My invention relates to new and useful improvements in a barrel or drum flange unit consisting of a flange of unique construction, a bung having threaded engagement with the flange and a sealing cap coacting with said bung and flange which must be destroyed before the bung can be removed to obtain access to the contents of the barrel or drum.

One of the objects of this invention is to provide an assembly of parts that make a unit for connection with a metal barrel or drum and to seal the several joints between the elements of the unit whereby leakage is prevented.

Another object of this invention is to provide for the lip of the drum head plate and the neck of the flange with several interlocking tongues which secure the flange to the drum head and prevent relative rotation.

A further object of the invention is to construct the parts in such a manner that the perimeter of the cap is turned under an edge of the body so that said cap cannot be removed without mutilation.

A still further object of the invention is to form some of the elements of the unit and assemble them by a new process.

With these and other objects in view, this invention consists of the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by numerals to the accompanying drawing forming a part of this application, in which:

Fig. 1 is a sectional view of the several parts or elements constituting the invention illustrated in separated relation.

Fig. 2 is a fragmentary outer face view of a wall of the barrel or drum to which the flange is to be fastened.

Fig. 3 is an outer end view of the bung.

Fig. 4 is a face view of the sealing ring.

Fig. 5 is an outer face view of the seat forming ring after being pressed into shape, and

Fig. 6 is a sectional view of the flange unit assembled on a drum wall.

In carrying out my invention as herein embodied, 10 represents a wall of a container, such as the head or head plate of a metallic or partially metallic barrel or drum, but it is to be understood that the use of the terms "head" or "head plate" is to in no way limit the use or place of use of the invention and also the use of the terms "barrel" and "drum" is not to be taken as limiting the application of the invention to only these types of containers.

The wall or plate 10 has a round hole 11 surrounded by an inwardly projecting annular lip 12 having sections severed therefrom, inward from its edge, to produce several spaced tongues 13, projecting radially inwardly and which are preferably equi-distantly spaced although this feature is not absolutely essential, as they may be irregularly spaced if the cooperating elements, to be presently described, are likewise so spaced.

Whenever used in the description and claims for this invention the word "several" is to be considered as meaning more than two.

The flange, denoted as a whole by the reference character 14, consists of a circular body 15 having a shank or neck 16 depending from the inner circumference thereof thereby producing a shoulder or seat 17 exteriorly of and surrounding the neck.

Spaces substantially the same width as the tongues 13 on the lip of the container wall, are formed in the edge of the neck 16 to provide several spaced apart tongues 18 on the inner end of said neck which will register with the spaces between the tongues 13 on the lip 12 as will be later explained, and these tongues 18 are preferably beveled or skived on their inner faces outward toward their lower edges when considered in connection with the illustration in Fig. 1, as at 19. Of course the outer circumference of the neck 16, including the tongues 18, is tapered to provide the necessary "draw".

The body 15 and the upper portion of the neck 18 are interiorly threaded, as at 20, to receive the bung which will be presently described.

A sealing ring 21, having a tap 22 in which there is a perforation 23, snugly fits the neck 16 of the flange 14 and rests against the seat 17. A seat forming ring 24 also snugly fits the neck 16 of the flange 14 and rests against the sealing ring 21. Said seat forming ring 24 is forced into place by a press and during the operation is squeezed into position so as to remain and is shaped to provide a groove or seat 25 for a gasket.

Said groove or seat 25 is adapted to receive a gasket 26 which will engage the corner between the container wall and its lip, and when said gasket is compressed, due to attaching the flange to the wall, said gasket will contact with large areas of the surfaces of the wall and its
lip to produce an efficient seal which will make a practically non-leakable joint and said gasket will be retained within the confines of the groove 25.

In assembling the flange, the neck 16 thereof is inserted in the hole 11 in the container wall 10 with the tongues 18 of said flange in alignment with the spaces between the tongues 19 of the container wall lip and said tongues 18 in alignment with the spaces between the flange tongues 18. With the tongues of the two main elements of the invention positioned as above described, those on the flange are turned outward over the edge of the container wall lip between the tongues 18 thereof, as illustrated in Fig. 6, while the tongues of said container wall lip are turned inward over the edge of the flange neck between the tongues of the latter. This interlocks the tongues and absolutely prevents the flange from rotating, which is particularly essential where a screw threaded bung is to be used. The tongues of the flange fasten the latter in place on the container wall so that said flange cannot be withdrawn. The turning over of the tongues during assembly draws the sealing ring 24 tight against the outer face of the container wall and fixes the gasket 26 in position.

In actual practice, the lip is produced from the container wall so as to lie at right angles to said wall and the tongues formed on the lip project radially therefrom toward the center of the hole which is surrounded by said lip. This positions the container tongues in a plane parallel with but spaced from the wall proper. Now when the flange is placed in the hole, said flange is rotated not more than one-eighth of a turn until the tongues thereon enter between the tongues of the container.

A hollow or chambered bung 27 is exteriorly threaded for screwing into the flange to close the bung hole formed by said flange and inside of the chamber are lugs 28 to be engaged by a tool for turning the bung. At the upper or outer end of the bung is a rim 29 which overlies the outer end of the flange with a gasket 30 between them to seal the joint. On the outer face of the rim 29 are formed projections 31 through which holes 32 are made permitting the bung to be wire sealed to the perforated tab 32 if desired and when a cap is not to be used.

The outer end of the bung is enclosed by a cap 33 having a crown 34 which telescopes over the exposed portion of the bung, a brim 35 disposed over the outer face of the flange, beyond the circumference of the gasket 30, with a gasket 36 interposed between them and a skirt 37 telescoping over a portion of the outer edge of the flange body. With the parts in position as outlined above the edge of the skirt is turned over so that it lies flat against the under face of the body 15 or the sealing ring 21 and terminating flush with or adjacent the outer circumference of the ring 24, Fig. 6. This arrangement practically prevents the turned over edge of the skirt from being gripped and bent out by any tool, therefore the contents of the container cannot be tampered with without an indication thereof.

From the foregoing it will be obvious that I have provided a simple; inexpensive flange unit, the elements of which co-act to produce an efficient seal. Particular attention is called to the fact that the joint between the flange and container wall is sealed with a gasket, the joint between the bung and flange is likewise sealed with a gasket as is also the joint between the cap and the flange.

Having thus fully described my invention, what I claim as new and useful is:

1. In a device of the kind described, a sput including a body and neck, and a ring pressed over said neck into contact with the underside of the body, the force used to press said ring into place being applied adjacent the inner periphery of the ring whereby the metal is caused to flow outwardly and form a flange adjacent the outer periphery of the ring.

2. In a device of the kind described, a wall having a bung hole therein defined by an inwardly projecting annular lip, a sput including a body and neck, a grooved ring forced onto said neck and against the underside of the body, said spout neck projecting into the bung hole, a gasket positioned between the upper portions of the lip and neck and seated in the groove and means for securing said spout in said bung hole.

3. In a spout for a metal container, a body, a neck projecting from said body and of smaller diameter than the greatest diameter of said body whereby a seat is produced on the underside of said body between the circumference of the neck and the periphery of the body, and a ring having an axially extending flange adapted to engage the wall of the container, said flange and said neck forming a groove between them adapted to receive a gasket and said ring being forced on the neck into engagement with the seat.

4. A spout including a body and neck with a seat on the underside of said body surrounding said neck, a metal ring forced over said neck into engagement with the seat so as to provide a unitary structure, and an axially extending flange on the outer periphery of the ring, said flange and said neck forming a groove between them adapted to receive a gasket.