

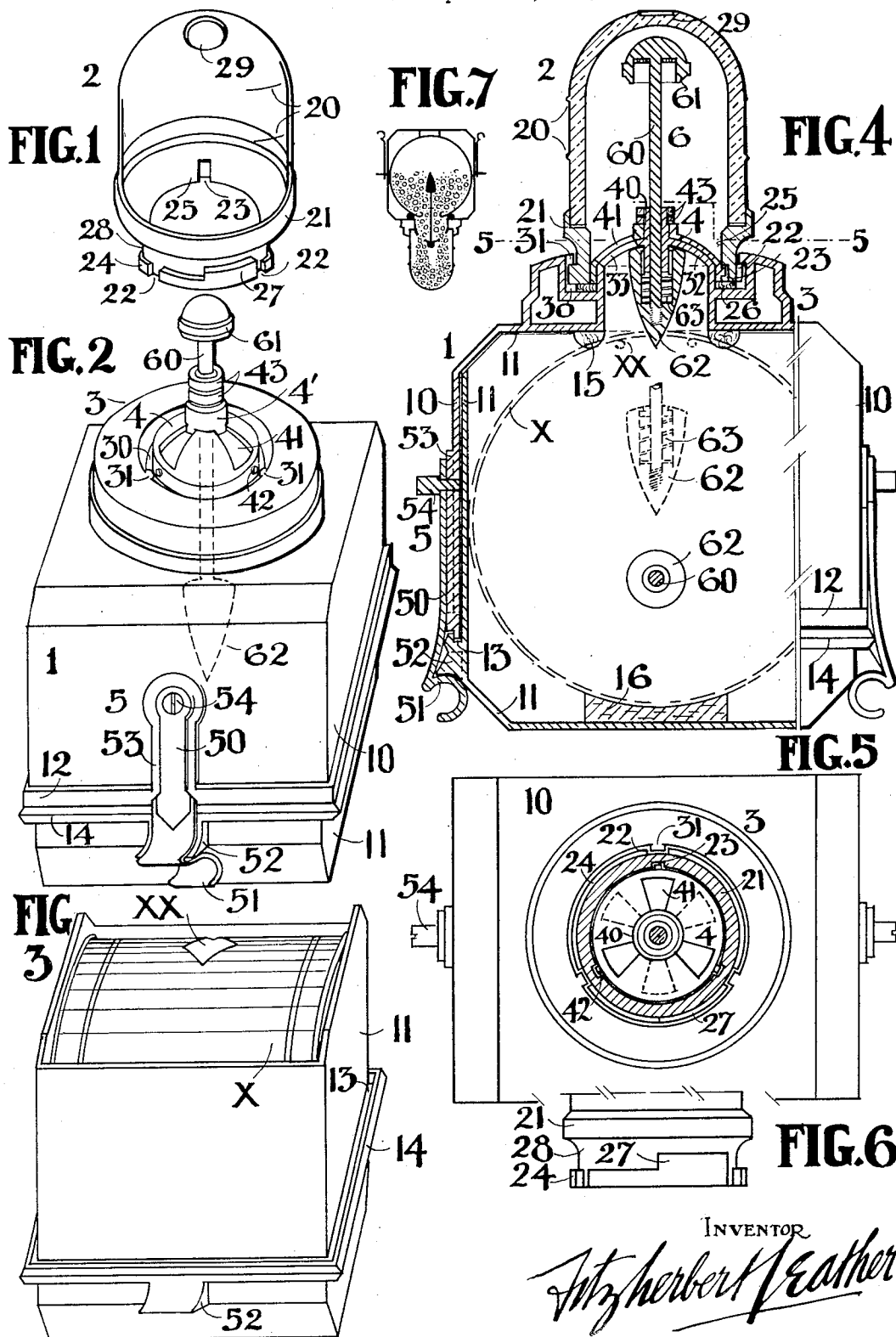
Dec. 5, 1933.

