

No. 639,680.

Patented Dec. 19, 1899.

W. A. LORENZ.  
JAR SEALING APPARATUS.

(Application filed Aug. 5, 1899.)

(No Model.)

Fig. 1

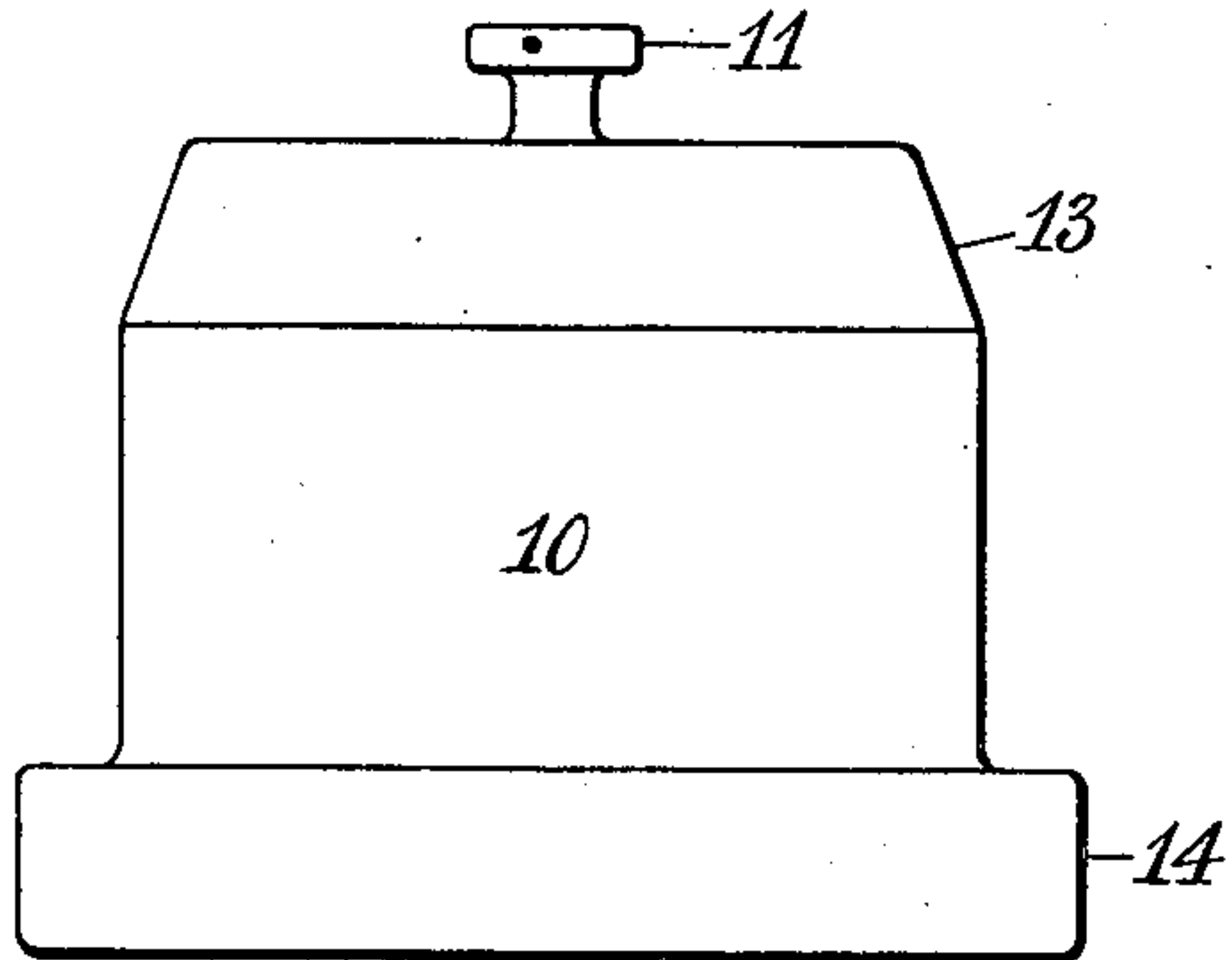


Fig. 2

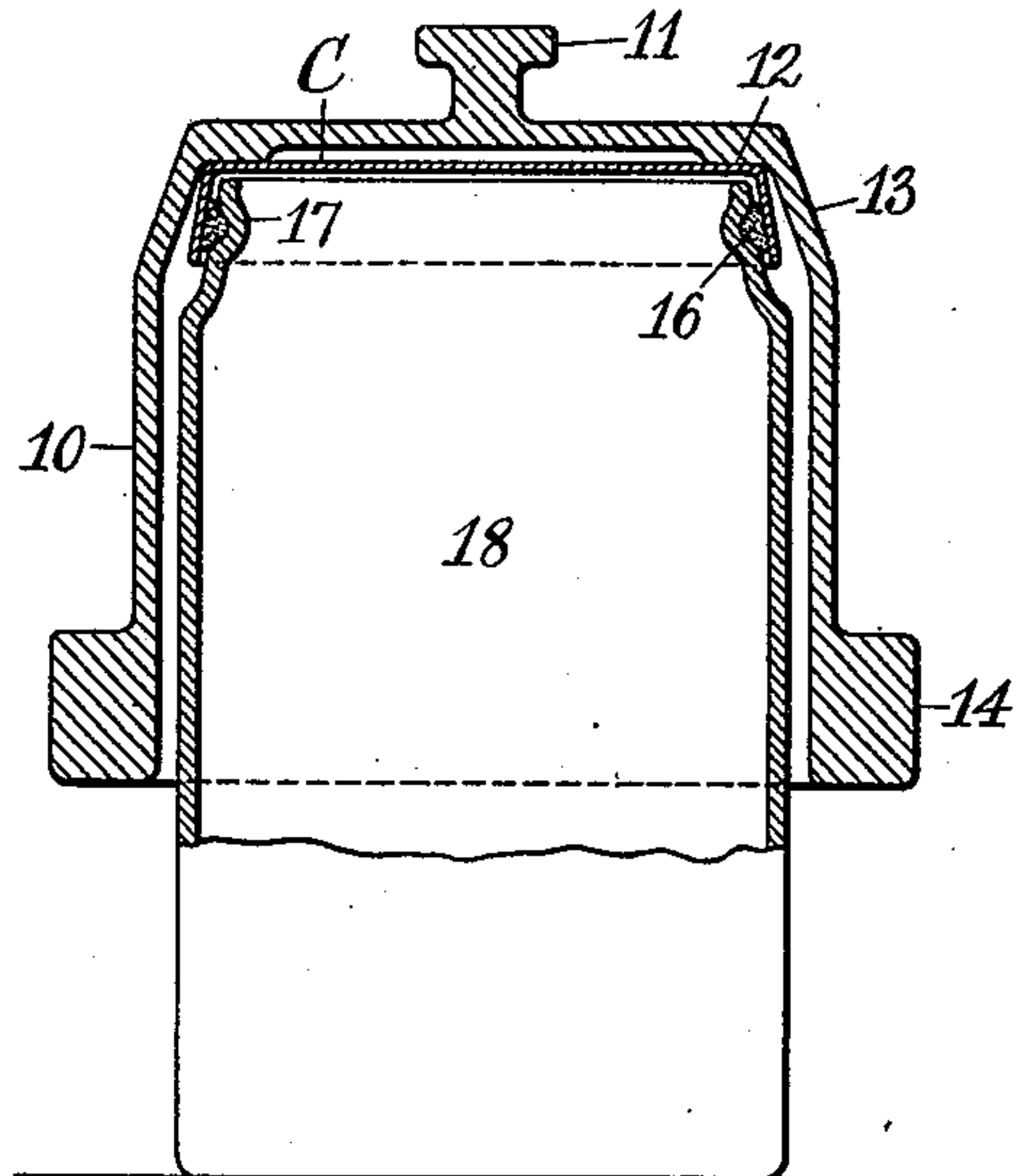


