Dec. 19, 1922. 1,439,295.

H. CRAIG.

PUMP.

FILED MAY 13, 1921.

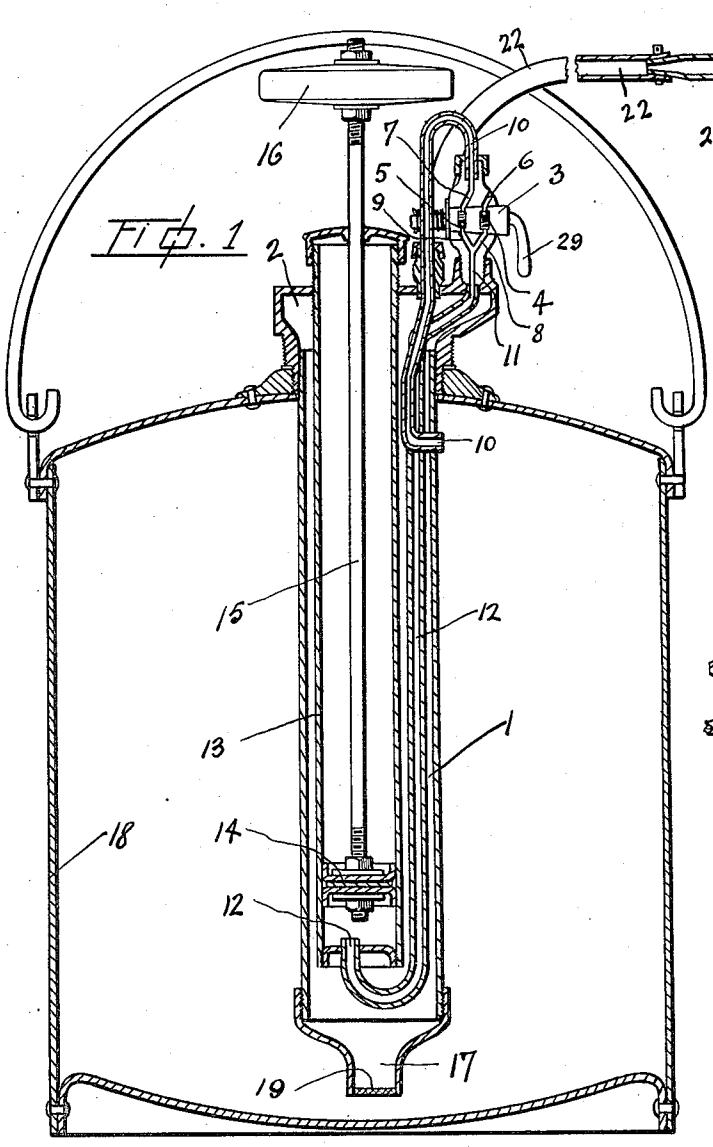
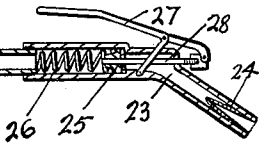


Fig. 1



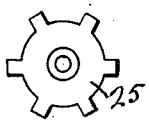


Fig. 4

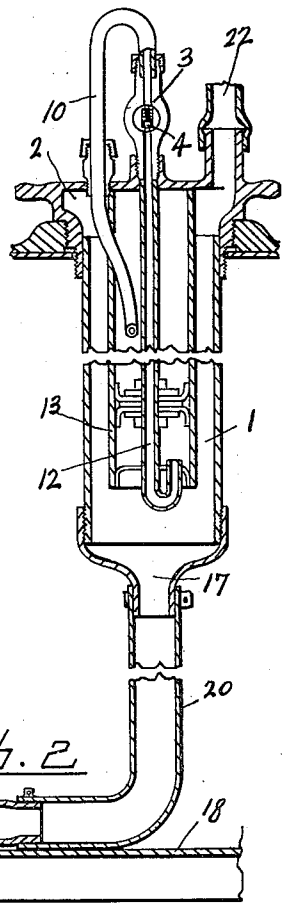


Fig. 2

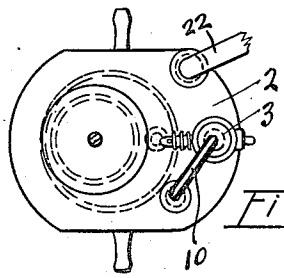


Fig. 3

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Patented Dec. 19, 1922. 1,439,295

UNITED STATES PATENT OFFICE.

HUGH CRAIG, OF CALGARY, ALBERTA, CANADA.

PUMP.

Application filed May 13, 1921. Serial No. 469,306.

To all whom it may concern:

Be it known that I, HUGH CRAIG, a subject of the King of Great Britain, and a resident of the city of Calgary, in the Province of Alberta, Canada, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

My invention relates to improvements in pumps, and the object of my invention is to devise a pump capable of being used with great facility and convenience to pump oil or oil fuel from drums or cans directly into motors or into other receptacles as in the case of transferring from one drum to another and thus prevent the oil or oil fuel from being exposed to dust or dirt, as happens when funnels or cans are used.

I attain this object by the construction illustrated in the accompanying drawings in which—

Fig. 1 is a sectional elevation of the pump.