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1,938,147

DISPENSING DEVICE FOR GRANULAR MATERIAL IN SEALED CANS OR CONTAINERS

Filed April 15, 1929



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UNITED STATES PATENT OFFICE

1,938,147

DISPENSING DEVICE FOR GRANULAR MATERIAL IN SEALED CANS OR CONTAINERS

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Application April 15, 1929. Serial No. 355,320

9 Claims. (Cl. 65—61)

This invention relates to a storage receptacle or canister for materials which it is desired to protect from deterioration by exposure to the outside atmosphere and the object of the invention is to provide a receptacle or canister which is substantially air tight and from which materials, and especially granular materials, may be dispensed without exposing the contained material to the air.

Another object of the invention is to provide a storage receptacle or canister for vacuum sealed or substantially air sealed packages which will receive the package in its sealed condition and permit of the dispensing of its contents.

Another object of the invention is to provide a receptacle or canister for sealed cans with means for breaking the seal of the inclosed can without exposing the contents thereof to the outside atmosphere.

Another object of the invention is to provide a receptacle or canister for sealed cans with means for dispensing a measured amount of the can contents without admitting air to the can.

I accomplish the above and other objects of the invention which will be apparent as the description proceeds by means of the construction shown in the accompanying drawing in which:

Figure 1 is a perspective of the measuring cup which is adapted to be attached to my improved canister;

Figure 2 is a perspective of my improved receptacle or canister;

Figure 3 is a perspective of the inner shell portion of my improved canister showing a sealed can therein;

Figure 4 is a vertical section through my improved canister with the measuring cup mounted thereon, a portion of the canister being shown in elevation;

Figure 5 is a horizontal section on the line 5—5 of Figure 4;

Figure 6 is an elevation of the rim of the measuring cup which is adapted to be mounted on the canister;

Figure 7 is a diagrammatic illustration of the canister and measuring cup, the parts being shown in position for dispensing the material from the can to the measuring cup;

On the drawing, in which like reference characters indicate like parts on all the views thereof;

1 indicates the receptacle or canister which comprises an outer shell 10 adapted to be tele-

scoped over the main body shell 11. The outer shell is of slightly smaller cross section at the top than at the bottom so that it will fit the inner shell closely at the top and thus form a seal at that point which will prevent the granular material from working in between the inner and outer shells. It is also to be noted that the upper edge of the inner shell 11 abuts against the inner sloping face of the outer shell. The outer shell is provided with a reinforcing element 12, the lower edge being adapted to be received in a recess 13 provided on the main body shell; a gasket is preferably located in the recess. The inner shell 10 is also provided with a reinforcing bead 14.

The inner and outer shells are provided with co-operating latch means 5 for holding them in assembled relation. The latch means comprises a spring tongue 50 on the outer shell, the spring tongue terminating at 51 in a semi-circular operating spring portion which is adapted to engage under a catch 52 provided on the inner shell. A backing strip 53 is provided on the outer shell as a mounting for the spring tongue, the tongue being secured to the shell by the pin 54. The backing strip may be soldered or otherwise secured to the outer shell or it may be formed integral therewith.

A block 16 of slightly resilient material is located in the bottom of the canister and a ring 15 of resilient material surrounds the opening in the top. The purpose of the resilient block 16 and the resilient ring 15 is to properly hold and position the vacuum sealed can X. When the material containing can is positioned in the canister, it will compress the ring 15 and the block 16 and will thus be firmly held in place. When the inner and outer shells are to be disengaged, it is apparent that, upon releasing the spring latch, the resiliency of the block and ring will cause the contained can to react against the shells and thus force them apart.

For dispersing the contents of the can, a measuring cup 2 is provided. The cup 2 is preferably of glass and is provided with graduated measuring marks 20. A ring 21 is secured to the open mouth of the cup which ring is formed with exterior and interior notches 22 and 23 and exterior and interior flanges 24 and 25. The cup is also provided with a stop lug 27 on the neck portion 28 thereof for a purpose which will presently appear. The cup is preferably formed with a seat 29 so that it may be set down in an upright position when detached from the canister.

