F. P. MALONEY.

APPARATUS FOR FILLING LARD IN PAILS OR CARTONS.

APPLICATION FILED NOV. 2, 1914.

1,173,294.

Patented Feb. 29, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

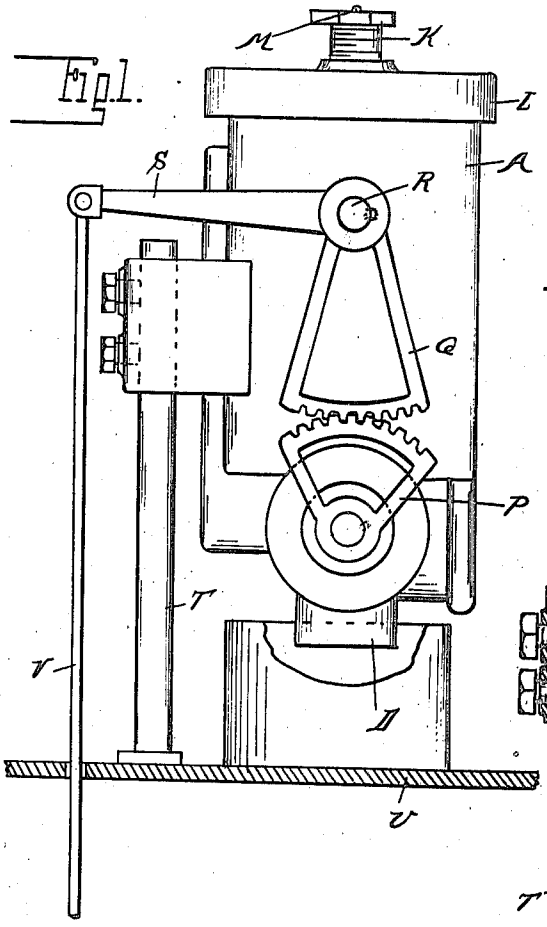
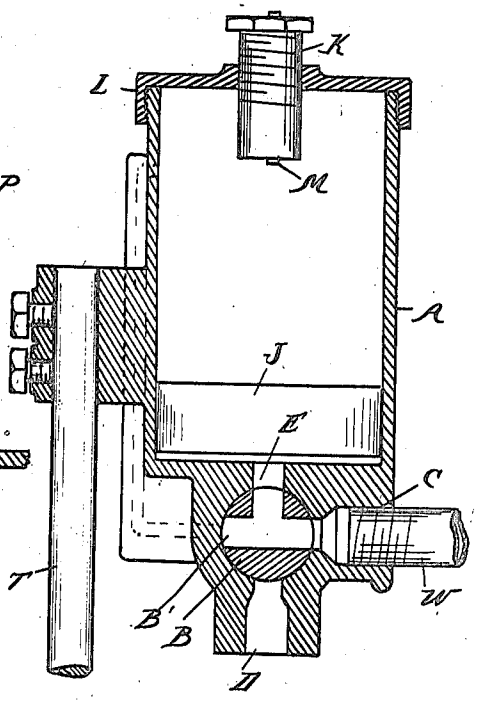


Fig. 2.



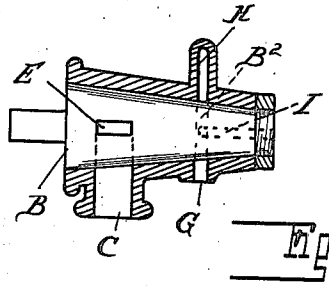


Fig. 4.

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Fig. 5.

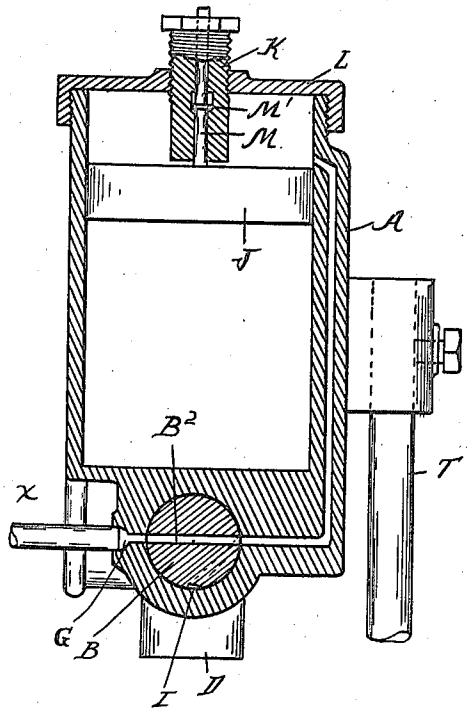
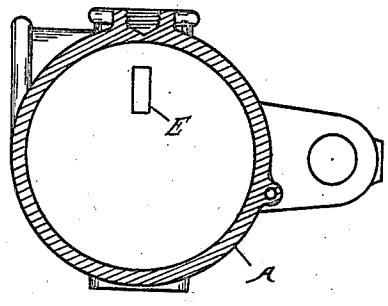


Fig. 3.



