March 20, 1945. N. H. DUFFIELD ET AL 2,371,959

FIRE HOSE SAFETY BRACKET

Filed April 16, 1941

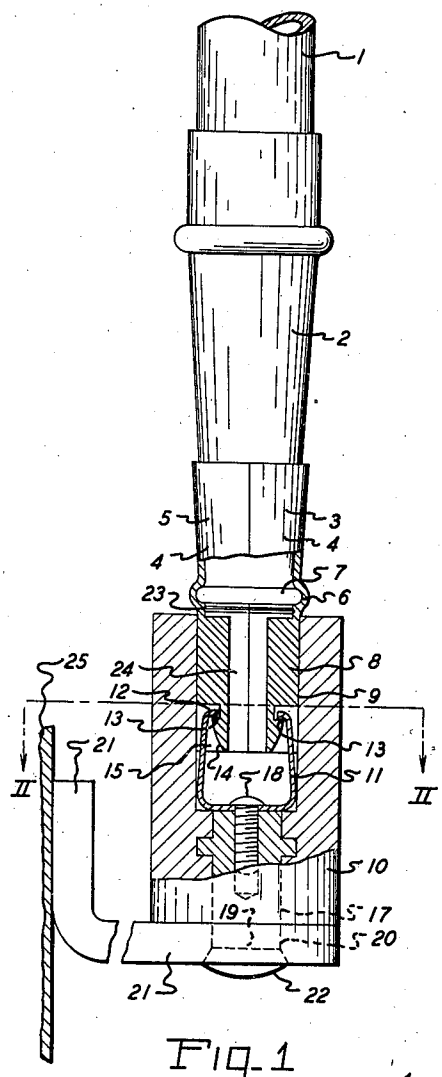


Fig. 1

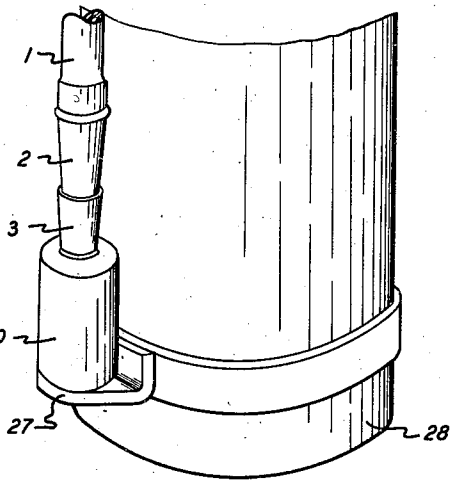


Fig. 5

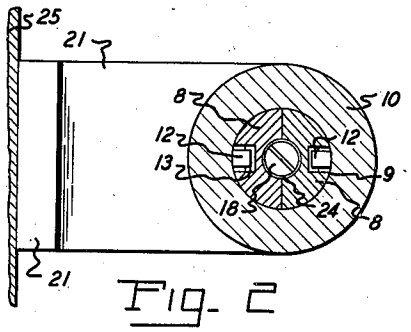


Fig. 2

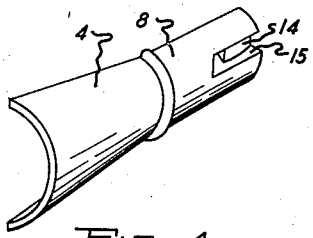


Fig. 4

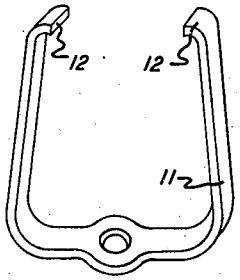


Fig. 3

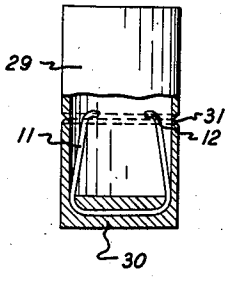


Fig. 6

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FIRE HOSE SAFETY BRACKET

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Application April 16, 1941, Serial No. 388,734

8 Claims. (Cl. 222—530)

The present invention relates to frangible securing devices and more particularly to a frangible shield for supporting and protecting a fire hose nozzle.

In manufacturing plants saboteurs have resorted to plugging up fire hose nozzles, particularly the nozzles of portable fire extinguishers so that in the event of fire it is impossible to use them. The present invention contemplates a shield for fire hose nozzles which protects and covers the operative openings thereof, the shields being frangible so that fire hoses so protected are readily available for emergency use. However, at the same time a fire hose nozzle protected with a shield according to the present invention, which has been tampered with, will readily have that fact revealed by the broken shield.

An object of the present invention is to provide a safety bracket for supporting fire hose nozzles and the like against tampering.

Another object of the invention is to provide a shield for protecting the operative opening of a fire hose nozzle.

A still further object of the invention is to provide a frangible covering for a fire hose nozzle, making it necessary to break the covering in order to use the nozzle or to have access to the operative opening thereof.

