

No. 707,764.

Patented Aug. 26, 1902.

R. L. S. DOGGETT.
EXPANSIBLE STOPPER.
(Application filed Apr. 8, 1902.)

(No Model.)

Fig. 1.

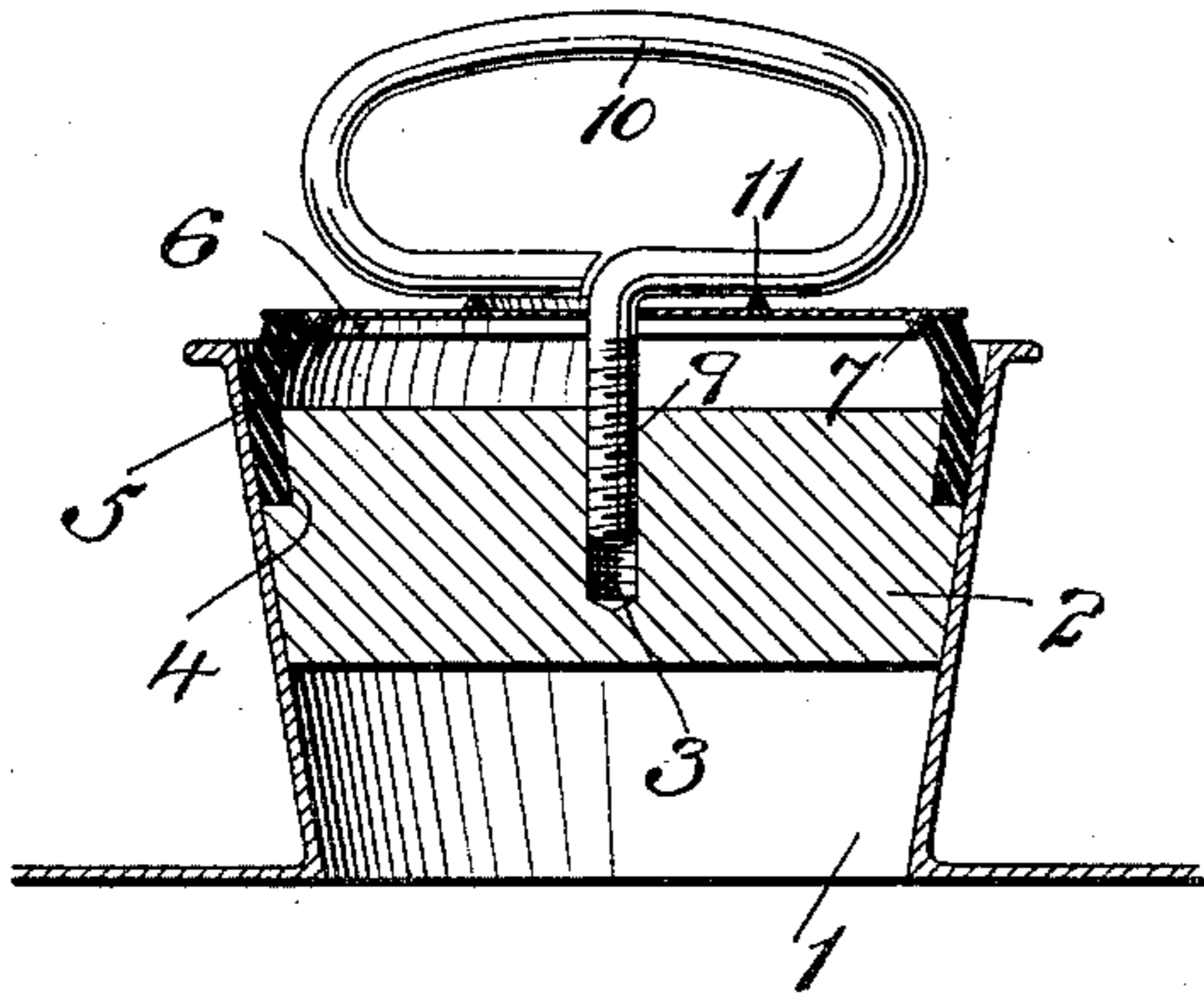


Fig. 2.

