

No. 735,402.

PATENTED AUG. 4, 1903.

W. H. NORTH.
STOPPER FOR JARS OR TANKS.
APPLICATION FILED DEC. 29, 1902.

NO MODEL.

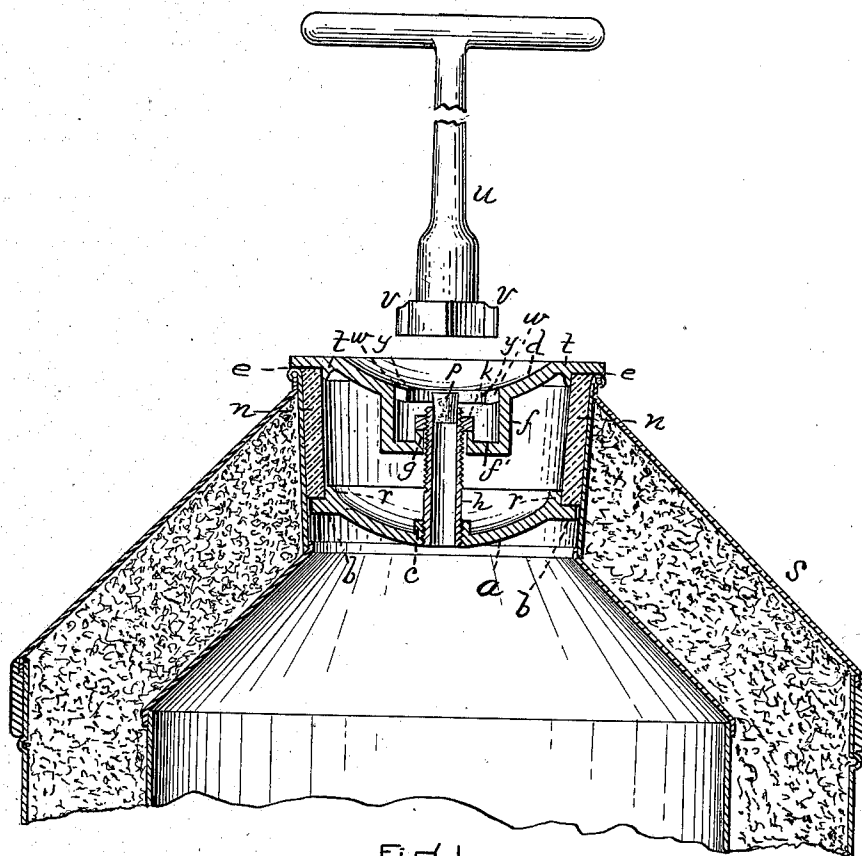


Fig. 1.

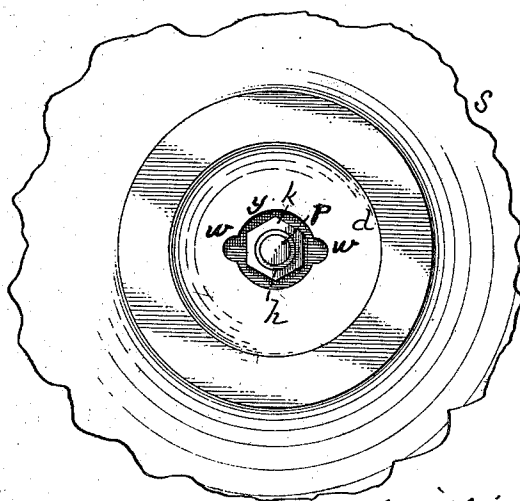


Fig. 2.

WITNESSES=

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WILLIAM H. NORTH, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ORIENTAL
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STOPPER FOR JARS OR TANKS.

SPECIFICATION forming part of Letters Patent No. 735,402, dated August 4, 1903.

Application filed December 29, 1902. Serial No. 136,885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. NORTH, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Stoppers for Jars or Tanks, of which the following is a specification.

This invention relates to an improved expandible stopper or plug intended particularly for use as a closure for jars or tanks containing coffee in a liquid form, said jars or tanks being usually provided with a faucet whereby the coffee is drawn and served in cups or small pots. This style of jar is used commonly in serving coffee to such gatherings as church sociables, lodge meetings, and other sociable affairs or functions. Stoppers or plugs for this purpose must be provided with a passage for the admission of air in order that the liquid may be allowed to flow freely, especially during the early part of its service, from the tank. My improved stopper is provided with a passage for this purpose which is adapted to be closed by a suitable cork, and the stopper or plug is constructed in such a manner that it may be easily expanded until the closure is perfectly liquid-tight and air-tight and contracted, in order that the plug may be removed and the tank filled, by means of a suitable wrench, all as fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section of my improved stopper or plug in position in a coffee-tank, the upper portion of which is shown in section. Above the stopper is a wrench, shown in elevation, adapted to expand or contract the stopper. Fig. 2 is a plan view of the stopper or plug and a portion of the upper part of the tank in which it is placed.

