Nov. 17, 1953 L. C. ROTTER ET AL 2,659,546

CABINET FOR LINE-RETRIEVING REELING APPARATUS

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FIG. 1.

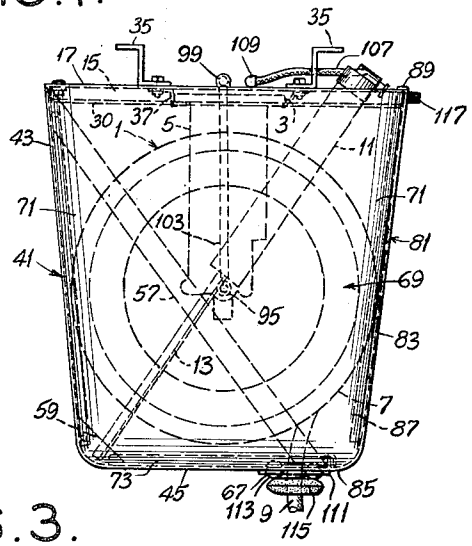

FIG. 2.

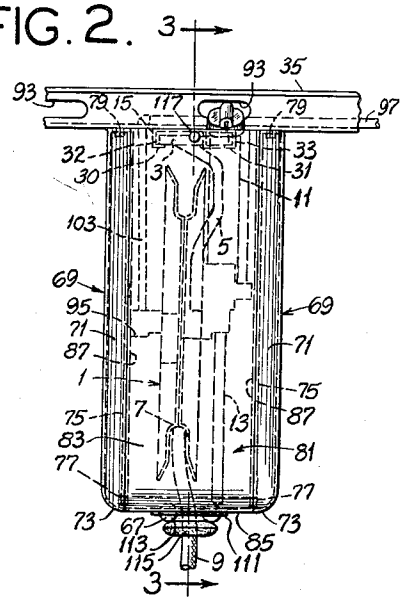

FIG. 3.

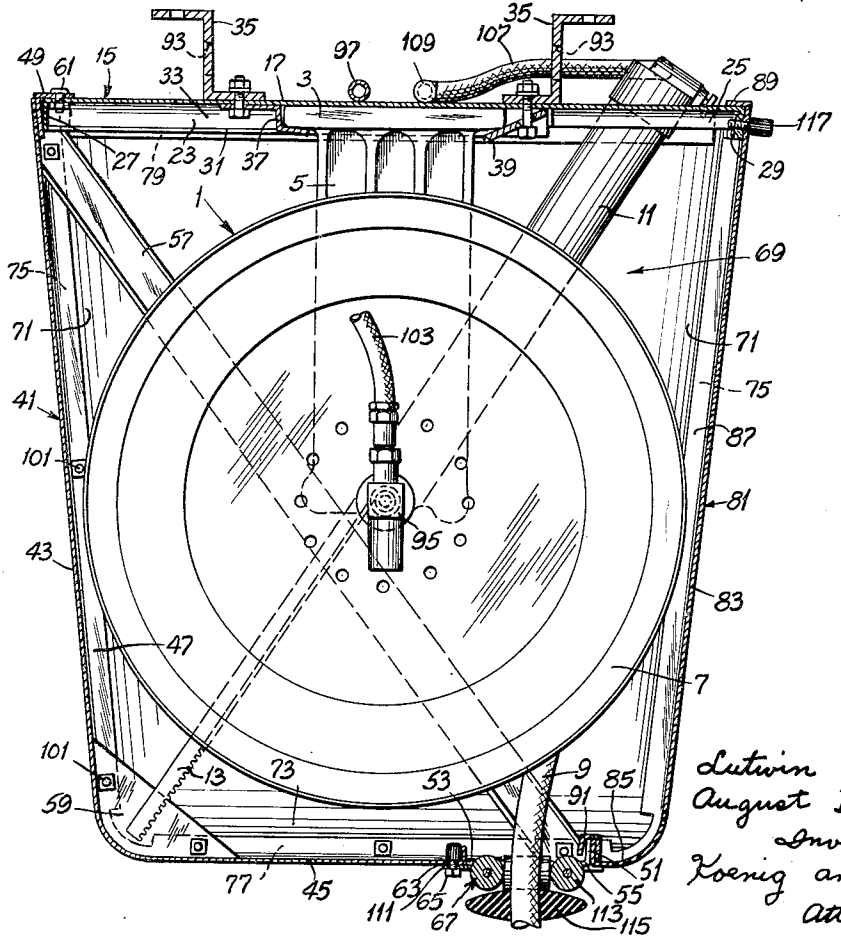

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FIG. 4.

