

(No Model.)

A. W. LIVINGSTON.
MANUFACTURE OF METALLIC PRESERVING CANS.

No. 517,580.

Patented Apr. 3, 1894.

Fig. 1.

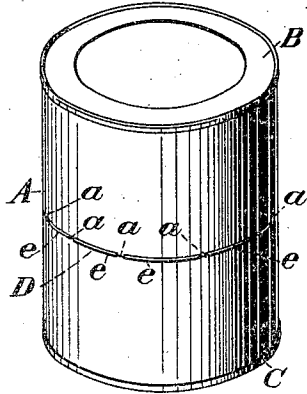


Fig. 2.

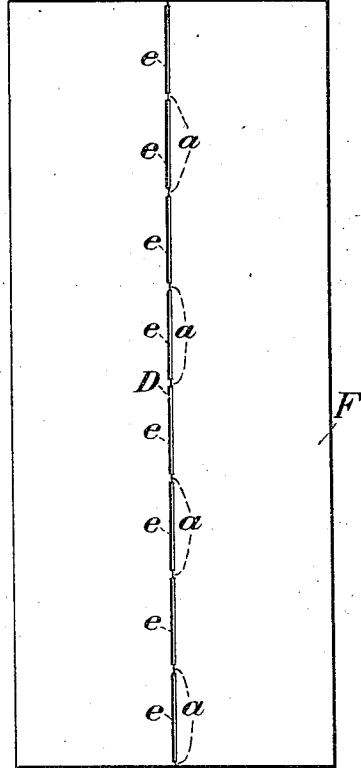
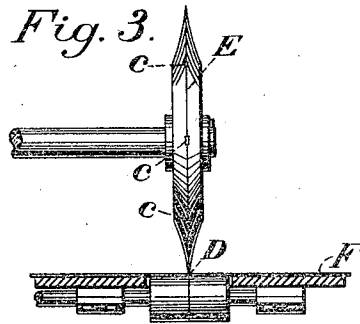
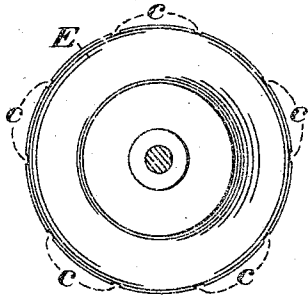


Fig. 5.



Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF METALLIC PRESERVING-CANS.

SPECIFICATION forming part of Letters Patent No. 517,580, dated April 3, 1894.

Application filed May 29, 1893. Serial No. 475,907. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. LIVINGSTON, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented a new and useful Improvement in the Manufacture of Metallic Preserving-Cans; and I hereby declare the following specification and drawings therewith to be a full, clear, and exact description of my invention.

My improvements relate to metallic cans, such as are employed in packing and preserving fruit, fish, or other food, and to a method of construction or manufacture by which the processes for making small cans are shortened and cheapened, also other useful objects attained.

My invention consists in constructing cans of double length, or making a common can separable into two parts or half cans by scoring and perforating the main sheet forming the sides thereof, so that when the can is finished it can be readily separated into two parts, forming two half cans that are complete except the cover to be applied after the cans are filled, also facilitating the process of soldering the ends of the double can by permitting, through the perforations, the escape of the contained air which expands by heat when the ends are soldered on, also in other features that will be more particularly explained in connection with the drawings, in which—

Figure 1 is a perspective view of a completed can, made double or separable according to my invention. Fig. 2 is a flat view of the sheet forming the sides of the can as prepared before rolling and forming into a cylinder. Fig. 3 shows an edge view of the same sheet passing under a rolling shear or cutter that perforates and scores the sheet, as shown in Figs. 1 and 2. Fig. 4 is a side view of the cutter, showing how it is serrated so as to score and perforate the sheet. Fig. 5 is a detail showing how the metal is slightly compressed or turned inward during the shearing or perforating action of the cutter.

Similar letters of reference are employed to designate like parts in the drawings.

In the manufacture of packing cans, they are commonly made to a standard size, about

six inches long and four inches in diameter, and half cans of the same diameter about three inches long. The machinery employed in this manufacture is preferably made to accommodate in its various elements the full size cans of uniform dimensions.

In my invention, the processes of manufacture are the same for both whole and half cans, except that in making half cans the sides of the standard one is scored and perforated, and both ends soldered on, so that when complete the double can may be readily separated in the middle, and two halves prepared ready to receive their covers; thus doubling the capacity of the machinery in making half cans, and cheapening the manufacture accordingly, also, by reason of the perforations permitting the escape of air in the cans which is expanded by the heat so that both ends can be soldered on.

Referring to the drawings, the can A, Fig. 1, is of the standard size, having the ends B and C soldered on. Around the center of the can is a score D, cut entirely through for most of the distance, small sections *a a a* being left partially cut through, so the can will be held together during the process of manufacture. The perforations *eee* I make preferably to extend around about nine tenths of the can's perimeter, the remaining portions *a a a* partially cut through, being about one tenth of the perimeter. To form this score and perforations, I employ a sharp rotary cutter E, that rolls on the sheet F, as shown in Fig. 3, the periphery being slightly cut away at *c c c c*, corresponding to the points *a a a* in Fig. 2, which shows the sheet flat with the score D exaggerated for better explanation. The notches in the cutter E are also, for the same reason, shown exaggerated in the side view, Fig. 4. This rolling action of the cutter E being inward, leaves the burr on the inside as indicated in Fig. 5, and the exterior smooth, so the covers can be pressed on the half cans without obstruction when they are filled and sealed. The cutter E I make with a thin edge so as to disturb the metal as little as possible where the slit or score is made, and so the sides of the can will remain in a straight line and not be indented. This is necessary, because in applying the heads or

ends B and C considerable pressure is employed, and the can would crush if the sheet was indented along the score D. To separate the can after it is completed in the form shown in Fig. 1, I employ a roller or other means to bend and disturb the metal at the sides of the score D, which separates readily when subjected to such bending and pressure. Thus it will be seen that the process of manufacture is the same for whole and half cans, except the scoring and perforating mechanism, which can be applied or omitted as the work goes on, and that the number of half cans that can be made in a given time is double what the machinery could produce if modified to suit the shorter length, also that in making half cans no other perforations than those in the score D are required to permit the escape of contained air that is expanded by heat in soldering on the ends B and C, and the machinery requires but little modification or change for either purpose.

Having thus described the nature and objects of my invention, with the manner of applying it in practice, what I claim as new, and desire to secure by Letters Patent, is—

1. The process of improvement in the art of manufacturing sheet metal cans, consisting in forming a double length can body from a single blank of sheet metal and cutting it into two separate can bodies and simultane-

ously with the act of cutting turning inward the edges of the two cans, whereby the necessity of subsequently burring or turning said edges inward by a separate operation is obviated, substantially as specified. 35

2. The double packing can herein described, scored or partially severed around its axis or middle section and having the edges of the two cans, which are to be formed by separating or dividing the double can, turned inward at such score, substantially as specified. 40

3. The process of improvement in the art of manufacturing sheet metal cans consisting in first partially severing a double length can body blank along its median line and simultaneously turning inward the edges of the two cans to be formed from said double can body blank, then forming said double can body blank into a double length can body, and finally separating the double length can body into two separate can bodies along said partially severed line, substantially as specified. 50

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses. 55

ANDREW W. LIVINGSTON.

Witnesses:

E. H. THARP,
B. ANSLEY.