Jan. 15, 1935. H. VON WOLFORSDORF 1,987,653

CAN OPENER

Original Filed Aug. 24, 1931

FIG. 1.

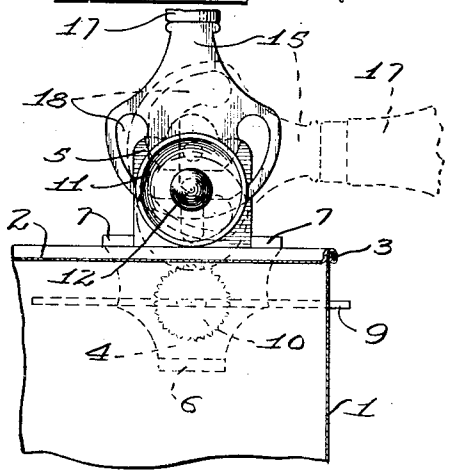


FIG. 2.

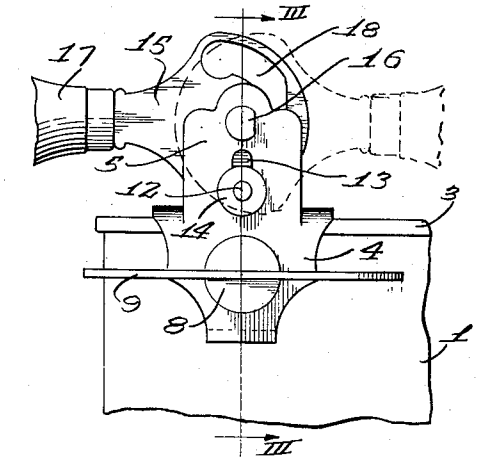


FIG. 3.

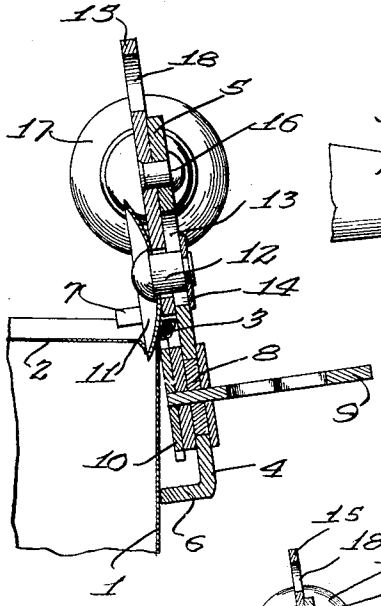


FIG. 4.

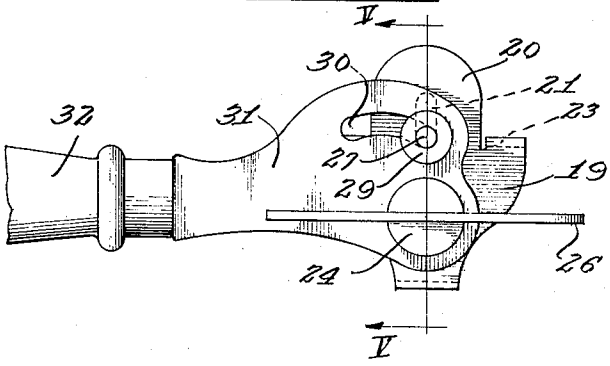


FIG. 5.

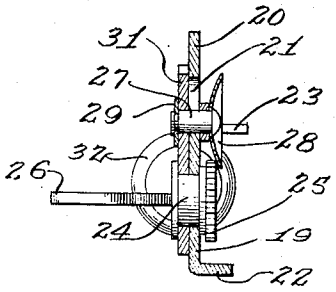
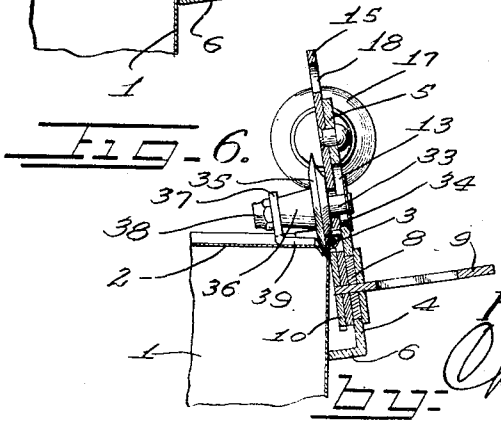


FIG. 6.



