

(Model.)

C. W. ACKER.

CAN OPENER.

No. 333,190.

Patented Dec. 29, 1885.

Fig 1.

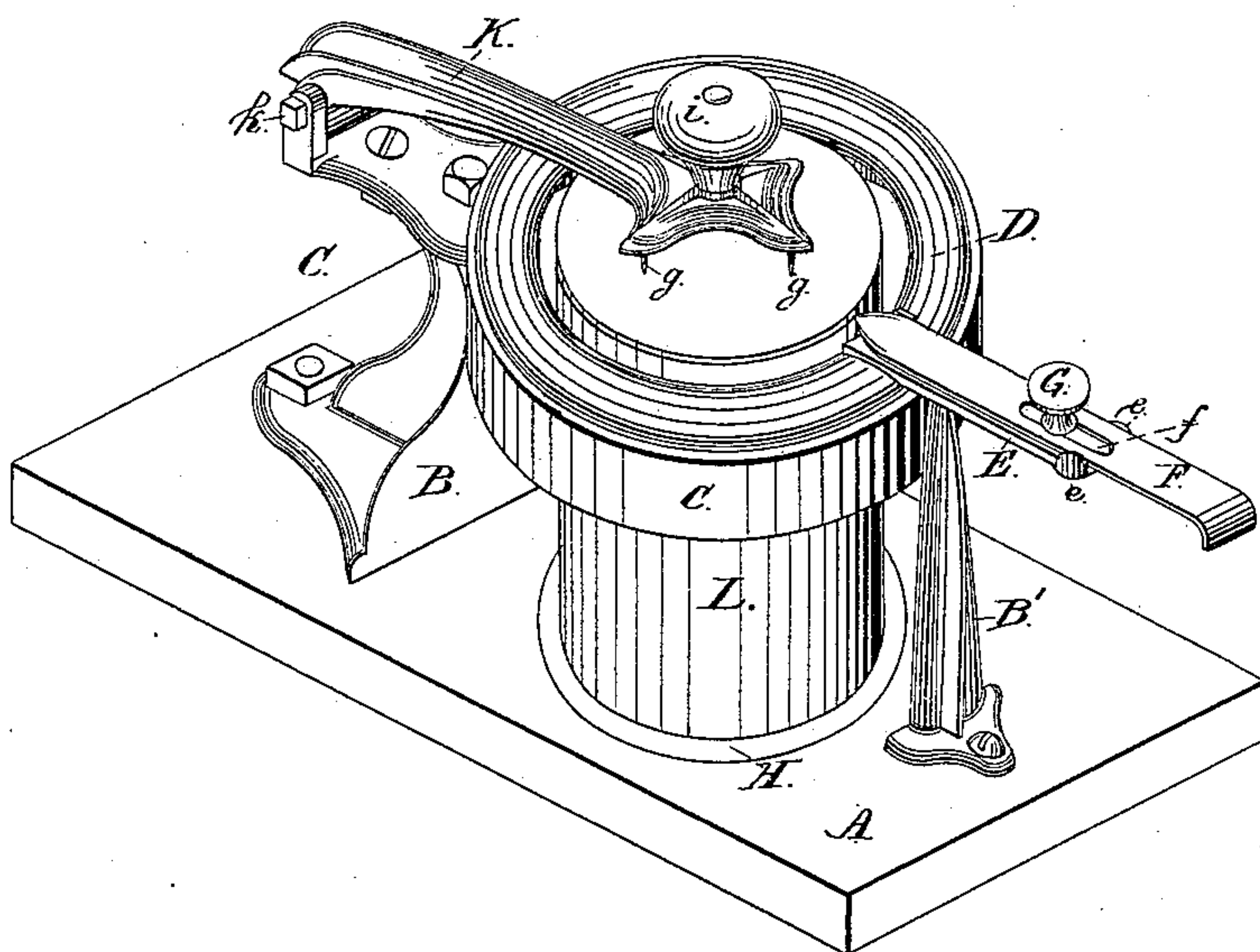


Fig 2.

