July 10, 1928. 1,677,100

J. A. JENSEN

METALLIC CONTAINER

Filed July 2, 1924

FIG. I.

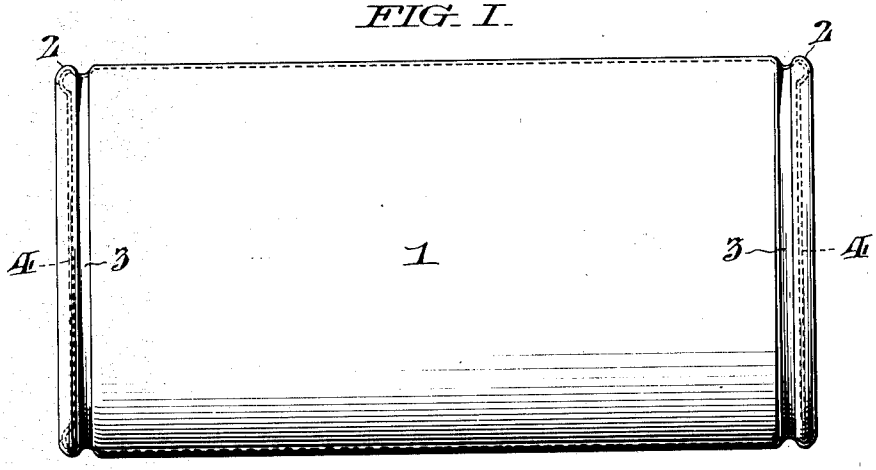


FIG. II.

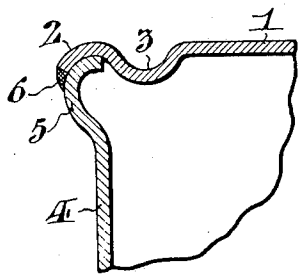
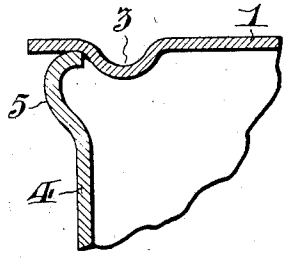


FIG. III.



WITNESSES:
John C. Bergner.
Alfred E. Ischinger.

INVENTOR:
James A. Jensen,
BY Fraley & Paul.
ATTORNEYS.

Patented July 10, 1928. 1,677,100

UNITED STATES PATENT OFFICE.

JAMES A. JENSEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO QUAKER CITY IRON WORKS, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

METALLIC CONTAINER.

Application filed July 2, 1924. Serial No. 723,663.

This invention, although relating to containers generally, is more particularly concerned with the construction of barrels or drums used in shipping of liquids, or tanks of cars employed in transportation of gasolene, fuel oils and the like.

Containers of the type specifically mentioned are usually constructed of relatively stout sheet metal in contradistinction to thicknesses thereof more commonly known as "tin" with the ends of their body portions turned over the edges of the closure heads to retain the latter in place, the latter operation entailing sharp bending of the metal—often to the extent of causing crystallization—at the regions of juncture, which, under vibration induced through surging of the contents of the containers in transit are liable to become fractured so that leakage ensues. This contingency not only entails the loss of the container contents, but, in the case of lubricating oils, fuel oils, etc., is attended by dangers of fire hazard.

My invention is directed toward structurally improving containers of this class such as will insure increased rigidity and sturdiness against abuse in handling as well as against surging of the contents both with regard to deformation, and the possibility of fracture or opening of the joints between the component parts.

One way in which this desideratum may be realized will be readily apparent from the detailed description hereinafter of a typical embodiment of my invention, the appended claims serving to define those features which I believe to be entirely novel over container constructions heretofore known.

With reference to the drawings, Fig. I is an elevational view of a container made in accordance with my invention.

Fig. II is a detail section showing the manner in which the heads are secured to the body portion of the container; and,

Fig. III is a detail view showing the initial step in assembling the component parts.

In these illustrations the body portion of the container indicated at 1, is in practice constructed of sheet metal, preferably of steel, and here shown as of tubular cylindric configuration with its ends fashioned into rounded perimetric or circumferential terminal beads 2 of substantially semi-circular cross section as shown in Fig. II, said beads merging with adjoining perimetric or circumferential depressions or recesses 3 that not only function to strengthen the cylinder against deformation, but provide continuous internal shoulders useful for a purpose hereinafter explained. The beaded ends 2 are preferably made of the same diameter as the intermediate part of the body portion 1, so as to be externally flush with the same to the avoidance of any surface projections.

The ends of the body portion 1 are closed by circular heads 4 also made of sheet metal, and each characterized by an outstanding peripheral stiffening bead 5 of half-round cross section to fit snug within the end beads 2 of said body portion when the parts are assembled as in Fig. II. Such a construction may be had by initially swedging the body portion 1 to provide the internal circumferential recesses 3 only, leaving the ends therebeyond straight; then after inserting the heads 4 to seat against the shoulders afforded by the recesses 3 as suggested in Fig. III, to round the projecting ends of the body portion—by rolling or in any other convenient manner—into conformity with, and to overlap the peripheral beads 5 of the heads 4. The beads 5 of the heads 4 thus determine the extent to which the ends of the body portion 1 are rounded, so that fractural or prohibitive bending is entirely obviated and the possibility of failure of the metal under continuous vibration (whereto barrels in transit, or vehicle tanks are at all times subject) is absolutely precluded. If fluid tightness is desired or required, the overlapping beads 2 of the body portion 1 may be permanently joined to the beads 5 of the heads 4 by edge welding as indicated conventionally at 6 in Fig. II.

When the component parts of the container are assembled in the manner explained, it will be apparent that the heads 4 are braced against displacement inward by the internal shoulders 3 of the body portion 1; and that as a result of being welded together, the beads 2—5 are, in each instance, merged into one continuous well-rounded composite corner edge of double thickness,

which, by virtue of the overlap, is amply reinforced at a region that must of necessity be capable of withstanding the severest strains in usage.

While I have herein shown and described the container as being of cylindric cross section, it is to be understood that the improved structural characteristics of my invention may, as readily and with equal advantages, be embodied in elliptic or polygonal forms.

Having thus described my invention, I claim:

1. A container of sheet steel comprising a cylindrical body portion having an internal corrugation merging into a substantially semi-circular cross-section terminal bead at each end thereof, similar material flat closure heads therefor having outset peripheral beads of half-round cross-section seating on the corrugations and overlapped by the terminal beads aforesaid, said overlapped portions forming a double thickness corner-edge whereby the container is rigidly braced against deformation with the heads securely prevented from inward or outward displacement, and said terminal and peripheral beads being joined by edge welding on the exterior surface for fluid tightness at the overlapped junctures.

2. The method of manufacturing a sheet metal container which consists in swedging a cylindrical shell adjacent its opposite ends to provide circumferential recesses, forming closure heads of sheet metal with peripheral stiffening beads of half-rounded cross section, inserting the heads with the beads projecting outwardly within the shell ends to abut the circumferential recesses, rolling the projecting ends of the shell into conformity with and to overlap the peripheral beads of the closure heads, and welding the overlapped shell ends to the exterior surface of said heads to form a fluid-tight joint.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 26th day of June, 1924.

JAMES A. JENSEN.