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1,987,653

UNITED STATES PATENT OFFICE

1,987,653

CAN OPENER

Hans von Wolforsdorf, Wheaton, Ill.; Johanna von Wolforsdorf administratrix of said Hans von Wolforsdorf, deceased

Application August 24, 1931, Serial No. 558,935
Renewed October 26, 1934

2 Claims. (Cl. 30—3)

This invention relates to an improved type of simplified and inexpensive can opener wherein a mounting frame is provided with a rotatable feed member and with a slidably mounted movable cutter operable by means of a handle controlled cam means.

It is an object of this invention to provide a can opener having a cam controlled cutter and magnet unit which is slidably mounted for movement toward or away from a feed wheel forming a part of the can opener.

It is also an object of this invention to provide an improved and simplified form of can opener including a movable cutter which is slidably mounted on a slotted supporting plate for adjustment by means of a slotted control member for moving the cutter in a straight line toward or away from the axis of a feed member forming a part of the can opener.

It is a further object of this invention to provide an improved type of can opener having a shiftable cutter and magnet operable by means of a control cam which may be adjusted to permit the feed unit of the can opener to be operated as either a right handed or left handed unit.

It is an important object of this invention to provide an improved and simplified type of can opener including a feed wheel and a shiftably mounted movable cutter operable by a handle actuated double control cam whereby the can opener may be used as either a right handed or a left handed can opener.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawing.

The invention (in a preferred form) is illustrated in the drawing and hereinafter more fully described.

On the drawing:

Figure 1 illustrates a fragmentary side view of an improved can opener embodying the principles of this invention applied to a can and indicating the operation of the cutter control member in dotted lines.

Figure 2 is an elevational view of the outer side of the can opener which is partly broken away and is applied on a can to permit the can opener to be operated as a right handed device, and illustrating the position of the control cam in dotted lines to permit the can opener to be used as a left handed device.

Figure 3 is a sectional view of the can opener taken on line III—III of Figure 2 and showing the cam handle in position to permit the can opener to be used as a left handed device.

Figure 4 is a fragmentary side elevation of a modified form of can opener having a single control cam permitting the can opener to be used as a right handed device only.

Figure 5 is a sectional view of the modified form of can opener taken on line V—V of Figure 4.

Figure 6 is a sectional view similar to that illustrated in Figure 3 covering another modified form of can opener of the magnetic type.

As shown on the drawing:

The reference numeral 1 indicates a metal can having a top 2 formed with a rim 3. The can is adapted to be opened by means of an improved can opener comprising a mounting bracket or plate 4 having an integral extension or arm 5 disposed in the plane of the bracket plate 4 and projecting outwardly from the middle portion of the upper edge of said bracket plate. The bracket plate 4 has the lower margin thereof bent at an angle to form a flange 6 adapted to serve as a foot to contact the side of the can 1 when the can opener is engaged in position. The upper margin of the bracket plate 4 on opposite sides of the extension arm 5 is bent over to provide a pair of supporting fingers or lugs 7 adapted when the can opener is in position to seat or engage over the rim 3 of the can.

Journalled in the bracket plate 4 is a bearing member or stub shaft 8 having rigidly secured therein a feed or operating handle or finger piece 9 whereby the stub shaft 8 may be rotated for the purpose of rotating a peripherally knurled or toothed feed or advancing roller or gear member 10 which is rigidly secured on the end of the stub shaft or rotatable member 8 adjacent the inner side of the bracket plate 4. With the can opener engaged on the upper portion of a can as illustrated in Figure 3, the toothed periphery of the feed roller or gear member 10 is positioned in frictional gripping engagement with the can rim 3 whereby the can opener is adapted to be advanced around the can when the wing handle or finger piece 9 is rotated.

For the purpose of cutting the cover or top 2 of the can, a circular cutter blade or cutting disc 11 is supported on a stub shaft 12 which projects through a slot 13 provided in the extension or arm 5 forming a part of the bracket plate. The slot 13 extends longitudially of the arm 5 at substantially right angles to the axis of the stub shaft 8. A retaining disc 14 is engaged on the projecting end of the cutter supporting stub

shaft 12 adjacent the outer side of the bracket arm 5.

