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## FIRE HOSE CABINET

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This invention relates to cabinets for storing collapsible fire hoses, and more particularly to an improved cabinet embodied novel means for releasably maintaining the hose in a collapsed and folded configuration within the cabinet.

Fire hose cabinets of the subject type are commonly mounted in the corridors of public buildings, so as to provide the required fire-fighting equipment. There are certain essential requirements of such cabinets from an operational standpoint. One of these requirements is that the hose be adapted to be quickly and easily pulled out and put to use in time of fire. The importance of this requirement will be readily appreciated, when it is recalled that a person using the equipment will normally be both inexperienced in its use and under the strain of an emergency. To this end, the optimum cabinet is one in which the only effort required of the user to ready the hose for use is to open the cabinet door to pull on the hose from its outlet or nozzle end. It is further desired that, in response to this effort, the hose be payed out fold by fold.

This type of operation is preferred, as it virtually eliminates any possibility of the user becoming confused and resulting in loss of crucial time or of the hose becoming tangled or kinked and, hence, inoperative, as would be likely to take place, if it were merely allowed to fall out in its entirety onto the floor upon opening of the cabinet door.

Besides this above essential operational requirement, it is also highly desirable from both safety and economic standpoints that the hose be stored in such a manner as to prolong its useful life. The chief causes of hose deterioration are rotting, brought about by moisture collecting between the folds and cracking or permanent weakening of the hose resulting from subjecting it to sharp bends or kinks over long periods. Regarding the first mentioned cause of deterioration, preventing the air from circulating between the folds allows moisture to collect and rotting to take place. On the other hand, sharply bending the hose around thin edge surfaces as, for instance, around the supporting members of a hose rack from which vertical folds of the hose are suspended, eventually results in its cracking or being dangerously weakened at the bend. Therefore, an ideal cabinet is one which permits free air circulation and which does not force the hose being stored into sharp bends or kinks.

Cabinets of the present type are necessarily provided throughout a building in places where they can be quickly located and put to use in time of fire. Without sacrificing any of the above discussed operational requirements, and understanding that the cabinets must necessarily be located in conspicuous places, it is still desirable that they be as small as possible, so as not to materially detract from the appearance of the building.

Various means have been provided in the past for maintaining a collapsible hose in its collapsed or folded condition within a cabinet and for enabling it to be pulled out for use in the desired manner. As suggested above, one means commonly used is to provide a horizontally arranged hose rack in the upper portion from which vertical folds of the hose are suspended. Another means for supporting a hose includes a reel with the hose wound thereon. Still another means makes use of cooperating flanges on the opposite sides or at the top and bottom of

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the cabinet for retaining the collapsed and folded hose within the cabinet. Each of these cabinets of the past is subject to one or more significant disadvantages. In some cases, air circulation is prevented, so that the stored hose has a tendency to rot. In others, the hose rack or supporting means forces sharp bends to form in the hose in such a manner that it cracks or permanently weakens after a relatively short period. In still other cases, the means for supporting or retaining the hose within the cabinet is so large as to require a cabinet of a volume considerably greater than that of the hose to be stored.

In view of the foregoing it is a primary object of this invention to provide an improved fire hose cabinet obviating the above disadvantages of the prior art.

Another object of this invention is to provide a fire hose cabinet of the type described for storing a collapsible hose in such a manner that it is adapted to be quickly and easily put to use.

A related object is to provide a fire hose cabinet for storing a collapsible fire hose in a collapsed or folded configuration, the hose retention means being constructed and arranged whereby applying a pulling force to the outlet end of the hose causes it to be payed out fold by fold.

It is a further object of this invention to provide a fire hose cabinet which stores the hose in such a manner as to prolong its useful life.

A further object is to provide an improved fire hose cabinet which embodies highly effective means for retaining a collapsible hose therein, yet which retention means occupy a very small portion of the total cabinet space.

Still another object is to provide a fire hose cabinet of the type described, in which the ratio of the volume of the stored hose in its collapsed and folded configuration to total cabinet volume is relatively high as compared to prior cabinets.

