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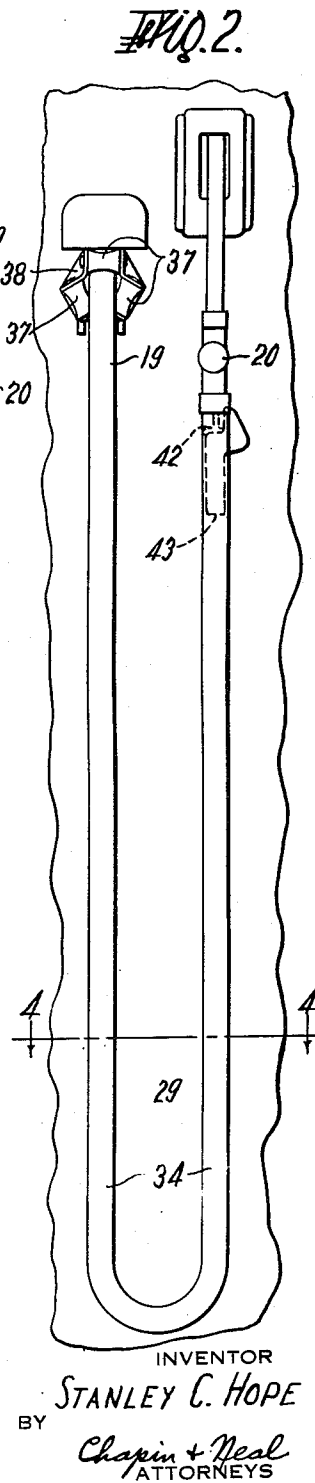
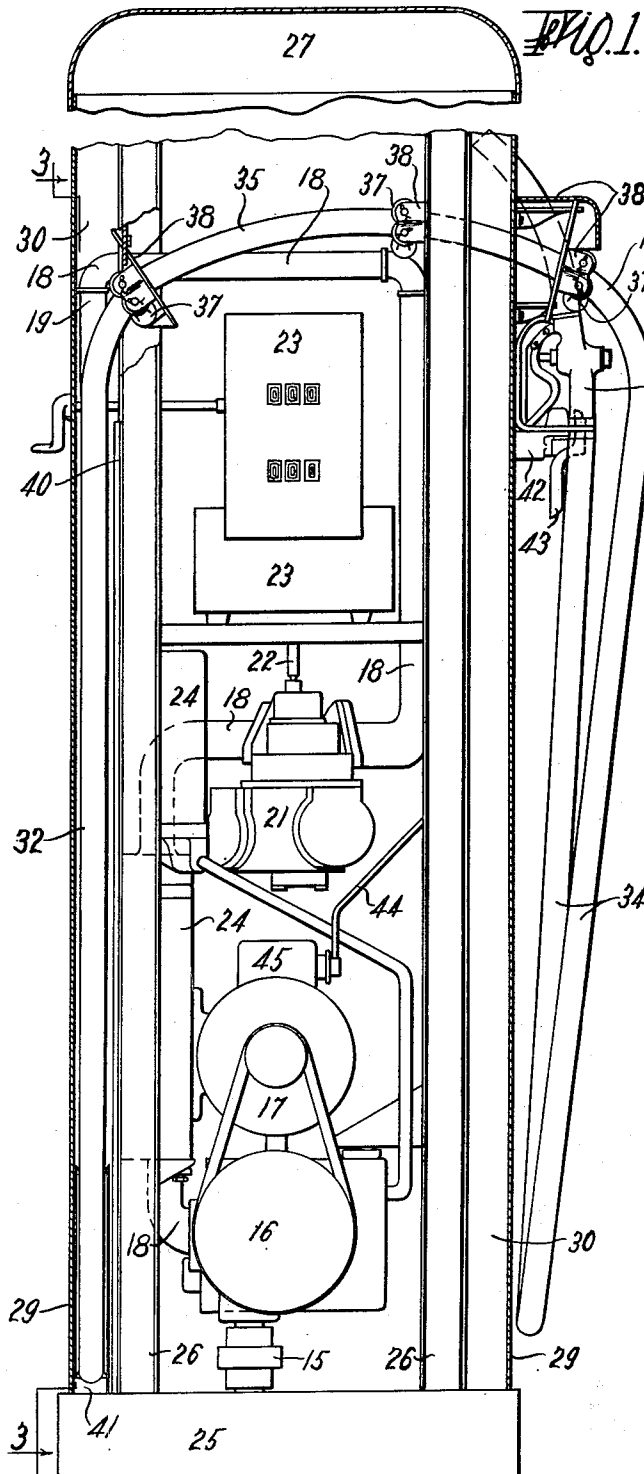
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2,225,271