The ring 21 forming the supporting base of the measuring cup is adapted to seat on a gasket 26 located in an annular channel 30 which is provided on the head 3 of the canister. The outer wall of the channel is provided with two or more lugs 31, the inner wall terminating in a disk head 32 having one or more apertures 33 therein. A valved disk 4, provided with an upwardly extending sleeve 4', is rotatably mounted on a journal bearing 40 carried by the disk head 32 and is provided with one or more dispensing apertures 41 adapted to register with the dispensing apertures 33 in the disk head 32. The valved disk 4 is provided with lugs 42 which are adapted to engage in the notches 23 in the ring 21 and abut against the flange 25 whereby it may be rotated relatively to the head to bring the apertures into register with the apertures in the disk head. As shown, the valved disk 4 is formed with an upstanding sleeve above which is positioned a nut and washer assembly 43 which serves to seat the disk.

The head 3 of the canister is preferably tapered and domed so as to house the plunger operated broaching device when it is withdrawn from the sealed can in the canister. The domed head is considered preferable to a flat disk head since it serves to direct the flow of the material and larger dispensing apertures may be provided therein.

As previously stated, the disk valve is journaled at 40, the journal comprising a sleeve which is preferably integral with the disk head 3 and extends above and below the head a substantial distance. A plunger assembly 6 extends through the journal bearing 40, the sliding frictional engagement thereof being maintained by the nuts 43. The plunger stem 60 carries a cup shaped head 61 in the lower face of which is located a gasket whereby when the plunger assembly is in its lowermost position, it will be held to the valved disk 4 by the frictional engagement of the inner wall of the head 61 with the outer wall of the sleeve 4'. The nut and washer assembly 43 also holds the disk 4 firmly against the disk 32 so that an air tight seal will be maintained around the plunger rod and the canister disk head.

The lower end of the plunger stem has secured thereto an elongated cutter 62 which is circular in cross section. The cutter has a recess in its upper portion of proper form to receive the lower part of the journal sleeve 40. In order to prevent this opening from becoming filled with the material in the can when it is pushed down therein, a spring operated cap 63 is provided which is flush with the upper face of the cutter and closes the recess therein when in its normal position, as shown in dotted lines in Fig. 4.

My improved construction is of particular advantage for the dispensing of granular food material, such as coffee, particularly from vacuum sealed cans.

The sealed can X is placed in the lower shell 11 of the canister and the upper shell 10 telescoped thereover until the latch elements 5 are interengaged. The assembling of the two shells serves to seat the enclosed can firmly between the block 16 and the ring 15, the plunger 6 being moved upwardly by the enclosed can.

When it is desired to dispense the contents, the plunger is forced downwardly into the can, cutting the opening XX therein, until the head

61 is seated on the nuts 43 and thus frictionally held to the valved disk 4.

The measuring cup 2 is then mounted on the canister with the rim 21 resting in the channel 30 and the flanges 24 engaging under the lugs 31. Relative rotation of the cup and canister results in the rim being tightly wedged against the gasket 26 in the channel at which time the cup is firmly held to the canister. Upon further rotation of the cup, the lugs 42 of the valved disk are engaged by the flange 25 and the disk is rotated until the stop lug 27 abuts against one of the lugs 31 in which position the openings in the disk are in register with the openings in the head. The canister, with the attached cup, is then inverted, as illustrated in Fig. 7, and the contents of the can flow into the cup until it is filled.

It is to be noted that, when the parts are rotated as described, the plunger assembly will also be rotated and will act as an agitator for the can contents. This agitator function is of considerable importance since it is well known that granular material will pack during storage and is not easily dispensed through small openings.

