

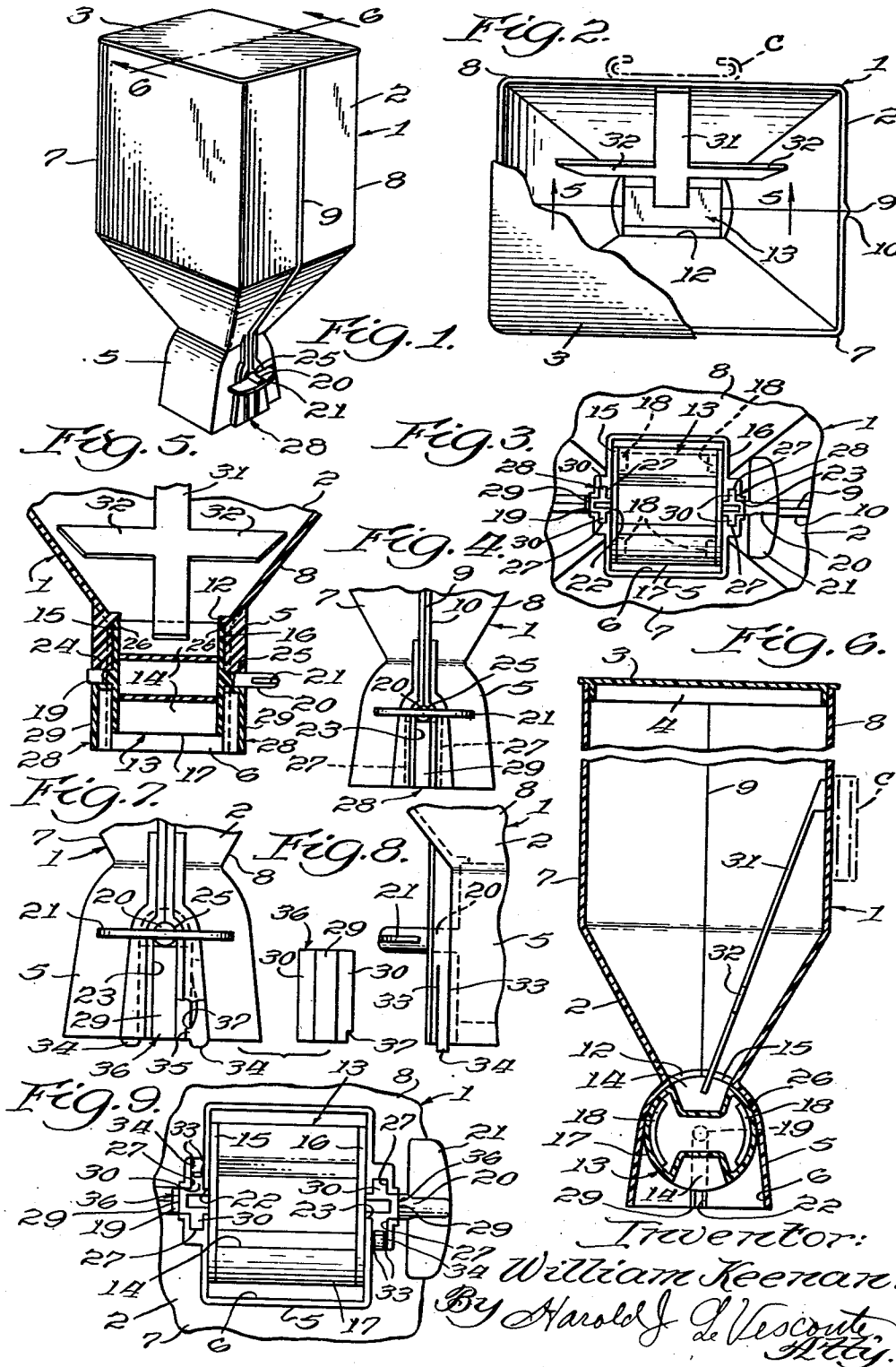
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DISPENSER FOR FLUENT MATERIALS

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DISPENSER FOR FLUENT MATERIALS

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4 Claims. (Cl. 222-368)

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This invention relates to dispensers for fluent materials and more particularly to a dispenser for ground coffee for home use.