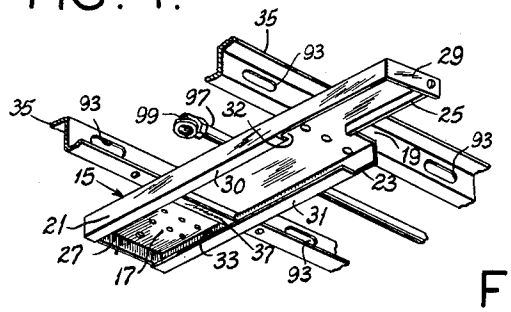

FIG. 5.

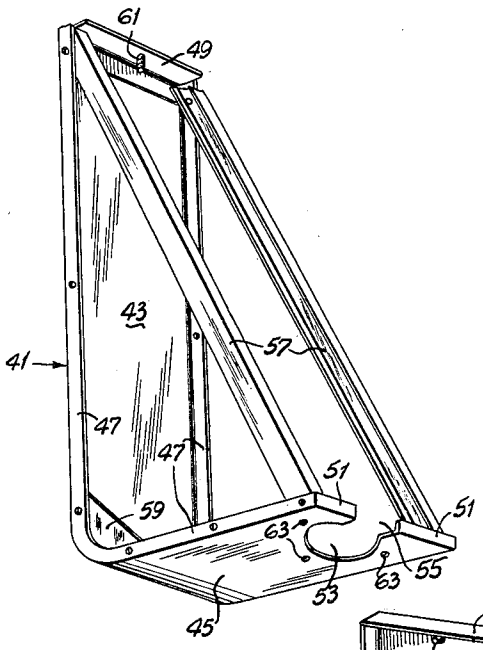

FIG. 6.

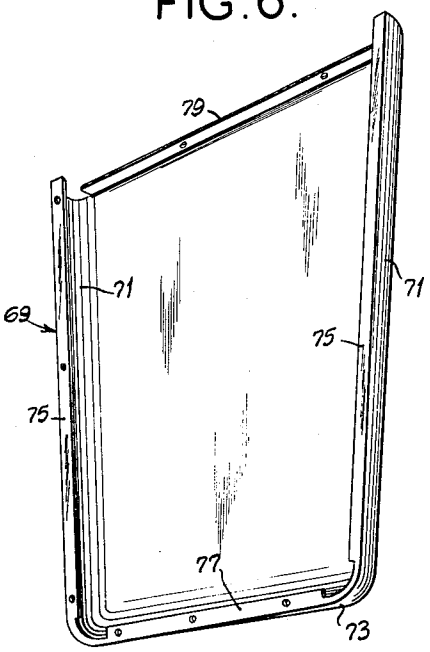

FIG. 7.

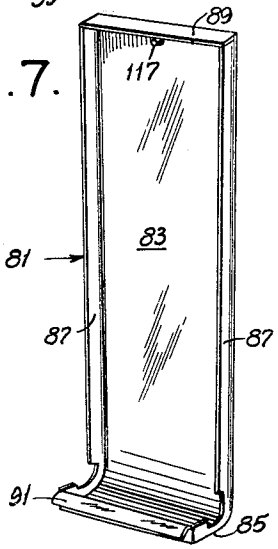

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FIG. 8.

