Sept. 27, 1960 H. KRONSON, JR 2,953,850

MAGNETIC LID HOLDER FOR CAN OPENERS

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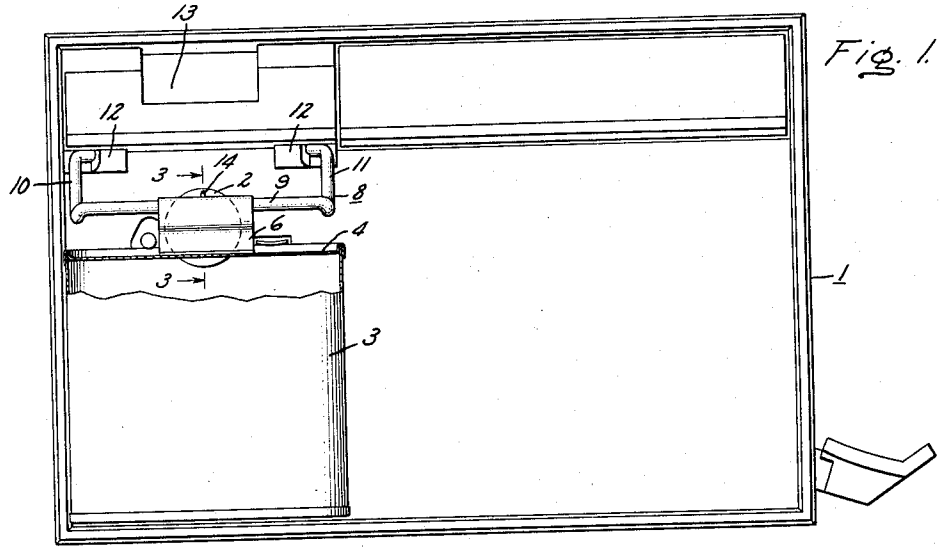
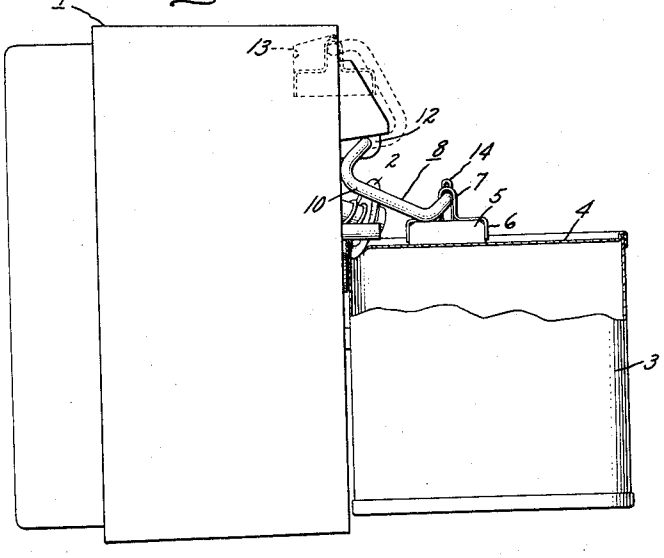


Fig. 1.

Fig. 2.



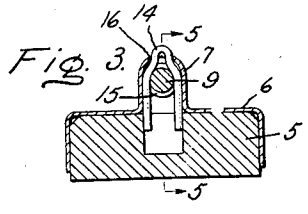


Fig. 3.

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Fig. 4.

