

(No Model.)

F. JURSTZ & F. BOLLENBACH.
BOTTLE STOPPER.

No. 583,442.

Patented May 25, 1897.

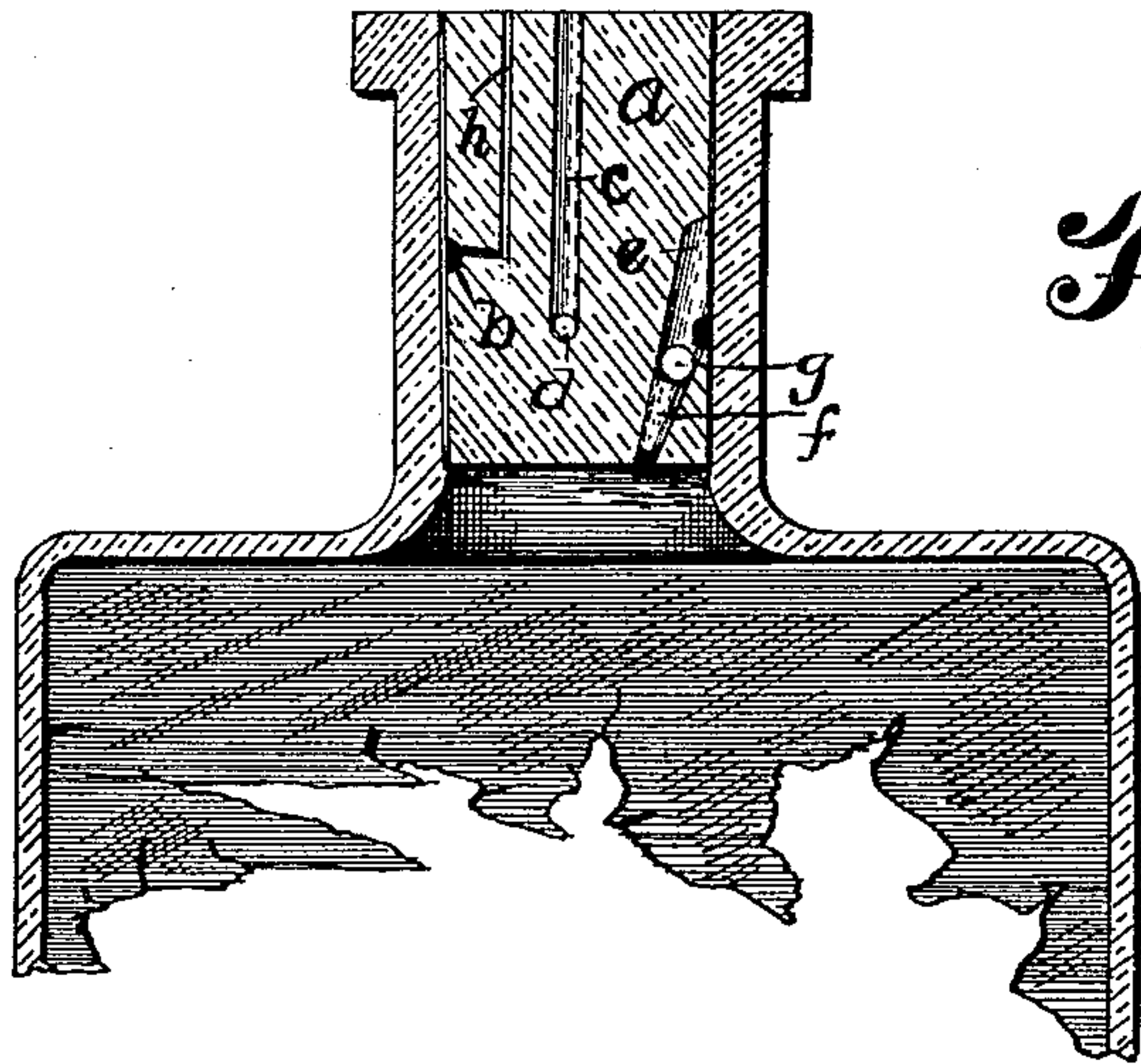


Fig. 1.

