Oct. 26, 1943. B. E. COLBURN 2,332,558

SOAP DISPENSER

Filed Oct. 17, 1940

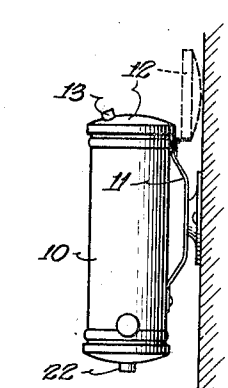


Fig. 1

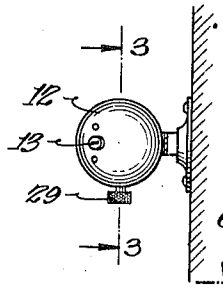


Fig. 2

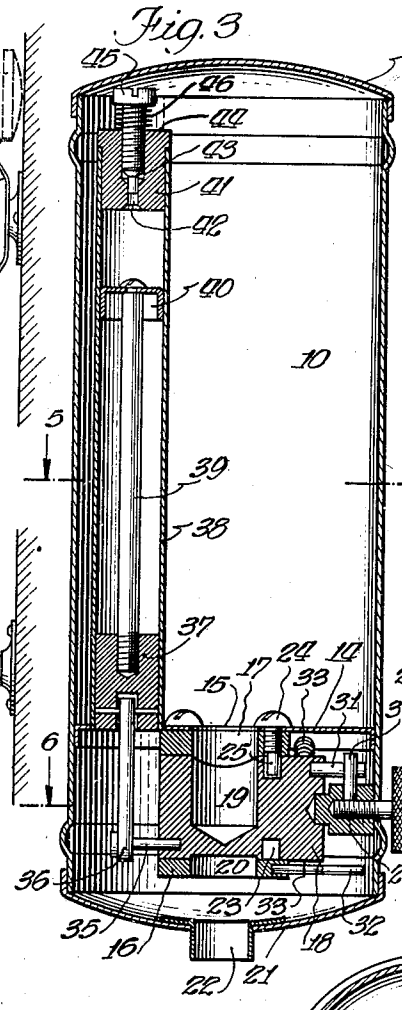


Fig. 3

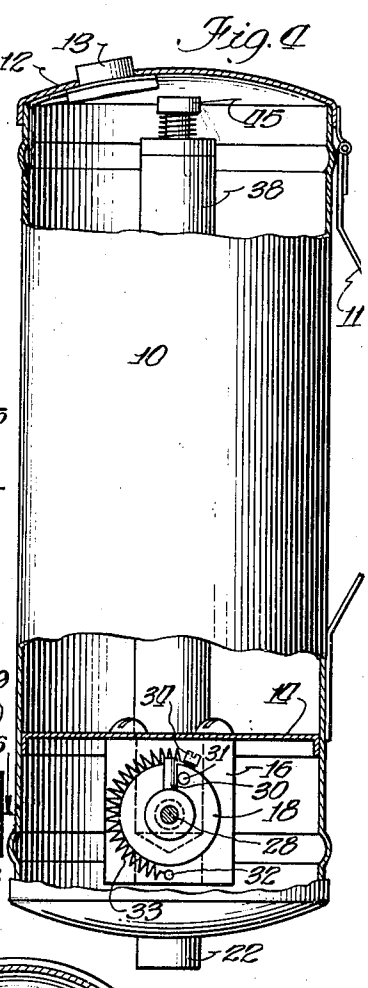


Fig. 4

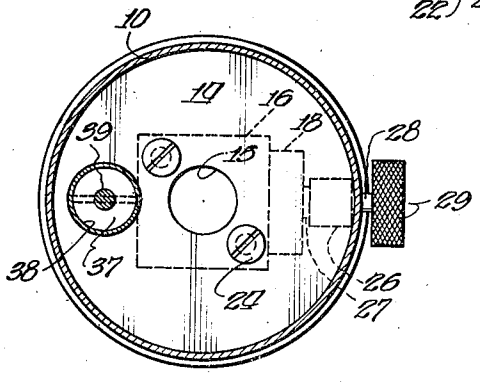


Fig. 5

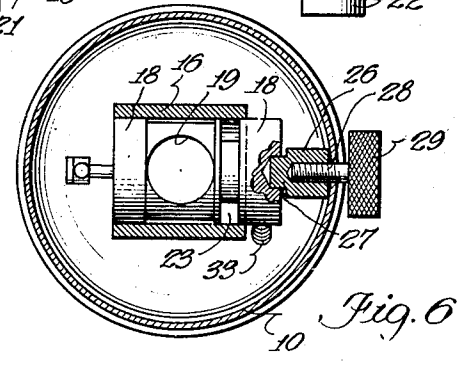


Fig. 6

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UNITED STATES PATENT OFFICE

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SOAP DISPENSER

Bearl E. Colburn, Green Bay, Wis.

Application October 17, 1940, Serial No. 361,533

3 Claims. (Cl. 221—106)

The invention relates to improvements in soap dispensers and has for its primary object the provision of a dispenser of the character indicated which is of simple construction and highly efficient in use.

Another object of the invention is the provision of a dispenser of the character indicated so constructed and arranged as to permit the discharge of a measured quantity of soap therefrom but prevent re-operation of said discharge for a predetermined period of time and whereby wasteful use of the soap is prevented.

Other objects will appear hereinafter.

The invention consists of the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification and in which

Fig. 1 is a side view of a soap dispenser embodying the invention;

Fig. 2 a top plan view thereof;

Fig. 3 an enlarged vertical section of the dispenser;

Fig. 4 a side view of the dispenser shown partially in section;

Fig. 5 a section taken substantially on line 5—5 of Fig. 3; and

Fig. 6 a section taken substantially on line 6—6 of Fig. 3.