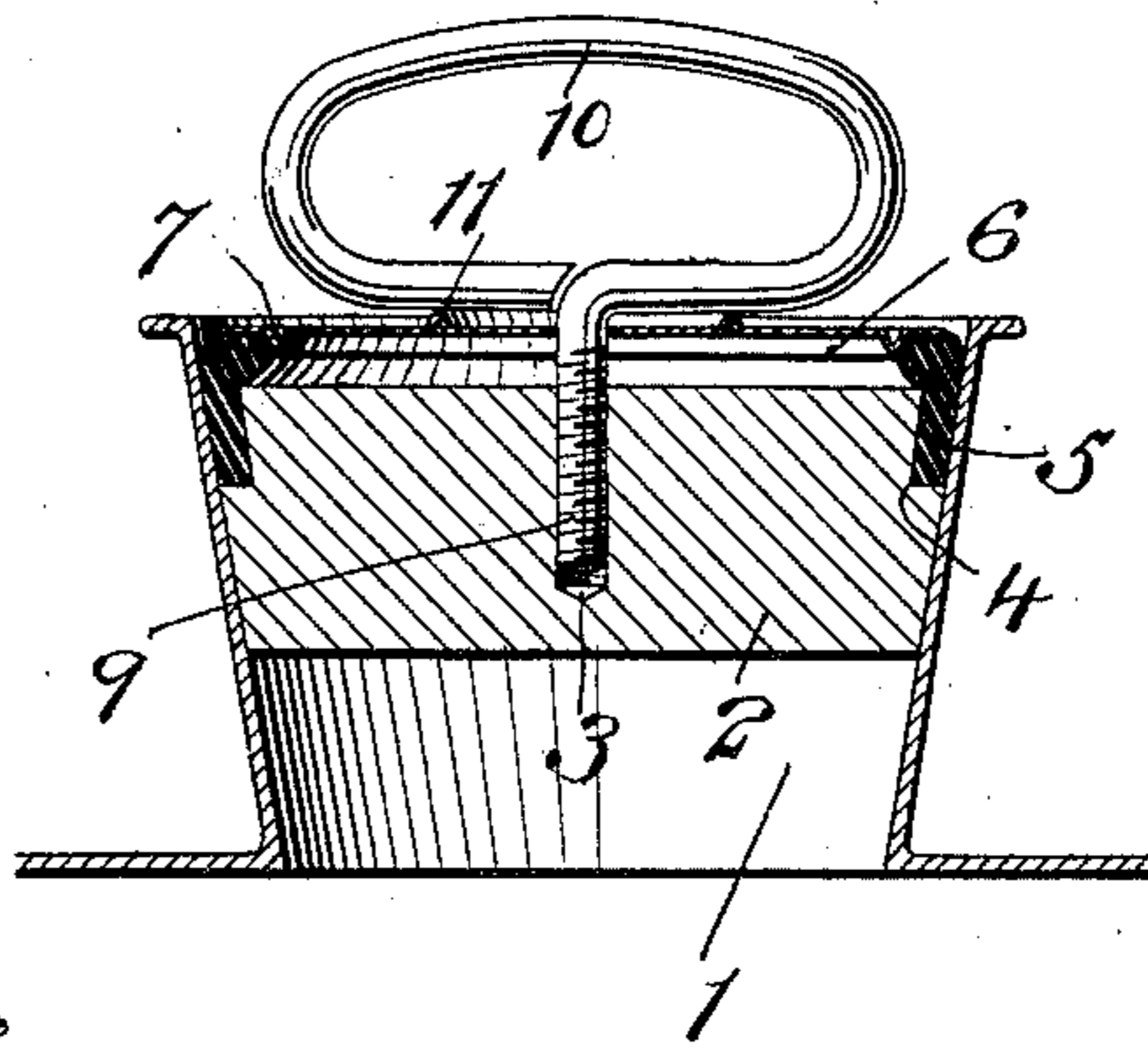


Fig. 3.

