Oct. 15, 1935. H. CAVE 2,017,829

CAN OPENER

Filed Feb. 1, 1933

Fig. 1.

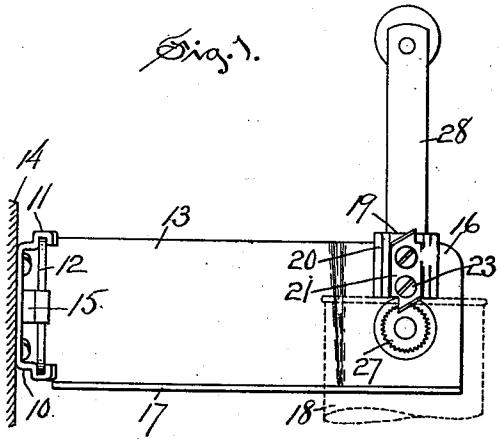


Fig. 2.

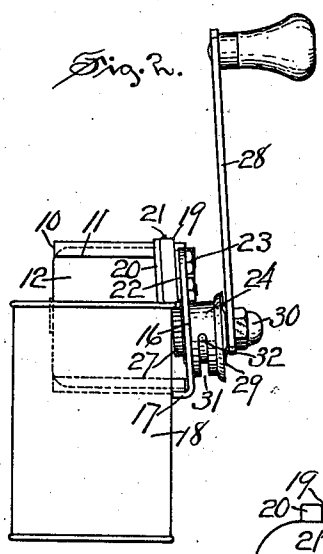


Fig. 3.

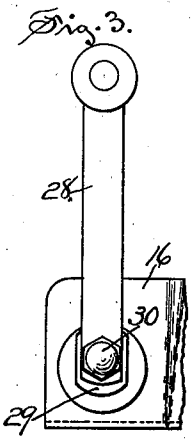


Fig. 4.

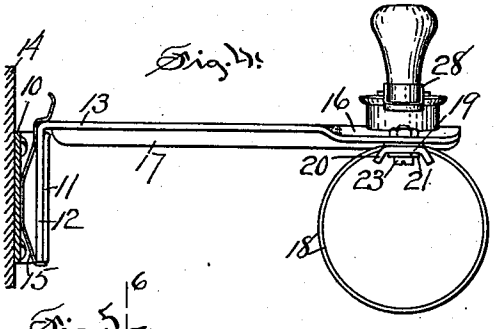


Fig. 8.

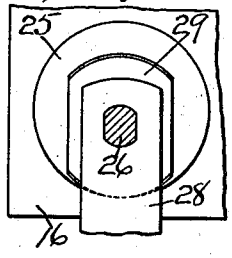


Fig. 9.

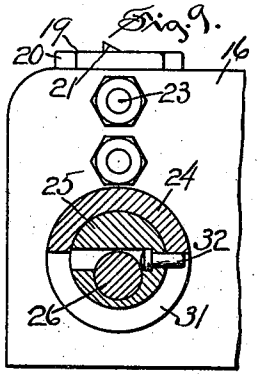


Fig. 5.

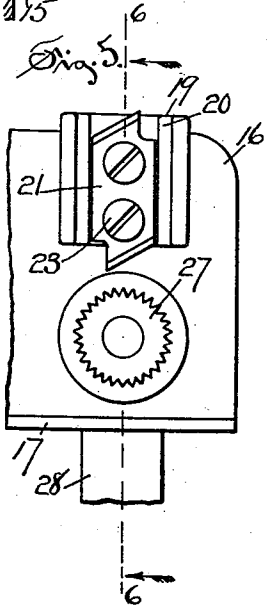


Fig. 6.

