

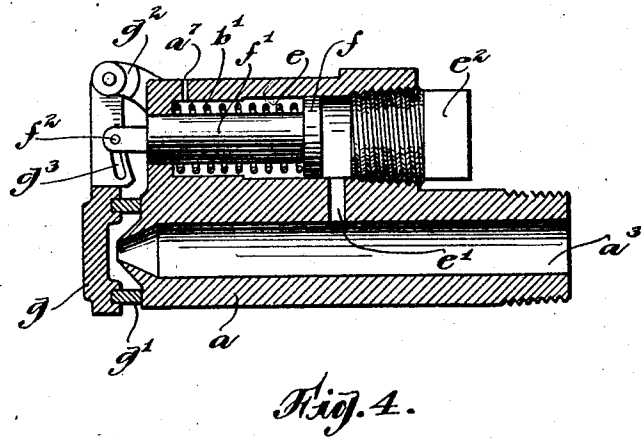
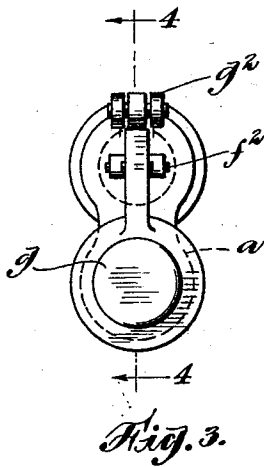
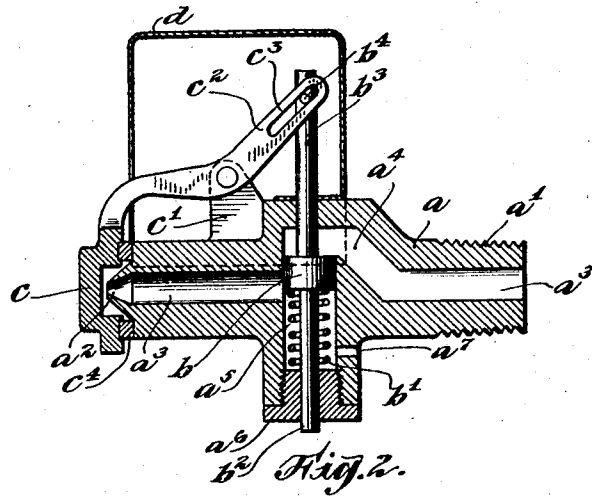
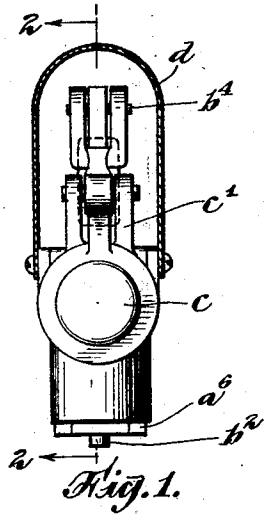
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NONCLOGGING NOZZLE FOR FIRE EXTINGUISHING SYSTEMS

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NONCLOGGING NOZZLE FOR FIRE-EXTINGUISHING SYSTEMS

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Where fire extinguishing systems are installed to protect coal bunkers or other compartments in which a considerable amount of dust, grit or other foreign matter is present, it has been found desirable to provide a device for preventing the discharge nozzles of the system from becoming clogged. After considerable study, it has been found that a highly effective form of protective device for such nozzles is one that utilizes the pressure of the fire extinguishing medium within the system for removing the protective device from the nozzles when the discharge of the medium is to be effected.

The present invention embodies an improved form of non-clogging nozzle which automatically functions upon a given pressure of the fire extinguishing medium within the system to render the nozzle operative to discharge the medium through an unobstructed path in order that the system may function with maximum efficiency.

More specifically, the invention embodies an improved nozzle for fire extinguishing systems which is provided with a cover pivotally mounted in such manner that it may be positioned over the nozzle or removed therefrom in accordance with the condition of the fire extinguishing system. It is contemplated that a cylinder will be formed in the nozzle which communicates with the passage through which the fire extinguishing medium is discharged and applies the pressure of such medium to a piston which is connected to the pivotally mounted cover. Movement of the piston, therefore, serves to remove the cover from the nozzle and permit the free and unobstructed discharge of the fire extinguishing medium.