For the purpose of raising or lowering or slidably moving the cutter disc or blade 11 with respect to the feed wheel or gear member 10 a control plate or blade 15 is pivotally supported by means of a pivot pin 16 on the bracket arm 5 adjacent the outer end of the slot 13. For the purpose of operating the control disc or blade 15 a holding handle 17 is secured to a reduced end of the plate or blade 15 for the purpose of holding the can stationary by means of the cutter disc when the feed wheel or gear member 10 is rotated by means of the finger piece or operating handle 9. For the purpose of adjusting or raising and lowering the cutter disc 11, the control plate or blade 15 is provided with a double cam slot 18 through which the stub shaft 12 of the cutter disc projects, as clearly illustrated in Figure 3. The double cam slot 18 is arranged to permit the can opener to be used as either a right handed device or a left handed device, depending upon the direction in which the holding handle 17 controlling the cam member is thrown. When the holding handle 17 is thrown into the full line position illustrated in Figure 2, the can opener is adapted to be used as a right handed device, operated by holding the handle 17 with the left hand and operating the feed handle 9 by means of the right hand. When the holding handle 17 is thrown into the dotted line position illustrated in Figure 2, the device is adapted to be used as a left handed device, in which position the holding handle is adapted to be held by the right hand and the operating handle or finger piece 9 is adapted to be actuated by means of the left hand. To release the cutter disc 11 the holding handle 17 is thrown or swung into the full line position of Figure 1, thereby causing the cam slot to act on the cutter disc supporting stub shaft 12 to slidably raise the same in the slot 13 from the position illustrated in Figure 2 into the position illustrated in Figure 1, thereby causing the cutter disc 11 to be slidably raised out of cutting position.

Figures 4 and 5 illustrate a modified form of can opener which is only of the right hand type but which, of course, may be constructed to be operated as a left hand can opener. The modified form of can opener comprises a frame or bracket plate 19 having an extension arm or plate 20 integrally formed on the middle portion of the upper edge thereof. The extension arm 20 is provided with a longitudinally disposed slot 21. The lower margin of the bracket plate 19 is bent at an angle to provide a foot or flange 22 adapted when the can opener is engaged on a can to seat against the side of the can. The upper margin of the bracket plate 19 on opposite sides of the extension arm 20 is bent over at substantially right angles to provide supporting fingers or lugs 23 which are adapted to be engaged over the rim 3 of a can when the can opener is engaged thereon. Rotatably journalled in an opening in the bracket plate 19 is a bearing member or stub shaft 24 having secured on one projecting end thereof a peripherally knurled or toothed feed wheel or gear member 25 adapted to be positioned to frictionally grip or engage the lower portion of the rim 3 of a can on which the can opener is engaged. Secured on the opposite end of the bearing member or stubshaft 24 is a wing handle or finger piece 26. Slidably engaged in the slot 21 of the extension arm 20 is a shank pin or stud 27 having rigidly secured on one end thereof a circular cutter or disc 28. Engaged on the opposite end of the stud or pin 27 is a retaining disc or washer 29. The supporting pin 27 for the cutter disc projects through a cam slot 30 which is provided in a control plate or blade 31 which is pivotally supported on the stub shaft 24 adjacent the side of the bracket plate 19. The control plate 31 is provided with a holding handle 32 which also serves as a means for operating the control blade or plate 31 for the purpose of slidably adjusting the cutter disc 28 with respect to the feed wheel or gear member 25 of the can opener.

