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(54) Improvements relating to fire hoses.

(57) An arrangement for releasable securing of a hose nozzle (2) to a valve unit (1), comprising a nozzle retaining clamp (9) integral with or attachable to the hose nozzle (2) and an interlocking clip (7) associated with the valve unit (1) to which the hose nozzle (2) is to be attached when not in use, the said nozzle retaining clamp (1) being provided with a coupling piece (10) to enable the hose nozzle (2) to be secured to the interlocking clip (7) of the valve unit (1) after the valve has been closed and the interlocking clip (1) locked into position.

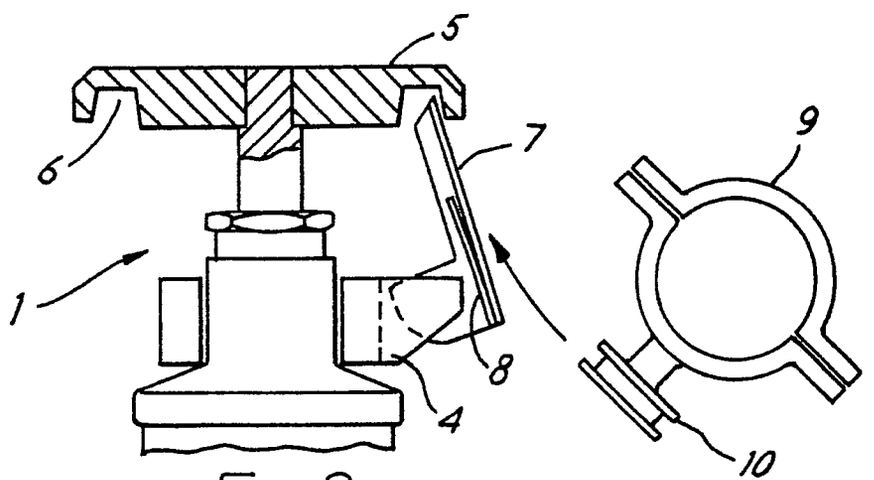

FIG.3

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IMPROVEMENTS RELATING TO FIRE HOSES

This invention relates to fire hoses and in particular to devices known as interlocking devices, for such hoses.

A hose interlocking device prevents the control nozzle of a fire hose reel from being removed from the hose reel isolating valve without first opening the valve and pressurising the hose ready for use. A conventional form of such interlocking devices comprises a hinged interlocking clip which is clamped to the neck of a hose reel isolating valve. The isolating valve has a specially adapted handwheel provided with a slot on its underside for retention of the interlocking clip when the handwheel is in the closed position. When not in use the hose nozzle is secured by hooking into the interlocking clip which in turn is retained in place by the handwheel of the closed isolating valve. Thus the hose nozzle can only be released from the clip by first opening the isolating valve.

Interlocking devices of the kind described above suffer from the disadvantage that in order to secure the fire hose nozzle in the interlocking clip, the nozzle has to be shut off under pressure and hooked into the clip before the isolating valve is closed down, locking the hose nozzle into position and leaving the hose under pressure. The only way to release the pressure is to open the nozzle in the stowed position, which inevitably leads to significant spillage of water.

It is therefore an object of the present invention to provide a device for use with a standard hose reel isolating valve of the kind described above, which alleviates the above-mentioned problems of prior art devices.

According to the present invention there is provided an arrangement for releasable securing of a hose nozzle to a valve unit, comprising a nozzle retaining means integral with or attachable to the hose nozzle and an interlocking means associated with the valve unit to which the hose nozzle is to be attached when not in use, the said nozzle retaining means being provided with a coupling member to enable the hose nozzle to be secured to the interlocking means of the valve unit after the valve has been closed and the interlocking means locked into position.

Preferably, the coupling member is shaped to be slidably attachable to the interlocking means.

In a preferred embodiment of the invention there is provided a modified hose-reel valve interlocking means provided with a securing member co-operable with the coupling member of the nozzle retaining means to prevent the removal of the nozzle retaining means from the valve interlocking means, once in place, without first turning on the valve.

Preferably, the securing member of the interlocking means is a retaining spring.

