G. L. HARRISON, Jr.
Metallic-Can.

No. 211,011. Patented Dec. 17, 1878.

Fig. 1

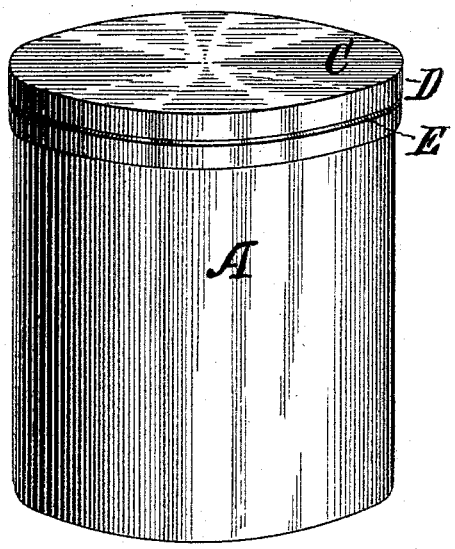


Fig. 2

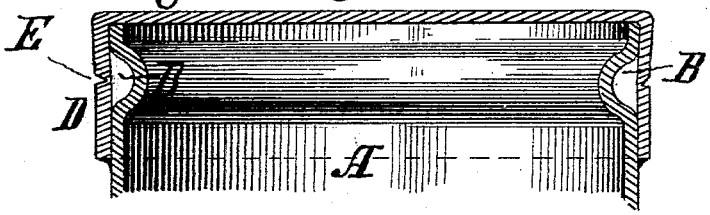


Fig. 3

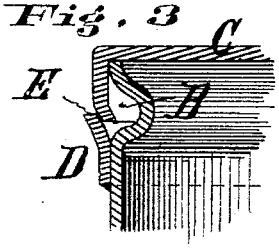


Fig. 4

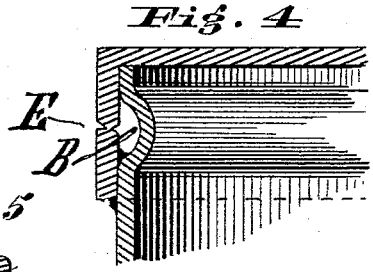


Fig. 5

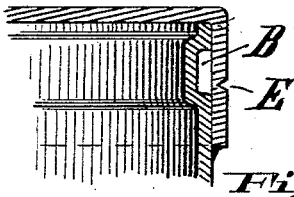
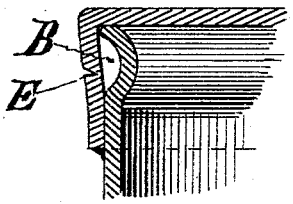


Fig. 6



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UNITED STATES PATENT OFFICE.

GEORGE L. HARRISON, JR., OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HARRISON BROTHERS & COMPANY.

IMPROVEMENT IN METALLIC CANS.

Specification forming part of Letters Patent No. **211,011**, dated December 17, 1878; application filed November 15, 1878.

To all whom it may concern:

Be it known that I, GEORGE L. HARRISON, Jr., of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Metallic Cans, of which I do hereby declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part hereof.

My invention relates to that class of sheet-metal cans which are used for the hermetical inclosing of paints, preserves, meats, milk, and the like.

It consists, broadly speaking, in a sheet-metal can the cover of which is provided with a rim scored or thinned circumferentially, and which is opened by force applied to the cover in such manner as to fracture its rim circumferentially upon the scored line, all substantially as hereinafter set forth and claimed.

Of the drawings, Figure 1 is a representation, in perspective, of a can constructed according to my invention. Fig. 2 is a partial central sectional elevation of the same as the parts appear before opening, and Fig. 3 a similar view of the same as the parts appear after opening. Figs. 4, 5, and 6 are partial sectional elevations of modified forms of construction.

With reference to the drawings, A represents the body of the can, the upper top portion of which is swaged, spun, or corrugated circumferentially into forms such as are represented in Figs. 2, 4, 5, and 6, in the latter case the chine being corrugated. This corrugation, which is indicated by the letter B in the drawings, has the double function of rendering compressible the top portion of the can-body above the line of the soldering of the rim of the cover and of providing a space externally about such top portion of the can-body as will permit of the vibration of the rim of the cover at the line of the scoring, and afford room for the moving inward of the top portion of the rim proper at the time of and subsequent to its fracture.

C is the cover, D the rim thereof, and E the score in the rim. The depth of the rim is such as to overlap the corrugation B, below which, at its bottom edge, the rim is secured to the can-body by solder. Down to the score the rim best angles slightly in, but not necessarily. The cover rests upon the chine of the can.

The score is made by any convenient method in the art of metal-working, and is of extent sufficient to almost sever the metal of the rim—at least to render it so thin that it fractures readily by concussion.

In Fig. 2 the score is represented upon the outside of the rim; but it may be made internally; and in Fig. 4 it is represented as partially upon either side.

Such being the construction of my invention, cans embodying it are opened by force applied to the cover at the edge thereof, and preferably by force applied obliquely from above and from the outside.

The cover having been secured by solder, and resting upon the chine or top edge of the body, the action of the force directed to the opening of the can is such as to compress the corrugation, cause vibration in the rim at the portion thereof which lies outside the corrugation, and consequently cause, by the concussion of the blow and the unobstructed vibration of the rim, the fracture of the latter at the score.

I am aware that it is not new to drive down the cover of a can so as to cause the rupture of the solder which secures it to the body.

I am also aware that it is not new to provide a yielding or compressible chine to aid in such descent and rupture of the solder.

I am aware that it is not new to provide a circumferential kerf to afford space for the penetration of the blade of a knife which cuts through the rim in opening.

I am also aware that it is not new to provide an indentation or depression for the cutting-knife, and to none of the above constructions do I lay claim; but the essence of my invention lies, first, in so weakening the rim of a can circumferentially (which I conveniently do by a score, although it may be done by other means) that fracture becomes possible upon the weakened lines; and, second, in so constructing the top portion of the can-body that it becomes capable of a spring-compression, so to speak, in an up-and-down direction, to aid in permitting the fracture of the

rim, and also in so constructing such portion that it affords an internal space into which the upper portion of the fractured rim can penetrate subsequent to the fracture—in other words, I fracture the metal of the rim at a part where the rim has been previously weakened by force or blows applied to the cover instead of fracturing the securing-solder, in my construction the solder requiring to be unyielding and stronger than the score.

After the fracture the parts appear substantially as in Fig. 3. The cover is then removed by lifting it off.

The principle upon which my invention is based is, that the jar or concussion of the hammer fractures the weakened portion of the rim, the solder being strong and unyielding enough to resist the blow, while the compressible corrugation itself and the interspace formed between said compressible corrugation and the weakened portion of the rim permit the necessary vibration of the rim and its subsequent penetration, although at times the upper portion of the broken cover spreads outside the soldered and remaining portion, and does not penetrate the interspace.

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

1. A sheet-metal can the upper chine of whose body is provided with or formed into a compressible corrugation, and whose cover rests upon said corrugation, is provided with a score or circumferentially-weakened portion, and is united to the body below both score and corrugation by unyielding solder, to the end that blows properly applied to the cover will compress the corrugation to such extent as to permit the vibration of the rim of the cover, so as to rupture it at the weakened portion, substantially as described.

2. In a can the rim of whose cover is secured to the body by unyielding solder, and is provided with a score or other weakened portion, a compressible corrugation, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name this 21st day of October, 1878.

GEO. L. HARRISON, JR.

In presence of—

J. BONSALL TAYLOR,

JOHN JOLLEY, Jr.