

C. G. SINGER.
Bung.

No. 223,070.

Patented Dec. 30, 1879.

Fig. 1.

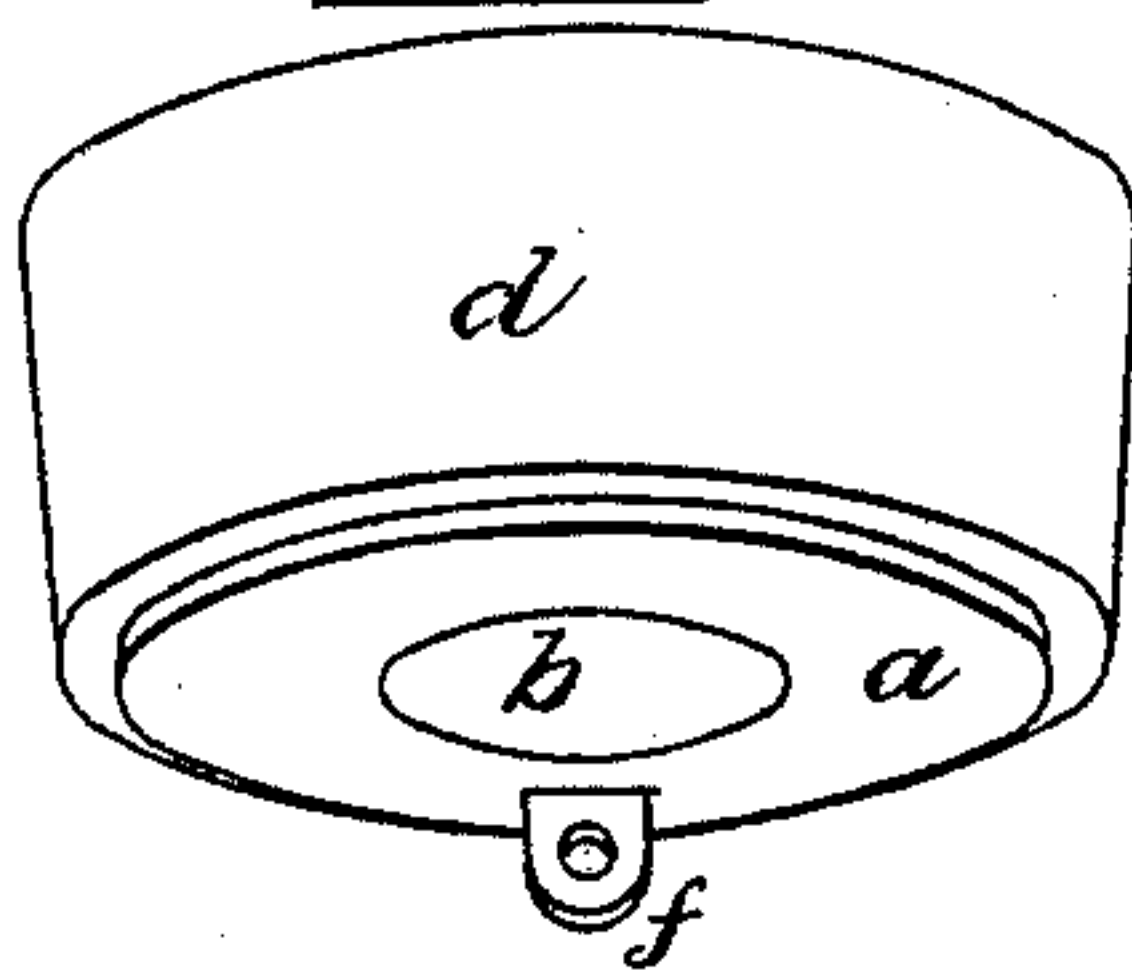


Fig. 2.