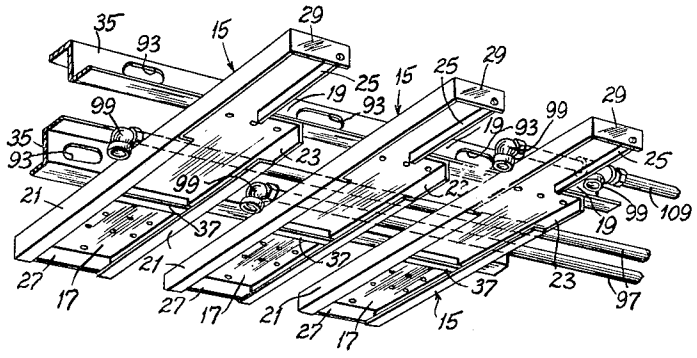
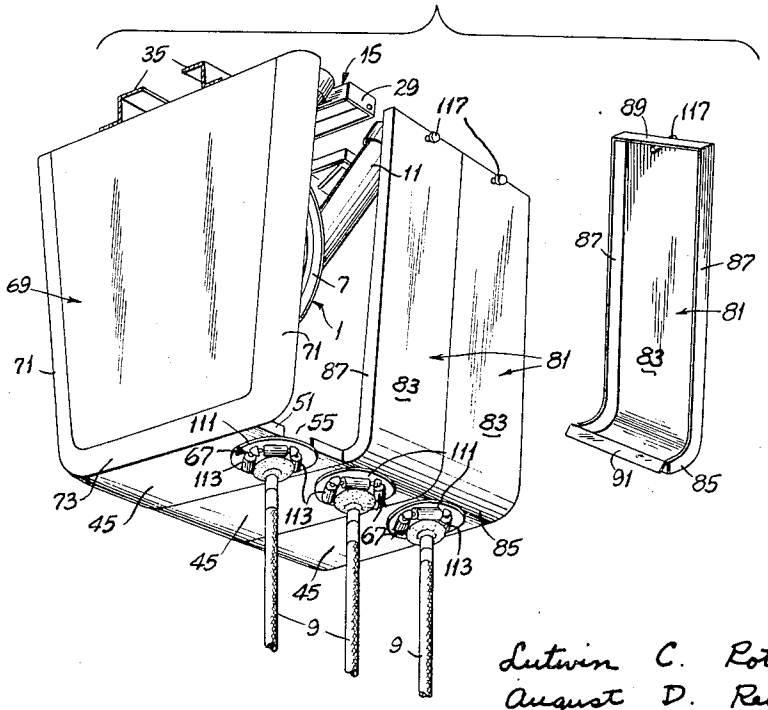


FIG. 9.



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2,659,546

CABINET FOR LINE-RETRIEVING REELING APPARATUS

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Application October 13, 1950, Serial No. 190,014

12 Claims. (Cl. 242—86)

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This invention relates to cabinets for line-retrieving reeling apparatus, and more particularly to cabinets for hose reeling apparatus such as is used in filling stations, garages, etc.

Among the several objects of the invention may be noted the provision of a cabinet for line-retrieving reeling apparatus, particularly hose reeling apparatus, which is especially suitable for installation on a ceiling or a wall, and which is so constructed as to facilitate installation; the provision of a cabinet of the class described which allows for ready access to apparatus in the cabinet and for ready removal from the cabinet of the reeling apparatus and the line wound thereon; and the provision of cabinet structure of this class which allows for the installation of a number of separate reeling apparatus side-by-side as a multiple unit with a cabinet housing all the apparatus.

The cabinet of this invention is particularly adapted for reeling apparatus of a type having a base plate carrying a standard supporting a reel, and, in general, comprises as a part of the cabinet a mounting bracket having opposed side channels adapted to receive the base plate of a reeling apparatus as inserted endwise in the side channels. The bracket also forms a mounting for panels forming cabinet walls. With this arrangement, to install a reeling apparatus and a cabinet on a ceiling, for example, the mounting bracket is ceiling-mounted, together with only such part of the cabinet as to allow for access to the bracket for installation of the reeling apparatus. Then, the reeling apparatus is installed by inserting its base plate into the bracket as described, the standard extending downward with the reel below the bracket. The bracket supports the reeling apparatus until it is fastened in place, and thus facilitates the installation of the apparatus. Finally, the remainder of the cabinet is installed. Other features will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, features of construction, and arrangements of parts which will be exemplified in the structures hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated,

