

C. E. BERTELS.
METHOD OF MAKING CANS.
APPLICATION FILED SEPT. 6, 1910.

1,013,366.

Patented Jan. 2, 1912.

Fig. 1

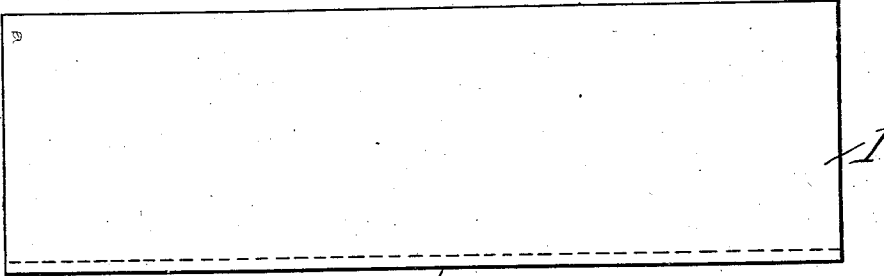


Fig. 3.

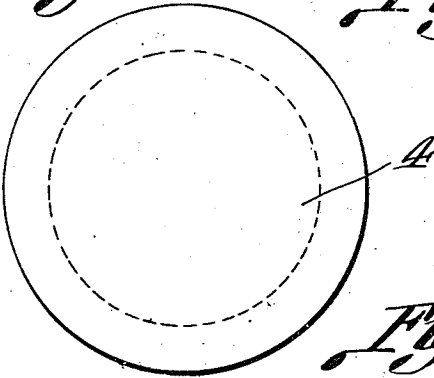


Fig. 2.

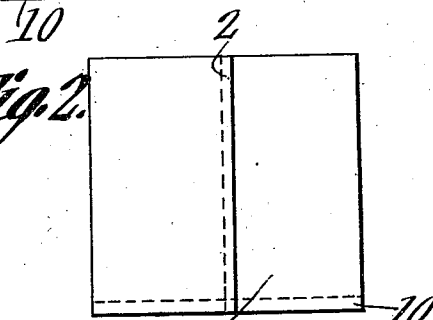


Fig. 5.

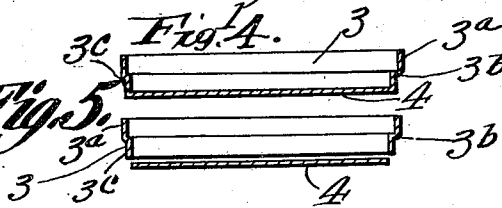


Fig. 4.



Fig. 6.

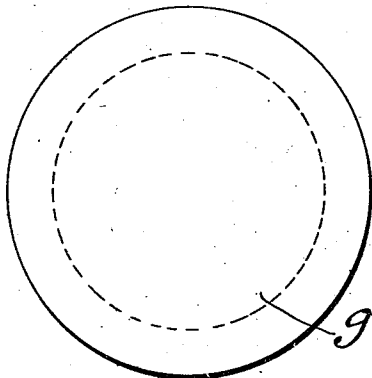
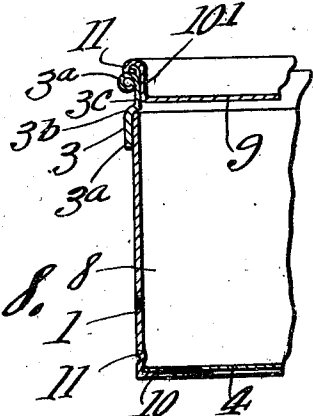


Fig. 7.

Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES E. BERTELS, OF WILKES-BARRE, PENNSYLVANIA.

METHOD OF MAKING CANS.

1,013,366.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed September 6, 1910. Serial No. 580,536.

To all whom it may concern:

Be it known that I, CHARLES E. BERTELS, a citizen of the United States, residing at Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Method of Making Cans, of which the following is a specification.

This invention relates to a new and useful method of manufacturing cans, the object of the invention being to produce what is known as a "seamless can" in a simple, practical, thoroughly feasible and efficient manner and in the smallest possible number of operations.

The operation, briefly outlined, consists in forming the can body in any suitable manner; stamping the bottom of the can from a metal blank in such manner as to produce an upstanding flange thereon; severing the flange from the bottom; securing the bottom to one end of the can body; and securing the flange to the other end of the can body so as to serve as a seamless rim therefor.

It is to be understood that changes in the method as herein described and illustrated, can be made within the scope of the appended claims without departing from the spirit of the invention.

