

A FIRE HYDRANT

Technical Field

The present invention relates to fire fighting equipment and more particularly to fire hydrants.

Background of the Invention

Fire hydrants, particularly in large commercial buildings occupy space that could otherwise be commercially used. They need to be located for easy access and therefore are typically located in thoroughfares. In this regard, they can often be a hindrance to pedestrian traffic and detract from the aesthetics of the area.

Still further, fire hydrants and their associated cabinets also pose problems in respect of the construction of glass panels and walls.

Object of the Invention

It is the object of the present invention to overcome or substantially ameliorate the above disadvantages.

Summary of the Invention

There is disclosed herein a hydrant assembly comprising:

a frame generally enclosing a space and having an end face;

a fire hose coupling movably mounted on the frame for movement between a retracted position generally located within the space and an extended position projecting outwardly from said face to enable a fire hose to be connected to an end of the coupling; and

duct means attached to said coupling and to be attached to a supply of water under pressure, said duct means providing for relative movement between said coupling and said supply.

Preferably, the duct means is a flexible hose, and said coupling is an elongated pipe having one end attached to said flexible hose and the other end adapted to be attached to a fire hose. The frame would include a guide to surround the pipe and to permit relative sliding movement there between.

In a still further preferred form, the frame would include a hydrant valve actuator which could be manipulated by a user standing adjacent the face of the frame.

Brief Description of the Drawings

A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings wherein:

Figure 1 is a schematic perspective view of a hydrant assembly;

Figure 2 is a schematic side elevation of the hydrant assembly of Figure 1;

Figure 3 is a schematic end elevation of the hydrant assembly of Figure 1;

Figure 4 is a schematic top plan view of the hydrant assembly of Figure 1;

Figure 5 is a schematic side elevation of a further hydrant assembly;
Figure 6 is a schematic end elevation of the hydrant assembly of Figure 5;
and
Figure 7 is a schematic further side elevation of the hydrant assembly of Figure 5.

Detailed Description of the Preferred Embodiment

In the accompanying drawings there is a schematically depicted a hydrant assembly 10. The hydrant assembly 10 includes a frame 11 which is intended to fit within the cavity formed in a wall. The frame 11 has an end face 12.

Mounted within the frame is a cavity hose reel assembly 13, such as that described in Australian Patent No. 631067.

The hydrant assembly 10 is intended to be mounted within the cavity of a wall adjacent a supply of water under pressure. Attached to that supply would be a hydrant valve which would project into the space generally enclosed by the frame 11. More particularly, the hydrant valve would be surrounded by the frame members 14.

Attached to the hydrant valve is a flexible hose 15 which extends from the hydrant valve to a hose coupling 16. The hose coupling 16 includes an elongated rigid pipe 17 extending to an end 18 adapted to be threadably engaged by a fire hose. The pipe 17 is slidably mounted within a guide 19. More particularly, the guide 19 would be shaped so as to co-operate with the pipe 17 so that the pipe 17 would not rotate when a hose is being applied thereto. The sides of the guide 17 could be provided with slots 20, to co-operate with pins 21 attached to the pipe 17. The pins 21 would be slideable along their associated slots 20. Again this would inhibit rotation of the pipe 17.

The hose coupling 16 is moveable between a retractor position substantially located within the space enclosed by the frame 11, and an extended position with the end 18 protruding outwardly from the end face 13 to enable a fire hose to be attached thereto.

Mounted on top of the guide 17 is a catch member 22 having a catch portion which projects into the guide 19 to engage the pipe 17 or an attachment thereto. The catch portion could retain the hose coupling 16 in the retracted position and only permit movement of the hose coupling 16 to its extended position when the catch is released by raising the catch member 22. The catch portion would retain the coupling 16 in the extended position.

Mounted on the frame 11 is a hydrant valve actuator 23 which includes a hand wheel 24 attached to a shaft 25. The shaft 25 would be adjustable in length and would have its inner end attached to the shaft of the hydrant valve so that rotation of the wheel 24 would open the hydrant valve.

Mounted at the lower end of the frame 11 is a "drip tray" 26 which would be positioned below the hydrant valve, flexible hose 15 and coupling 16 so that

any water that leaks from the assembly 10, will exit from within the frame 11 adjacent face 12.

Also mounted within the frame 11 is a tray 27 to receive a fire extinguisher.

The valve and hose of the hydrant assembly can be any valve or hose appropriate to the fluid system into which the hydrant is to be connected. A preferred hose for use in the assembly as a fire hydrant is a corrugated flexible metal hose.

Referring to Figures 5 and 6 in which like items are identically numbered, there is shown hydrant assembly 101, in this case a fire hydrant, comprising support frame 102, arm 103, valve 104 and hose 105.

Support frame 102 comprises two side frames 106 and 107, only one of which can be seen in Figure 5, made up of angle iron sections, one of which is indicated at 108. Section 108 is shown broken in Figure 5 to reveal details of valve 104. Side frames 106 and 107 include gussets at each corner to enhance the rigidity of each side frame. One such gusset is indicated at 109 in Figure 5.

Side frames 106 and 107 are spaced apart by short angle iron sections, one of which is indicated at 110.