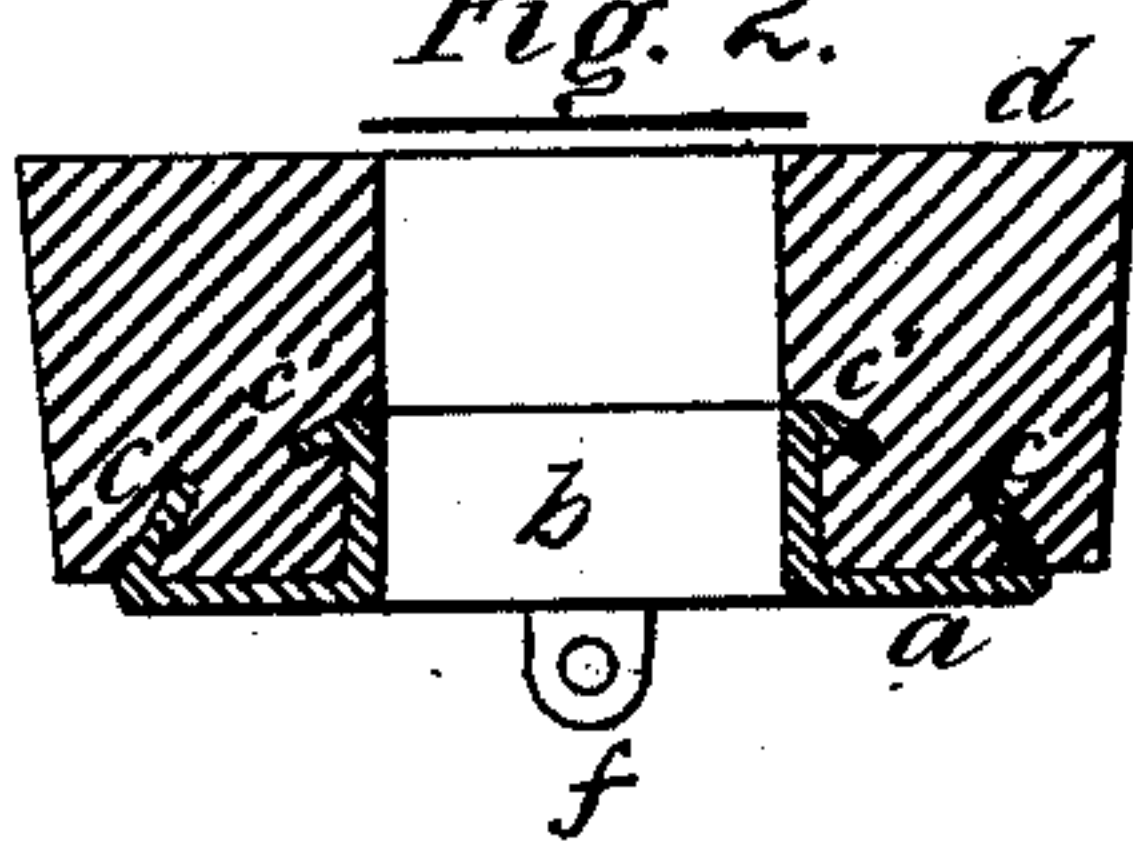


Fig. 3.

