Jan. 8, 1935. P. C. WEST 1,986,870

CAN OPENER

Filed Nov. 4, 1932 2 Sheets-Sheet 1

Fig. 1.

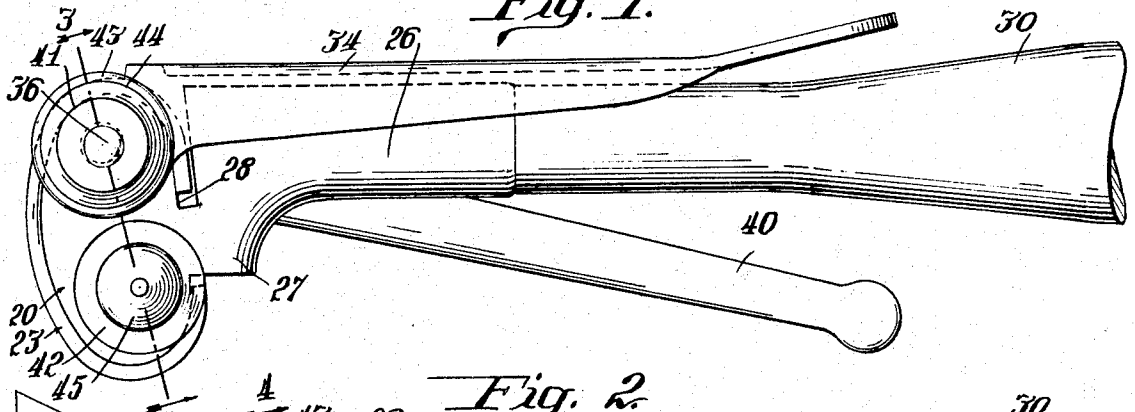


Fig. 2.

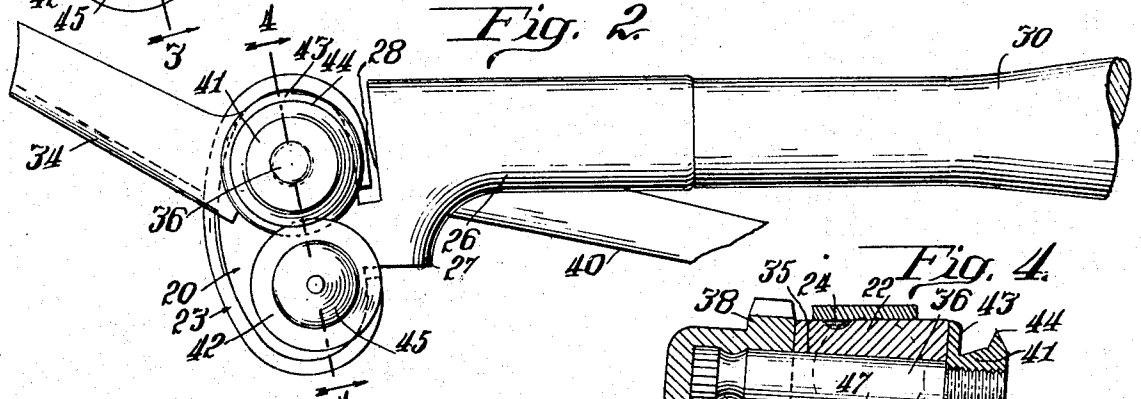


Fig. 3.

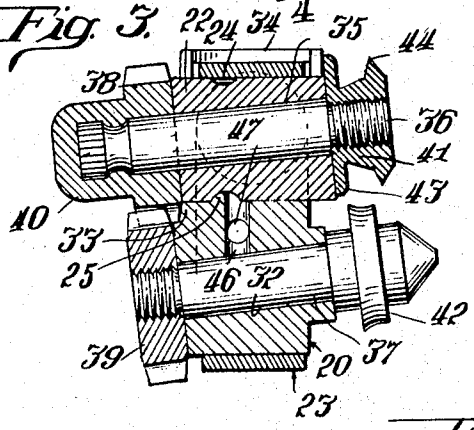


Fig. 4.