Fig. 1 is a side elevation of a single-reel ceiling installation of this invention;

Fig. 2 is an end elevation of Fig. 1;

Fig. 3 is an enlarged vertical section taken on line 3—3 of Fig. 2;

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Fig. 4 is a perspective of a mounting bracket;

Fig. 5 is a perspective of a fixed panel part of the cabinet;

Fig. 6 is a perspective of an end panel part of the cabinet;

Fig. 7 is a perspective of a removable access panel part of the cabinet;

Fig. 8 is a perspective of a group of mounting brackets as ceiling-mounted for a multiple-reel ceiling installation; and,

Fig. 9 is a perspective showing a completed multiple-reel installation with one access panel removed and shown off to one side of the cabinet.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

The cabinet of this invention is particularly adapted for reeling apparatus 1, such as is illustrated in Figs. 1–3, having a flat rectangular base plate 3 and a standard 5 extending from the base plate supporting a reel 7 for winding a line, particularly a hose 9, such as an air hose, a lubricant hose, or a water hose, of a type to be used in filling stations, garages and like establishments mounted on a ceiling or on a wall, with the end of the hose accessible to a user standing on the floor for grasping the hose to pull it out. As illustrated in Figs. 1–3, the reeling apparatus is of the air-pressure-operated type, rotation of the reel for retrieving the hose line being effected by an air cylinder 11 in which is reciprocable a piston (not shown) with a rack 13 extending from the piston geared to the reel. In this type of reeling apparatus, the hose line is withdrawn by manually pulling it, this causing rotation of the reel in unwinding direction, and thereby causing movement of the piston in one direction. Upon release of the line for reeling, air pressure in the cylinder drives the piston back in the other direction for rotating the reel to wind up the line. The reel rotates on an axis parallel to the base plate 3 at the end of the standard 5, and the air cylinder, in the case of the reeling apparatus illustrated in Figs. 1–3, is inclined at an angle to the plane of the base plate, extending from adjacent the reel axis beyond the plane of the base plate. The radius of the reel is somewhat less than the spacing of the reel axis and the plane of the base plate. For a more detailed description of the reeling apparatus 1 generally illustrated in Figs. 1–3, reference is made to the application of Norbert F. Cook and Paul Walls, entitled Line-Retrieving Reeling Apparatus, Serial No. 182,594, filed August 31, 1950, now Patent No. 2,623,707, issued December 30, 1952. Here it will be understood that the cabi-

net of this invention is intended for reeling apparatus other than the air-pressure-operated type shown, as long as the reeling apparatus includes a flat base plate and a standard supporting the reel. For example, the invention is also intended for the mounting of a spring-operated reel mounted on such a base plate and standard.

The cabinet of this invention includes as a part thereof a mounting bracket generally designated 15. As best illustrated in Fig. 4 or in Fig. 8, this comprises a relatively long narrow web plate 17 having a notch 19 at one corner. The plate 17 has a side flange 21 extending the full length of its side opposite the notch, flanges 23 and 25 on its other side, and end flanges 27 and 29. End flange 29 is at the notched end of the plate. Side flange 23 extends from the end flange 27 to the notch, and side flange 25 extends along the notch to end flange 29. End flange 29 is of shorter length than end flange 27. Flanges 21 and 23 have portions 30 and 31, respectively, bent inward to form tracks on opposite sides. The tracks 30 and 31 extend from the end flange 27 toward but terminate short of the notch 19. They form opposed side channels 32 and 33 (Fig. 2). The spacing of side flanges 21 and 23 is somewhat greater than the width of the base plate 3 of the reel (which is seen in Fig. 2) and the height of these flanges is somewhat greater than the height or thickness of the base plate. The length of the mounting bracket 15 is somewhat greater than the diameter of the reel 7. The length of the base plate 3 of the reel (which is seen in Figs. 1 and 3) is considerably less than the diameter of the reel and hence considerably less than the length of the mounting bracket. The construction of the base plate 3 and standard 5 is of such form as to enable the base plate to be fitted into the side channels 32 and 33 defined by the side flanges 21 and 23, the tracks 30 and 31 and the web plate 17, by angling and inserting the base plate between the untracked portions of the side flanges and then inserting it endwise on the tracks 31 and 33 between the side flanges.

