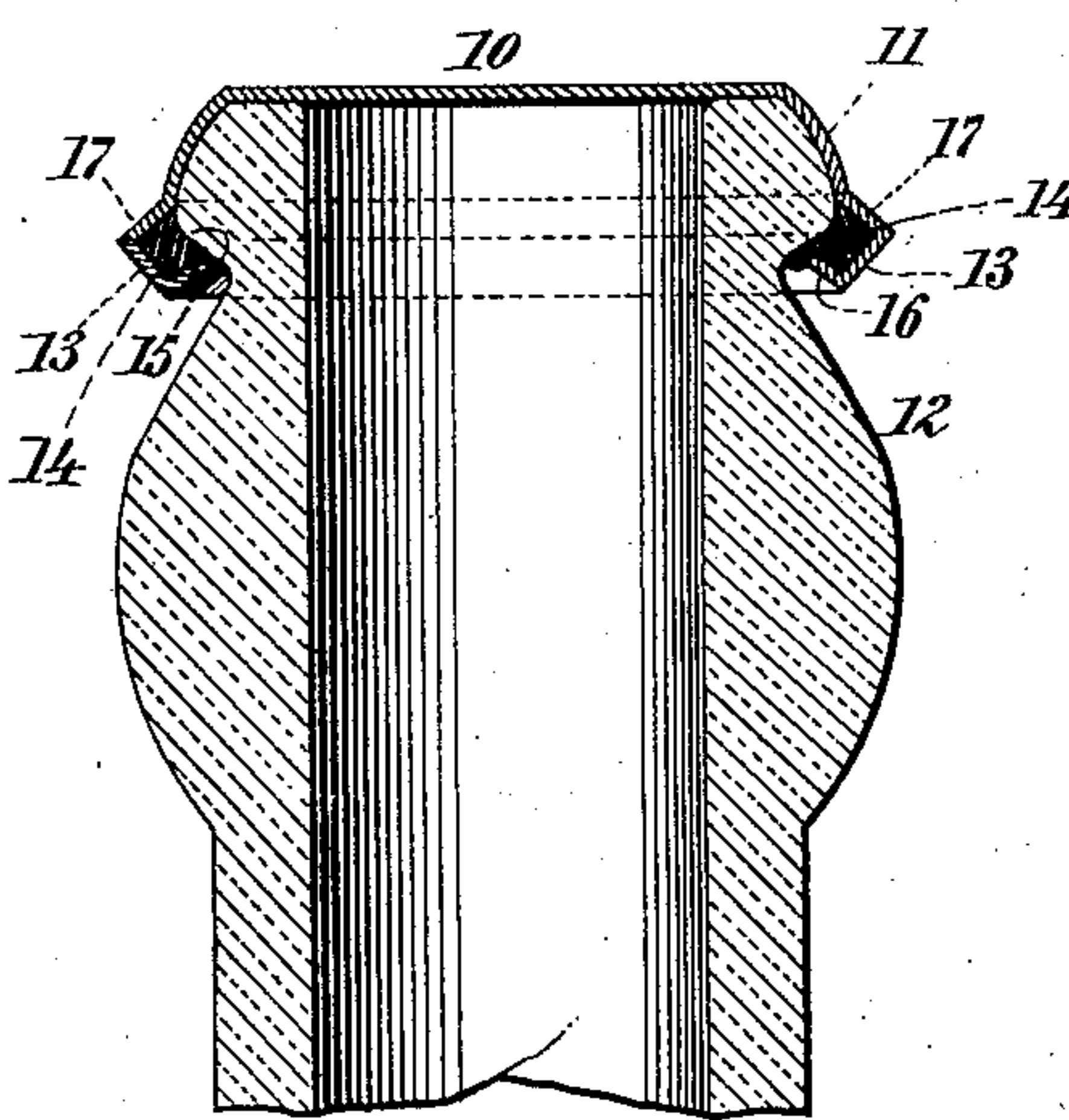


Fig. 5.