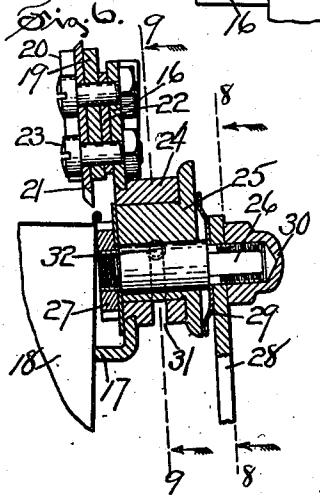
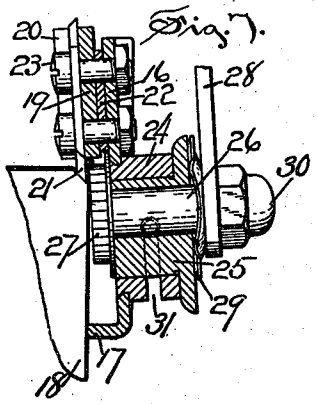


Fig. 7.



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UNITED STATES PATENT OFFICE

2,017,829

CAN OPENER

Henry Cave, Hartford, Conn., assignor to The Fuller Brush Company, Hartford, Conn., a corporation of Connecticut

Application February 1, 1933, Serial No. 654,594

6 Claims. (Cl. 30—3)

My invention relates to the class of devices which are employed for removing the tops of cans containing food or other matter, and an object of my invention, among others, is the production of an implement of this type that is simple in construction and operation, and one that can be produced at a minimum cost while at the same time being particularly efficient in operation.

One form of a can opener embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawing, in which—

Figure 1 is a front view of my improved can opener shown as attached to a bracket which may be supported from a wall or other convenient place.

Figure 2 is a side view of the same.

Figure 3 is a back view, the bracket being broken off.

Figure 4 is a top view with the supporting bracket cut in section to show the tension device.

Figure 5 is a front view on enlarged scale showing the parts in inoperative position and with a portion of the parts omitted.

Figure 6 is a view in section on a plane denoted by the dotted line 6—6 of Figure 5.

Figure 7 is a view similar to Fig. 6 but showing the parts in operative position.

Figure 8 is a view in section on a plane denoted by the dotted line 8—8 of Fig. 6 with some parts beyond omitted.

Figure 9 is a view in section on a plane denoted by the dotted line 9—9 of Figure 6.

In the accompanying drawing the numeral 10 denotes the base of a bracket having sides 11 with inwardly facing grooves to receive a lip 12 at the inner end of a supporting plate 13 forming a part of said bracket, the latter having any suitable means for attachment as to a wall 14 or other suitable support. A spring 15 is interposed between said base and the lip 12 to provide a tension on the plate 13 to prevent accidental movement of said plate, the spring being secured in position in any suitable manner. The outer end 16 of the plate 13 is offset at its upper edge from the main part of the plate, said offset portion gradually decreasing in width from the upper to the lower edge thereby disposing this outer end in an inclined position. A can supporting lip 17 is extended laterally from the bottom edge of the plate 13 against which lip the side of a can 18 rests in the operation of cutting out the top.

A cutter holder 19 having flanges 20 is seated against the upper portion of the plate 13 and a cutter 21 is seated in the bottom of the holder between the flanges 20, and as shown in Figs. 5 and 6 of the drawing. A spacer 22 is placed between the plate 13 and the holder 19, and screw bolts 23 are employed to secure said parts rigidly against the plate 13.

A supporting hub 24 is secured in an opening in the plate 13 below the cutter just hereinbefore described, in the structure herein shown this hub having a shoulder fitting against the side of the plate and the end of the hub being riveted to secure the hub in place.

A carrier 25 in the form of an eccentric is rotatably mounted in a hole extending through the hub 24, and as shown in Fig. 6 of the drawing, and a feed shaft 26 is rotatably mounted in said carrier. A toothed feed wheel 27 is secured to one end of the shaft 26 and a handle 28 in the form of a crank is secured to the opposite end of the shaft. A friction disk 29 is located between the handle 28 and the carrier 25, such disk effecting rotation of the carrier 25 by force applied to the handle under certain conditions, but permitting rotation of the handle independently of the carrier under other conditions. The handle is secured in place as by means of a nut 30 fitting the threaded outer end of the shaft 26.

A slot 31 is formed through the hub 24 on one side thereof and a stop pin 32 projects from the carrier 25 into said slot to limit the independent rotation of the handle hereinbefore referred to.

