

Sept. 11, 1934.

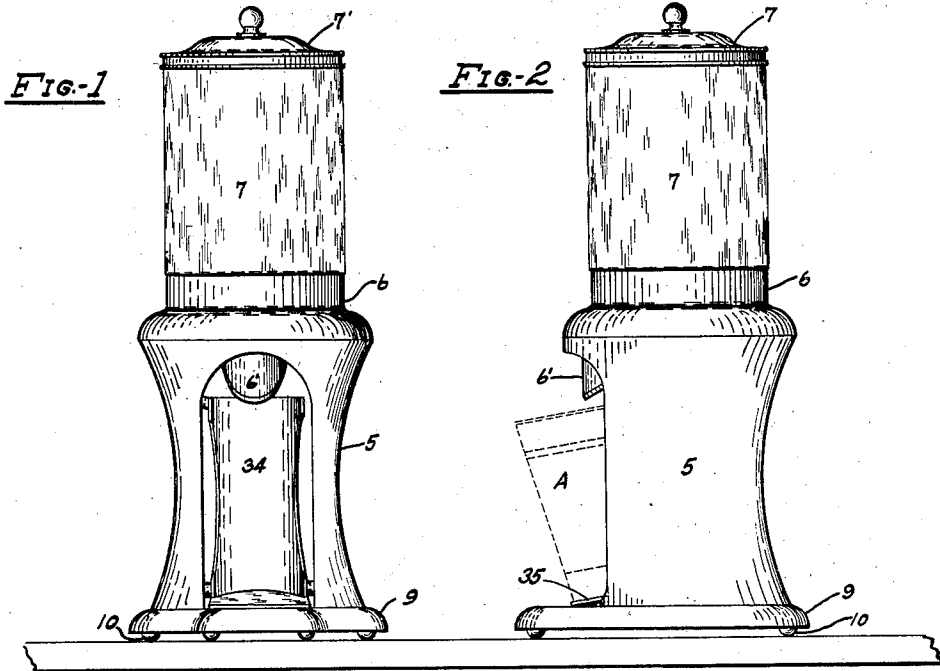
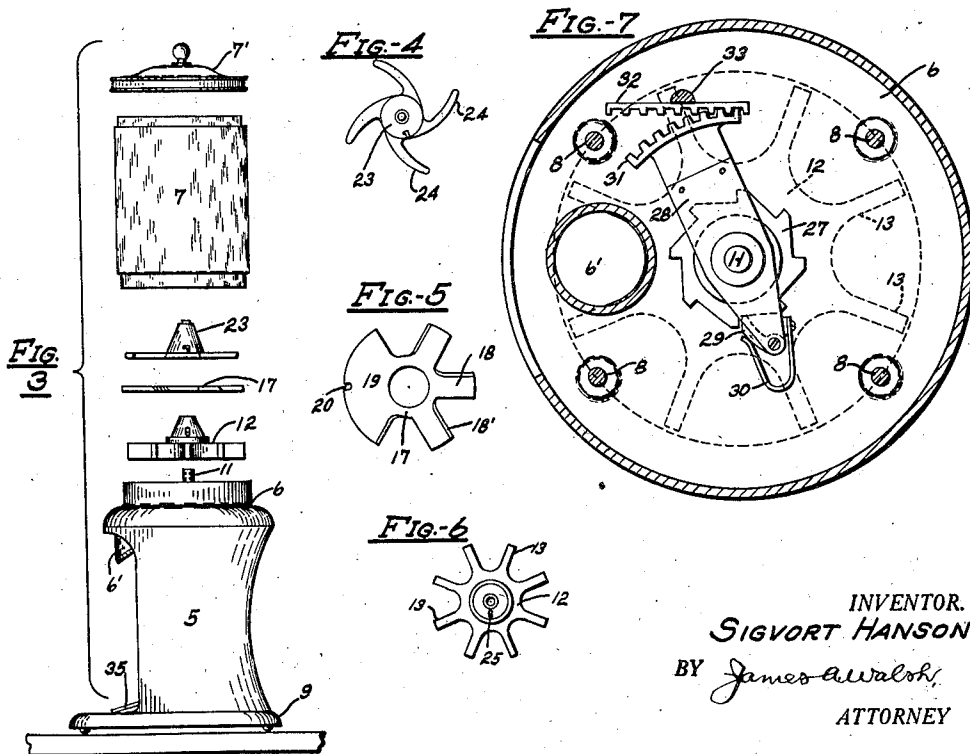
S. HANSON