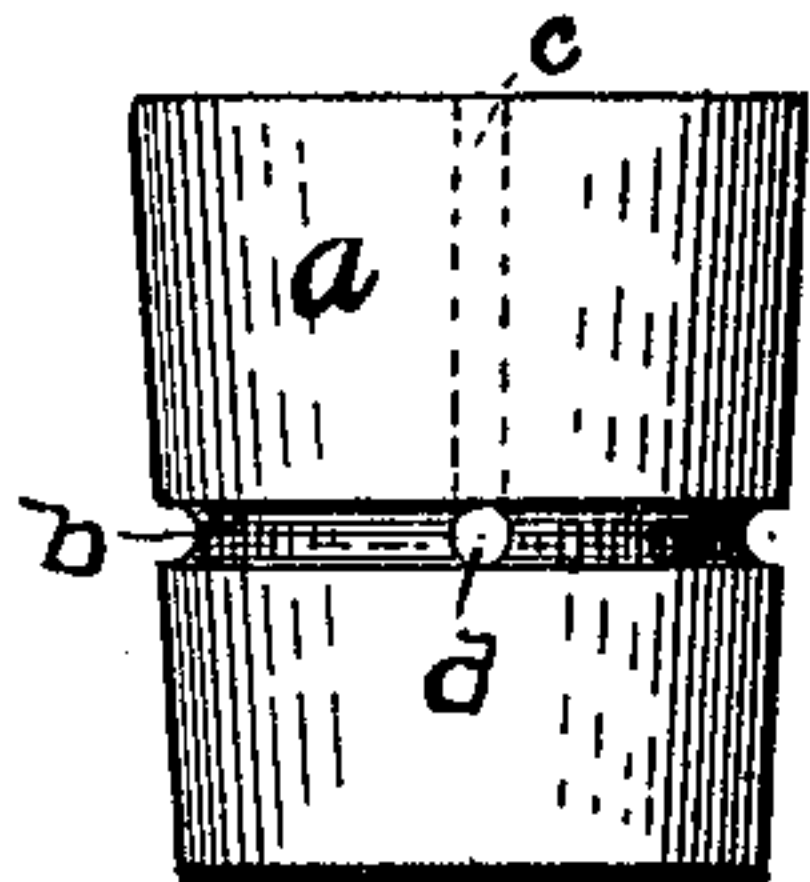


Fig. 2.

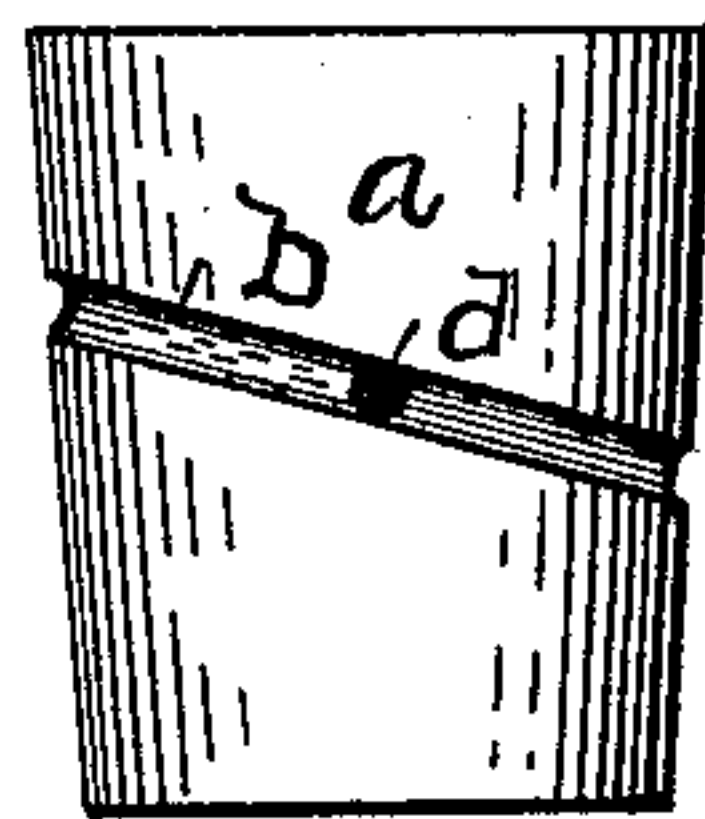


Fig. 6.