FLUID DISPENSING APPARATUS

Filed May 12, 1939

2 Sheets-Sheet 1



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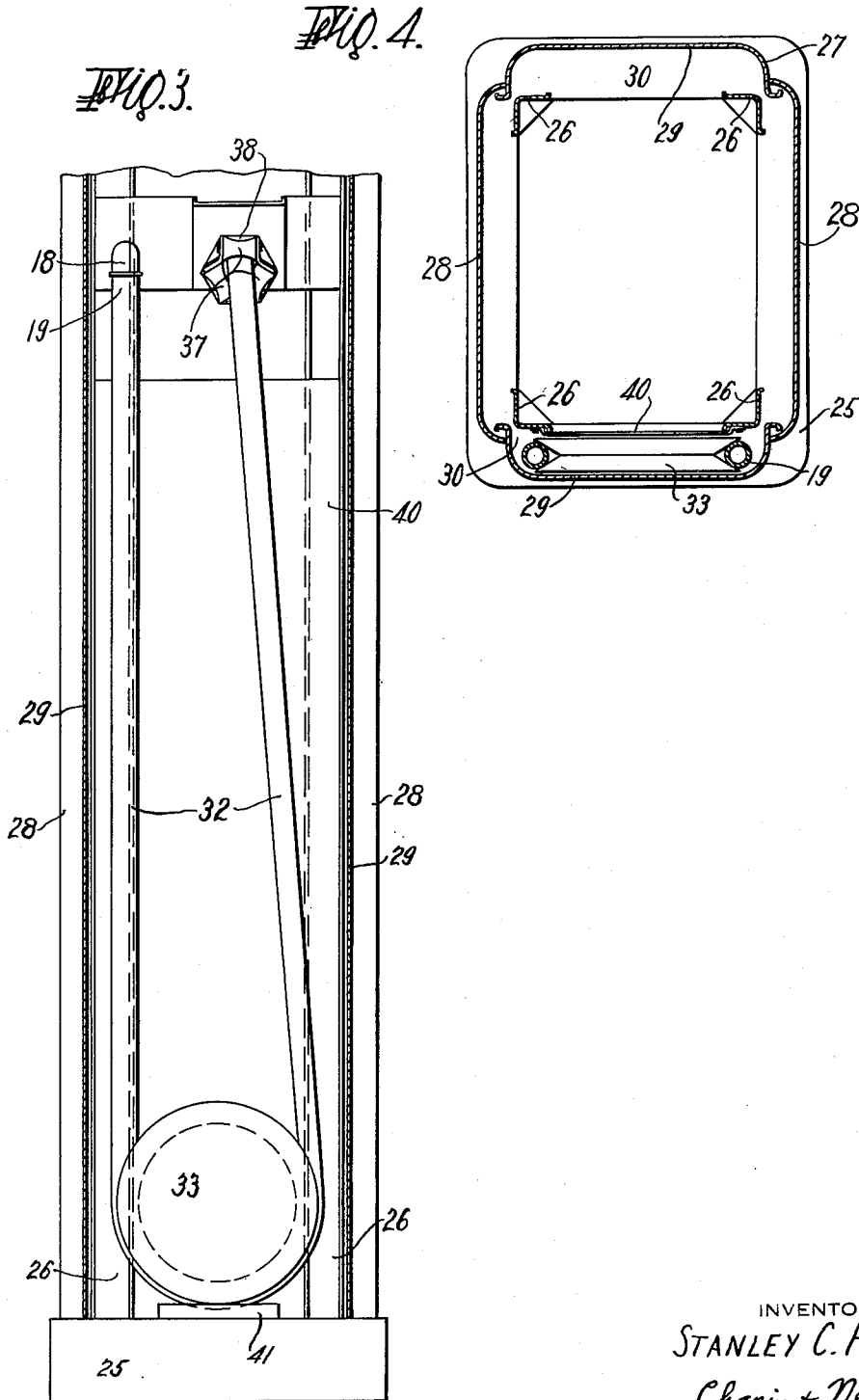
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2 Sheets-Sheet 2