1,973,566

DISPENSER

Filed Dec. 26, 1933

2 Sheets-Sheet 1



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SIGVORT HANSON  
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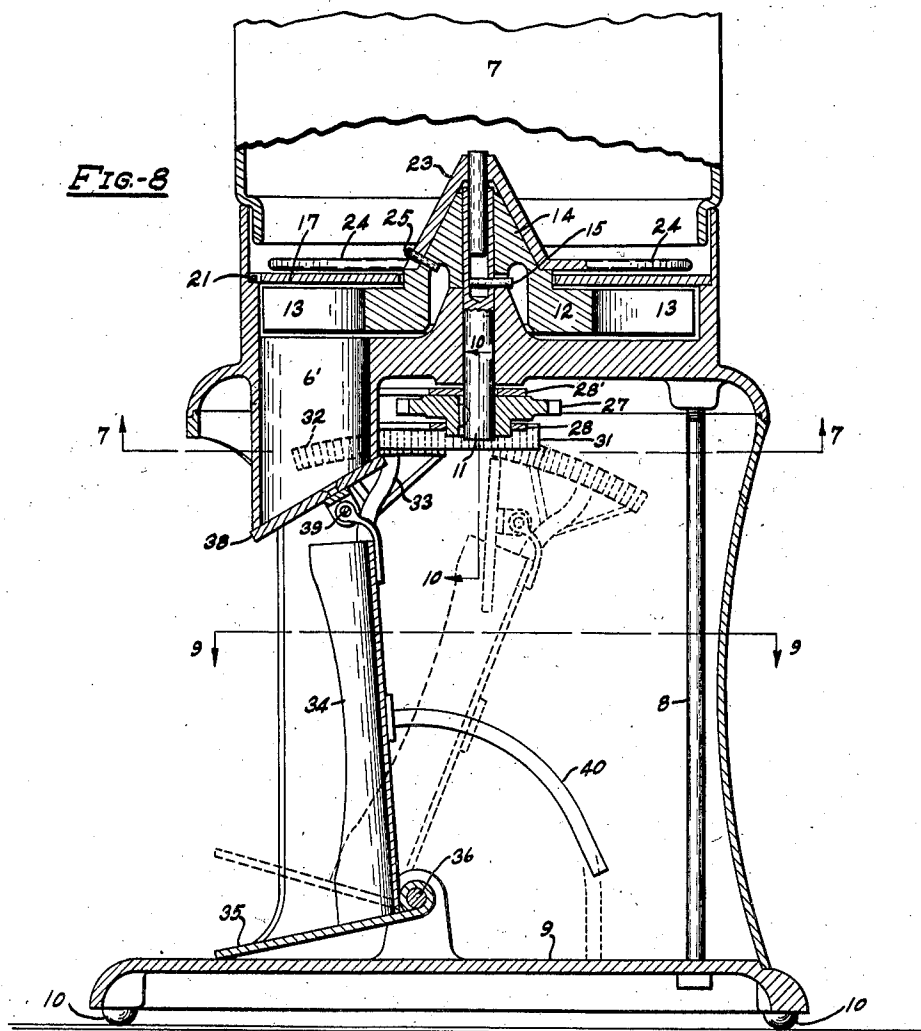
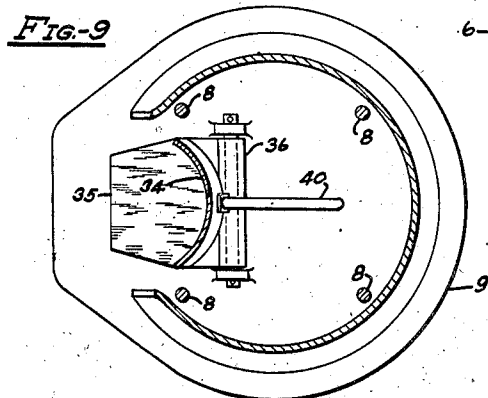
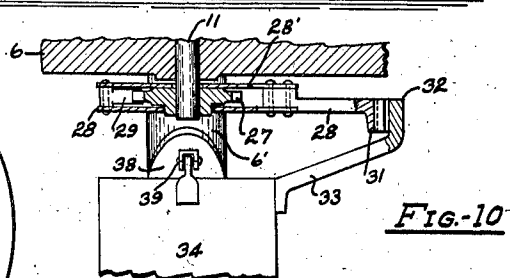
S. HANSON

