

C. M. WILLIAMS.
Can-Opener.

No. 209,535.

Patented Oct. 29, 1878.

Fig. 2.

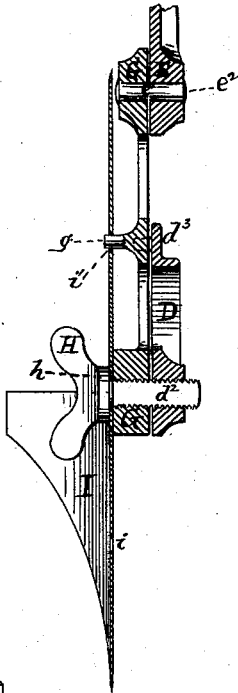


Fig. 1.

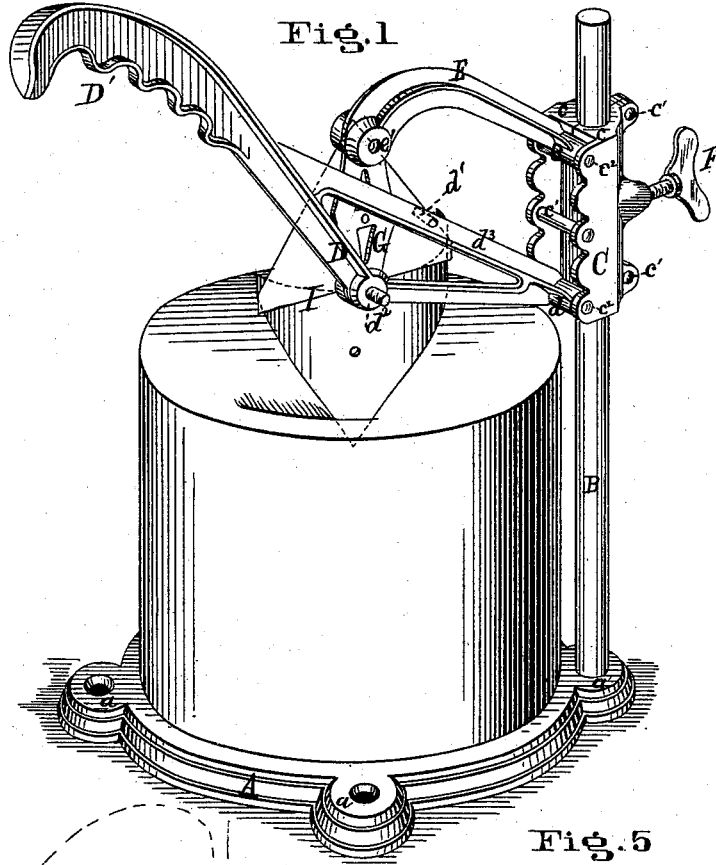


Fig. 4.

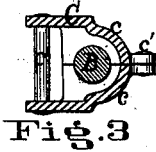
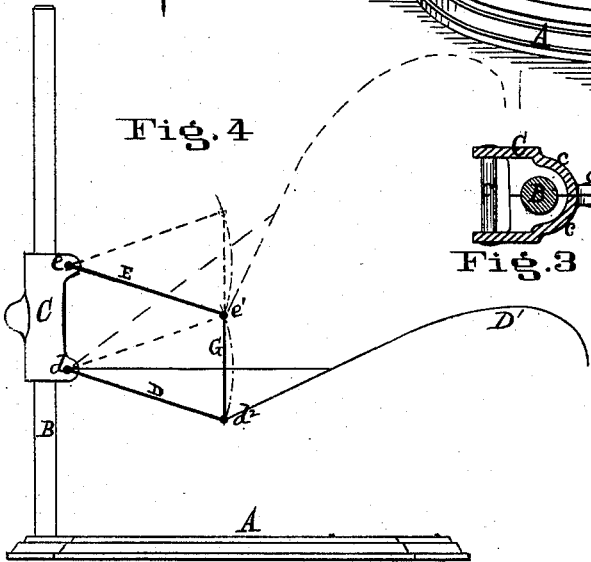
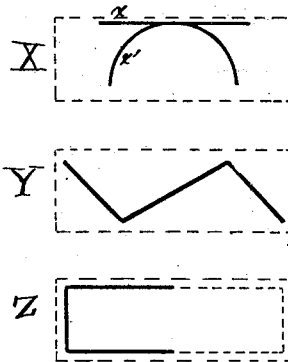


Fig. 5.



Attest

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CHARLES M. WILLIAMS, OF BETHEL, KENTUCKY.

IMPROVEMENT IN CAN-OPENERS.

Specification forming part of Letters Patent No. 209,535, dated October 29, 1878; application filed August 30, 1878.

To all whom it may concern:

Be it known that I, CHARLES M. WILLIAMS, of Bethel, in the county of Bath and State of Kentucky, have invented certain new and useful Improvements in Can-Openers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In the drawing, Figure 1 is a perspective rear view of the machine. Fig. 2 is a vertical section taken through the knife. Fig. 3 is a horizontal section near the center of the adjustable collar. Fig. 4 is a diagram showing the points of articulation and the motions of the working parts. Fig. 5 represents various modifications of the cutting-knife.

The nature of my invention relates to a new and improved implement for opening cans of various sizes and shapes, containing oysters, fruit, printer's ink, and paint. It consists, in the main, of a base having a vertical standard erected at one side, to which an adjustable collar is held. To the collar is fastened a device carrying the knife and all the operating mechanism, fully described hereinafter.

