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K. SCHMIDT
PORTABLE FIRE EXTINGUISHER
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Fig. 1

Fig. 2

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Ref.:
K
To all whom it may concern:

Be it known that I, KARL SCHMIDT, residing at Neuruppin, Mark, Germany, have invented certain new and useful Improvements in Portable Fire Extinguishers, of which the following is a specification.

The invention relates to a portable liquid fire extinguisher with siphon arrangement.

Fire extinguishers are known in which in addition to the usual riser or ascending pipe leading to the squinting nozzle one or more U-shaped pipes are provided which act as siphons, in order to enable the apparatus to be used in any direction. In the known extinguishers it happens sometimes that they fail towards the end of their normal squinting period after the direction of the jet has been frequently changed and only a small quantity of liquid remains in the apparatus. The column of liquid in the siphon pipes then breaks and the pressure gas escapes through them out of the extinguisher. To prevent failure of the apparatus for this reason it has been proposed to insert a ball valve into the discharge pipe. Such a valve is however very inconvenient when charging extinguishers in which the nozzle is at the bottom when the apparatus is in the charging position, as the valve then closes the discharge pipe so that after the apparatus is sufficiently filled it no longer acts as overflow for the purpose of producing an air space in the chamber, as usual. The apparatus is then excessively charged, so that the siphon pipes are also completely filled with liquid, start operating and empty the extinguisher in undesired manner during the charging to an uncontrollable extent. This drawback of the known extinguisher is obviated by rendering the ball valve in the discharge pipe inoperative during the charging period. This can be attained, for instance, by connecting with the valve chamber a lateral pocket into which the ball is conducted before the charging of the apparatus by turning the apparatus in a corresponding manner. When the apparatus after charging and sealing up is turned round by the handle, the ball automatically returns into the valve chamber and can take up again its function of temporarily closing the discharge pipe when the apparatus is set in operation.

The drawing illustrates one embodiment of my invention by way of example. In the drawing—

Fig. 1 is a longitudinal section through the improved extinguisher and Fig. 2 a similar section at right angles to Fig. 1.

The shell a of the extinguisher, which may have any desired shape, is fitted with a chamber g with which is connected at one end the nozzle i with cap f and at the other end the discharge pipe e and two siphon pipes f and f'. The discharge pipe e is provided with a valve chamber b in which perforations h for the entrance of the quenching liquid are provided. These perforations may, of course be provided in any other position in the valve chamber and not necessarily where shown in the drawing. The drawing shows the extinguisher in the charging position. At the side of the chamber b a pocket-like extension c is provided, which serves for the reception of the ball d during the charging of the apparatus. During the use of the extinguisher the ball d reposes within the chamber b and closes the riser or ascending pipe e when squinting downwards. When the nozzle i is directed upwardly the ball d is unseated and the liquid under pressure rises in the pipe d, which pipe is relatively large as compared to the orifice of the nozzle i. Thus reason of the back pressure developed in the chamber g and on account of the small diameter of the siphons f and f' the pressure medium is checked from escape through the siphons.

In order to conduct it into the pocket c it is only necessary to direct the extinguisher upwards, so that the charging opening k is at the bottom and then to turn it with the handle m in advance through an angle of 180° into the position shown in Fig. 2. The ball then rolls into the pocket c and remains in it as long as the nozzle i is directed downwards. Now the charging of the extinguisher can be effected. After this is completed and the charging opening k has been closed, the extinguisher is grasped by the handle m and raised. Hereby the longitudinal axis of the extinguisher comes approximately into the horizontal position and the ball d rolls out of the pocket and drops back into the chamber b, so that it...
can seal the discharge pipe \( e \) when squirting downwards, in order to enable only the siphon tubes \( f \) or \( f' \) to act.

What I claim as my invention and desire to secure by Letters Patent is:

1. In a portable liquid fire extinguisher of the kind described having plural discharge tubes in connection with a common discharge nozzle, a ball valve for normally closing one of said tubes when the other is functioning, and means for holding said ball valve open when the extinguisher is being charged with liquid.

2. A portable liquid fire extinguisher comprising a container, a discharge nozzle in connection with said container, a main discharge tube in said container and connected with said nozzle, a siphon discharge tube confluent with said main discharge tube adjacent said nozzle, a ball valve housing at the end of said main discharge tube opposite from said nozzle, a ball in said valve housing for normally closing said discharge tube when said nozzle is pointed downwardly, and a pocket on said valve chamber into which said ball is adapted to be conducted when the extinguisher is being charged with liquid.

In testimony whereof I affix my signature.

Karl Schmidt.

Witnesses:

Agar T. Ompsach,
Arthur Schroeder.