Fig. 3

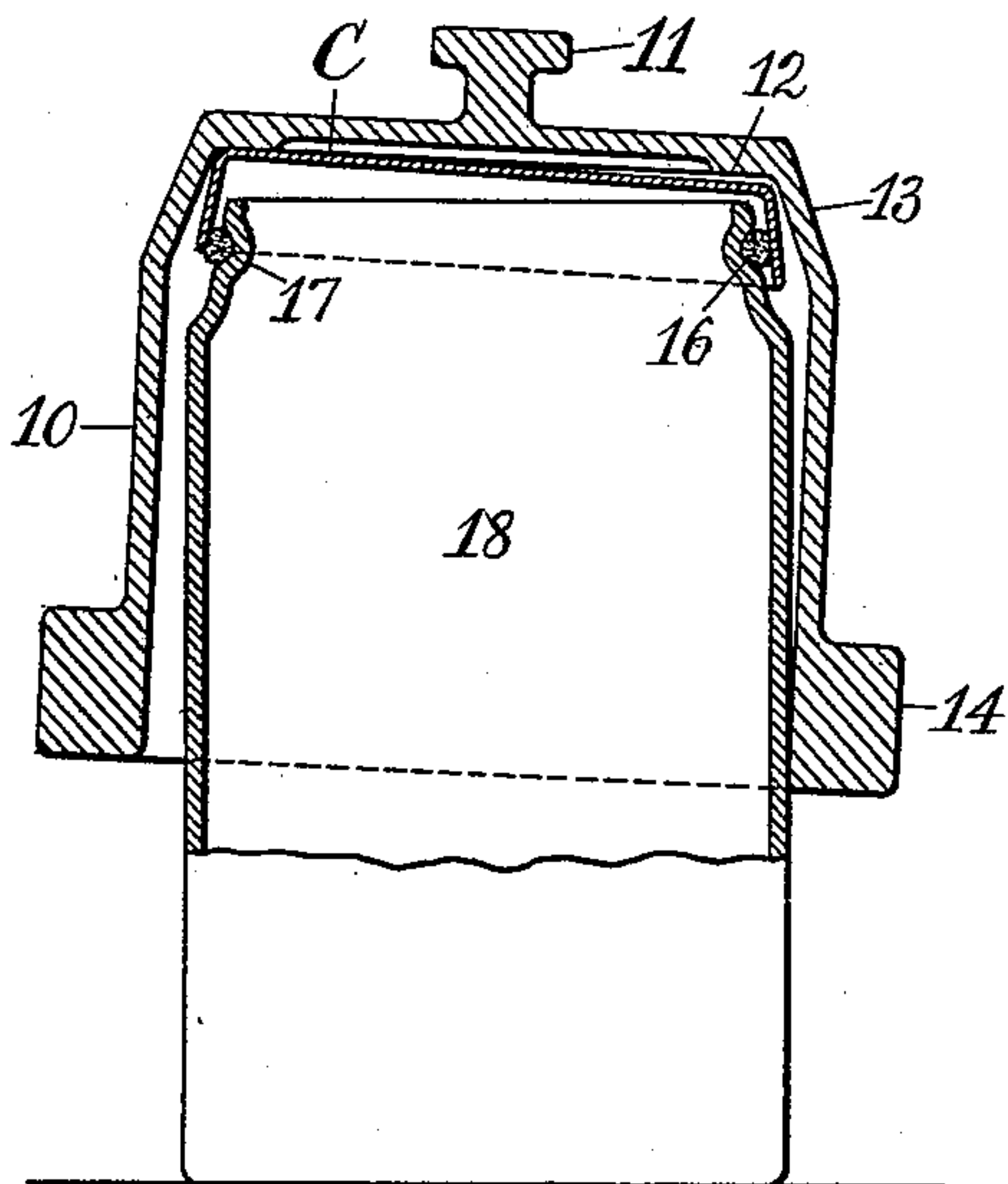
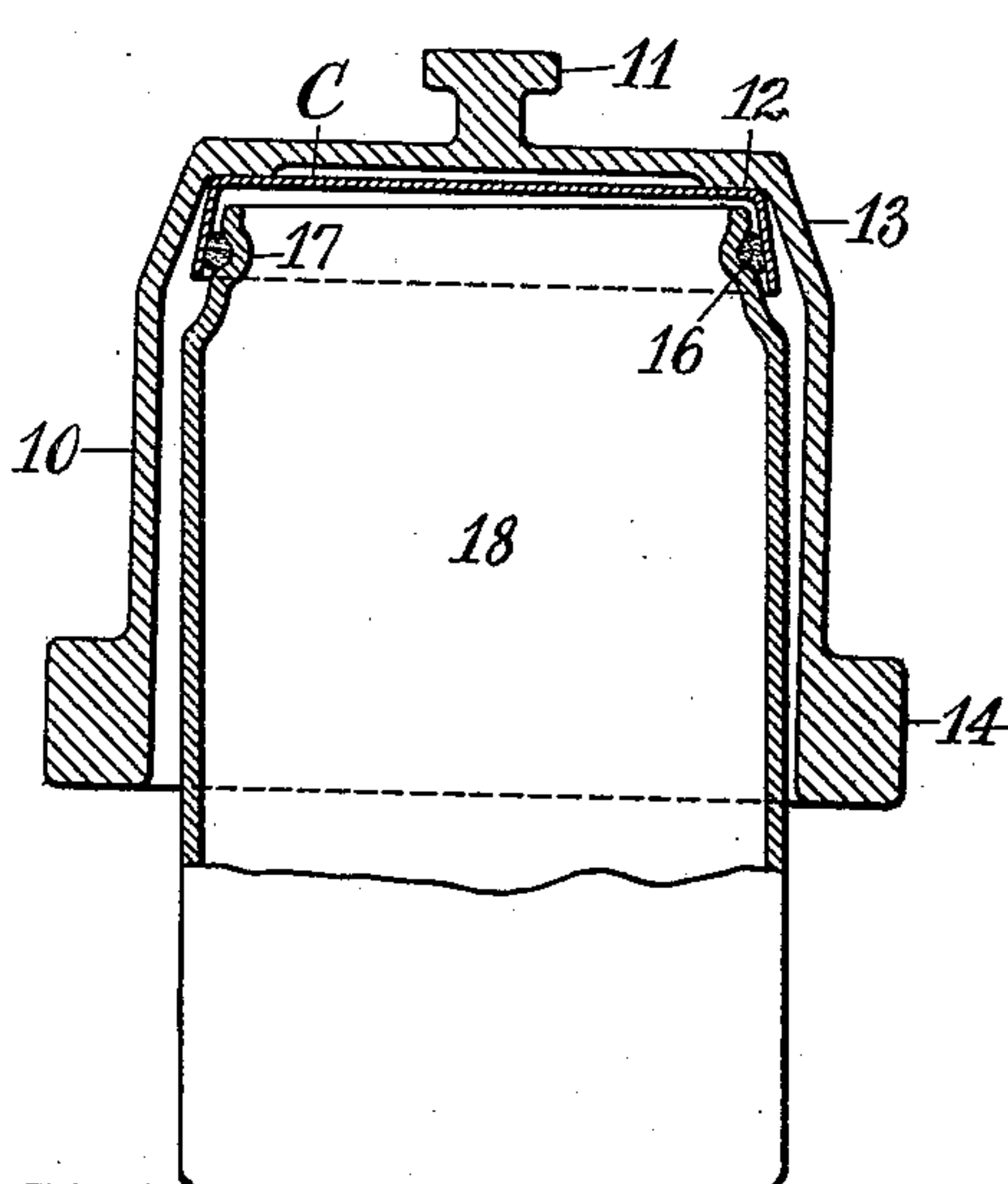