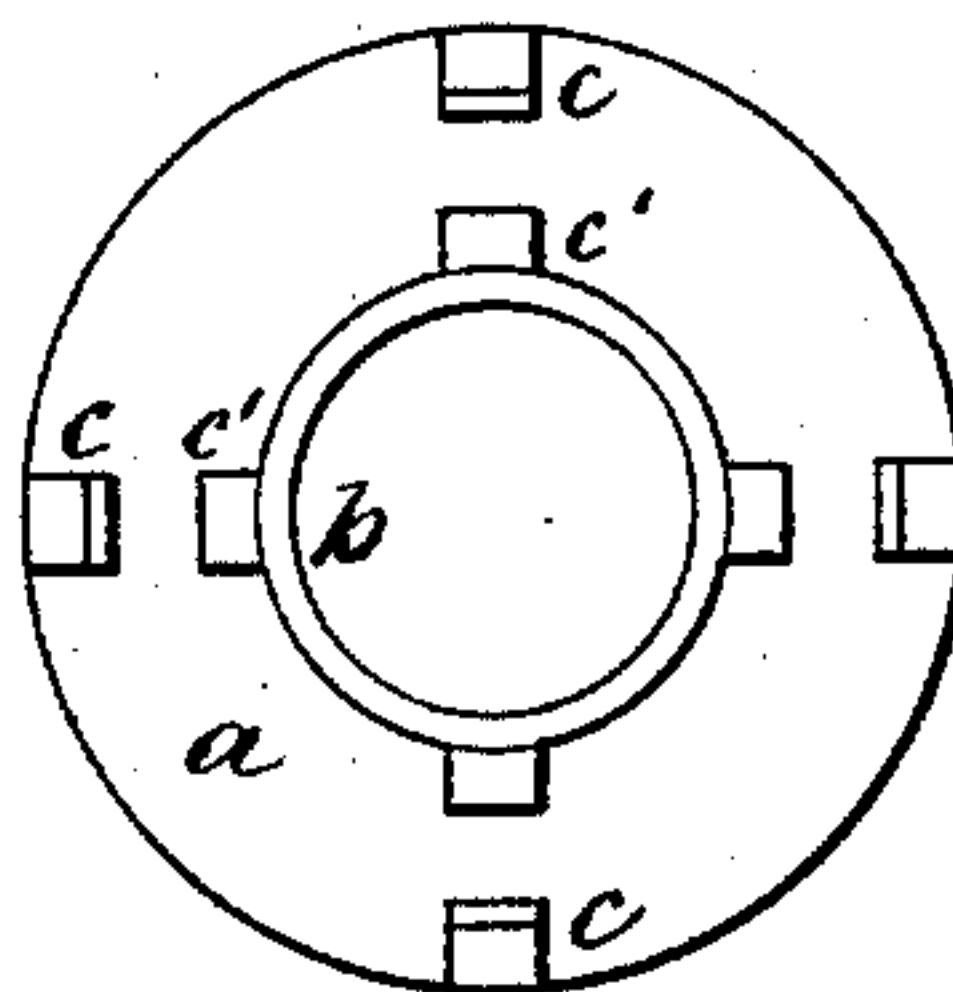
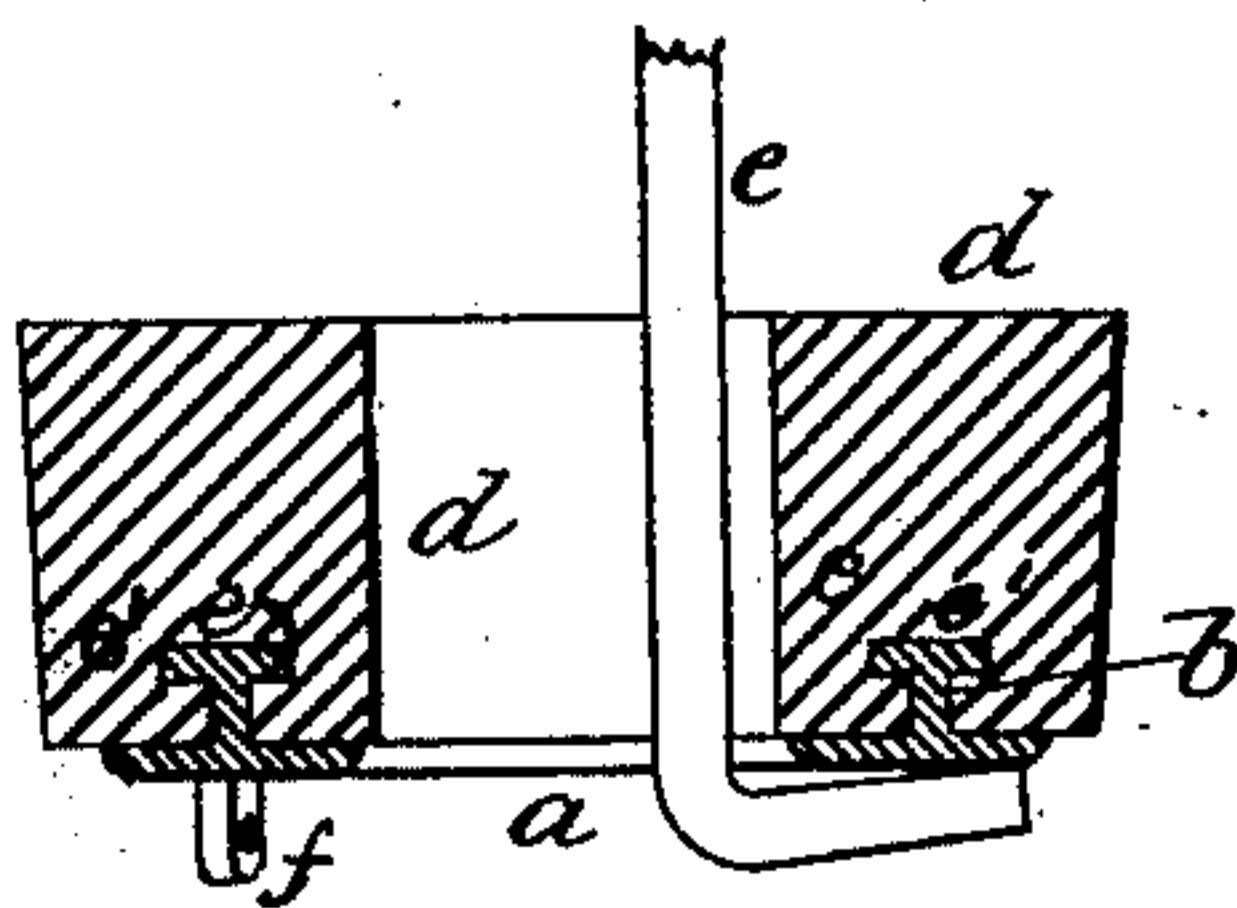


Fig. 4.



Witnesses.

J. B. Carpenter
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Atty.

UNITED STATES PATENT OFFICE.

CHARLES G. SINGER, OF NEW YORK, N. Y.

IMPROVEMENT IN BUNGS.

Specification forming part of Letters Patent No. **223,070**, dated December 30, 1879; application filed August 31, 1879.

