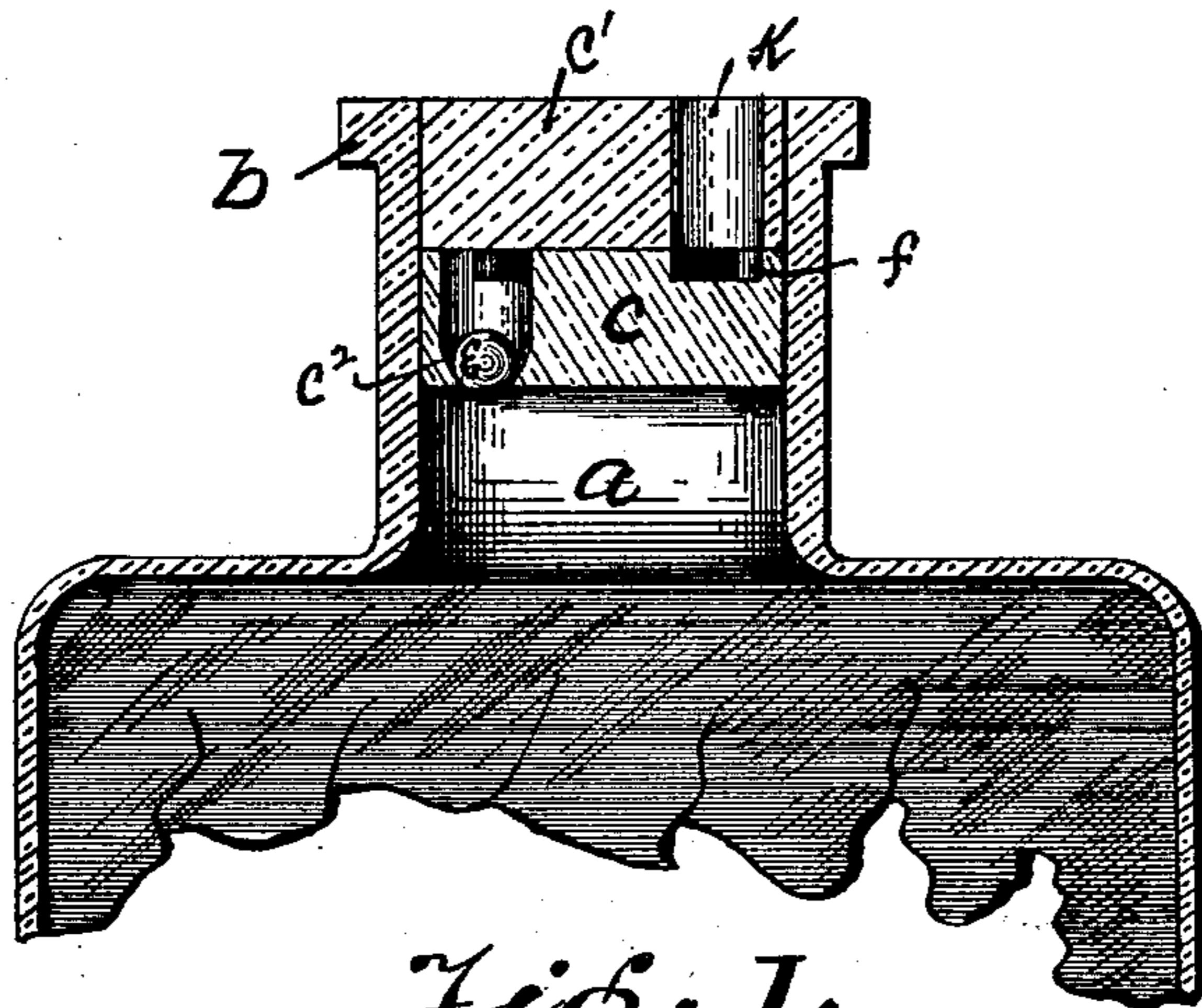


(No Model.)

