J. BROUGHTON.

Hermetically Sealed Metal-Cans.

No. 218,481. Patented Aug. 12, 1879.

Fig. 1.

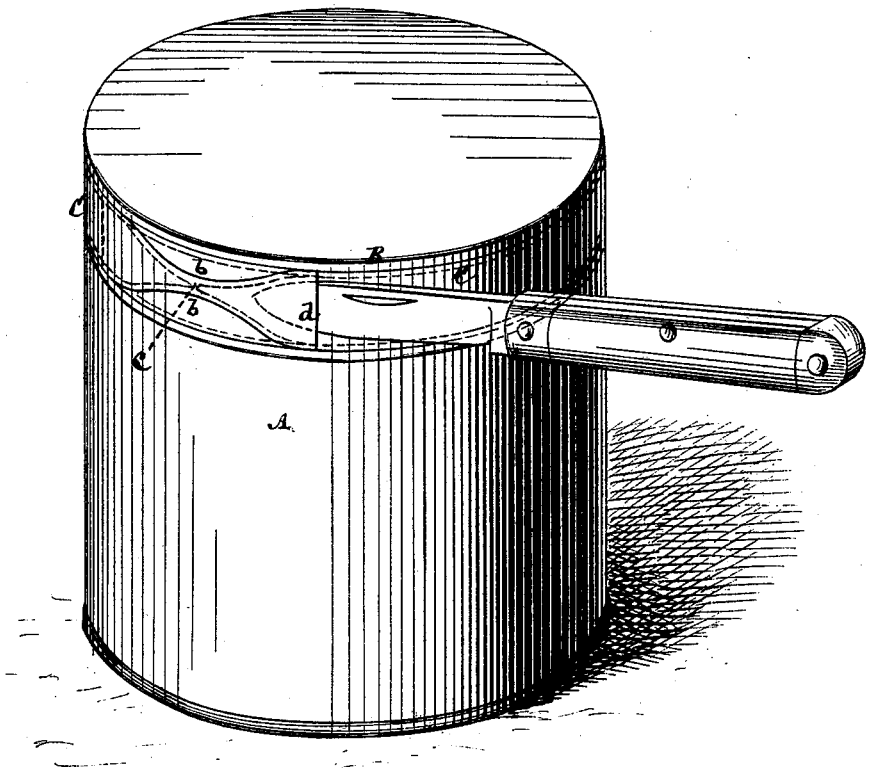


Fig. 2.

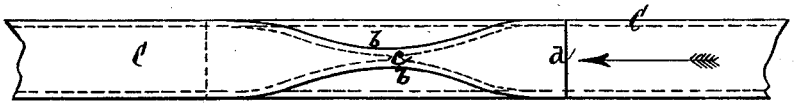


Fig. 3.

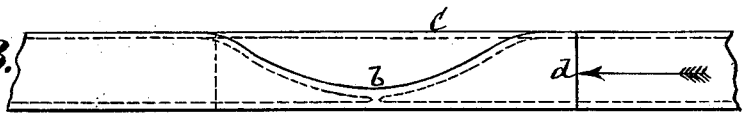
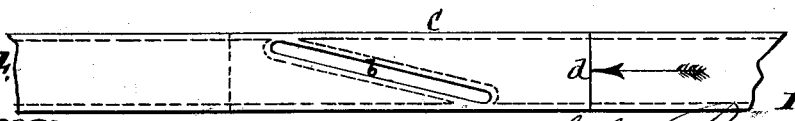


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN BROUGHTON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN HERMETICALLY-SEALED METAL CANS.

Specification forming part of Letters Patent No. **218,481**, dated August 12, 1879; application filed March 1, 1879.

To all whom it may concern:

Be it known that I, JOHN BROUGHTON, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hermetically-Sealed Metal Cans, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to sheet-metal cans for holding paints and other substances, in which the mouth of the can is closed by a rim or flanged cover, and is hermetically sealed by a strip of thin tin soldered to unite the cover with the body of the can, and capable of being ripped, torn, or stripped off when it is required to open the can. To thus hermetically seal the can there are several peculiarities which it is necessary to consider in order to make this method of closing and providing for the opening of the can a practical success. Thus it is necessary, in order to make a close joint, that the strip, which is ripped from the can when opening the latter, should be soldered not only longitudinally along its two or opposite edges to the lid and body of the can, but also crosswise at or near the opening end of the strip, and that the strip should be of a sufficient width to prevent the solder at the parallel longitudinal joints of it from meeting all around the can beneath the strip, and from uniting the flange of the lid to the body of the can; also to give the requisite strength to the strip to admit of its being ripped from the can; but if said strip be made unduly wide, then the cross-soldered joint at or near the outer opening or overlapping end of the strip forms an obstacle to the removal of the latter by the simple operation of pulling on the outer end of it, which outer end is sometimes left loose to form a tang for the purpose of facilitating the removal of the strip, the cross-joint in such case being a little back of the outer end of the strip. Said loose end is straggling and in the way, and exposes the strip to be accidentally ripped from the can; also, the soldering of the cross-joint at the opening end of the strip has heretofore been a tedious operation performed by sweating, and which the width of the strip seriously affects.

