I. G. DOUGLAS.

RECEPTACLE CLOSING AND SEALING DEVICE.

APPLICATION FILED MAR. 7, 1913.

1,095,143.

Patented Apr. 28, 1914.

Fig. 1.

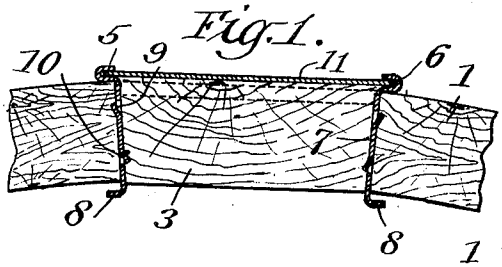


Fig. 2.

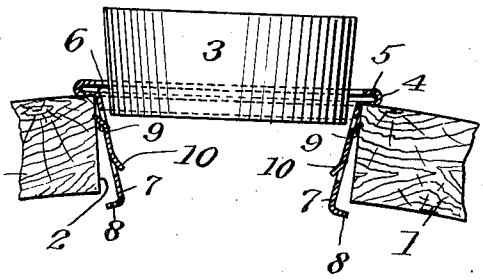


Fig. 3.

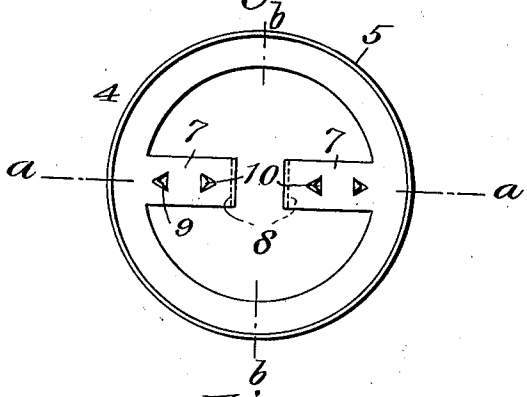


Fig. 6.

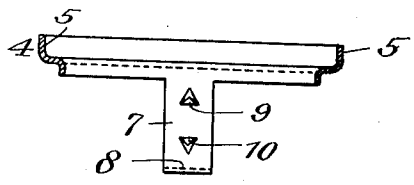


Fig. 4.

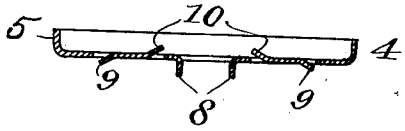


Fig. 8.

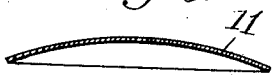


Fig. 5.

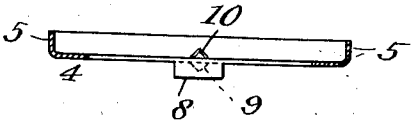
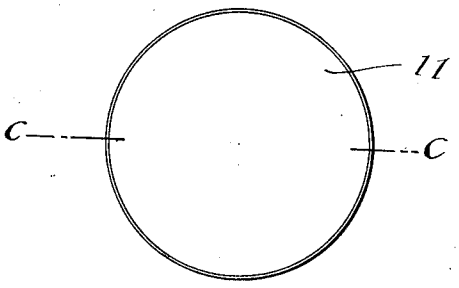


Fig. 7.



WITNESSES:

John C. Sanders

Albert F. Heiman

INVENTOR

Irving G. Douglas

BY

Wm. Wallace White

ATTORNEY

UNITED STATES PATENT OFFICE.

IRVING G. DOUGLAS, OF MONTCLAIR, NEW JERSEY, ASSIGNOR TO COOPERAGE SEAL COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RECEPTACLE CLOSING AND SEALING DEVICE.

1,095,143. Specification of Letters Patent. Patented Apr. 28, 1914.

Application filed March 7, 1913. Serial No. 752,674.

To all whom it may concern:

Be it known that I, IRVING G. DOUGLAS, citizen of the United States of America, residing at 11B Oxford Place, city of Montclair, county of Essex, State of New Jersey, have invented new and useful Improvements in Receptacle Closing and Sealing Devices, of which the following is a specification.

This invention relates to closing and sealing devices for receptacles and more particularly to barrels and the like which are provided with a bung hole in which a bung is adapted to be positioned.

One of the objects of the invention is to provide means whereby the bung cannot be withdrawn without destroying it.

Another object is to provide means for preventing the accidental removal of the bung from the bung hole.

Another object of the invention is to provide means for holding a seal in position above the bung and for preventing the removal of the seal intact.

Other objects will in part be obvious and in part pointed out hereinafter.

In the accompanying drawing showing an illustrative embodiment of this invention and in which the same reference numerals refer to similar parts in the several figures; Figure 1 is a sectional view of the device, the bung being shown in position within the bung hole; Fig. 2 is a similar view showing the device as the bung is about to be inserted in the bung hole; Fig. 3 is a view in elevation of the device, showing the same after the first step of the manufacture thereof; Fig. 4 is a sectional view taken on the line *a*—*a* of Fig. 3. Fig. 5 is a sectional view taken on the line *b*—*b* of Fig. 3. Fig. 6 is a sectional view similar to Fig. 5 showing the device after the second step in the manufacture of the same. Fig. 7 is a bottom view of the seal. Fig. 8 is a sectional view taken on the line *c*—*c* of Fig. 7.