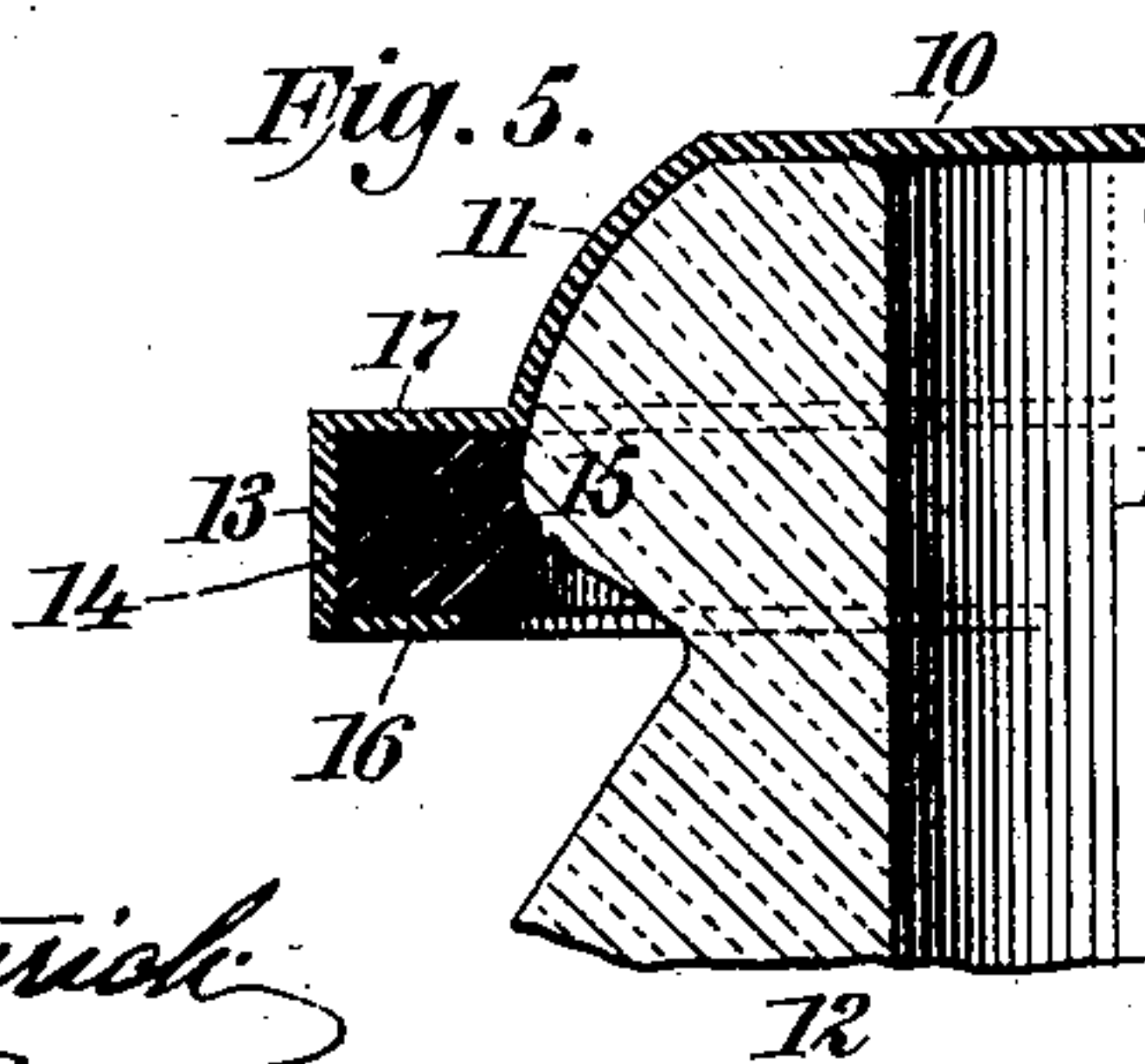
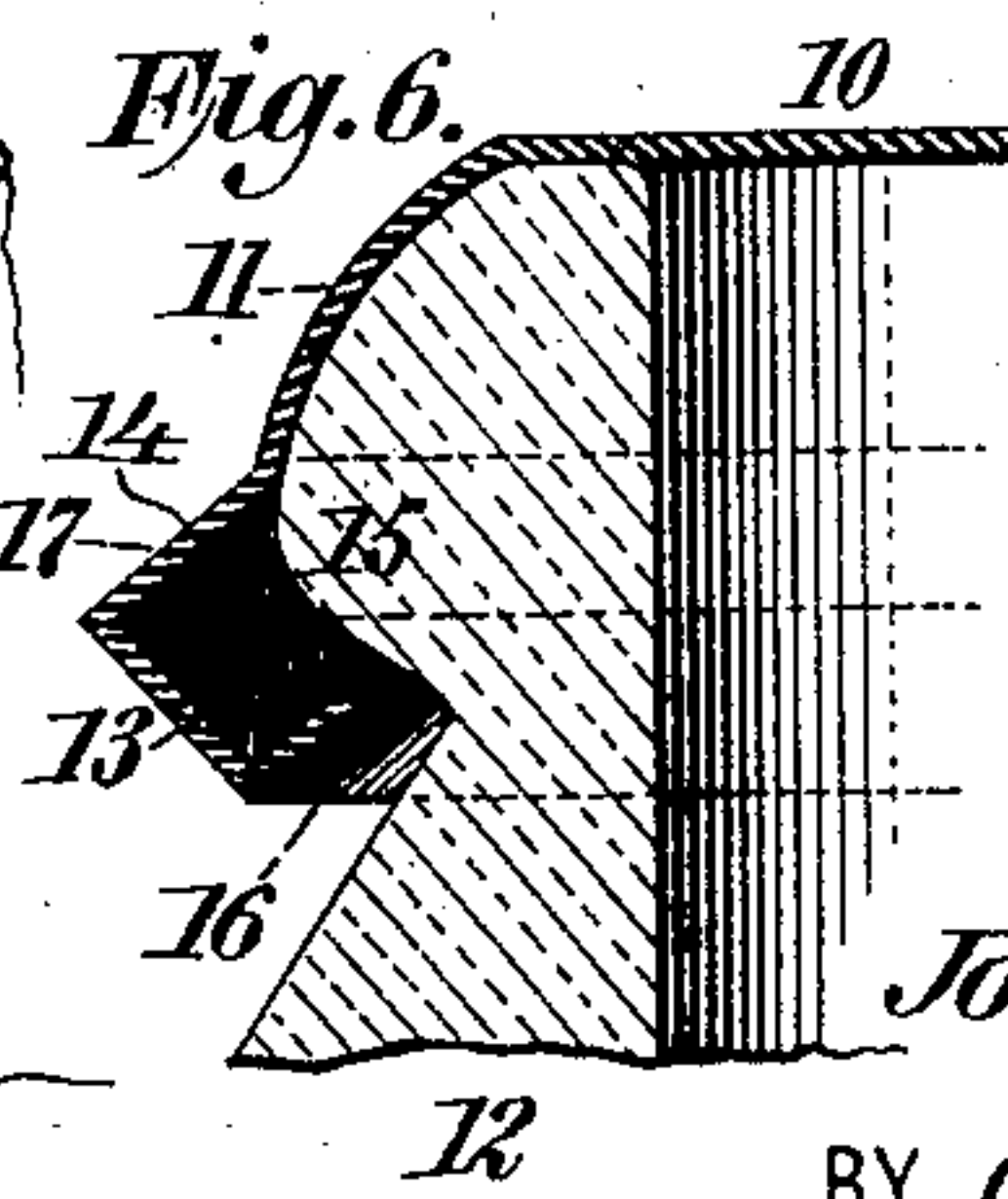