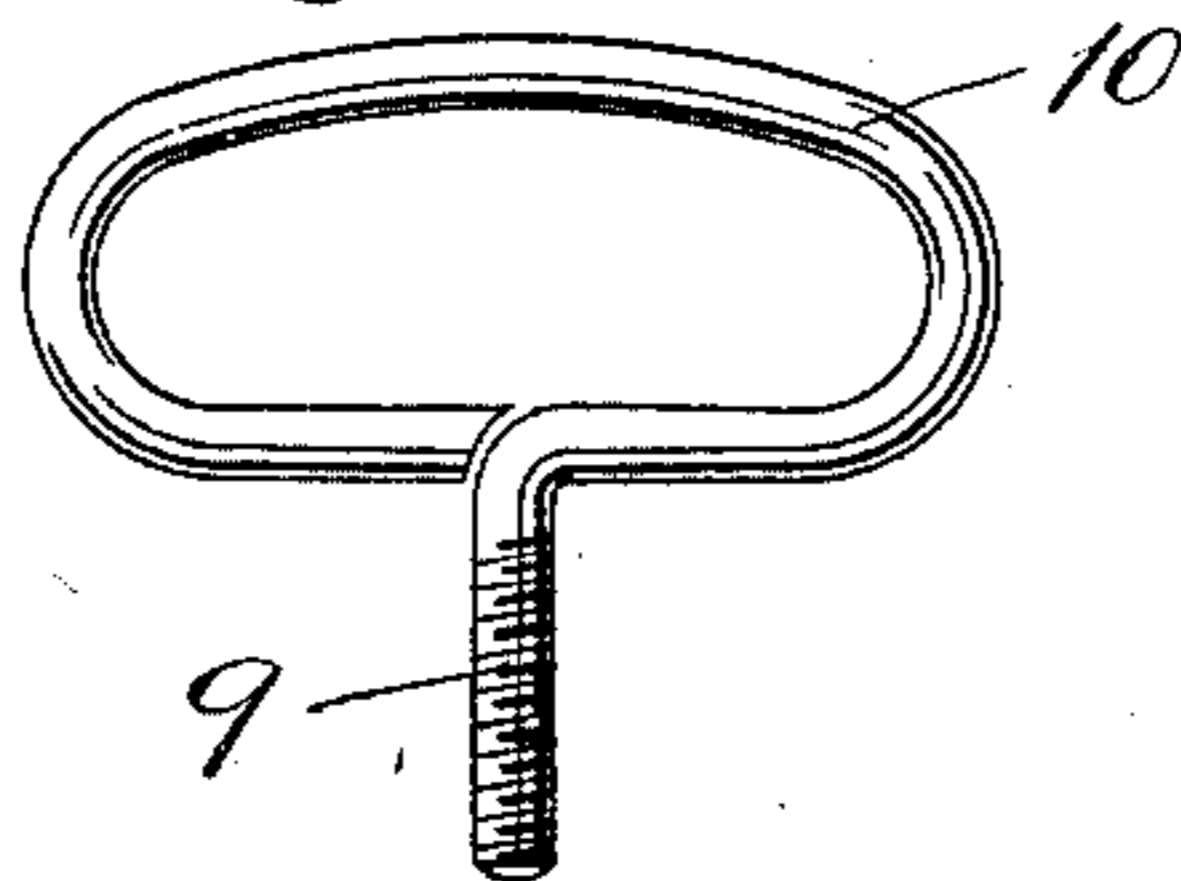


Fig. 4.



Fig. 5.