The principal object of the invention is to provide a dispenser for ground coffee and other fluent substances which is simple in design comprising a frame or body structure formed from a pair of identical parts and a rotatable measuring valve or drum element.

Another object of the invention is to provide a dispenser in which the foregoing objective is realized and which is so constructed and arranged that the valve element thereof may be readily removed for cleaning and for replacement by another valve element arranged to provide a different size of charge or increment of the dispensed material.

With the foregoing objects in view, together with such additional objects and advantages as may subsequently appear, the invention resides in the parts, and in the construction, combination and arrangement of parts disclosed, by way of example, in the following specification of certain modes of execution of the invention; reference being had to the accompanying drawings which form a part of said specification and in which drawings:

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

Fig. 2 is an enlarged top plan view of the dispenser shown in Fig. 1; a portion of the cover being broken away to disclose internal structure.

Fig. 3 is a fragmentary bottom plan view of the dispenser shown in the preceding figures and showing particularly the dispensing spout thereof.

Fig. 4 is a side elevation of the portion of the dispenser shown in Fig. 3.

Fig. 5 is a sectional view taken on the lines 5-5 of Figs. 2 and 4.

Fig. 6 is an enlarged, transverse sectional view taken on the line 6-6 of Fig. 1.

Fig. 7 is a view similar to Fig. 4, but showing a modified construction of the means for maintaining the valve element in assembly; a component part being shown alongside for clearness of illustration.

Fig. 8 is a fragmentary right hand side elevation of the construction shown in Fig. 7, and

Fig. 9 is a bottom plan view of the form of the invention shown in Figs. 7 and 8.

Referring to the drawings, the first illustrated form of the invention is shown in Figs. 1 to 6, inclusive, and comprises a body or frame structure 1 having a hopper portion 2 closed at its

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upper end by a cover 3 including a peripheral depending rib 4 closely engaging the inner face of the hopper portion as best shown in Fig. 6. In the illustrated form, the hopper 2 is rectangular in transverse cross section and at its lower end it tapers in inverted frusto-pyramidal form to a depending valve housing and dispensing spout portion 5 terminating in an open, rectangular end 6. The body structure may be conveniently formed of a pair of identical injection molded plastic halves 7 and 8 joined together by cementing or other appropriate means along a medial plane 9 which, to provide suitable joining area and to disguise the resulting seam line, may be in the form of a rib 10.

The lower end of the hopper portion 2 terminates in a rectangular slot 12 opening into the upper end of the valve housing and spout portion 5 which upper end is curved to conform to the periphery of a rotatable valve element 13 formed as a cylinder having diametrically opposite pockets 14, 14 of substantially the same peripheral outline as the slot 12 (see Fig. 6); the ends of the valve element comprising discs 15 and 16 having one side thereof cemented to the body portion 17 of the valve element; the discs preferably being provided with inwardly extending flange portions 18, 18 engaging the inner face of the body portion 17 in the manner shown in Fig. 6 for convenience in locating the parts in assembly. The disc 15 at its outer side is provided with an axially disposed laterally extending journal member 19 and the disc 16 is provided with a similar journal member 20; the latter terminating in a handle portion 21 for rotation of the valve element assembly.

The body forming halves 7 and 8 at the portions thereof which form the valve housing and spout portion are cut away from the meeting line 9 with resultant formation of a pair of slots 22 and 23 extending upwardly from the lower end of the spout and terminating in rounded ends 24 and 25 which are engaged, respectively by the journal members 19 and 20; said rounded ends being so located that the periphery of the valve element fits the correspondingly rounded inner upper face 26 of the valve housing (see Fig. 6).

