May 8, 1956 A. L. GRISÉ 2,744,788

SWINGING ARM HOSE RETRIEVER FOR FLUID DISPENSING APPARATUS

Filed Feb. 24, 1954 4 Sheets-Sheet 1

Fig. 1.

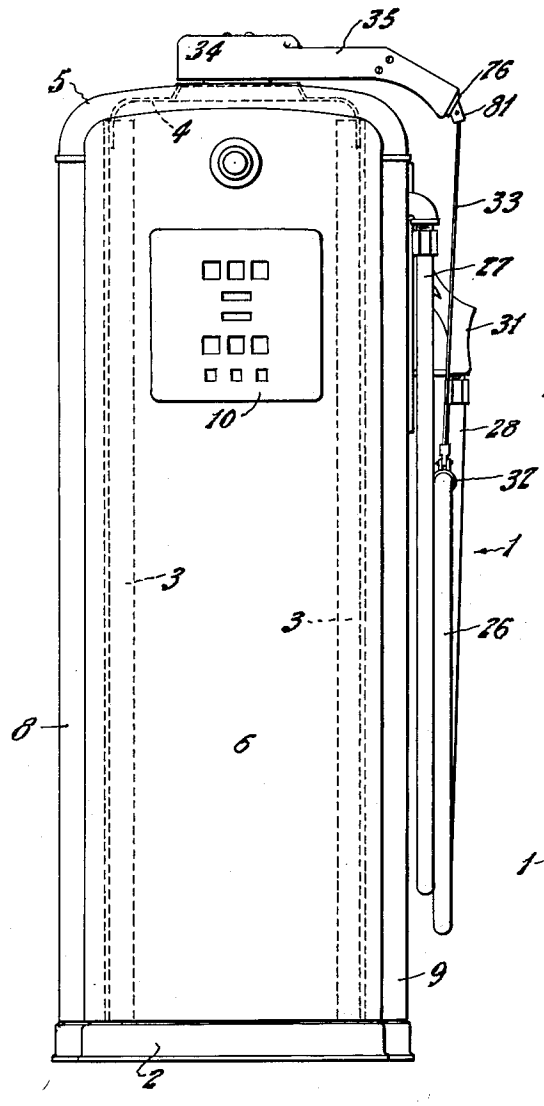
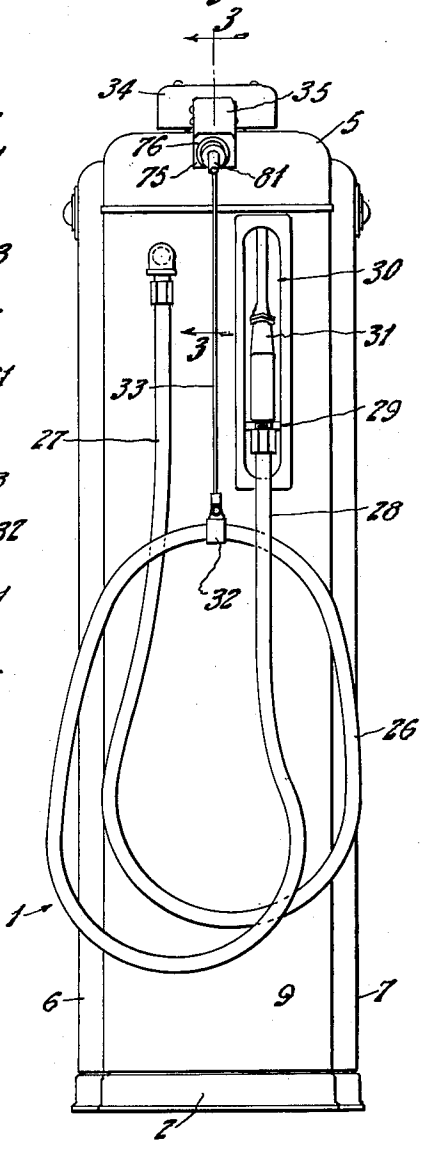



Fig. 2.




INVENTOR.
Alfred L. Grisé,
BY
Chapin & Neal.
Attorneys.