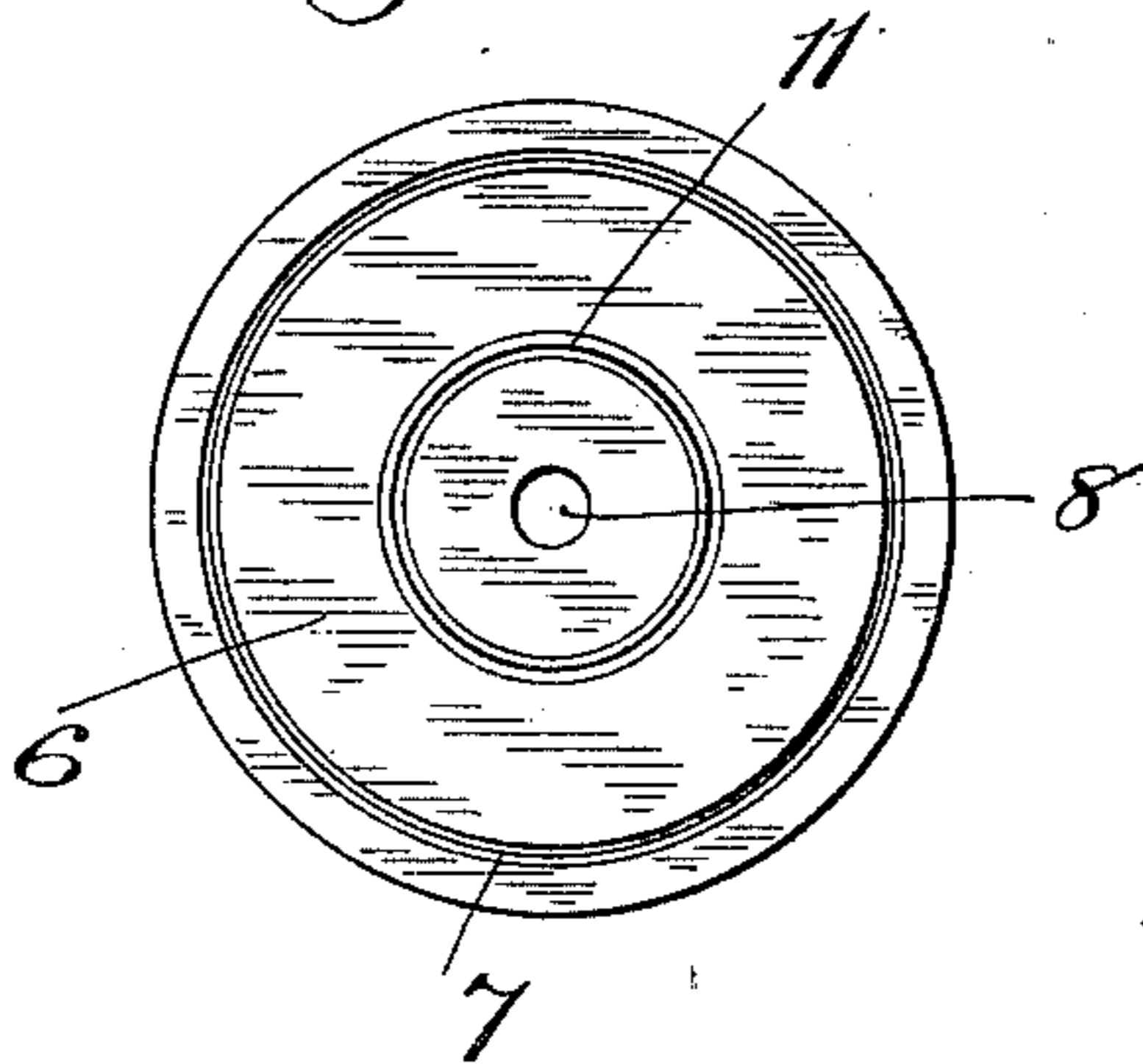


Fig. 6.