Fig. 2 is a sectional elevation, partly broken away.

Fig. 3 is a plan view of the pump upper end.

Fig. 4 is an enlarged plan view of the discharge hose valve disc.

Similar figures of reference indicate similar parts throughout the several views.

1 indicates an outer cylinder to the upper end of which is attached a substantially oval-shaped hood or cap 2 into which is secured a two way ball spring check valve 3, the balls being indicated by the numerals 4 and 5 and the ports on each side of same being indicated respectively by the numerals 5—7 and 8—9. The upper port 6 extends through the valve body so that it may be opened to the atmosphere while to upper port 7 is connected a pipe 10 which extends downwardly through the hood or cap 2 and into the outer cylinder 1, being carried through the wall of the same and opening exteriorly thereof, while the lower ports 8—9 are connected together to form one branch 11 to which is connected a pipe 12 which extends downwardly to the lower end of the cylinder and has its lower end turned upwardly and passed through the lower end of a double acting air pump, indicated generally by the numeral 13, mounted concentrically within the cylinder 1, and the upper end of which projects exteriorly of the hood or cap 2. 14 indicates the pump piston, 15 the rod, and 16 the operating handle.

The lower end of the outer cylinder 1 is restricted by means of a reducing connection 17, which forms a suction opening and in short cans or drums, such as the drum 18, this is all that is necessary, a screen 19 being fitted in the opening. For drums of greater depth, however, a hose 20 is attached to the reducer 17, which hose lies on the bottom of the drum, as shown in Fig. 2, and has its end fitted with a strainer or sieve 21, or in case of gasoline a chamois skin may be used in place of the strainer.

22 indicates a discharge hose connected to the top of the hood or cap 2 and of any suitable length, having its outer end formed as a nozzle 23 provided with a screen 24, the opening and closing of the nozzle being controlled by a valve 25 held seated by a spring 26 and opened by means of a suitably mounted lever 27 and valve rod 28, as shown in Fig. 1.

The manner in which the pump operates may be briefly described as follows, it being understood that it is suitably secured in place within the drum 18, as shown in Fig. 1. The two way valve 3 being in the position shown in Fig. 1 with the handle 29 down and the ball valves 4 and 5 being in the position shown it will be seen that on the upstroke of the pump the air is drawn in through the port 6 past the ball 4 and down through the branch 11 and pipe 12 into the pump cylinder under the piston, on the downstroke of which it is forced back up through pipe 12, branch 11 and the port 7, past ball 5 into and down the pipe 10 into the top of the drum and thus an air pressure is created which forces oil in the drum out through the hose 22 into any desired receptacle. If it is required to draw oil from another drum or can into drum 18 the valve 3 is operated to reverse the position of the balls 4 and 5, as shown in Fig. 2, the handle 29 then being turned upwardly, and the pump operated. On the upstroke of the pump air in the drum 18 is drawn through pipe 10, past valve 5, through branch 11 into pipe 12 and discharged into the atmosphere on the downstroke of the pump through pipe 12, branch 11, past valve 4, and out through port 6, and thus a vacuum is created in the drum so that if the nozzle end of a hose 22 is inserted in a drum containing oil the oil will be sucked into drum 18.

From the foregoing it will be seen that I have devised a simple and practical pump

by use of which oil may be transferred from one receptacle to another without being exposed to dust or dirt, and which is highly efficient and of great convenience.

What I claim as my invention is:—

1. A device of the character described comprising, a cylinder adapted to be mounted in a drum, an air pump mounted within said cylinder, a hood closing the upper end of said cylinder and through which the upper end of the pump extends, a double ported two-way valve mounted on said hood the ports of which are normally closed by spring-seated ball valves one of the upper ports extending into the atmosphere, a pipe extending from the other upper port into the upper end of the cylinder and through the wall thereof, and a pipe extending from both the lower ports into the lower end of the pump below the plunger thereof.

2. A device of the character described comprising, a cylinder adapted to be mounted in a drum, an air pump mounted within said cylinder, a hood closing the upper end of said cylinder and through which the upper end of the pump extends, a double ported two-way valve mounted on said hood the ports of which are normally closed by spring-seated ball valves one of the upper ports extending to the atmosphere, a pipe extending from the other upper port into the upper end of the cylinder and through the wall thereof, a pipe extending from both the lower ports into the lower end of the pump below the plunger thereof, a hose extending from the said hood, and a lever operated valve normally closing the outer end of said hose.

3. A device of the character described comprising, a sealed drum, a cylinder mounted concentrically in said drum having its lower end extending adjacent the bottom of the drum and its upper end extending through the cover thereof, a hood closing the upper end of said cylinder, a double acting air pump mounted within the cylinder having its upper end extending through said hood, a double ported two-way valve mounted on said hood the ports of which are normally closed by spring-seated valves one of the upper ports extending to the atmosphere, a pipe extending from the other upper port down through the hood into the upper end of said cylinder and through the wall thereof into the drum, a pipe extending from both the lower ports into the lower end of the pump below the plunger thereof, a hose connected to said hood, a spring-seated valve normally closing the outer end of said hose, and a lever mounted on the hose for unseating said valve.

Dated at city of Calgary, this 30th day of April, 1921.

HUGH CRAIG.