May 8, 1956 A. L. GRISÉ 2,744,788

SWINGING ARM HOSE RETRIEVER FOR FLUID DISPENSING APPARATUS

Filed Feb. 24, 1954 4 Sheets-Sheet 2

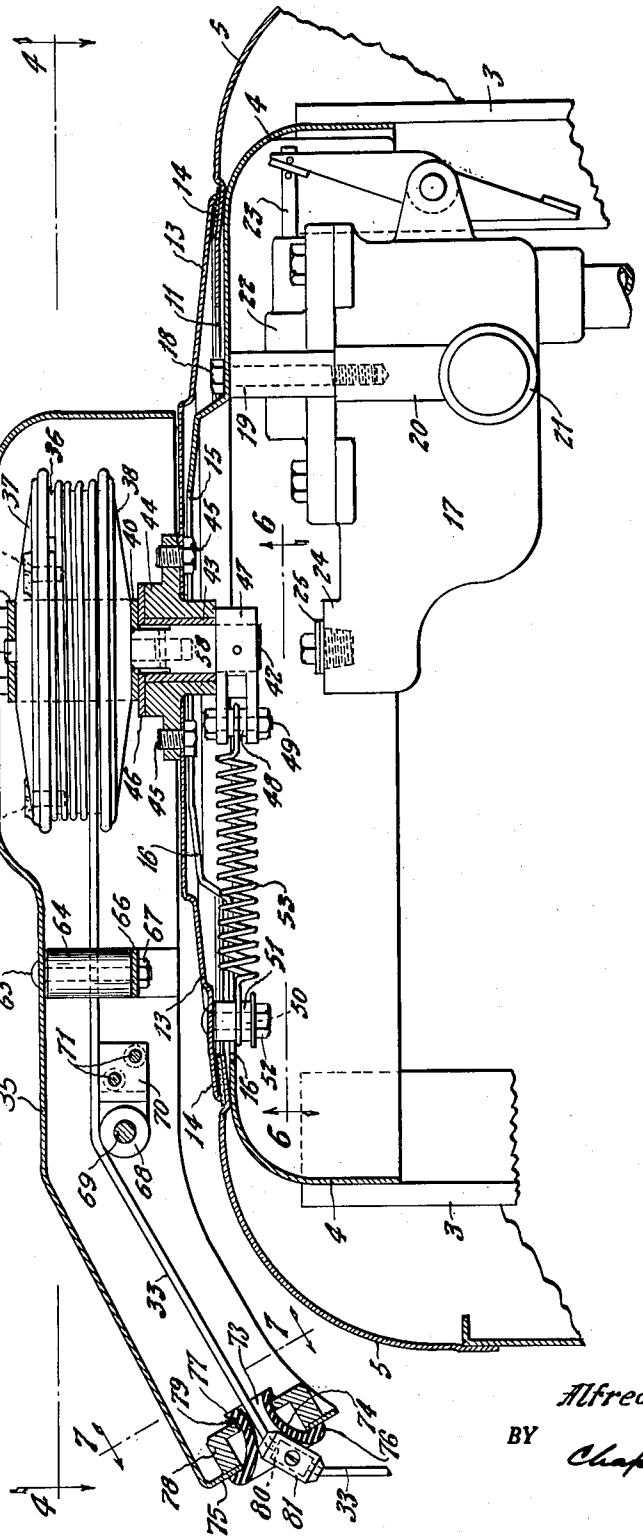


Fig. 3

INVENTOR.
Alfred L. Grisé,
BY Chapin & Neal.
Attorneys.