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APPARATUS FOR FILLING LARD IN PAILS OR CARTONS.

1,173,294. Specification of Letters Patent. Patented Feb. 29, 1916.

Application filed November 2, 1914. Serial No. 869,995.

To all whom it may concern:

Be it known that I, FRANK P. MALONEY, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Apparatus for Filling Lard in Pails or Cartons, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to apparatus for filling pails or cartons and is more particularly designed for use in the filling of the same with lard.

It is the object of the invention to obtain a simple construction which is easily manipulated by the operator and which will place in the cartons or pails an exact quantity of the lard.

In the drawings: Figure 1 is an elevation of the apparatus; Fig. 2 is a longitudinal section; Fig. 3 is a horizontal section; Fig. 4 is a longitudinal section through the valve; and Fig. 5 is a longitudinal section through the apparatus showing the construction of the air port.

A is a receptacle for receiving the lard or other material to be placed in the pail or carton. The bottom of this receptacle forms a valve-case for a three-way valve B controlling an inlet passage C and a discharge passage D. The construction is such that in one position the passage C is connected by a valve port B′ with a port E entering the chamber F within the receptacle, while in another position the passage C is closed and communication is established by the port B′ between the port E and the discharge passage D. In addition to the port B′ the valve B is provided with a second port B^2, which controls connection between air ports G, H and I in the valve casing. The port H is connected with a passage formed in the wall of the receptacle A and leading to the upper end thereof, the port G is connected with a source of compressed air and the port I is open to the atmosphere.

Within the receptacle A is a piston J slidably engaging the cylinder.

K is an adjustable stop, preferably formed of a threaded member engaging a threaded aperture in the cap L for the receptacle. The member K is also preferably apertured to receive an indicator rod or pin M, the lower end of which projects slightly below the stop K while the upper end extends to be visible from outside the receptacle.

M′ is a collar upon the rod for limiting its movement. The rod M will fit the stop with sufficient freedom to drop to its lowermost position when not engaged by the piston. When compressed air is admitted above the piston the rod will be raised by the pressure, and the collar M′ will abut against the top of the recess containing said collar to prevent leakage.

P is a gear segment upon the stem of the valve B, which is in mesh with an actuating gear segment Q pivoted at R and having an actuating bell-crank arm S.

T is a standard on which the receptacle A is mounted and which holds it a sufficient distance above the table U for the insertion of the pail or carton beneath the discharge nozzle D.

V is a rod connected to the bell-crank arm S and extending below the table to a pedal or other actuating device.

In operation the port C is connected by a conduit W with a supply of molten or congealed lard, while the port G is connected by a conduit X with a source of compressed air. The operator then places a pail or receptacle to be filled beneath the nozzle D and presses his foot upon the pedal, which through the actuating segments Q and P adjusts the valve into the position shown in Fig. 2. This establishes communication between the port C and the port E, permitting the molten or congealed lard to enter the chamber F, forcing the piston J upward until it strikes against the stop K. When this occurs the indicator rod or pin M is pressed upward showing the operator that the receptacle is filled. To permit the rise of the piston the air in the chamber must be exhausted, this occurring through the port H, valve port I and vent port I′. When the receptacle is filled the operator releasing the pedal and spring reverses the position of the valve B, so that the port B′ establishes communication between the port E and the discharge nozzle D, while the port B^2 establishes communication between the port H and the port G. This permits compressed air to enter through the conduit X into the upper part of the chamber F, driving downward the piston J and ejecting the lard from the recepta-

cle into the pail or carton to be filled. By adjusting the stop K the quantity of material is accurately gaged.

What I claim as my invention is:—

1. The combination with a cylinder and a member longitudinally displaceable therein, of a stop adjustably mounted in an extremity of the cylinder, and an indicator rod slidably carried by the stop, normally projecting beyond the same within the cylinder and having a portion projecting beyond the stop exterior to the cylinder.

2. The combination with a cylinder and a member longitudinally displaceable therein, of a stop mounted in an extremity of the cylinder formed with a bore longitudinal of the cylinder and having an indicator rod slidable in said bore, a projection upon the rod engaging shoulders on the stop to limit motion of the rod, said rod having a portion normally projecting inwardly beyond the stop, and a portion displaceable outwardly beyond the stop.

In testimony whereof I affix my signature in presence of two witnesses.

F. P. MALONEY.

Witnesses:
JNO. H. BREEN,
EDWIN J. SMITH.