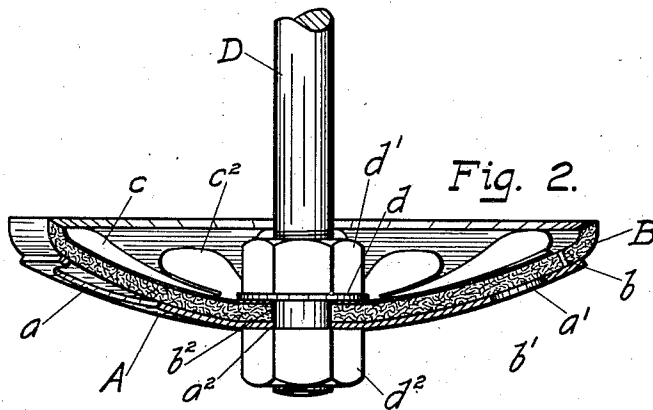
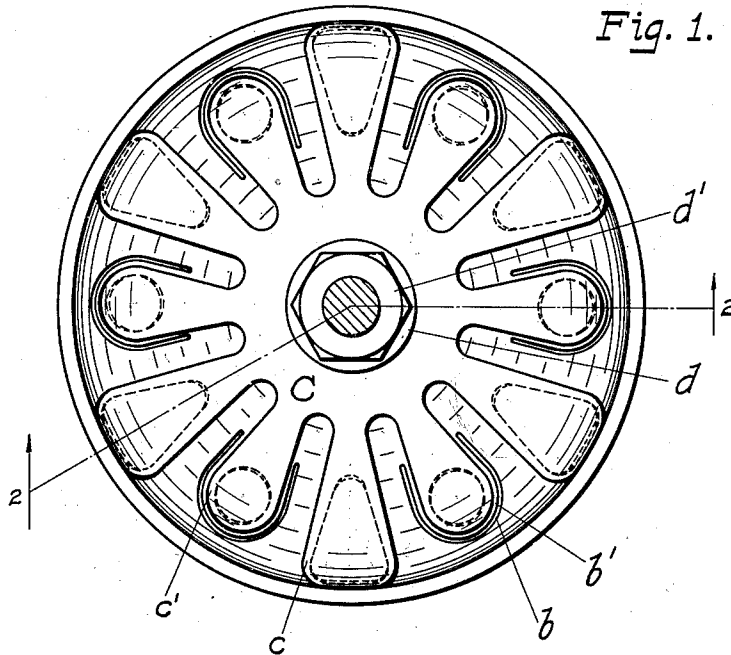


W. F. BRANDT.
PUMP PISTON.
APPLICATION FILED JULY 15, 1920.

1,362,838.

Patented Dec. 21, 1920.



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PUMP-PISTON.

1,362,838.

Specification of Letters Patent. Patented Dec. 21, 1920.

Application filed July 15, 1920. Serial No. 396,563.

To all whom it may concern:

Be it known that I, WILLIAM F. BRANDT, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented new and useful Improvements in Pump-Pistons, of which the following is a specification.

My invention relates to pump pistons, more particularly those used for pumping liquids.

In pumping gasoline and the lighter and less viscous liquids particularly, it is often found difficult with a measuring pump, whose unit of measure is one gallon at a stroke of the piston, to deliver a quantity, say five gallons, by pumping a large number of fractions of units, as 20 pints and 10 quarts within the limit of tolerance.

The object is to construct a simple and inexpensive piston, adapted to very freely allow the passage of liquid therethrough on the down stroke of the piston, and to instantly and perfectly seat at the termination thereof and before the up stroke has been begun.

In the particular embodiment of my invention selected for illustration:—

Figure 1, is a top plan view of the piston assembled, and

Fig. 2, is a cross section on the line 2—2 of Fig. 1.

Referring now to the drawings, A, is a cup shaped supporting member, generally stamped from sheet metal, with a ring of apertures a , near the outer edge thereof and a ring of apertures a^1 , preferably farther from the edge.

B, is a cup leather of slightly larger diameter than, and seated upon the concave upper surface of A. The cup leather has a port b , so cut as to form a radially opening flap valve b^1 , hinged toward the center over each of the apertures a^1 . Preferably the port is so cut as to leave a clearance between the wall of the leather and the edge of the flat valve b^1 , so as to insure its seating freely.

C, is a spring spider seated upon the concave surface of B, with arms c , so placed and shaped as to tend to press the portion of the cup leather B, over the apertures a , tightly against the edges of said apertures, and with spring arms c^1 , so placed and shaped as to tend to keep the flap valves b^1 , against the edge of the apertures a^1 .

A, B and C, have axial openings a^2 , b^2 ,

and c^2 respectively, through which passes the piston rod D, with a washer d , and nut d^1 , on top and a nut d^2 , underneath to hold the parts of the piston securely in position.

While I have shown the piston in the best form known to me, I do not limit myself to the precise size, number, shape, and arrangement of parts, apertures and flap valves shown; but conceive any form of ports and flap valves formed in the cup leather and supports therefor in conjunction with any suitable form of supporting member and springs as within the scope of my invention.

I claim as my invention and desire to secure by Letters Patent of the United States:

1. A piston having in combination a lower supporting member with apertures therein, a leather supported by the lower supporting member with flap valves cut therethrough adapted to close the apertures of the supporting member, resilient means tending to hold said flap valves to their seats, and means for rigidly securing said supporting member, leather and resilient means in position on the piston rod.

2. A piston having in combination secured to the piston rod, a cup shaped supporting member with apertures therethrough, a cup-leather seated upon the upper, concave side of the supporting member with a flap-valve formed therein for each of said apertures and resilient means for each of said flap-valves, tending to keep it pressed to its seat.

3. A pump piston having in combination a piston rod, a cup shaped supporting member with apertures therethrough, a cup-leather seated upon the upper, concave side of the supporting member with a radially opening flap-valve formed therein for each of said apertures, a spider seated upon the upper side of the leather with a finger thereof upon each of said flap-valves, tending to keep it pressed to its seat and means for securing the supporting member, cup-leather and spider to the rod.

4. A pump piston having in combination a piston rod, a cup shaped supporting member with a ring of apertures therethrough near the periphery, and a ring of apertures therethrough nearer the center, a cup-leather seated upon the upper, concave side of the supporting member with a radially opening flap-valve formed therein for each of said inner ring of apertures and a spider

seated upon the upper side of the leather
with a finger thereof upon each of said flap-
valves and a finger thereof over each aper-
ture of the outer ring; tending to keep the
5 leather pressed tightly against the edges of
said apertures.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

WILLIAM F. BRANDT.

Witnesses:

LAWRENCE H. PARROT,
GEORGE B. DUNHAM.