May 8, 1956 A. L. GRISÉ 2,744,788

SWINGING ARM HOSE RETRIEVER FOR FLUID DISPENSING APPARATUS

Filed Feb. 24, 1954 4 Sheets-Sheet 3

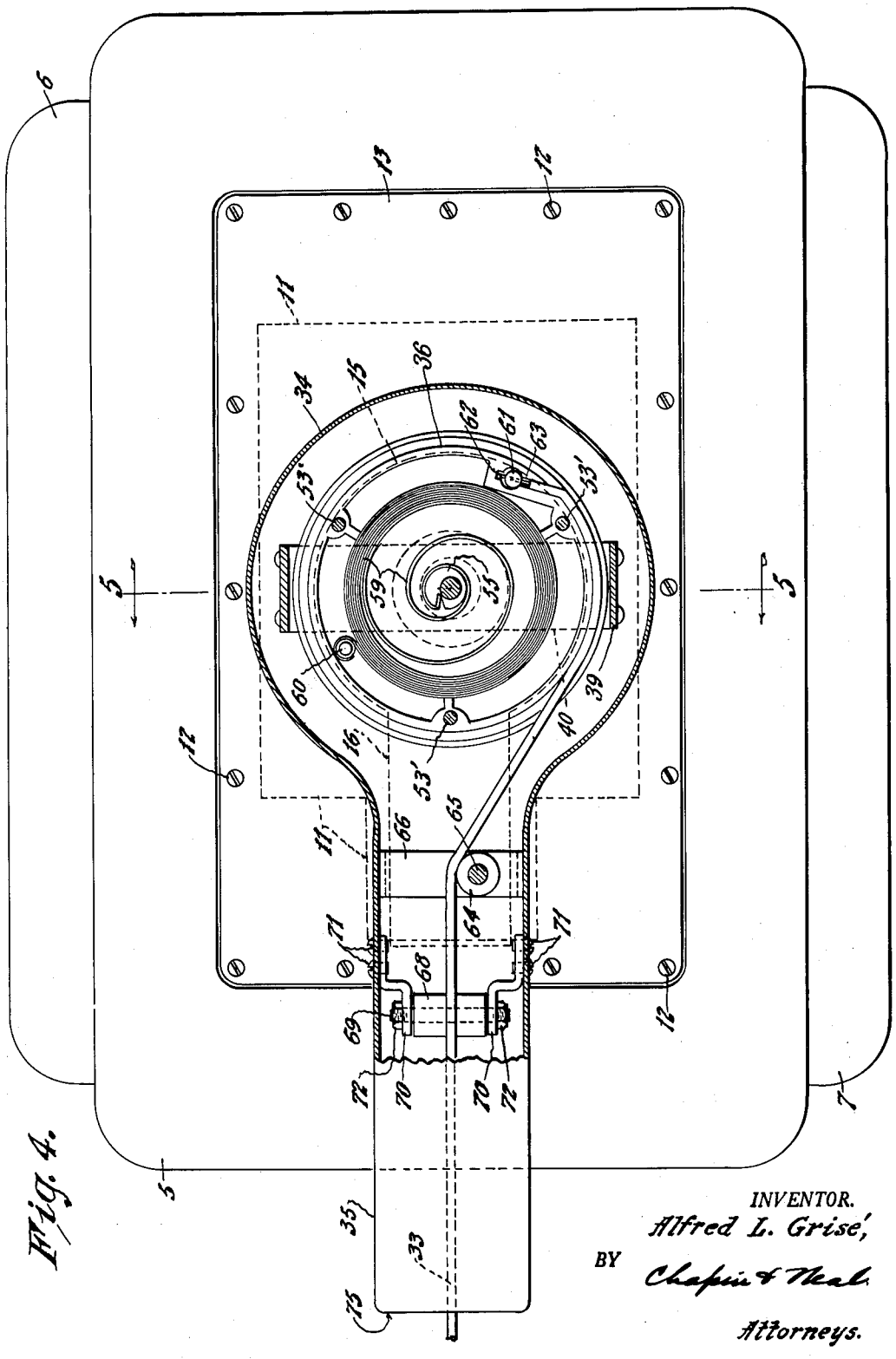



Fig. 4.

INVENTOR.
Alfred L. Grisé,
BY
Chapin & Neal
Attorneys.

May 8, 1956 A. L. GRISÉ 2,744,788

SWINGING ARM HOSE RETRIEVER FOR FLUID DISPENSING APPARATUS

Filed Feb. 24, 1954 4 Sheets-Sheet 4

Fig. 5.

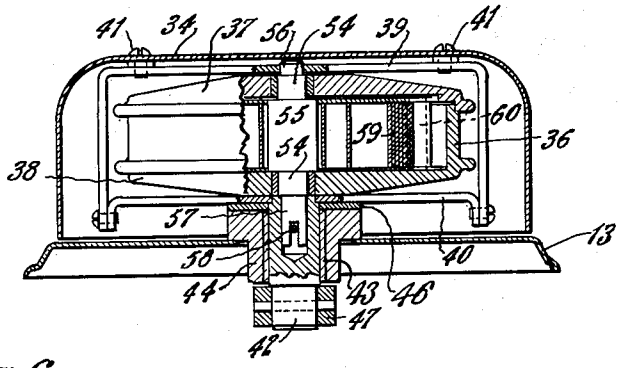



Fig. 6.