My invention has for its object the removal of these and other objections, and admits of a strip of any desired width being used without interfering with the ready removal of the strip from the can by ripping or stripping it therefrom, and without leaving any objectionable loose end; also whereby all sweating to close the cross-joint at the opening end of the strip is avoided and time and labor are economized.

To these and other ends the invention consists in the combination, with the lid and body of a can, of a sealing-strip reduced in width at or near its overlapping end, and soldered along both its edges to the can and lid, respectively, as will more fully hereinafter appear.

Furthermore, the invention consists in certain combinations, with a rim or flanged lid and with the body of the can, over the mouth end of which said lid fits, of a sealing-strip of reduced construction for a portion of its length, at or near its overlapping end, in the direction of its width, and of a spread-out or extended construction at its extreme outer end, to facilitate the hermetical closing of the lid by soldering the strip along its longitudinal margins, and whereby the extreme outer end of the strip is closed against the can with an opening pocket in between its opposite longitudinal margins, substantially as hereinafter described.

In the accompanying drawings, Figure 1 represents a view, in perspective, of a sheet-metal can having my invention applied; and Fig. 2, a side view of a portion of the strip used to close said can as it appears when soldered to its place. Figs. 3 and 4 are similar views to Fig. 2 of certain modified constructions of said strip.

Referring, in the first instance, to Figs. 1 and 2 of the drawings, A represents the body of the can, and B its flanged lid, fitting over the mouth end of the can. C is the closing or sealing metal strip of any desired width throughout the greater portion of its length, and arranged to extend around the can to unite the lid with the body as other sealing-strips have been arranged. The outer or opening and overlapping end portion of said strip, however, has one or more reductions, *b b*, made in its width. These reductions I prefer to make in both longitudinal margins of the strip, as shown in

Figs. 1 and 2, and of gentle or easy curvature throughout their marginal lengths. Such reductions in the outer or overlapping and opening end of the strip admit of the latter being secured to its place so as to hermetically seal the lid over the mouth end of the can by simply soldering said strip along its longitudinal margins, including the margins of its reduced portion as formed by the reductions *b b*, without having resort to any inside soldering or sweating to produce the cross-joint, which latter is readily made by the running or meeting of the solder beneath the strip at its reduced portion *c* when soldering the longitudinal joints of the strip. This cross-joint is of such reduced dimensions that it will not interfere with or prevent the ready removal of the strip by pulling on the outer or overlapping end of the strip to tear it from the can. To form said cross-joint it is not absolutely necessary that the soldering of the strip along its longitudinal margins should be continued much if any beyond the reduced portion *c*, thereby leaving the extreme outer end portion of the strip loose to form a flap or tang to facilitate the ripping of the strip from the can. It is preferred, however, to make the extreme outer end portion of the strip of a width corresponding with the general width of the strip, or at least of greater width than the reduced portion *c* thereof, and to continue the soldering of the longitudinal margins of the strip throughout the full length of the overlapping portions of the latter, which will leave or form an opening pocket, *d*, at the outer end of the strip, to admit of the insertion of a knife or any other instrument for the purpose of starting the strip, that when closed does not present a loose or straggling end.

The invention is not restricted to any particular configuration of the reduced overlapping end portion of the strip, but it is necessary in every case that the strip should be reduced at its overlapping portion. This may be done by a reduction, *b*, in only one of the longitudinal margins of the strip, as shown in Fig. 3, instead of in both longitudinal margins thereof, as hereinbefore described; or it may be done by cutting away the strip at its overlapping portion between the longitudinal margins—as, for instance, by making one or more oblique or other suitably-shaped openings extending to nearly the opposite longitudinal margins of the strip, one modification in illustration of which is shown in Fig. 4 of the drawings, and represents a single oblique opening or reduction, *b*, in the strip between the longitudinal marginal portions thereof, the dotted lines in the several figures of the drawings indicating the direction and extent of the soldered joint or joints.

I claim—

1. The combination, with the lid and body of a can, of a sealing-strip reduced in width at or near its overlapping end, and soldered along both its edges to the can and lid, respectively, substantially in the manner and for the purpose described.

2. The sealing-strip, of a reduced width for a portion of its length, at or near its overlapping end, in combination with the rim or flanged lid and the body of the can, over the mouth end of which said lid fits, the sealing-strip being soldered to the can and lid, respectively, along its edges, substantially as and for the purpose described.

3. The combination, with a flanged or rim lid and with the body of the can, over the mouth end of which said lid fits, of a sealing-strip of a reduced width for a portion of its length, at its overlapping end, and spread out in width at its extreme outer end, forming an opening pocket, said sealing-strip being soldered along both its edges to the can body and lid, respectively, substantially as and for the purpose described.

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