1,973,566

DISPENSER

Filed Dec. 26, 1933

2 Sheets-Sheet 2



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## UNITED STATES PATENT OFFICE

1,973,566

## DISPENSER

Sigvort Hanson, Racine, Wis., assignor to Racine  
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Wis., a corporation

Application December 26, 1933, Serial No. 703,889

7 Claims. (Cl. 221—108)

My invention relates to improvements in dispensers designed to discharge powdered material, particularly malted milk, my object being to simplify the construction and operation of such dispensers so that the actuating parts thereof contacting with the material may be readily removed, cleansed and reassembled, and a predetermined portion of material selected from the mass contained therein and discharged into a vessel, such as a glass, when so engaging the latter with means controlling a valve or cover to open the discharge outlet of the dispenser and which outlet will be automatically closed upon the removal of the vessel, as will hereinafter more fully appear.

In the accompanying drawings, forming part hereof, Figures 1 and 2 are front and side elevations, respectively, of a dispenser embodying my improvements; Fig. 3, an elevation showing the dispenser parts disassembled; Figs. 4, 5 and 6, respectively, are plan views of an agitator, a shield, and a measuring wheel, which I employ; Fig. 7, a detail as seen when looking upwardly from the arrows 7—7 in Fig. 8; Fig. 8, a longitudinal vertical sectional view of the dispenser; Fig. 9, a detail as seen when looking in the direction of the arrows 9—9 in Fig. 8; and Fig. 10 is a detail sectional view taken on the dotted line 10—10 in Fig. 8.

In said drawings the portions marked 5 indicate the body of the dispenser, upon which is mounted a frame 6 supporting the actuating parts and the material container 7 made of glass or other suitable material, which body and frame are connected by bolts 8 to a base 9 having suitable foot-rests, as 10.

In the frame 6, having an outlet 6', a shaft 11 is mounted and upon which I position a measuring wheel 12 having blades 13 and a tapered hub 14 detachably pinned to the shaft, at 15. Above the wheel 12 a shield 17 is mounted about hub 14, and which shield embodies spaced members 18 having knife edges 18' and an imperforate member 19, the latter embodying a slot 20 adapted to engage a pin 21 on the frame, so that the portion 19 will lie directly above the discharge outlet 6' for a purpose to appear. An agitator embodying a conical hub 23, and preferably curved fingers 24, is mounted upon the hub 14 and detachably pinned to the latter, at 25, in such relation to wheel 12 that sufficient space is provided for the shield 17 between the wheel and agitator so that the latter elements may freely rotate about the stationary shield.

