

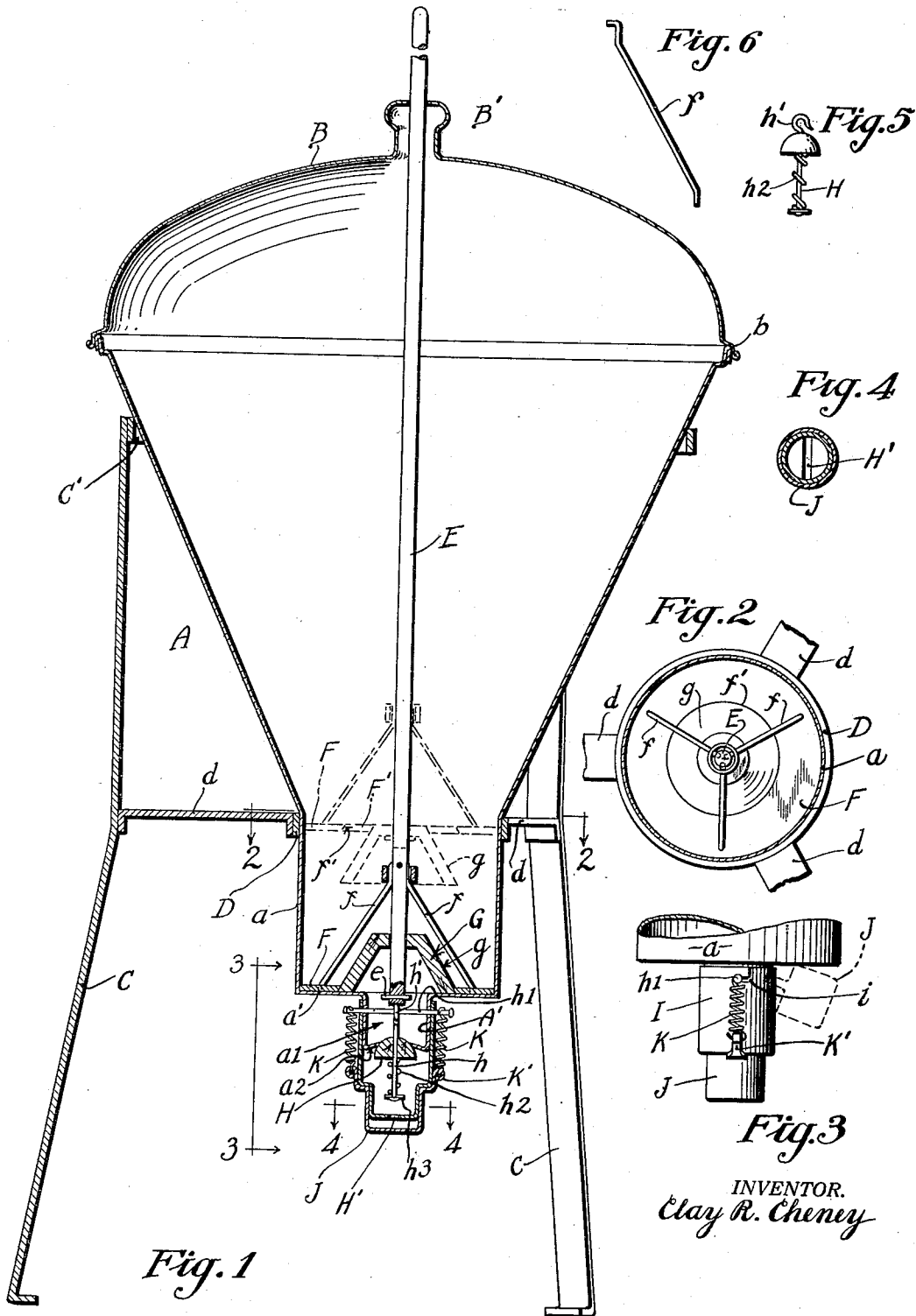
June 14, 1932.

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1,862,883

MAYONNAISE DISPENSER

Filed Nov. 21, 1928



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MAYONNAISE DISPENSER

Application filed November 21, 1928. Serial No. 321,010.