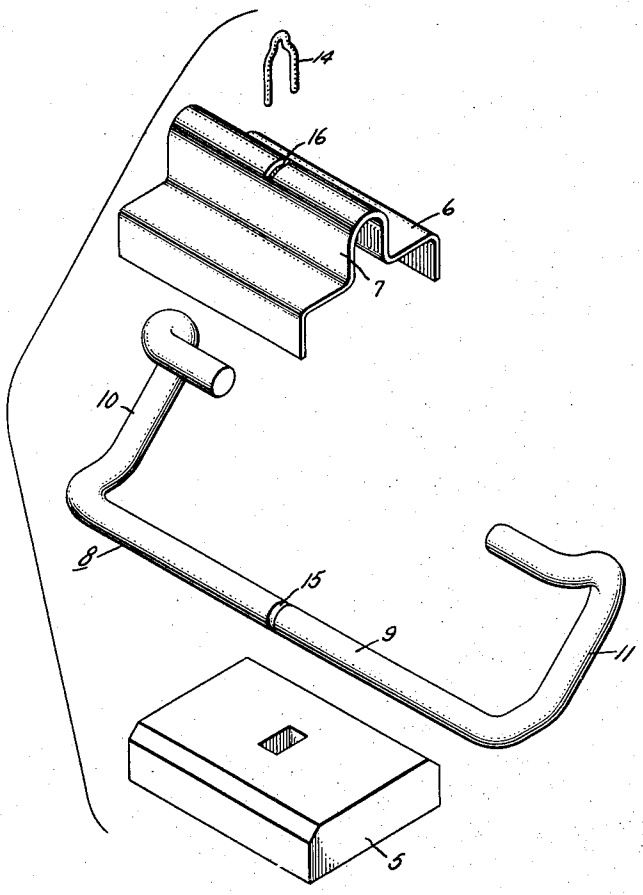
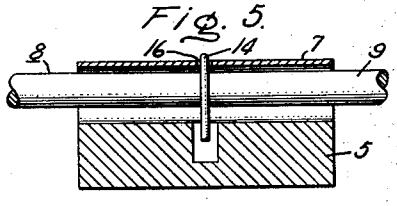


Fig. 5.



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MAGNETIC LID HOLDER FOR CAN OPENERS

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5 Claims. (Cl. 30—6.4)

This invention relates to can openers and more particularly to an improved magnetic lid holder arrangement which effectively supports the severed lid of a can after it has been opened.

The principal object of this invention is to provide an improved can opener including a simple, inexpensive and highly dependable magnetic lid holder.

Further objects and advantages of the invention will become apparent as the following description proceeds, and the features of novelty which characterizes the invention will be pointed out with particularly in the claims appended to and forming a part of this specification.

Briefly stated, in one embodiment of my invention I provide an automatic electric can opener including a magnet pivotally mounted on a supporting frame which in turn is pivotally mounted on the body of the opener so that the magnet may be pivoted between a position in engagement with the can lid and a raised inoperative position above the can. The magnet is mounted for limited vertical movement with respect to the supporting frame, which functions as a magnet keeper, and is also free to pivot in all directoins, to at least some extent, so that the can lid will always be firmly engaged and that whenever it tilts at the end of an opening operation the magnet engages and is drawn up against the supporting frame, thus lifting the lid free from the can.

For a better understanding of the invention, reference may be made to the following description and the accompanying drawing in which:

Fig. 1 is a front elevation view of a can opener embodying the present invention;

Fig. 2 is a side elevation view of a can opener shown in Fig. 1;

Fig. 3 is a fragmentary cross-sectional view taken along the line 3—3 in Fig. 1;

Fig. 4 is an exploded perspective view of the magnetic lid holder structure, and

Fig. 5 is a cross-sectional view taken along the line 5—5 in Fig. 3.

Referring to the drawing, the numeral 1 generally designates the base member or casing of an automatic electric can opener which includes a rotary cutter 2 and other suitable mechanism for supporting a cam 3 and severing the lid 4 thereof by means of a circular cut around its edge. Various mechanisms for accomplishing this function are well known in the art and since the present invention is concerned with the lid holding structure, no further description of the cutting mechanism will be made. It will of course be understood that suitable means are provided for mounting the can opener on a wall or supporting stand and that base 1 houses an electric motor arranged to drive can rotating means, none of which are shown in the drawing.

In order to make the can opener convenient to use, it is important that some means be provided for holding lid 4 as it is severed from the can and preventing it from dropping into the can when the cutting operation is completed. While various arrangements utilizing magnets have been provided in the past for this purpose, it is believed that the present invention provides a number of advantages with regard to reliability, simplicity and cost of manufacture not found in the prior art. Referring first to Figs. 2 and 3, a magnet 5 of generally rectangular configuration is arranged so that its bottom face may rest in contact with the lid 4 of the can being opened. Magnet 5 is mounted within a mounting shell 6 which includes a U-shaped portion 7 located on its top surface and extending longitudinally along the length of the magnet. Magnet 5 may be cemented to shell 6 or otherwise suitably secured thereto. Shell 6 and magnet 5 are pivotally supported on a magnet supporting frame 8 which in turn is pivotally mounted on base 1 so that these parts may be pivoted to a raised position above can 3 and out of engagement therewith. Frame 8 is of generally U-shaped configuration including a straight rod-shaped section arranged generally parallel to the top of lid 4 and a pair of leg portions 10 and 11 each of which has an end section extending perpendicular thereto and in pivotal engagement with projecting ear portions 12 and 12, respectively, formed on base 1. Thus, frame member 8 is arranged to pivot about an axis parallel to rod-shaped section 9, the path of movement preferably being from the position shown in full lines in Fig. 2 to the stored position shown in broken lines therein. In the latter position, magnet 5 rests in a suitably shaped recess 13 in base 1. In this position it is safely stored during shipment, presents a pleasing appearance when the can opener is not in use and simplifies the placement of a can in position to be opened.