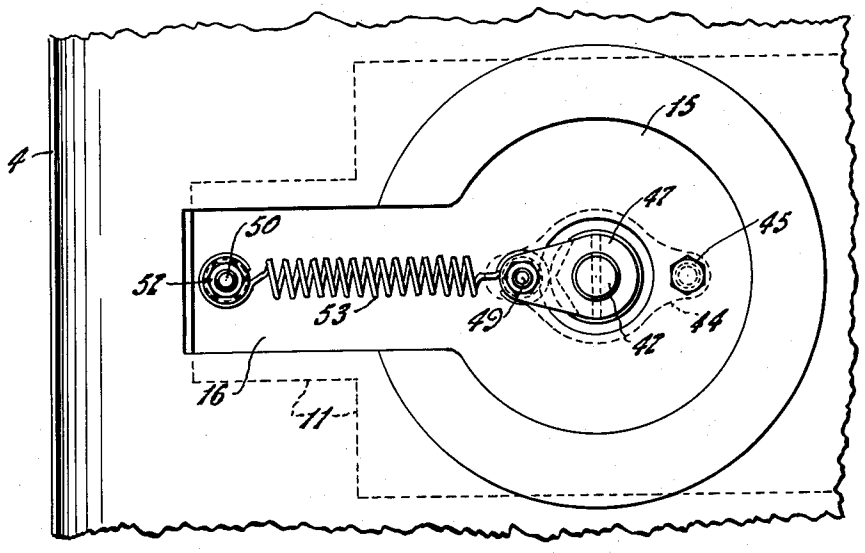
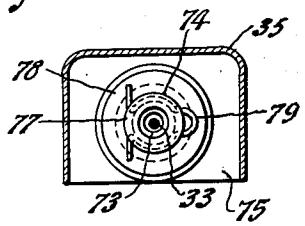



Fig. 7.




INVENTOR.
Alfred L. Grisé,
BY
Chapin & Neal.
Attorneys.

United States Patent Office 2,744,788 Patented May 8, 1956



2,744,788

# SWINGING ARM HOSE RETRIEVER FOR FLUID DISPENSING APPARATUS

Alfred L. Grisé, Springfield, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts

Application February 24, 1954, Serial No. 412,237

9 Claims. (Cl. 299—77)

This invention relates to improvements in retrieving means for the flexible dispensing hose of fluid dispensing apparatus.

The invention, while capable of general application, finds one advantageous use in connection with the measuring pumps used at service stations for dispensing gasoline or other motor fuel to automotive vehicles.

The invention has for one object the provision of a swinging arm, carrying a spring-actuated winding drum for retracting a cable that is conducted through the arm and adapted to be connected to the dispensing hose of a fluid dispensing apparatus, such arm being pivoted at one end on a stud carried by a base plate of generally flat formation, which may be fixed to the top of the housing of the dispensing apparatus, such plate carrying on its under side yieldable means for holding the arm in one predetermined radial position.

The invention provides in a single unit a complete hose-retracting means, which can readily be applied to any standard pump housing in the field simply by removing the top cover of the housing and substituting for it the base plate that carries all parts of the hose-retracting means.

Other objects of the invention are to provide in a hose-retracting means of the type described, an improved construction of the swinging arm that carries the hose-retrieving cable; improved guiding means for such cable, and an improved mounting of the winding drum.

The invention will be disclosed with reference to one illustrative embodiment of it in the accompanying drawings, in which,

Fig. 1 is a small-scale exterior front-elevational view of a gasoline dispensing pump showing a hose-mounting means embodying the invention;

Fig. 2 is a small-scale exterior side-elevational view thereof;

Fig. 3 is a fragmentary sectional elevational view, taken on the line 3—3 of Fig. 2 and drawn to a larger scale, showing the mounting of the swing arm and the hose-retracting means;

Fig. 4 is a sectional plan view taken on the line 4—4 of Fig. 3;

Fig. 5 is a fragmentary cross sectional view taken on the line 5—5 of Fig. 4;

Fig. 6 is a fragmentary sectional plan view taken on the line 6—6 of Fig. 3; and

Fig. 7 is a cross sectional view taken on the line 7—7 of Fig. 3.