Beneath the measuring-wheel 12 and keyed or

otherwise secured to shaft 11 is a ratchet-wheel 27 positioned between ratchet-arm members 28, 28', carrying a pawl 29 controlled by a spring 30, which ratchet engages wheel 27, as indicated in Fig. 7, the opposite end of the arm including a segmental rack 31 engaging a rack-bar 32 secured to an arm 33 connected to a valve opener 34 having a vessel support 35 pivotally connected, at 36, to the casing or body of the dispenser. At the upper end of the opener is a valve 38, pivotally connected at 39 to the opener 34, and which valve 38, as shown in Fig. 8, normally closes the outlet 6' and excludes moisture therefrom.

When it is desired to charge a vessel with material from the container 7, the vessel, as A, is placed as shown by dotted lines in Fig. 2, upon the support 35, Fig. 8, and with the opener 34 tilted rearwardly within the dispenser body, which action causes the rack-bar 32, engaged with segmental rack 31, to move ratchet-arm 28 and simultaneously with such movement the ratchet-wheel 27 and the measuring-wheel 12 are rotated so that the space between the blades 13 registers with the discharge outlet 6', the pawl 29 on the ratchet-arm actuating the ratchet-wheel to revolve the wheel as well as the agitator 23, the rotating measuring wheel 12 carrying a charge of material under shield member 19 to the discharge outlet 6' to be deposited in the vessel. When the opener 34 is being tilted to the position indicated by dotted lines, Fig. 8, the valve 38 carried by said opener is gradually released from the outlet 6' until it assumes the vertical plane indicated so that the entire charge in the outlet will be deposited in the vessel. When the valve is completely removed from the outlet further movement of the opener is prevented by a suitable stop, as 40 for example, which at the limit of the inward movement of the opener contacts the base 9. After charging the vessel and as it is being removed it is returned to the dotted line position, Fig. 2, and the opener and parts associated therewith likewise are returned to the full line position shown in Fig. 8, and consequently the ratchet-arm 28 and associated parts are returned to normal position for the next operation, which as will be understood, may be repeatedly performed in the manner described.

In the operation of depositing a charge of material in a vessel it will be understood that the measuring wheel 12 is so timed that a pair of its blades 13, carrying a predetermined portion of material between them, is moved by the action of the ratchet-arm and rack-bars beneath the

shield 19, while at the same time the material flowing from the container 7 above is filling the spaces between the remaining blades as it is being treated by the rotating agitator 23, the fingers 24 of which, passing closely over the knife edges 18' of the shield member 18, cooperate therewith in pulverizing the material before the same is moved by the wheel 12 around under the shield 19 to be discharged into the vessel, and which shield prevents surplus material from entering the outlet until moved thereover, and in which manner each charge will be uniform, as the spaces between the wheel blades are of equal dimensions. In Fig. 3 it will be noted that the container is preferably an open-ended jar mounted in the frame 6, Fig. 1, and having a cover 7' to enclose the material placed therein, which flows into the rotating parts to be agitated, pulverized, and apportioned by the measuring-wheel into uniform quantities to be discharged into and through the outlet 6' upon performing the operation described, the conical formation of hub 23 directing the material into the spaces of said wheel 12. The rotatable elements are pinned together in assembled condition about the shaft 11 in the simple manner shown and described, and, as will be understood by reference to Fig. 3, each may be detached and removed for cleansing and as readily inserted and assembled, and by reference to Fig. 8 it will be seen that when the pin 15 is withdrawn from shaft 11 said shaft and associated parts can be readily removed for inspection or repair.