The end of arm 103 which engaged support frame 102 has fitted thereto transverse axles 111 and 112 which carry rollers at each end thereof. Two rollers are indicated at 113 and 114 of Figure 5. Longitudinally extending flat members are provided at the top of the support frame to act as tracks for the aforementioned rollers. The ends of the flat members are indicated at 115 and 116 of Figure 6 and an edge of one member can be seen in Figure 5. There is a gap between flat members 115 and 116 to allow arm 103 to transversely move in support frame 102. Bearing blocks 117 and 118 are fitted to arm 103 and positioned within the gap between flat members 115 and 116 to guide the arm as it moves along the support frame. A channel section 119 with base section uppermost is fitted over the top of support frame 102 to act as a cover for the end of arm 105 engaged in the frame. Channel section 119 is cross-sectional in Figure 5 so that details of the arm and other items can be seen.

Support frame 102 includes a locking member 120 pivotally mounted 121 at one end between side frames 106 and 107. Locking member 120 is shown riding over a pin 122 fixed to arm 105. Pin 122 serves to lock arm 105 in position as will be detailed in relation to Figure 7.

Valve 104 includes a handwheel 123 and male threaded spigots 124 and 125. Spigot 124 can receive a hose to tap into the water supply while spigot 125 receives a swivel connector 126 at the end of hose 105. Details of the connection of the other end of hose 105 to the water system is not shown but can be by any suitable means. Valve 104 is bolted to a plate at the end of arm 105 (details not shown).

Hose 105 is corrugated stainless steel having a braided stainless steel covering.

It can be appreciated from Figure 5 that will support frame 102 positioned in a wall with edge 127 adjacent the end of the wall, valve 104 can be positioned within the wall cavity by moving arm 103 towards the rearmost edge of the frame. It can be further appreciated from Figure 6 that although the sides of the support frame will be covered by the wall covering, access to the valve is possible by virtue of the space between the side frames 106 and 107. This access allows the valve to be drawn out of the cavity as will now be detailed with reference to Figure 7.

Figure 7 similarly depicts hydrant assembly 101 comprising support frame 102, arm 103, valve 104 and hose 105. Other features of the hydrant assembly are as depicted in Figures 5 and 6.

It can be seen from Figure 7 that movement of arm 103 towards forwardmost edge 127 of frame 102 positions valve 104 outside of the wall cavity, the end of the wall being adjacent edge 127. Valve 104 can be locked into this position by allowing a notch 128 in the end of locking member 120 opposite pivot 121 to locate over pin 122 on arm 103. Full access to valve 104 is then afforded.

It will be appreciated that the flexibility of hose 105 allows arm 103 and valve 104 to be moved between the positions shown in Figures 5 and 6 - that is, between positions where the valve is within or out of a cavity in a wall in which the hydrant assembly is positioned.

It will be appreciated that the flexibility of hose 105 allows arm 103 and valve 104 to be moved between the positions shown in Figures 5 and 6 - that is, between positions where the valve is within or out of a cavity in a wall in which the hydrant assembly is positioned.

It will be further appreciated that many changes and modifications can be made to the hydrant assembly as exemplified above without departing from the board ambit and scope of the invention.

**CLAIMS:**

1. A hydrant assembly comprising:
a frame generally enclosing a space and having an end face;
a fire hose coupling movably mounted on the frame for movement between a retracted position generally located within the space and an extended position projecting outwardly from said space to enable a fire hose to be connect to an end of the coupling; and
duct means attached to said coupling an to be attached to a supply of water under pressure, said duct means providing for relative movement between said coupling and said supply.
2. The hydrant assembly of claim 1 wherein said frame is positionable within a cavity between surfaces of a wall and adjacent and end thereof.
3. The hydrant assembly of claim 1 or 2 wherein said hose coupling includes a pipe, and said assembly further includes a guide fixed to said frame and within said pipe is slidably guided.
4. The hydrant assembly of claim 1, 2 or 3 wherein said duct means is a flexible hose.
5. The hydrant assembly of any one of claims 1 to 4 further including a hydrant valve actuator mounted on said frame and being manipulable by a user standing adjacent said end face.
6. The hydrant assembly of claim 5, wherein said actuator includes a shaft extending from adjacent said end face to a position remote therefrom to engage the hydrant valve, and a hand wheel mounted adjacent said end face to be gripped by the user to cause rotation of the shaft to open and close the hydrant valve.
7. The hydrant valve assembly of claim 1 or 2, wherein said assembly further includes an arm having one end movably mounted on said frame and with support said hose coupling.
8. The hydrant assembly of claim 7, further including a track wheel assembly movably supporting the arm on said frame.
9. The hydrant valve assembly of claim 3 wherein said guide and pipe co-operate to prevent rotation there between about the longitudinal axis of the pipe.
10. The hydrant valve assembly of claim 3 or 9, further including catch means to retain the hose coupling in the extended position or the retracted position, which catch means is operable by a user standing adjacent said end face.
11. A hydrant assembly substantially hereinbefore described with reference to Figures 1 to 4.
12. A hydrant assembly substantially hereinbefore described with reference to Figures 5, 6 and 7.