The opposed edge faces of the slots 22 and 23 are each provided with longitudinally extending slots 27 and disposed in each pair of these slots is a retaining member 28 having a central portion 29 completely filling the journal receiving slot and having lateral flange portions 30 engaging the pair of the associated slots 27. The retaining members extend upwardly and engage

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the lower sides of the respective journals (see Fig. 4) and at their lower ends the retainer members are flush with the lower end of the dispensing spout and valve housing 5. In this form of the invention, the retaining members are cemented in place to effect permanent assembly of the rotatable valve in the body structure. The finished dispenser may be mounted on a wall by suitable bracket means; a clip C for detachable engagement with a complementary wall mounted bracket being indicated in dotted lines in Figs. 2 and 6. Also, if desired, the interior of the hopper may be provided with an agitator 31 comprising a resilient element having one end attached to the interior wall of the hopper and having the opposite end thereof extending through the opening 12 and into the pockets 14 as they come into registry with the opening 12. As the valve element is rotated in a counterclockwise direction as viewed in Fig. 6, the free end of the agitator is moved out of the path of the pocket and when the next pocket moves into position the agitator moves back into its position of repose; such movements acting to destroy any tendency of the hopper contents to produce cavitation with resultant failure to properly fill the valve element pockets 14, 14. The lower end of the agitator may be provided with laterally extending wings 32, 32 to increase the effectiveness of the action thereof.

Referring next to the form of the invention shown in Figs. 7, 8 and 9, the means for holding the valve element in assembly is modified to permit the valve element to be removed for cleaning or to be replaced by other valve elements having measuring pockets of a different size. To effect this change, the wall of the edge of one groove 27 is provided with a pair of longitudinally extending slots 33, 33 and the end 34 of the slotted wall is extended slightly below the lower end of the spout portion for manual engagement while the inner face of the wall portion is provided with an inwardly protruding detent portion 35. The retaining member 36 at one lower corner thereof is provided with a notch 37 engageable by said detent portion 35. Since the body structure is formed of identical halves, on uniting a pair of said halves to form a completed body structure, one of said detents will be located at each side. To effect the assembly of the valve element, the valve element is first placed in the slots, the retainers 36, 36 are inserted in the slots with displacement of the detent portions and upon being pushed into position, the detents will engage the notches 37 in the retainers and hold them in assembly. To remove the valve assembly, the detents are sprung out of the notches, and the retainers and valve element are removed. Thus the device may be more readily cleaned and in manufacture, the same body structure may be provided with different valve elements for use with different materials. While the above invention may find its greatest usefulness as a coffee dispenser, it is also useful for other fluent materials such as soap and detergent powders and flakes, sugar, tea, insecticides, and many other materials.

While in the foregoing specification certain modes of execution of the invention are disclosed, the invention is not to be deemed to be limited to the specific forms so disclosed, and it is to be understood that the invention embraces all such modifications in the parts, and in the construction, combination and arrangement of parts as

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shall come within the purview of the appended claims.

I claim:

1. In a manually operable dispensing apparatus, a body structure comprising a hopper portion having a tapered lower end and a valve housing and dispensing spout portion disposed below said lower end of said hopper portion and an aperture affording communication between said portions of said body structure; said body structure being formed of identical halves united along a median plane of said body structure, a rotatable cylindrical valve element disposed within said valve housing portion with the axis of rotation thereof disposed in said median plane and having a plurality of material receiving pockets disposed to be brought into and out of registry with said aperture incident to rotation of said valve element; said valve element comprising a hollow, generally cylindrical body portion having pocket forming depressions extending axially thereof, a disc secured to one end of said valve body portion and having an integrally formed journal element disposed in axial alignment with said valve body portion and projecting outwardly therefrom, a second disc secured to the opposite end of said valve body portion and having a second journal element disposed in axial alignment with said first-named journal element; each of said body structure forming halves at the lower ends thereof having identical portions disposed away from said medial plane with resultant formation of a pair of upwardly extending slots in which said journal elements are received, and blocks secured in said slots below said journal elements effective to retain said journal elements in said slots.

