

(No Model.)

W. W. GUPTILL.

STOPPER FOR BOTTLES AND JARS.

No. 304,312.

Patented Sept. 2, 1884.

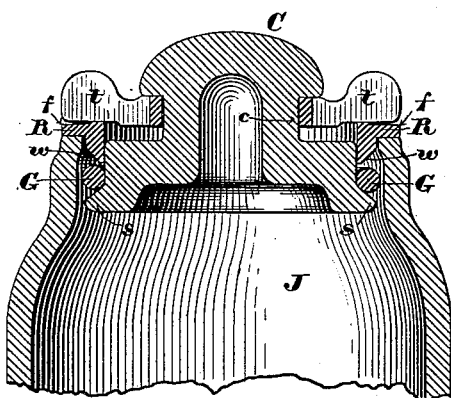


Fig. 1.

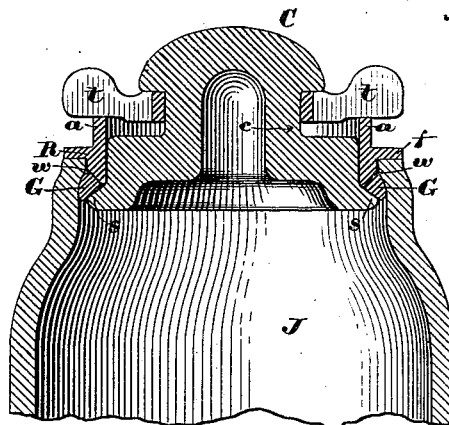


Fig. 2.

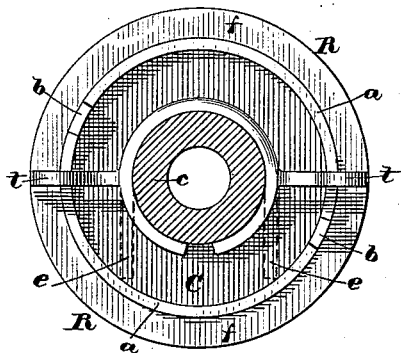


Fig. 3.

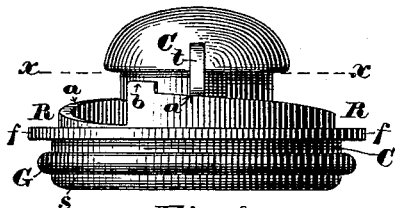


Fig. 4.

Witnesses:

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Inventor:

W. W. Guptill
by his attorney
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UNITED STATES PATENT OFFICE.

WINSLOW W. GUPTILL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
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STOPPER FOR BOTTLES AND JARS.

SPECIFICATION forming part of Letters Patent No. 304,312, dated September 2, 1884.

Application filed April 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, WINSLOW W. GUPTILL, of Boston, Massachusetts, have invented a new and useful Improvement in Stoppers for Jars and Bottles, of which the following is a specification.

My invention relates to that class of stoppers in which an annular elastic gasket is used to seal the jar. It is essential that an airtight joint should be formed between the jar and stopper, and it is very desirable that the stopper should be easily and quickly applied to the jar to form such joint without the necessity of subsequent tightening and without the use of a wrench or other tool to secure the stopper in place or to remove it when it is desired to open the jar; and it is also very desirable that the surface of the stopper exposed to contact with the contents of the jar should be made of non-corrosive material, and yet strong and durable enough to support the pressure from the other parts of the stopper, to withstand atmospheric pressure when in use, and to resist the action of heat and cold.

The object of my improvement is to provide a stopper having all these advantages, and I have attained this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section of the upper part of a jar with a stopper embodying my invention, the stopper being in position to be secured to the jar. Fig. 2 is the same view, the stopper being tightened to secure it in the jar. Fig. 3 is a top plan of the stopper, the cap of its post being shown in horizontal section on the line *x x* of Fig. 4, which is a side elevation of the stopper alone.