These and other objects residing in the arrangement, combination, and construction of the parts will be apparent from the following specification when taken with the accompanying drawing, in which

Fig. 1 is a partial vertical section of a construction according to the present invention showing the same supported by a wall bracket,

Fig. 2 is the section of a line II—II of Fig. 1,

Fig. 3 is a perspective view of a spring clip comprising a detail of the structure,

Fig. 4 is a perspective view of a half section of the nozzle shield,

Fig. 5 is a vertical section showing an alternative form of the invention, and

Fig. 6 is a partial section showing still another form of the invention.

Referring particularly to the drawing, the reference character 1 indicates a fire hose connected to a portable fire extinguisher, not shown, or to some other source of fire fighting fluid. Secured to the hose 1 is a dispensing nozzle 2 for the fire fighting fluid conducted by the hose 1. The nozzle 2 is disposed in a shield 3, consisting of halves 4, shown particularly in Figs. 1, 2, and 4. The shield 3 is provided with a cup shaped portion 5 having therein an internal annular recess 6 for receiving a bead 7 arranged at the bottom of the nozzle 2.

The shield 3 is also provided with a lower cylindrical portion 8 arranged to telescopically fit into a bore 9 in a clamping member 10. The clamping member 10 is preferably of some moldable material, such as a synthetic resin, and is cylindrical in form. The bore 9 therein clamps the halves 4 of the shield 3 against the nozzle 2, and when so clamped the bead 7 on the nozzle 2, seating in the annular recess 6, prevents withdrawal of the nozzle 2 from the shield 3.

In order to maintain the cylindrical portion 8 of the shield 3 within the bore 9, there is provided a spring clip 11 in the bore 9, shown particularly in Fig. 3, the spring clip 11 being provided with oppositely disposed hooked ends 12. The ends 12 engage behind shoulders 13, provided in the halves 4 of the shield 3, to prevent withdrawal of the cylindrical portion 8 from the bore 9. The lower end of the cylindrical portion 8 is provided with a rounded edge 14 and the hooked ends 12 of the spring clip 11 have rounded upper surfaces. Also the arms of the spring clip 11 are normally biased inwardly slightly. As a result, as the cylindrical portion 8 of the shield 3 is moved into the bore 9 of the clamping member 10, the rounded edge 14 cams the arms of the spring clip 11 slightly apart. In order to permit the inner edge of the cylindrical portion 8 to move into the bore 9 past the hooked ends 12 of the spring clip 11, the cylindrical portion 8 is provided beneath the shoulders 13 with grooves 15, shown particularly in Fig. 4.

The clamping member 10 is provided with a metal insert 17 to which the spring clip 11 is secured by a screw 18. The insert 17 has an integral projecting rivet 19, which extends through a bore 20 in a wall bracket 21. The clamping member 10 is secured to the wall bracket 21 by heading up the rivet 19 over the bore 20 to provide a head 22, as shown particularly in Fig. 1. The wall bracket 21 may be secured rigidly to a wall 25 in any suitable manner.

The operation of the device according to the present invention is as follows: The two halves 4 of the shield 3 are disposed over the end of the nozzle 2 in such a manner as to seat the bead 7 at the outer end of the nozzle 2 in the annular internal recess 6 within the shield 3. The cylindrical portion 8 of the shield 3 is then disposed in the bore 9 of the clamping member 10 to clamp the shield 3 onto the nozzle 2 and against removal therefrom. As the cylindrical portion 8 is inserted into bore 9, the hooked ends

12 of the spring clip 11 seat behind the shoulders 13 of the cylindrical portion 8 to prevent removal of the cylindrical portion 8 from the bore 9, thereby locking the nozzle 2, the shield 3, and the clamping member 10 together. In order to make the nozzle 2 available for use, it is necessary to break the shield 3, which preferably is of a molded synthetic resin although any readily breakable material may be used, and is provided with a weakened point to facilitate breaking. The weakened point may be provided by a general thin shell construction or may be provided with an annular V-shaped notch 23 immediately beneath the annular groove 6 adjacent the top of the clamping member 10. Preferably the shield 3 is broken by swinging the nozzle 2 sideways. It will be understood that in swinging the nozzle 2 the greatest stress will occur at a point adjacent to the top of the clamping member 10 so that whether or not a notch 23 is provided the shield 3 will tend to break at this point.

Whether or not the nozzle 2 has been broken out of the shield 3 for use or because of tampering, the fact that shield 3 is broken will immediately be apparent to the casual observer indicating that the nozzle 2 and the fire extinguisher should be inspected and a new shield 3 applied. In order to reassociate the nozzle 2 with a new shield 3, after the shield 3 has been broken it is first necessary to remove the cylindrical portion 8 from the bore 9. This is accomplished by removing the screw 3 with a screw driver passing downwardly through a bore 24 provided through the center of the cylindrical portion 8. The cylindrical portion 8 may then be removed with the spring clip 11 and the spring clip 11 again secured in the bore 9 to receive the cylindrical portion 8 of a new shield 3.