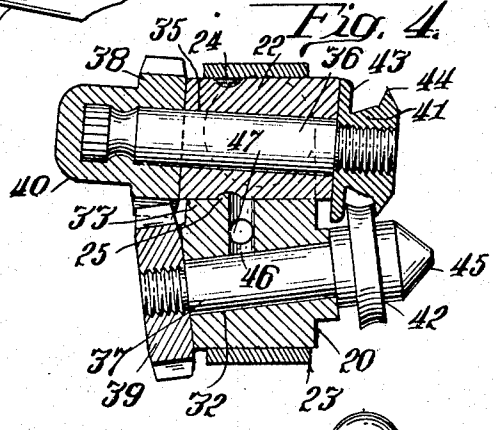
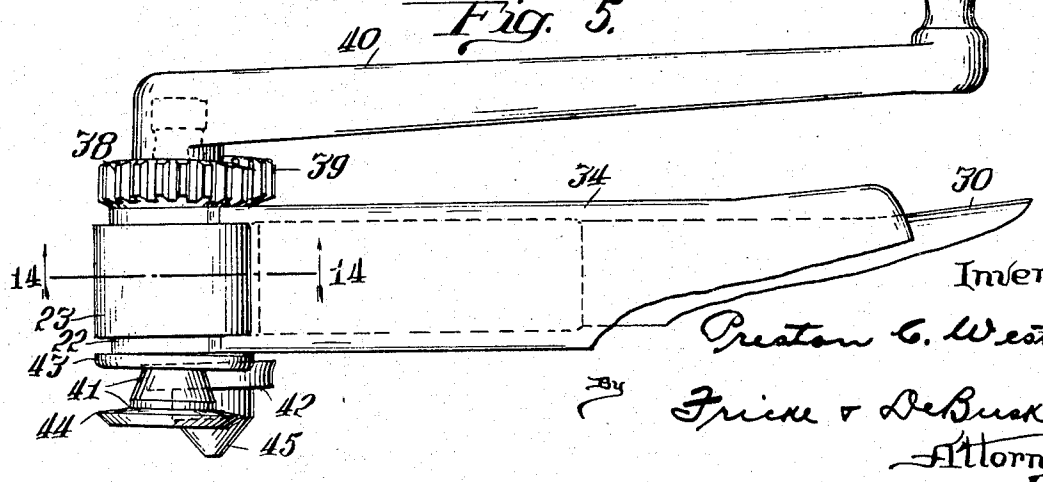


Fig. 5.



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Fig. 6.

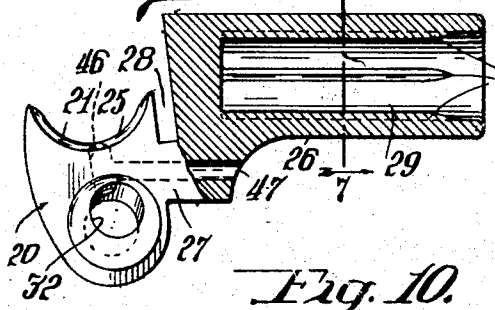


Fig. 7.

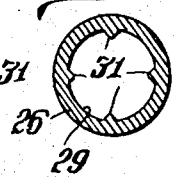


Fig. 8.

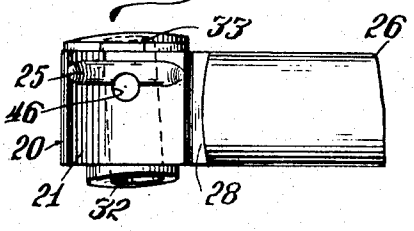


Fig. 10.

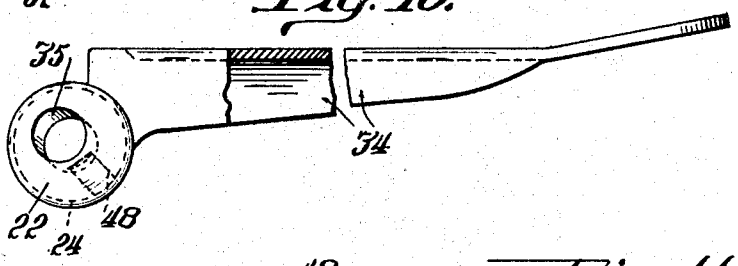


Fig. 9.

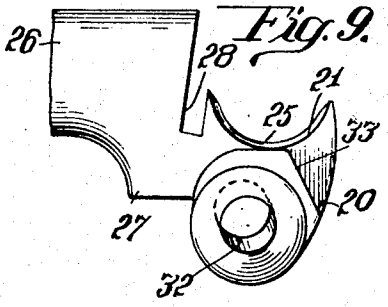


Fig. 11.

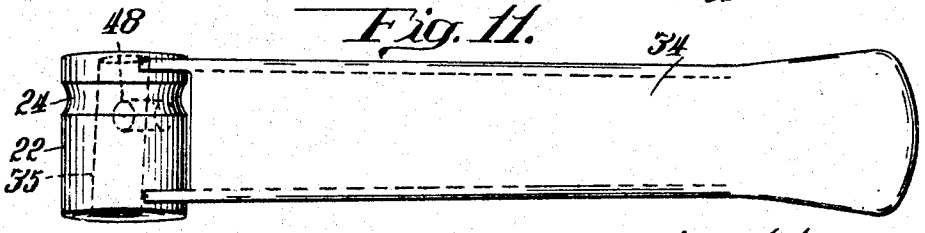


Fig. 14.

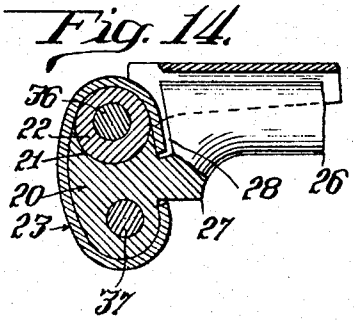


Fig. 12.