For a single-reel ceiling installation, such as is illustrated in Figs. 1–3 of the drawings, one mounting bracket 15 is used. This is ceiling-mounted in horizontal position with side flanges 21 and 23 extending downward preferably by bolting it to a pair of mounting rails 35, these rails, as shown, being ordinary structural Z-bars, and extending transversely to the bracket. The bracket 15 is equipped with a member 37 acting as a stop for the base plate of the reeling apparatus to limit the endwise insertion of the base plate and determine the centered position thereof with respect to the length of the bracket. This stop member, illustrated as a Z-member, is secured to the bracket extending crosswise between the side flanges 21 and 23 toward the end flange 27, the arrangement being such that as the base plate is slid endwise on the tracks 30 and 31, the edge of the base plate slides over a flange of the Z-member 37 (see Fig. 3). After the base plate has been so positioned, it is clamped in place by a clamp plate 39 bolted to that rail 35 toward the notched end of the bracket, this clamp plate being butted against the edge of the flange 25 and angled to extend under the edge of the base plate. With the base plate clamped in centered position, the upper end of the air cylinder extends up through the notch 19, the notch being

purposely provided to accommodate the end of the air cylinder.

In Fig. 5 there is illustrated a stationary panel unit of the cabinet, designated 41 in its entirety. This unit comprises a sheet metal panel bent to provide a narrow side wall section 43 integral with a bottom panel section 45 of the same width. The stationary panel unit 41 has inturned side flanges 47 at both sides, an inwardly extending flange 49 at the upper end of the side wall section 43, and an upwardly extending flange 51 at the end of the bottom wall section 45. At the end of the bottom panel section 45 there is an opening 53 for the hose 9. The opening 53 opens out of the end of section 45 and flange 51 through a notch 55, the notch being wide enough to allow the hose to be inserted in or taken out of the opening 53. Diagonal braces 57 are connected at their ends to the insides of the side flanges at the upper end of section 43 and the outer end of section 45. Gussets 59 brace the corner of the unit 41 at its sides. The flange 49, as illustrated, is one leg of an angle member attached to the upper end of section 43 on the inside. The stationary panel unit 41 is wider than the bracket 15 and high enough so that the bottom wall section 45 will extend under the reel 7 when the unit 41 is attached by means of flange 49 and a bolt 61 to the end of the bracket 15 at end flange 27. Openings 63 are provided in the bottom panel section 45 for the reception of threaded fasteners 65 securing a roller-type hose guide 67 to the section.

In Fig. 6 there is illustrated an end panel unit of the cabinet, designated by reference character 69. This comprises a sheet metal panel having rounded side margins 71 and a rounded bottom margin 73, with inturned flanges 75 on the rounded sides, and an inturned flange 77 on the rounded bottom. Flanges 75 and 77 are in a vertical plane. Panel 69 has an inturned horizontal flange 79 at its upper edge.

In Fig. 7 there is illustrated a removable access panel unit of the cabinet, designated in its entirety by reference character 81. This comprises a sheet metal panel bent to provide a narrow cabinet end panel section 83 integral with a short bottom section 85, being of the same width as the stationary panel unit 41. The panel unit 81 has inturned side flanges 87 at both sides, an inwardly extending flange 89 at its upper end, and a hook 91 at the end of its bottom section 85.