To all whom it may concern:

Be it known that I, CHARLES G. SINGER, of the city, county, and State of New York, have invented certain new and useful Improvements in Bungs, of which the following is a specification.

This invention relates to that class of bungs for barrels made of vulcanized india-rubber, and which are provided with a central hole for the admission of the air-vent.

It has for its primary object to strengthen such bungs and make them more durable, they being often made unfit for reuse by the tool employed to remove them from the empty cask or barrel to allow the same to be cleaned and refilled. This removal of the bung is accomplished by means of a rod with the end bent either at right angles or hook-shaped, which is passed through the central hole of the bung, and the bent end caught under the bottom of the bung to withdraw it from the bung-hole, which operation often unfits the bung for further use by the tool pressing into the soft rubber and tearing away parts of it or breaking the lower edge of the central hole. This objectionable feature to the use of rubber bungs I obviate by combining with the bung a metal plate shaped so as to nearly cover the bottom of it, and in some cases it is made to project a short distance in the central hole. The bent end of the withdrawing-tool comes in contact with the plate, and so distributes the pressure of the tool over all parts of the bottom of the bung, and thus makes the removal of it more easy, and at the same time perfectly protects it from any damage the tool might otherwise do. The plate is provided with any suitably-shaped anchor-projections, which secure it firmly to the rubber, as the plate is placed in the vulcanizing-mold with the rubber when it is vulcanized. The plate is also provided with a lug on its under side, to which the stopper or cork for closing the central hole may be attached by a link or chain, if desired.

To make plain how my invention is carried out in practice, I now refer to the accompanying drawings, in which—

Figure 1 represents a perspective view of a

rubber bung with my improved protecting-plate constructed to project a short distance in the central hole. Fig. 2 is a cross-section of the same. Fig. 3 is a plan view of the protecting-plate detached. Fig. 4 is a cross-section of a rubber bung with my improved protecting-plate made so as to protect the lower side of the bung only, and showing a modification of the anchor-projections.

The protecting-plate *a* is made of cast or malleable metal. It is a flat circular plate a little less in diameter than the diameter of the under side of the bung, and is provided with a circular hole in its center corresponding to the central hole through the bung; and around this hole, on the upper side of the plate, is formed the sleeve or bush *b*, which fits for a short distance into the hole in the bung. Lips or projections *c c* extend upward from the outside edge of the plate and incline slightly toward the sleeve or bush *b*, and similar projections *c' c'* extend from the top edge of the bush and incline slightly downward, as shown at Fig. 2. These lips or projections act as anchor-pieces to firmly secure the plate *a* to the bung *d*, which is made of india-rubber or other similar or suitable material, of the ordinary shape, and vulcanized or formed in molds as commonly used for this purpose. The plate *a* being previously placed in the bottom of the mold, the soft rubber or other material comes in contact with all the exposed upper part of it, and is vulcanized or formed thereon.

Instead of the plate *a* being made with the sleeve or bush *b*, it may be provided simply with a central hole a little larger in diameter than the hole through the bung, so that the plug or cork used to close the hole of the bung will not come in contact with the plate. The anchor-projections *c' c'* would then be placed just at the edge of the hole in the plate *a* and incline toward the other anchor-projections, *c c*.

It is evident that these anchor-projections may be made of various forms, one other form, *e' e'*, being shown at Fig. 4, which is T-shaped, and placed at about half-way between the edge of the hole and the outside edge of the plate; or they may extend all around the plate

as flanges; but I prefer to make them as lugs, as thereby the elasticity of the bung is not materially affected.

Fig. 4 also shows the plate *a* constructed to protect the bottom only of the bung.

e indicates the tool used to withdraw the bung from the barrel, &c., in position to be so used. Cast or formed in one piece with the plate on its under side is the lug *f*, provided with a hole for the admission, if so desired, of a link or chain secured to the plug used to close the central hole of the bung, when it is required to connect said plug to the bung, such connection having been heretofore made by means of a staple driven into the bung, which is very liable to be pulled out.

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

1. In combination with the bung *d*, the pro-

tecting-plate *a*, provided with anchor-connecting projections, substantially as and for the purpose hereinbefore set forth.

2. The metal protector consisting of the plate *a*, sleeve or bush *b*, and anchor-connecting projections or flanges *c c'*, in combination with the bung *d*, substantially as and for the purpose hereinbefore set forth.

3. The protecting-plate *a*, constructed and combined substantially in the manner set forth, with the bung *d*, and provided with the lug *f*, as and for the purpose hereinbefore specified.

In testimony whereof I have hereunto set my hand this 29th day of July, 1879.

CHAS. G. SINGER.

Witnesses:

H. D. WILLIAMS,
ALFRED SHEDLOCK.