June 16, 1925. 1,542,075

J. D. MITCHELL

DEVICE FOR OPENING TINS, CANS, CARTONS, AND THE LIKE

Filed Sept. 13, 1921



FIG. 1

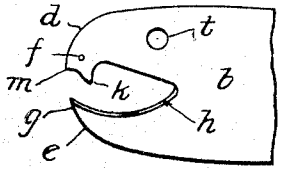


FIG. 2

FIG. 3.

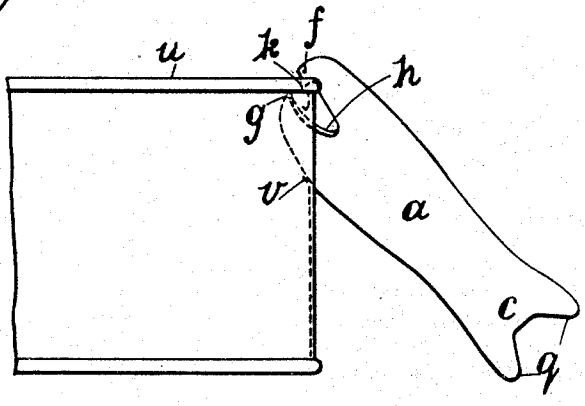


FIG. 4.

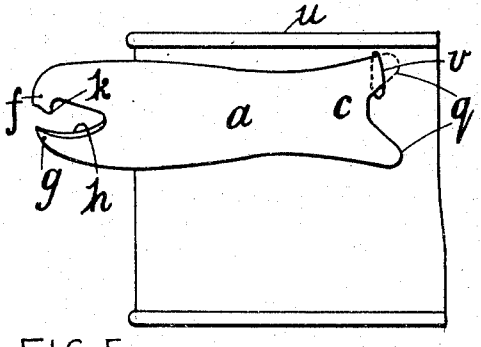


FIG. 5

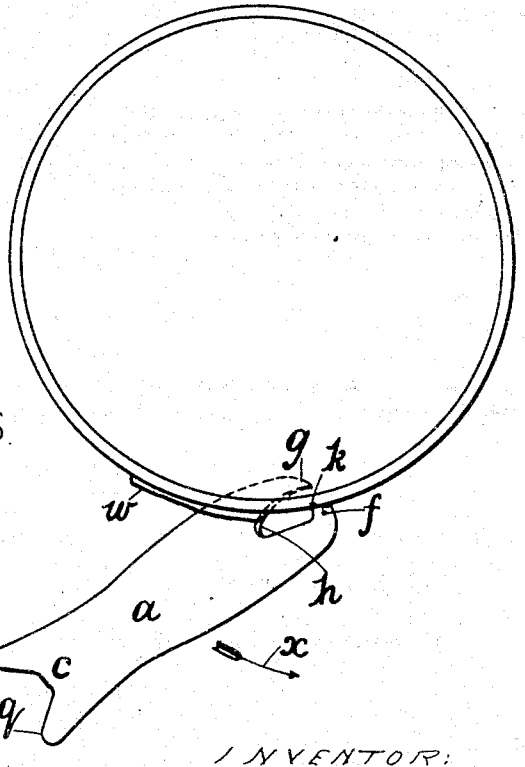


FIG. 6.

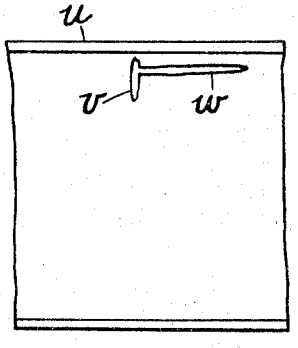


FIG. 7.

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UNITED STATES PATENT OFFICE.

JOHN DOUGLAS MITCHELL, OF STOCKSFIELD, ENGLAND.

DEVICE FOR OPENING TINS, CANS, CARTONS, AND THE LIKE.

Application filed September 13, 1921. Serial No. 500,327.

