June 20, 1933. C. H. ROLLASON 1,914,867

METHOD OF APPLYING HEADS TO METAL DRUMS

Filed Oct. 15, 1930

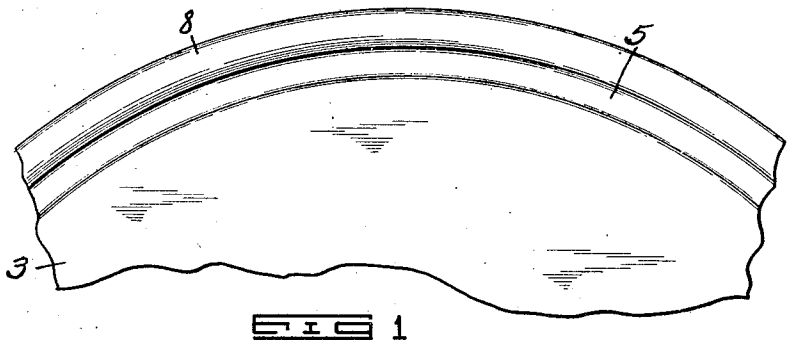


FIG 1

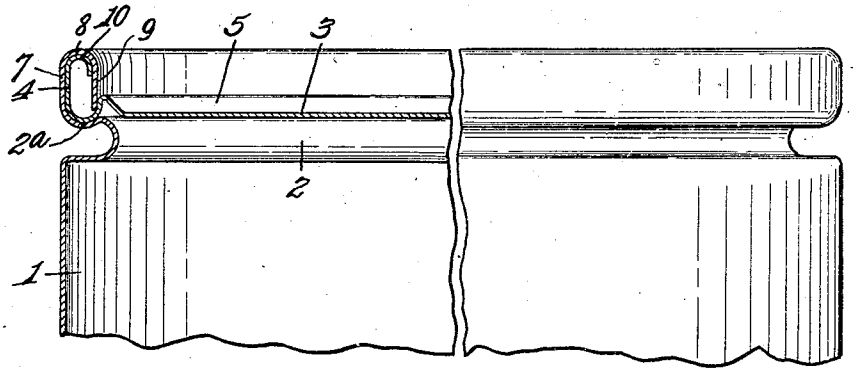


FIG 2

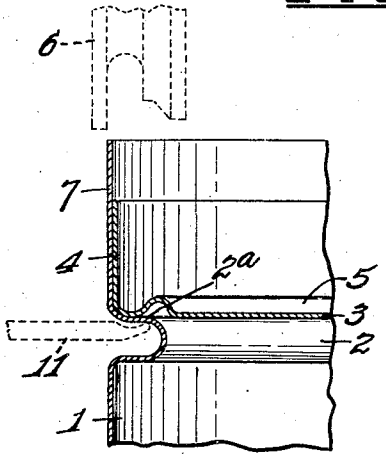


FIG 3

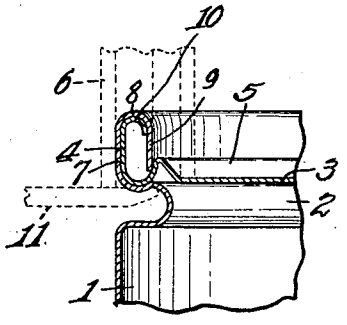


FIG 4

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UNITED STATES PATENT OFFICE

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METHOD OF APPLYING HEADS TO METAL DRUMS

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This invention relates broadly to sheet metal drums, and more specifically to a form of seam whereby the terminal edges of a drum body and its head are permanently attached.

The primary object of the invention is to provide, in a sheet metal shipping drum, a body and a head connected to form a substantial chime joint or seam which will successfully withstand the rough handling to which such shipping drums are ordinarily subjected.

A further object is to provide a chime joint for the ends of drums which possesses relatively great strength and resistance to distortion and which, consequently, is substantially leak proof.

A still further object is to provide a practical method for performing the seaming or joint forming operation.

In describing the invention in detail, reference is herein had to the accompanying drawing, in which—

Figure 1 is a fragmentary top plan view of an end of a drum embodying my invention;

Figure 2 is a view of the drum partly in vertical section and partly in side elevation;

Figure 3 is a detail section of the head end of the drum showing the relative positions occupied by the drum body and head prior to performance of the seaming, or joint-forming, operation; and

Figure 4 is a similar section showing the parts at the completion of said operation.