The object of this invention is to supply an implement that requires no special skill or experience in opening cans, and in which a leverage is gained, making its operation easy even to persons of less than average physical strength. It is constructed simple, is durable and cheap, being intended for the use of families as well as places where large numbers of cans are to be opened, thus meeting the wants of the ordinary household in cheapness and that of larger users as to capacity.

In construction my invention is as follows; A is the base, being made of casting, having three extensions, *a a*, to receive screws, whereby the structure may be fastened to a table or bench when so desired. The extension *a'* receives a wrought-iron standard, B, which is firmly riveted or otherwise fastened to the base, as shown in the drawing. The adjustable collar C is formed of the two reversible halves *c c*. These have holes cast to receive the three rivets *c'*, which hold them firmly together to form the one piece C. Other holes

are cast at *c''* to receive the pivots of the lever D and arm E. Vertically through said collar a cavity is cast, so as to form the hole to receive the standard B, and horizontally therefrom is left another cavity to receive the thumb-screw F, which, when tightened, holds the collar and its appendages in any desired position on the standard.

The working parts consist of the lever D, which is formed, as shown in the drawing, with a special view to strength, lightness, and convenience. It is provided with a broad bearing of its pivoted cross-head *d*, with which it engages with the adjustable collar, as shown. When the lever is at its lowest point the projection *d'* comes in contact with the connecting-link G, and thus limits its downward motion. At this point the pivot *d''* will be below *d*. The form of the lever ascends by the same angle toward the handle D' as it descends from *d* to *d''*. A brace, *d''*, is thrown across above pivot *d''*, as shown, all of which gives the lever the desirable qualities above mentioned.

The arm E has a cross-head, *e*, similar to that of *d*, and proceeds out from the collar C in a direction to give the pivot *e'* at a corresponding angle to that of *d''*. The link G now spans the distance between *d''* and *e'*, and completes these two pivots in the manner as follows: the former by a simple pin, *e''*, riveted at both ends, while in the latter the thumb-screw H, after tightening the knife I permanently on link G by shoulder *h*, then penetrates the boss of lever D, rotating freely therein, and having the same screw-thread throughout, but leaving a space between parts D and G, as shown in Fig. 2.

The knife I is in the shape of two equilateral triangles, having a side of each opposite to that of the other, thus giving two pointed blades. One of these blades may be given a regular curve, as seen in Fig. 1 and at *x* of Fig. 5, and is used for cutting round holes, while the upper blade is used for cutting right-sided apertures.

The knife I is provided with two openings, *i* and *i'*, at equal distances from *d''*. The stud *g* enters the openings *i* and *i'* alternately as the knife is reversed, and prevents the same from moving out of its proper position.

In Fig. 5 at X is seen a diagram of the same

knife that is used in Fig. 1, x being the straight blade and x' the curved blade. The dotted line thrown around these modifications represents the outlines of an oyster-can.

At Y, Fig. 5, is seen a diagram of a knife formed in a zigzag line, and at Z, same figure, is seen another knife, which will cut a square flap on three sides in one movement. It is intended that these various blades or modifications from Fig. 1 may be used singly or doubly on the machine, and may be combined to suit any contingency or special uses.

In operation my invention is as follows: The can to be opened is placed on the base, the thumb-screw F loosened; then the handle D' is elevated to its upper stop, the collar C following this motion until the point of the knife I is about one-eighth of an inch above the top of the can, at which point the screw F is tightened.

If the can is round, the curved blade, as seen in Fig. 1, is forced down by means of the handle D', making a circular cut near the periphery of the top.

By reference to Fig. 4 it will be seen that pivots d^2 and e^1 receive a vertical curved motion, as well as link G and the knife I attached to the same. The knife always retains its vertical position, however, owing to the relation of the four pivots with each other. This construction gives a great advantage over a slide, as it is equally rigid in all parts of the stroke, while a slide loosens its bearings as it descends. The operator may now draw out the knife entirely, and, by moving the can partly around, make a second cut, so as to enter the first, and so on; or he may draw up the blade only part of the way, and by feeding the can up to knife, moving it up and down, give a continuous shearing cut, and thus in a few movements

cut the top of the can entirely out or only partially, as may be desired.

When a square can is to be opened the thumb-screw H is loosened, which releases the knife, but does not loosen its hold on lever D. The knife I is now inverted and placed, by opening i , over stud g . The screw is again tightened. This now brings into action the straight blade. The can is placed on the base, as before. The position of the blade is such in respect to the standard that the can may be passed by the standard, so that it may be fed to the shearing cut of the straight blade, and the entire top removed.

The operation when the other knives shown in Fig. 5 are used is obvious from the foregoing, and requires no further attention.

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

1. A can-opener consisting of a base, a standard, and an adjustable collar, having pivoted thereto an arm and lever for holding and operating the cutting-knife, substantially as described and shown.
2. The lever D, terminating in a handle, D', arm E, pivoted to collar C and connected by link G, in the manner substantially as herein set forth.
3. The reversible knife I, attached to the link G, when constructed and operated as herein specified.
4. In a can-opener, the combination of the reversible knife I, thumb-screw H, link G, lever D, and pivot d^2 , substantially as and for the purpose set forth.

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Attest:

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