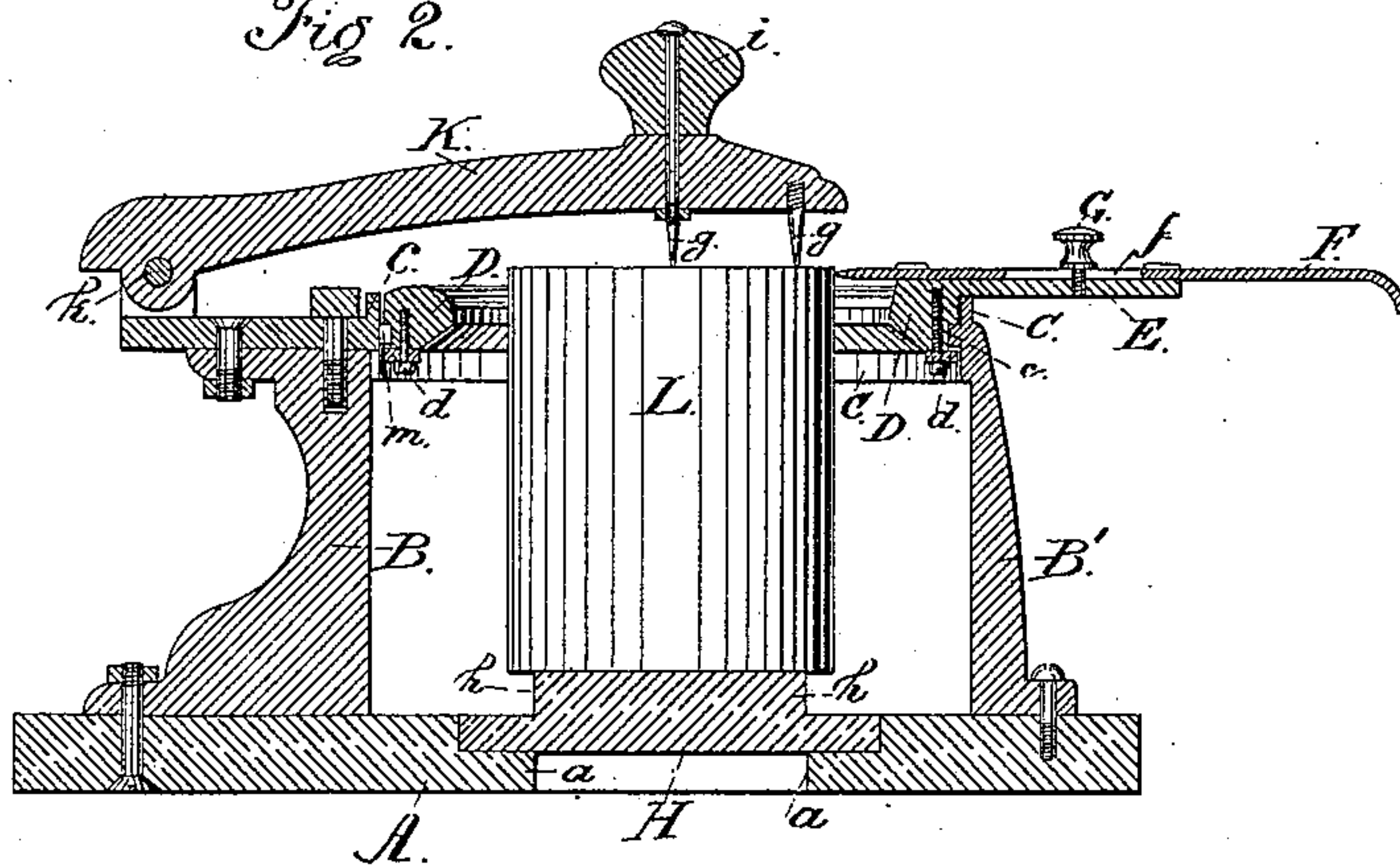


Fig 3.

