June 28, 1938. J. M. SEAWELL 2,122,216

BULK MATERIAL DISPENSING DEVICE

Filed June 15, 1936

Fig. 1.

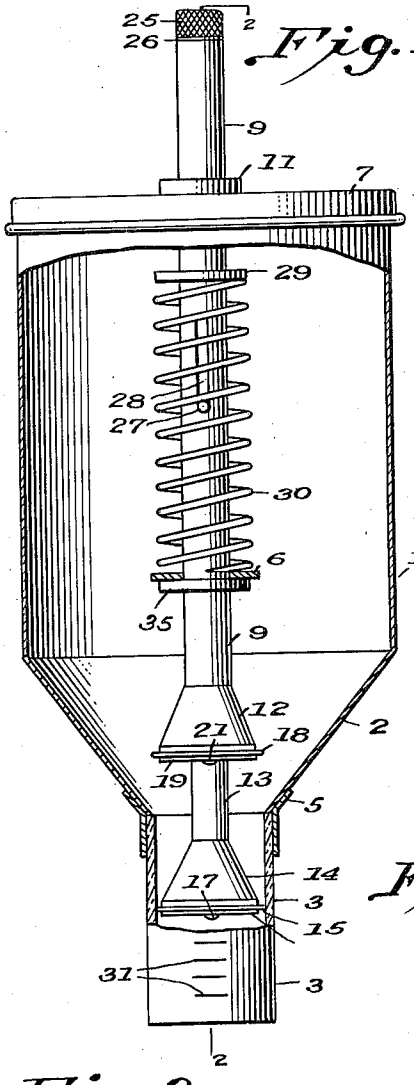


Fig. 2.

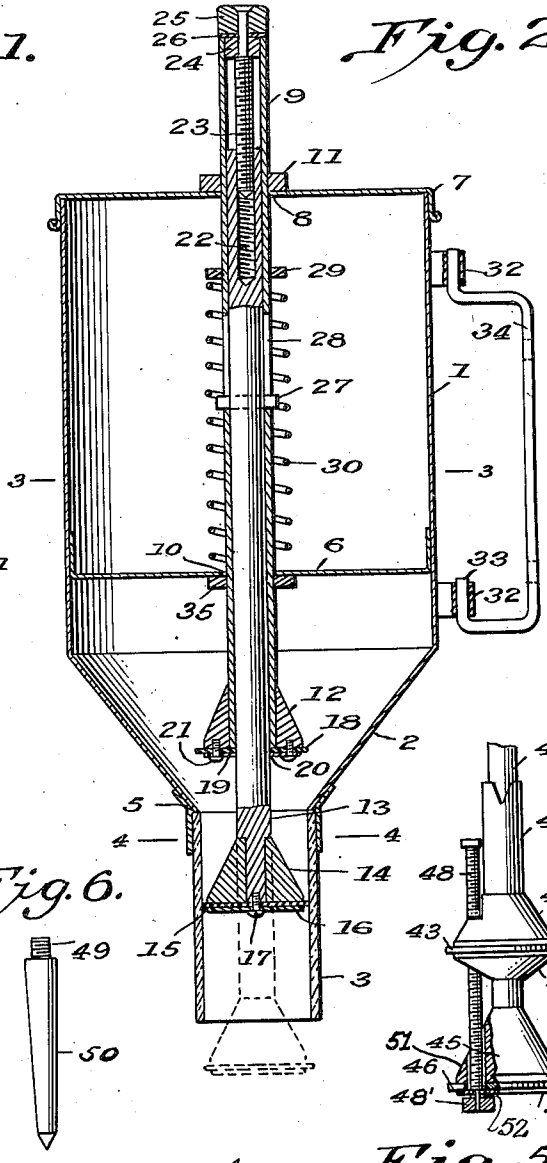


Fig. 6.

Fig. 3.

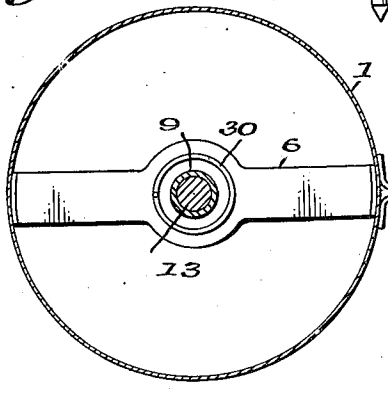


Fig. 4.

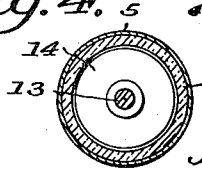


Fig. 5.

Inventor

JOSEPH M. SEAWELL

By Francis B. Leech.

Attorney

Patented June 28, 1938 2,122,216

UNITED STATES PATENT OFFICE

2,122,216

BULK MATERIAL DISPENSING DEVICE

Joseph M. Seawell, Richmond, Va.

Application June 15, 1936, Serial No. 85,415

9 Claims. (Cl. 221—62)

This invention relates to a dispensing device and more particularly to a household dispenser for measuring pulverulent materials, such as coffee.