After the dispensing of the material, the cup is rotated in the reverse direction until the stop lug 27 engages another of the lugs 31 at which time the valved opening is closed and the measuring cup released from the canister. It is also apparent that the cup is held locked to the head until after the valve is completely closed.

What I claim as my invention is:

1. In a canister for receiving and dispensing granular material from a sealed can, an inner shell, an outer shell telescoping over said inner shell, means for detachably connecting said shells, said outer shell having a dispensing opening in the top thereof, a valved closure for said opening, means for positioning a can in said canister, said means comprising a resilient gasket on the interior of the outer shell surrounding the dispensing opening therein, and resilient means carried by the bottom wall of said inner shell on the interior thereof and positioned beneath said resilient gasket.

2. A canister for receiving and dispensing granular material from a sealed can, said canister having a dispensing opening in the top thereof, a valved closure for said opening, and means for breaking the seal of said can, said means comprising a puncturing device carried by said valved closure.

3. A canister for receiving and dispensing granular material from a sealed can, said canister having a dispensing opening in the top thereof, a rotatable valve for said opening, a puncturing device for the can, said puncturing device including a plunger rod and a cutter, said puncturing device being slidably associated with said valve, and means for operatively connecting said plunger and said valve for unitary movement when said cutter is in its lowermost position.

4. A canister for receiving and dispensing granular material from a sealed can, said canister having a dispensing opening in the top thereof, a valve for said opening, a can puncturing device carried by said canister on the interior thereof, said puncturing device including a plunger having a recess in the upper face thereof and means for closing same recess.

5. In a canister for receiving and dispensing granular material, an inwardly projecting sleeve

thereon, an agitator element, said agitator element comprising a plunger rod slidably mounted in said sleeve, a plunger head carried by said plunger rod, said plunger head having a recess in its upper face adapted to receive said sleeve and through which said plunger rod passes, a spring surrounding said plunger rod and a cap closure for said recess supported by said spring.

6. A canister for receiving and dispensing granular material, said canister having a dispensing opening in one wall thereof, a valved closure for said opening, said valved closure comprising a rotatable member, lugs on said rotatable member, lugs on said canister wall spaced from said closure, a receiving vessel adapted to be rotatably mounted on said canister wall between the lugs on said wall and the lugs on said rotatable member, means on said receiving vessel adapted to engage under said lugs on said wall, said means and said lugs having relatively wedge shaped portions, and a second means on said receiving vessel adapted to engage the lugs on said rotatable member to rotate the same.

7. A canister for receiving and dispensing granular material said canister having a dispensing opening in one wall thereof, a valved closure for said opening, said valved closure comprising a rotatable member, lugs on said rotatable member, lugs on said canister wall spaced from said closure, a receiving vessel adapted to be rotatably mounted on said canister wall between the lugs on said wall and the

lugs on said rotatable member, means on said receiving vessel adapted to engage under said lugs on said wall, a second means on said receiving vessel adapted to engage the lugs on said rotatable member to rotate the same, a stop member of said receiving vessel, said stop member being adapted to engage the lugs on said wall to limit the rotation of said receiving vessel in both directions.

8. A canister for granular material having a dispensing opening, an apertured closure for said opening, a rotatable disk having apertures adapted to register with the apertures in said closure, an agitator comprising a plunger rod slidably carried by said disk, a lock nut surrounding said plunger and bearing against said disk and means on said plunger rod adapted to cooperate with said disk to secure said plunger rod to said disk for rotation therewith.

9. In a canister for dispensing material from a sealed can located therein, said canister having an opening in one wall thereof, an outwardly extending domed wall surrounding said opening, a valved closure for said opening located in the upper portion of said domed wall, a cutter adapted to puncture the can in the canister, said cutter comprising a rod slidably carried by said valved closure and a puncturing member carried by said plunger rod, said puncturing member being of such relative size as to be housed within said domed wall when in inoperative position.

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