In the operation of the device the structure being affixed to a wall or other proper support and the parts being in the position shown in Fig. 6, a can is placed with the bead at the upper edge thereof resting upon the feed wheel 27 as shown in Fig. 6 of the drawing. The handle being now turned in a clockwise direction as viewed in Figs. 8 and 9, the pin 32 travels along the slot 31 and the tension of the frictional disk 29 causes the carrier 25 to be rotated, thereby moving the can up into contact with the cutter 21 and causing the latter to pierce the top of the can, and as shown in Fig. 7 of the drawing. The pin 32 encountering the opposite end of the slot, further rotation of the eccentric carrier is prevented and the handle is now permitted to rotate independently of the carrier, thereby rotating the feed wheel 27 and rotating the can against the cutting edge of the knife, thereby severing the can top from the can.

The inclined position of the feed wheel as shown in Figs. 6 and 7 causes only the upper edge of said wheel to contact with the can, thereby

facilitating feeding movement of the can by rotation of the feed wheel.

I claim:

1. A can opener including a support, a cutter secured to said support, a carrier rotatably mounted on said support, a feed shaft eccentrically mounted for rotation in said carrier, a feed wheel secured to said shaft in cooperative relation to said cutter, a handle secured to said shaft, and a frictional disk mounted on the shaft between the handle and carrier to create a frictional connection between said shaft and carrier to effect simultaneous rotation of both by force applied to the handle in one direction and to effect rotation of the shaft independently of the carrier by more force applied to the handle in the same direction.

2. A can opener including a support, a cutter secured to said support, a carrier rotatably mounted on said support, a feed shaft eccentrically mounted for rotation in said carrier, a feed wheel secured to said shaft in cooperative relation to said cutter, a handle secured to said shaft, a cupped spring disk mounted on said shaft between the handle and carrier to create a frictional connection between said shaft and carrier to effect simultaneous rotation of both by force applied to the handle in one direction, and means for holding said eccentric against rotation to permit independent rotation of said shaft as a result of more force applied to said handle in the same direction.

3. A can opener including a support, a cutter secured to said support, a carrier rotatably mounted on said support, a feed shaft eccentrically mounted for rotation in said carrier, a feed wheel secured to said shaft in cooperative relation to said cutter, a handle secured to said shaft to rotate it, a frictional disk located between said handle and eccentric to effect rotation of the latter by the former, and means for holding the eccentric against rotation to permit rotation of the handle independently of the eccentric.

4. A can opener including a support, a cutter secured to said support, a carrier rotatably mounted on said support, a feed shaft eccentrically mounted for rotation in said carrier, a feed wheel secured to said shaft in cooperative relation to said cutter, a handle secured to said shaft to rotate it, a cupped disk mounted on said shaft between said handle and carrier to effect a frictional connection between said shaft and carrier yieldable to force applied to said handle for rotation of the latter by the former by force applied to the handle in one direction, and a stop to limit rotation of said carrier in opposite directions to effect rotation of the shaft independently of the eccentric by force applied to the handle in the same direction.

5. A can opener including a supporting plate, a cutter secured to said plate, a hub secured to said plate and projecting therefrom, a carrier movably mounted in said hub, a pin projecting from said carrier into a slot in said hub to limit rotation of the carrier, a shaft rotatably mounted in said carrier, a feed wheel secured to said shaft, a handle secured to said shaft to rotate said cutter, and a cupped spring disk mounted on said shaft between said handle and carrier to effect a yielding frictional connection between said handle and carrier to rotate the latter and to effect rotation of the handle independently of the carrier by the yielding action of said connection.

6. A can opener including a supporting plate, a cutter secured to said plate, a hub secured to said plate and projecting therefrom, a carrier rotatably mounted in said hub, a pin projecting from said carrier through a slot in said hub to limit rotation of the carrier, a feed shaft projecting through an eccentric opening in said carrier, a feed wheel secured to one end of said shaft, a handle secured at the opposite end of said shaft, and a cupped spring disk mounted on said shaft between said handle and carrier to effect a yielding frictional driving means interposed between said shaft and carrier to effect movement of the handle independently of the carrier by yielding action of said connection.

HENRY CAVE.