No. 887,892. PATENTED MAY 19, 1908.

F. H. WHITCOMB.

PUMP.

APPLICATION FILED MAY 10, 1907.

Fig. 4

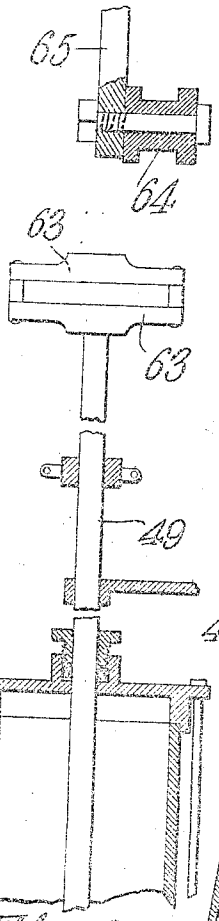


Fig. 3.

Fig. 1.

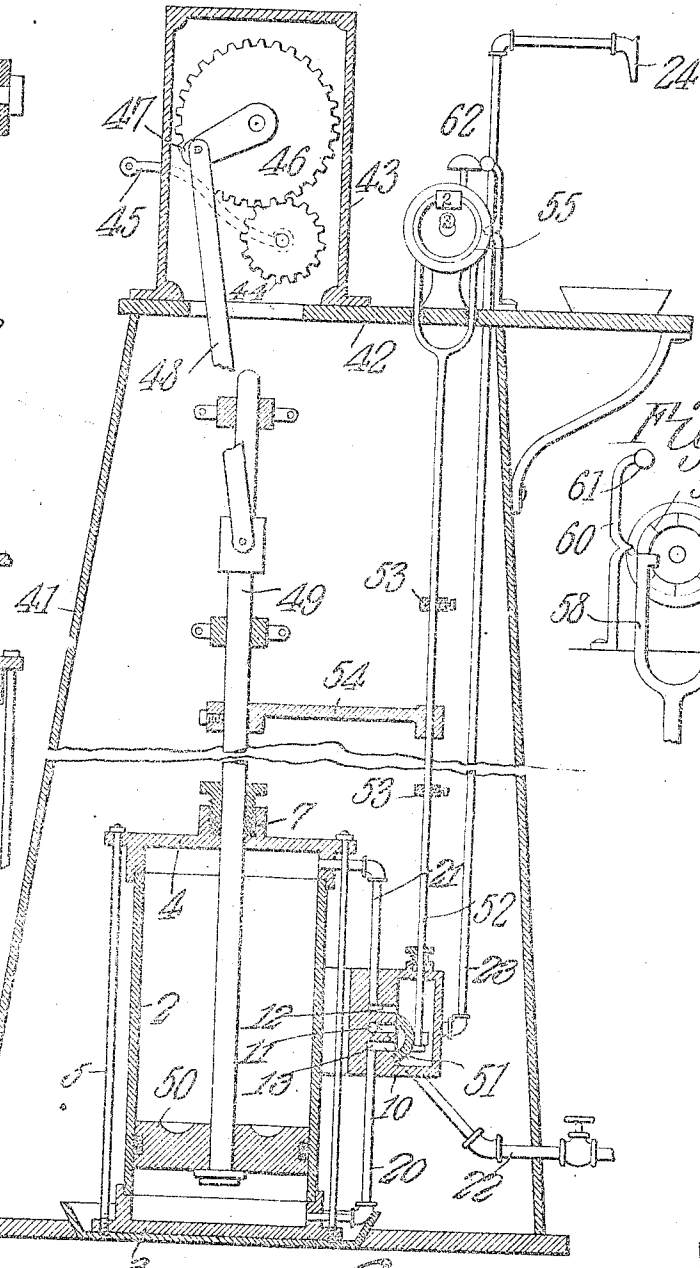


Fig. 2.

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PUMP.

No. 887,892. Specification of Letters Patent. Patented May 19, 1908.

Application filed May 10, 1907. Serial No. 372,858.

To all whom it may concern:

Be it known that I, FRANK H. WHITCOMB, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented a new and useful Pump, of which the following is a specification.

This invention relates to pumps and is more particularly designed for dispensing liquids in predetermined quantities and for indicating the cost of the amount of liquid discharged.

The invention is more particularly designed for measuring coal oil, gasolene, lubricating and machine oils, and other liquids which are free of acids.

The apparatus is also designed, with slight modifications, to be used as a force pump designed to be actuated either by hand, wind, or engine power and suitable for use in mines and reservoirs to draw water therefrom.

One of the objects of the invention is to provide a device of this character which can be readily connected to a suitable source of supply and when actuated is designed to cause a predetermined quantity of liquid to be withdrawn from the supply and discharged at a suitable point.

A still further object is to provide apparatus which is at all times in condition to force water therethrough, said apparatus being constructed so as to automatically receive liquid from the supply while other liquid is being discharged.

Another object is to provide a scale whereby the cost of dispensed liquid will be accurately indicated. This is particularly desirable where the apparatus is used for dispensing oils, etc.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention, the same being designed for dispensing oils and the like.