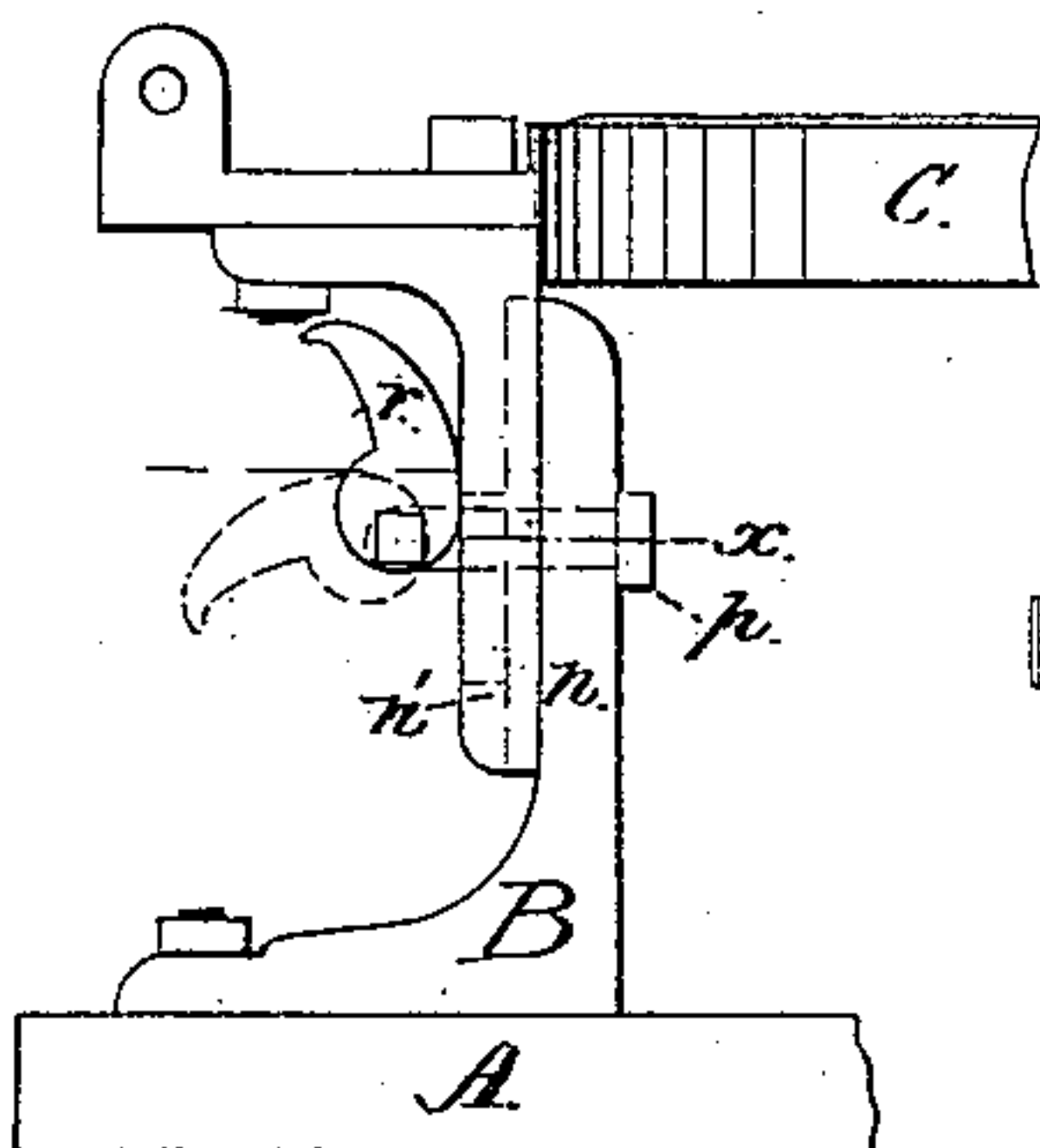
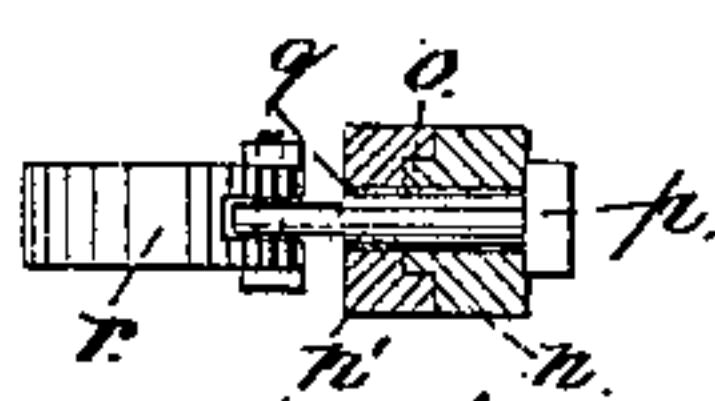


Fig 4.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. ACKER, OF WATERTOWN, NEW YORK.