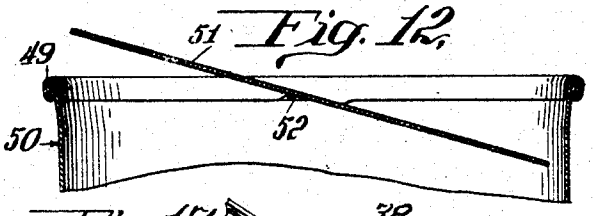


Fig. 13.

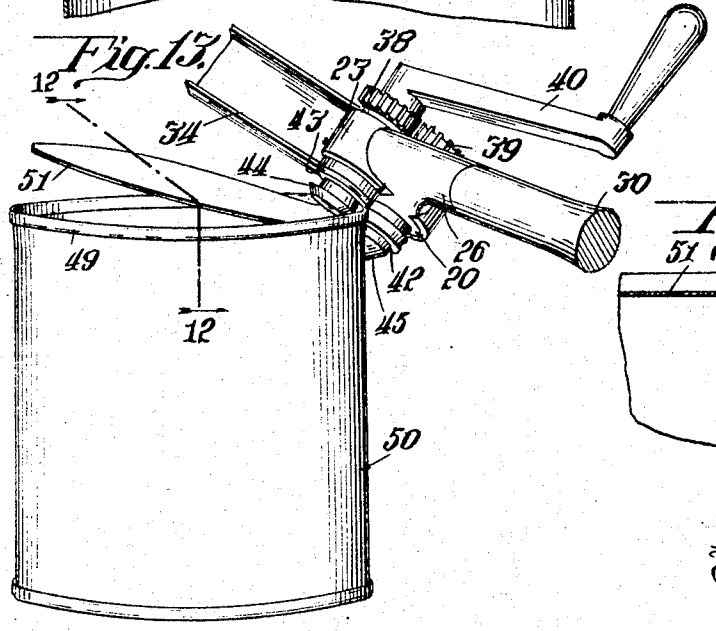
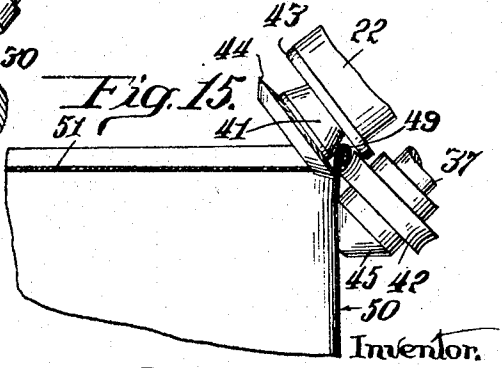


Fig. 15.



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UNITED STATES PATENT OFFICE

1,986,870

CAN OPENER

Preston C. West, Chicago, Ill.

Application November 4, 1932, Serial No. 641,172

20 Claims. (Cl. 30—3)

My invention relates to can openers of the type adapted to be clamped readily in position on a can so as to be used for handling the can as well as for removing the top therefrom, and it is one of the objects of my invention to provide an improved arrangement of this type whereby the can may be controlled and held in upright position with the utmost ease for the cutting operation and may then be lifted and tipped advantageously for emptying the can without the necessity for any handling other than through the medium of the opener. It is another object of my invention to provide a new and improved form and arrangement of cooperating parts for effecting the cutting operation, by reason of which the operator may be enabled to apply the opener quickly and easily in position without too much nicety with respect to the positioning of the parts relatively to the bead of the can, by reason of which the device may grip the can very firmly without danger of accidental release from the can during the opening operation or thereafter, by reason of which the cutting operation may be effected quickly and expeditiously, by reason of which the lid of the can may be lifted automatically so as to be grasped by the operator at the end of the cutting operation and by reason of which the device can be easily released from the can when desired.

It is one of the objects of my invention to provide an improved arrangement of parts of such construction and such interrelationship to each other as to enable me to produce the parts largely by die casting and screw machine operations with a very little bit of machining necessary on the cast parts for fitting and assembling the parts into a finished product adapted to operate in a highly satisfactory manner. It is another object of my invention to provide such an arrangement of the parts as to enable me to assemble the parts with utmost ease without the use of any complicated special apparatus.

It is another object of my invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the drawings and are hereinafter specifically described. That which I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawings,—

Fig. 1 is a side face view of my improved device, the handle being broken away at one end;

Fig. 2 is a view similar to Fig. 1, but with certain of the parts in changed position, and with the operating crank and the eccentric lever also broken away for clearness of illustration;

Fig. 3 is a cross sectional view taken at line 3—3 of Fig. 1;

Fig. 4 is a cross sectional view taken at line 4—4 of Fig. 2;

Fig. 5 is a top plan view of the parts as shown in Fig. 1, partly broken away;

Fig. 6 is a side face view of the principal frame member of the device, with a portion shown in cross section;

Fig. 7 is a vertical cross sectional view taken at the line 7—7 of Fig. 6;

Fig. 8 is a top plan view of the frame member shown in Fig. 6, broken away at one end;

Fig. 9 is a view of a part of the device as shown in Fig. 6 but illustrating the opposite side face;