This invention relates to and has for a principal object the provision of a simplified type of dispenser, particularly adapted for dispensing measured or uniform quantities of mayonnaise or other plastic or paste-like substances.

Another object is to provide a dispenser for the purpose mentioned adapted for use in stores, whereby mayonnaise or other materials of like consistency may be dispensed in measured volume, and sold in bulk instead of in cans, jars, or the like.

A further object is to provide a dispenser for the above named purpose which is thoroly sanitary and capable of being readily disassembled for the purpose of cleaning and filling, and including a minimum number of parts so arranged that a maximum efficiency is provided, and the materials may be dispensed therefrom without leakage, dripping, or other characteristics usually present in dispensing machines.

Other objects may appear as the description progresses.

In the accompanying drawing I have shown a preferred form of invention, in which

Fig. 1 is a sectional elevation of my improved dispenser.

Fig. 2 is a sectional plan of the same on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary elevation of the dispensing neck and outlet of the machine, as seen on line 3—3 of Fig. 1.

Fig. 4 is a sectional plan of the outlet on line 4—4 of Fig. 1.

Fig. 5 is an exterior view of the valve for normally closing the outlet.

Fig. 6 is a view of one of several wires or rods which together constitute means for supporting the piston on the operating plunger.

Briefly described, my dispenser includes a receptacle A, preferably of conical shape and arranged to receive a cover B on its open upper end. The receptacle is adapted to be supported centrally on a skeleton frame composed of upright members C, C etc. having a ring C' attached to the upper ends thereof and engaging the outer periphery of the receptacle A. The members C, C etc., of the frame are connected at points intermediate

their ends with a smaller ring D by means of a plurality of horizontal arms *d*, *d* etc.

The receptacle A has a depending neck *a* of cylindrical form and of substantially smaller size than the body of the receptacle. The neck is turned inwardly at *a'* so as to provide a bottom and is thence turned downwardly at A' so as to provide a discharge outlet of substantially smaller area than the neck *a*.

The cover B has a bead *b* which overlies the upper open end of the receptacle A. The said cover is also provided with a hollow knob B' by means of which the cover may be removed from and positioned on the receptacle. The knob B' has a central orifice adapted to slidably receive a plunger E which extends downwardly through the body of the receptacle A and also through the neck *a* thereof.

The said plunger carries an ejector F of annular form which corresponds substantially in size to the inner periphery of the neck *a* and is movably disposed in said neck. The ejector or ring F is supported on the plunger by means of a plurality of wires or rods *f*, *f* etc., which lean inwardly and extend upwardly from the ring F, and are suitably attached at their upper ends to the plunger E, while their lower ends are riveted or otherwise suitably attached to the ring F.

A control valve G of conical form is provided in the neck *a* and is loosely mounted on the plunger E, as shown in Fig. 1. The outer periphery *g* of the valve G, when the valve is in closed position, is adapted to engage the edge *f'* of an opening F' in the ejector ring F. It will be noted that the conical valve G overlies the outlet chamber *a1* when the valve is seated in its lowermost position so that the materials in the dispenser will be prevented from discharge through the outlet chamber *a1*.

The lower end of the plunger E carries a pin *e* therein which, when the plunger is elevated is adapted to engage the upper end of the valve and elevate the valve with the plunger. The ejector F, being fixed to the plunger at all times, moves therewith while the valve G moves with the plunger only after the plunger

er has been raised to a predetermined extent.

In Fig. 1 I have shown the ejector and valve in closed position at the lower end of the neck *a* in full lines, and in open position at the upper end of the neck in broken lines. It will thus be observed that when the plunger *F* is raised to position in the upper portion of the neck, the valve *G* will be positioned substantially below the ejector and will provide an annular orifice between the ejector and the valve so that the materials from above the ejector may be forced by gravity or suction downwardly into the neck and below the ejector.

The lower end of the outlet portion *A'* has a wall *a2* with a central orifice formed therein adapted to be normally closed by a check valve *H*. Said valve is held on a rod *h* which is provided with a hook or eye *h'* at its upper end adapted to be held on a pin *h1* extended transversely across the outlet portion *A'*. The valve *H* is urged upwardly into closed position by means of a compression spring *h2* which is confined between the valve *H* and a washer *h3* on the bottom of the rod *h*. A cap *I* is removably held on the outlet portion *A'* by means of a pair of bayonet slots *i* which engage the extended ends of the pins *h1*. Said cap serves to enclose the valve *H* and is provided with a discharge outlet *H'* in the lower end thereof through which the material dispensed from the receptacle is ejected in a ribbon-like mass into a suitable receptacle adapted to be positioned below the outlet.

