G. H. & J. H. PERKINS.

METALLIC CANS.

No. 187,902. Patented Feb. 27, 1877.

Fig. 1

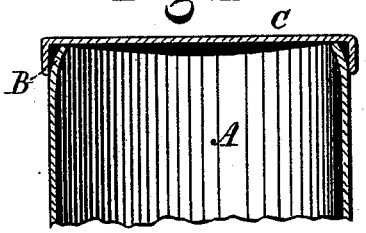


Fig. 2

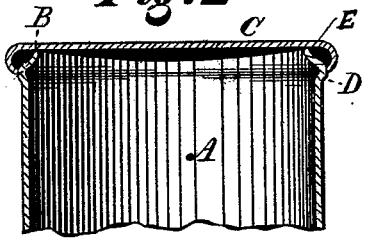


Fig. 3

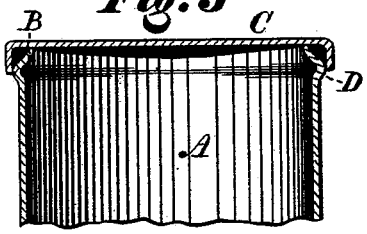


Fig. 4

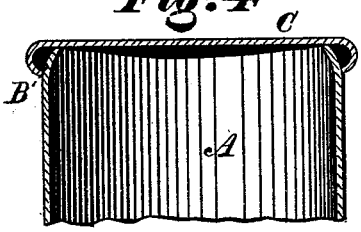


Fig. 5

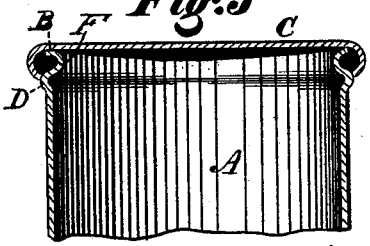


Fig. 6

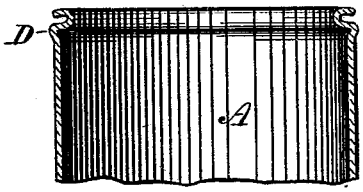


Fig. 7

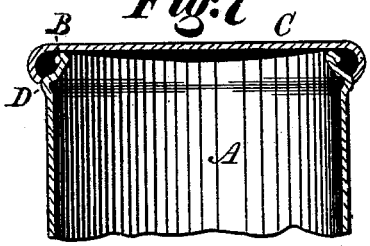
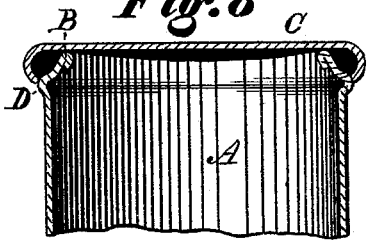


Fig. 8



Witnesses

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Attorney.

UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS AND JAMES H. PERKINS, OF PHILADELPHIA, PA., ASSIGNORS OF PART THEIR RIGHT TO JOSEPH LE COMTE, OF NEW YORK CITY, AND THE LE COMTE AND PERKINS MANUFACTURING COMPANY, (LIMITED,) OF SAME PLACE.

IMPROVEMENT IN METALLIC CANS.

Specification forming part of Letters Patent No. **187,902**, dated February 27, 1877; application filed April 20, 1876.

To all whom it may concern:

Be it known that we, JAMES H. PERKINS and GEORGE H. PERKINS, both of the city and county of Philadelphia, in the State of Pennsylvania, have jointly invented a new and useful Improvement in Metallic Cans, of which the following specification is hereby declared by us to be a full, clear, and precise description, and sufficient to enable others skilled in the art to which our improvement appertains to comprehend and construct it, reference being had to the accompanying drawings, which form part of this specification, and of which all the figures are partial central sectional elevations of various forms of cans embodying our invention.

Similar letters of reference indicate corresponding parts wherever used.

Our invention relates to the class of hermetically-sealed cans for paints, preserves, and the like; and has for its object a cheaply-constructed can, which, although sealed by means of solder, can yet be easily opened without section; to which end it consists of a sheet-metal can, the upper chine of whose body is provided with or formed into a yielding or compressible bevel, plain or in the form of a corrugation opening out, alone or in combination with a circumferential swelling below said bevel, and whose cover rests upon said yielding bevel, is united by designedly-frangible solder to the body proper of the can below the bevel, or to the summit of the said swelling when the latter is employed, to the end that blows properly applied to the cover will transmit the force so exerted direct upon the yielding portions, so as to compress such yielding portions, and thereby permit the force to be transmitted to, and thereby act direct against, the frangible joint, to rupture the solder forming it, and will further serve, by driving the beveled or corrugated chine inward, to bulge the external swelling, when the same is employed, out, and thereby aid, by the radial bulging, to crack the solder along the summit of the swelling, all substantially as hereinafter described.

In the drawings, A represents the body of a can, struck up or otherwise constructed by any usual method, and in Figs. 1 to 4, inclusive, slightly beveled inward around its entire chine, as indicated by B. C is a common flanged cover, fitting over the body, the flange being either straight or curved in section, and of sufficient depth to lap completely across the bevel on the body, and to come into close circumferential contact with the body upon a line below the bevel, around which line frangible solder is applied to secure the cover.

