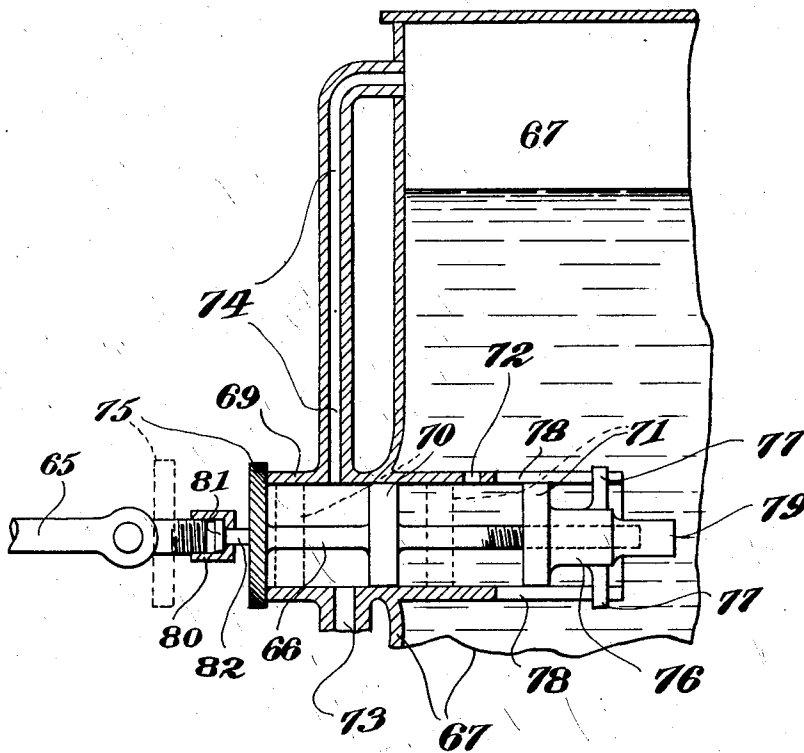


A. BRUCE.
 LIQUID MEASURING DEVICE.
 APPLICATION FILED MAR. 6, 1908.

933,528.

Patented Sept. 7, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

ARCHIBALD BRUCE, OF GLASGOW, SCOTLAND.

LIQUID-MEASURING DEVICE.

933,528.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed March 6, 1908. Serial No. 419,511.

To all whom it may concern:

Be it known that I, ARCHIBALD BRUCE, residing at 194 Buchanan street, Glasgow, Scotland, a subject of the King of Great Britain, have invented a certain new and useful Liquid-Measuring Device, of which the following is a specification.

This invention relates to an improved device for regulating or measuring the quantity of petrol or other hydro-carbon supplied from the hydro-carbon tank or container in plants for manufacturing so called air gas. In such plants it is usual to supply air and also petrol to the carbureter of the machine and great difficulty has heretofore been experienced in exactly regulating and controlling the quantity of petrol to suit the amount of air admitted to the carbureter. It is usual to make the machine with a pump arrangement the operation of which draws air into the carbureter.

Under my invention I provide the tank containing the hydro-carbon with a measuring device which is operated from the pump and which is provided with means whereby the quantity of hydro-carbon supplied to the carbureter at each operation of the device can be regulated to exactly suit the quantity or air passing into the carbureter thereby giving the best results.

The drawing shows a vertical section of the improved petrol measuring device.

In carrying out the invention the petrol or hydro-carbon tank or container 67 is made or fitted with a partially projecting cylinder 69, within which work two pistons 70, 71, on the piston rod 66 which latter is reciprocated from the pump of the machine. When these pistons are at the end of their inward stroke (as shown in full lines) the space between them fills with petrol from the tank through the port 72, and, when the pistons are at the end of their outward stroke, (as shown in dotted lines) the petrol flows from the space between the pistons through the port 73 to the carbureter, gas which is higher than the pressure of the atmosphere at the same time entering from the upper part of the tank 67 through a pipe 74 thereby permitting the petrol to flow to the carbureter.

The measuring device is made so that the space between the pistons may be varied in order to deliver the proper amount of petrol

at each stroke of the pistons, the arrangement being as follows:—The piston rod 66 is made outside of the cylinder 69 with a collar or flange 75 by means of which it may be readily turned by hand, and the inner piston 71 is screwed on to the piston rod 66 and has an extension 76 provided with a pair of radial arms or wings 77 which engage with a pair of slots 78 provided for their reception in the inner end of the cylinder 69, the extension 76 of the piston 71 being preferably made with a cap or casing 79 which incloses the end of the piston rod 66 and prevents the passage of the petrol through the screw thread of the piston and rod. The arrangement is such, that, on the collar or flange 75 being turned by hand the piston 71, which is prevented from turning, is moved toward or away from, the outer piston. In order to permit of the piston rod 66 being freely turned, there is preferably provided, a coupling piece 80 which receives a head or knob 81 on the outer end of a reduced part 82 of the piston rod 66 and screws on the threaded end of the part of the piston rod to which the connecting rod 65 of the pump mechanism of the machine is jointed.

Having now fully described my invention what I claim and desire to secure by Letters Patent is:—

1. In a liquid measuring device, the combination of a container, a cylinder partially in the container, said cylinder having slots therein, a piston rod with one fixed and one adjustable piston thereon, said adjustable piston being screwed on the piston rod and having a pair of projections which engage with the slots provided in the cylinder, and means for operating the piston rod.

2. In a liquid measuring device, the combination of a container, a cylinder partially in the container, said cylinder having slots therein, a piston rod with one fixed and one adjustable piston thereon, said adjustable piston being screwed on the piston rod and having a pair of projections which engage with the slots of the cylinder, a collar on the piston rod by means of which the rod may be turned so as to move the adjustable piston toward or away from the fixed piston, and means for operating the piston rod.

3. A liquid measuring device, comprising,

a cylinder open at one end and having oppositely situated slots, also a gas inlet, a liquid inlet and a liquid outlet, a piston rod in the cylinder, a fixed and an adjustable piston
5 thereon, means for turning the piston rod, and means for reciprocating the piston rod, substantially as described.

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

ARCHD. BRUCE.

Witnesses:

H. D. FITZPATRICK,

WILLIAM GALL.