Jan. 6, 1953 H H. WOLFE 2,624,616

HOSE SUPPORT FOR DISPENSING PUMPS

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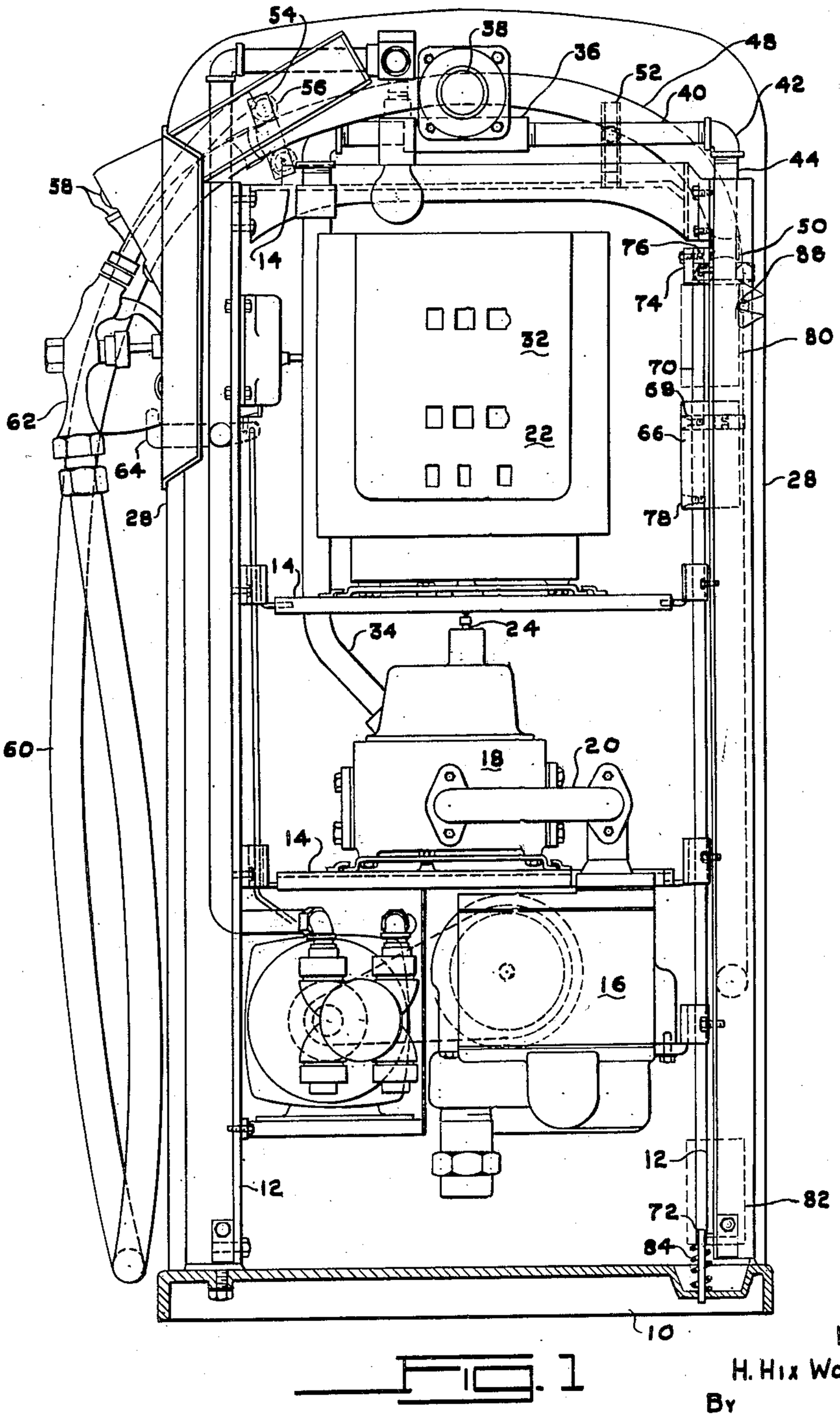