Referring to these drawings; Figs. 1 and 2 best show the manner in which the dispensing hose 1 is mounted on the housing of a fluid-dispensing apparatus. In this case, the apparatus, chosen as an illustrative example, is a gasoline-dispensing pump. The pump, its actuating means, the meter, the register, and various accessories are enclosed within a suitable vertically-upstanding housing. The particular housing, herein shown, includes a frame, consisting of a base 2, four corner posts 3, fixed to and upstanding from the base, and a top support 4,



which interconnects the upper ends of the corner posts and is suitably fixed thereto. This housing also includes sheathing elements such as the canopy 5, a front panel 6, a back panel 7 and side panels 8 and 9, respectively. These four panels enclose the space between the base 2 and canopy 5. Windows such as 10, are usually provided on the front and back panels 6 and 7, respectively, to enable the quantity and/or cost indications of the register to be seen.

In pumps of this type, the canopy 5 (Fig. 4) has a removable cover for closing an opening 11 that extends through it. This cover fits into a rectangular depression in the canopy and rests on a seat that emborders opening 11 and is held to such seat by series of bolts 12. This usual cover is removed and a new cover 13, which is the base plate of retrieving apparatus is provided in its place, being clamped with an intervening gasket 14 to the seat on canopy 5 by the bolts 12. Extending through the top support 4 is an opening shaped like a keyhole, having a central circular part 15 and a rectangular part 16. These openings 15 and 16 underlie the opening 11. Supported from and below this top support 4 (Fig. 3) is a junction box 17 which is a usual part of a pump of the class described. Cap screws 18 pass through support 4 and an intervening spacer sleeve 19 and thread into lugs 20 on the sides of the junction box. The latter carries sockets, such as 21, for the lamps that are used to illuminate the dials of the register. The junction box 17 also has a cover 22, containing a suitable switch which controls such lamps and which is actuated by means shown in part at 23. This junction box also has an upturned hollow boss 24, which is located coaxially of the pump housing and circular opening 15. This boss is adapted to receive a lamp socket to illuminate an advertising globe, which occasionally is mounted on the cover of the canopy. The socket-receiving opening in boss 24 is normally closed by a plug 25.

The foregoing describes one well known form of housing for a gasoline dispensing pump. One of the purposes of this invention is to mount on a housing of this, or a generally similar kind, a swinging arm carrying a retracting cable for the hose 1 and a winding drum for effecting the retraction together with a retracting means for the swinging arm. Also, the invention accomplishes this in such a manner as not to interfere with any of the usual parts that are located within the pump housing and preferably also in a manner such as to enable the invention to be applied to existing pumps in the field simply, quickly and inexpensively.

The invention has to do with a dispensing hose, which is so long that it cannot, when the apparatus is not in use, be hung up in a single loop, as is frequently done and as is shown for example in Jacobs Patent No. 2,599,556, granted June 10, 1952. The hose 1 (Fig. 2) is so long that it must be formed with a complete extra loop or coil, such as 26, between the stretch 27, which extends downwardly from the outlet near one upper corner of the side panel 9, and the stretch 28, which extends upwardly to the usual support 29 and boot 30 for the valved hose nozzle 31 that is fixed to the outlet end of hose 1. The mid-point of the hose is at the uppermost part of coil 26 and it is customary to connect to the hose at this point a clamp 32, to which is attached a flexible retracting cable 33, which extends to and into the swinging arm of this invention, as will later appear, for connection to the winding drum. The latter functions to yieldingly hold the mid-point of the hose located, as shown, enabling such point to be moved outwardly when the hose is pulled to extend its servicing range. Thus the operator may remove the nozzle 31 from its support 29 and service a car, utilizing only half of the hose (that portion between the nozzle 31 and clamp 32) or,

if the car is more remotely located, he can by pulling on the hose use some or all of the other half of the hose to get the extra length required.

