July 16, 1935. D. W. CURTIS ET AL 2,008,245

PLUG FLANGE FOR BARREL HEADS

Filed Dec. 17, 1934

Fig. 1

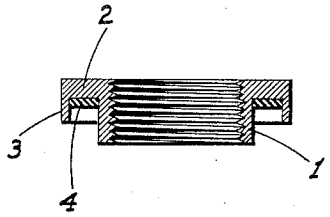


Fig. 2

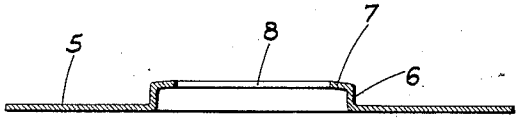


Fig. 3

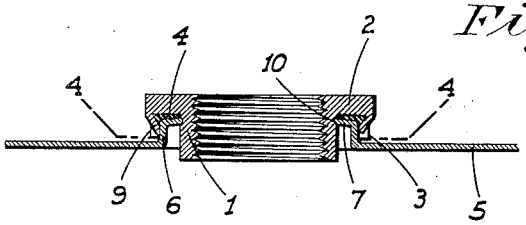


Fig. 4

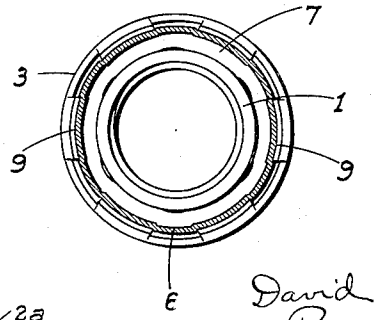
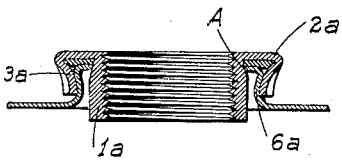


Fig. 5



David W. Curtis INVENTORS
Ross T. Corey
BY
Harry C. Schroeder
ATTORNEY

Patented July 16, 1935 2,008,245

UNITED STATES PATENT OFFICE

2,008,245

PLUG FLANGE FOR BARREL HEADS

David W. Curtis and Ross T. Corey,
Richmond, Calif.

Application December 17, 1934, Serial No. 757,815

5 Claims. (Cl. 285—49)

This invention relates to steel barrel or drum heads, and particularly to the construction and mounting of the plug-flanges or bosses in such heads.

Due to the increasing scarcity of suitable wood for barrel making, steel is being increasingly used for this purpose. Inasmuch as the barrels or drums are frequently used but once and are then discarded, it is necessary that the cost of their construction, which includes the provision of a flange or boss to retain the bung plug, be kept as low as possible.

It is therefore the main object of my invention to provide a very simple, cheap and yet efficient plug-retaining flange, which is mounted in the barrel head in such a manner that leakage is positively prevented, and which will not turn or loosen up even if excessive turning pressure is placed on the plug.

The above object is carried out by means of the specific structure shown in the accompanying drawing, in which

Fig. 1 is a sectional elevation of the plug boss or flange element, as initially formed.

Fig. 2 is a fragmentary section of a steel barrel head, showing the same formed to cooperate with the boss.

Fig. 3 is a sectional elevation of the boss as secured to the barrel head.

Fig. 4 is a sectional plan on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view of a somewhat modified construction.

Referring to the characters of reference on the drawing, and particularly at present to Figs. 1 to 4, 1 denotes the body of the plug boss—a cylindrical member of relatively soft steel tapped to receive the screw-plug.

An annular flange 2 is formed with and extends outwardly from the outer end of the body, while a relatively thin and short and radially deformable skirt 3 depends from the outer edge of the flange 2. A compressible ring gasket 4 is disposed between the body and skirt and abuts against the flange 2.

To cooperate with and mount the boss, the thin sheet-steel barrel head 5 is formed, by a press, with an upstanding circular flange 6, the height of which is substantially that of the skirt 3, while its outside diameter is slightly less than the interior diameter of the skirt.

Projecting inwardly from the upper end of the flange 6 is another flange 7, surrounding a circular opening 8 of a size to snugly receive the body 1.

In mounting the boss on the barrel head, the body 1 is placed through the opennig 8 and pressed down until the flange 7 snugly engages the gasket 4. The thin skirt is then deformed inwardly as at 9 at its lower edge, with such pressure that the deformed skirt presses against the head flange 6 sufficiently to deflect the same inwardly and cause the flange 7 to bite into the body 1, as indicated at 10. The boss is thus held from displacement in an axial direction from the barrel head.

To insure non-rotation of the boss on the head, even though great turning pressure is applied to the plug, the deformation of the skirt 3 is only carried out at spaced points about the circumference thereof. This causes the deformed portions 9 to bite into and deflect the head flange 6 at corresponding spaced points only, as indicated in Fig. 4. The barrel-head flange and skirt are thus in effect crimped and locked together, positively preventing rotation of the boss on the head.

From the above, it will be seen that we have provided a very simple, inexpensive and yet efficient structure for the purpose.

The boss or flange is formed—by a simple pressing operation—from $\frac{3}{16}$ inch steel. Similarly the barrel head is prepared by a simple pressing and punching operation while the assembling operation is also simple and inexpensively carried out.

In the form of device shown in Fig. 5, the body 1*a* is somewhat reduced in diameter adjacent the flange 2*a* as shown at A and with the forming of the latter.

Also, when the plug-boss unit is pressed into position on the drum head flange 6*a*, the latter is deformed inwardly by the pressing contact of the skirt 3*a* therewith and so that said skirt and flange 6*a* are in contact with each other for a portion of their height as shown.

In this manner, a very positive holding of the parts against relative axial movement is obtained.

What we claim is:

1. A plug-boss structure for a metal barrel head comprising a deformable circular flange struck outwardly from the head, an inwardly projecting flange about the outer edge of the circular flange, a tapped plug-receiving body fitting closely within the last named flange, and means formed with the body to clampingly engage the circular flange and force the last named flange into biting engagement with the body.

2. A plug-boss structure for a metal barrel head comprising a deformable circular flange

struck outwardly from the head, an inwardly projecting flange about the outer edge of the circular flange, a tapped plug-receiving body fitting closely within the last named flange, an outwardly projecting flange about the body at its outer edge, a deformable skirt depending from the outer edge of the body flange and extending alongside the circular head-flange, said skirt being pressed inwardly to bindingly engage and deform the circular head flange.

3. A structure as in claim 2, with a compressible gasket between the body flange and the last named head flange.

4. A structure as in claim 2, in which the body is of relatively soft metal compared to the head whereby when the head flange is deformed, the inwardly projecting head-flange will bite into the body.

5. A plug-boss structure for a metal barrel head comprising a deformable circular flange struck outwardly from the head, an inwardly projecting flange about the outer edge of the circular flange, a tapped plug-receiving body fitting closely within the last named flange, an outwardly projecting flange about the body at its outer edge, a deformable skirt depending from the outer edge of the body flange and extending alongside the circular head-flange, said skirt being pressed inwardly at spaced intervals about its outer edge to bindingly engage and deflect the head flanges along corresponding positions of their extent whereby to secure the body to the head flanges against both axial and rotative displacement.

DAVID W. CURTIS.
ROSS T. COREY.