In making a single-reel ceiling installation, one mounting bracket 15 is bolted to a pair of mounting rails 35 extending transversely to the rails, as illustrated in Fig. 3, with the web plate 17 of the bracket held against the bottoms of the rails. Preferably, the web plate 17 has several rows of bolt holes near its end flange 27 for installations involving different rail spacings, with only one row of bolt holes near the end flange 29. One of the latter bolt holes is reserved for the bolt for the clamp plate 39. The ends of the bracket project beyond the rails. The supply line for the hose of the reeling apparatus to be installed may be located between the mounting rails entering from either end, or through elongate slots 93 in the rails, or dropping down through the ceiling, terminating just outward of the side of the mounting bracket above the swivel coupling 95 of the reel. As shown in Fig. 4, the supply line 97 extends between the rails 35 over the bracket 15, entering from the right, and has a downturned

elbow fitting 99 on the left side of the bracket.

Two end panels 69 are then mounted on opposite sides of the mounting bracket in the position shown in Fig. 2 by bolting their upper flanges 79 to the rails 35. These end panels, as attached to the rails, are spaced outward from the sides of the mounting bracket. Then, the stationary panel 41 is mounted in position between the end panels by engaging its flange 49 over the end of the mounting bracket at end flange 27 and bolting it to the mounting bracket at 61. The side flanges 47 of the stationary panel abut the side and bottom flanges 75 and 77 of the end panels, and bolts 101 are inserted through bolt holes in the flanges to bolt the stationary and end panels together.

After the above-described installation of the mounting bracket 15, the two end panels 69, and the stationary panel 41, a short hose 103 for connecting the supply line 97 to the swivel coupling 95 for the reel 7 is attached to the elbow 99. The reeling apparatus is then installed by holding it with its base plate 3 inclined at such an angle that it may be entered into the mounting bracket between the bracket side flanges 21 and 23, and then pushing the base plate on the tracks 33 and 31 until it engages and is seated in the stop member 37. As this is done, the upper end of air cylinder 11 enters into the notch 19. The reeling apparatus then is supported by the tracks and need not be further held by the man making the installation. The clamp plate 39 is then applied rigidly to clamp the reeling apparatus in place. The short hose 103 is then connected to the swivel coupling 95. Connection of the upper end of the air cylinder 11 to an air supply line may be made in any suitable way. For example, in Fig. 3 there is shown an air hose 107 connecting the upper end of the air cylinder and an air supply line 109 extending between the rails 35, hose 107 extending through one of the elongate slots 93 in a rail.

As the reeling apparatus is supplied for installation, the roller-type guide 67 is already on the hose. This guide consists of a ring 111 carrying guide rollers 113. It will be understood that the hose 9 has a control valve member (not shown) on its outer end which keeps the guide 67 from sliding off the hose during installation. During the installation, the hose 9 is inserted into the keyhole opening constituted by opening 53 and notch 55, and then the guide 67 is moved up on the hose 9 to engage the bottom of stationary panel bottom section 45, and finally detachably secured in place by fasteners 65. The hose 9 is provided with a stop 115 to limit its retraction so that a suitable length of the hose will extend out of the cabinet for grasping.

Finally, the access panel 81 is installed by hooking the hook 91 over the upstanding flange 51 at the end of bottom section 45 and engaging the upper end flange 89 of panel 81 over the end of the mounting bracket 15, with a screw 117 extending through the panel 81 threaded into the end flange 29 of the mounting bracket.

From the above, it will be seen that the installation of the reeling apparatus and the cabinet housing the reeling apparatus is simplified by reason of the division of the overall structure into individual units (i. e., the reeling apparatus 1, the mounting bracket 15, and the panel units 41, 69 and 81) that can be easily handled and assembled, even though a ladder must be mounted to make the installation. It will also be seen that provision is made for ready access to the interior of the cabinet for inspection, maintenance, repair

or removal of the reeling apparatus simply by removing the access panel 81. Once this panel has been removed, it is easy to remove the entire reeling apparatus simply by removing the clamp plate 39, disconnecting the hose 103 from the reel, and disconnecting the hose guide 67, whereupon the apparatus may be slid out of the bracket 15, the hose 9 coming out of opening 53 through the notch 55.

