(No Model.)

A. F. REMY.

KEY OPENING CAN.

No. 563,686. Patented July 7, 1896.

Fig. 1.

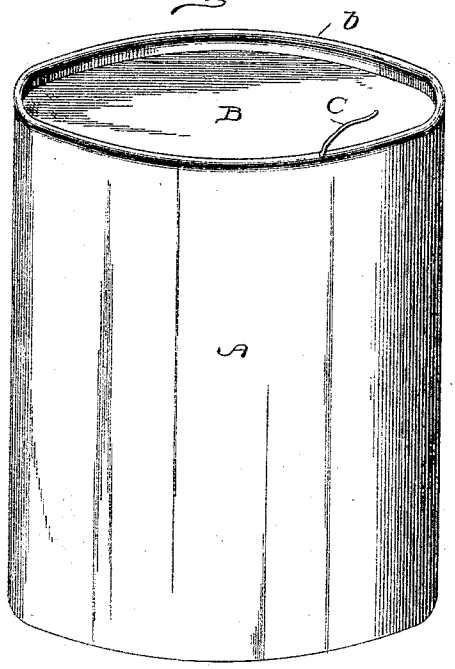


Fig. 2.

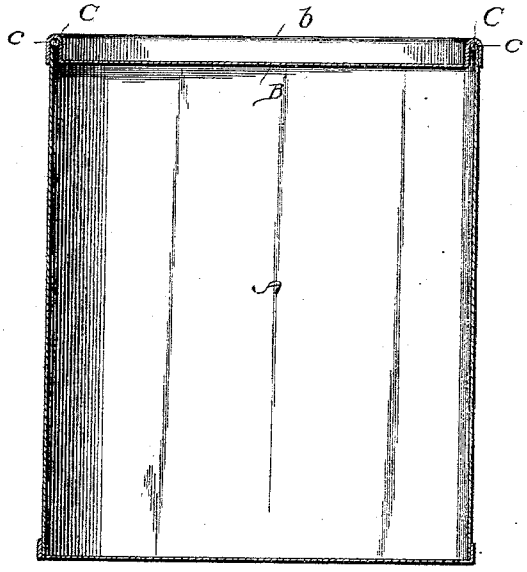


Fig. 5.

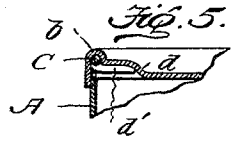


Fig. 4.

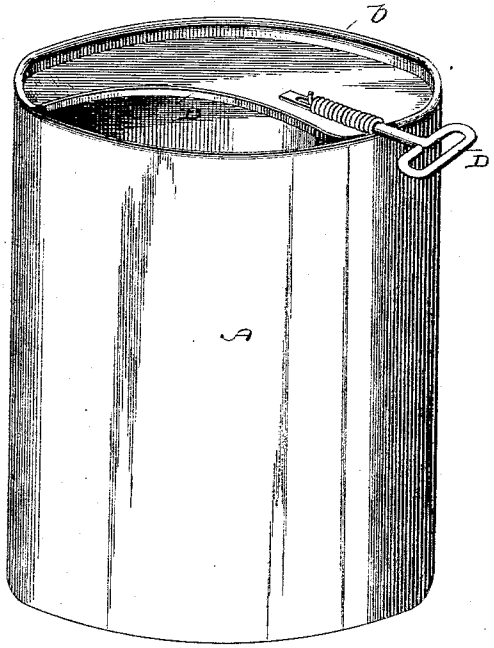
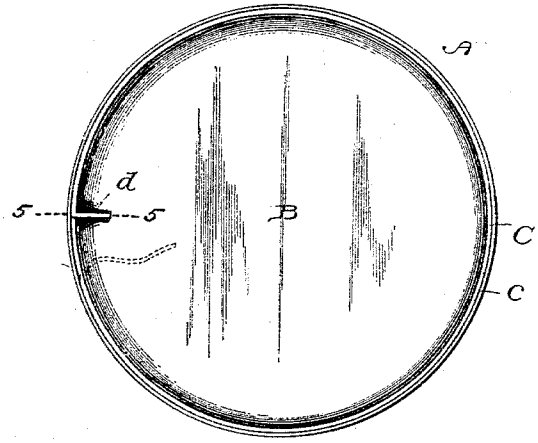


Fig. 3.



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UNITED STATES PATENT OFFICE.

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KEY-OPENING CAN.

SPECIFICATION forming part of Letters Patent No. 563,686, dated July 7, 1896.

Application filed July 16, 1895. Serial No. 556,145. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. REMY, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Key-Opening Cans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in key-opening cans and packages of that class which employ a ripping-wire to cut through or sever the can-head, so that the head may be quickly and easily removed from the can-body for the purpose of obtaining access to the contents of the can or package.

