(No Model.)

2 Sheets—Sheet 1.

W. S. KERR.

CAN OPENER.

No. 602,455. Patented Apr. 19, 1898.

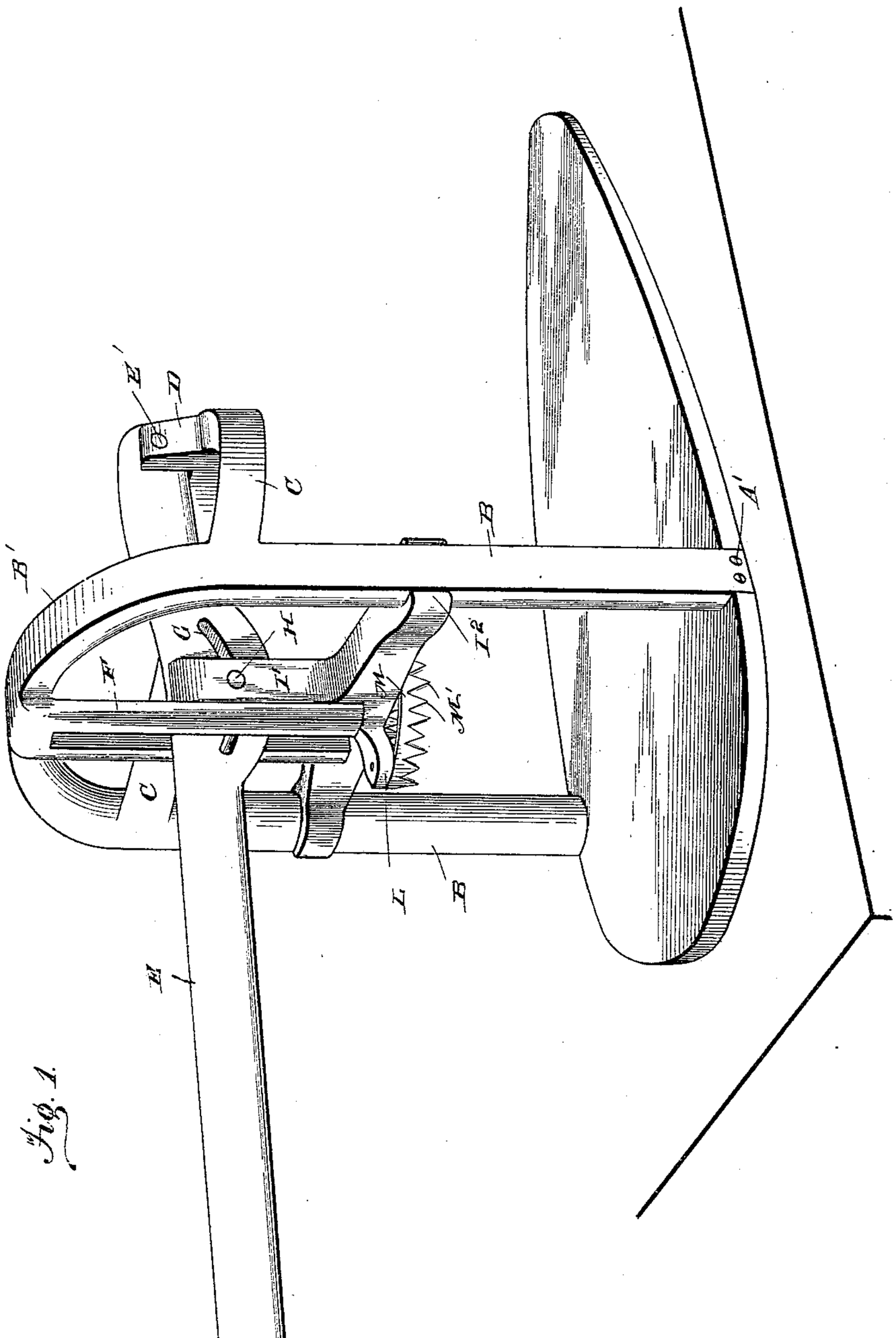

Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

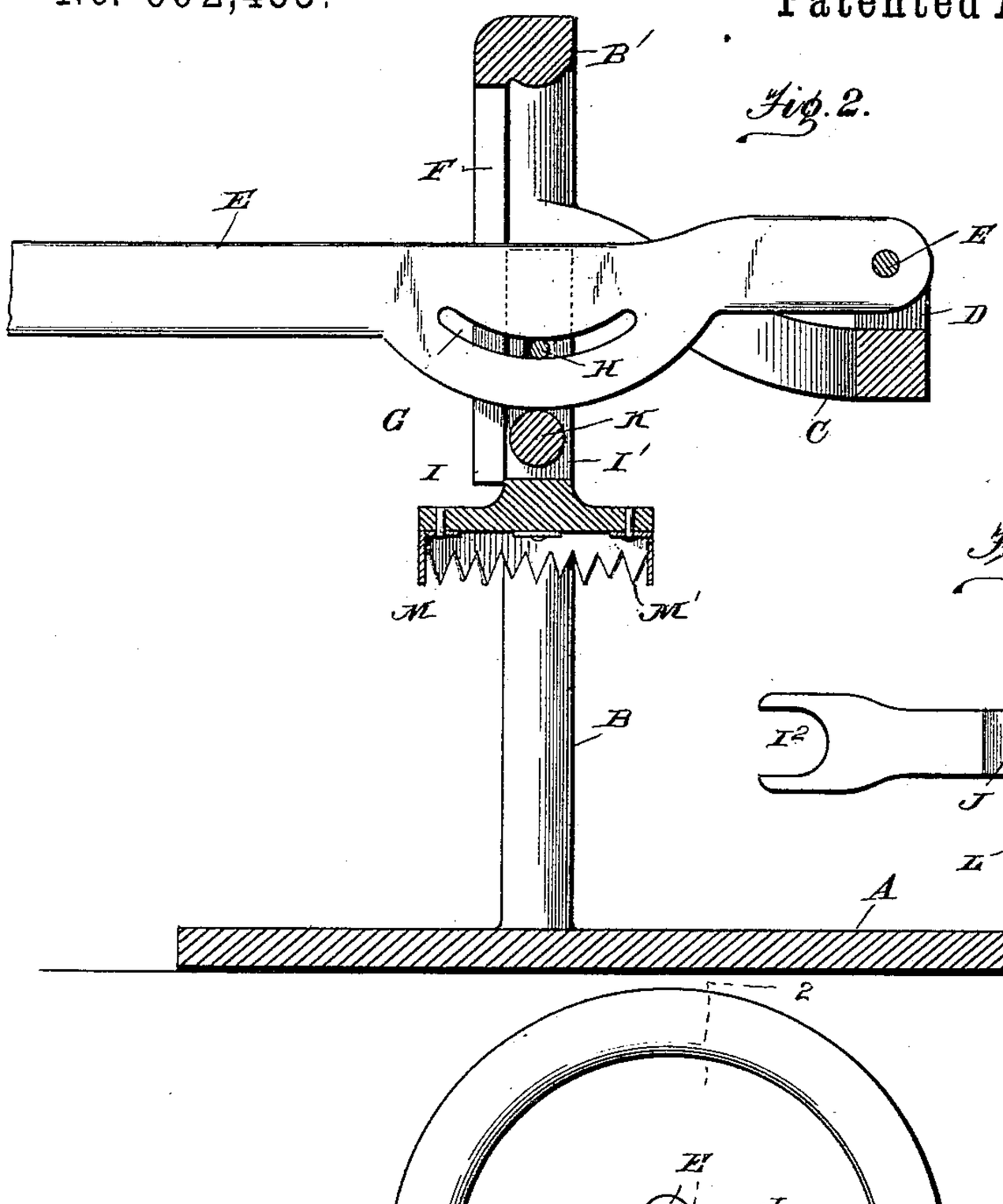


Fig. 4.

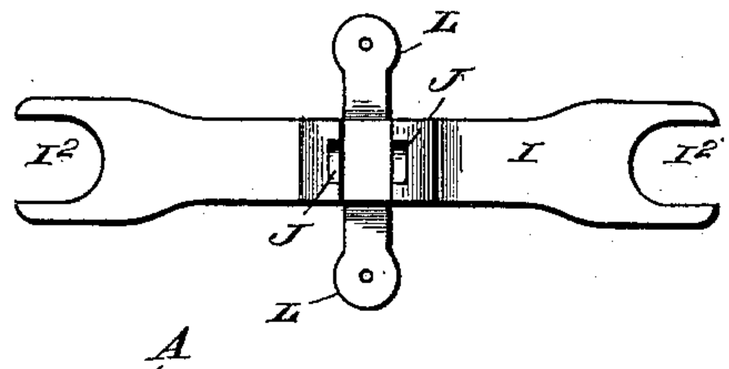


Fig. 3.

