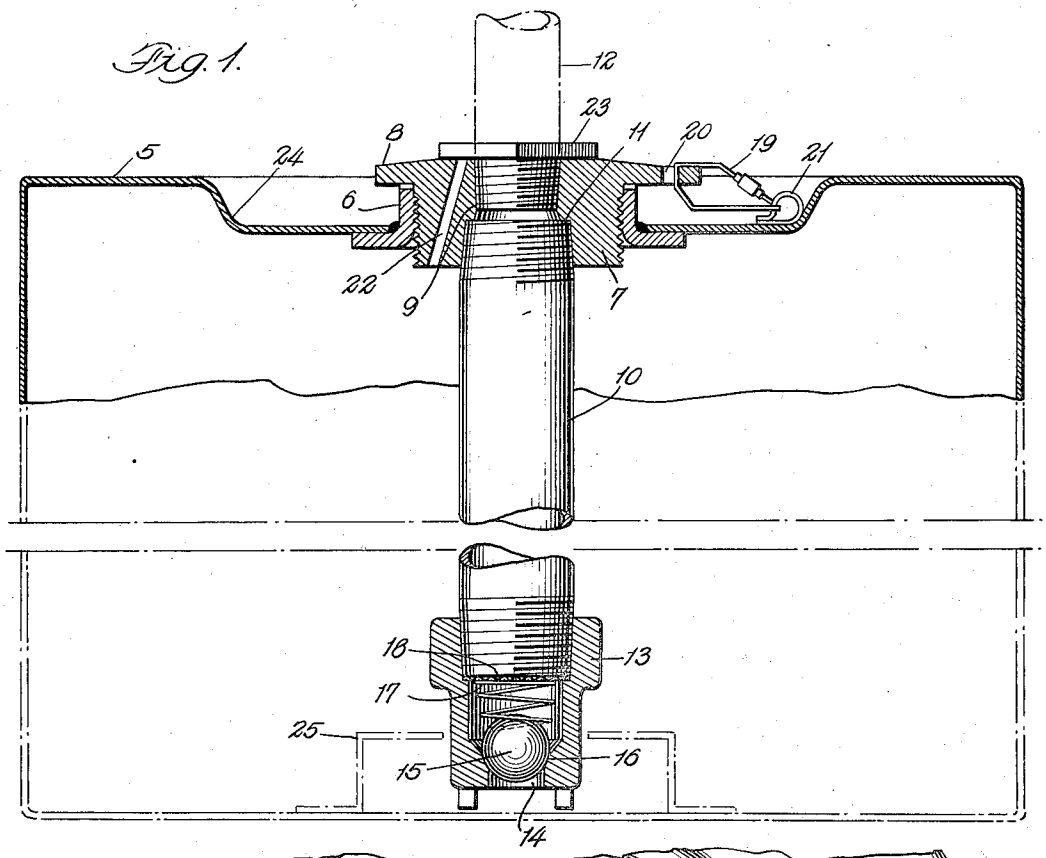
May 20, 1930. A. E. DAVENPORT 1,759,734

MEANS TO PREVENT SUBSTITUTION OF OIL AND THE LIKE PRODUCTS

Filed Feb. 10, 1928

Fig. 1.