The embodiment of the invention illustrated in the drawings comprises a suitable container 10 adapted to receive a suitable quantity of powdered soap. The dispenser 10 is provided at its rear with a supporting bracket 11 by means of which it may be secured to a wall or the like and is also equipped with a hinged cover 12 and lock 13 whereby a supply of soap may be replenished when exhausted.

The bottom 14 of the container 10 is provided with a central discharge opening 15 and a discharge valve head 16 is secured as shown to said bottom and provided with a discharge opening 17—20 extending therethrough. A rotary discharge valve 18 is mounted as shown in the head 16 and is provided with a discharge pocket 19 adapted and arranged to rest normally in registration with the passage 17 and receive a measured quantity of soap therethrough. A bottom cap 21 is provided with a central discharge spout 22 in registration with the discharge passage 17—20 and whereby soap discharging from the pocket 19 will pass downwardly through the spout 20 for use in the usual way. As will be noted, the diameter of the valve head 18 is reduced slightly in registration with the pocket 19 and the passageway 17—20 to provide clearance to prevent clogging of the soap and additional friction on the valve parts during operation. The valve 18 is provided with an annular guide groove 23 and set screw 24 carries a smooth extension 25 engaging said guide groove and thereby holding said valve 18 in proper registration with the discharge passage 17—20.

An operating head 26 is provided with a cylindrical extension 27 fitting loosely within a corresponding socket in one end of the valve head 18 and also carries an operating stem 28 equipped with an operating knurled wheel 29 on the outside of the container 10. The operating head 26 carries a radiating arm 30 set to engage a stop pin 31 on the valve 18 and whereby rotation of the knurled wheel 29 in one direction will cause corresponding rotation of the valve 18, but said knurled wheel cannot be utilized for return movements of said valve. The stop pin 32 projecting from the valve head 16 extends into the path of the arm 30 and serves to stop or limit the operative movement of said arm and whereby the operative rotation of the valve 18 will be stopped when the pocket 19 is in registration with the lower discharge portion 20 of the passageway through the valve head and so that the measured quantity of soap in the pocket 19 will thus be discharged through the spout 22 as will be readily understood.

A spring 33 is connected with the pin 32 and also with a set screw 34 on the periphery of the valve 18 and whereby said valve will be automatically returned to its original position for refilling with soap powder from the container 10. The valve head 18 also carries at its other end a crank pin 35 connected by a link 36 with an operating block 37 reciprocating freely in the lower end of an air cylinder 38 and carrying a piston rod 39 equipped at its upper end with a piston 40 and whereby rotation of the valve 18 will cause reciprocation of said piston 40 in the cylinder 38 as will be readily understood. The upper end of the cylinder 38 is closed by a head 41 having a valve passage 42 extending therethrough. A valve 43 carried by a threaded stem 44 controls the passage of air through said passageway 42 as will be readily understood. The valve stem 44 is provided with a slotted adjusting head 45 and a compression spring 46 is imprisoned under said head to hold said valve stem in various positions of adjustment.

By this arrangement when the valve head 18 is manually operated by manipulation of the knurled

wheel 29 and said knurled wheel is released, the spring 33 will serve to slowly return the valve head to initial refilling position. This slow return is due to the fact that the stem is retarded by the partial vacuum formed in the upper end of the cylinder 38 which is only relieved by the entry of air through the valve passageway 42 and this entry of air is controlled and regulated by the valve 43, so that by adjusting said valve the time consumed in the return of the pocket 19 to refilling position may be regulated and controlled as desired. In this way repeated consecutive manipulations of the valve 18 are prevented and thereby the supply of soap in container 10 conserved. The specific form and arrangement of parts constitutes a simple and effective one for the purpose.

While I have illustrated and described the preferred form of construction for carrying the invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise details disclosed, but desire to avail myself of such variations and modifications as fall within the scope of the appended claims.

I claim:

1. A dispenser of the class described comprising a container; a valve head secured at the bottom of said container and having a discharge passage extending therethrough; a rotatable valve in said head and having a discharge pocket arranged to register with said discharge opening; an operating stem arranged co-axially with said valve and provided with a rotating operating arm; a stop pin on said valve set in the path of said arm and whereby said operating stem may be utilized for operation of said valve in one direction; a spring arranged to return said valve to original position when said operating stem is released; a crank pin on said valve; a cylinder and piston operating therein, said piston being operatively connected with the crank pin on said valve; and a valve regulating the entry of air to said cylinder and whereby re-operation of said discharge valve will be prevented for a pre-determined period of time.

2. A dispenser of the class described comprising a container; a valve head secured at the bottom of said container and having a discharge passage extending therethrough; a rotatable valve in said head and having a discharge pocket arranged to register with said discharge opening; an operating stem arranged coaxially with said valve and provided with a rotating operating arm; a stop pin on said valve set in the path of and arranged to be contacted by said arm and whereby said operating stem may be utilized for operation of said valve in one direction; a spring arranged to return said valve to original position when said operating stem is released; a crank pin on said valve; and yieldable means operatively connected with the crank pin on said valve and adapted and arranged to retard movement of said discharge valve for a predetermined period of time.

3. A dispenser of the class described comprising a container; a valve head secured to bottom of said container and having a discharge passage extending therethrough; a yieldable and rotatable valve in said head having a discharge pocket arranged to rest normally in registration with the upper mouth of said discharge opening and to yield under pressure to be rotated to bring it into registration with the lower mouth of said discharge opening to discharge a measured quantity of material from said container; manually operable mechanism for positively rotating said valve from its normal into its discharging position but incapable of positively returning said valve to its normal position of rest; and time controlled mechanism for returning said valve to its normal position of rest.

BEARL E. COLBURN.