Fig. 4



Witnesses:

Jos. Merritt  
H. Mallon

Inventor

William A. Lorenz

By W. H. Honiss, Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM A. LORENZ, OF HARTFORD, CONNECTICUT, ASSIGNOR OF THREE-  
FOURTHS TO WILLIAM H. HONISS, OF SAME PLACE, AND BARTLETT  
ARKELL, OF CANAJOHARIE, NEW YORK.

## JAR-SEALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 639,680, dated December 19, 1899.

Application filed August 5, 1899. Serial No. 726,318. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. LORENZ, a citizen of the United States of America, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Jar-Sealing Apparatus, of which the following is a specification.

This invention relates to an improved device for leveling the caps of hermetically-sealed jars and for closing them squarely down upon their jars during the sealing operation.

Figure 1 of the drawings is a side view of this device. Fig. 2 is a side view in section taken through the longitudinal center of a sealed jar and its cap and showing, also in section, the leveling device of Fig. 1 in position thereon. Figs. 3 and 4 are side views in section taken through the longitudinal center of a jar like that of Fig. 2, illustrating the action of this improved device during the process of exhausting the air from the interior of the jar in leveling a cap which was originally incorrectly placed in a tilted position or with one side higher than the other.

Jars of this class are provided with a flaring metallic cap, which is pressed down upon the outside of an annular gasket of rubber or similar material seated upon a shoulder or in a groove upon the outside of the neck of the jar. In the operation of sealing the jar the air is expelled therefrom either by heat, as in the cooking processes, or by means of an exhausting apparatus, the external atmospheric pressure against the cap pressing it down around the gasket, and thereby sealing the jar. In this art as it has hitherto been practiced the caps were liable to be or become tilted, as shown in Figs. 3 and 4. During the operation of expelling or exhausting the air the latter in order to escape from the jar must lift the cap away from its gasket, this action generally tending to tilt the cap still more, since the higher side usually yields most readily to the lifting tendency. This tilting of the caps is objectionable both for the sake of appearance and for the more important reason that when sealed in this inclined po-

sition the ring or belt of contact between the circular gasket and the conical rim is not a circle, but is approximately an ellipse which does not conform accurately to the circular gasket, and therefore does not compress the latter uniformly at all portions thereof. These difficulties and objections are obviated by the device of the present invention, which is, in effect, a specially-adapted weight provided with a seat for the cap and having its center of gravity below that seat, so as to act as a pendulum or plumb for automatically leveling the cap upon the jar.