A specific embodiment of the invention will now be described with reference to the accompanying drawings of which:-

Figure 1 is a part-sectional view of a prior art device in use;

Figure 2 is a side view of a device embodying the invention;

Figure 3 shows a part-sectional view of the device shown in Figure 2 along the line X-X and shows also a plan view of an embodiment of the hose retaining means of the invention;

Figure 4 shows a part-sectional view of the invention in a first mode of use, taken along the line X-X in Figure 2;

Figure 5 shows a part-sectional view of the invention in a second mode of use, taken along the line X-X in Figure 2.

Figure 1 shows generally at 1 a standard fire hose reel isolating valve with a handwheel 5 which incorporates a slot 6 on its underside. When the valve 1 is closed and the handwheel 5 is in the closed position, the slot 6 on the handwheel 5 engages the interlocking clip 3, in which the hose nozzle 2 is resting, and locks the clip 3 and hence nozzle 2 in the position shown. This is the stowing position of the hose control nozzle 2. The interaction of the handwheel 5 and interlocking clip 3 thus ensure that the control nozzle 2 of the fire hose (not shown) cannot be removed from the hose reel isolating valve 1 without first opening the valve 1 and pressurising the hose ready for use.

The disadvantage of the device shown at Figure 1 is that in order to restow the control nozzle 2 in the interlocking clip 3, the nozzle has to be shut off under pressure and hooked into the clip 3 before the isolating valve 1 is closed down, locking it into position. Consequently the hose is left under pressure, and the only way of releasing the pressure is to open the control nozzle 2 once in the stowed position, resulting in the spillage of water.

A hose reel isolating valve, embodying the invention, is shown in Figure 2 and comprises an interlocking clip 7, which is different from the clip 3 shown in Figure 1. The interlocking clip 7 is provided with a retaining spring 8.

Figure 3 is a part-sectional view of the device shown in Figure 2 taken along the line X-X and shows the interlocking clip 7 and retaining spring 8 in more detail. Figure 3 also shows a control nozzle retaining clamp 9 according to the invention. Clamp 9 is attached to the control nozzle of the fire hose

(not shown) immediately behind the nozzle and is provided with a slotted disc coupling piece 10 which is slidably attachable to the interlocking clip 7.

After use the control nozzle of the fire hose is stowed away as follows: firstly, the control nozzle is shut off under pressure; then the interlocking clip 7 is positioned so that the free end of the clip is immediately underneath the depression 6 in the underside of the isolating valve handwheel 5; the isolating valve 1 is then closed by screwing down the handwheel which, in the closed position locks the interlocking clip 7 in position. Having closed the isolating valve 1, the control nozzle of the hose can now be opened again to release the pressure from the hose and dispense any remaining water at a convenient location. The hose nozzle can now be secured in the interlocking clip 7 by sliding the slotted disc coupling piece 10, of the nozzle retaining clamp 9, into a cutaway hole (not shown) at the base of the interlocking clip 6, pushing back the retaining spring 8 and engaging the legs (not shown) of the clip 7 into the slot (not shown) at each side of the disc 10. By continuing to slide the disc 10 up the interlocking clip 7 until the spring 8 is freed, the clamp 9 (and hence hose control nozzle) is locked into position, as shown in Figure 4. The spring 8 and interlocking clip 7 thus acts as a non-return mechanism, preventing the control nozzle from being removed without first opening the isolating valve 1 and releasing the interlocking clip 7, from engagement with slot 6, whereupon disc 10 can be moved further up, and thereafter out of the slot of clip 7 (see Figure 5).

In an alternative embodiment of the invention the nozzle retaining clamp 9 can form an integral part of the control nozzle i.e. the control nozzle can have a specially shaped end piece which fits directly into the interlocking clip 7.

Thus the present invention provides a retaining clamp for the control nozzle of a standard fire hose which enables the control nozzle to be stowed in the interlocking clip of the fire hose isolating valve after the valve has been closed, thereby allowing the pressure in the hose to be released before the control nozzle is stowed away. Clearly, the present invention can also be embodied by appropriate modification of conventional equipment.