It is a still further object of this invention to provide a highly effective fire hose cabinet of the type described, yet one which is relatively simple in construction and, hence, inexpensive to manufacture.

These and other objects and advantages of the invention will be better understood by referring to the following detailed description taken in conjunction with the accompanying drawings in which:

FIGURE 1 is a perspective view of the cabinet of the invention mounted in a wall for use, a fire hose being shown in its storage configuration in full lines and partially payed out of the cabinet in phantom lines;

FIGURE 2 is a partial section taken on the line 2-2 of FIGURE 1; and

FIGURE 3 is a partial section similar to FIGURE 2, except that the hose is shown partially payed out of the cabinet.

Referring to the drawings and in particular to FIGURE 1 thereof, numeral 10 designates generally a wall-recessed cabinet constructed in accordance with the invention and supported in a vertical wall 12. The cabinet includes a mounting frame 14 and a rectangular liner or pan 16 secured to the frame. As illustrated, the pan 16 represents at least some other cabinet walls, including a rear wall 18, top and bottom walls 20, and 22, respectively, and side walls 24. In addition, the pan 16 defines a front cabinet opening 26.

Hingedly mounted on frame 14 is a door 28 comprising a rectangular frame 30 and a central glass pane 32. The door 28 functions to close the opening 26 and is considered to represent the front wall of the cabinet. Suitable means, here including a cooperating latch 36 and keeper 38, are provided on the door 28 and frame 14, respectively, for maintaining the door in its closed position.

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In place in the cabinet 10 is a fire hose assembly including a water supply valve 42 and a collapsible fire hose 44. Releasable retention means 45, to be described in detail below, maintain the hose 44 within the cabinet and allow it to be payed out in the desired manner.

The valve 42 is mounted in one of the side walls 24 of the cabinet and is fluid connected to a pressurized water supply. The hose 44 is shown as having a coupling 46 at its inlet end for connection to the valve 42 and a standard nozzle 48 at its outlet end. Preferably, the hose 44 is constructed of linen, a hose of this type commonly being known in the art as unlined linen hose. Such a hose is readily adapted to be collapsed and folded into a relatively small package or configuration.

The hose 44 is receivable in the cabinet in a collapsed and folded rectangular configuration. In this configuration, a series of successive horizontal folds are arranged to overlie one another. The folds commence near the inlet end of the hose 44 adjacent the bottom wall 22 of the cabinet and terminate at its outlet end near the top wall 24 of the cabinet. As may be seen in FIGURE 3, when the hose 44 is in place in its collapsed and folded configuration, the inner or rear side of each individual fold is positioned in abutment or immediately adjacent the rear wall 18 of the cabinet.

As discussed above, it is desired to retain the hose within the cabinet in such a manner that it may be quickly and easily pulled out fold by fold in time of emergency. Moreover, it is desired during storage that air be allowed to be circulated between the folds and that forcing sharp kinks or bends in the hose be avoided, so as to prolong its useful life. To this end, the releasable retention means 45 here comprise resilient means in the form of an elastic cord 50, commonly known as shock cord, secured at its opposite ends to the cabinet walls at vertically spaced locations. The cord 50 extends transverse to the horizontal folds of the hose 44 around the outer or front side thereof at a central position and serves to yieldably urge the entire configuration inwardly against the rear wall 18.

Referring to FIGURES 1 and 2, the cord 50 in the preferred embodiment is secured at its lower end to an eyelet 52 affixed to the bottom cabinet wall 22 and at its upper end to an eyelet or bracket 54 affixed to the rear wall 18. Although affixing the eyelets and, hence, securing the cord to the specified wall members affords advantageous results, it will be understood that it is not essential. Instead, it is only necessary that the points of securement of the cord be spaced from one another and positioned so that the collapsed and folded hose configuration is urged inwardly against a given wall of the cabinet.