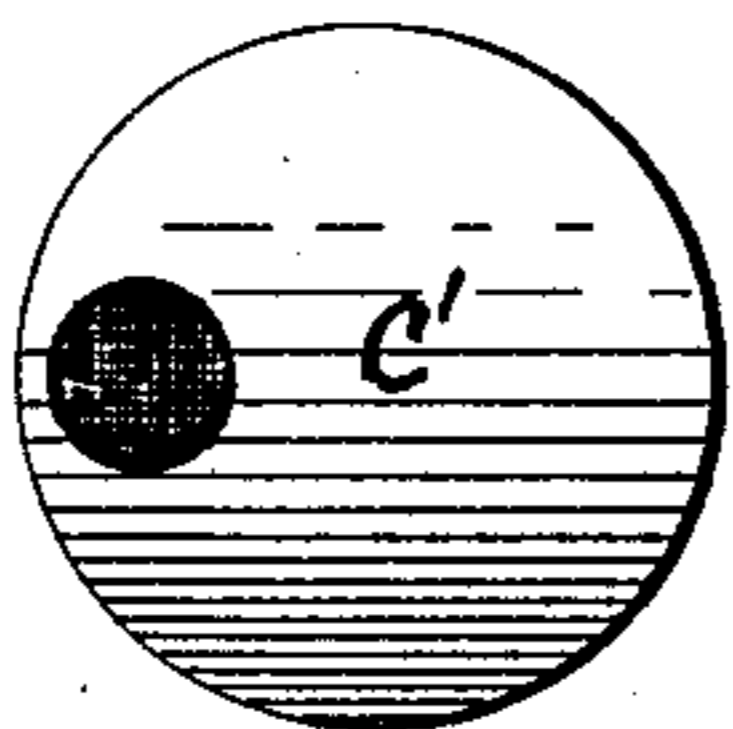
R. W. BLACK & G. A. SANDER,  
NON-REFILLABLE BOTTLE.

No. 592,189.

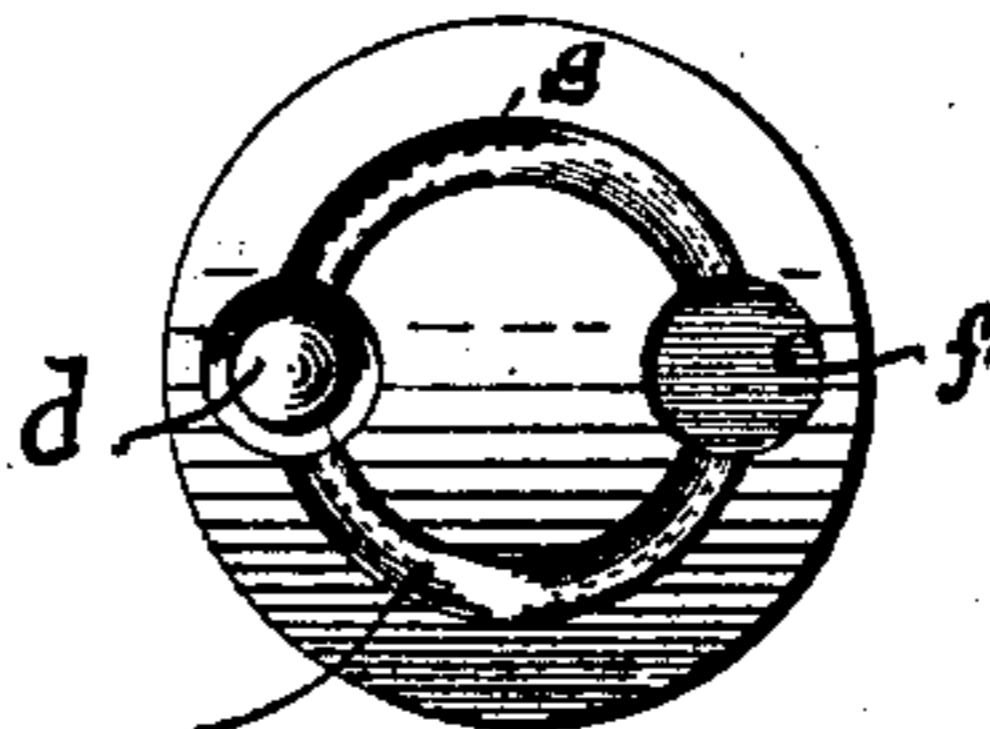
Patented Oct. 19, 1897.