Similar letters of reference indicate corresponding parts.

The stopper comprises an upper portion made of metallic or other rigid material, a lower portion of similar material, a central vertical tube connecting said portions, and an outer expandible annular wall, of rubber, leather, or other elastic or flexible material, said wall connecting the upper and lower rigid portions, and thereby producing an air-

tight and water-tight chamber within it and between said portions.

The lower portion of the stopper consists of a metallic plate *a*, preferably concavo-convex, as shown, said plate being provided next its periphery with an annular step *b* and being further provided centrally with an opening surrounded by an internally-screw-threaded flange *c*. The upper portion comprises the substantially concavo-convex metallic plate *d*, provided next its periphery on the under side with an annular step *e* and centrally with a well or recess *f*, whose floor *f'* is provided with a central plain (that is, unthreaded) opening and a corresponding upwardly-projecting flange *g*. An externally-screw-threaded pipe *h* has its lower end screwed into the flange *c*, while its upper end extends up through the opening in the floor *f'* of the well *f*. A screw-threaded nut *k* engages with the thread on the pipe *h* above the flange *g*, and thus secures the plate *d* *ff'* to the pipe. *n* represents an annular wall, of rubber, leather, or other elastic or flexible substance, said wall connecting the upper and lower plates and with its upper and lower edges sitting against the steps *e* and *b*, respectively. A suitable cork *p* is adapted to be placed in the upper end of the tube *h*.

It is evident that by turning the nut *k* the upper plate will be drawn toward the lower by means of the thread on the pipe *h*, with the effect of pressing the elastic or flexible wall *n* outward against the sides of the opening in the top of the tank *s*, said wall being held to its work by means of the annular lips *r* and *t*, extending upward and downward, respectively, from the lower and upper plates *a* *d*. This expansion or bulging of the wall *n* laterally and its contraction vertically produce a liquid-tight and air-tight closure, and air can be let into the tank when it is desired to draw coffee therefrom by withdrawing the stopper *p*.

I find the wrench *u* a convenient tool for turning the nut *k*, and said wrench can operate as a lifter while in engagement with the nut by means of its opposite projections *v*, corresponding recesses *w* being formed in that portion *y* of the plate *d* which projects in-

ward over the well in order that the wrench may be inserted and turned and lift the tank by means of said projecting portion *y*. No claim as to novelty, however, is made with regard to the wrench described and illustrated.

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

1. In a stopper for jars or tanks, a lower
10 plate provided with a hole adapted to open into the tank; an upper plate formed with a substantially central well or recess provided with a hole corresponding with the hole in the lower plate; an externally-screw-threaded
15 tube extending from the hole in the upper plate to the hole in the lower plate; a suitable nut on said tube above the opening in the upper plate and adapted to draw said plates toward each other; and an elastic or flexible
20 wall located between said plates next their outer edges or peripheries and adapted to be pressed and expanded outwardly against the sides of the opening or mouth in the tank by operating said nut, substantially as described.
2. In a stopper for jars or tanks, the lower
25 plate *a* provided with the step *b* next its periphery and with the upwardly-projecting flange *r* next said step, and formed with a central opening; the upper plate *d* provided with the
30 well or recess *f, f'* formed with a central opening, with the step *e* next its periphery, and with the downwardly-extending flange *t* next said step *e*; the elastic or flexible wall *n* hav-

ing its upper and lower edges sitting against said steps *e* and *b* and next the flanges *t* and
35 *r*; and the pipe *h* screwed into the opening in the lower plate and extending through the opening in the upper plate, and provided with a suitable nut above the upper plate whereby
40 said plates may be drawn toward each other and said wall expanded laterally, substantially as set forth.

3. In a stopper for jars or tanks, the lower
plate *a* provided with a substantially central
45 screw-threaded opening; the upper plate *d* formed with the downwardly-extending well or recess *f, f'* having a substantially central opening, and provided with the portion *y* projecting inwardly over the well and formed with the recesses *w*; the elastic or flexible
50 wall *n* located between said plates next their outer edges or peripheries; and the pipe *h* extending from the opening in the lower plate through that in the upper plate and provided
55 with a suitable nut whereby the plates may be drawn toward each other and the flexible wall expanded, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of
60 two subscribing witnesses.

WILLIAM H. NORTH.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.