July 2, 1929. A. L. WERTZ 1,719,153

METALLIC CONTAINER AND METHOD OF MANUFACTURING IT

Filed May 12, 1923

FIG. I.

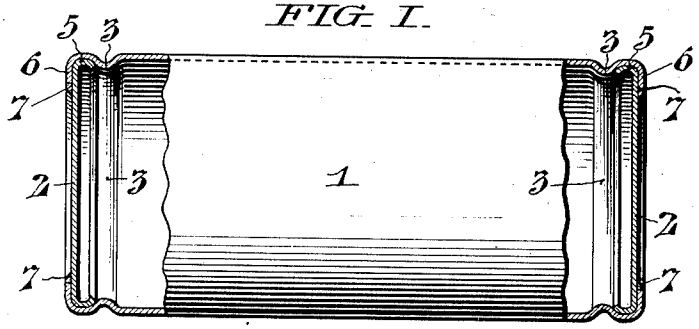


FIG. II.

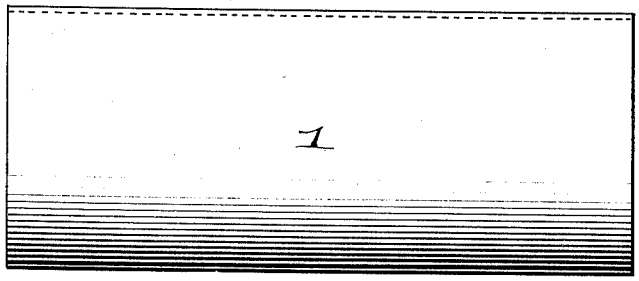


FIG. III.

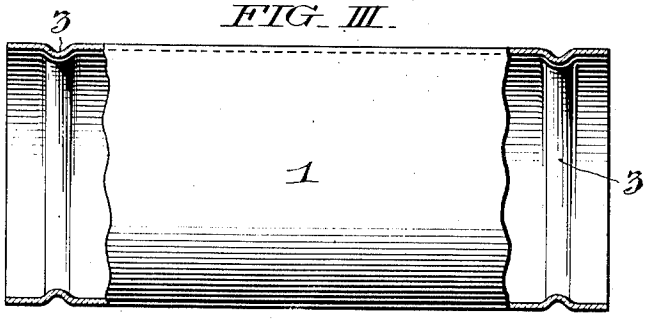


FIG. IV.

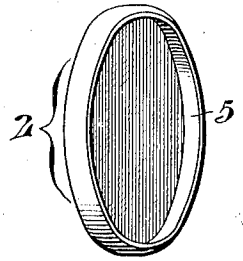
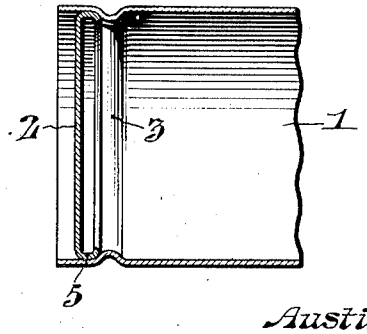


FIG. V.



WITNESSES:
John C. Bergum
Alfred E. Ischinger.

INVENTOR:
Austin L. Wertz,
BY Fraley & Gaul
ATTORNEYS.

Patented July 2, 1929. 1,719,153

UNITED STATES PATENT OFFICE.

AUSTIN L. WERTZ, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC CONTAINER AND METHOD OF MANUFACTURING IT.

Application filed May 12, 1923. Serial No. 638,479.

My invention relates to the construction of containers, more especially metallic containers, and has for its chief object to secure, in such manufactures, the utmost strength and rigidity notwithstanding the use of sheet metal, so that said containers may be capable of withstanding all shocks incident to handling and transportation without yielding to distortion or rupture.

How this desideratum may be attained, together with other subsidiary objects and attendant advantages, will be readily apparent from the detailed description which follows of a typical embodiment of my invention and the manner in which it may be economically produced, while the appended claims clearly define the scope of my invention in so far as it comes within my present knowledge.