Figs. 8 and 9 illustrate a multiple-reel ceiling installation utilizing as many mounting brackets 15 as are needed for the number of reels desired in the installation, a corresponding number of panel units 41 and 81, and two end panels 69. As shown best in Fig. 8, the brackets 15 are mounted in a row on the mounting rails 35 extending transversely to the rails and spaced apart a distance corresponding to the width of panel units 41 and 81. Supply lines 97, with end elbow fittings 99, are provided, one for each reel, extending above the brackets, arranged either as illustrated in Fig. 8 or with any other suitable arrangement. The end panels 69 are fastened to the rails 35 spaced outward from the ends of the row of brackets 15. The panel units 41 are assembled in a row with the respective brackets, each being secured at its upper end to its respective bracket at the end of the bracket opposite the notch 19, the panel units 41 being secured together and the end panels 69 being secured to the end ones of panel units 41. The reels are then installed in the mounting brackets in the same manner as above described in the description of the single reel installation. Short hoses 103 as previously described are used to connect elbows 99 and the swivel couplings of the reels. Finally the access panels 81 are removably mounted in position between the end panels 69 opposite the side wall sections 43 of units 41. In the multiple ceiling installation, where air-operated reels are used, the air cylinders 11 may be connected in series by means of short air hoses connecting together the upper ends of adjacent cylinders, and the air supply line connected to the first cylinder in the row.

It will be understood that the cabinet of this invention is as well adapted for wall installations as for ceiling installations. For a wall installation, rails 35 are mounted on a wall extending horizontally and brackets 15 are attached to the rails extending vertically, with stop 37 lowermost, and the assembly is made with access panels 81 at the top.

An advantage of the invention is that additional units may be readily added to an existing installation. For example, if a single-reel unit is already installed, and it is desired to have a three-reel unit, two more mounting brackets may be added alongside the existing bracket, and two more reels, two more panel units 41 and two more access panels 81 added, using the two end panels 69 available from the existing installation.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As many changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

We claim:

1. A cabinet for line-retrieving reeling apparatus of a type having a base plate and a standard supporting a reel, comprising a mounting

bracket by means of which the reeling apparatus may be ceiling or wall mounted, said bracket having opposed side channels adapted to receive the base plate of the reeling apparatus as inserted endwise therein, a stop on the bracket engageable by the base plate for limiting its endwise insertion and determining a centered position of the reeling apparatus in the cabinet, and panels attached to the bracket and forming cabinet walls, one of the panels having an opening for passage of a line wound on the reel.

2. A cabinet for line-retrieving reeling apparatus of a type having a base plate and a standard supporting a reel, comprising a mounting bracket by means of which the reeling apparatus may be ceiling or wall mounted, said bracket comprising a web plate having side flanges with the margins of the flanges inturned to form tracks at opposite sides of the bracket spaced from the web plate, the tracks being adapted to support the reeling apparatus by its base plate with the latter inserted endwise between the side flanges on the tracks, a stop on the bracket engageable by the base plate for limiting its endwise insertion and determining a centered position of the reeling apparatus in the cabinet, and panels attached to the bracket and forming cabinet walls, one of the panels having an opening for passage of a line wound on the reel.

3. A cabinet for line-retrieving reeling apparatus of a type having a base plate and a standard supporting a reel, comprising a mounting bracket by means of which the reeling apparatus may be ceiling or wall mounted, said bracket comprising a web plate having side and end flanges, the side flanges having opposed inturned margins forming tracks spaced from the web plate and extending from one end of the plate for only part of the length of the plate, the tracks being adapted to support the reeling apparatus by its base plate with the latter inserted endwise between the side flanges on the tracks, a stop on the bracket engageable by the base plate for limiting its endwise insertion and determining a centered position of the reeling apparatus in the cabinet, and panels attached to the bracket and forming cabinet walls, one of the panels having an opening for passage of a line wound on the reel.

4. A cabinet as set forth in claim 3, wherein the bracket has a notch at one corner at its other end to accommodate the end of an air cylinder of the reeling apparatus.