FIG. 1

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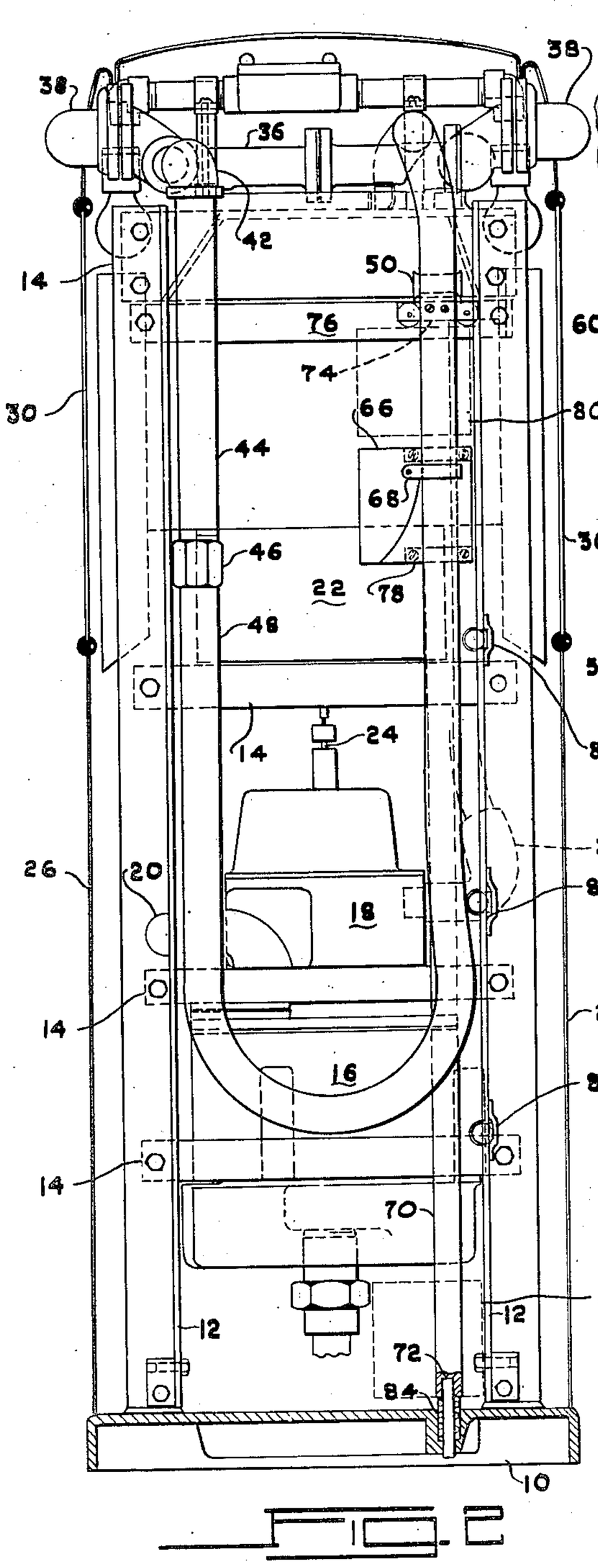

FIG. 2

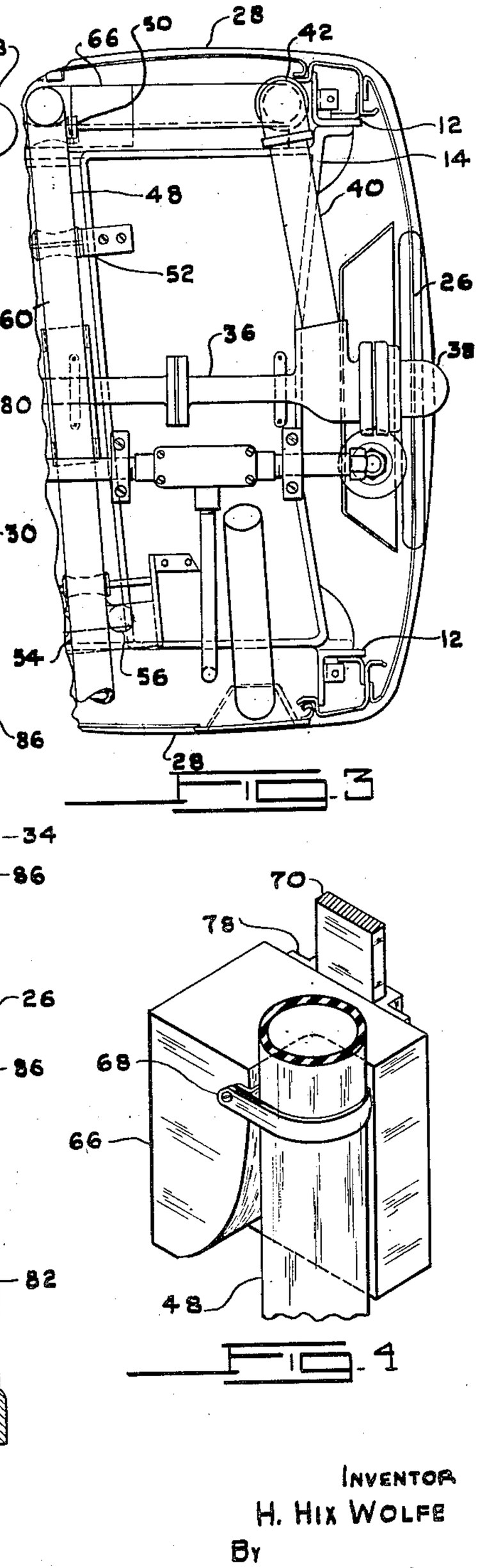

FIG. 3

FIG. 4

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HOSE SUPPORT FOR DISPENSING PUMPS

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Application January 8, 1948, Serial No. 1,135

1 Claim. (Cl. 299—77)

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This invention relates to dispensing pumps such as are employed in filling stations and the like for dispensing gasoline and similar fluids.