In the illustrative embodiment of this invention shown in the drawings 1 represents a portion of the barrel or receptacle provided with a bung hole 2 adapted to receive a bung 3. The device embodying the invention is formed of any suitable metal and comprises a portion 4, preferably annular in configuration, adapted to rest upon the outer surface of the receptacle adjacent to the bung hole. As shown, this portion is provided with an inwardly extending flange 5 forming a groove 6. Extending downwardly from the receptacle engaging portion 4 are a plurality of arms 7, the lower ends of which are turned outwardly as indicated at 8. These arms, as shown in Fig. 2, normally converge toward one another, and they are made sufficiently flexible so that as the bung is driven into the bung hole they will be forced outward into contact with the wall of the bung hole, as indicated in Fig. 1, in which position the outwardly bent ends 8 will extend under the inner surface of the receptacle, thereby preventing the withdrawal of the device from the bung hole. To further assist in holding the device securely in the bung hole, the arms are provided with outwardly extending prongs or projections 9, which are preferably formed by stamping them out of the metal of which the arms are made, and as the arms are driven outward by the insertion of the bung these projections will be forced into the body of the receptacle.

In order to hold the bung in position and prevent its withdrawal the arms 7 are provided with inwardly extending prongs or projections 10, which projections, when the bung is forced home within the bung hole will, be forced into the body of the bung as indicated in Fig. 1, thereby securely holding it in position. It will be understood, of course, that by reason of the fact that these prongs or projections 10 extend into the body of the bung, the latter must be destroyed before it can be removed, as any attempt to remove it without destroying it will simply tend to make the projections 10 grip it more firmly. This provision for preventing the removal of the bung without destroying it will permit the use of a mark or the like upon each bung thereby adding to the security of the contents of the receptacle. If the recipient of the receptacle sees the proper mark upon the bung he will know that the contents of the receptacle are genuine, whereas if the mark does not appear on the bung it would indicate to him that the original bung and the original contents of the receptacle had been removed.

As an additional security to the recipient of the receptacle a seal 11 is provided which is made of metal and which before being placed in position is convex as shown in Fig. 8. This seal may also bear a mark or the like indicating the origin of the goods in the receptacle. The diameter of the seal in its normal or convex form is less than the inner diameter of the flange 5, whereby the seal may be placed in position above the bung which has been driven in the bung hole. Pressure is then applied to the surface of the convex seal whereby it will be flattened out and the edge will be driven into the groove 6. The diameter of the groove is such that the seal may be flattened out throughout its area as indicated in Fig. 1. The flange 5 is made sufficiently strong to prevent its being raised without indicating the fact that it has been tampered with. From this description it will be seen that after the seal has been placed in position as shown in Fig. 1, it will be impossible to remove it without either destroying the seal or mutilating the flange. If, therefore, when the receptacle is received, the flange and the seal are in good condition the recipient will know that the receptacle has not been tampered with.

While, of course, the device may be formed in any suitable manner, it is preferably formed in three steps. A blank is first stamped out and bent as shown in Figs. 3, 4 and 5. At the next step in the manufacture of the device the arms and a portion of the outer annular ring are bent downward as indicated in Fig. 6, and the third step of the process of manufacturing consists in bending the flange 5 to form the groove 6.

Having described this invention in connection with illustrative embodiment thereof, to the details of which disclosure, the invention is not, of course, to be limited, what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims:

1. In a device of the class described, a portion adapted to rest upon the outer surface of a receptacle adjacent the bung hole and to surround the bung hole, said portion having a bendable member depending from said portion and adapted to extend within the bung hole, said member being provided with means to lock the device against removal, said member being normally in the path of the bung whereby as the bung is driven into position said member will be forced into locking position.

2. In a device of the class described, a portion adapted to rest upon the outer surface of a receptacle adjacent the bung hole and to surround the bung hole, said portion having a bendable member depending from said portion and adapted to extend within the bung hole, said member being provided with projections adapted to co-act with the receptacle to lock the device against removal, said member being normally in the path of the bung whereby as the bung is driven into position said member will be forced into locking position.

3. In a device of the class described, a portion adapted to rest upon the outer surface of the receptacle adjacent the bung hole, and converging flexible arms extending downwardly from said portion and adapted to extend into the bung hole, said arms being provided with portions adapted to co-act with the receptacle to lock the device against removal, said arms lying normally in the path of the bung whereby, as the bung is driven into position, said arms will be spread apart thereby causing said co-acting portions to lock the device in position.

4. In a device of the class described, a portion adapted to rest upon the outer surface of the receptacle adjacent the bung hole, and converging flexible arms extending downwardly from said portion and adapted to extend into the bung hole, said arms being provided with outwardly bent ends adapted to extend under the inner surface of the receptacle adjacent the bung hole, said arms lying normally in the path of the bung whereby, as the bung is driven into position, said arms will be spread apart thereby causing said bent ends to extend under the inner surface of the receptacle locking the device against removal.

5. In a device of the class described, a portion adapted to engage the outer surface of the receptacle adjacent the bung hole, and converging flexible arms extending downwardly from said portion and adapted to extend into the bung hole, said arms being provided with projections adapted to be forced into the receptacle and with projections adapted to be forced into the bung, whereby, as the bung is being driven into place, said arms will be spread apart and said projections will be driven into the receptacle and into the bung, locking the device, and also the bung, against removal.

6. In a device of the character described, a portion adapted to rest upon the outer surface of the receptacle adjacent the bung hole, and flexible arms extending downwardly from said portion, said arms converging from their free ends, the distance between said arms being normally less than the diameter of the bung, whereby, as the bung is driven into position, said arms will be spread apart, said arms being provided with means co-acting with the receptacle to lock the device against removal when said arms are spread apart.

7. A device of the class described formed from a single piece of sheet metal and comprising an annular portion adapted to engage the outer surface of the receptacle ad-

jacent the bung hole, and a flange extending upwardly and inwardly therefrom forming an annular groove to hold a seal, and depending means adapted to extend within the bung hole and provided with projections adapted to co-act with the receptacle to lock the device against removal.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IRVING G. DOUGLAS.

Witnesses:

F. A. ROHELEAU,

ROBERT B. DICKSON.