Fig. 10 is a side face view of the eccentric bearing member and the operating lever therefor, being partly broken away and partly in section;

Fig. 11 is a top plan view of the part shown in Fig. 10;

Fig. 12 is a vertical cross section through the upper portion of a can which has its top substantially completely cut therefrom, being substantially a section taken upon an enlarged scale at the line 12—12 of Fig. 13, but with the opener removed from the can;

Fig. 13 is a perspective view of a can with my improved opener in operative position thereon, showing the top substantially completely cut from the can and raised in angular position so as to be grasped by the operator, the handle and lever being partially boken away;

Fig. 14 is a vertical cross section through my improved device taken substantially at the line 14—14 of Fig. 5; and

Fig. 15 is a view of a fragmentary portion of my improved device in operative position upon a can which is shown in section.

Referring now to the several figures of the drawings, in which corresponding parts are indicated by the same reference characters, 20 indicates the main frame member provided with a circular groove 21 in its top face as shown in Fig. 6, in which is revolubly mounted a bearing member 22 in the form of a drum, as is best shown in Figs. 10 and 11. As is clearly shown in Fig. 14, the bearing members 20 and 22 are substantially completely surrounded by a frame member 23 in the form of a loop made of flat spring metal bent into shape for holding the members 20 and 22 in operative relation to each other. As shown in Fig. 11, the cylindrical block or drum 22 is provided with a circumferential groove 24 there-

about, and as is shown in Fig. 6 the member 20 is provided with a rib 25 arranged circumferentially of the groove 21. The arrangement is such that when the drum 22 is positioned in one end of the loop 23 as shown in Fig. 14, the member 20 can be pushed into position between the drum and the opposite end of the loop as shown in said Fig. 14, the loop 23 being adapted to yield outwardly to the necessary extent for permitting the rib 25 to snap into engagement with the groove 24, as shown in Figs. 3 and 4. The arrangement is such also that when the rib 25 has been thus brought into engagement with the groove 24, the members 20 and 22 are held yieldingly in transverse position in the loop with sufficient force to prevent accidental disengagement of the parts in use.

As shown in Figs. 6 and 9, the body member 20 is in the form of a casting having a socket portion 26 formed integrally therewith, the socket portion and the body portion being joined by a neck portion 27 of comparatively much smaller cross sectional size, a groove 28 being provided between the body portion and the socket portion for reception of the upper down-turned end of the loop member 23. The portion 26 is provided with a socket 29 for the reception of a suitable handle 30 which has a driving fit into the socket, the socket being provided with longitudinally extending ribs 31 at intervals thereabout, as is shown in Figs. 6 and 7, for holding the handle member 30 from rotary movement within the socket. The body member 20 is provided with an opening 32 therethrough which is obliquely disposed both horizontally and vertically with respect to the directly transverse axis of said member, as shown in Figs. 6, 8 and 9. At the far side of the device as shown in Fig. 8, an extended bearing portion 33 is provided beyond the adjacent portions of the side face of the member for providing additional support for the drum 22 at this point.

As shown in Figs. 10 and 11, the drum 22 is provided with a handle or lever 34 extending from one side, the drum and lever in the arrangement shown being formed integrally with each other in the form of a casting. The drum 22 is provided with an opening 35 therethrough, such opening 35 being substantially concentric at the far side as shown in Fig. 10 and some little distance eccentric at the near side so as to be obliquely disposed both horizontally and vertically with respect to the axis about which said drum is rotatable. As will be seen by a comparison of Figs. 8 and 11, the openings 32 and 35 are in slightly crossed angular relation to each other, one of such openings having a trend backwardly toward the right in Fig. 8 and the other having a trend forwardly toward the left in said Fig. 11. As viewed in plan, see particularly Figs. 8 and 11, the shaft openings 32 and 35 diverge from each other toward the can gripping rollers and the cutting element to be presently described. When the parts are in cooperative working position, the shaft openings 32 and 35 as seen in Fig. 4 converge toward the side of the device carrying the can gripping and cutting means.

The arrangement is such that the lever 34 is adapted to fit down over the socket portion 26 and the adjacent portion of the handle 30, being of channel formation for effecting this result. The arrangement is such also that the lever 34 can alternatively be swung upwardly and toward the left from the position as shown in Fig. 1 for rotating the drum 22, the web portion of the lever 34 serving as a stop for limiting the stroke of the lever by engagement with the face of the spring loop 23 as indicated in Fig. 2. As will be appreciated by an inspection of Fig. 3, the extended bearing portion 33 projects outwardly beyond the side face of the lever 34, providing support for the drum 22 opposite and outwardly beyond the side connecting portions by which the body of the lever is connected with said drum 22.

As shown in Figs. 3 and 4, short shafts 36 and 37 are revolubly mounted in the openings 35 and 32 respectively transversely of the device, such shafts having gears 38 and 39 mounted thereon in position to intermesh as shown in said figures. In the arrangement shown, the gear 38 is formed integrally with a crank 40 by which power is applied for rotating the gear, the gear and crank being in the form of a casting about the end of the shaft 36, the end of the shaft being scored longitudinally and grooved circumferentially for providing a firm connection between the parts, said gear 38, shaft 36, and crank 40 being thus connected in compact strong unit formation. The gear 39 in the arrangement shown is secured upon the end of the shaft 37 by means of screw threads.