In this class of devices it is desirable that the can or package shall closely resemble the ordinary can or package so extensively used for the commercial package and storage of fruits, vegetables, &c.; that the ripping-wire shall be compactly arranged, so as not to appreciably increase the size of the can or package in order to accommodate the wire; that the can head or body be not weakened or its strength impared in any way in order to provide for the reception of the wire or to make the can body or head responsive to the action of the ripping-wire; to so dispose the parts that practically the entire head may be ripped off the package or can, and practically without leaving rough edges, to permit the entire contents of the can to be emptied instantly on inversion of the can, and to manufacture the can with economy and speed. These objects are obtained in a highly satisfactory degree by the construction devised and invented by me, which contemplates the formation of the head with a shallow bead and groove arranged near the edge of the head, and adapted to receive the upper edge of the can-body, in combination with a ripping-wire fitted in the groove between the edge of the can-body and the bead or wall of said groove, one end of said ripping-wire having a hook which is held in a recess or slot on the under side of the head and the other end of said wire being free and protruding from the can, to enable it to be easily grasped, or engaged by a key, for the purpose of ripping off the head from the can practically so close to the walls of the can-body that only a narrow thin fragment of the head remains united to the body, all as will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the preferred embodiment of the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a can embodying my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a view in bottom plan showing the manner of fastening the permanent end of the ripping-wire to the can-head. Fig. 4 is a perspective view illustrating the operation of ripping the head from the body of the can. Fig. 5 is a detail sectional view illustrating the recess in the can-head and the hook-shaped end of the ripping-wire fitted in said recess of the can-head.

Referring to the drawings, in which like letters of reference denote like parts in all the figures, A designates the body of the can or package, and B is the head thereof. The body is made in the ordinary way, and the head B is constructed with an annular bead *b*, which forms a groove *c* on the lower face of the head. This bead and groove are made concentric with the axis of the head and quite close up to the edges of the head, and said bead is made with parallel walls or sides and deep enough to receive the upper edge of the body A and the ripping-wire C. Said ripping-wire is made of very thin but tenacious wire, and the groove is so formed in the head B that when the head and ripping-wire are assembled and applied to the body the upper edge of the body fits into the groove and the wire rests directly upon the upper edge of the body A, whereby the can-body assists in holding the ripping-wire in place.

The head B is made with a recess *d*, which is formed by pressing or stamping the metal adjacent to the annular bead, and this recess opens into the annular groove *c* and extends inwardly from the annular flange, as shown by Figs. 3 and 5 of the drawings. One end of the ripping-wire is formed with a hook-shaped end, which is fitted in the recess *d*, on the under side or inner face of the

head B, as shown by Figs. 3 and 5, so that the inner or fixed end of the wire is securely attached to the head B, and this fastening is effected without the employment of solder or other fusible modes of attachment which are liable to give way when pull is exerted in the wire, but the other end of the wire is free and projects from the can, so that it can be grasped to rip off the cover, or it may be engaged by a key, as shown by Fig. 4, for the same purpose.

In the practical manufacture of cans in accordance with my invention I use heads B, which are of uniform thickness and strength throughout their whole area, and which are entirely free from "lines of weakness" in order to facilitate the operation of the ripping-wire.

The ripping-wire which I use is of very small diameter and is interposed between the bead and top edge of the can-body, so that the groove need only be made slightly deeper than it is commonly made to receive the can-body. By thus forming the bead and arranging the small ripping-wire, the size of the can is not appreciably increased by constructing it to accommodate the wire, and the can has the same identical appearance as ordinary cans which are not equipped with means for opening the head. The edge of the head is lapped over the can-body and is soldered thereto in the usual way.

To open the can, it is only necessary to grasp the free end of the ripping-wire and pull it out to rip through the head along the line of the bead. I prefer, however, to provide a key D, to which the free end of the wire may be easily attached, and the key can be placed on the bead and turned over and over while it rides upon the bead, thus coiling the wire on said key and causing the wire to rip or tear through the head along the line of the bead.

It will be noted that the head is torn or severed immediately over the top edge of the can-body and that only a fragment of the head remains attached to said body, whereby nearly the entire head is torn off the can, leaving practically clean-cut edges, so that the contents of the can may be emptied very easily by a simple inversion of the can. The key rides upon the bead in advance of the point where the wire rips through the head, and as the head rests upon the wire and the wire in turn rests on the top edge of the can a firm support is provided for the key as it is rotated to coil the wire thereon.

Cans made in accordance with my invention can be manufactured for a fraction above the cost of ordinary cans, as I have found that the cost will be about one cent per dozen over the cost of ordinary cans.

I attach importance to the construction of the flanged head with a raised bead and with an inwardly-extending recess which opens into the groove formed by the bead, a ripping-wire adapted to the groove of the bead and having a hook-shaped end fitted in the recess of the head, so as to be held thereby, and its other end passing inwardly through the inner wall of the bead, and a can-body with its edge fitted in the bead in position for the ripping-wire to be seated on said edge and for the flanged head to be united thereto. My improved construction enables me to assemble the ripping-wire and attach it to the head before the can-body is attached to the flange of the head. The head is first struck up, in suitable dies, to produce the flange, the bead, and the recess, after which the ripping-wire is fitted and attached to the head, and the can-body is then fitted to the bead and ripping-wire, so that the flange of the head and the can-body may be united together.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a can or package, the head struck up from a single piece of metal and provided with circumferential bead and flange and with an inwardly-extending recess which opens into said bead, combined with a ripping-wire fitted in said bead and having a hook-shaped end which is held in said recess and with its other end passed through the wall of the bead, and a can-body seated in the bead, against the ripping-wire therein, and united with the flange of the head, as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT F. REMY.

Witnesses:
J. C. LASER,
JUNE HALL.