Claims

1. An arrangement for releasable securing of a hose nozzle to a valve unit, comprising a nozzle retaining means integral with or attachable to the hose nozzle and an interlocking means associated with the valve unit to which the hose nozzle is to be attached when not in use, the said nozzle retaining means being provided with a coupling member to enable the hose nozzle to be secured to the interlocking means of the valve unit after the valve has been closed and the interlocking means locked into position.

2. An arrangement according to Claim 1, wherein the coupling member is shaped to be slidably attachable to the interlocking means.

3. An arrangement according to Claim 1 or Claim 2, wherein there is provided a modified hose-reel valve interlocking means provided with a securing member co-operable with the coupling member of the nozzle retaining means to prevent the removal of the nozzle retaining means from the valve interlocking means, once in place, without first turning on the valve.

4. An arrangement according to Claim 3, wherein the securing member of the interlocking means is a retaining spring.

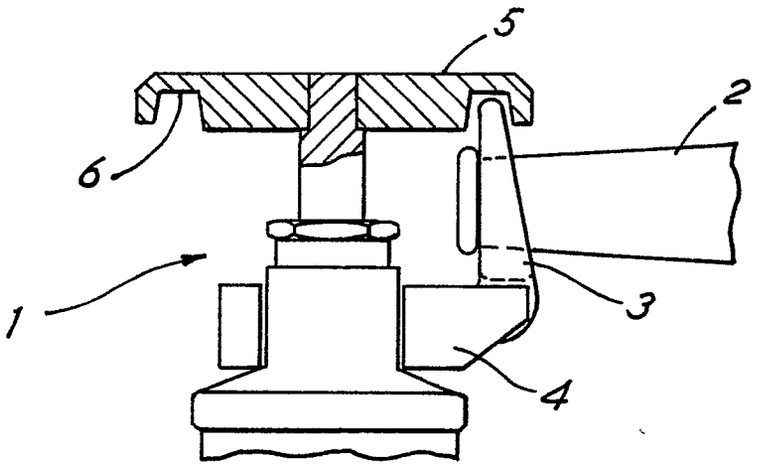

FIG.1

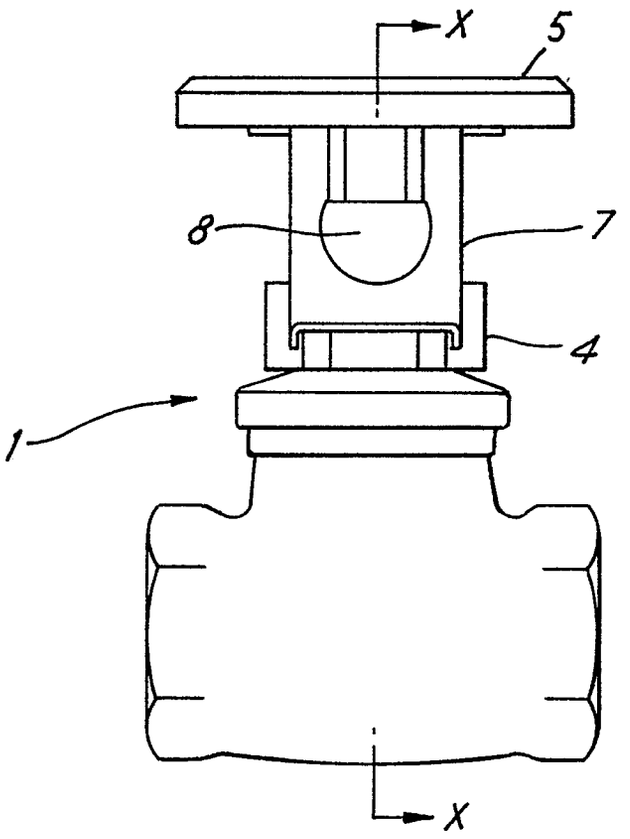

FIG.2

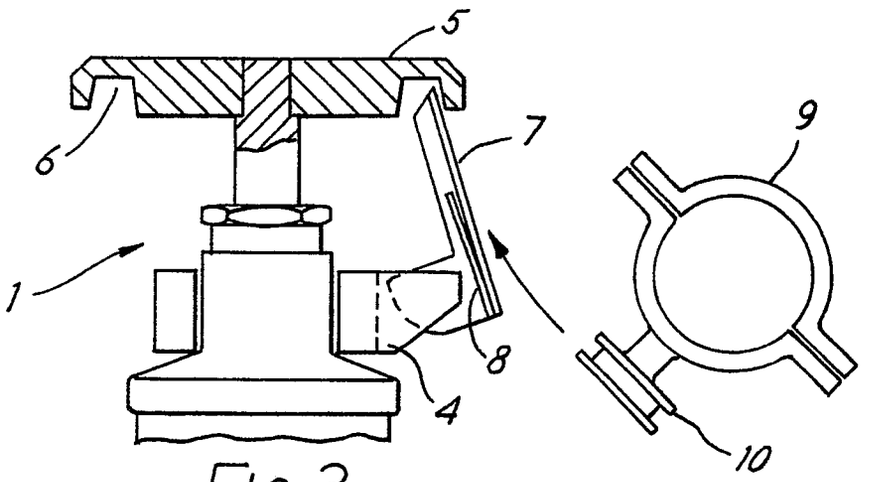

FIG.3

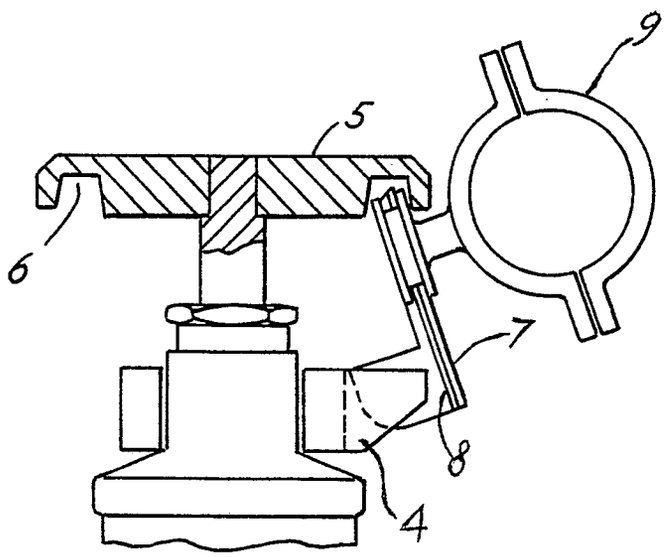

FIG.4

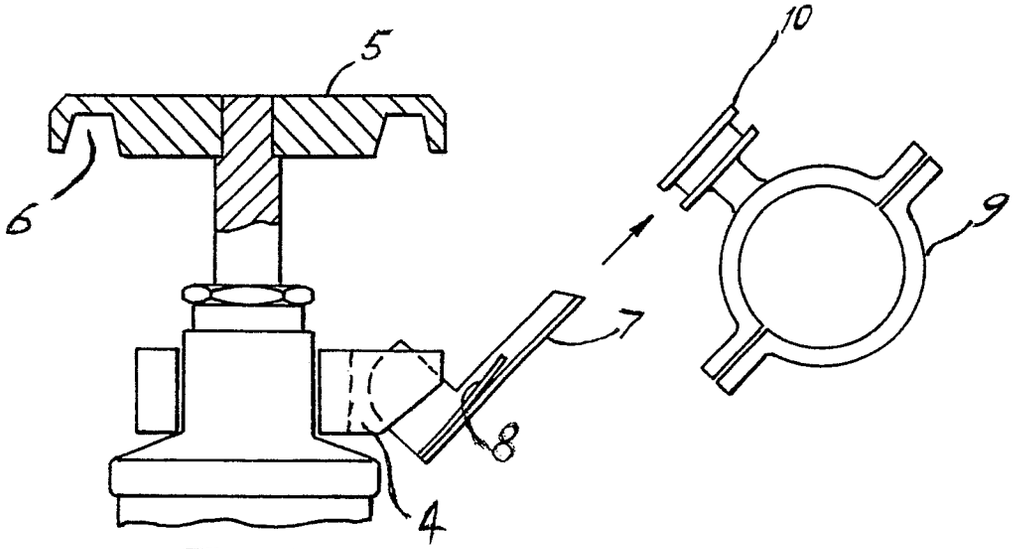

FIG.5