The cover proper, *C*, is made preferably of pressed glass or other non-corrosive material, formed in one piece, and shaped as shown in the drawings. Its upper part, *c*, is a capped post, carrying just below the cap the tightener *t t*, turning loosely thereon. The tightener *t t* is made preferably of malleable iron, its middle part forming a half-circle on one side, with the two projecting parts *e e* on the opposite side. (Indicated by broken lines in Fig. 3.) When the tightener has been placed around the post *c* under the cap at about the position shown in Fig. 3, its ends or thumb-

pieces *t t* resting on the bottom of the inclined surfaces *a a*, the parts *e e* are bent into place around the post, as shown in full lines in Fig. 3, thus completing the circle or segment of a circle; or the middle part of the tightener may be an annular band or segment of band shrunk onto the post or put in place by any appropriate means. At the lower part of the body of the cover proper is the annular shoulder *s*, slightly beveled, as shown, which is the seat of the annular elastic gasket *G*, the gasket being round in cross-section.

R is a tubular metal ring or sleeve, fitting loosely around the body of the cover, and provided with the inclined surfaces or treads *a a*, ending in the stops *b b*. The ring *R* also has an annular flange or lip, *f*, projecting over or resting upon the edge of the jar *J*, by which the stopper is supported in place. A short distance below this lip the ring terminates in the beveled edge *w*.

In putting the parts of the stopper together the ring *R* is first placed upon the cover proper, *C*. The tightener *t t* is next placed around the post *c* in the manner above described. The gasket *G* is then placed in position around the body of the cover *C*, which it fits closely, between the beveled edge *w* of the ring *R* and the beveled shoulder *s* of the cover *C*, and the stopper is then ready for insertion. The stopper is secured or sealed to the jar in the following manner: It is placed in the position shown in Fig. 1. The tightener *t t* is then turned round the post *c* by its thumb-pieces, which gradually move up the inclined surfaces or treads *a a* to the stops *b b*, or until the stopper is firmly secured. This movement of the tightener *t t*, as is obvious, lifts the cover *C* by means of the cap of its post *c*, bringing the beveled shoulder *s* toward the wedge or beveled edge *w* of the ring *R*, thus introducing said wedge between the inner circumference of the gasket *G* and the body of the cover *C*, and spreading or driving the gasket radially outward and forcing its outer circumference into close and binding contact with the neck or mouth of the jar. Meanwhile the stopper is prevented from turning or slipping bodily in the jar by the other hand of the operator. To remove the stopper when desired, the movement of the tightener is reversed

down the inclined surfaces *aa*, when the cover C will fall by its own weight or by pressing with the hand on the cap of the post *c* to the position shown in Fig. 1, releasing the elastic gasket and allowing it to resume the position there shown, when the stopper may be withdrawn from the jar. The jar itself, for greater security against accidental opening, may be provided with an inward annular projection near the top, under and against which the gasket will then be driven in tightening the stopper.

The shape of the cover proper, C, with a hollow core, and of about the same thickness throughout, as shown, has been found practically to be the easiest and cheapest to make or mold; but it is obvious that other shapes which will admit of the described tightening may be used, if desired.

By the construction shown the cover proper may be made wholly of glass, and yet strong enough to withstand the working strain of the stopper and without liability of breaking or cracking when in use; and by this arrangement of the parts I avoid the use of a double

cover or two disks, which are objectionable, and particularly so because of the difficulty of cleaning the stopper; and when two disks are employed the air-chamber formed between them is liable to become foul. Moreover, with the two disks the stopper is more or less liable to operate ineffectually from the rusting or corrosion of the metal parts in contact, and it is obvious that these disadvantages are overcome by my improvement.

I claim—

A stopper provided with a cover proper, having a capped central post, a tubular ring or sleeve fitting loosely around the body of said cover, a tightener carried by the post and engaging its cap and extending radially outward and engaging the ring, an elastic gasket, and inclined surfaces or treads against which the tightener bears, all arranged and operating substantially as described, and for the purpose specified.

W. W. GUPTILL.

Witnesses:

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