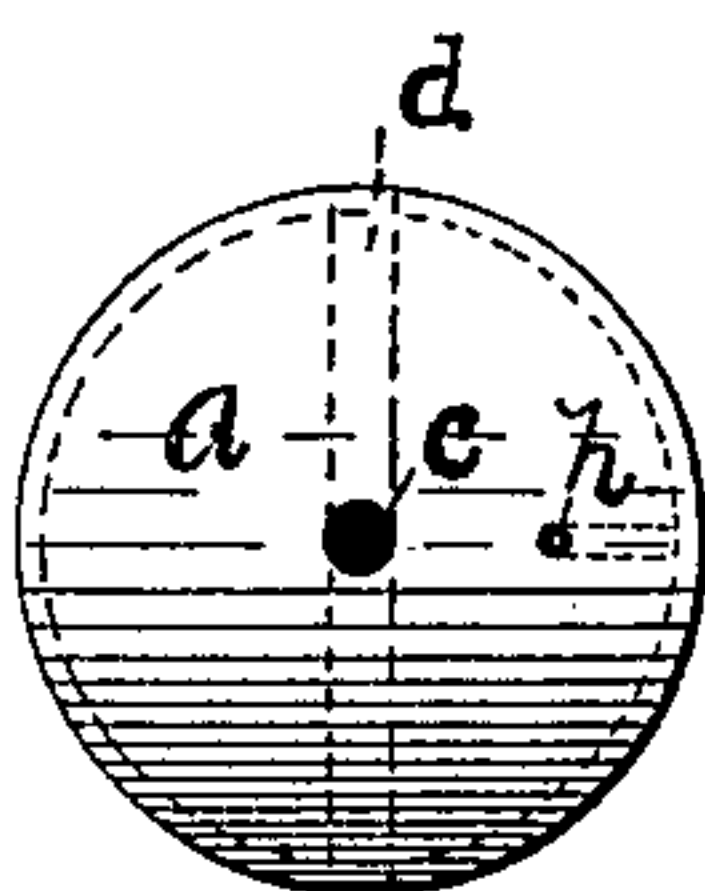


Fig. 3.



Fig. 5.

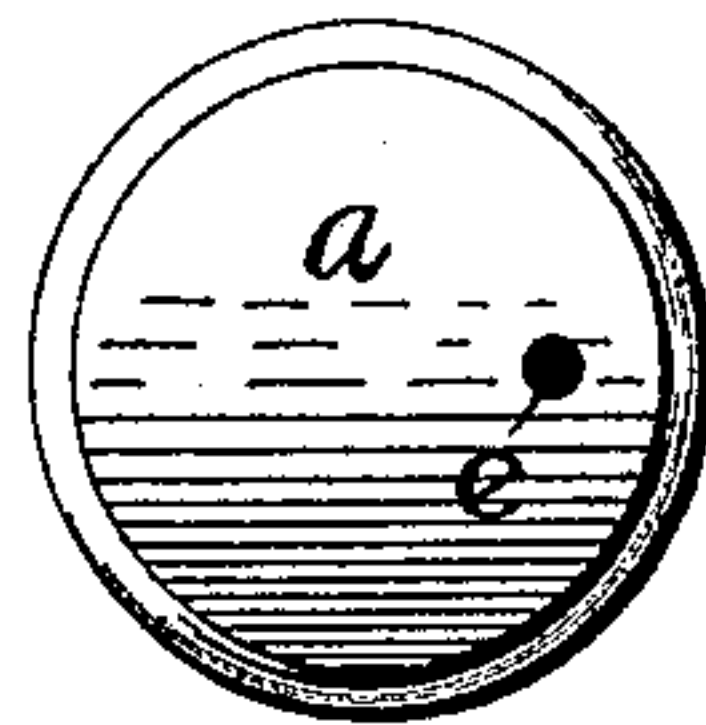


Fig. 4.

Witnesses

Frank H. Stright.