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FLUID DISPENSING APPARATUS

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1 Claim. (Cl. 299—77)

This invention relates to dispensing apparatus for fluids and, while the invention is capable of general use regardless of the kind of fluid dispensed, it finds one advantageous use in connection with apparatus for dispensing measured quantities of gasoline.

A common difficulty experienced in dispensing gasoline is that the car to be served is stopped too far from the apparatus to enable it to be served by the usual length of hose, which according to usual practice is approximately ten feet long and hangs in a loop outside the casing of the pump apparatus. One solution of the difficulty is to provide an extra long hose and reel it up inside the housing of the apparatus, or otherwise store it therein, so that it may be manually withdrawn from the housing and automatically retracted, as by a spring actuating the reel to effect a winding up of the hose. This solution of the problem has the disadvantage that the housing of the apparatus needs to be made larger than usual in order to accommodate the reel or other hose-storing means. Also, the hose is stored in its entirety inside the housing, wherefore the operator has the work of withdrawing the hose against the force exerted by the wind-up means and holding it withdrawn during the entire length of each period of service.

This invention provides for a different and better solution of the problem. It has for an object a solution of the problem by the use of a length of hose which is hung up outside the housing of the apparatus in the usual way in one loop and which can be used in the ordinary way for most of the deliveries, and by storing in the housing additional hose which can be drawn out of the housing by a pull thereon, whenever an additional length of hose is necessary. The cases in which a long hose is necessary are relatively infrequent. With the described arrangement, a relatively small portion of the hose need be stored within the housing of the apparatus and this can be done without necessitating any enlargement of the housing, as will later appear.

Other objects will appear from the following description and will be pointed out in the appended claim.

The invention will be disclosed with reference to the accompanying drawings, in which:

Fig. 1 is a sectional elevational view of a gasoline dispensing apparatus embodying the invention;

Fig. 2 is a fragmentary exterior elevational view taken from the right hand side of Fig. 1;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1; and

Fig. 4 is a sectional plan view taken on the line 4—4 of Fig. 2.

In these drawings, the invention has been shown, by way of illustrative example, in connection with one well-known form of gasoline dispensing apparatus.

The dispensing apparatus, insofar as the present invention is concerned, need include no more than some means for forcing liquid from a source of supply through a metering means to a flexible hose having on its terminal end a nozzle. As shown herein, gasoline is drawn up through a suction pipe 15 (adapted for connection to an underground storage tank) by a pump 16 driven by an electric motor 17 and the liquid is forced by said pump through a discharge line which includes rigid piping 18 and a flexible hose 19, having the usual valve-controlled nozzle 20 on its delivery end. Interposed in the piping 18 is a meter 21 of any suitable form for measuring the gasoline dispensed. Such meter drives by a shaft 22 a registering means 23 of any suitable kind, for indicating the quantity and cost, either or both, of the liquid dispensed. It is usual to interpose in the piping 18 some suitable form of separator, such as 24, for freeing the gasoline from air or vapor before it reaches the meter.

The parts, above described, except for the nozzle and part of the hose, are usually housed inside a suitable casing. As shown herein, the casing comprises a base 25, four angle-iron corner posts 26, upstanding therefrom, a top or dome section 27, front and rear panels 28, and side panels 29. The panels 28 and 29 enclose the space between the base 25 and dome 27. The indications of the registering means 23 are visible through the front and rear panels 28. The motor 17, pump 16, meter 21, and separator 24 are supported in the usual or any suitable way from said corner posts 26. Usually all these elements 16, 17, 21 and 24, together with the piping 18, are located inside the rectangular area defined by the four corner posts 26. Outside this area, there is a vertical compartment 30 between each panel 29 and the adjacent pair of corner posts 26. One of these compartments is utilized in the present invention as a housing which serves to enclose part of the hose and the retrieving means associated therewith.