5. A cabinet for line-retrieving reeling apparatus of a type having a base plate and a standard supporting a reel, comprising a mounting bracket by means of which a reeling apparatus may be ceiling or wall mounted, said bracket having opposed side channels adapted to receive the sides of the base plate of a reeling apparatus as inserted endwise therein, a panel attached to the bracket at one end thereof forming side and bottom wall cabinet sections, panels forming cabinet end walls, and a removable access panel extending from the other end of the bracket to the end of the bottom wall section, the latter having an opening in its end for a line wound on the reel.

6. A mounting bracket for reeling apparatus of a type having a base plate and a standard supporting a reel, comprising a web plate having side flanges with the margins of the flanges inturned to form tracks at opposite sides of the bracket spaced from the web plate, the tracks being adapted to support a reeling apparatus by its base plate as inserted endwise between the side flanges on the tracks, and a stop extending crosswise between the side flanges for limiting endwise insertion of the base plate.

7. A mounting bracket for reeling apparatus of a type having a base plate and a standard supporting a reel, compriisng a web plate having side and end flanges, the side flanges having opposed inturned margins forming tracks at opposite sides of the bracket spaced from the web plate extending from one end of the plate for only a part of the length of the plate, the tracks being adapted to support a reeling apparatus by its base plate as inserted endwise between the side flanges on the tracks, and a stop extending crosswise between the side flanges for limiting endwise insertion of the base plate.

8. A mounting bracket as set forth in claim 7, wherein the bracket has a notch at one corner at its other end to accommodate the end of an air cylinder of the reeling apparatus.

9. In combination, spaced ceiling-mounted rails, a mounting bracket attached to the bottoms of the rails extending transversely of the rails, said bracket having opposed side channels below the rails, a hose-retrieving reeling apparatus comprising a base plate and a standard supporting a hose reel, the base plate being supported by the bracket with its sides received in said side channels, the standard extending down below the bracket and carrying the reel below the bracket, end panels on opposite sides of the bracket spaced outward from the sides of the bracket and secured to the rails, a panel forming side and bottom wall sections secured at its upper end to one end of the bracket and at its sides to the end panels, and an access panel removably mounted between the end panels opposite the said side wall section, said panels forming a housing for the reeling apparatus, one of the panels having an opening for passage of the hose.

10. The combination specified in claim 9 wherein the opening for passage of the hose is in the form of a notch in the end of the bottom wall section.

11. In combination, spaced ceiling-mounted rails, a row of mounting brackets attached to the rails extending transversely of the rails and spaced apart from one another, each bracket having opposed side channels below the rails, a plurality of hose-retrieving reeling apparatus, one for each bracket, each comprising a base plate and a standard supporting a hose reel, each one of which has its base plate supported by one bracket with the sides of the base plate received in the side channels of the bracket, the standards extending down below the brackets and carrying the reels below the brackets, end panels spaced outward from the ends of the row of brackets and secured to the rails, a plurality of panels, one for each bracket, forming side and bottom wall sections, each secured at its upper end to one end of a respective bracket, the end panels being secured to the end ones of said side and bottom wall forming panels, and a plurality of access panels, one for each bracket, removably mounted between the end panels opposite the side wall sections, said panels forming a housing for the reeling apparatus, each of said bottom wall sections having an opening at its end for passage of the hose wound on the respective reel.

12. In a reeling apparatus including a line-retrieving reel having a line wound thereon, a cabinet for the reel having end panels, a panel unit fixed in position between the end panels

forming side and bottom wall sections, the bottom wall section having an opening in its end formed as a notch for sidewise insertion or removal of the line from the end of the bottom wall section, a line guide detachably secured to the bottom wall section at the notch and having a line-receiving opening aligned with the notch, an access panel removably mounted between the end panels opposite the side wall section of said panel unit, the line extending through the notch and the guide, the access panel being removable and the guide being detachable for sidewise removal of the reel and sidewise passage of the line out of the notch with the guide remaining in place on the line.

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