By consulting the figures, above referred to, of the drawing, it will be seen that an annular and approximately right angularly or spherically triangular space is left between and formed by the inner angular circumference of the flanged cover, and the exterior of the beveled surface formed upon the body.

When it is desired to open the can, a sharp blow, obliquely directed against the outer edge of the cover, acts upon the two right-angled sides of the triangular portions bounding the annular space, to drive such sides out of right and into obtuse angle, one of which sides, being the top of the cover, exerts resistance to expansion; the flange, therefore, is forced sharply down, almost instantly cracking the line of solder that alone opposes its descent. Successive blows at points around the circumference of the cover, crack the solder, and enable the removal of the cover.

It will be readily comprehended that as the cover is struck the beveled chine is slightly bent or compressed inward, permitting by its own bending a slight bending and descent to the outer circumference of the cover, and thereby the readier downward expansion of the flange, the annular space being necessary to permit of such bending and expansion, and to allow the right-angular portion of the cover to assume its more obtuse angle. In Fig. 1 the bevel is a simple internal one, and the flange right angular. In Fig. 2 the flange of the cover is somewhat hooked in section, as indicated by E, and a swelling or corrugation, D, is worked into the body immediately be-

low the bevel, the contact-line being between the summit of the corrugation and the extreme bottom edge of the flange. Blows in this structure not only tend to flatten out the angular edge of the cover, but, as the top surface of the cover forces the beveled chine inward, the tendency is to bulge the corrugation D out, thus materially aiding to crack the solder-seam.

This form has also the advantage of permitting the can, when filled, to be turned upside down before soldering, for the readier application of the soldering-iron, and this for the reason that the hooked conformation of the cover-flange generates in it sufficient elasticity or compressing-force to enable it to cling tightly to the body, when expanded, by being pressed up to or upon the summit of the corrugation. As modified forms, however, the right-angular cover shown in Fig. 1 may be applied to the body, shown in Fig. 2, forming Fig. 3, while the hooked cover of Fig. 2 may be applied to the body of Fig. 1, forming Fig. 4, without altering in any manner the cardinal principles of our invention, as hereinbefore set forth.

In all these figures the action of parts in opening is substantially the same.

The essence, however, of our invention, consisting, as before set forth, in such structure of the chine or top body of the can as will insure its yielding when force is exerted against the cover, to the end that the flange may be driven down so as to compress the yielding portions and break the line of solder, it will readily be comprehended that any structure, adaptation, or relative juxtaposition of parts subserving such end will but effectuate our invention.

In Fig. 5 the beveling assumes the form of an internal corrugation, F, constituting a strictly compressible chine, which flattens down upon itself in opening, as shown in Fig. 6, and has the advantage of leaving a very smooth surface for the brush to be drawn against.

In Figs. 7 and 8, which are mere modifications of Fig. 2, the rim of the bevel is edged, so as to render it smooth for the brush.

The advantages are: The extreme simplicity of the can, and the cheapness with which it can be made; the close original contact of the parts to be united by solder, affording no crevices for the irregular distribution of the solder; facility of opening; and the evenness of both edges after opening.

We do not claim a can having its parts, which are to be separated to open the can, joined by solder, and having such parts intentionally constructed and arranged to move toward each other upon the application to either of such parts of force properly directed and sufficient to break the solder; nor yet do we claim a sheet-metal can, the top of which is united to the body by solder, designedly of such frangibility as to yield to direct violence, and provided with an interspace between the upper chine and the inner surface of the cover, which permits the cover and body to approach each other when sufficient force is applied to either to part the solder; nor, finally, do we claim, in a sheet-metal can, the cover constructed with the rim arranged at an oblique angle or curve to the sides of the can, the said rim being united to the said sides by a frangible seam or joint, and there being an interspace between the upper chine of the body and the inner side of the top of the can.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. A can provided with a yielding or compressible chine or body, and adapted for ready opening by force or blows against the cover, substantially in the manner shown and described.

2. A sheet-metal can, the upper chine of whose body is provided with or formed into a yielding or compressible bevel, B, and whose cover rests upon said yielding bevel, and is united to the body below the same by frangible solder, to the end that blows properly applied to the cover will compress the yielding portions, and permit the descent of the cover, so as to rupture its frangible joint, substantially as described.

3. A sheet-metal can, the upper chine of whose body is provided with or formed into a yielding or compressible bevel, B, in combination with an exterior circumferential swelling, D, and whose cover rests upon said yielding bevel B, and is united upon the summit of the swelling D to the body by frangible solder, to the end that blows properly applied to the cover will compress the yielding portions of the body, permit the descent of the cover to rupture its frangible joint, and will further bulge the corrugation D to aid in said rupture, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two witnesses.

GEO. H. PERKINS. [L. S.]
JAMES H. PERKINS. [L. S.]

Witnesses:
H. E. PERKINS,
S. GARDNER.