To all whom it may concern:

Be it known that I, JOHN DOUGLAS MITCHELL, a subject of the King of Great Britain and Ireland, residing at Stocksfield, in the county of Northumberland, England, have invented new and useful Improvements in Devices for Opening Tins, Cans, Cartons, and the like, of which the following is a specification.

This invention relates to devices for opening tins, cans, cartons and the like, and has for its object to provide an improved device which can be very readily and cheaply manufactured.

The device of the present invention is of the type comprising a lever or handle having at its fore end a pair of co-acting jaws or the like both lying in substantially the same plane, the lower jaw being provided with a projecting cutting edge and an incisor and the nose of the upper jaw formed as a fulcrum which engages the head or edge of the can or the like to be opened in advance of the cut, the device being rocked about said fulcrum to cause said cutting edge to cut the surface of the can or the like when the lower jaw has been inserted into a preliminary incision in said surface which has hitherto been made by a blow or pressure on the rear end of the opener. My improved can or like opening device is characterised in that its upper jaw is provided with a claw or hook fulcrum the inside corner of which is adapted to engage the bead, fold or similar part of the can or the like whereby an incisor at the nose of its lower jaw can be caused to make the preliminary incision in the surface of the can or the like by leverage, the incision being substantially perpendicular to the bead of the can or the like. By so forming the said hooking member, the opener readily remains in pivotal equilibrium on the can bead under all the force reactions due to the incision act, since the said member is caused to bear on the bead mainly or wholly in such a manner as would tend to transversely shear the said bead rather than ride off the same. The lever or handle of the device is or may be also provided with one or more wings or members adapted to form prongs which can be inserted in said preliminary incision to raise one side thereof to allow of the insertion of the lower jaw. The claw or hook fulcrum may be engaged either inside or outside of the bead, fold or similar part of the can or the like, and the incision may thus be made either in the top or side of the can.

In the drawings accompanying and forming part of this specification,

Fig. 1 is a fragmentary side elevation of a can opener constructed in accordance with the present invention;

Fig. 2 is an end elevation thereof;

Figs. 3, 4 and 5 are side elevations illustrating the operation of the can opener;

Fig. 6 is a plan view of a can, illustrating the can opener in operation; and

Fig. 7 is a fragmentary side view of a can illustrating the form of incisions that may be made by the improved opener.

Referring to the drawings, the can-opener is composed of a flat rigid strip of sheet material, for example steel or iron, and comprises a lever or handle *a* provided with a head *b* and tail *c*. The shape of the head and tail may be variously modified, but in all cases the head is provided with a pair of jaws *d e*, the upper jaw *d* having a claw or hook fulcrum *f* at the nose the inside corner of which is adapted to engage the bead or fold of the tin or can to be opened and act as a fulcrum about which the device can be rocked, while the lower jaw *e* has an incisor *g* and a cutting edge *h* disposed so as to co-act with the claw *f*. The cutting edge *h* may be curved or straight and is preferably integral with the head, but in some cases it may be made separately and securely attached thereto in any suitable manner.

The tail *c* in the form illustrated, has a pair of wings *q*, which form rounded and blunt prongs.

In use, as shown in Figs. 3 to 7, an incision is first made in the side of the tin or can to be opened by hooking the claw *f* onto the bead or fold *u* which runs around the top or bottom of the tin, as shown in Fig. 3, and then, with the inside corner *k* of said claw

as fulcrum, pressing the lever *a* downwards as shown in Fig. 4, to cause the incisor *g* to pierce the side of the tin and make an incision *v* therein at right angles to the bead or edge *u* of the tin.

The incision *v* having been made in the side of the tin, the incision is, if necessary, enlarged and one side of it is raised, as shown in Fig. 5, by inserting one of the prongs formed by the wings *q* of the tail *c* to permit of the insertion of the incisor *g* in a direction at right angles to the length of the incision to bring the cutting edge *h* into operation. A cut *w* can then be made around the side of the tin as shown in Fig. 6 by means of the edge *h*, the lever *a* being rocked in the direction indicated by the arrow *x* about the claw or hook fulcrum *f* which rides on the exterior of the tin and acts as a movable fulcrum. The can-opener can be used in similar fashion to cut open the top of the tin. The claw *f* shown in Fig. 2 is modified to better adapt it for use when cutting the flat top of a tin by shaping it so as to form an additional corner *m* which acts as the fulcrum and prevents slipping. The cut *w* produced by the cutting edge *h* is at right angles to the preliminary incision *v* as shown in Fig. 7, and is without an inward projecting burr, the cut edges being turned outwards.