It is well known that most housewives experience considerable difficulty in making uniform strength coffee for the reason that it is quite difficult to accurately measure the amount of coffee used from day to day. The present invention is a simple and inexpensive dispenser which insures exact measurement of the coffee placed in the pot or other coffee maker.

Provision is made for varying the amount of coffee dispensed and for sealing the device to prevent air from coming in contact with the coffee and spoiling the flavor thereof.

In the drawing:

Figure 1 is a vertical plan view partly broken away;

Figure 2 is a vertical cross section taken on line 2—2 of Figure 1 with some of the parts in solid lines;

Figure 3 is a horizontal cross section taken on line 3—3 of Figure 2;

Figure 4 is a horizontal cross section taken on line 4—4 of Figure 3;

Figure 5 is a modified form of dispensing valve partly in cross section;

Figure 6 is an attachment for either form of dispensing valve.

Essentially, the dispenser consists of a cylinder 1 having a tapered bottom portion 2 which may be composed of sheet metal, molded resin or glass, although in the form illustrated the cylinder and funnel portion are made of sheet metal. A discharge nozzle 3 formed of glass or other transparent material is retained by means of a band 5. Attached interiorly of the cylindrical body 1 is a horizontal cross brace 6 which may be retained at the side wall of the cylinder by any suitable means. A friction top 7 having a central opening 8 therein covers the upper end of the cylinder and through the opening 8 projects the operating portion of the dispensing mechanism.

Specifically, this dispensing mechanism consists of a vertical, slidable tube 9 which is supported in central relation to the nozzle 3 and top 7 by means of an opening 10 formed in the cross brace 6 and a thickened washer 11 registering with aperture 8.

A vertical, apertured cone 12 is fastened at the lower end of the sliding tube 9 to form a valve whose purpose and function will be hereinafter described.

A rod 13 is positioned interiorly of the tube 9 and extends somewhat below the cone valve 12. As shown in Figure 2, the lower end of the rod 13 is reduced in diameter and supports a second cone valve 14 similar to the other cone valve 12. The lower face of the valve 14 is provided with a rubber or other flexible material sealing gasket or washer 15 which is slightly greater in diameter than the bottom face of the valve. To retain the washer 15 in position on the cone face, there is a perforated disc 16 abutting the sealing gasket and retained thereagainst by screw 17.

A similar sealing gasket 18 slightly greater than the diameter of the cone 12 is retained against the lower face thereof by means of plate 19 having a central aperture 20 through which the rod 13 passes. Screws 21 are provided for retaining the plate and gasket against the face of the cone 12.

The upper end of the rod 13 has an interiorly threaded socket accommodating screw 23. The screw 23 is reduced in diameter at its upper end and passes through plug 24, rigidly secured in the upper end of the sliding tube 9. The extreme end of the screw 23 is affixed in a knurled button 25. A dished spring washer 26 is threaded over the end of the rod and lies between the upper end of the tube 9 and the bottom face of the knurled finger piece 25 so as to keep the assembly just described under tension at all times.

A horizontal stop pin 27 passes through the rod 13 at about midway between the brace 6 and top 7. The outer ends of the pin 27 extend outwardly through elongated vertical slots 28 formed in opposite sides of the tube 9. A stop collar 29 is secured to the tube 9 a short distance below the cover 7 and bearing on the under surface of the stop collar 29 and the bottom brace 6 is a compression coil spring 30 encircling the rod and tube assembly.

A second stop collar 35 is secured to the under side of brace 6 to limit the downward movement of stop pin 27.

It will be obvious to those skilled in the art that the amount of coffee or other pulverulent material discharged may be varied by operating the knurled finger piece 25, which in turn rotates screw 23 to shorten or lengthen the distance between the valves 12 and 14. The horizontal stop pin 27 riding in slots 28 permits this adjustment within the length of the slot. Suitable markings 31 may be formed on the transparent dispensing nozzle 3 to indicate the volume of material discharged.

It is preferable to attach or mold on the cylinder 1 lugs 32 having vertical openings 33 formed therein for accommodating a handle 34. This handle may either be held by the operator or rigidly attached to a wall or other suitable place.

In operation, the top 7 is raised and coffee or other material placed in the body of the device, whereupon the operator presses downwardly on the button 25 to discharge the material through the nozzle 3. The amount of material discharged

is accurately measured between the sealing gaskets 15 and 18 so that each operation of the device insures an accurate amount of material being discharged. The lower gasket or seal 15 prevents air from coming in contact with the material in the dispenser while the gasket 18 seals off the material when the lower valve is in open position as shown in dotted lines in Figure 2. When the operator removes pressure from the operating button, the spring 30 returns the parts to the position shown in Figure 1.