To use the improved can opener of the type illustrated in Figures 1 to 3 of the drawing, the cutter disc is raised to its uppermost position by means of the cam control member 15 when the same is thrown into the neutral or full-line position illustrated in Figure 1, thereby permitting the supporting fingers 7 to be engaged over the rim 3 of a can while the lower flange 6 of the bracket plate is adapted to be positioned to contact the outer surface of one side of the can. By swinging the holder handle 17 from the full line position of Figure 1 into the full line position of Figure 2, the one-half of the cam slot 18 which is brought into coacting engagement with the pin or shank of the cutter disc causes the cutter disc to be slidably moved downwardly along the straight center line of the guide slot 13 to bring the cutting edge of the knife or disc 11 into cutting or gripping engagement with the top or cover 2 of the can adjacent the inner side of the rim 3 as clearly illustrated in Figure 3. This lowering of the cutter or knife disc into lower cutting engagement with the cover of the can causes the feed wheel or gear member 10 to be tightly gripped against the lower portion of the rim 3 of the can so that by rotating the wing handle 9 the can opener is advanced around the top portion of the can thereby causing the cutter or disc 11 to cause cutting of the cover any desired amount depending upon the amount of travel of the can opener around the can. To release the can opener from the can, it is only necessary to swing the holding handle 17 from a horizontal position into a vertical position thereby causing the cutter disc 11 to be lifted or raised out of cutting engagement to permit the can opener to be disengaged from the can. If a person using the can opener happens to be left handed, it is only necessary to swing the holding handle 17 from a neutral or released position into the dotted line position of Figure 2 thereby permitting the handle 17 to be held by the right hand while the feed wing handle 9 is adapted to be rotated by means of the left hand of the operator to cause the can opener to advance around the can to cut the can cover.

The modified form of can opener illustrated in Figures 4 and 5 is adapted to be conveniently engaged on the upper portion of a can when the holding handle 32 is moved into a position at substantially right angles to that illustrated in Figure 4 so that the cutter disc 28 is slidably moved toward the upper end of the slot 21 to permit the supporting fingers 23 of the bracket plate 19 to be seated over the rim 3 of a can while the lower flange 22 of the bracket plate is positioned to contact the outer side of the can. By swinging the holding handle 32 from a neutral or released position into the full line position of Figure 4, the cutter disc 28 is slidably moved downwardly into cutting engagement with the cover 2 of a can, thereby causing the feed wheel or gear member 25 to grip against the lower por-

tion of the rim 3 of the can. By rotating the finger or feed handle 26 the can opener is advanced around the can causing the cutter disc 28 to cut the can cover to permit removal thereof.

Figure 6 illustrates another modified form of can opener of the magnetic type including an adjustable combination cutter and magnet unit. This modified form of can opener is similar in construction to that shown in Figure 3 and the corresponding parts are designated by corresponding reference numerals.

The modification consists in the adjustable combination unit which comprises a stub shaft 33 which projects through the cam slot 18 and through the guide slot 13 and has a washer 34 engaged on one end thereof. Rotatably engaged on the shaft 33 adjacent the control plate or blade 15 is a circular cutter wheel or disc 35. Also supported on the stub shaft 33 to the outside of a separating sleeve or spacer collar 36 is a magnet horse shoe member. The bight or looped end 37 of the magnet member is hooked or engaged over the shaft 33 and is removably secured or clamped in place by means of a retaining nut 38 engaged on the outer threaded end of the shaft 33. The legs of the horse shoe magnet are bent over at an angle to form flat cover attracting flanges or arms 39, the ends of which are positioned adjacent the cutter 35 where it is adapted to engage in the can cover 2 so that when the can opener is operated to open a can the magnetic flanges 39 will seat on the can cover 2 to magnetically attract the same while the ends of the magnetic flanges 39 will act to magnetically attract any metal particles resulting from the cutting of the can cover. It will thus be noted that a double purpose magnet is provided which will not only magnetically attract and hold the can cover against dropping into the can but will also act to magnetically attract any metal particles resulting from the cutting of the can cover so that the particles will not fall into the contents of the can.

The modified form of can opener includes a combination adjustable cutter and magnet unit which is operable by means of the cam control means 15 or by the single type of control member 31 as illustrated in Figure 4 when the magnet is associated with the form of can opener disclosed by Figures 4 and 5.

It will of course be understood that various details of construction may be varied through a wide range without departing from the principles of this invention, and it is therefore not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. In a can opener, the combination with a support, of a shaft member adjustably mounted on the support, means for adjusting the shaft member on said support, a cutter on said shaft member, and a magnet on said shaft member adjacent the cutter.

2. In a can opener the combination with a slotted member, of a shaft projecting through the slotted member, means for slidably adjusting the shaft in said slotted member, a cutter supported on said shaft, and a magnetic means supported on said shaft and formed to be positioned adjacent the cutter and the cover of a can when the can opener is in use to permit the magnetic means to attract and hold the can cover as well as the metal particles resulting from the cutting of the can cover.

HANS VON WOLFORSDORF.