(No Model.)

A. E. NEWTON.

CAN OPENER.

No. 476,164. Patented May 31, 1892.

Fig. 1.

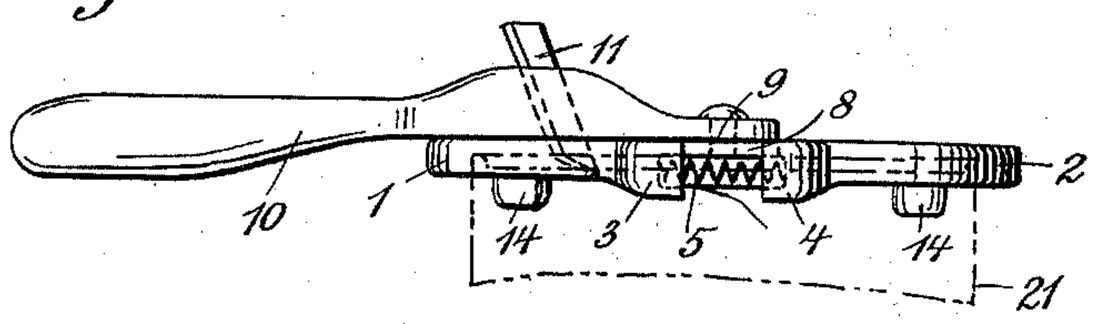

Fig. 2.

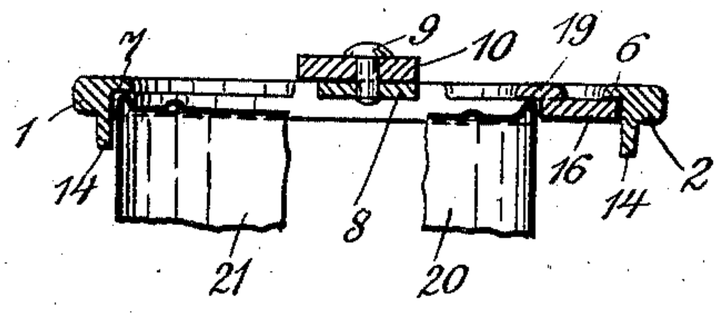

Fig. 4.

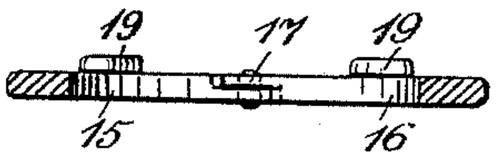

Fig. 3.