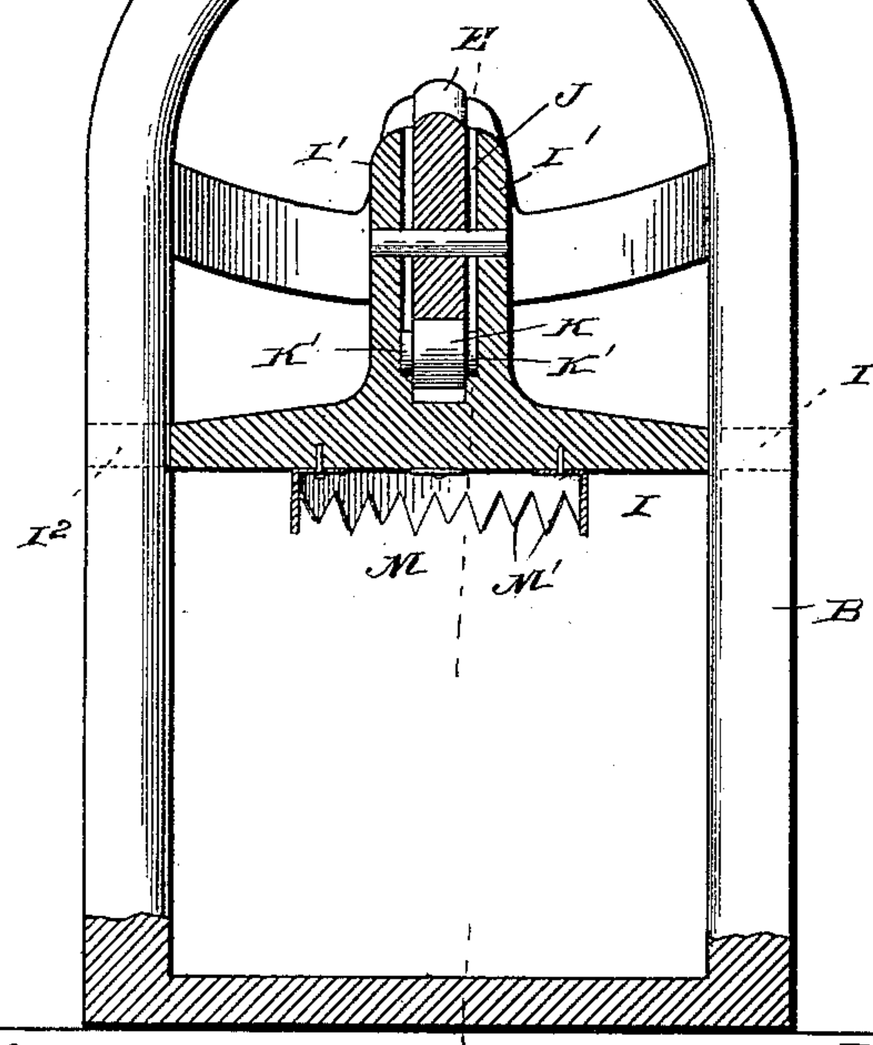


Fig. 5.

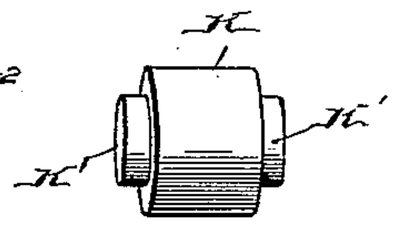
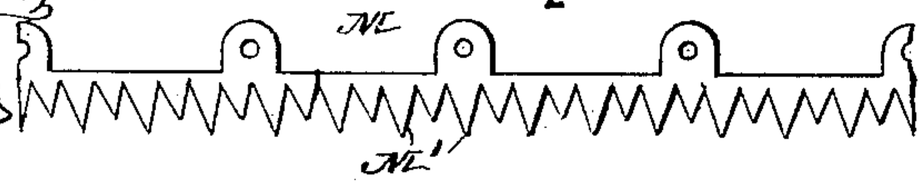


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM S. KERR, OF ADA, INDIAN TERRITORY.

CAN-OPENER.

SPECIFICATION forming part of Letters Patent No. 602,455, dated April 19, 1898.

Application filed June 26, 1897. Serial No. 642,441. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. KERR, residing at Ada, in Chickasaw Nation and Indian Territory, have invented certain new and useful Improvements in Can-Openers, of which the following is a specification.

My invention is in the nature of a machine for opening cans of hermetically-sealed goods—such as fruits, oysters, and vegetables—by cutting out a disk from the top of the can, being also the whole of the top itself.

An object of my invention is to furnish a machine of this class which while being strong, simple, and durable will at one stroke of a lever cut the top out of a can and by the return stroke thereof eject from the knife the portion cut out.