At their ends located toward the right in Figs. 3 and 4, the shafts 36 and 37 are provided with oppositely disposed rollers 41 and 42 respectively, the roller 41 being secured upon the upper shaft 36 by means of screw threads, while the roller 42 is formed integrally with the lower shaft 37. As shown in Figs. 3 and 4, the roller 41 is provided with a flange 43 at its inner face and with a circular knife 44 at its outer face, both formed integrally with said roller 41 in the construction illustrated. The roller 42 as shown is provided with a tapered end portion 45 at its outer face formed integrally with the roller, such tapered end portion being of assistance with respect to holding the rollers in their operative clamping positions and particularly of assistance with respect to positioning the device upon a can.

As shown in Fig. 6, the bearing member 20 is provided with an oil duct 46 extending between the opening 32 for the shaft 37 and the face of the transverse groove 21 in which the drum 22 is revolubly mounted, a second duct 47 leading from the duct 46 to the face of said bearing member. The drum 22 is likewise provided with an oil duct 48, as shown in dotted lines in Figs. 10 and 11, such duct 48 leading from the face of the opening 35 in which the shaft 36 is mounted to the face of the drum, being arranged so as to extend obliquely downwardly in the position of the drum as shown in said two figures. As will be readily understood, when the lever 34 is swung upwardly and toward the left from the position as shown in Fig. 1 to the position as shown in Fig. 2, the duct 48 is swung into substantially vertical position. As a result of this arrangement, any oil which may be brought into contact with the lower end of the duct 48 in the position of the parts as shown in Fig. 1 has a tendency to pass downwardly through the duct to the shaft 36 when the parts are swung to the position as shown in said Fig. 2.

With the parts all assembled in the condition as shown in Fig. 1, and with the lever 34 in its lowered position as shown in said figure, the device is ready for application upon the bead of a can. The rotary cutter or knife 44 is first hooked over the top of the bead of a can, as for example the bead 49 of the can 50 as shown in Fig. 15, with the roller 41 engaging the upper edge of the bead at its inner face, and with the tapered end portion

45 of the roller 42 substantially against the outer face of the wall of the can below the bead. With the device held in such position, the lever 34 is then swung upwardly and forwardly away from the handle 30 for rotating the eccentric bearing block 22 and swinging the shaft 36 downwardly toward the shaft 37, as shown in Fig. 4, into changed angular position with respect to said shaft 37 and causing the rollers 41 and 42 to grip the bead 49 in approximately the position as shown in Fig. 15. With the parts in this position, the grip of the rollers upon the can is such that the can and its contents can be very readily lifted and handled through the medium of the handle 30 of the device. The arrangement is such that upon subsequent turning of the shaft 36 through the medium of the crank 40 and the turning of the shaft 37 at the same time through the medium of the intermeshing gears 38 and 39, the rollers in gripping engagement with the bead cause the can to rotate with respect to the device. Upon such rotary movement of the can, the rotary cutter 44 which at the same time is being rotated with the shaft 36 cuts the lid 51 from the can so as to enable the lid to be removed, the cutting being effected at the inner face of the bead at about its lower edge. Inasmuch as the rotary cutter has a slightly greater surface speed than that of the roller 41, a true cutting effect is attained as distinguished from either a tearing effect or a scratching or filing effect. The rotary cutter 44 is of such shape and is presented at such an angle as to cut the sheet metal cleanly without any appreciable scraping action. As a result the cutting operation is effected without the removal of any particles of metal such as would be likely to drop into and mix with the contents of the can.

The spring frame member 23 is of such shape and size as to hold the gripping rollers and cooperating parts in operative position upon a can when the lever 34 is swung to the position as shown in Fig. 2 corresponding to the position of the parts as shown in Fig. 4. The arrangement is such that if the bead of a can happens to vary from the normal size, the spring frame member 23 is adapted to yield sufficiently for permitting the rollers to be clamped into operative position on the can bead. The arrangement also is such that the rollers are adapted to yield outwardly with respect to each other to permit ready passage of the seam of the can without loosening the gripping engagement of the rollers with the bead.

With the parts arranged in the relative position as shown and as above described, the rollers 41 and 42 with the assistance of the adjacent cooperating parts are adapted to assume their normal operative position upon the bead of a can upon the operative swinging movement of the lever 34 even though the device is applied initially upon the can bead in other than normal position. As a result, an operator is enabled to apply the device quickly and easily in operative position upon a can without too much care with respect to placing the device in precisely its normal operative position. The arrangement of the shafts 36 and 37, in their respective openings or bearings 35 and 32, and the can bead gripping rollers is such that, upon application of the device to a can and during the cutting operation, the gripping rollers tend always to increase their effective hold or grip on the can bead, the cutter, under such conditions, also tending to work its way into its maximum deep cutting position. In the normal operation of the device, the cutter 44 turns counter-clockwise. It will be noted from Fig. 2 that, when the parts are in operative position, the cutter is positioned well ahead of the roller 42, with respect to the uncut portion of the can top. As the crank is turned, therefore, the device tends to tilt on the can in a direction to cause the cutter to work into and remain in its deepest cutting position. There is, therefore, no tendency for the device to climb or work off the can bead once it is applied thereto.