2. In a manually operable dispensing apparatus, a body structure comprising a hopper portion having a tapered lower end and a valve housing and dispensing spout portion disposed below said lower end of said hopper portion and an aperture affording communication between said portions of said body structure; said body structure being formed of identical halves united along a median plane of said body structure, a rotatable cylindrical valve element disposed within said valve housing portion with the axis of rotation thereof disposed in said median plane and having a plurality of material receiving pockets disposed to be brought into and out of registry with said aperture incident to rotation of said valve element; said valve element comprising a hollow, generally cylindrical body portion having pocket forming depressions extending axially thereof, a disc secured to one end of said valve body portion and having an integrally formed journal element disposed in axial alignment with said valve body portion and projecting outwardly therefrom, a second disc secured to the opposite end of said valve body portion and having a second journal element disposed in axial alignment with said first-named journal element, detachable means carried by said body structure affording bearing support for said journal members, integrally formed latch means carried by each of the halves of said body structure effective to releasably hold said bearing support forming means in assembly with said body structure, and an operating handle carried by said last-named journal element.

3. In a manually operable dispensing apparatus, a body structure comprising a hopper portion having a tapered lower end and a valve housing and dispensing spout portion disposed below said lower end of said hopper portion and an aperture

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affording communication between said portions of said body structure; said body structure being formed of identical halves united along a median plane of said body structure, a rotatable cylindrical valve element disposed within said valve housing portion with the axis of rotation thereof disposed in said median plane and having a plurality of material receiving pockets disposed to be brought into and out of registry with said aperture incident to rotation of said valve element; said valve element comprising a hollow, generally cylindrical body portion having pocket forming depressions extending axially thereof, a disc secured to one end of said valve body portion and having an integrally formed journal element disposed in axial alignment with said valve body portion and projecting outwardly therefrom, a second disc secured to the opposite end of said valve body portion and having a second journal element disposed in axial alignment with said first-named journal element; each of said body structure forming halves at the lower ends thereof having identical portions disposed away from said median plane with resultant formation of a pair of upwardly extending slots in which said journal elements are received, and blocks secured in said slots below said journal elements effective to retain said journal elements in said slots; each of said discs at the side thereof engaging said valve body portion having laterally projecting lugs engageable with the inner face of said valve body portion and effective to locate said discs in axial alignment with said body portion and with each other.

4. In a manually operable dispensing apparatus, a body structure comprising a hopper portion having a tapered lower end and a valve housing and dispensing spout portion disposed below said lower end of said hopper portion and an aperture affording communication between said portions of said body structure; said body structure being formed of identical halves united along a

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median plane of said body structure, a rotatable cylindrical valve element disposed within said valve housing portion with the axis of rotation thereof disposed in said median plane and having a plurality of material receiving pockets disposed to be brought into and out of registry with said aperture incident to rotation of said valve element; said valve element comprising a hollow, generally cylindrical body portion having pocket forming depressions extending axially thereof, a disc secured to one end of said valve body portion and having an integrally formed journal element disposed in axial alignment with said valve body portion and projecting outwardly therefrom, a second disc secured to the opposite end of said valve body portion and having a second journal element disposed in axial alignment with said first-named journal element, detachable means carried by said body structure affording bearing support for said journal members, integrally formed latch means carried by each of the halves of said body structure effective to releasably hold said bearing supporting forming means in assembly with said body structure, and an operating handle carried by said last-named journal element; each of said discs at the side thereof engaging said valve body portion having laterally projecting lugs engageable with the inner face of said valve body portion and effective to locate said discs in axial alignment with said body portion and with each other.

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