When the dispenser is not in use the outlet *H'* may be closed for sanitary purposes by means of an auxiliary cap *J*, which overlies the lower portion of the cap *I* and is resiliently held in position by means of a pair of springs *K*, *K* etc. Said springs are attached at their upper ends to the extended portions of the pins *h1* and at their lower ends to lugs *K'*, *K'* on the cap *J*.

When the dispenser is not in use, the cap *J* may be pulled downwardly and thence swung upwardly, as shown in Fig. 3 in broken lines.

In operation, the ring *F* constitutes an ejector by means of which quantities of the material in the receptacle *A* are forced downwardly through the neck and outlet *A'*. Said ring and the co-operating control valve *G* are normally disposed at the bottom of the neck *a*, as shown in Fig. 1, and the check valve *H* normally closes the orifice in the bottom of the outlet chamber *a1*.

In a dispensing operation the plunger *E* is elevated and the initial movement thereof will raise the ejector *F* from its position of engagement with the valve *G*, thus providing an opening in the ejector around the valve *G*. When the plunger is raised sufficiently for the pin *e* to engage the upper end of the valve *G*, said valve will thereupon be raised from its normal position, and the fur-

ther movement of the plunger will correspondingly raise both the ejector and valve. During the movement of the ejector *F* upwardly, the material from the body of the receptacle *A* will be forced downwardly through the opening *F'* in the ejector into the neck *a* and below the ejector. On the ensuing down stroke of the plunger the valve *G* will initially rest on the volume of material within the neck *a* until the plunger *F* engages the valve, and thereafter the plunger and valve will move downwardly together in the neck until the bottom of the neck is reached.

It is therefore apparent that the downward stroke of the plunger will force the material from below the valve and ejector into and from the outlet portion *A'*, and the pressure will open the valve *H* against the tension of the spring *h2* so that the discharged material will be forced by gravity and pressure outwardly through the orifice *H'* in the cap *I*.

The volume of material discharged in a given operation may be regulated by the extent of movement of the plunger, as it is obvious that a maximum movement of the plunger will eject a maximum quantity of material, and a slight movement of the plunger will eject only a slight quantity of material.

Attention is called to the fact that due to the area of the ejector and the normal closing of the outlet by the valve *H*, a substantial suction is created in the cylinder *a* on the up stroke of the plunger. This suction induces a flow of the material from the receptacle through the inlet *F'* of the ejector into the cylinder, insuring the delivery of substantially uniform quantities of material to the cylinder at each operation of the plunger. When the plunger is moved downwardly into engagement with the previously elevated control valve *G*, the inlet in the ejector is closed and the ejector and valve together operate piston-like to create pressure in the cylinder, thus evacuating the cylinder of its contents through the outlet by reason of the opening of the valve *H* by the pressure in the cylinder.

While the valve *G* is shown in conical form, said valve may be in the form of a disk, or otherwise, but the conical form serves the purpose more efficiently for the reason that the materials delivered through the inlet of the ejector are forced outwardly into position beneath the annular ejector.

Other details of the structure may be modified within the scope of the appended claim without departing from the spirit thereof.

What I claim is:

A dispenser comprising a receptacle formed at its lower end with a depending neck, an outlet chamber depending from the lower end of said neck, a cap fitted over said outlet chamber and depending therefrom,

said cap being provided with an outlet in its lower end, a bayonet joint for holding said cap on said outlet chamber, a plunger mounted in said neck, a valve in said plunger, constructed and arranged to open upon the upward stroke of the plunger to admit a portion of the contents of said receptacle into said neck and outlet chamber, and to close upon the downward stroke of said plunger, and a valve controlling said outlet chamber, constructed and arranged to close upon the upward stroke of the plunger and to open upon the downward stroke of the plunger to enable the plunger to force the contents of said neck and outlet chamber out through the outlet in said cap.

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