

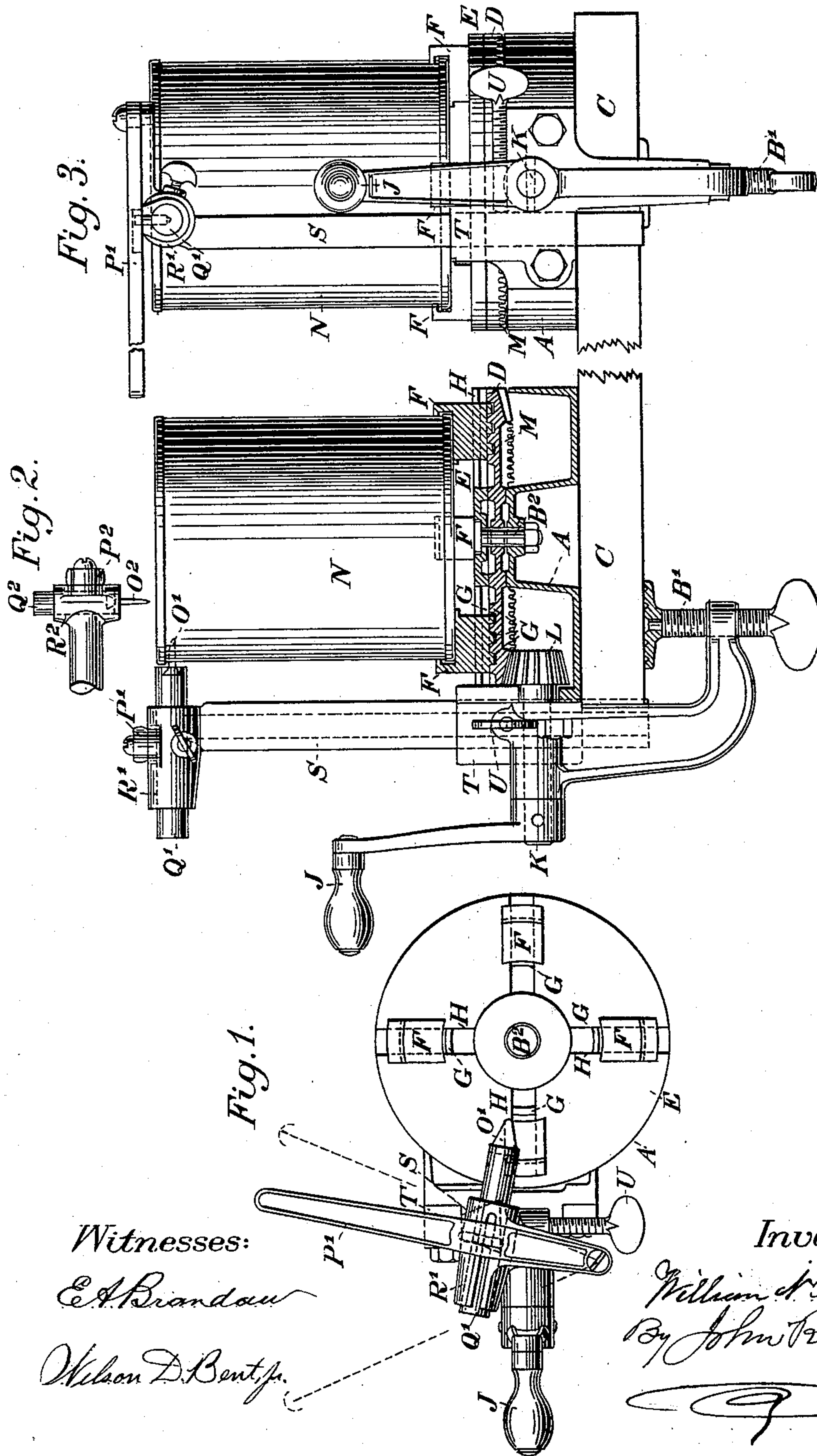
(No Model.)

2 Sheets—Sheet 1.

W. N. ANDERSON.
CAN OPENING MACHINE.

No. 539,971.

Patented May 28, 1895.



Witnesses:
E. A. Brindan
Wilson D. Bent, Jr.