The arrangement is such that at about the end of the cutting operation the lid 51 is caused to rise slightly above the adjacent bead 49, in substantially the manner shown in Figs. 12 and 13. This result is attained by the pressure of the device upon the lid 51 in rear of the tongue 52 by which the lid 51 is held in position at about the end of the cutting operation as shown in said Fig. 12. With the pressure being applied at the right of the tongue 52 as shown in said figure, the lid 51 is given a tilting movement serving to twist the tongue 52 and causing the left-hand edge of the lid to move upwardly corresponding to the downward movement of the opposite edge portion upon which the downward pressure is applied by the device. The operator can accordingly grasp the lid when it is projected thus above the bead if he so desires for preventing the lid from falling into the can when completely severed.

By the use of my construction, in which the opening 35 through the drum 22 for the shaft 36 is disposed eccentrically with respect to the axis of the drum and in which the handle 30 is connected rigidly with the bearing member 20 for manipulating the device and the can rigidly connected therewith, I have provided a very compact and simple arrangement which can be produced readily and cheaply and which is very effective for attaining the desired results. By arranging the opening 35 so as to be in substantially concentric position with respect to the axis of the drum at one side of the device and in eccentric position with respect to said axis at the opposite side of the device, I am assured that the gears 38 and 39 shall remain constantly in mesh in all changed positions of the parts. This arrangement adds much to the smoothness and ease of operation.

By the use of the groove 24 in the outer face of the drum 22 in position to cooperate with the rib 25 extending circumferentially of the circular groove 21 in the bearing member 20, with the drum 22 and bearing member 20 normally held yieldingly in position by the spring loop 23, I have provided for a very easy and convenient assembly of the parts, the bearing member 20 being movable readily in transverse direction into or out of the loop upon application of proper pressure thereon. The arrangement is such that the rib 25 is normally held in engagement with the groove 24 with sufficient force to prevent accidental disengagement therewith, serving thus to hold the parts effectively in assembled condition.

While I prefer to employ the form of device as shown in my drawings and as above described, it will be understood that my invention is not limited thereto except so far as the claims may be so limited by the prior art, it being understood that changes might well be made in the form and arrangement of parts without departing from the spirit of my invention.

I claim:

1. In a can opener, the combination of a bearing member, a second bearing member revolubly mounted adjacent said first named bearing member, spring means at least partially surrounding

said members for holding said members yieldingly in operative relation to each other, a handle connected with said first named bearing member for supporting the device in operative position with respect to a can, means for giving said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively, means operatively connecting said shafts, the shaft in said second bearing member being in oblique position therein whereby upon rotation of said bearing member one end of said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top out of the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

2. In a can opener, the combination of a bearing member, a second bearing member revolubly mounted adjacent said first named bearing member, spring means at least partially surrounding said members for holding said members yieldingly in operative relation to each other, a handle connected with said first named bearing member for supporting the device in operative position with respect to a can, a lever for giving said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively, gears operatively connecting said shafts, the shaft in said second bearing member being positioned at an angle with respect to the axis of said member whereby upon rotation of said member one end of said shaft is swung angularly toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top out of the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

3. In a can opener, the combination of a spring loop, two bearing members held in operative relation to each other by said loop with one bearing member rotatable with respect to the other, a handle connected with said other bearing member for supporting the device in operative position with respect to a can, means adapted by movement in opposite directions to give said one bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said one bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

4. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, means for holding said second bearing member yieldingly in position in said groove, a handle connected with said first named bearing member for supporting the device in operative position with respect to a can, means adapted by movement in opposite directions to give said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and meants for rotating said selected shaft.

5. In a can opener, the combination of two oppositely disposed transversely extending bearing members, a stiff spring frame member supporting one of said bearing members revolubly in operative position with respect to the other bearing member by engagement with said bearing members throughout substantially their full length transversely of the opener and adapted to yield under heavy pressure for permitting one member to move outwardly with respect to the other, a handle rigidly connected with said other bearing member for supporting the opener in operative position with respect to a can for application thereto, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said one bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means for giving said one bearing member a rotary movement, means carried by said shafts for gripping the bead of a can when said shafts are moved toward each other and serving to hold said shafts in oblique position extending downwardly and inwardly with respect to the can, means for rotating said shafts for causing the gripped can to revolve with respect to the opener, and a rotary cutter carried by the upper one of said two shafts adapted upon rotation of the can to cut the top from the can inside of the bead.

6. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, a spring loop substantially surrounding said bearing member serving to hold said second member yieldingly in position in said groove, handle means connected with said first named bearing member for supporting the device in operative position with respect to a can, a lever adapted by strokes in opposite directions to give said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

7. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a socket member rigidly connected with said member with a notch between the bearing member and the socket member at the top face alongside of said rounded groove, a second bearing member in the form of a drum revolubly mounted in said rounded groove, a spring loop substantially surrounding said bearing members with its upper end extending downwardly into said notch and serving to hold said second bearing member yieldingly in position in said groove, a handle secured in said socket member for supporting the device in operative position with respect to a can, means adapted by movement in opposite directions to give said sec-

ond bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

8. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a socket member connected with said member with a notch between the bearing member and the socket member at the top face alongside of said rounded groove, a second bearing member in the form of a drum revolubly mounted in said rounded groove, a spring loop substantially surrounding said bearing members with its upper end extending downwardly into said notch and serving to hold said second bearing member yieldingly in position in said groove, said socket member having a socket therein extending in substantially right angular position with respect to said notch and groove and having a longitudinally extending rib at one side therein, a handle having a driving fit in said socket and held by said rib from rotation with respect to the socket serving to support the device in operative position with respect to a can, means adapted by movement in opposite directions to give said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

9. In a can opener, the combination of a bearing member having a socket, a second bearing member revolubly mounted adjacent said first named bearing member, spring means at least partially surrounding said members for holding them yieldingly in operative relation to each other, said socket having a longitudinally extending rib at one side thereof, a handle having a driving fit in said socket and held by said rib from rotation with respect to the socket and serving to support the device in operative position with respect to a can, means for giving said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

10. In a can opener, the combination of a bearing member, a second bearing member revolubly mounted adjacent said first named bearing member, means for holding said members yieldingly in operative relation to each other, a handle connected with said first named bearing member and standing in substantially radial position with respect to said second bearing member, a lever in the form of a channel rigidly connected with said second bearing member for giving said member a rotary movement and arranged for swinging downwardly about said handle, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

11. In a can opener, the combination of a spring loop, two bearing members held in operative relation to each other by said loop with one bearing member rotatable with respect to the other, supporting means connected with said other bearing member, a lever connected with said rotatable bearing member by parts located at opposite sides of said spring loop for giving said member a rotary movement, means effectively holding said bearing members from movement transversely of the device with respect to each other and out of said spring loop, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

12. In a can opener, the combination of a spring loop, two bearing members held in operative relation to each other by said loop with one bearing member rotatable with respect to the other, supporting means connected with said other bearing member, means adapted by movement in opposite directions to give said one bearing member a rotary movement, a circumferential rib on one of said bearing members engaging a circumferential groove in the face of the other bearing member for holding said bearing members normally from movement transversely of the device with respect to each other, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

13. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, a spring loop substantially surrounding said bearing members serving to hold said second member yieldingly in position in said groove, supporting means connected with said first named bearing member, means adapted by movement in opposite directions to give said second bearing member a rotary movement, a circumferential rib projecting upwardly on the rounded face of said groove in

said first named bearing member in position to engage a circumferential groove in the face of said second bearing member for holding said members from movement transversely of the device with respect to each other, said loop being adapted to yield outwardly for permitting engagement of said rib with said groove for the assembly of the device, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing members in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

14. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, a spring loop substantially surrounding said bearing members serving to hold said second member yieldingly in position in said groove, supporting means connected with said first named bearing member, means mounted on said second bearing member by connecting parts located at opposite sides of said spring loop for giving said member a rotary movement, an abutment on said first named bearing member providing an extended bearing for said second bearing member beyond one side edge of said spring loop, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said bearing member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft.

15. In a can opener, the combination of a bearing member, a second bearing member revolubly mounted in a bearing groove in said first named bearing member, means for holding said members yieldingly in operative relation to each other, supporting means connected with said first named bearing member, means for giving said second bearing member a rotary movement, oppositely disposed shafts revolubly mounted in said bearing members respectively with the shaft in said second bearing member in eccentric position therein whereby upon rotation of said member said shaft is moved toward and from the other shaft, means carried by said shafts for gripping a can when said shafts are moved into cooperative relation and for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft, said first bearing member having a duct leading from the bearing face for said second bearing member to the shaft therein and a second duct leading from said first named duct to the outer face of the member, and said second bearing member having a duct leading from the shaft therein to its face bearing on said first bearing member for permitting oil placed in the second duct to reach the bearings for said shafts and the coengaging surfaces of said members.

16. In a can opener, the combination of a bearing member, a second bearing member revolubly mounted adjacent said first named bearing member, means for holding said members yieldingly in operative relationship, supporting means connected with said first named bearing member, shafts revolubly mounted in said respective bearing members, means for giving said second bearing member a rotary movement to bring said shafts into cooperative working position, means carried by said shafts for gripping a can when said shafts are moved into working position and a cutter on one of said shafts for cutting the top from the can upon subsequent rotation of a selected one of said shafts, and means for rotating said selected shaft, said shafts being so arranged that the cutter is positioned ahead of the gripping means on the other shaft with respect to the uncut portion of the can top during operation of the device.