In order that the cord 50 will exert the desired force against the hose 44 to maintain it in the cabinet and to release it in the desired manner, the cord length in an unstretched condition is just slightly greater than the distance between the eyelets 52 and 54. Thus, when the hose 44 is in place in the cabinet, as in FIGURE 2, the cord is stretched outwardly away from the rear wall 18 toward the door and around the hose configuration. Stretching the cord 50 around the hose configuration causes it to urge the same inwardly against the rear cabinet wall 18 in the desired manner. Moreover, as the hose is pulled out of the cabinet, as in FIGURE 3, the cord correspondingly shortens up and continues to yieldably exert the desired retention force.

Preferably, so that the hose may be readily positioned within the cabinet and subsequently removed for inspection or the like, the cord 50 is detachably secured at least to one of the eyelets 52 and 54. In the illustrative case, a snap fastener 56 provided on the upper end of the cord enables it to be quickly connected or disconnected to the associated eyelet 54.

In use, the cabinet door 28 is opened and the nozzle 48 on the outlet end of the hose 44 is grasped and pulled out of the cabinet. This causes the hose 44 to be payed out fold by fold. As illustrated in FIGURE 3 and explained

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above, as the stack of folds remaining in the cabinet becomes successively shorter, the elastic cord 50 shortens up so as to continue to yieldably exert the desired retention force against those folds remaining in the cabinet.

The retention force has been found to be sufficient, even when relatively few folds remain, to insure that the hose is payed out one fold at the time. When the hose 44 is completely extended from the cabinet, the water, of course, is turned on and the hose is used in a usual manner.

To prepare the cabinet for subsequent use, the coupling 46 is disconnected from the valve 42 to detach the hose 44 from the cabinet. The hose is then thoroughly dried to prevent it from rotting. It is then either collapsed and folded into the rectangular configuration shown in FIGURE 1 prior to inserting it in the cabinet or it may, of course, be folded as it is put in the cabinet. In either case, this loading is facilitated by detaching the snap fastener 56 on the upper end of the cord 50 from its corresponding eyelet 54 and dropping the cord to the phantom line position of FIGURE 2. When the hose is in the desired configuration within the cabinet, the cord is then drawn around the outer or front side of the configuration and fastener 56 snapped into its eyelet 54. The hose is then releasably retained in the cabinet in readiness for subsequent use.

It will be appreciated that with the cabinet of the invention, the hose may quickly and easily be put in use in time of emergency. It is essentially foolproof in nature, as essentially all that need be done to ready the hose for use is to pull on the nozzle end of the hose which is the instinctive reaction. Regardless in which direction the hose is pulled, it will be payed out fold by fold from the cabinet by virtue of the action of the novel retention means 45.

The cabinet is also highly desirable from the standpoint of storing the hose in such a manner as to prolong its useful life. In this regard, there is virtually no interference with free air circulation between the individual folds in the hose. Since the retention means 45 comprises primarily a single cord, the area blocked off is practically none, as distinguished from the prior cabinets discussed above. Further, it will also be noted that the retention force applied to the elastic cord 50 is primarily in an inward direction rather than vertically, which would tend to cause compression of the individual folds and limit the air circulation. Moreover, the hose 44 is stored so that bends or kinks in the hose are avoided. Here, essentially only the weight of the overlying folds tend to bend or kink it, this weight being insufficient to cause any harm.

Another advantageous feature of the cabinet of the invention is that the retention means here provided occupy a very small portion of the available cabinet space. Accordingly, the cabinet may be constructed in a relatively small size and still afford the desired fire protection. In this connection, it is of particular importance that the depth of the cabinet from front to rear walls need be just slightly greater than the width in cross section of the hose itself in its collapsed condition. Besides being economical from the standpoint of cabinet size, the retention means may be produced at an extremely low cost. Thus, the cabinet of the invention is well suited for the mass market.

Although one embodiment of the invention has been illustrated and described in detail, it will be understood that this is by way of illustration only and that numerous changes in the details of the construction and arrangement of the various parts may be made without departing from the spirit and scope of the invention.