The swinging arm (Figs. 3 and 4) consists of a pivoted bell-like end portion **34** in the form of an inverted cup and a radial extension **35** of channel or inverted U-shape in cross section. Conveniently, these two parts may be made as a one-piece stamping of sheet metal. The portion **34** contains a spring-actuated winding drum **36** for cable **33**. This drum is carried by, and located within, a frame (Fig. 5) of hollow rectangular form. The top and bottom end closures **37** and **38**, respectively, of drum **36** lie between the upper and lower horizontal members **39** and **40** of the rectangular frame and centrally abut these members. The upper member **39** is fixed by screws **41** to the top wall of the bell 34. The lower member **40** has fixed thereto a trunnion **42**, which is rotatably received in a sleeve bearing **43** fixed in a support **44**, which is secured by cap screws **45** to the described base plate **13** which also serves as a canopy cover. The lower member **40** rests on a thrust bearing **46**. Thus, the swinging arm is rotatably supported from the cover **13**, which in turn is fixed to the canopy **5** of the pump housing. Fixed to the lower end of trunnion **42** (Figs. 3 and 6) is a forked crank **47**, carrying a roll **48** rotatably mounted on a bolt **49**, extending through both arms of the crank. Fixed to the lower face of cover **13** is a stud **50** which carries a roll **51** held in place on the stud by a nut **52**. A coil spring **53** has loops at opposite ends, received one on roll **48** and the other on roll **51**. This spring **53** tends to hold the swinging arm in the position illustrated but enables the arm to be turned in either direction from its illustrated position through an angle of approximately 170 degrees.

Referring again to the winding drum, the upper end closure **37** interfits with the drum proper, as shown in Fig. 5, so that the closure **37** is held accurately in coaxial relation with the drum and its lower and integral end closure **38**. The end closure **37** is held to drum **36** by a series of screws **53'** (Figs. 3 and 4). These closures **37** and **38** have sleeve bearings which are rotatable on trunnion-like parts **54** projecting from the top and bottom of a central stud **55** of larger diameter. A projection **56** from the upper trunnion **54** is held in an opening in the upper frame member **39**. A downward projection **57** from the lower trunnion **54** telescopes into the above described trunnion **42** and its lower end is diametrically slotted to receive a pin **58** which is fixed at its ends in the trunnion **42**. Thus, the stud **55** is held against rotation relatively to the trunnion **42** which serves as the pivot for the swinging arm. Within the drum **36** (Fig. 4) is a spiral spring **59**, one end of which is fixed to the above described stud **55**, and the other end of which is fixed to a stud **60**, secured to and upstanding from the bottom end closure **38** of the drum. The cable **33** is suitably fixed to the drum, as by means of a cylinder **61** to which one end of the steel core **62** of the cable is suitably secured, as for example by brazing, and which is received in a cylindrical recess in the inner wall of the drum, such recess having an exit passage **63** leading to the outer periphery of drum **36**. The cable is then wound on the latter with the desired number of convolutions and then passed through the arm over suitable guides and thence downwardly to the described clamp **32**.

The guides, referred to, are shown in Figs. 3 and 4. One of these guides is a vertical roll **64** which guides the cable from drum **36** to the center of arm **35**. A bolt **65** passes through the upper wall to arm **35**, through the roll **64** and a cross bar **66**, which spans the side walls of arm **35** and is suitably fixed at its ends to such wall and the lower wall of which is engaged by a nut **67** on the bolt. The cable **33** also passes over a horizontal roll **68** which is mounted on a stud **69**, the ends of which are supported one by each of two brackets **70**, each fixed by screws **71** to the adjacent side wall of arm **35**. Nuts **72**, one on each end of stud **69**, maintain the latter in place in the brackets. The cable **33** after passing over roll **68** extends to and through an exit eye **73** (Fig. 3) which is formed in a member **74** made of molded nylon and supported in the outer end wall **75** of the swinging arm. The member **74** extends through an opening in wall **75** and has an outer circumferential flange **76** to engage the outer face of such wall and an inner circumferential flange **77**. The member **74** also passes through a collar **78** one end face of which abuts the inner face of wall **75**. A hair pin type fastener **79** (Fig. 7) engages the inner peripheral part of member **74** between the flange **77** and the inner end face of collar **78** and acts to draw the flange **76** and the inner end face of collar **78** against opposite faces of end wall **75**.

There is also provided on cable **33** a suitable stop or bumper to engage in the eye **73** and limit the extent to which the drum **36** can wind up the cable and thereby locate the clamp **32** and hose loop **26** relatively to the end panel **9** of the pump housing. As shown, this bumper consists of an inner metallic core **80** suitably fixed to the cable and a covering **81** of rubber slipped over the core after the latter has been fixed to the cable.