The invention will be understood more fully in connection with the accompanying drawings, wherein:

Figure 1 is a view in front elevation showing one form of the invention.

Figure 2 is a view, in section, taken on line 2—2 of Figure 1, and looking in the direction of the arrows.

Figure 3 is a view, similar to Figure 1, showing a modified form of the invention.

Figure 4 is a view, in section, taken on line

4—4 of Figure 3, and looking in the direction of the arrows.

Referring to the device shown in Figures 1 and 2, a designates a nozzle formed with a threaded nipple a' and a discharge aperture a^2 . The axial passage a^3 , through which the fire extinguishing medium is discharged, is formed with an offset portion a^4 which communicates with a transverse cylinder a^5 . The lower extremity of this cylinder is closed by means of a fitting a^6 and the cylinder communicates with the passage a^3 leading to the discharge aperture a^2 . A piston b is mounted within the cylinder a^5 and is normally maintained in the position shown in Figure 2 by means of spring b' . Guide rod b^2 extends through the fitting a^6 and steadies the movement of piston b .

A cover c is pivoted to the nozzle between arms c' , formed thereon, and is provided with an upwardly and rearwardly extending arm c^2 . This arm is slotted at c^3 to receive a pin b^4 mounted upon a piston rod b^3 which is secured to the piston b . A suitable gasket c^4 is carried with the cover c to provide a tight joint between the cover c and the nozzle.

Upon the existence of a sufficient pressure within the fire extinguishing discharge line, such, for example, as the pressure of the discharging medium, the piston b will be moved downwardly against the action of the spring b' and the cover c will be removed from the aperture a^2 . A port a' may be formed in the cylinder wall to prevent the building up of a back pressure by air within the cylinder and insure a ready response of the piston to the pressure of the fire extinguishing medium.

If the nozzle is used in locations where the cover actuating mechanism is liable to be damaged, a suitable enclosure d is provided for the protection thereof.

In the form shown in Figures 3 and 4, the nozzle is provided with a cylinder e , the axis of which is parallel to the axis of the nozzle. Port e' serves as a means of communication between the passage a^3 and the cylinder e and a fitting e^2 is provided for closing the cylinder. The piston f is provided with an enlarged piston rod f' to reduce the

volume of air normally existing back of the piston f as much as possible.

The cover g is provided with a gasket g' similar to the construction described in connection with Figures 1 and 2 and is mounted pivotally between the arms g^2 . Slot g^3 is engaged by a pin f^2 mounted upon the piston rod f' and transmits the movement of the piston to the cover. Upon the existence of a suitable pressure within the passage a^3 , the piston f is moved to the left, as shown in Figure 4, and the cover is moved pivotally to uncover the discharge aperture and permit the free and unobstructed discharge of the fire extinguishing medium.

While the invention has been described in connection with the specific constructions shown in the accompanying drawings, it is not to be limited, save as defined in the appended claims.

I claim as my invention:—

1. A discharge device for fire extinguishing systems comprising a nozzle, a cover for the nozzle, means to mount the cover pivotally on the nozzle, a piston carried by the nozzle and responsive to pressure of the fire extinguishing medium, and means to operate the cover by the piston.

2. A discharge device for fire extinguishing systems comprising a nozzle, a cover for the nozzle, means to mount the cover pivotally on the nozzle, a cylinder formed in the nozzle and exposed to pressure of the fire extinguishing medium, a piston in the cylinder, a spring engaging the piston to urge it to a normally retracted position, and means operatively connecting the piston to the cover.

3. A discharge device for fire extinguishing systems comprising a nozzle, a cover for the nozzle, means to mount the cover pivotally on the nozzle, a cylinder formed in the nozzle and exposed to pressure of the fire extinguishing medium, a piston in the cylinder, a portion of the piston extending out of the nozzle, a spring engaging the piston to urge it to a normally retracted position, means operatively connecting the piston to the cover, and an enclosure for the connecting means and portion of the piston extending out of the nozzle.

4. A discharge device for fire extinguishing systems comprising a nozzle, a cover for the nozzle, means to mount the cover pivotally on the nozzle, a piston carried by the nozzle and responsive to pressure of the fire extinguishing medium, means urging the cover to a normally closed position, and means operatively connecting the piston with the cover.

This specification signed this 25th day of October A. D. 1928.

DANIEL MAPES.