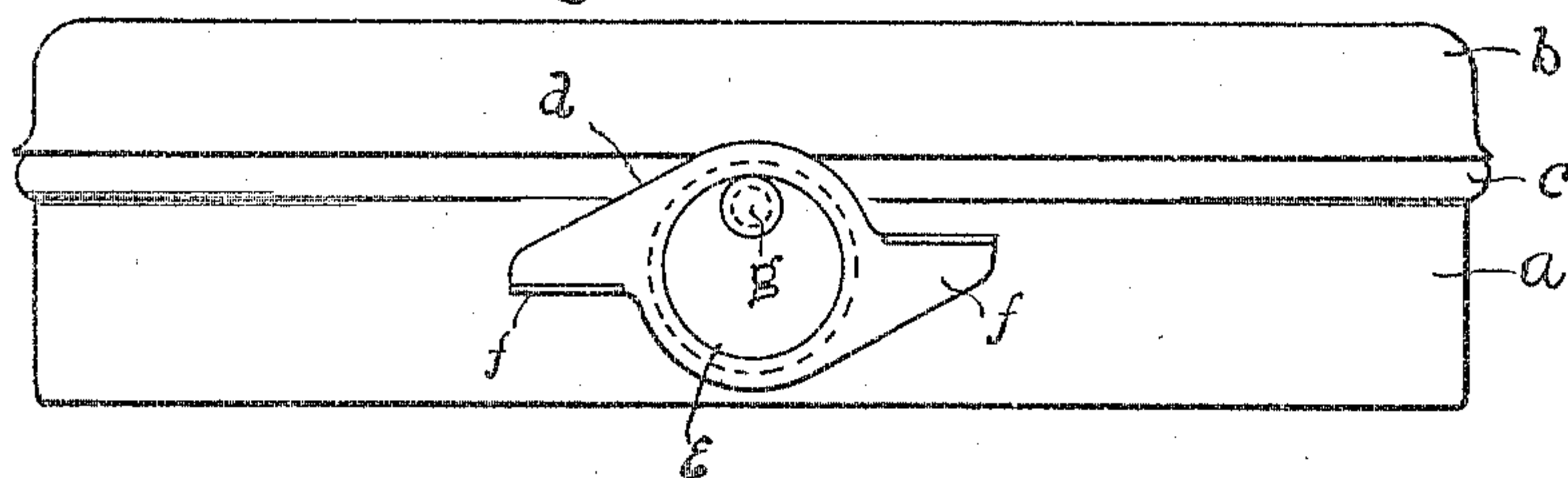


No. 789,509.