As shown in Fig. 1, the left hand compartment 30, or wall, is utilized to store and conceal an inner loop 32 of the flexible hose. The terminal end of the fixed discharge pipe 18 extends into

one upper corner of this compartment (Fig. 3) and is there connected to one end of hose 19. The hose extends downwardly toward the bottom of the compartment, thence around the lower part of a sheave 33 and thence upwardly to a location near the top of the registering means 23. The portion of the hose contained in said compartment forms a loop located in a vertical plane which lies approximately parallel to the vertical plane in which the usual outer loop 34 of the hose is mounted. Thus, the hose is mounted so as to present an outer and exposed loop, and an inner and concealed loop. These loops which are substantially parallel, are interconnected by a connecting part 35 which is located in a vertical plane at right angles to the two vertical planes aforesaid. The hose is guided in any suitable way, as by sets of rolls 37. The sheave 33 is vertically movable, so that by pulling outwardly on the exposed part of the hose, some of the inner and normally concealed part of the hose may be drawn out of the housing to extend the length of the outer portion of the hose. On such outward pull, the hose rides easily through the groups of guiding rolls 37 and the sheave 33 rises vertically as the inner loop becomes smaller. On release of the hose, the weight of the sheave 33 draws the hose inwardly and restores it to normal position.

The roll groups, referred to, each comprise three rolls 37 having their axes located at sixty degrees to one another and all in a common plane and equidistant from the center of the hose. Each group of rolls is supported in any suitable way in any suitable kind of bracket 38 secured to or supported from one of the corner posts 26. The sheave 33 is guided by the walls of the compartment 30,—in this case by one of the panels 29 and a plate 40 which is suitably secured to a pair of the corner posts 26, as shown. The inner loop 32 of the hose is thus stored in such a way as to be entirely separated from any of the mechanism of the dispensing apparatus and protected against all likelihood of injury.

Preferably, at the bottom of the compartment, a suitable bumper 41 is provided to limit the downward movement of sheave 33 and stop the descent of the sheave in a noiseless manner.

The hose nozzle, when not in use, is hung up on a suitable support 42 and, when thus positioned, it blocks movement of a control lever 43 from its "off" to its "on" position. Lever 43, through connections indicated in part at 44, operates the switch 45 for motor 17.

In operation, the operator proceeds in the usual

way and uses the conventional length of hose, approximately ten feet, provided by the outside loop unless and until he finds that the outside loop of hose is not long enough to reach the tank to be serviced. That is, in this particular case, he removes the nozzle 20 from its support 42, moves lever 43 to close switch 45 and start motor 17. With the piping 18 and hose 19 thus filled with liquid under pressure, he proceeds to the tank to be serviced and inserts the nozzle 20 in the filling opening of the tank, opening the valve of the nozzle and controlling the delivery by such valve. In the event the hose is not long enough for any particular delivery, the operator then pulls outwardly on the hose and draws out from the housing whatever amount is necessary for the purpose. However, it is the exceptional case when an extra length of hose is required and in most cases the operator is saved the effort, required with hose-reel dispensers, of drawing out the hose and holding it drawn out against the powerful force of the wind-up spring of the reel.

What I claim is:

Gasoline hose and hose handling apparatus of the kind and for the purpose described, comprising in combination, a long hose, a dispensing nozzle at one end and a supply pipe connected at the other end, said hose being arranged in two loops, one extending down and up from said pipe and a weighted sheave in the bight of such loop, the other loop being substantially spaced from the first one and extending down and up to said nozzle, a casing with a support for said nozzle, said casing being of a height substantially equal to the length of either loop and of a width substantially equal to the space between said loops, means forming an inside storage well with one wall of said casing and of much less width than that of the casing, said well having a width only sufficient to guide the hose loop with the weighted sheave and in the plane of that loop, the opposite wall of said casing having an opening for the hose to extend outside and adjacent said nozzle support, hose guides positioned for support of the hose portion between said loops from the top of said well and through said opening, one hose loop being a reserve loop and stored out of sight in said narrow well and the other loop being a free loop of sufficient length, approximately ten feet, to serve alone for all normal operations, and hung in full view outside said casing with the nozzle on said support when the hose is not in use.

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