CAN-OPENER.

SPECIFICATION forming part of Letters Patent No. 333,190, dated December 29, 1885.

Application filed April 15, 1885. Serial No. 162,342. (Model.)

To all whom it may concern:

Be it known that I, CHARLES W. ACKER, of Watertown, county of Jefferson, and State of New York, have invented a new and useful Improvement in Can-Openers, which improvement is fully set forth in the following specification.

This invention has reference to a machine or device for opening tin cans containing fruit, vegetables, and other preserved articles of food; and its object is to provide an efficient, expeditious, and durable device for the purpose.

The invention is applicable mainly to can-openers for use in hotels, restaurants, and other large establishments where rapidity and certainty of action are important considerations; but it is also applicable, wholly or in part, to can-openers designed for ordinary family use.

The improved device comprises a base or bed plate, upon which the can to be opened is placed, a frame resting upon the base, a knife supported at a suitable distance above the plate on a circular rotating carrier, and a clutch or clamp for steadying the can while being operated upon. The frame has at the top a ring sufficiently large in diameter to permit a can to be placed within it, and this ring forms the way or track for the rotating knife-carrier. The latter may also be a ring fitting in the stationary ring and resting on a flange or rim thereof. It may be held upon its seat (while permitted to rotate freely thereon) by lugs or otherwise. The knife or blade acts upon the side instead of upon the top of the can, as customary heretofore, thereby completely removing the top of the can, leaving no projecting rim to interfere with emptying its contents. The knife is adjustable horizontally—i. e., in line with its cutting-edge. The clamp or clutch is or may be a pivoted arm provided with a knob or handle, and adapted to bear upon the top of the can. It is preferably armed with one or more points or teeth, so as to take firm hold of the can. Adjusting means are provided to adapt the device to cans of different sizes.

The invention will be better understood from the following description, in connection

with the accompanying drawings, which illustrate what is believed to be the best manner of carrying the invention into effect.

Figure 1 is a perspective view of one form of apparatus constructed in accordance with the invention and illustrating its operation; Fig. 2, a central vertical section of the same; Fig. 3, a partial side view showing one mode of adjusting the height of the cutting-blade, and Fig. 4 a cross-section on line *xx* of Fig. 3.

A is the base, which may be of wood. To it are secured, by screws or bolts, the standards B B', which support at the top the casting C, in the form of a ring. The knife-carrier D, also in the form of a ring, fits within the ring C, and rests upon a circular rim or flange, *c*, projecting around the inner face thereof.

Small lugs *d*, secured by screws to the under side of ring D, hold the latter in place. These lugs do not, however, bind the flange or rim *c*, but permit the carrier D to turn easily upon said flange or rim. The latter may be cut away at some point in its circumference, as at *m*, to the length of lug *d*, so as to permit the carrier D to be lifted off.

The carrier D is cast with an arm or projection, E, which forms the support and guide for the knife blade or cutter F. Said support E has ears *e*, which keep the knife from side-wise movement. The knife or cutter F consists of a flat steel bar, with the cutting-edges ground on the sides about one end thereof and in line with the length of the bar. It is adjustably held on its support E by a set-screw, G, passing through a slot, *f*, in the bar. The knife can thus be moved forward or backward for cans of smaller or larger diameter.

It will be seen that the knife is so supported that its cutting-edges are in a horizontal plane. It will therefore act upon the side instead of upon the top of the can. As fast as the edge is worn away it can be renewed by grinding, the said edge being in line with the length of the bar.

In the base A is a disk, H, having a central hub, *h*. The base A is cut to receive this disk H, which serves as an adjusting-block. For large-sized cans it is removed entirely, the can resting upon the flange *a* of the base

A. For a smaller-sized can, the block is inserted, as shown in Fig. 1, so that its upper surface will be flush with that of base A, and for a still smaller size it is inserted, as shown in Fig. 2, with the hub *h* uppermost. This construction provides for the three principal sizes of cans used in the trade. It is obvious that adjusting blocks or disks of different sizes to suit all kinds of cans can be provided, and that the base or support on which the can rests can be adjusted in various ways.

For the purpose of holding the can steady during the cutting operation, a clamp, *K*, is provided. This is shown as an arm pivoted at *k* to the back of the casting *C*. It is provided on the under side with spikes or points *g*, for taking hold of the top of the can, and on top with a knob or handle, *i*. As shown, there are three points, *g*; but any greater or less number may be used.