Referring to said drawing, 1 designates a sheet metal drum body which has formed therein at a spaced distance from the terminal edge of its end an inwardly directed annular bead 2. The top surface of said bead constitutes a seating ledge or shoulder 2^a for a sheet metal head 3 which, prior to the seaming operation by which said head is secured to the body 1, has an upstanding annular flange 4 fitted snugly within the embrace of the marginal edge of the body, as shown in Fig. 3 of the drawing.

Formed in said head 3 prior to insertion thereof to its seated position within the end of the drum body 1 is a small circular upwardly pressed bead or rib 5 which occupies spaced relation to the flange 4.

In the seaming, or head attaching, operation, effected by means of seaming rollers 6, shown in dotted lines in Figs. 3 and 4, the said end, or marginal edge, of the body occupies inwardly turned oblong chime form, being bent to provide an outer upright member 7, an inwardly curled roll portion 8 and a vertical downwardly directed terminal leg 9, the edge of the latter being received against the outer side of, or behind, the bead 5 of the head 3. Also, the upper edge portion of the flange 4 of the head is curled inwardly and downwardly to form a roll 10 which occupies closely underlying supporting relation to the roll portion 8 of the chime.

In the final part of the seaming operation the seaming rollers exert an outwardly directed rolling force against said bead 5 which acts to thrust or throw over the metal of the latter outwardly against the leg 9, forming a bracing rib of substantially V-shape, inverted, the outer member of the rib being substantially vertical and resting against said leg 9 and the inner member of said rib being inclined outwardly and forming an acute angle with said vertical member, as shown in Fig. 4.

To prevent collapse of the bead 2 under the downwardly directed force exerted by the seaming rollers 6 during the seaming operation, a rigidly supported ring, indicated in dotted lines at 11 in Figs. 3 and 4, is disposed within the channel of the bead 2 in closely underlying relation to the seating ledge or shoulder 2^a. Said ring constitutes a rigid support which prevents communication to the body of the drum of the force exerted by said seaming rollers.

What is claimed is—

1. The method of applying heads to sheet metal drum bodies comprising providing a drum body with an inwardly directed annular bead at a spaced distance from its end, inserting a head in seated relation to said bead, said head having an outwardly directed head flange closely embraced by said

body, supporting the seat-forming upper part of said bead, and then turning the end of said body inwardly a distance greater than twice the combined thickness of the said end and head flange and simultaneously turning the head flange inwardly, and then turning the said end downwardly toward said head in spaced relation and substantially parallel to the outwardly directed portion of the head flange.

2. The method of applying heads to sheet metal drum bodies which comprises providing a drum body with an inwardly directed annular bead at a spaced distance from its end, inserting a head in seated relation to said bead, said head having an outwardly directed flange closely embraced by said body and also having therein an upwardly pressed circular bead located adjacent to said flange, supporting the seat-forming upper part of the body-bead, then turning inwardly and downwardly both the end of said body and the flange of said head and disposing the terminal edge portion of said end vertically behind the bead of the head, and finally thrusting the metal of the last mentioned bead outwardly into seated bracing relation to said vertical edge portion.

3. The method of applying heads to sheet metal drum bodies comprising providing a drum body with an internal shoulder at a spaced distance from its end, seating upon said shoulder a sheet metal head having an outwardly directed annular flange and having a rib-like portion adjacent said flange, then turning inwardly and downwardly the projecting end portion of said body to a position in which it is disposed parallel to and at a distance from said flange with its terminal edge adjacent to the plane of said head, and then thrusting into abutting bracing relation to the inner side of said terminal edge portion said rib-like portion.

4. The method of applying heads to sheet metal drum bodies, which comprises providing a drum body with an inwardly directed annular bead at a spaced distance from its end, inserting a head in seating relationship to said bead, said head having an outwardly directed flange closely embraced by said body and also having therein an upwardly pressed bead adjacent said flange, supporting the seat-forming upper part of the body-bead, and then turning inwardly and downwardly both the end of said body and the flange of said head and disposing the terminal edge portion of said end vertically behind and in supporting relationship to the bead of the head.

5. The method of applying heads to sheet metal drum bodies, comprising providing a drum body with an inwardly directed body-bead at a spaced distance from its end, inserting a head in seated relation to said bead, said head having an outwardly directed head flange closely embraced by said body, supporting the seat-forming upper part of said body-bead, turning said end and said flange inwardly and downwardly to bring said end into engagement with said head, and then moving a portion of the head metal outwardly into supporting engagement with said end.

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

CHARLES H. ROLLASON.