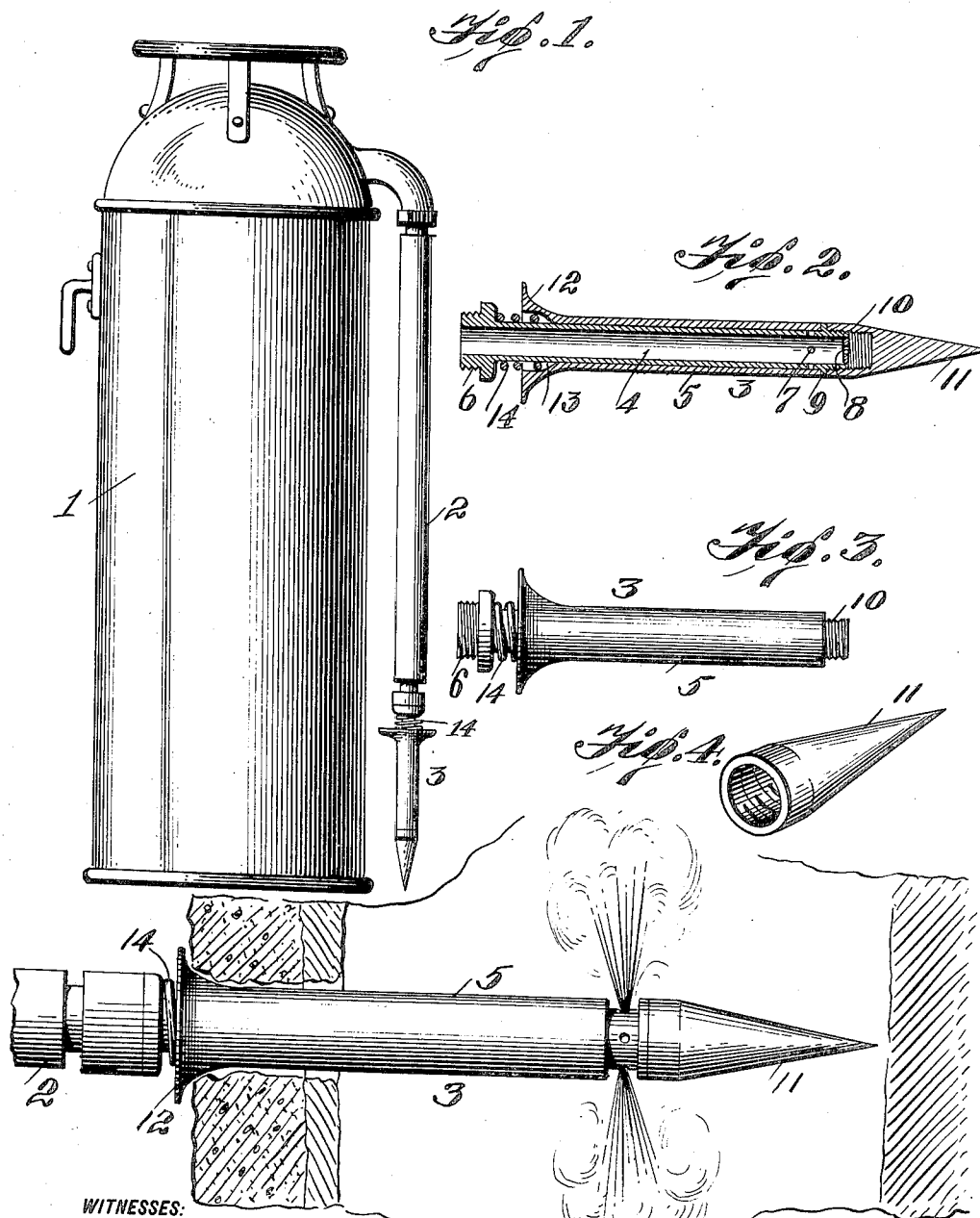


H. W. RANDALL.
NOZZLE FOR FIRE EXTINGUISHERS.
APPLICATION FILED JULY 18, 1913.

1,106,679.

Patented Aug. 11, 1914.



WITNESSES:

J. Wilson
U.S. Pat.

Fig. 5.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY W. RANDALL, a citizen of the United States, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Nozzles for Fire-Extinguishers, of which the following is a specification.

My invention relates to nozzles adapted for use upon chemical fire extinguishing hose or the like.

It frequently happens in a case of fire that certain portions of the building or similar structure, which are not accessible, will become ablaze, the fire burning slowly and gradually gaining headway to other parts of the building before its presence is discovered. It is likewise true that firemen will often leave a building, thinking that a fire has been completely extinguished, only later to be apprised of the fact that the blaze had not been completely smothered. In the large majority of cases this is due to the lurking of fire in partitions and similar places where it is difficult to obtain access, and also where the fire may burn without being detected by the firemen.

It is the object of my invention to provide a nozzle which can be forced through partitions and similar structures so that the blaze therein may be easily brought under control.

Another object of the invention is to provide a nozzle of the character described having main and auxiliary openings for the efflux of the fire extinguishing chemical, the main openings being closed by a slidable spring pressed sleeve, and the auxiliary opening being closed by what will be styled a penetrating head. The main openings are furthermore arranged in a plane perpendicular to the axis of the nozzle so that the chemical will issue therefrom upon opposite sides of the said nozzle and in this manner be directed toward the length, rather than the width, of the partition. When it is desired to throw a single stream of the chemical, the said slidable sleeve is operated to close the series of main openings and the penetrating head is removed from the outer extremity of the nozzle so that the chemical may be passed outwardly in a substantially straight line.