In operation the adjusting-block *H* is properly disposed to suit the size of the can *L*. The latter is then placed thereon so as to occupy the center of the space inclosed by the rings *C D*. The clamp *K* is forced down, its points entering the top of the can and holding it firmly. The blade *F* is pushed forward until its point penetrates the side of can *L*. It is then clamped in position by set-screw *G*. The carrier *D* and the cutter or blade are then turned about ring *C*, removing the top of the can, the rear end of the bar *F* serving as a handle. These operations can be very quickly performed.

Instead of adjusting the base upon which the can rests, as by the block *H*, the height of the blade can be regulated in various ways. One convenient way is by making the height of the standards adjustable, as shown in Figs. 3 and 4. The standard is composed of two parts, *n n'*, one having a tongue, *o*, which works in a groove in the opposite part, so that the parts may slide one upon the other. A pin, *p*, carried by part *n* passes through a slot, *q*, (indicated in dotted lines, Fig. 3,) in part *n'*, and a clamping-cam, *r*, is pivoted to the end of said pin. When the cam is dropped down in the position shown in Fig. 4, the movable part may be moved up or down, and the knife thus brought to the proper height. The cam is then lifted to the position shown in Fig. 3, clamping the parts *n n'* together. Of course any equivalent clamping device—such as a screw and thumb-nut—could be used instead of the pin *p* and cam *r*.

The adjusting-block *H* and the adjustable standards may both be used in the same machine, the former device being used for ordinary cans, and the latter being brought into use where greater nicety of adjustment is desired.

It is obvious that the invention is not confined to the details of construction described and shown, which are given only in explanation of what is regarded as the best mode of applying the principle of the invention, but

that many modifications may be made without departing from such principle. It is obvious, further, that parts of the invention may be used without others.

Having now fully described my said invention, what I claim is—

1. In a can-opener, the combination of the frame with the rotatory knife-carrier in the form of a ring, and the knife or cutter supported horizontally on said carrier and adjustable in line with its cutting-edge, substantially as described.

2. The combination, in a can-opener, with the movable carrier and its support, of the horizontally-disposed knife consisting of a long flat bar having the cutting edge or edges formed on the side or sides thereof and being adjustable in line with its length, substantially as described.

3. The combination of the frame with the carrier-support in the form of a ring, the rotatory carrier resting thereon, and also in the form of a ring, and the knife or blade supported by said carrier, substantially as described.

4. The combination of the stationary ring with the rotatory ring turning thereon, and the knife or blade carried by said rotatory ring and arranged radially with respect thereto, substantially as described.

5. The combination of the stationary ring with the rotatory ring and the knife carried thereby, the knife being horizontally disposed and adjustable toward and away from the center of said rings, substantially as described.

6. The combination, in a can-opening device, of the base with the stationary ring, the rotatory ring, the knife carried thereby, and the clamping-arm, substantially as described.

7. The combination of the frame, the rotatory knife-carrier in the form of a ring supported at the top of said frame, and the clamp in the form of a pivoted arm having one or more points or spikes in its free end and adapted to hold the can within said ring during the operation of the knife, substantially as described.

8. The combination of the frame, the rotatory carrier supported thereon, and the knife comprising a long bar having the cutting-edges formed on one end, the other end constituting a handle by which said carrier can be rotated, substantially as described.

9. The combination, with the frame and the movable knife or cutter, of the reversible adjusting-block, substantially as and for the purpose set forth.

10. The combination of the stationary and rotatory rings and the knife carried by the latter, the height of said rings being adjustable, substantially as described.

11. A can-opener comprising the following elements in combination: a frame, a stationary ring forming the top of said frame, a rotatory ring seated upon the stationary ring, said rings being sufficiently large in di-

ameter to admit the cans within the same,
the horizontally-disposed adjustable knife car-
ried by the rotatory ring, the clamping-arm,
and adjusting means whereby said knife is
5 enabled to act on cans of different sizes, sub-
stantially as described.

In testimony whereof I have signed this

specification in the presence of two subscrib-
ing witnesses.

CHARLES W. ACKER.

Witnesses:

G. J. PORTER,
D. L. CORNWELL.