17. In a can opener, the combination of a transversely positioned bearing member, a second bearing member located alongside of said first named bearing member and revolubly about an axis extending transversely of the opener, means for holding said bearing members in operative relation to each other and adapted to yield under heavy pressure for a slight movement of said second bearing member in the direction away from said first named bearing member, a handle connected with said first named bearing member for supporting the opener manually in position for application to a can, a shaft revolubly mounted in said first named bearing member transversely of the opener, a second transversely extending shaft revolubly mounted in said second bearing member in eccentric position with respect to the axis of said member, means comprising a rotary cutter and a roller mounted on one of said shafts so as to rotate therewith in a plane extending longitudinally of the opener, a roller fixedly mounted on the other of said shafts substantially opposite said first named roller and cutter so as to rotate with said other shaft in a second longitudinally extending plane, means for rotating said second bearing member for moving said second shaft toward said first named shaft for bringing the rollers into cooperative gripping position on the bead of a can and for bringing the cutter into operative position for cutting the top from the can inside of the bead, and means connected with one of said shafts for rotating the shaft serving through the action of said rollers on the gripped bead of the can to revolve the can for effecting said cutting operation, said shafts being so arranged that the cutter is positioned ahead of the roller on the other shaft with respect to the uncut portion of the can top during operation of the device.

18. In a can opener, the combination of a transversely positioned bearing member, a second bearing member located alongside of said first named bearing member and revoluble about an axis extending transversely of the opener, means for holding said bearing members in operative relation to each other and adapted to yield under heavy pressure for a slight movement of said second bearing member in the direction away from said first named bearing member, a handle connected with said first named bearing member for supporting the opener manually in position for application to a can, a shaft revolubly mounted in said first named bearing member transversely of the opener, a second shaft revolubly mounted in said second bearing mem-

ber upon a transversely extending axis substantially coincident with the axis of said member at one side of the opener but substantially eccentric with respect to said axis at the opposite side of the opener, means comprising a rotary cutter and a roller at the side of the opener at which said axes are eccentric with respect to each other mounted on one of said shafts so as to rotate therewith in a plane extending longitudinally of the opener, a roller fixedly mounted on the other of said shafts substantially opposite said first named roller and cutter so as to rotate with said other shaft in a second longitudinally extending plane, means for rotating said second bearing member for moving said second shaft toward said first named shaft for bringing the rollers into cooperative gripping position on the bead of a can and for bringing the cutter into operative position for cutting the top from the can inside of the bead, and means connected with one of said shafts for rotating the shaft serving through the action of said rollers on the gripped bead of the can to revolve the can for effecting said cutting operation, said shafts being so arranged that the cutter is positioned ahead of the roller on the other shaft with respect to the uncut portion of the can top during operation of the device.

19. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, means for holding said second bearing member yieldingly in position in said groove, a shaft revolubly mounted in said first named bearing block transversely thereof below said rounded groove, a second shaft revolubly mounted in said second bearing member transversely thereof above said first named shaft, intermeshing gears on said shafts for causing them to rotate in unison, oppositely disposed rollers on said shafts, a rotary cutter carried by one of said shafts adjacent to the roller thereon, means for rotating one of said shafts, a handle member connected with said first named bearing member and extending therefrom in angular position with respect to said shafts for supporting said rollers and cutter in operative relation, and a lever connected with said second bearing member for rotating it, the shaft in said first named bearing member being positioned at an angle with respect to the axis of its bearing member, the arrangement being such that upon rotation of said second bearing member the shafts may be brought into cooperative working relation and said rollers brought into operative gripping position on the bead of a can and that upon subsequent rotation of said shafts the gripped can is rotated for causing the cutter to cut the top from the can along a line inside of the bead.

20. In a can opener, the combination of a bearing member having a rounded groove transversely across its top face, a second bearing member revolubly mounted in said groove, means for holding said second bearing member yieldingly in position in said groove, a shaft revolubly mounted in said first named bearing block transversely thereof below said rounded groove, a second shaft revolubly mounted in said second bearing member transversely thereof above said first named shaft, intermeshing gears on said shafts for causing them to rotate in unison, oppositely disposed rollers on said shafts, a rotary cutter carried by one of said shafts adjacent to the roller thereon, means for rotating one of said shafts, a handle member connected with said first named bearing member and extending therefrom in angular position with respect to said shafts for supporting said rollers and cutter in operative relation, and a lever connected with said second bearing member for rotating it, each shaft being in substantially centered position at one side and in eccentric position at the other side of its bearing member, said shafts being so arranged that they diverge from each other when viewed in plan and converge toward each other when viewed in side elevation at the gripping and cutting means whereby upon rotation of said second bearing member the shaft carried thereby is swung angularly with respect to the other shaft for moving said rollers into and out of operative gripping position on the bead of a can and upon subsequent rotation of said shafts the gripped can is rotated for causing the cutter to cut the top from the can along a line inside of the bead.

PRESTON C. WEST.