The can-opener illustrated is well adapted for cutting a can either around the top or around the side, and is flat and in one piece with all sharp edges and points screened for safe handling and carrying.

The can opener illustrated in the drawings is of fish shape in outline, a hole or indentation *t* being provided as shown to increase the similitude, if desired, but the opener may be of any other convenient shape in outline (for example, the shape of a bird or of a disc with a tail to form a prong such as *q*) provided it serves as a handle or lever for the application of the necessary force to make the initial incision and the cut.

If desired the lever *a* may be approximately elliptical in section, or it may be provided with a haft by riveting or otherwise securing on each side of the lever a suitably shaped strip of wood or other material, said strips being of course cut away to clear the jaws *d e* and the prongs *q*.

Can openers have been previously proposed having two jaws, one jaw being provided with a claw or hook fulcrum which engages the bead or fold around the top or bottom of the can or the like whereby an incising blade on the other jaw is caused to make the preliminary incision in the top of the can by leverage, but in such previously proposed openers the incising blade in its operative position does not lie in substantially the same plane as the jaw forming the claw or hook fulcrum but in a plane perpendicular thereto, and the opener is thus not applicable for incising and subsequently cutting either the side or the top or bottom of the can. In my improved opener both jaws lie in substantially the same plane, and my opener is applicable for incising and subsequently cutting either the side or the top or bottom of the can.

I am aware that it has heretofore been proposed to employ a claw for engaging a can bead for the purpose of incising cans, in which a blade is positioned substantially wholly in advance of said claw as an outstanding beak and to co-operate with said claw. I make no claim herein to such device, such and like positioned blades being unsuitable for effecting any other than the initial operation of opening a can and obviously impractical for my subsequent outward cutting operations, on account of being substantially wholly in advance of said claw.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A can opener comprising a leverage member provided with two oppositely disposed coacting jaws, forming an incising jaw and a hooking jaw, said hooking jaw being provided at its forepart with a hooking member comprising a laminal tooth or lug formed to lie approximately over the forepart of said incising jaw and substantially in co-planar alignment therewith, the inner wall of the said tooth or lug being formed to droop downwards abruptly from the palate portion of the said hooking jaw, the said tooth or lug being thus formed as a distinct drooping offset from the interior roof portion of the palate of the hooking jaw, the organization being such that the hooking member will first securely engage the bead, fold, corner or similar part of a can in a hook like manner during the working can incising stroke of the incising jaw and subsequently act as a fulcrum well towards the forepart of the said incising jaw to admit of the effective use of the latter as an outwardly cutting can cutter.

2. A can opener, comprising a leverage member provided at one end thereof with two oppositely disposed coacting jaws, forming an incising jaw and a hooking jaw, said hooking jaw being provided at its forepart with a hooking member comprising a laminal tooth or lug formed to lie approximately over the forepart of said incising jaw and substantially in co-planar alignment therewith, the inner wall of the said tooth or lug being formed to droop downwards abruptly from the palate portion of the said hooking jaw, the said tooth or lug being thus formed as a distinct drooping offset from the interior roof portion of the palate of the hooking jaw, the organization being such that the hooking member will

first securely engage the bead, fold, corner or similar part of a can in a hook like manner during the working can incising stroke of the incising jaw and subsequently act as a fulcrum well towards the forepart of the said incising jaw to admit of the effective use of the latter as an outwardly cutting can cutter, said leverage member being provided at its opposite end with a reserve prying member adapted to enter and pry open the incision made by said incising jaw.

In testimony whereof I have signed my name to this specification.

JOHN DOUGLAS MITCHELL.