Wm. Wilson

Inventors
Friedrich Jurstz
Friedrich Bollenbach

By Henry L. Evert. Attorney

UNITED STATES PATENT OFFICE.

FREDRICH JURSTZ, OF STUERDORF, AUSTRIA-HUNGARY, AND FREDRICH BOLLENBACH, OF WIESBADEN, GERMANY.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 583,442, dated May 25, 1897.

Application filed February 9, 1897. Serial No. 622,703. (No model.)

To all whom it may concern:

Be it known that we, FREDRICH JURSTZ, a subject of the Emperor of Austria-Hungary, residing at Stuerdorf, in the Province of Banad, Austria-Hungary, and FREDRICH BOLLENBACH, a subject of the Emperor of Germany, residing at Wiesbaden, in the Province of Hesse-Nassau, Prussia, Germany, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in non-refillable bottles, and has for its object to provide a bottle, or more particularly a stopper therefor, that will absolutely prevent the refilling of the bottle, after the stopper has been once secured in position, without breaking the bottle-neck.

The invention aims to provide such a stopper within the bottle-neck as will permit the liquid contained in the bottle to pour readily out of the same but prevent any new liquid being introduced while the stopper is in its position, as above stated.

The invention aims to construct such a stopper that may be applied to all ordinary bottles and prevent to a great extent the counterfeiting of various liquids with spurious goods, as is often done where no such protection is afforded.

A still further object is to construct a bottle-stopper that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

Figure 1 is a vertical sectional view of the bottle-neck and a portion of the body of the bottle, showing our improved stopper in po-

sition in vertical section. Fig. 2 is a side view of the stopper. Fig. 3 is a top plan view of the stopper. Fig. 4 is an underneath plan view of the same. Fig. 5 is a perspective view of the plunger. Fig. 6 is a side view of a modified form of stopper.

Referring now to the drawings by reference-letters, *a* indicates the stopper, which is composed of metal, hard rubber, plaster-of-paris, or other suitable hard material, and is provided with an exterior annular groove *b*, extending entirely around its circumference. A centrally-arranged opening or aperture *c* extends from the top of the stopper to the line of the annular groove *b* and communicates with the said groove through a transversely-extending aperture *d*. A tapering aperture *e* is arranged through the stopper, the smaller end of said aperture opening at the base of the stopper and the upper or larger end at the side of the same, said aperture *e* communicating with the groove *b* and having arranged therein a tapered plunger *f*, which is held in position by a spherical body *g*. An air-inlet *h* extends vertically in the stopper and thence transversely into communication with the groove *b* to admit air during the time when contents are being emptied.

The stopper *a* is cemented or otherwise firmly secured within the bottle-neck after the bottle has been filled, and the plunger and ball having been inserted in their positions previous to the time of inserting the stopper in the bottle-neck the said plunger is held firmly on its seat in the tapered aperture *e* by reason of the ball *g* resting thereon, thus forming an air-tight seal. When it is desired to remove the contents of the bottle, the same is tilted so as to allow this plunger and spherical body to travel toward the large end of the aperture *e* and permitting the liquid to flow through the aperture *e* into the groove *b* and from there through the transverse opening *d* and into the outlet-port *c*. As the bottle is returned to its upright position the plunger and ball will return to their normal positions, thus closing the outlet for the liquid and preventing the forcing of any liquid into the bottle by reason of the plunger being firmly seated and closing the port *e* into the bottle.

It will readily be noted that either form of groove, as is shown, may be employed, and also that such changes as this and other minor changes in the details of construction may be
5 made without departing from the general spirit of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

10 In a non-refillable bottle, a stopper secured in the neck thereof, said stopper provided with a centrally-arranged aperture, a transverse aperture, communicating with said centrally-arranged aperture, an annular groove
15 around the circumference of said stopper, and communicating with said transverse groove,

said stopper also, provided with an inclined tapering aperture, communicating with said annular groove, and provided with a valve-seat, a tapering plunger forming a valve, a 20 weight for holding said plunger in place, and an air-vent communicating with said circumferential groove, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses. 25

FREDRICH JURSTZ.
FREDRICH BOLLENBACH.

Witnesses:

ARNOLD WM. MUELLER,
THOS. M. BOYD, Jr.