In said drawings: Figure 1 is a vertical section through the apparatus embodying the present improvements. Fig. 2 is an elevation of the rear portion of the indicator and its actuating means; Fig. 3 is a view partly in section and partly in elevation showing a modified means for transmitting motion to the piston; Fig. 4 is a view partly in section and partly in elevation of the crank and roller for actuating the device shown in Fig. 3.

Referring to the figures by characters of reference, 41 designates a casing which may be suitably ornamented and in the lower portion of which is located a cylinder 2. The heads 3 and 4 of this cylinder are clamped upon the ends thereof by means of bolts 5. One of the heads has a gland 7 through which a piston rod 49 extends. Suitably connected to the cylinder 2 is a valve casing 10 having a centrally arranged port 11 and provided also with ports 12 and 13 at opposite sides of the port 11. A slide valve 51 is mounted within the casing 10 and is so constructed that when the same is shifted in one direction ports 11 and 13 are placed in communication and port 12 is opened into casing 10, whereas if the valve is shifted in the opposite direction port 13 is opened into the valve casing and ports 11 and 12 placed in communication. A pipe 20 extends from port 13 to the lower portion of cylinder 2 and another pipe 21 extends from port 12 to the upper portion of said cylinder. A feed pipe 22 opens into the valve casing 10 and extends from a suitable supply tank or barrel, not shown. A discharge pipe 23 extends from the port 11 and above the casing 41 where it terminates in a nozzle 24. The casing or housing 41 has a top 42 provided with a casing 43. Within this casing is mounted a small drive gear 44 designed to be actuated by a crank 45, and a large gear 46. A crank 47 is rotated by this gear 46 and drives a pitman 48 which is pivotally connected to the rod 49 of piston 50. A sliding valve 51 which is similar to valve 14 has a rod 52 provided with adjustable stops 53 between which is slidably mounted an actuating arm 54 extending from rod 49. A casing 55 is mounted on the top 42 and rotatably mounted in rear thereof is a dial 56 having ratchet teeth 57. These teeth are adapted to be successively engaged by a pawl 58 movable with the rod 52. Projections 59 extend from the dial and are designed to actuate a resilient stem 60 carrying a clapper 61 disposed to strike a bell 62. When the gear 44 is rotated the crank 47 reciprocates rod 49 and piston 50 and each time the arm 54 moves upward or downward with the piston it strikes one of the stops 53 and shifts the valve. At the same time one of the pawls 58 engages a tooth on ratchet 57 on the dial so that a character will appear

through the face of the casing and indicate the amount of liquid discharged. After a predetermined number of movements of valve 51 the bell is sounded by one of the projections 59 tripping the stem 60.

Instead of providing pitmen 48 connected cross heads 63 may be secured to the rod 49 as shown in Fig. 3 and the opening between the cross heads constitutes a guide for the reception of a roller 64 movable with the crank 65 which is mounted in the same manner as, and is similar to the crank 47. Obviously when the crank 65 rotates the roller 64 will travel back and forth between the cross heads and the reciprocatory movement of the piston is produced.

What is claimed is:

1. In apparatus of the character described, the combination with an exterior casing; of a housing thereon, a cylinder within the casing and having ports adjacent the ends thereof, a piston mounted to reciprocate within the cylinder, mechanism within the housing for actuating the piston, a casing having an inlet and an outlet, a valve within the casing, a rod extending therefrom, an arm movable with the piston and slidably mounted on the rod, means adjustably mounted upon the rod and in the path of and designed to be operated by the arm to shift the valve to place one of the cylinder ports in communication with the casing inlet and to place the other cylinder port into communication with the casing outlet.

2. In apparatus of the character described the combination with an exterior casing; of a housing thereon, a cylinder within the casing and having ports adjacent the ends thereof, a piston mounted to reciprocate within the cylinder, mechanism within the housing for actuating the piston, a casing having an inlet and an outlet, a valve within the casing, a rod extending therefrom, an arm movable with the piston and slidably mounted on the rod, means adjustably mounted upon the rod and in the path of and designed to be operated by the arm to shift the valve to place one of the cylinder ports in communication with the casing inlet and to place the other cylinder port into communication with the casing outlet, a dial revolubly mounted upon the exterior casing, pawls carried by the valve rod for actuating the valve, and alarm mechanism operated by the dial.

3. In apparatus of the character described the combination with an outer casing and a housing thereon; of a cylinder within the casing and having ports adjacent its ends, a piston within the cylinder, means within the housing for actuating the piston, a casing having an inlet and an outlet, a discharge pipe extending from said outlet, and above the outer casing, a valve within the casing and disposed to establish communication between the inlet and one of the ports and the discharge pipe and the other port, a rod extending from the valve, an arm adjustably secured to and movable with the piston, means adjustably mounted on the rod and in the path of and disposed to be actuated by the arm to shift the valve, a dial upon the outer casing, means upon the valve rod for actuating the dial in one direction during the movement of the rod in either direction, and alarm mechanism operated by the valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK H. WHITCOMB.

Witnesses:

JAMES WRIGHT,

J. W. SUDGE.