It will be seen that the invention provides a hose-retracting means, including a swinging arm with a retracting means therefor and a spring-actuated winding drum for the hose-retracting cable, all carried on a single base plate that can readily be applied to the top wall of a fluid dispensing apparatus. The usual housing for such apparatus has a large opening in its top wall normally closed by a cover. All that is necessary is to remove this usual cover and apply the base plate **13** as a cover to close such opening. The swinging arm and the winding drum will then be positioned above the top of the pump housing and free to swing about a vertical axis to reach all four sides of the housing. The hole **11** in the canopy **5** and the underlying key hole-shaped opening **15, 16** in the top support **4** permit free passage of the retracting spring **53** and its crank **47** into the interior of the housing where they are located in non-interfering relation with the usual parts of the dispensing apparatus that are located nearby, such for example as the junction box **17**. The invention thus provides a conversion unit that may be easily applied to existing pumps in the field to provide them with a desirable form of hose-retracting means.

What is claimed is:

1. Retrieving means for the dispensing hose of fluid dispensing apparatus of the type wherein the housing of the apparatus has an opening through its top wall adapted to be closed by a cover, a cover for closing said opening and adapted to be fixed to said top wall, a bearing fixed to said cover and having a bore extending therethrough substantially at right angles to the cover, a trunnion rotatably received in the bore of said bearing and extending above and below the same, an arm fixed at one end to the trunnion above the cover and extending radially outward therefrom, a crank fixed at one end to said trunnion below the bearing, a spring connected at one end to the other end of said crank and at the other to said cover for yieldingly holding the arm in one predetermined radial position, a spring-actuated winding drum mounted on said cover, a cable attached at one end to and in part wound upon said drum and extending from the drum outwardly along the arm to the outer end of the latter and adapted for attachment at its other end to the dispensing hose, and stops fixed one to the cable and one to said arm and abutting to limit the extent to which said cable can be retracted by said drum.

2. Retrieving means for the dispensing hose of fluid dispensing apparatus of the type wherein the housing of the apparatus has an opening through its top wall adapted to be closed by a cover, a cover for closing said opening and adapted to be fixed to said top wall, a bearing fixed to said cover and having a bore extending therethrough

substantially at right angles to the cover, a trunnion rotatably received in the bore of said bearing and extending above and below the same, an arm fixed at one end to the trunnion above the cover and extending radially outward therefrom, a crank fixed at one end to said trunnion below the bearing, a spring connected at one end to the other end of said crank and at the other to said cover for yieldingly holding the arm in one predetermined radial position, a spring-actuated winding drum carried by said arm near the inner end thereof, a cable attached at one end to and in part wound upon said drum and extending from the drum outwardly along the arm to the outer end of the latter and adapted for attachment at its other end to the dispensing hose, and stops fixed one to the cable and one to said arm and abutting to limit the extent to which said cable can be retracted by said drum.

3. The combination, as claimed in claim 2, wherein the winding drum is mounted coaxially of said trunnion.

4. The combination, as claimed in claim 2, in which the arm has an inner bell-shaped portion for housing the winding drum and a portion extending outwardly from the bell-shaped portion for conducting the hose retrieving cable, said second-named portion being of inverted U-shape in cross section.

5. The combination, as claimed in claim 4, in which the arm has an outer end wall and a member fixed therein has an eye flared at opposite ends for guiding the cable.



6. The combination, as claimed in claim 4, in which a hollow rectangular frame is located within said bell-shaped portion and rigidly connects it to said trunnion and the winding drum is located within the frame and rotatable about an upwardly extending part of the trunnion.

7. The combination, as claimed in claim 6, in which the upwardly extending part of the trunnion consists of a separate piece having upper and lower bearings for the top and bottom walls of the winding drum, an intervening anchor part for the spring of the winding drum, and a lower part telescoped into the upper part of the trunnion and having an axially-detachable coupling engagement therewith.

8. The combination, as claimed in claim 2, in which the winding drum is rotatably mounted on said trunnion.

9. The combination, as claimed in claim 2, in which the winding drum has a spiral actuating spring anchored at one end to said trunnion and at the other end to the drum.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,586,465 | Perdue | May 25, 1926 |
| 2,340,217 | Grisé | Jan. 25, 1944 |
| 2,341,532 | De Lancey | Feb. 15, 1944 |
| 2,564,623 | Harks | Aug. 14, 1951 |