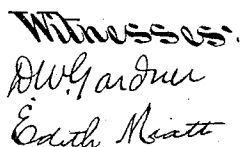


O. S. FELLOWS.
KEY FOR OPENING SEALED CANS.

Patented Mar. 31, 1896.



Inventor:
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UNITED STATES PATENT OFFICE.

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KEY FOR OPENING SEALED CANS.

SPECIFICATION forming part of Letters Patent No. 557,367, dated March 31, 1896.

Application filed April 24, 1895. Serial No. 547,004. (No model.)

To all whom it may concern:

Be it known that I, OLIN S. FELLOWS, a citizen of the United States, residing at Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Keys for Opening Sealed Cans, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to the class of implements used in opening sheet-metal cans in which a removable portion of the can is stripped off by winding such strip around the shank of a key known as a "strip-winding key." These strip-winding keys have heretofore been slotted to receive the end of a stripping-tongue, with which it has been necessary to provide the stripping portion of the can. The necessity for a stripping-tongue has always been a disadvantage in manufacture and even in use, as it is difficult to provide a free end for engagement with the strip-winding key without interfering with the soldering operation as usually and economically performed, or resorting to a separate and subsequent operation to release the end from the solder, while the free ends of the tongue are liable to be caught and wrenched accidentally in various ways.

My invention consists, primarily, of a strip-winding key made from a blank of sheet metal doubled upon itself so that the central portion forms a transverse head, while the limbs or narrower portions constitute a bifurcated shank, one prong of which is pointed and sharp, for the purpose of piercing the can to enable the shank to straddle the stripping portion thereof, and, secondarily, my invention includes the formation of such a key with a cutting edge, in conjunction with the sharpened point, for the purpose of severing the stripping portion of the can transversely as the key is forced into position preparatory to the stripping operation.

In the accompanying drawings, Figure 1 is a section of a portion of a can, illustrating the use of my improved key. Figs. 2 and 3 are similar views illustrating the stripping operation. Figs. 4 and 5 are elevations of the key taken at right angles to each other. Fig. 6

is an elevation of a portion of the edge of a can formed with a protuberance on the stripping-section for the insertion of the puncturing-tine of my improved strip-winding key. Fig. 7 is a top view of Fig. 6. Fig. 8 is a view illustrating the application of the key. Figs. 9 and 10 illustrate the application of my improved form of key to an inside or concave stripping; Fig. 11, the application of the same to the removal of a strip from the can-body. Figs. 12 and 13 are views of opposite sides of my improved key as formed with a cutting as well as the puncturing edge. Fig. 14 illustrates the use of the cutting edge in severing the strip transversely, one-half the key only being shown. Fig. 15 is a view upon an enlarged scale of the protuberance prepared for the reception of the puncturing and cutting tine of the key; Fig. 16, a sectional view on a like scale, illustrating the action of the cutting edge; Fig. 17, a similar view in connection with an inside flange for concave stripping.

The key K may be made in various ways, and I do not limit myself to the folded key herein shown in this respect, since although the special construction herein shown is a convenient form in which to embody my invention, it is not an essential feature thereof. In any case the shank k of the key is bifurcated, having what may be designated as the "tines" k^1 k^2 , forming the slot or recess k^3 between them, into which the end of the stripping portion of the can is received.

Where the key is made of sheet metal, the form is stamped out and then bent over upon itself, lugs k^4 being provided on one part to lap over and bind the other part of the blank.

My improved key is applicable to either concave or convex stripping—that is, the stripping-section to be removed from the can may consist of either an inside or an outside flange of an end plate or of the edge or other portion of the can-body.

Where applied to an outside flange of an end cap, as illustrated in the first eight figures of the drawings, a slight protuberance c is formed in the end plate p at the junction with its flange f . The prong k^2 of the key being formed with a sharp point is easily forced through the top of this protuberance

and between the flange which is to constitute the strip and the convex surface of the can-body. A line *r* of reduced thickness may be formed in the flange at or adjoining the protuberance *c* to facilitate the severance of the strip at the commencement of the stripping operation. The prong *k*² having been thus inserted and confining the thickness of the strip between itself and the prong *k*¹, the winding off of the stripping portion may be readily effected, as illustrated symbolically in Figs. 2 and 3.

The weakening-line *r* may be entirely dispensed with by forming the key with a cutting edge *k*⁵ on the prong *k*². When this is done, the cutting edge *k*⁵, being on an incline, will sever the strip transversely as the prong *k*² is driven down through the protuberance *c*, which latter in this case is made somewhat elongated to receive the comparatively wide blade which the prong *k*² thus constitutes. The protuberance *c* in no case extends through the soldered joint and is necessarily of less width than the full width of the strip; but it may have a guiding line or lines *ll* of reduced thickness which merge into the lines bounding the strip on either side.

The protuberance *c*, while affording a convenient means for the application of my improved puncturing-key, is not absolutely essential thereto, since the point of the prong *k*² may be inserted between the opposed sur-

faces where the strip to be removed is a part of the soldered joint.

In the case of the concave stripping illustrated in my concurrent applications, Serial Nos. 546,267, filed April 18, 1895, and 546,885, filed April 23, 1895, the protuberance *c* is unnecessary.

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

1. A strip-winding key for opening sheet-metal cans, consisting of a blank of sheet metal doubled upon itself to form a transverse head with narrower extensions which overlap each other and form a bifurcated shank, one prong of which is pointed and sharpened, for the purpose of puncturing a can to enable the said shank to straddle the stripping portion of the can, substantially as set forth.

2. A strip-winding key for opening sheet-metal cans formed of sheet metal folded so as to form a transverse head with a bifurcated shank one tine of which is sharpened and formed with a cutting edge to afford a puncturing and strip-cutting device, substantially in the manner and for the purpose described.

OLIN S. FELLOWS.

Witnesses:

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