Fig. 6.



WITNESSES:

*Gustave Dietrich*

*Edwin H. Dietrich*

INVENTOR

*Joseph V. Hull*

BY

*Chas. C. Gill*

ATTORNEY



# UNITED STATES PATENT OFFICE.

JOSEPH V. HULL, OF BROOKLYN, NEW YORK, ASSIGNOR TO HARRY C. BLYE,  
OF NEW YORK, N. Y.

## CLOSURE FOR BOTTLES, JARS, AND OTHER RECEPTACLES.

No. 855,782.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed July 27, 1905. Serial No. 271,406.

*To all whom it may concern:*

Be it known that I, JOSEPH V. HULL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Closures for Bottles, Jars, and other Receptacles, of which the following is a specification.

The invention relates to improvements in closures for bottles, jars and other receptacles; and it consists in the novel features hereinafter described and particularly pointed out in the claims.

The invention comprises a novel cap of sheet metal having pendant at the lower edge of its side walls a laterally projecting annular beading forming within it an annular groove holding a packing ring, which, while readily passing downwardly over the external sides of the bottle mouth, will, upon the depression or turning downwardly of said annular beading, be compressed against a shoulder provided upon the bottle neck, thereby effecting a seal and locking the cap in position.

The invention will be understood from the description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a top view of the bottle cap shown in its initial condition preparatory to its being locked upon a bottle; Fig. 2 is a vertical section of same on the dotted line 2—2 of Fig. 1, the cap being shown as applied upon the upper end of a bottle neck but still in its initial condition; Fig. 3 is a view corresponding with Fig. 1 but illustrating the cap with its annular beading turned downwardly to carry the packing below the shoulder on the bottle neck; Fig. 4 is a central vertical section of same on the dotted line 4—4 of Fig. 3, the cap being shown in its sealing and locking position and condition; Fig. 5 is an enlarged vertical section through a portion of the cap and bottle neck and illustrates the initial condition of the cap, and Fig. 6 is a like view of same illustrating the cap in its sealing and locking position.

