(No Model.)

E. SMALL.

SHEET METAL CAN.

No. 261,396. Patented July 18, 1882.

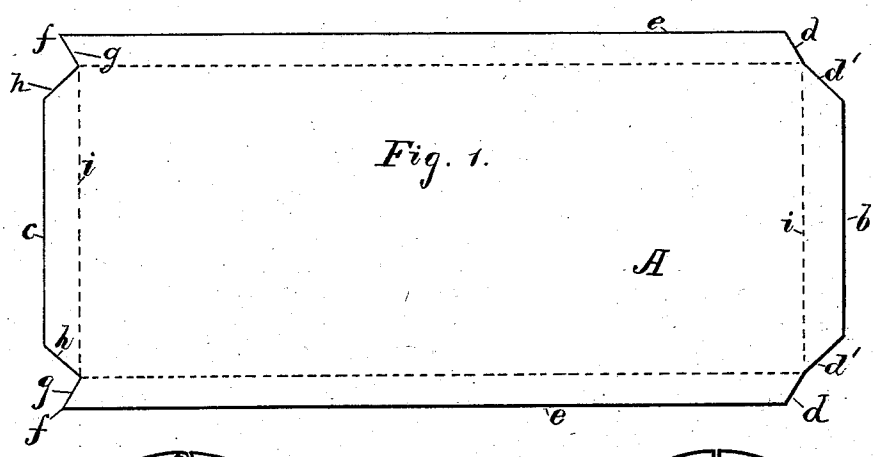


Fig. 1.

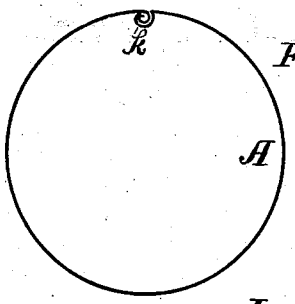


Fig. 3.

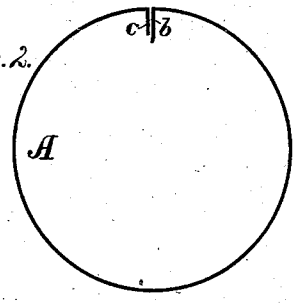


Fig. 2.

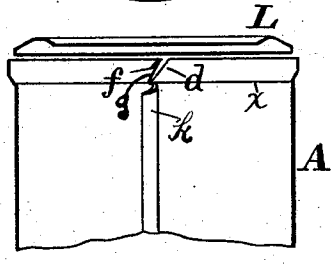


Fig. 4.

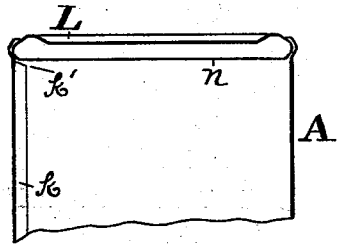


Fig. 5.

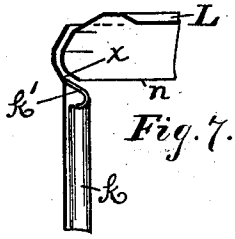


Fig. 7.

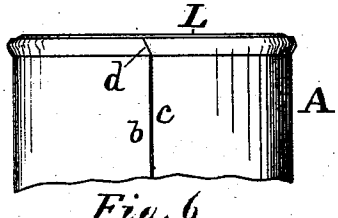


Fig. 6.

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UNITED STATES PATENT OFFICE.

EDWARD SMALL, OF BALTIMORE, MARYLAND.

SHEET-METAL CAN.

SPECIFICATION forming part of Letters Patent No. 261,396, dated July 18, 1882.

Application filed March 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SMALL, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Sheet-Metal Cans, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in the construction of that description of cans employed for the preservation of oysters and fruit, and has particular reference to the production of a can with heads set inside the end of the body.

In the drawings hereto annexed, Figure 1 is a view of a blank from which the body is formed. Fig. 2 is a view of the cylindrical body with the ends turned inward to form the double seam. Fig. 3 is a cross-section of the completed body. Fig. 4 is a vertical section, showing the parts just previous to the attachment of the head. Fig. 5 is a vertical section of the completed can. Fig. 6 is an outer side view of same. Fig. 7 shows on a larger scale the relative position of the head-rim and beveled extremity of the double seam.

Heretofore in constructing this particular kind of can it has been necessary to solder the side seam before the heads could be retained in their place. The end parts of the soldered side seam are therefore necessarily reheated when the heads are subsequently soldered, and this is apt to induce a flowing downward of the solder in the side seam, creating a defective joint and consequently producing a leaky can. Furthermore, as heretofore constructed, a double thicknes of tin occurs at the side seam where it is in contact with the head. Under the action of the contracting-dies this double thickness forces the head out of its proper circular shape, thereby frequently resulting in a defective joint. Again, as heretofore made, the cut edge of the can-body at the head-seam is between the body and the head, and this cut edge, not being tinned, is unadapted to form a union with the solder. Many leaks arise through the failure of the union at this point.