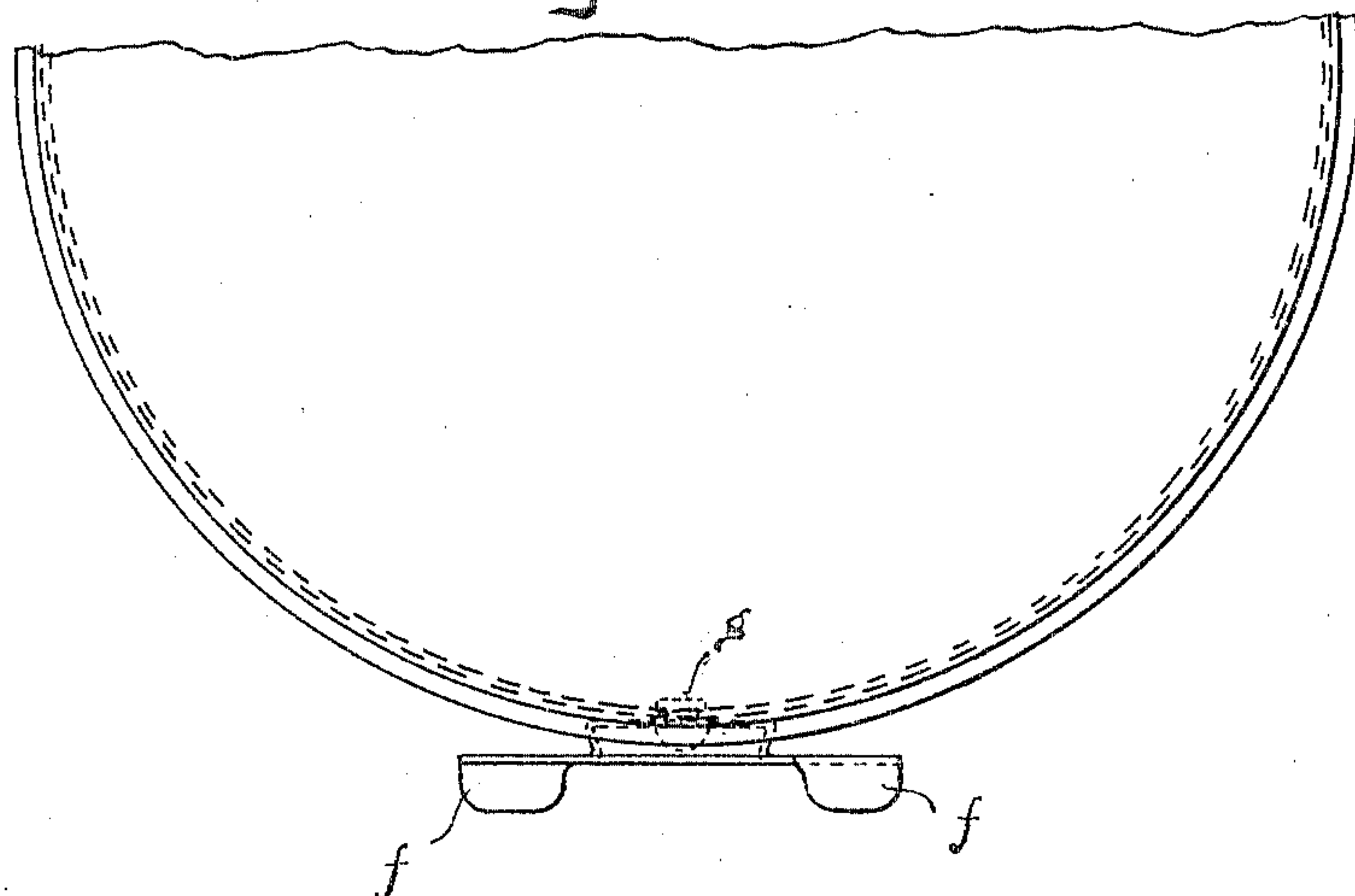
PATENTED MAY 9, 1905.

E. S. SAVAGE.  
BOX COVER DETACHER.  
APPLICATION FILED SEPT. 20, 1904.

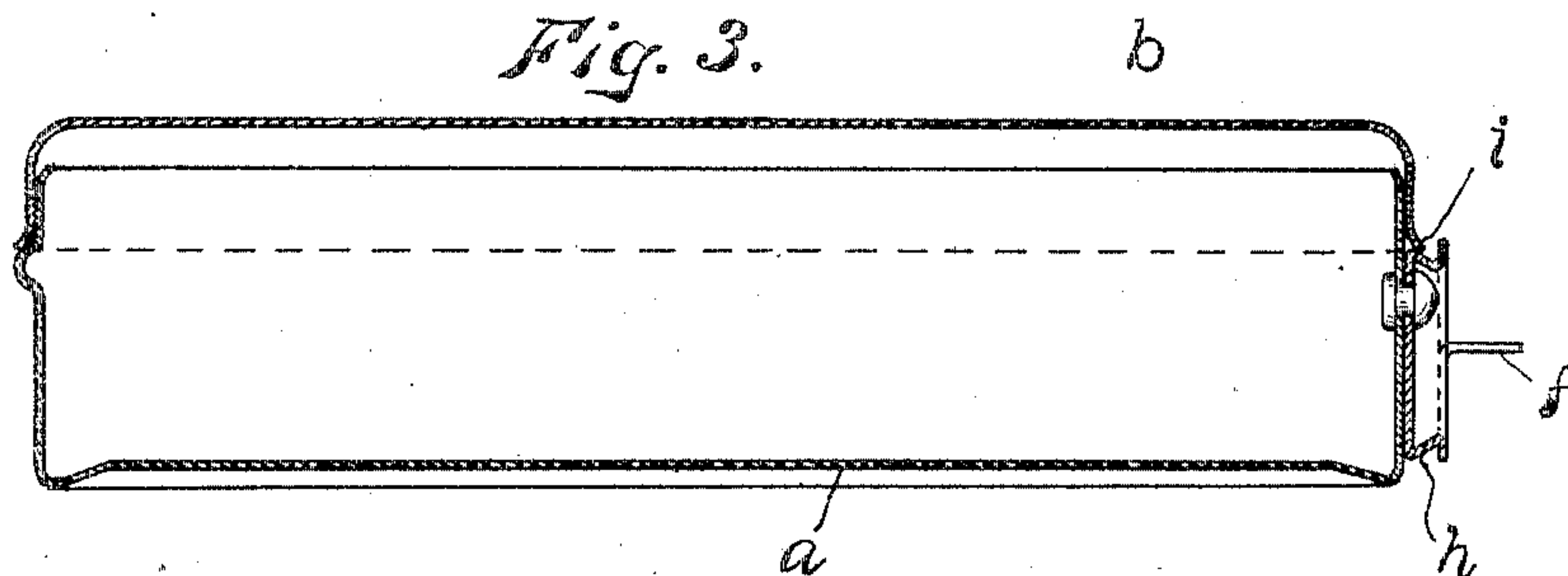
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