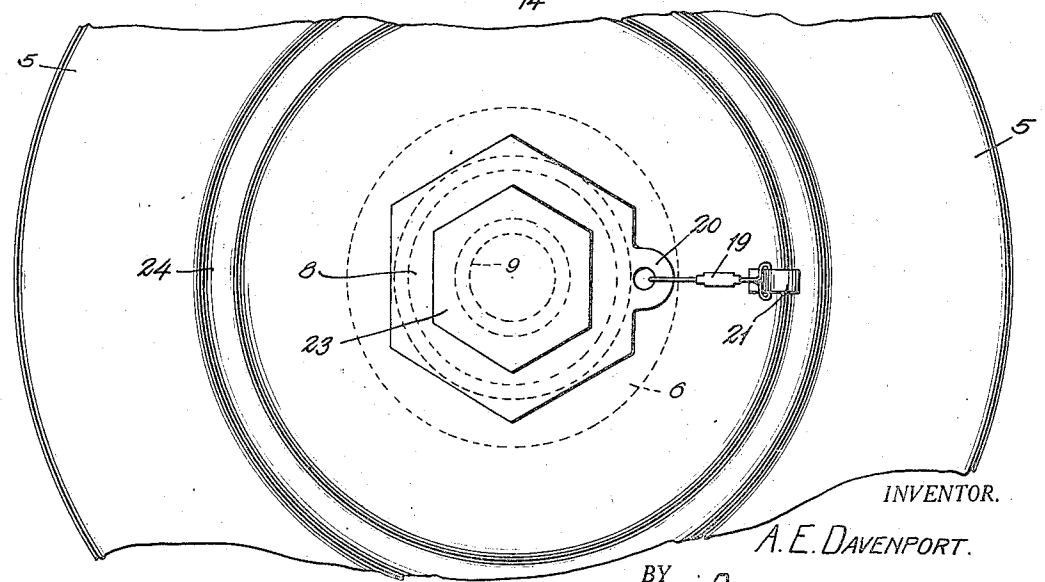


Fig. 2.

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UNITED STATES PATENT OFFICE

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MEANS TO PREVENT SUBSTITUTION OF OIL AND THE LIKE PRODUCTS

Application filed February 10, 1928. Serial No. 253,507.

Distributors of fuel oil, lubricating oil and the like products suffer large losses on account of substitutions or inferior replacements and various measures have been resorted to overcome the evil, but with little or no success.

My solution of the problem is the provision of a specially equipped tank which is a non-refillable shipper in the sense that in the sealed state in which it is delivered to the customer its contents may be withdrawn, but not added to, or replaced. In the accomplishment of my inventive thought, I provide a shipping and dispensing drum with a bung and stub assembly, the bung carrying a tell-tale seal and having a threaded socket to receive a usual pump. The stub is equipped with a foot valve and, hence, nothing can be added to the tank so long as the bung and stub unit are in place. The new assembly also includes provision to prevent collapse of the tank when the products are pumped therefrom.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein

Figure 1 is a vertical sectional view of the essential parts.

Fig. 2 is a plan.

According to my invention, a tank or drum constructed for shipping purposes has a wall 5 thereof formed with an opening equipped with a threaded ring seat or bushing 6 welded to the wall 5. A bung 7 is fitted for screw-threaded engagement with said seat, has an end stop or collar 8, and a differential bore 9, whereof the lower portion is tapped for the reception of and carries a stub or pipe 10. The latter abuts the shoulder 11 and, hence, may not be withdrawn by an upward movement with relation to the bung. The smaller diameter or upper socket element of the bore is tapped for the reception of a nipple 12 or other appropriate connection for the application of a pump of conventional type.

The stub or depending pipe 10 is provided with a foot valve which automatically is closed in reaction to force of gravity or downward pressure and is opened by suction. In the advancement of this thought, the stub or pipe 10 is provided with a valve casing or head 13 having an axial passage 14 controlled by a ball 15. Under proper conditions, as under the application of a pump, the ball may play back and forth between its seat 16 and the mouth of the stub. However, in order to circumvent any attempt to refill by inverting the tank and pumping slowly past the ball valve, I introduce a coiled spring 17 between the ball and the grid or screen 18 to restrain other than normal unseating of the ball.

Evidently, the tank is filled before the application of the unit assembly above described. Subsequently the bung is fixed with relation to the tank by the application of a sealing strip 19 joining the eye 20 of the collar 9 with an equivalent connection 21 on the tank. Evidently it is necessary to rupture the sealing strip in order to remove the bung.

As a safeguard against the collapse of the walls of the tank under pumping operation, the bung is provided with an air duct or channel 22, which under shipping or storing conditions is closed by a plug or fitting 23, temporarily occupying the socket for the pump or pump connection.

The bung seat preferably is formed in a depression 24, of sufficient depth to completely shroud and prevent any overhang of the bung and its seal, which thus are protected against casual injury.

The element 25 when present is useful as a stay or guide for the foot valve.

Having described my invention, I claim:

1. A tank formed with a depression in its top wall and with an opening within the depression, a bung removably fitting said opening and having a flange above the bottom of the depression and substantially on a level with the top wall of the tank beyond the depression, a pipe extending longitudinally within the tank and having threaded connection with the bung, and a rupturable seal connecting the flange of the bung with the bottom of the depression, whereby the seal is protected by the wall of the depression against casual rupture.

2. A tank having an opening in its top wall, a ring seat welded to the wall and ex-

tending outwardly beyond the wall and beneath the same adjacent the opening, a bung having threaded connection with the ring seat and centrally formed with a threaded opening of differential diameter, a pipe leading longitudinally of the tank and cooperating with the bung opening, an air vent leading through the bung, and a plug fitted in the bung opening and closing the air vent.

In testimony whereof I affix my signature.

ARTHUR E. DAVENPORT.