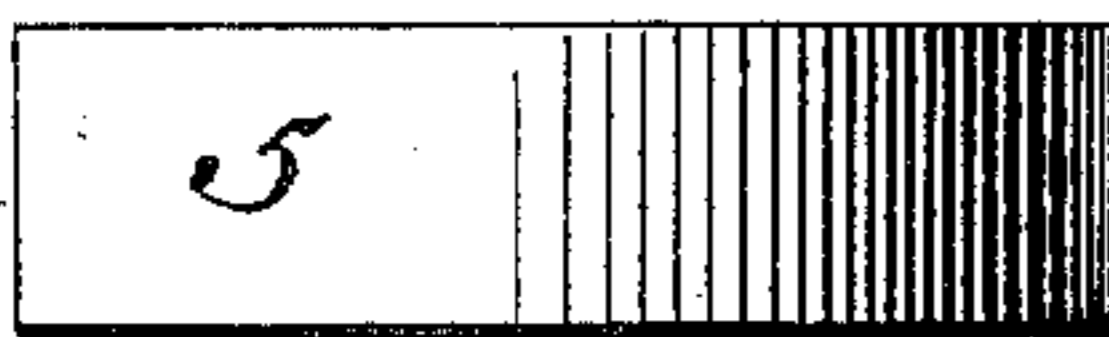
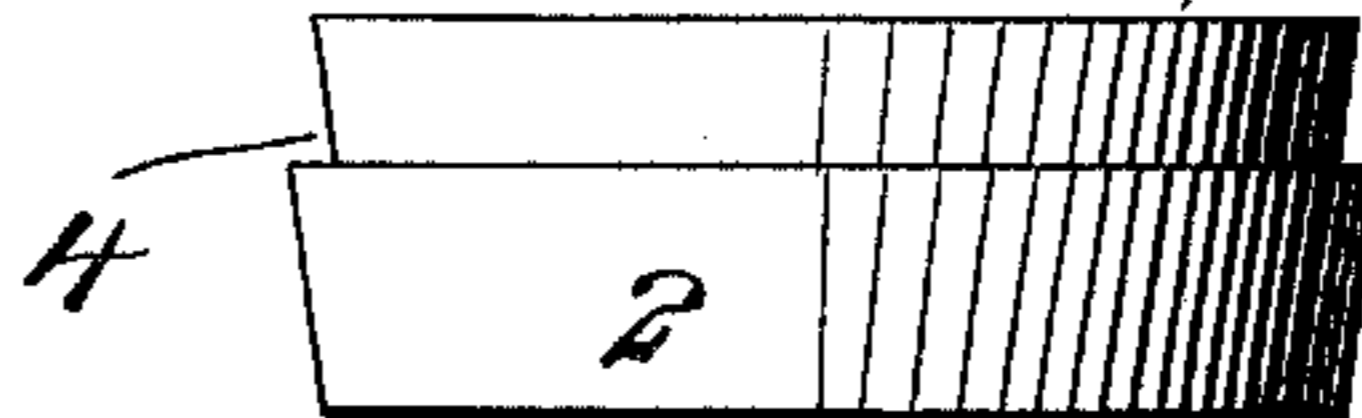


Fig. 7.



Witnesses:
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UNITED STATES PATENT OFFICE.

REGINALD L. S. DOGGETT, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO
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OF NEW YORK.

EXPANSIBLE STOPPER.

SPECIFICATION forming part of Letters Patent No. 707,764, dated August 26, 1902.

Application filed April 8, 1902. Serial No. 101,876. (No model.)

To all whom it may concern:

Be it known that I, REGINALD L. S. DOGGETT, a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Expansible Stoppers, of which the following is a specification.

My invention relates to an improvement in expansible stoppers, and has for its object to provide an expansible stopper which will be particularly well adapted for use in connection with varnish and paint cans.

A further object is to provide an expansible stopper comprising a plug, a pressure-plate, an interposed elastic ring, and a handle-screw for drawing the plate and plug together to expand the ring, the screw being protected from contact with the contents of the can. This is particularly necessary where the can is fitted to receive varnish, turpentine, and the like.

A still further object is to provide a device in which the expansion of the ring is insured when the pressure-plate and the plug are drawn together by the handle-screw.