The process is described in detail in connection with the accompanying drawings forming part of this specification, in which:—

Figure 1 is a plan view of a sheet metal blank from which the can body is rolled and soldered, the dotted line indicating the portion which is to be subsequently bent inward in the form of a flange to secure the bottom of the can in position. Fig. 2 is a side elevation of the can body after it has been rolled up from the blank shown in Fig. 1 and soldered along the seam. Fig. 3 is a plan view of the circular blank from which the bottom of the can and the seamless rim thereof are simultaneously stamped or swaged. Fig. 4 is a sectional view through the swaged bottom and seamless rim before they have been severed from each other, showing particularly the manner in which the flange or seamless rim is swaged in two different annular sizes, so that one portion of the flange or rim will be larger than the other portion thereof. Fig. 5 is a view similar to Fig. 1 just after the bottom has been severed from the flange or seamless rim. Fig. 6 is a detail sectional view showing the seamless rim after its smaller end

has been beaded and the rim has been inverted and fitted over the end of the can body illustrated in Fig. 2 in position to be soldered or otherwise secured thereon. Fig. 7 is a plan view of the blank from which the cap or closure of the can is stamped. Fig. 8 is a vertical section through the completed can showing the manner in which the lower end of the can bottom is rolled in to secure the body in position, and showing also the cap or closure fitted downward inside of the seamless rim.

In carrying out the method of the present invention, the can body 1, illustrated in Fig. 2, is formed from a suitable sheet metal blank shown in Fig. 1 by merely rolling the blank into the form of a cylinder with the ends 2 thereof overlapping, and soldering or otherwise securing the ends together. The seamless rim 3 and the bottom 4 of the can, are simultaneously stamped or swaged from a single blank of metal as illustrated in Fig. 3. In thus stamping or swaging the bottom 4 and rim 3, the latter is preferably formed with an annular enlargement 3^a at its upper end, and off-set at 3^b from the lower and smaller portion 3^c thereof. After the seamless rim and bottom have been thus formed, they are severed or separated from each other in any suitable manner as indicated in Fig. 5. The smaller end 3^c of the rim is then curled or beaded at 3^d and the rim is inverted and fitted over the upper end of the can body 1 as clearly shown in Fig. 6, the annular enlargement 3^a of the rim being of the proper size to fit over the upper end of the can body, the smaller portion 3^c being of the same diameter as the can body 1 so as to form in effect a seamless extension thereof. The flange 3^a of the rim is soldered or otherwise suitably secured to the can body 1.

The bottom 4 of the can is fitted into the can body 1 as shown in Fig. 8 and the lower end of the can body is rolled on the dotted line 10^a, shown in Figs. 1 and 2 so as to form an inwardly directed flange 10 which serves to hold the bottom 4 securely in position, the can body 1 being also inwardly beaded or ribbed at 11 above the bottom 4 to prevent upward displacement thereof.

The cover or closure 9 of the can is swaged or stamped from a single blank shown in Fig. 7, and is formed with an upstanding flange 10' having the upper end thereof beaded or outwardly curled at 11. The flange 10' and

the rim 3 preferably are formed with straight or vertically extending sides so that when the closure is forced into the rim, a perfectly air and water-tight joint is produced. It has been found in practice that cans constructed in accordance with the method of the present invention will withstand a pressure of 35 pounds to the square inch without permitting a leak, or the disconnection of the closure 9 from the rim.

What is claimed as new is:—

1. The method of manufacturing cans which consists in suitably producing the can body, forming the proposed bottom of the can with a flange thereon; severing the flange and bottom from each other; securing the bottom to the lower end of the can body, forming one edge of the flange with an out-turned bead and securing the flange to the upper end of the can body to serve as a seamless rim therefor.

2. The method of manufacturing cans which consists in suitably producing the can body, forming the proposed bottom of the can with a flange having annular portions of different sizes, severing the flange and the bottom from each other, securing the

bottom to the lower end of the can body, forming one edge of the flange with an out-turned bead and securing the other end of the flange to the upper end of the can body to serve as a seamless rim therefor.

3. The method of manufacturing cans which consists in suitably producing the can body, stamping the proposed bottom of the can with a flange having an annularly enlarged upper end, severing the flange and the bottom from each other, securing the bottom to the can body and rolling said can body inward above and below the bottom to hold it in place, inverting the flange so as to fit the annularly enlarged upper end thereof over the upper end of the can body, forming one end of the flange with an out-turned bead and securing the other end of the flange to the can body, so as to cause the same to serve as a seamless rim therefor.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES E. BERTELS.

Witnesses:

FRANK B. OCHSENREITER,
WILLIAM CRICHTON CLARKE.