Nov. 30, 1943. E. ROTHEIM 2,335,312

VALVE FOR LIQUIDS UNDER GAS PRESSURE

Filed April 15, 1941

Fig. 1.

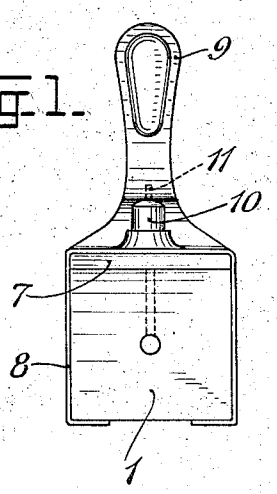


Fig. 2.

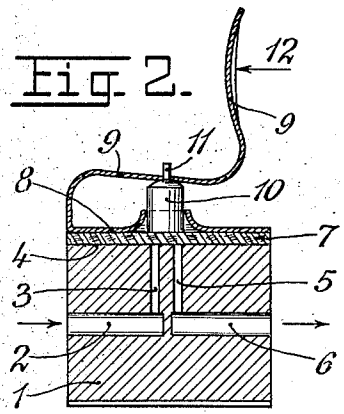
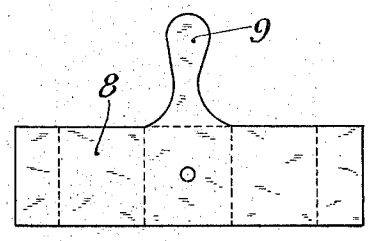


Fig. 3.



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VALVE FOR LIQUIDS UNDER GAS PRESSURE

Erik Rotheim, deceased, late of Oslo, Norway, by Erica Rotheim and Hagbarth Rotheim, heirs, Oslo, Norway; vested in the Alien Property Custodian

Application April 15, 1941, Serial No. 388,698
In Norway July 18, 1939

1 Claim. (Cl. 251—24)

The present invention relates to valves for liquids which reside under gas pressure in a container and which are intended to be sprayed from such containers.

It is an object of the invention to provide a valve, which is very simple in construction but which at the same time secures good tightening properties against leakages. Valves according to the invention are especially suitable for such liquids in which are dissolved a gas serving as expelling agent for the liquid from the container.

The drawing illustrates by way of example three embodiments of the new valve.

Figure 1 shows one embodiment, as seen from one end of the valve.

Figure 2 is a vertical section through the same, in a plane perpendicular to the plane of the paper in Figure 1, and

Figure 3 is a view of the springy sleeve in developed condition and shown at a smaller scale than in Figures 1 and 2.

In Figures 1 and 2 the valve body proper consists of a block 1 of suitable material, for instance of metal, provided with borings for the passage of liquid under pressure. The inlet consists of a boring 2 communicating with another, preferably narrower, boring 3, which opens on the plan top side 4 of the block. Another boring 5, similar to the boring 3, from the top side 4 communicates with the outlet 6 from the valve, which outlet may be designed to receive a nozzle of suitable construction, or may if desired itself be formed as a nozzle. On the drawing said outlet 6 is for sake of simplicity shown as a simple boring. The borings 3 and 5 open adjacent to each other in the top side of the block.

On the top side of the block is placed a stuffing disc 7 of suitable material, for instance cork. Said disc is pressed against the top side 4 and thus normally closes the openings of the borings 3 and 5. This is effected by means of a springy metal sleeve 8, which is illustrated in developed condition in Figure 3. Said sleeve is bent or folded on itself along the dotted lines in Figure 3, so that the sleeve encloses the block tightly, as indicated in Figures 1 and 2, and thus will press the disc 7 tightly against the surface 4 of the block 1. The body portion of the sleeve 8 is provided with an extension 9, which is folded as shown in Figure 2, so that said extension will become springy. In the sleeve 8 there is provided an opening in front of the outlets of the borings 3 and 5, and in said opening is inserted a pressure button or piston 10, provided with a pin 11 received in a hole in the springy extension 9. Thus said extension normally is pressing the button 10 against the disc 7.

The sleeve 8 is pressed so tightly around the block 1 and the disc 7, that the disc always tightens completely against the surface 4. If now a pressure is exerted against the member 9 in the direction indicated by an arrow 12, say by means of a finger of the operator, the pressure of the button 10 against the disc 7 is obviously more or less relieved. The liquid in the borings 2 and 3 is as previously said under pressure and such pressure is then sufficient to raise the middle part of the disc 7 a little, so that the liquid now flows out of the boring 3, passes under the raised portion of the disc 7 and emerges through the boring 5. When the pressure in the direction of the arrow 12 is relieved the member 9 will again move the button 10 downwards and the valve is closed.

As will be understood the boring 2 of the valve is always in communication with a pressure container (not shown) in which is stored liquid under gas pressure. However, it is obvious that the described valve may be used also in the filling of such a pressure container, the boring 6 then being placed in communication with the reservoir from which the filling is to take place.

What is claimed is:

A valve for restricting the passage of fluid under pressure, comprising a block having flat faces and formed with passages opening through one of said faces at adjacent points, a gasket positioned in contact with said one face and sealed around its edges to said one face, means for pressing said gasket against said one face to close the openings in said passages, said means comprising a plate having a body portion in facial contact with said gasket and extending around and in facial holding contact with others of said faces, said plate being formed with a spring extension bent back over said body portion and overlying said gasket and openings and formed at its outer end as a handle, and means for transmitting pressure from said extension to said gasket.

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