As best shown in Figs. 3 and 5, the leg portions of U-shaped member 7 straddle rod-shaped section 9 of frame 8 and thus magnet 5 is supported on the frame for pivotal movement about the axis of rod-shaped section 9. Further, it will be observed that the vertical extent of U-shaped portion 7 substantially exceeds the diameter of rod-shaped section 9 so that magnet 5 is free to move vertically to a limited extent with respect thereto. Also, this configuration of the parts permits magnet 5 to pivot to a limited extent about a horizontal axis perpendicular to rod-shaped section 9 thus giving the magnet limited freedom of movement in all directions. Hence magnet 5 may easily move to any position required to make its lower face parallel to and in close contact with lid 4 of the can to be opened.

A further feature of the magnet mounting arrangement just described involves the utilization of the magnetic properties of this member for holding it in a raised position with respect to rod-shaped section 9. The latter part is formed of iron or the like so that it is attracted by magnet 5 and functions as a keeper whenever the magnet is brought into contact therewith. The advantage of this arrangement is that at the completion of a lid removing operation, when the lid usually tilts somewhat, magnet 5 is tilted into engagement with rod-shaped section 9 whereupon it is attracted upwardly to a raised position and thereby lifts lid 4 away from the body of the can. Thus, magnet 5 performs a dual function and the need for providing a spring biasing the magnet upwardly is eliminated.

Magnet 5 and its shell 6 are secured against lateral movement along rod-shaped section 9 of frame 8 by a U-shaped spring clip 14 shaped so as to straddle an annular groove 15 at the center of rod-shaped section 9. The bight portion of spring clip 14 includes an upwardly projecting portion which extends through an aperture 16 in the center of U-shaped portion 7, thus keying these parts together while avoiding interference with the pivotal and vertical movement of magnet 5 described above.

From the foregoing description it will be evident that the magnetic lid holder provided by the present inven-

tion includes only three parts other than the magnet and the can opener body itself, and that these three parts may be easily and inexpensively manufactured from readily available metal stock. The parts are simple and easily assembled, springs have been eliminated and the operation of the assembled device is both effective and reliable, as described above.

While I have disclosed a particular embodiment of my invention, I do not desire the invention to be limited to the specific construction disclosed, and I intend by the appended claims to cover all modifications within the true scope of my invention.

What I claim is:

1. A can opener comprising a base member, means for supporting a can in upright position on said base member, means carried by said base member for severing the top wall of said can, a magnet adapted to engage and support said top wall, a magnet supporting frame pivotally mounted on said base member for movement between a position adjacent said can and a raised position above said can, means for pivotally mounting said magnet on said frame for limited vertical movement between a raised position in contact therewith and a lower suspended position, said frame including a magnet keeper portion adapted to cooperate with said magnet so as to support the magnet in contact with said frame solely by magnetic force.

2. A can opener as defined in claim 1 including a retaining ledge on said base member for supporting said magnet when said frame is in its raised position.

3. A can opener as defined in claim 1 in which said magnet supporting frame is of generally U-shaped configuration, the leg portions thereof each having an end section extending perpendicular thereto and in pivotal engagement with said base member, the bight portion of said frame having a substantially straight section, and said magnet is positioned at the middle of said straight section.

4. A can opener as defined in claim 1 in which said magnet supporting frame includes a straight rod-shaped section generally parallel to said top wall and pivotally movable about an axis parallel thereto, and said means for pivotally mounting said magnet includes a U-shaped portion embracing said rod-shaped section and secured to the magnet.

5. A can opener as defined in claim 4 in which said rod-shaped section is formed with an annular groove therein, said U-shaped portion has an aperture in the bight portion thereof, and a generally U-shaped spring clip is positioned within said U-shaped portion with its bight portion extending through said aperture and its leg portions straddling said groove so as to retain said magnet on said rod-shaped section.

References Cited in the file of this patent

UNITED STATES PATENTS

2,789,345	Klassen	Apr. 23, 1957
2,825,963	Sykes et al.	Mar. 11, 1958