In the drawings, 10 designates the bottle cap, of tin, aluminium or other suitable sheet metal, having side walls 11 adapted to snugly pass upon the exterior sides of the upper end of the bottle neck 12, as shown in Fig. 2, and provided at their lower edge with the annu-

lar beading 13, whose inner walls form an annular groove receiving and holding an annular packing ring 14 of rubber or other suitable compressible material, the upper and lower walls of said beading 13 projecting laterally beyond the vertical plane of the sides 11 of the cap in position to be acted upon in turning said beading downwardly and inwardly partly below an annular shoulder 15 formed on the neck 12, whereby the packing becomes compressed against said shoulder and passes below or partly below the same and effects the sealing of the bottle and the locking of the cap in position thereon. The lower wall 16 of the annular beading 13 is of less width than the upper wall 17 of said beading, whereby when the beading is turned downwardly partly below the shoulder 15, the latter may very thoroughly and to a maximum extent contact with said packing, as shown in Fig. 6, in which it will be seen that the apex of the shoulder 15 enters the packing 14 and that the latter extends from the beading and along said shoulder. The inner edge of the lower wall 16 of the beading 13 does not contact with the bottle, and hence without distorting the beading, the packing has a very efficient sealing contact with the bottle neck. The fact that the lower wall 16 of the beading is less in width than the upper wall thereof, so that the inner edge of said wall 16 is disposed outwardly beyond the vertical plane of the inner edge of the upper wall 17 enables me to readily insert the packing 14 within the beading 13 and assures the proper contact of the packing with the shoulder 15 notwithstanding the usual irregularities found in the surfaces of bottles and variations in the sizes of bottle necks.

The method of applying the cap to a bottle for creating the closure and sealing the mouth of the bottle will be readily understood on referring to Figs. 5 and 6, from which it will be observed that after the cap has been inserted upon the bottle neck, as shown in Fig. 5, the annular beading 13 is simply pressed downwardly until it turns partly under the shoulder 15, as shown in Fig. 6. When the beading 13 is turned downwardly from its position shown in Fig. 5 to that illustrated in Fig. 6, the metal of the cap bends on the line of the lower edge of the



side walls 11, and due to the nature of the metal the beading when turned downwardly remains in that position.

One advantage of the invention is that the packing may be pressed against the shoulder 15 with more or less force in accordance with the nature of the contents of the bottle. If the bottle should contain charged liquids the beading would be pressed downwardly to a sufficient extent to effect a very firm contact of the packing and bottle neck, but in sealing bottles or jars not containing charged liquids or containing material other than liquids, the beading need not be pressed downwardly with more than sufficient force to form an airtight closure and permit the removal of the cap without the aid of a special instrument for that purpose. In the preferred construction the beading 13 is initially partly above and partly below the apex of the shoulder 15, so that when said beading is turned downwardly the packing may be forcibly pressed against said apex until the latter is in effect embedded in such packing, as shown.

What I claim as my invention and desire to secure by Letters-Patent, is:

1. In combination with a bottle or other receptacle having an annular exterior shoulder about its mouth, a sheet metal cap fitting snugly over the mouth and upper end of said receptacle and comprising a top and depending side walls having at their lower edge an annular hollow beading which extends outwardly at an angle from and beyond the vertical plane of said side walls, and a packing ring held in the groove formed within said beading, said beading being bent downwardly at an angle at its line of junction with the sides of the cap and thereby turned partly under said shoulder for firmly binding the packing against said shoulder and sealing the bottle, said beading not being deformed in said bending operation but turned into an angular position; substantially as set forth.

2. In combination with a bottle or other receptacle having an annular exterior shoulder about its mouth, a sheet metal cap fitting snugly over the mouth and upper end of said receptacle and comprising a top and depend-

ing side walls having at their lower edge an annular hollow beading which extends outwardly at an angle from and beyond the vertical plane of said side walls, and a packing ring held in the groove formed within said beading, said beading being partly above and partly below the apex of said shoulder and being bent downwardly at an angle at its line of junction with the sides of the cap and thereby turned partly under said shoulder for firmly binding the packing against said shoulder at its apex and below the same and sealing the bottle, said beading not being deformed in said bending operation but turned into an angular position; substantially as set forth.

3. In combination with a bottle or other receptacle having an annular exterior shoulder about its mouth, a sheet metal cap fitting over the mouth and upper end of said receptacle and comprising a top and depending side walls having at their lower edge an annular hollow beading which extends outwardly at an angle from and beyond the vertical plane of said side walls and the lower wall of which beading is less in width than the upper wall thereof, and a packing ring held in the groove formed within said beading and projecting beyond the lower wall of same, said beading being bent downwardly at an angle along its line of junction with the sides of the cap and thereby turned partly under said shoulder for firmly binding the packing against said shoulder and sealing the bottle, and said lower wall of said beading permitting the packing to squeeze outwardly to some extent from the beading and against said shoulder, said beading not being deformed in said bending operation but turned into an angular position; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 25th day of July A. D. 1905.

JOSEPH V. HULL.

Witnesses:

ARTHUR MARION,  
CHAS. C. GILL.