My invention is designed to remedy these several defects. This I accomplish by first cutting a blank for the can-body, as shown in Fig. 1—that is to say, one end, *b*, of the blank A has from each of its two corners a piece clipped to leave an obtuse angular cut, one line, *d*, of which is at an angle of about fifty-eight degrees, the other line, *d'*, of which is at an angle of about forty-five degrees, considered with respect to the side edge, *e*, of the blank. The opposite end, *c*, of the blank has each of its two corners cut to form an acute angular point, *f*, whose two sides are formed as follows: the one by the side edge, *e*, the other by an edge, *g*, having an acute angle of inclination of about sixty degrees with respect to the said side edge. Intersecting or joining the innermost point to which the edge *g* extends is an edge, *h*, the latter being at an obtuse angle of about fifty-eight degrees (but in an opposite direction from the edge *g*) with respect to the side edge, *e*, which is the same as that of the line *d'* on the clipped corners, and said end *h* intersects or joins the end edge, *c*. The blank is then passed between rollers rapidly revolving, which effects a double purpose—viz., giving a cylindrical shape to the can-body and forming an inside shoulder, *x*, near each end of the body, upon which is received the rim of the can-head, as indicated by Fig. 4. The ends *b c* of the body-blank are then turned inward (see Fig. 2) along the broken line *i*. (Shown at each end of Fig. 1.) The body is then placed around a suitable mandrel and firmly held while the two inward-turned ends *b c* are rolled together inside the can-body, whereby a folded or rolled joint is formed, as shown at K in Fig. 3, the seam thus produced being known as a "double seam." This double seam extends only between the two shoulders *x*, one of which is near each end of the cylinder, and said double seam, although not yet soldered, serves to hold the cylinder together while the subsequent steps are taken to finish the can. Those parts of the side seam which extend from each of said shoulders to the end of the body are not double seamed, but are single, and thereby the contracting of the said ends, as hereinafter explained, is facilitated. At this stage of formation those angular edges of the body-blank which on one end are designated by the letter *d* and on the other end by the letter *g* are confronting each other, being spread apart like a V, as shown in Fig. 4. The cylindrical can-body, having its

side seam thus inseparably secured, is now ready to receive the heads L, which are placed in position inside the end and rest upon the seat or shoulder *x*. The ends of the can-body, which consist of the edges *e* of the blank, are then turned inward or "contracted" against the head in the usual manner, as seen in Fig. 5. In the operation of contracting the ends of the can-body against the head the edge *g* of the acute angular point and the edge *d* of the clipped-off corner are brought in direct contact—that is, said edges are made to abut, and thus the V-shaped opening is closed. The can is thus completely put together, all the parts being firmly united, before any soldering of the seams is required; and it will be seen that by the shape given to the can-body blank at the corners the double thickness of tin at each end of the side seam, where it is in contact with the rim of the heads, is avoided, and there is no "cut edge" of the tin between the head and body of the can. This result may be attained whether the double seam be inward or outward.

Another peculiarity in the construction of the side seam and its arrangement with respect to the head (see Fig. 7) is that, owing to the direction which the angular cut edges *d'* and *h* take with respect to the side edge, *e*, of the body-blank, the extremities *k'* of the double seam have a bevel or inclination which coincides with that of the inside shoulder, *x*. Now, when the head L is placed in position with its rim *n* pressed hard down to its seat *x*, and at the same time the contracting-dies press the ends of the can-body inward against the head, the effect is to slightly crimp the head-rim inward, so that its inward-crimped edge is partly over the beveled extremity *k'* of the double seam, and thus the outside tinned surface of the inward-crimped rim is pressed against that part of the extremity *k'* of the double seam immediately adjoining the abutting edges *d g* of the ends of the body, and thereby this part is so adapted that when the solder is applied a tight joint will result.

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

1. A can having inside-fitting heads, a shoulder near each end of the can-body to receive the heads, and a side seam in the body consisting of a double seam extending only between the shoulders and a single seam from each of said shoulders to the end of the body, as set forth.

2. A can whose heads fit within the ends of the body having the herein-described construction, consisting of the body side seam, the ends of which have an edge, *g*, on one side of the seam and an edge, *d*, on the other side, being a single thickness on each side, which abut one directly against the other, and the head having an inward-crimped rim, *n*, with which the single thickness aforesaid of the body side seam is in contact, as set forth.

3. A can whose heads fit within the ends of the body having the construction shown, consisting of a beveled extremity, *k'*, of the body side double seam to coincide with the inside shoulder, *x*, and the head having an inward-crimped rim, *n*, resting partly over the beveled extremity, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD SMALL.

Witnesses:
JNO. T. MADDOX,
CHAS. B. MANN.