

F. VRANEY.
BOX OPENER.

APPLICATION FILED AUG. 30, 1912.

1,054,062.

Patented Feb. 25, 1913.

Fig. 1.

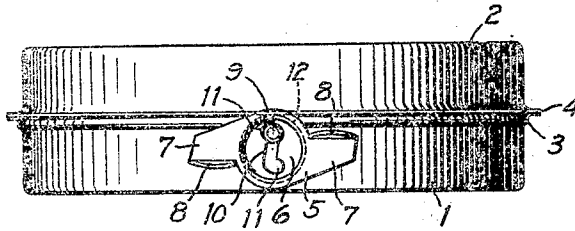


Fig. 2.

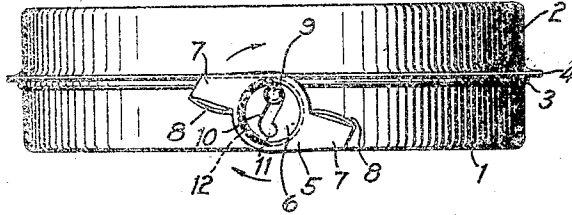


Fig. 3.

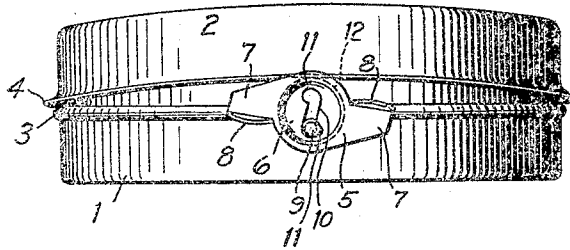


Fig. 4.

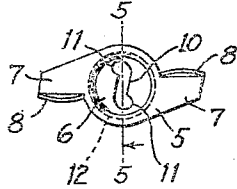
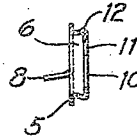


Fig. 5.



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UNITED STATES PATENT OFFICE.

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BOX-OPENER.

1,054,062.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK VRANEY, a citizen of the United States, and resident of Manitowoc, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Box-Openers, of which the following is a specification.

This invention relates to box openers, of the type disclosed in Letters Patent No. 789,509, granted to Edward S. Savage, May 9, 1905. The box-opener of said patent comprises a cam pivoted to the body of the box and adapted to engage the edge of the cover, the cam operating, when manually rotated, to raise the cover sufficiently to loosen it from the box. In order that the cam of said opener may have its full effectiveness, it is necessary to impart to it a half-rotation, thus raising the cover to its fullest extent. Obviously, before the cover can be replaced it is necessary either to turn the cam back again to its original position, or else to continue the rotation in the same direction for another half-rotation with the same result. Since it is not convenient to rotate the cam continuously in one direction, for a complete turn, without releasing the cam and grasping it again in a new position, two distinct manual operations are thus involved in returning the cam to a position which will permit the box-cover to be replaced.

The object of the present invention is to produce a box-opener of the cam-type in which the cam, after a partial rotation sufficient to raise the cover in the intended manner, will return to normal operative position without any additional rotation of the cam, so that after the opener has been operated to open the box it is ready at once to permit the cover to be replaced. To this end I employ a cam which may be formed like that of said patent, or otherwise, but which is not pivoted at a fixed point. In place of a simple perforation closely embracing the pivot-stud, I provide an elongated opening which approaches the periphery of the cam at a plurality of points, preferably at two points diametrically opposed. Accordingly, after the cam has been partially rotated to open the box, it may have a transverse movement upon the pivot-stud without further rotation, thus bringing it to a new operative position.

In the drawings:—Figure 1 is an eleva-

tion of a box equipped with an opener embodying this invention, showing the opener in its normal position; Fig. 2 is a similar view, showing the opener partially turned, and about to become effective; Fig. 3 is another similar view, but showing the opener turned to the position of maximum effectiveness; Fig. 4 is a detail elevation of the opener; and Fig. 5 is a section on the line 5—5 of Fig. 4.

In the drawings the opener is shown on a round box such as is used for shoe-polish. The box comprises a body 1, and a tight-fitting cover 2 which seats against an annular rib 3 on the body. The lower edge 4 of the cover is turned outwardly at right angles to the body, thus constituting an annular flange that overhangs the rib 3. A cam 5 has a depressed center 6 and is provided with two oppositely disposed wings 7, each wing having a lug 8. A stud 9 is fixed in the box below the rib 3. This stud extends through the cam, and has a head so as to retain the cam in place upon the box. The stud and its head are so formed that the opener may be freely turned about the stud as an axis.

The novel feature of the invention resides in the shape and location of a slot 10 in the cam. The central portion of this slot is straight while at each end of the straight portion there is a lateral recess or pocket 11, these recesses extending in opposite directions from the central line of the slot (Fig. 4).

It is obvious that the position of the cam 5 is not fixed relatively to the stud 9, but that it may be moved across the axis of the latter within the limitations of the slot.

In the normal position of the device, shown in Fig. 1, the cam has assumed a position in which the stud is at the end of the straight part of the slot, and the pocket 11 lies slightly to the left of the stud. If now, the cam be grasped and turned in a clockwise direction, it will move about the stud in the manner of an eccentric, and the annular shoulder 12 will immediately encounter the flange 4 on the cover. This resistance causes the cam to slide toward the right until the stud 9 has engaged the bottom of the recess 11 adjacent to it. The continued turning of the cam in the same direction maintains the engagement of the stud with the pocket, and the cam raises the cover 2

at one side, as shown in Fig. 3. At this point, where the cam is released, it is in such a position that a slight downward pressure, or even its own weight, will cause it to
 5 move toward the bottom of the box, the slot 10 passing along the stud 9 until the normal position is again reached. The opener is now ready for another operation, the recess which was formerly at the bottom being
 10 at the top, and in position to engage the stud.

I claim:—

1. A box-opener comprising a pivot-stud, for attachment to one member of a box, and
 15 a cam mounted on the stud and adapted to engage the other member of the box, the cam having an elongated opening, to receive the stud, which approaches the operative surface of the cam at a plurality of separate

points, so that after a partial rotation of the cam from one operative position it may have a transverse movement on the pivot to bring it into another operative position without further rotation.

2. A box-opener comprising a pivot-stud, 25 for attachment to one member of a box, and a cam mounted on the stud and adapted to engage the other member of the box, the cam having an elongated opening to receive the stud, which approaches the operative surface of the cam at a plurality of
 30 separate points and is transversely extended, at said points, in a direction opposite to the normal direction of rotation of the cam.

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