I claim as my invention:

1. In a dispenser, a frame including a discharge outlet, means for supporting the frame, a measuring-wheel rotatably mounted on the frame including blades having spaces therebetween registering with said outlet, a non-rotatable shield mounted on the frame, an agitator mouned on the wheel above the shield, means for delivering material to said wheel, a valve opener pivotally connected to the supporting means, a valve pivotally mounted on the opener and normally closing said outlet, a ratchet-wheel associated with the measuring-wheel, a ratchet-arm associated with the ratchet-wheel, and means on the ratchet-arm engaging said ratchet-wheel for rotating the measuring-wheel when said opener is actuated and whereby the valve is removed from the outlet as said opener is moved.
2. In a dispenser, a frame embodying a discharge outlet, a body connected to the frame, a shaft rotatably mounted in the frame, a measuring-wheel detachably connected to the shaft, a stationary detachable shield above the wheel, an agitator detachably connected to the wheel, a ratchet-wheel fixedly secured to the shaft, a ratchet-arm associated with the ratchet-wheel including a segmental rack at one end and a pawl at its opposite end engaging the ratchet-wheel, a valve opener pivotally connected to the body and having a rack-bar engaging said segmental rack, and a valve pivotally mounted on the opener and normally closing the discharge outlet and removable therefrom when said opener is actuated to operate said rack-bar to rotate the ratchet-wheel, measuring-wheel and agitator.
3. In a dispenser, a frame having a discharge outlet, means for supporting the frame, a valve opener pivotally connected to the supporting means, a valve pivotally mounted on the opener and normally closing the discharge outlet, a rack-

bar mounted on the opener, a shaft in the frame, a ratchet-wheel secured to the shaft, an arm associated with the ratchet-wheel having a pawl engaging said wheel and a rack engaging said rack-bar, a measuring-wheel on the shaft adapted to deliver material into said discharge outlet, and means associated with the opener to receive a vessel for actuating the opener to simultaneously remove the valve from the outlet and actuate the ratchet-wheel to rotate said measuring wheel for carrying material into the discharge outlet.

4. In a dispenser, a body, a frame on the body having a discharge outlet, a shaft mounted in the frame, a measuring-wheel having a tapered hub and radial blades mounted on the shaft, a shield adjacent the wheel and detachably connected to the frame, an agitator having a tapered hub supported on the wheel, a ratchet-wheel on the lower end of the shaft, an arm associated with the ratchet-wheel having a pawl at one end engaging said wheel and a rack at its opposite end, a valve opener pivotally connected to the body and having a rack-bar engaging said rack, a valve pivotally connected to the opener to normally close the discharge outlet, means associated with the valve opener to receive a vessel for actuating the opener to simultaneously remove the valve from the outlet and rotate said ratchet-wheel and measuring-wheel, and means for limiting the inward movement of the opener.

5. In a dispenser, a body, a frame on the body having a discharge outlet, a container adapted to deliver material into the dispenser, means for agitating the material, rotatable means for delivering the material into said discharge outlet, a ratchet-and-pawl mechanism associated with said rotatable means, an opener pivotally connected to the body having a valve pivotally mounted thereon for normally closing the discharge outlet, means associated with said opener for engaging the pawl-and-ratchet mechanism, and other means associated with the opener to receive a vessel for moving the opener inwardly to remove the valve from said outlet and for moving the opener outwardly and closing the valve said inward movement simultaneously actuating the pawl-and-ratchet mechanism to rotate the material delivering means.

6. In a dispenser, a frame having a discharge outlet, a shaft in the frame, a detachable measuring-wheel mounted on the shaft, said wheel having a hub, a detachable agitator mounted on the hub, a shield supported in the frame between the wheel and agitator, means for actuating the wheel and agitator, a valve normally covering the outlet, and means actuated by a vessel for separating and removing the valve from the outlet and frame and simultaneously operating said actuating means.

7. In a dispenser, a frame having a discharge outlet, a shaft in the frame, a measuring wheel on the shaft, a shield having an imperforate portion and knife-edged members non-rotatably supported in the frame, an agitator supported on the wheel and rotatable therewith, means for actuating the wheel and agitator, a pivotally mounted valve normally closing the outlet, and means operable by a contacting vessel for separating and removing the valve from the outlet and frame and simultaneously operating the actuating means for rotating the wheel and agitator.

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