In the drawings, Fig. I is an elevation of a container constructed in accordance with my invention, portions thereof being broken and shown in section for covenience of illustration in bringing out certain salient features.

Fig. II shows a tubular blank from which the body or shell of the container is formed.

Fig. III shows the same blank after the performance of a swedging operation thereon.

Fig. IV is an illustration, in perspective, showing the type of heads employed as closures for the ends of the body or shell; and

Fig. V shows the manner in which the heads are initially placed relative to the body or shell.

A container typifying my invention comprises, as clearly shown in Fig. I, a main or body portion designated by the numeral 1, and closure heads 2. The body portion 1 is produced from a length of plain tubing such as shown in Fig. II, which, by aid of any appropriate tools suitable to the purpose, is swedged adjacent opposite ends, to provide internal circumferential ridges or beads 3, see Fig. III.

The heads 2, one of which is shown in perspective in Fig. IV, are formed from blank disks of sheet metal which are preferably die pressed or otherwise worked into dished form thereby affording inwardly curved, peripheral flanges 5 adapted to fit snugly within the ends of the tubular body portion 1.

In assembling the container, the heads 2 are inserted, flange edges foremost, into the open ends of the body or shell portion 1 as suggested in Fig. V, and seated against the internal circumferential ridges or beads 3. The projecting or overhanging ends of the shell 1 (Fig. V) are thereupon swedged over to embrace the peripheral flanges 5 of the heads 2 and to intimately overlap the outer faces of said heads as at 6. In the swedging of the tubular shell 1, the position of the ridges 3 relative to the shell ends is so ordered as to predetermine a substantial marginal overlap of the heads 2 when the container parts are assembled as above noted. The final step in my improved process is to weld the exposed edges of the inwardly turned ends 6 of the shell 1 to the heads 2 as suggested conventionally at 7 in Fig. I, for the purpose of sealing the structure and rendering the same absolutely fluid tight.

The heads 2 are rigidly lodged after the manner just described, within the ends of the shell 1 between the internal ridges or beads 3 and the overlaps 6, and are accordingly secure against displacement from pressure exerted either from within or without the container. The heads 2, it will be seen, by virtue of the inwardly curved peripheral flanges, are amply stiffened against bending or distortion under pressure. The welded joints 7 are, as a result of the above conditions, relieved of all strains, and, on account of their remoteness from the can corners, well protected against injury from impacts when the containers are stacked or aligned end to end.

In accordance with the herein described method of procedure, it will be apparent that a very durable container may be obtained notwithstanding the use of sheet metal, the important advantage of lightness being thus secured without sacrifice of strength.

While features of my invention may obviously be incorporated in containers adapted for many different purposes, the containers are peculiarly adapted for use as drums for oil, kerosene, gasoline and the like. A filler or discharge opening may be provided at either end or in the cylindrical shell of the container according to the purpose for which the container is utilized.

Having thus described my invention, I claim:

1. As an article of manufacture a sheet metal container comprising a cylindrical shell and insert closure heads having inwardly curved peripheral stiffening flanges, said shell being provided with circumferential beads adjacent the ends serving as seating abutments for the curved flanges of the heads, and

the container having its ends intimately overlapping the stiffening flanges and outer flat faces of the heads with the exposed shell edges welded to the exterior surface thereof, whereby the closure heads are integrally united to the shell and secured against displacement and distortion by internal or external pressure.

2. The method of manufacturing a sheet metal container which consists in swedging a tubular shell adjacent its opposite ends to provide internal circumferential ridges, forming closure heads of sheet metal with inwardly curved peripheral flanges, inserting said heads flanged-edge foremost within the shell ends to abut the circumferential ridges, swedging the edges of the shell over to intimately embrace the peripheral flanges and overlap the marginal outer faces of the heads, and welding the overlapped shell edges to the exterior surface of the heads to form an integral joint.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 10th day of May, 1923.

AUSTIN L. WERTZ.