Inventor:
William N. Anderson
By *John Richards*
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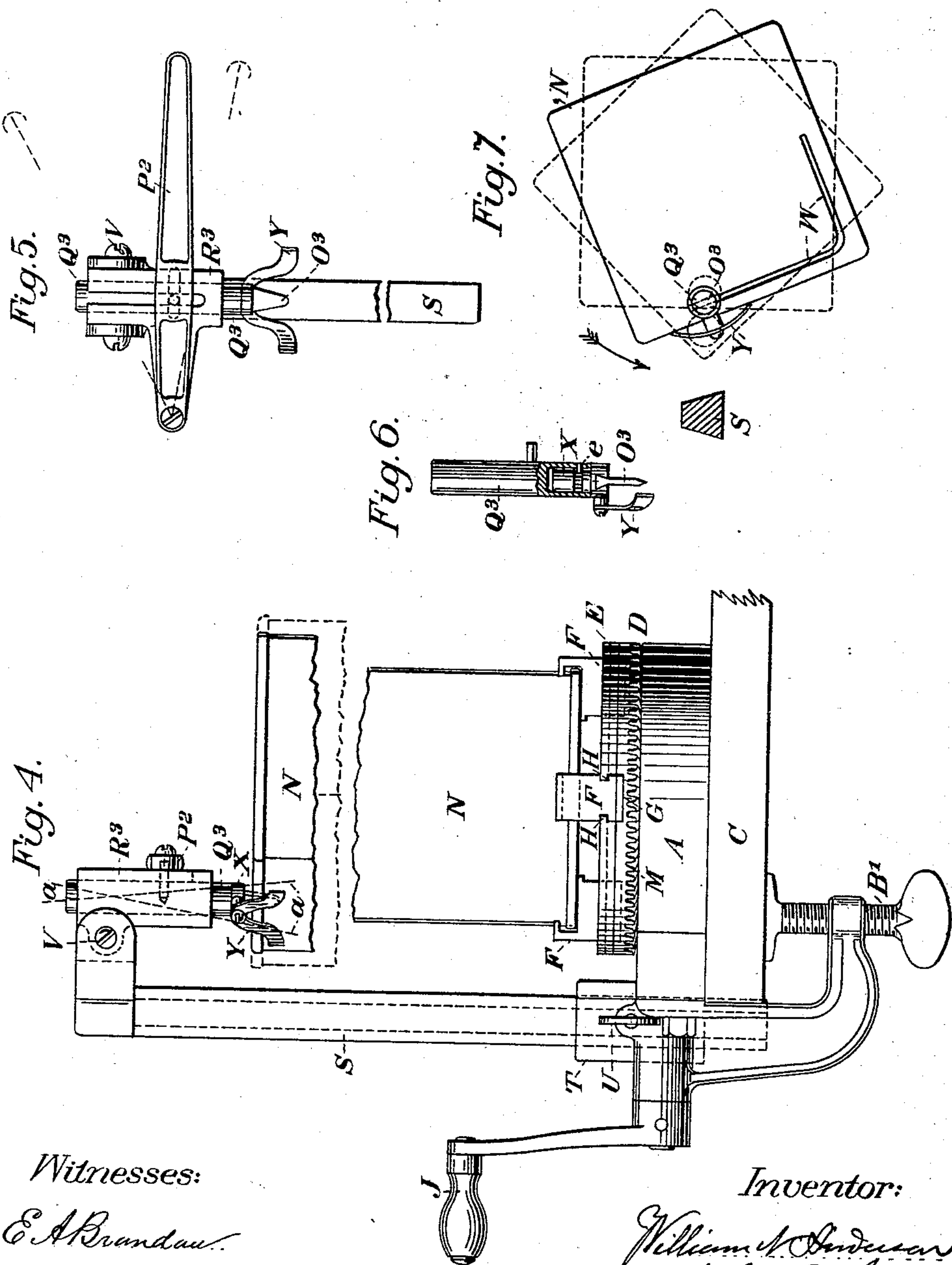
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Witnesses:
E. A. Brandau.
Oliver D. Bentley.

Inventor:
William N. Anderson
By John Richards

UNITED STATES PATENT OFFICE.

WILLIAM N. ANDERSON, OF SAN FRANCISCO, CALIFORNIA.

CAN-OPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,971, dated May 28, 1895.

Application filed May 21, 1894. Serial No. 512,028. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. ANDERSON, a citizen of the United States, residing in San Francisco, county of San Francisco, State of California, have invented certain new and useful Improvements in Machines for Opening Metallic Packing-Cans; and I hereby declare the following specification and the drawings therewith to be a complete description of my improvements and the method of constructing and applying the same in practice.

My invention relates to apparatus for opening or cutting out, or cutting off, the ends of metallic packing cans, and consists of means to clamp and revolve the cans in contact with an adjustable cutting tool that scores and cuts out, or cuts off, the ends of the cans, so their contents can be readily removed, the tool supporting devices being fixed or stationary in respect to the cutting movement.

My invention also includes various expedients to perform the functions named on both cylindrical cans and those of rectangular section, as will be more fully pointed out in connection with the drawings, in which—

Figure 1 is a plan view of one of my improved can-opening machines. Fig. 2 is a side elevation of the same, partially in section. Fig. 3 is a front elevation in a plane at right angles to that of Fig. 2. Fig. 4 is another side elevation of the same machine arranged to operate on cans of rectangular section. Fig. 5 is a reverse view of the cutting implement and connected parts. Fig. 6 is a view, partially in section, of the cutting implement for square or angular cans. Fig. 7 is a diagram showing the action of the cutter in opening cans of angular section.