Another object is to provide the handle-screw with a looped handle of sufficient size to permit the insertion of the fingers for insuring the removal of the stopper when the ring is in its non-expanded position.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a vertical central section through the expansible stopper and a portion of the mouth of the can, the stopper being in its unlocked position within the mouth of the can. Fig. 2 is a similar view showing the stopper locked in position within the mouth of the can by the elastic ring. Fig. 3 is a detail view of the handle-screw. Fig. 4 is a side view of the pressure-plate. Fig. 5 is a top plan view of the same. Fig. 6 is a side view of the elastic ring, and Fig. 7 is a side view of the plug.

The mouth of the can, which is represented in the accompanying drawings, is denoted by 1 and is shown of the usual flaring form.

The expansible stopper is constructed, arranged, and operated as follows: A tapered

plug 2 is fitted to seat within the tapered mouth 1 of the can. This plug is provided with a centrally - arranged screw-threaded hole 3, extending from the top of the plug downwardly part way through the same. The plug 2 is further provided with a circumferential groove 4 around its top, which groove is of a depth corresponding to the thickness of the elastic ring, to be immediately described. The elastic ring is denoted by 5. The lower portion of the ring is stretched around the top of the plug 2 and is seated in the circumferential groove 4. The upper portion of the elastic ring 5 will thus be brought into tapered form by the stretching of the lower portion of the plug. A pressure-plate 6 rests upon the upper edge of the elastic ring 5. This pressure-ring may be provided with a depending annular flange 7, around which the upper edge of the elastic ring seats for centering the pressure-plate and for preventing its displacement with respect to the ring. This pressure-plate 6 is further provided with a central hole 8 therethrough, located in alinement with the hole 3 in the plug 2. A handle-screw for drawing the pressure-plate and plug together to expand the ring comprises a screw-threaded shank 9 and a looped handle 10 of sufficient size to receive the fingers of the operator for facilitating the removal of the stopper when in its unlocked position. This enlarged looped handle is practically essential where the stopper is used in connection with paints, varnishes, &c. The screw-threaded shank 9 of the handle-screw engages the hole 3 in the plug while the handle 10 engages the pressure-plate 6. I preferably provide the pressure-plate with an annular flange 11 uprising therefrom, forming a wearing-surface against which the handle of the screw presses as the screw is turned inwardly. The plug 2 may be made of any suitable material—such, for instance, as wood or porcelain—and the elastic ring may be made of rubber or other material which may be found more suitable for the purpose. It will be seen that when the plug is seated within the mouth of the can both the elastic ring 5 and the handle-screw are protected from contact with the contents of

the can. The stopper may be locked in the can by turning the handle-screw inwardly. This will draw the pressure-plate and plug together. Because of the tapered form of the upper portion of the ring, owing to the stretching of the lower portion on the plug, the expansion of the ring against the walls of the mouth of the can is insured as the pressure-plate and plug are drawn together. This obviates any liability on the part of the ring to be buckled inwardly when the plate and the plug are drawn together. The pressure-plate is materially strengthened by providing the annular flanges 7 and 11, hereinbefore referred to, thus permitting the use of a rather light sheet metal for the said plate.

It is evident that changes might be resorted to in the form and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. An expansible stopper comprising a plug having a circumferential groove around its top, an elastic ring seated in said groove and projecting above the top of the plug in tapered form, a pressure-plate engaging the ring and a handle-screw passing through the

pressure-plate and engaging the plug for drawing the plate and plug together to expand the ring, substantially as set forth.

2. An expansible stopper comprising a plug, an elastic ring having its lower portion stretched around the top of the plug and its upper portion brought into tapered form by the stretching of the ring over the plug, a pressure-plate engaging the upper edge of the ring, and a handle-screw passing through the pressure-plate and engaging the plug for drawing the plate and plug together to expand the ring, substantially as set forth.

3. An expansible stopper comprising a plug, a pressure-plate, an interposed elastic ring, a screw for drawing the plate and plug together to expand the ring, the said plate having a depending annular flange engaging the ring, and an uprising annular flange engaging the handle of the said screw, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of April, 1902.

REGINALD L. S. DOGGETT.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.