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PROCESS FOR FORMING CHIMES ON METAL BARRELS.

APPLICATION FILED DEC. 14, 1915.

1,206,487. Patented Nov. 28, 1916.

Fig. 1.

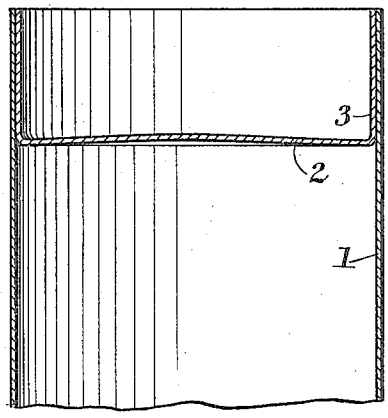


Fig. 2.

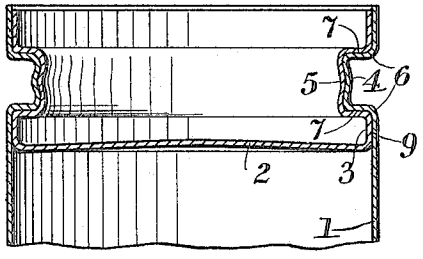


Fig. 3.

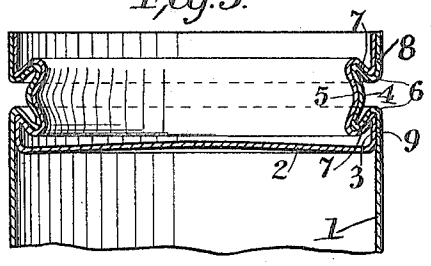
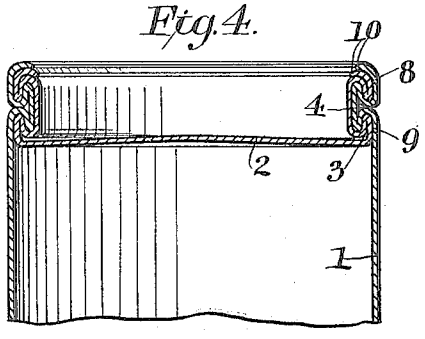


Fig. 4.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

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PROCESS FOR FORMING CHIMES ON METAL BARRELS.

1,206,487. Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed December 14, 1915. Serial No. 66,749.

To all whom it may concern:

Be it known that we, CHARLES VOLTZ, a citizen of the United States, residing at New York city, in the county of Queens, State of New York, and SAMUEL B. COCHRANE, a citizen of the United States, residing at New York city, borough of Brooklyn, county of Kings, New York, have invented certain new and useful Improvements in Processes for Forming Chimes on Metal Barrels, of which the following is a full, clear, and exact specification.

This invention relates to metal barrels, and has for its object to provide a barrel with a chime of improved construction which also constitutes a reinforcement for the end of the barrel and an effective lock between the barrel and head.

Another object is to provide an improved cylindrical barrel made entirely of sheet metal with the interlock between the chimes and heads arranged entirely within the uniform circumference of the barrel.

Other objects will appear from the following description.

The invention will be first hereinafter described in connection with the accompanying drawings, which constitute part of this specification, and then more specifically defined in the claims at the end of the description.

In the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views: Figure 1 is a central longitudinal section through one end portion of a metal barrel, showing the initial step of placing the head therein. Fig. 2 is a similar view illustrating the next step in the formation of the interlocking joint between the flange on the head and the chime of the barrel. Fig. 3 is a similar view of the next step in the formation of this interlocking joint, and Fig. 4 is a similar view showing the completely formed interlocking joint which constitutes the reinforced chime of the barrel, said interlocking joint being arranged entirely within the uniform circumference of the barrel.

The body portion 1 of the barrel is made cylindrical in form from end to end. Each head 2 is preferably slightly bulged, as shown, and has a flange 3 to fit in the end of the body 1. After the head has been placed in the end of the body, as illustrated in Fig. 1, the middle portions of the flange 3 and the overlying portion of the body are pressed inward, as shown in Fig. 2 by means of a suitable bending machine (not shown). This initial bending of the flange of the head with the overlying end portion of the body of the barrel forms a channel having as its base or inner boundary the wall 4, and as its sides the upper and lower walls 7. These walls 7 at the end of the first bending operation, Fig. 2, are arranged substantially parallel to one another and at right angles to the longitudinal axis of the barrel. The inner wall 4 is substantially parallel to the longitudinal axis of the barrel but has a slight groove or depression 5 formed in its inner face. In the next bending operation, effected by a second machine (not shown), the angles 6 between the upper and lower walls 7 of the channel and the unbent portions 8 and 9 of the flange 3 and overlying part of the body are brought closer together, as illustrated in Fig. 3, and the groove in the inner face of the wall 4 of the channel is deepened, thus partially closing the channel and bringing the upper and lower portions of the wall 4 into nearly parallel relation to the walls 7, while said walls 7 are brought into a position substantially at right angles to one another.

The final stage in the formation of the interlocking joint between the flange 3 on the head and the overlying end portion of the body of the barrel, as illustrated in Fig. 4, is produced by a third bending or rolling machine (not shown). In this final operation, the walls 7 of the channel are brought into line and folded against the unbent portions 8 and 9 of the flange 3 and overlying part of the body of the barrel, the corners 6 are brought together, and the wall 4 is straightened out so as to remove the groove 5, the resulting interlocking joint being in the form of a box-plait with oppositely extending plaited portions consisting of the parts 7 and 4 folded flat upon the parts 8 and 9. The extremity of the portion 8 is also bent inward over the interlocking joint thus formed thereby giving a rounded finish to the end of the chime, as indicated at 10 in Fig. 4. It will be noted that this broad box-plaited joint greatly reinforces the chime and, as it is arranged entirely within the uniform circumference of the barrel, does not modify the straight cylindrical outer contour of the barrel. It is desirable to preserve this straight cylindrical form of the

barrel from end to end in order that space may be saved in storage and the direct rolling of the barrel in a straight line when loading and unloading insured. Moreover, by thus reinforcing the chime, the barrel may withstand fearful shocks without leaking, and a strong hold is provided for grapples when the barrel is to be hoisted. The entire operation of forming the interlocking connection may be done without heating the parts, the operation used being known as cold rolling.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:

1. The process of securing a flanged head to the body of a metal barrel, which consists in first pressing the flange of the head and the overlying portion of the body inwardly to form a channel, then partially closing the channel by bringing the outer corners thereof closer together, and finally bringing said corners into close proximity and flattening out the walls of the channel at both sides of said meeting corners, thereby forming an interlocking connection in the shape of a box-plait.

2. The process of securing a flanged head to the body of a metal barrel, which consists in first pressing the flange of the head and the overlying portion of the body inwardly to form a channel, then partially closing the channel by bringing the outer corners thereof closer together, then bringing said corners into close proximity and flattening out the walls of the channel at both sides of said meeting corners, thereby forming an interlocking joint in the shape of a box-plait, and finally bending the extremities of the flange of the head and overlying portion of the body inwardly upon the outer edge of the box-plait.

3. The process of securing a flanged head to the body of a metal barrel, which consists in first pressing the flange of the head and the overlying portion of the body inwardly to form a channel, a slight groove being formed in the inner face of the inner wall of the channel at the same time, then partially closing the channel by bringing the outer corners thereof closer together, and finally bringing said corners into close proximity and flattening out the walls of the channel at both sides of said meeting corners, thereby forming an interlocking joint in the shape of a box-plait.

In testimony whereof we have signed our names to this specification.

CHARLES VOLTZ.
SAMUEL B. COCHRANE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."