Similar letters of reference on the different figures indicate corresponding parts thereof.

The base or main frame A of the machine is made of a hollow section, as shown in Fig. 2, held by a clamp and screw B' to a table or other suitable support C.

On top of the base A, loosely held by a central pin or screw B², are two revolving plates D and E, the latter having grooves and ledges H to receive clamping jaws F, as shown in Fig. 1, and the intermediate plate D having a volute groove G into which fit teeth or threads of the jaws F, as shown in Fig. 2, so that when the plates D and E are turned independently

the jaws F will move out and in, or to or from the center as the relative movements of the plates E and D and the volute or spiral groove G may determine, in the manner of a scroll chuck.

The plates D and E with the superimposed can N are revolved by the crank J, shaft K and the bevel pinion L, meshing into the teeth M on the bottom of the plate D.

In placing the can N, the top plate E is held stationary, and the plate D revolved by means of the handle J, expanding the jaws F until they will receive the can N. Then the handle J is reversed, and the top plate E held stationary until the jaws F engage and hold the can N, the grip being increased by resistance of the cutting tools O' O². The can N being thus clamped by the jaws F, and set in revolution by the crank J, the cutting devices are next applied so as to either cut off the whole top of the can by a tool O', or to cut out the top leaving the sides intact by means of the tool O². These tools O' and O² with the stocks Q' and Q² and the sleeves or sockets R' R² are mounted on a stem S, preferably of angular section, as shown at the left in Fig. 7. This stem S slides in the socket T formed on the base plate A, and is held or clamped at various heights as the work demands, by the thumb screw U.

The tool stocks Q' and Q² are moved by the levers P' P², the tool O' and its connected parts being shown at Figs. 2 and 3 in the position of cutting off the top of a can N. To cut out the top, as with the vertical tool O², the stem S is raised to receive the stem Q', the lever P acting vertically to force the tool O² downward, as will be understood from the drawings. After the tool Q' or Q² has penetrated the metal a revolution of the can cuts off the top, or cuts out a circular hole therein, so the contents can be poured out. The can and the plate E are then held stationary, and the handle J reversed so as to expand the jaws F and release the can N, permitting another one to be placed and fastened.

Referring next to the details shown in Figs. 4, 5, 6 and 7, these show the modification required to open angular or square cans with the same machine. In this case the tool O³ is mounted in a sleeve or socket Q³ sliding in a pivoted sleeve or support R³, held by the pin

V, and is moved up or down by a lever P^2 , as in the case of cylindrical cans, but the swinging movement of the socket R^3 , indicated by the diverging dotted lines $a a$ in Fig. 4, permits the tool O^3 to follow around the can at an equal distance from the sides, as indicated by the score W in Fig. 7.

The stock Q^3 is provided with a supplementary swiveling extension X held by a pin e , so the extension X and tool O^3 are free to turn in either direction, and are adjustable by a guide Y that bears on the outside of the can N, turning the extension X and tool O^3 in passing the corners, and holding them parallel to the sides, as shown in the diagram Fig. 7. It will be seen that in this manner of operating the tool supporting devices have no movement except for adjustment and the cutting motion is produced by the chuck or plate that holds and revolves the can.

Having thus explained the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a can-opening machine, a revoluble plate or chuck to which the cans to be opened are secured and movable jaws thereon closed and held by the turning strain of the driving gearing and by the resistance of a cutting tool that severs or cuts out the end of the cans, in the manner substantially as specified.

2. In a can-opening machine, a revoluble plate or chuck, with a crank and gearing to drive the same, in combination therewith sliding tool stocks and sleeves to support the same, adjustable and interchangeable so the same tool can be employed to operate either

on the top or sides of the cans, in the manner substantially as specified and described.

3. In a can-opening machine, a revoluble plate or chuck having movable jaws that will grip and hold cans of either cylindrical or angular form, a hinged and swiveling tool-holding stock that will permit the end of the tool to deviate and follow the contour of square or angular cans, in the manner substantially as specified.

4. In a can-opening machine, a revoluble plate or chuck to hold and revolve the cans to be opened, hinged and swiveling tool-holding appliances that permit the tool to follow the contour of cans of square or angular section, and a guide that bears on the outside of the can and turns the tool and its stock at the corners of the can and guide the same, in the manner substantially as and for the purposes specified.

5. In a can opening machine, a revoluble plate or chuck and in connection therewith an adjustable tool, a supporting bar for tools to cut out the tops of the cans, a second adjustable device of like section and interchangeable therewith to support tools for cutting through the sides of the cans, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

WILLIAM N. ANDERSON.

Witnesses:

ALFRED A. ENQUIST,
WILSON D. BENT, Jr.