A modified type of adjustable dispensing valve is shown in Figure 5. Here, a reciprocable rod 40 carries a loosely mounted tube 41 which terminates in a conical valve member 42 having a peripheral sealing gasket 43 and lower cone portion 44. A fixed cone valve 45 having peripheral gasket 46 and bottom plate 47 is secured to the end of the rod 40. A screw threaded rod 48 is provided for varying the distance between the valves 42 and 45 so that the amount of material discharged may be varied at will. This adjustment of the valves is secured by having the screw rod 48 freely rotatable in the bore 51 in the fixed valve 45. The lower end of the rod 48 is reduced in diameter at 52 where it passes through an opening in the bottom plate 47 and a knurled finger piece 48' is secured to the end of the rod to facilitate rotation thereof and consequent spacing of the valves 42 and 45 with respect to each other.

To facilitate the discharge of material from the device into a coffee percolator basket, coffee pot or the like, a centering pin 50 having a screw threaded shank 49 may be substituted for screw 17 or threaded into valve 45. When the centering pin is used it extends slightly below the bottom edge of the discharge nozzle 3, and may be inserted into the center tube of the percolator basket to insure that the coffee will be discharged into the basket.

What I claim is:—

1. In a bulk material dispensing device, a storage casing, a bottom discharge nozzle connected thereto, a closure covering the opposite end of said casing, spaced apart dispensing valves alternately reciprocating in said discharge nozzle, an operating stem therefor extending upwardly beyond the top closure and a spring member encircling and bearing on said valve stem to normally position one of said dispensing valves in the discharge nozzle.

2. A dispensing apparatus of the character described including a cylindrical casing, a discharge nozzle depending therefrom, a plurality of reciprocating dispensing valves, said valves being attached in spaced relation on a reciprocating valve stem, sealing gaskets affixed to each of said valves and adapted to alternately wipe and seal the wall of the discharge nozzle when the valve stem is reciprocated and adjusting means for varying the spaced relationship of the said valves.

3. A dispensing mechanism for discharging measured quantities of bulk material which includes a cylindrical storage casing, a centrally arranged tubular discharge nozzle therefor, a removable closure on said storage casing, a dispensing mechanism for discharging measured quantities of material through said discharge nozzle, said mechanism comprising a reciprocating valve stem having a conical valve secured to its lower end adapted to reciprocate in and beyond the end of said discharge nozzle, a tubular member encircling said valve stem terminating in a second conical valve concentrically arranged around said stem and held in spaced relation to said first conical valve, the second valve normally lying interiorly of the storage casing and adapted to enter the discharge nozzle when the said valve stem is reciprocated.

4. A bulk dispenser including a storage casing, a central bottom discharge nozzle therefor, a tubular reciprocating valve stem vertically secured in said casing and extending upwardly beyond the top thereof, a centrally apertured valve disc secured to the lower end of said tubular stem, a second valve stem carried interiorly of said tubular stem and extending downwardly beyond the tubular stem, a second valve disc secured to the lower end of said second valve stem, the first mentioned valve being normally retained interiorly of the storage casing while the second of said valves is normally retained in said discharge nozzle, a stop collar secured to the upper portion of said tubular stem, a coil spring encircling said stem and retained between said stop collar and a transverse brace member secured interiorly of said casing, said spring adapted to return the said valves to their normal positions after the tubular stem has been reciprocated.

5. A dispensing valve mechanism including two concentrically arranged valve stems, a valve disc retained on the lower ends of each of said stems, said discs being adjustable toward and away from each other through the medium of a screw mounted on the upper end of the outer of said stems and threaded into the inner of said stems, the upper end of said screw passing through a plug secured in the outer stem and secured in a rotatable finger piece which upon rotation varies the relative distance between the lower ends of the valve stems.

6. An adjustable dispensing valve mechanism including a reciprocal rod, a valve affixed to the end thereof, a second valve loosely mounted on the said rod and a screw threaded rod loosely passing through the first mentioned valve and screw threaded through the second mentioned valve to provide means for varying the distance between the said valves.

7. A bulk dispenser for depositing predetermined quantities of material including a storage casing, a bottom discharge nozzle connecting thereto, an actuating rod adapted to reciprocate in said nozzle, a pair of spaced valves mounted on said rod and adapted to alternately move in and out of said nozzle and means for adjusting the space between said valves.

8. A bulk material dispensing cabinet including a storage chamber having an elongated bottom discharge nozzle and an adjustable dispensing valve mechanism, said valve mechanism comprising a reciprocal rod, having a fixed valve secured to its lower end, a second valve adjustably mounted on said rod in spaced relation to the first mentioned valve and means for varying the spaced relation between the said valves.

9. A bulk dispensing mechanism of the character described including a storage cabinet, a discharge nozzle therefor, a reciprocating valve actuator mounted in said cabinet and terminating in said nozzle, a plurality of spaced valves positioned on said valve actuator, said valves alternately moving out of and into contact with said nozzle when the said actuator is reciprocated and adjusting means for positioning the valves on said actuator with relation one to the other.

JOSEPH M. SEAWELL.