I claim:

1. A fire hose cabinet comprising: a collapsible fire hose adapted in its collapsed condition to be folded into short lengths aligned with and parallel to one another; a mounting frame; a pan secured to said frame and repre-

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senting a rear, top and bottom, and side cabinet walls, the depth of said cabinet from front to rear being just slightly greater than the width in cross section of said hose in its collapsed condition, said pan receiving said hose in its collapsed and folded configuration with the inner edges of said lengths abutting said rear wall; and elastic cord means mounted on said pan and extending in a stretched condition away from said rear wall and transverse to said lengths over the outer edges of said lengths for yieldably urging the central portions of the same against said rear wall and thereby releasably retaining said hose within said cabinet in its collapsed and folded condition.

2. The subject matter of claim 1 further characterized in that said hose is adapted in its collapsed condition to be folded into horizontal lengths arranged to overlie on another; and in that said cord means extends generally vertically.

3. A fire hose cabinet comprising: a collapsible fire hose having inlet and outlet ends and adapted in its collapsed condition to be folded into a rectangular configuration made up of a series of successive horizontal folds arranged to overlie one another commencing at the bottom near its inlet end; a mounting frame; a rectangular pan secured to said frame and representing a vertical rear, top and bottom, and side cabinet walls and defining a front opening, the dimensions of said pan being such that said hose is adapted to be received therein in its collapsed and folded rectangular configuration to the rear of said front opening; and an elastic cord secured at its opposite ends to said cabinet walls at vertically spaced locations, said cord extending in a stretched condition transverse to said folds over the outer edges of said horizontal folds so as to support said folds substantially at their midpoint and to releasably retain said hose within said cabinet in its collapsed and folded configuration.

4. A fire hose cabinet comprising: a collapsible fire hose having inlet and outlet ends and adapted in its collapsed condition to be folded into a rectangular configuration made up of a series of horizontal folds arranged to overlie one another and commencing at the bottom adjacent the inlet end of said hose; a mounting frame; a rectangular pan secured to said frame, and representing a vertical rear, top and bottom, and side cabinet walls, and defining a front opening, said pan being dimensioned so as to receive said hose in its collapsed and folded rectangular configuration with the inner edges of said folds engaging said vertical rear wall; and an elastic cord secured at its opposite ends to said pan at vertically spaced locations intermediate said side walls and extending generally vertically in a stretched condition around said hose configuration to engage the outer edges of said folds in

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their generally medial region and thereby releasably retain said hose within said pan.

5. A fire hose cabinet comprising: a collapsible fire hose having inlet and outlet ends and adapted in its collapsed condition to be folded into a configuration made up of a series of horizontal folds arranged to overlie one another and commencing at the bottom near the inlet end of said hose; a mounting frame; a rectangular pan secured to said frame and representing a vertical rear, horizontal top and bottom, and vertical side cabinet walls and defining a front opening, said pan receiving said hose in its collapsed and folded configuration; a door movably mounted on said frame for closing said front opening, said door representing a vertical front cabinet wall; a water supply valve mounted on one of said side walls and fluid connected to the inlet end of said hose; and an elastic cord secured to said pan at vertically spaced locations and extending in a stretched condition away from one of said front and rear walls and over the edges of said horizontal folds remote from said one of said front and rear walls in their generally medial region so as to yieldably urge said folds against said one of said front and rear walls and to support them in said region, all in a manner whereby applying a pulling force to the outlet end of said hose causes it to be payed out fold by fold.

6. A fire hose cabinet comprising: a collapsible fire hose having inlet and outlet ends and adapted in its collapsed condition to be folded into a rectangular configuration made up of a series of successive horizontal folds arranged to overlie one another commencing at the bottom near its inlet end; a mounting frame; a rectangular pan secured to said frame and representing a vertical rear, top and bottom, and side cabinet walls and defining a front opening, the dimensions of said pan being such that said hose is adapted to be received therein in its collapsed and folded rectangular configuration to the rear of said front opening; and an elastic cord extending in a stretched condition transverse to said horizontal folds over the outer edges thereof, and secured to said bottom wall intermediate said side walls and detachably secured to said rear wall intermediate said side walls and adjacent said top wall, so as to support said horizontal folds substantially at their midpoint.

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