I have also devised means carried by the free extremity of the nozzle in the nature of an abutment which will resist any fur-

ther movements of the nozzle through the partition and serve as a means for bringing into play the sliding movement of said sleeve so as to uncover the main openings.

To the accomplishment of the recited objects and others coördinate therewith, the preferred embodiment of my invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claims.

In said drawings:—Figure 1 is a side elevation of a chemical fire extinguisher showing the application of my invention. Fig. 2 is a longitudinal section of the nozzle removed from the hose. Fig. 3 is a side elevation of the nozzle showing the penetrating head detached. Fig. 4 is a perspective view of the penetrating head, and Fig. 5 is a detailed view illustrating the application of my invention to the wall of a partition.

In said drawings, the numeral 1 designates a chemical fire extinguisher having the usual hose 2, and provided with a nozzle 3 which forms the subject matter of the present invention. Essentially this nozzle comprises two telescopically arranged portions 4 and 5, the former portion being hollow throughout its length and provided at its rear extremity with suitable means, as 6, for connection with the said hose 2, while the forward extremity thereof has a plurality of openings 7 arranged in a plane perpendicular to the axis of the portion 4, and a single opening 8 arranged in the extreme end. For the purpose of clarity the openings 7 will be termed the main openings and the opening 8 the auxiliary opening of the nozzle. Furthermore the outer extremity of the tube 4 is equipped with an annular flange 9, against which the corresponding edge of the outer portion 5 rests, and a reduced portion 10 suitably screw threaded extends from the said flange and constitutes the end of the tube. Upon this reduced extremity a penetrating head, as 11, is adapted to be secured.

The rear extremity of the outer portion or slidable sleeve 5 of the nozzle is flared, as at 12, and this extremity is in turn partially hollowed out at 13 for the reception of one end of the coil spring 14, the opposite end of said spring resting against the coupling 6.

It will be seen from the foregoing de-

scription taken in conjunction with the drawings that normally the sleeve 5 is constrained downwardly against the annular flange 9 by means of the coil spring 14, this position of the sleeve serving to act as a valve or closure for the series of openings 7 in the tube 4. When it is desired to use the device, the outer slidable sleeve 5 is grasped and forced into the partition or other suitable place where the fire is ablaze. The device is urged through the opening made by the penetrating head 11 until the flared extremity 12 firmly contacts with the exterior portion of the wall at which time the adjacent extremity of the hose may be impelled in the same direction to cause the slidable sleeve 5 to uncover the openings 7, as clearly exhibited in Fig. 5 of the accompanying drawings. In this position the fire extinguishing chemical will pass through the radiating openings upon all sides of the partition and quickly and effectively extinguish the fire. As soon as the fire is under control the slight pressure which has been exerted to cause the uncovering of the openings 7 will be released, whereupon the slidable sleeve 5 will resume its normal position and begin to close the openings 7 against any further passage of the chemical.

When it is desired to use the nozzle in ordinary form, the penetrating head 11 is removed, so that the liquid may pass directly through the auxiliary opening 8, it of course being understood that the main openings 7 will remain closed owing to the pressure of the coil spring 14 against the slidable sleeve.

It should be understood that in its broader aspect the invention comprehends the employment not only of the various means described, but of equivalent means for performing the recited functions.

While the arrangement shown is thought at the present time to be preferable, it is desired to reserve the right to effect such modifications and variations thereof as may come fairly within the scope of the appended claims.

What is claimed, is:—

1. In a fire extinguishing nozzle, the combination of a pair of telescopically arranged tubes, one of said tubes having a plurality of openings at its forward extremity, the other of said tubes constituting a valve for said openings, a yieldable connection between the tubes, and an abutment formed

upon the rear extremity of the outer tube for assisting in uncovering said openings.

2. In a fire extinguishing nozzle, the combination of a pair of telescopically arranged tubes, one of said tubes having a plurality of openings at its forward extremity, the other of said tubes constituting a valve for said opening, a yieldable connection between the tubes, an abutment formed upon the rear extremity of the outer tube, a second abutment formed upon the rear extremity of the inner tube, said second abutment constituting an abutment for the yieldable connection and for engaging the first abutment during driving, and a penetrating head carried by the outer tube.

3. In a fire extinguishing nozzle, the combination of a pair of telescopically arranged tubes, one of said tubes having a plurality of openings at its forward extremity and a recess at its rear extremity, the other of said tubes constituting a valve for said opening, the last mentioned tube having an abutment formed on its rear extremity, an abutment formed on the extremity of the first mentioned tube adapted to be engaged by the first abutment when the openings are uncovered, and a spring held in said recess and bearing against the abutment on the inner tube, said abutments being arranged to contact and prevent injury to said spring.

4. In a fire extinguishing nozzle, the combination of a pair of telescopically arranged tubes, one of said tubes having a plurality of openings at its forward extremity and a recess at its rear extremity, the other of said tubes constituting a valve for said opening, the last mentioned tube having an abutment formed on its rear extremity, an abutment formed on the extremity of the first mentioned tube adapted to be engaged by the first abutment when the openings are uncovered, a spring held in said recess and bearing against the abutment on the inner tube, said abutments being arranged to contact and prevent injury to said spring, and a penetrating head removably attached to the outer tube.

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

HARRY W. RANDALL.

Witnesses:

JOSEPH FAIRBANKS,
CHARLES F. BRANCH.