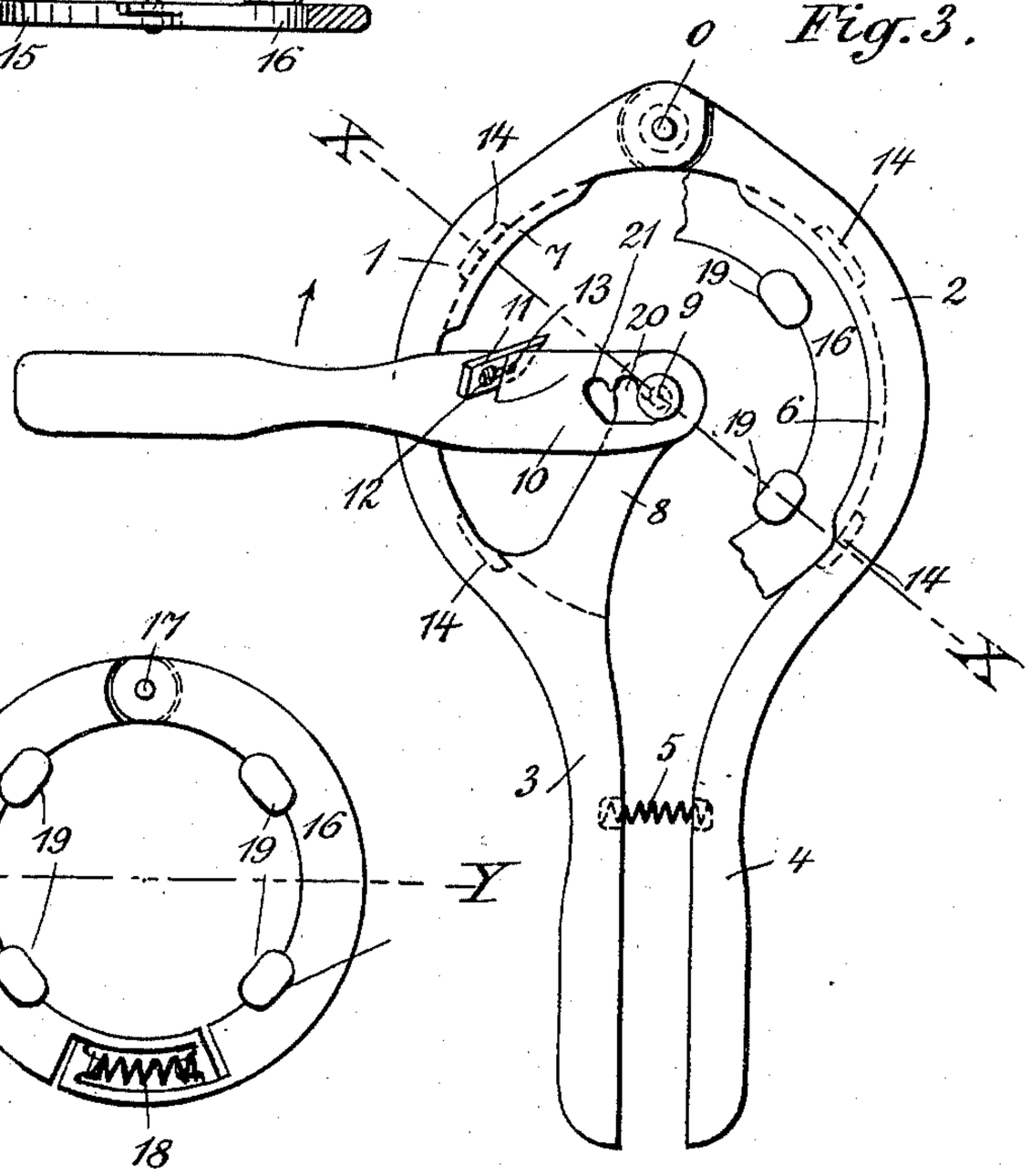

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

ALVIN E. NEWTON, OF BROOKLYN, NEW YORK.

CAN-OPENER.

SPECIFICATION forming part of Letters Patent No. 476,164, dated May 31, 1892.

Application filed January 19, 1892. Serial No. 418,557. (No model.)

To all whom it may concern:

Be it known that I, ALVIN E. NEWTON, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in a Combined Can-Holder and Can-Opener, of which the following is a specification.

My invention refers to appliances for taking hold of cans and for opening the same, and principally opening tin cans made air-tight by soldering their covers to their outer walls, and wherein condensed milk, fruit, vegetables, and other perishable articles are kept and preserved for a long time.

The purposes of my invention are to provide simple and efficient means for taking hold of and for handling such cans and for so cutting their covers that the knife-blades used for such purpose shall be made to pass through such cover readily and without the application of great force by the operator, and that the point of the blade shall enter the interior of the can only to such a uniform depth as the operator may desire.

A further purpose of my invention is to so construct my appliances as to permit of using the same in handling and in opening cans of various diameters or cross-dimensions.

In the accompanying drawings, forming part of this specification, I have shown in Figure 1 an elevation of a combined can-holder and can-opener constructed according to my invention, while Fig. 2 represents a vertical section of the same along line X X of Fig. 3, said Fig. 3 representing a ground plan. Fig. 4 is a vertical section along line Y Y of Fig. 5, these two figures representing an auxiliary device which is combined with the main device when cans of small diameter or cross-dimensions are to be operated upon.

Corresponding figures throughout the several views refer to corresponding parts.

1 and 2 are levers united by a pivot O. Said levers are provided with or terminate in the handles 3 and 4, between which is inserted a spring 5, shown here in the form of a spiral spring having its ends resting in suitable sockets. Where levers 1 and 2 are joined a suitable shoulder is provided, so as to prevent the handles from spreading far enough apart to permit said spring to drop out.

Levers 1 and 2 are curved, their inner vertical surfaces being made to approximately correspond with parts of the outer surface of the largest can which is to be operated upon. Handles 3 and 4 being held apart by spring 5 just sufficiently to permit of said inner surface being slipped over the top of such a can readily and without friction, it only becomes necessary after this has been done to apply slight inward pressure to said handles in order to secure a firm hold on the can so inserted. The inner bearing-surfaces of said levers may be roughened or corrugated for the purpose of aiding in securing a firm hold of the levers on the can. Particularly where a fulcrumed device for cutting the cover of the can is attached to the can-holder it is important to apply levers 1 and 2 to the can in such a manner as to bring such fulcrum as nearly as possible in a position at right angles to the end of the can which is to be cut. For such purpose I provide on said levers shoulders, as 6 and 7, extending inwardly from their upper parts, so as to have their under sides located in a plane at right angles to said pivot, said under sides thereby being made to form right angles with the bearing-surfaces of such levers.

Can-holders with levers constructed and fulcrumed as described by me are preferable to can-openers having continuous circular frames, as the latter are only applicable to one or two sizes of cans, and when used a firm support must be provided for the can during the cutting operation, while with my appliances the operator may with one hand take hold of and press handles 3 and 4 toward each other sufficiently to firmly grip the upper part of the shell of a can in proper position with reference to the blade-holder, providing its radius does not differ very materially from the radii of levers 1 and 2, and may with the other hand turn the blade-holder so as to cut the top of the can without resting its body on any support.

8 is an arm extending from the upper part of lever 1 inwardly and carrying a pivot 9, shown to be constructed in the form of a rivet. Such pivot is located so as to be in a central

position with reference to the bearing-surfaces of levers 1 and 2 while the same are applied to the walls of a can, as mentioned above.