The preferred form of my present invention is herein shown to be embodied in the weight 10, which is preferably provided with the handle 11 for convenience in manipulation. The underside of the upper wall of the weight is provided with a seat 12 for receiving the cap C, the downwardly-extending flange 13 engaging with the rim of the cap to centralize it with the weight. The lower portion of the weight, which is preferably cylindrical in form, as herein shown, encircles or at least encompasses the jar, with a slight clearance to allow for variation in the diameter of the jars and of the weights and serves as a guiding-surface for the weight. The material of which the weight is made is so disposed as to bring the center of gravity well below the plane of the seat 12, being preferably disposed in the form of an annular rim 14 at the lower end of the weight.

The operation of sealing these jars with the aid of these devices is as follows: After filling the jars with their contents the rubber gaskets 16 are placed in position upon the shoulders or seats 17 therefor upon the neck of the jar 18. The caps C are then placed over the gaskets, and one of the weights 10 is placed over each of the caps. The jars are then subjected to the cooking operation or are placed in the usual retort if they are to be sealed by exhausting the air. As the air expelling or exhausting process continues the air escapes from the jar past the gasket by slightly lifting the cap, and if it should happen that the cap is tilted when originally placed in position, as shown in Fig. 3, the weight will rest



upon the highest part of the cap, as shown in that figure. Consequently the air in its efforts to escape from the jar will lift the opposite or free side, thereby allowing the left-hand or higher side to sink down under the pressure of its weight, the repeated lifting of the cap at its lower side tending thereby to level it, so that when finally sealed it rests squarely upon the jar, as shown in Fig. 1.

10 The cap of Fig. 3 is represented as being displaced or tilted to such an extent as to bring the right-hand side of the weight 10 against the adjacent side of the jar, thus preventing the seat 12 from resting upon the corresponding side of the cap, and therefore leaving that side free to rise, as above described. Even after the cap has been leveled sufficiently to enable the weight to clear the side of the jar, as shown in Fig. 4, the weight still exerts upon the

20 cap its leveling tendency by virtue of the location of its center of gravity, which, being below the seat 12 for the cap, tends constantly to right itself, and thereby finally to level the cap squarely upon the jar. This automatic leveling of the caps greatly facilitates the work of sealing these jars, since the weights are readily handled and less care is required of the operator to place the caps squarely in place upon their respective jars. Further-

30 more, the automatic leveling is more reliable and certain than when performed manually by operators, who are liable to become careless in this respect. The reliable sealing of these jars is highly important, especially in the treatment of food products, the preservation of which is dependent upon the complete exclusion of air. The side wall and flange 13 of this weight is herein shown to be continuous or unbroken. It may obviously, how-

40 ever, be made of any desired open-work pat-

tern, thus enabling the contents of the jars to be seen at all times, or the weights may be made of glass or other transparent material for the same purpose. The seats may be made to engage with the caps either upon the top, as herein shown, or upon the rim thereof so long as the engagement of the cap with its seat is of a nature to carry the cap with the weight as the latter settles itself to the position determined by its center of gravity. After the jars are properly sealed these weights are removed therefrom and used in a similar way upon the succeeding jars.

I claim as my invention—

1. A weight for jar-caps, provided with a seat for the cap, and having its center of gravity below that seat, and adapted to automatically level the caps upon the jars. 55
2. A weight for jar-caps, provided with a seat for the cap, and having a depending guiding portion extending adjacent to and loosely encompassing the sides of the jar. 60
3. A weight for jar-caps, provided with a seat for the cap, and with a depending portion extending adjacent to and loosely encompassing the sides of the jar, the center of gravity of the weight being below the plane of the seat for the cap. 65
4. A weight for jar-caps, having a substantially cylindrical body loosely fitting the jar, and provided with a seat for centering and leveling the cap with the jar, the center of gravity of the weight being below the seat. 70

Signed by me at Hartford, Connecticut, this 4th day of August, 1899.

WILLIAM A. LORENZ.

Witnesses:

JOS. MERRITT,  
W. H. HONISS.