*Henry M. M. M.*  
*Robert J. Gerson.*

INVENTOR

*Edward S. Savage,*  
BY *Richard W. Berkley,*  
his ATTORNEY

# UNITED STATES PATENT OFFICE.

EDWARD S. SAVAGE, OF BROOKLYN, NEW YORK.

## BOX-COVER DETACHER.

SPECIFICATION forming part of Letters Patent No. 789,509, dated May 9, 1905.

Application filed September 20, 1904. Serial No. 225,285.

*To all whom it may concern:*

Be it known that I, EDWARD S. SAVAGE, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Box-Cover Detachers, of which the following is a specification.

The present invention relates to means for separating a box and its cover, the object of the invention being to provide means permanently attached to one or the other of said box and cover parts and acting against the other for forcing them asunder, so that the cover may be wholly removed if merely held in place by friction or may be swung aside if pivotally connected with the box and held in place by friction when closed down.

To the end thereof the invention consists of features of construction and combinations of devices hereinafter described, and more particularly pointed out in the appended claims.

One form of the invention is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevation. Fig. 2 is a plan, and Fig. 3 is a vertical central sectional view.

In the drawings, the reference-letter *a* denotes the box proper, and *b* the cover therefor. The box *a* has a bead *c* therearound except where it is left flat at *d*, where the cover moving or lifting device is pivoted to or fulcrumed on the box. By preference the cover lifting or moving device consists of a cam, as an eccentric *e*, which is provided with one or more arms or levers *f*, whereby it may be operated, and which is rotatably connected with the box at said point *d* in any suitable manner, as by a rivet *g*. In the preferred form of the cam it is beveled at *h*, so that it will engage with the inside rather than the outside of the edge of the cover *b*. When the cam is in the shape of an eccentric, it is conveniently formed by drawing or striking up sheet metal in the form of the frustum of a cone with the opening at the small end and the formation of arms or levers *f* thereon during the process of manufacture, whereby

the beveled feature is retained and its advantages in removing the cover secured. It is also preferred that the cover *b* be formed with a flare or bell *i*, so that the bevel or cone *h* will tend to move the cover away from rather than to bind it more firmly against the box *a*. This preferred arrangement also tends to prevent the loosening of the cam on the rivet.

By turning the eccentric either way from the position shown in Fig. 1 the cover *b* is forced upward at that side and is so loosened that it may readily be removed by hand no matter how tightly it fitted on the box.

It is preferred to have the cover-lifter attached to the box, as such arrangement avoids the necessity of special provision of a bearing on the box for the cover-lifter to act against, as in the said preferred arrangement the lifter may act against the edge of the cover.

The invention may be embodied otherwise than as herein shown. I do not, therefore, limit my claims to the embodiment shown in the drawings and above described.

By the word "box" in the claims I include also a bottle or other receptacle on which the cover is held by friction.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A box, a cover therefor, and a beveled cam pivoted to one and acting against the other next the junction-line between said box and cover parts to cause relative motion thereof to remove the cover.

2. A box, a bell-mouthed cover therefor, and a beveled cam pivoted to the box and acting against the edge of the cover next to the box.

3. A box, a bell-mouthed cover therefor, and a coned eccentric pivoted on the box with its larger end thereagainst and in position to act against the edge of the cover.

4. A box, a bell-mouthed cover therefor, and an eccentric provided with a beveled edge and with arms integral with the eccentric for operating it, said eccentric being pivoted to the box.

5. A box or vessel, a cover therefor, and an eccentric pivoted on the box or vessel and provided with means whereby it may be ro-

tated and caused to act against said cover to lift the same.

6. A box or vessel, a cover therefor, and an eccentric pivoted on said box or vessel and  
5 provided with arms integral therewith whereby it may be caused to rotate and act against said cover to lift the same.

Signed at New York city, in the county of New York and State of New York, this 12th day of August, A. D. 1904.

EDWARD S. SAVAGE.

Witnesses:

W. H. KENNEDY,  
R. W. BARKLEY.