10 is a lever adjusted to swing around such pivot along the upper surfaces of levers 1 and 2, 11 being a knife-blade pointing downward and adjustably inserted in such lever under an oblique angle, so as to facilitate the cutting of the can.

As the tops of tin cans are generally made dishing and as it is desirable not to insert the blade any farther into the body of the can than is required in the operation of cutting, I provide a set-screw 12, passing through the blade into the body of blade-holder 10, 13 being a slot in the blade, in which such set-screw is inserted, so as to permit of raising and lowering the blade, as circumstances may require.

As a rule it is not desirable to cut out entirely a circular part of the top of the can, it being best to leave such part connected for a short distance with the outer part of such cover, so as to be able to replace it temporarily after a part of the contents of the can has been removed. This result will be obtained by placing blade-holder 10 in such a position as to bring knife-blade 11 close to the left-hand side of arm 8 and then turning it in the direction of the arrow, Fig. 3, until the blade reaches the right-hand side of such arm. If, however, it be desired to entirely cut out a circular piece of the cover it is only necessary to slightly relax the inward pressure on handles 3 and 4 and to complete the cutting operation after first turning the holder sufficiently on the can. The outer end of blade-holder 10 must be allowed sufficient play up and down to permit the point of the blade to penetrate the cover of the can after projections 6 and 7 have been brought to rest on the upper edge of the same.

14 14 are studs attached to the under side of levers 1 and 2 and having their inner surfaces approximately flush with the bearing-surfaces of said levers. Said studs are intended to serve as guides for said levers while they are being placed in position.

In order to make my appliances applicable to cans differing considerably in diameter, I provide a pair of jaws 15 and 16, hinged together at 17. Said jaws are constructed curved and with outer and inner bearing-surfaces, the former corresponding with the bearing-surfaces of levers 1 and 2, and their inner surfaces with the outer surface of the smaller can which is to be opened. These bearing-surfaces may also be roughened or corrugated. Jaws 15 and 16 are actuated by a spring 18 in a similar manner as are levers 1 and 2 by spring 5.

19 19 are lugs projecting inwardly from the upper parts of said jaws. When a small can is to be operated upon it is only necessary to place upon its upper edge a set of such auxiliary jaws, place around such jaws the levers 1 and 2, and if the top of the can is to be cut to insert blade 11 into it and to proceed as described above. In the right-hand sides of Figs. 2 and 3 parts of such auxiliary jaws are shown to be inserted in the main device in operative positions, 20 representing part of a small can to be operated upon and 21 part of a large can.

As the insertion of an auxiliary device, as shown, might bring the same directly underneath the point of the knife-blade, I make provision for varying the position of such blade with reference to the axis of the can. For such purpose I cut out the flattened part of blade-holder 10, which is to receive the pivot 9, as shown in Fig. 3, so as to provide additional bearings for said pivot in the form of notches 20 and 21, forming part of a slot, which also embraces the bearing-surfaces in contact with pivot 9 when the blade-holder is moved to its extreme outward position, as shown in Fig. 3. By inserting pivot 9 in either notch 20 or 21 the blade can be brought nearer to pivot 9 without entirely detaching said blade-holder from said pivot, the flattened head of the pivot serving to keep the blade-holder attached to the frame even when the device is not in use and is suspended from a hook or nail.

As various modifications of the details of my device as illustrated by me will suggest themselves to the skilled mechanic, I do not wish to confine myself to the use of the details as shown.

I claim as new and desire to secure by Letters Patent—

1. In a combined can-holder and can-opener, two levers pivotally connected and having inner bearing-surfaces conforming with parts of the outer surface of a can and provided with suitable handles, combined with an arm extending from one of said levers and an additional lever fulcrumed thereto and containing a blade encircled by the can-holding levers for the purpose of cutting therewith the end of a can, substantially as set forth.

2. In combination with a can-holder provided with two levers pivotally connected and having inner bearing-surfaces, auxiliary hinged jaws provided with inner bearing-surfaces for gripping a can and with outer bearing-surfaces engaging with the bearing-surfaces of said levers, substantially as set forth.

3. In combination with a can-holder provided with two levers pivotally connected and having inner bearing-surfaces, auxiliary hinged jaws provided with inner bearing-surfaces for gripping a can and outer bearing-surfaces engaging with the bearing-surfaces of said levers, and a spring for forcing said jaws outward, substantially as set forth.

4. In combination with a can-holder provided with two levers pivotally connected and having inner bearing-surfaces, auxiliary hinged jaws provided with inner bearing-surfaces for gripping a can and with outer bearing-surfaces engaging with the bearing-

surfaces of said levers, a blade-holder fulcrumed to an arm on one of said levers, extending inward over one of said auxiliary jaws, and means for varying the distance between the fulcrum and the blade, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 16th day of January, A. D. 1892.

ALVIN E. NEWTON.

Witnesses:
CHAS. L. HORACK,
C. B. BARBER.