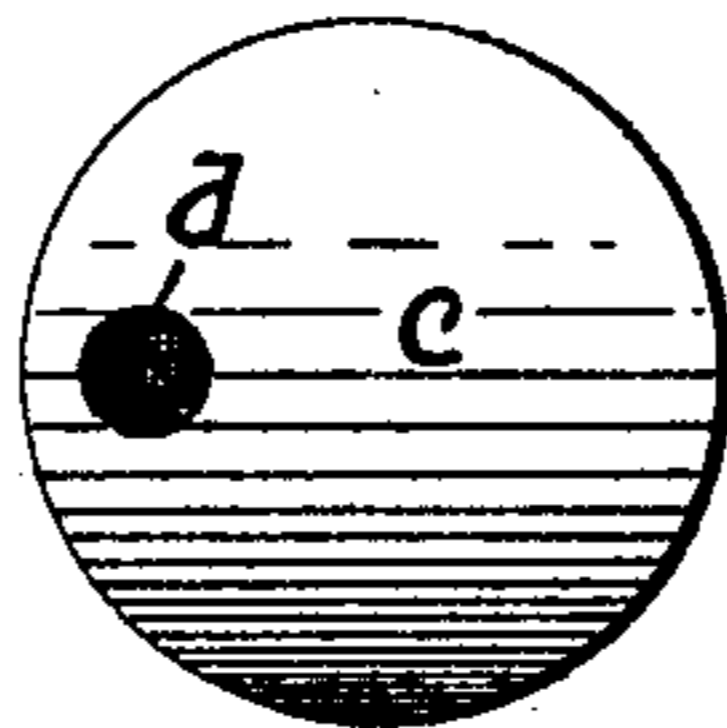
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

*Witnesses*  
*Frank H. Smith*  
*A. M. Wilson*

*Inventors:*  
*Ross W. Black*  
*Gustave A. Sander*  
*By Henry B. Green, Atty.*

# UNITED STATES PATENT OFFICE.

ROSS W. BLACK AND GUSTAVE A. SANDER, OF PITTSBURG, PENNSYLVANIA.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 592,189, dated October 19, 1897.

Application filed December 28, 1896. Serial No. 617,155. (No model.)

*To all whom it may concern:*

Be it known that we, ROSS W. BLACK and GUSTAVE A. SANDER, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, 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 construct a bottle of the above-described class that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

A further object of the invention is to provide means within the bottle-neck whereby the liquid will be permitted to flow readily through the mouth of the bottle-neck, but will effectually prevent the introduction of any liquid into the bottle, and thus preventing the counterfeiting of various liquids, as now often the case.

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 a bottle-neck, stopper, and a portion of the body portion. Fig. 2 is a top plan view of the upper stopper. Fig. 3 is a similar view of the lower stopper. Fig. 4 is an underneath plan view of the same.

Referring now to the drawings by reference-letters, *a* indicates the bottle-neck, having an exterior annular flange *b* around the top, though this flange is not essential, nor does the bottle require any specially-constructed neck.

Our invention lies in the peculiarly-con-

structed stopper, of which we provide two composed of glass or other suitable material and cemented or otherwise secured in the bottle-neck, the underneath one being designated by the reference-letter *c*, said stopper being provided near one side with an aperture *d*, terminating in a contracted opening forming a seat *c*<sup>2</sup> for the spherical body *e*, said stopper *c* being further provided on its upper face with a recess *f*, located opposite the aperture *d*, said recess communicating with the aperture *d* by semicircular grooves *g g*, forming runways for the liquid. The upper stopper *c'* is provided with an opening *k*, which communicates with the recess *f*, and being therefore on the opposite side from the aperture *d*.

When the bottle has been filled, the stopper *c* is placed in the neck, with the ball *e* resting on its seat. The stopper *c'* is placed on top of the stopper *c*, with the opening *k* in communication with the recess *f*, the two stoppers being connected or otherwise secured in the bottle-neck as heretofore stated.

When the bottle is tilted or inclined, the spherical body *e* moves from its seat sufficiently to permit the liquid to flow through the aperture *d*, where it circulates through the grooves *g g* to the recess *f* and out through the opening *k* in the upper stopper. As the bottle is returned to the upright position the spherical body will reseal itself as soon as the bottle is inclined above the horizontal line and prevent the introduction of any liquid into the bottle after the stoppers have been placed in position, and in order to form an air-tight seal an ordinary cork may be inserted in the opening *k*.

It will be noted that various changes may be made in the details of construction 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—

In a non-refillable bottle, a bottle-stopper comprising two disks, the lower one having on its upper surface an annular groove, and two enlarged cylindrical cavities *d* and *f* on

opposite sides thereof, each communicating with the annular groove, one of said cavities  $d$ , extending through the lower disk, and provided at its lower end with a valve-seat, the  
5 upper disk having a single opening  $k$ , extending therethrough and placed in alinement with the cavity  $f$ , substantially as shown and described.

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

ROSS W. BLACK.  
GUSTAVE A. SANDER.

Witnesses:

A. M. WILSON,  
H. E. SEIBERT.