In Fig. 5 is disclosed another form of support for the clamping member 10. Instead of supporting the clamping member 10 from a wall bracket 21, as shown in Fig. 1, the clamping member 10 is supported from a bracket 27 suitably secured around the base of the fire extinguisher 28 with which the nozzle 2 is associated.

Another form of the invention is disclosed in Fig. 6. In this form of the invention the clamping member for clamping the halves 4 of the shield 3 of the nozzle 2 is in the form of a cup 29, having the spring clip 11 molded in the base 30 of the cup 29. Also the cup 29, which is not supported but is merely suspended from the shield 3, may be provided with an annular V-shaped notch 31 providing a weakened portion thereof.

The operation of the construction disclosed in Fig. 6 is similar to that of the construction disclosed in Fig. 1 except that either the shield 3 may be broken at the groove 23 or the clamping cup 29 may be broken at the groove 31 to release the nozzle 2 for use. The essential difference between the construction disclosed in Fig. 6 and that disclosed in Fig. 1, is that whereas in Fig. 1 after use of the nozzle 2 it is merely necessary to replace the shield 3, in the construction of Fig. 6 it is necessary to replace both the shield 3 and the clamping cup 29.

It will be apparent from the foregoing specification that we have provided a construction which not only reveals the fact that a fire hose nozzle has been tampered with, but also discourages tampering because a nozzle which has been tampered with will readily indicate such a fact by the broken shield 3. While we have described certain forms which the invention may take, it is to be understood that within the broad scope of the invention other forms may be employed. Also, it is contemplated that the invention may be applicable to other dispensing nozzles than fire hose nozzles.

Having thus described our invention what we desire to secure by Letters Patent and claim is:

1. In combination with a movable dispensing nozzle having an operative opening, a shield for said nozzle disposed over said opening, said shield being in the form of two halves, means for clamping halves of said shield on said nozzle and against removal therefrom, and means for relatively rigidly supporting said shield so as to position said nozzle.

2. In combination with a dispensing nozzle having operative opening, a shielding member for said nozzle disposed over said opening, said shielding member being in the form of two halves, and a clamping member for clamping said halves of said shielding member on said nozzle and against removal therefrom, one of said members being frangible, whereby to use or tamper with said nozzle it is necessary to break said frangible member.

3. In combination with a dispensing nozzle having an operative opening, a shield for said nozzle disposed over said opening, and means to clamp said shield on said nozzle against removal therefrom, said clamp comprising a member having an opening for receiving said shield, said shield and member having one way clutch mechanism associated therewith for permitting the entrance of said shield into said opening but preventing the withdrawal of said shield from said opening.

4. In combination with a dispensing nozzle having an operative opening, a shielding member for said operative opening disposed over the end of said nozzle, said shielding member being in the form of two halves, a clamping member for the aforesaid halves having an opening therein into which said shielding member is adapted to be inserted for preventing separation of said halves, and means to maintain said clamping member and shielding member in assembled relation, one of said members being frangible, whereby to use or tamper with said nozzle it is necessary to break one of said members.

5. In combination with a dispensing nozzle having operative opening, a shielding member disposed over the end of said nozzle to protect said opening, said shielding member being constructed of two halves, a clamping member having an opening therein for receiving said halves for clamping said halves on said nozzle and against removal therefrom, and one way clutch mechanism between said clamping member and said shielding member for permitting the entrance of said shielding member into said clamping member, but preventing withdrawal of said shielding member from said clamping member, one of said members being frangible, whereby to use or tamper with said nozzle it is necessary to break one of said members.

6. In combination with a dispensing nozzle having an operative opening, a shielding member for said nozzle disposed over said opening, said shielding member being in the form of two halves, and a cup member for disposal over said shielding member for clamping said two halves on said nozzle, one of said members being frangible whereby to use or tamper with said nozzle it is necessary to break one of said members.

7. In combination with a dispensing nozzle

having an operative opening, a shielding member for said nozzle disposed over said opening, said shielding member being in the form of two halves, a cup member for disposal over said halves for clamping said halves on said nozzle, and one way clutch mechanism within said cup member for gripping said shielding member and preventing the withdrawal of said shielding member from said cup member, one of said member being frangible whereby to use or tamper with said nozzle it is necessary to break one of said members.

8. In combination with a nozzle having an operative opening, a shielding member for said nozzle disposed over said opening, said shielding member being in the form of two halves, a cup member for disposal over said halves to clamp same on said nozzle, shoulder means on said shielding member, and resilient hook means secured to said cup member for engaging over said shoulder member to prevent withdrawal of said shielding member from said cup member, one of said members being frangible whereby to use or tamper with said nozzle it is necessary to break one of said members.

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