With this object in view my invention consists in a circularly-arranged saw-toothed knife mounted upon the bottom of a plunger and provided with a suitable lever pivoted to the frame of the machine and attached to the plunger, whereby the plunger may be actuated downwardly with sufficient force to cut out the head of a can with a single stroke.

My invention further consists in furnishing a machine of this class which is provided with the mechanism before designated and with a suitable guide for the lever, which at the same time acts as an ejector to remove the cut can-head from the interior of the knife.

My invention further consists in furnishing a machine of this class in which the lever will be provided with a curved slot in which the pin which forms its connection with the plunger will slide during the upward and downward motion of the plunger.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the claims.

In order that others skilled in the art to which my invention most nearly appertains may be enabled to make and use the same, I will now proceed to describe its construction and operation, having reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my machine in position for practical operation. Fig. 2 is a longitudinal section therethrough on the plane extending close by the side of the operating-lever, as indicated by the broken line 2 2 of Fig. 3. Fig. 3 is a transverse section through the plunger, the knife, and the operating-lever, the standards being shown in elevation. Fig. 4 is a top plan view of the plunger detached from the machine. Fig. 5 is a detail perspective view of the roller detached from the machine. Fig. 6 is a detail view, in side elevation, of the cutter detached from the machine.

Like letters of reference mark the same parts wherever they occur in the different figures of the drawings.

Referring to the drawings by letter, A is a foundation or base-plate of the machine, which is oval in contour and upon which is mounted a pair of uprights B, terminating in an arch B′, the lower end of said uprights being seated in notches in the side of the foundation and secured therein by suitable nails or screws A′. Projecting from one side of the uprights is a substantially semicircular brace C, provided with upward-projecting legs D, in which the end of a lever E is pivoted by a pin E′. This lever extends through the arch and is guided in its upward and downward motion by a guideway F, depending from the upper end of the arch. It is also provided with a curved slot G, in which moves a pin H, by which it is connected to the uprights I′ of a cross-bar or plunger I, having semicircular notches I^2 at its ends to embrace the curved inner sides of the arch of the uprights B. In the inner sides of the two uprights I′ are formed longitudinal grooves J, by means of which a roller K, having pintles K′ made integral therewith, is slipped in position between the uprights I′ to support the lower edge of the operating-lever E.

Projecting laterally from the plunger I are short arms L. M is the knife, which consists of a strip of steel provided with saw-like teeth M′ and bent into circular form. This knife is attached to the plunger and to the projecting arms L thereof by means of screws or rivets engaging flanges projecting from the

upper edge of the knife. Each alternate tooth of the knife is slightly, say an eighth of an inch, shorter than its fellow.

In operating my device the can to be opened is placed upon the foundation A, beneath and in line with the knife M. The lever is pressed downward, carrying the knife with it until the teeth M′ of the knife are forced through the top of the can, cutting out a disk therefrom of the size of the circle of the knife. As this disk will remain within the knife when the plunger is raised, the guideways F will perform the function of ejectors, and as the lever is again raised the disk cut from the head of the can and held in the knife will strike the lower ends of the guideway F and be ejected or pushed therefrom, thus leaving the machine in readiness for the second operation.

Inasmuch as the pivot E′ of the lever is rigid, provision must be made for a sliding joint between the lever and the plunger. This is the reason for the provision of the curved slot G in said lever. As the lever moves upward or downward the pivotal pin H will traverse the slot G toward and from the ends of the lever E, which will permit the plunger to move up and down on the uprights B without sticking or cramping. During its motion the under side of the lever moves on the roller K, which reduces friction and facilitates the operation.

While I have illustrated and described the best means now known to me for carrying out my invention, I desire it to be known that I do not restrict myself to the exact details shown, but hold that any slight changes or variations therein, such as might suggest themselves to the ordinary mechanic, would properly fall within the limit and scope of my invention.

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

1. In combination with the uprights, the plunger guided thereby, the lever pivoted to a rigid projection from the uprights and attached to the plunger, and guideways depending from the upright frame whereby they perform the double function of guideways for the lever and ejectors for the knife substantially as described.

2. In a can-opener, the combination of a base, standards secured on said base, a brace for said standards, a sliding plunger working on said standards, a knife carried by the plunger, and a lever pivoted at one end to said brace and connected with said plunger, whereby when the lever is oscillated the plunger and the knife will reciprocate, substantially as described.

3. In a can-opener, the combination of a suitable base, standards secured on said base, an arch connecting said standards, combined guides and ejectors carried by said arch, a plunger working on said uprights, a knife carried by said plunger, and an oscillating lever connected with said plunger for operating and working between said combined guides and ejectors, substantially as described.

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Witnesses:
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