In particular, this invention relates to an improved means for supporting the dispensing hose of such a pump so that the effective length of the hose is substantially increased.

In most dispensing pumps the dispensing hose, which is a flexible rubberlike member, has one end secured to the fluid outlet of the pump adjacent the top thereof and at one side and has its other end connected with a nozzle which, when the pump is idle, is supported on a suitable hose hook also adjacent the top of the pump and at the same side as the aforementioned fluid outlet.

Since hoses of this nature are of rubberlike material they are subject to abrasion if they rub on concrete or on the ground. Accordingly, the effective length of a hose supported in the manner described above is that length which will hang in a loop between the fluid outlet and the nozzle when supported on the nozzle hook such that the bottom of the loop is above the ground line at the base of the pump.

Many cars, due to the location of the gas tank opening therein, and many trucks due to their construction, require a longer hose than that which can be had in connection with a pump as described above in order for the gasoline to be properly introduced into the fuel tank. In other instances, the car or truck will be driven in on the side of the dispensing pump island such that the gasoline tank opening is on the opposite side of the car from the pump. This case also requires an unusual length of hose in order properly to service the car or truck.

The primary object of the present invention is to provide a relatively simple and effective means for substantially increasing the effective length of the dispensing hose in connection with a dispensing pump such as a gasoline pump.

Another object of this invention is to provide a means for increasing the effective length of the hose of a dispensing pump and to do so without requiring any substantial redesign of the pump.

A still further object is to provide a gasoline dispensing pump having a dispensing hose wherein there is extra available length of hose which is normally retained within the casing of the pump but which can be drawn therefrom for use at any time.

A still further object is the provision of a dispensing pump having a hose which is partly coiled within the pump and in connection with which

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there are supporting and guide means such that there is little or no abrasion or wear of the hose as it is pulled from the pump.

A still further object is the provision of a dispensing pump of the computer type wherein the dispensing hose includes a coil or loop inside the dispensing pump and which coil or loop is substantially entirely available for use and without in any way conflicting with the location of the computer of the pump.

These and other objects and advantages of the present invention will become more apparent upon reference to the accompanying drawings in which:

Figure 1 is a front view of a dispensing pump constructed according to this invention with the front panel removed therefrom;

Figure 2 is a side view of the pump looking from the left side of Figure 1 and also with the near panel removed therefrom;

Figure 3 is a plan view looking down on top of the pump shown in Figures 1 and 2 and with the top panel removed; and

Figure 4 is a perspective view showing a counterweight which is connected with the hose and the manner in which it is supported on a guide bar therefor.

Referring to the drawings, the dispensing pump illustrated therein comprises a base **10** on which is supported at the corners thereof a plurality of vertically extending columns **12**. The columns **12** are interconnected at various points therealong by the several brackets and truss members **14** which support the several parts of the operating mechanism of the pump and also tend to join the columns **12** into a rigid assembly. The aforementioned several parts of the pump may include the pump proper at **16**, the meter at **18** which receives fluid from the pump proper via the conduit **20**, and the price computer and quantity indicating device **22** which is connected to be driven from the meter by the shaft **24**.

The aforementioned mechanism is enclosed by a shrouding of panels such as the front and rear panels **26**, best seen in Figures 2 and 3, and the side panels **28**, best seen in Figures 1 and 3.

In order for the computing and indicating mechanism to be clearly visible to the consumer and also to the pump operator, the front and back panels **26** have apertures therein in which are mounted the glass windows **30** and through which the faces **32** of the computing and indicating mechanism can be observed.

The aforementioned shrouding consisting of the front, back, and top panels is secured to the

frame work of the computing pump, comprising the columns 12, in any suitable manner as by screw, latch means, or any other fastening devices which will maintain the panels in position.

The meter 18 which receives fluid through the conduit 20 from the pump 16 has a discharge conduit 34 extending therefrom toward the top of the pump housing. This conduit has a connection with a cast member 36 which includes the sight glasses 38 positioned immediately above the indicating faces of the computer.

Extending from the cast member 36 is another conduit 40 which extends to one corner of the inside of the pump housing and has connected therewith an elbow 42 which turns downwardly. Secured to the elbow 42 is a short length of pipe or conduit 44 and connected to the lower end of the said conduit, as by the nut 46, is one end of a flexible dispensing hose 48. The dispensing hose 48 extends from the nut 46 downwardly and hangs in a depending loop adjacent the side wall closest to the pipe 44. The other end of the loop formed by the depending part of the hose 48 is engaged by a roller 50, which is also positioned adjacent one corner of the pump housing and on the same side thereof as the pipe 44 which forms the fluid outlet from the pumping system.

It will be apparent that the loop depending between the roller 50 and the fluid outlet is substantially parallel with the side wall 28 adjacent thereto and that the said loop thus occupies a minimum of space within the pump. Furthermore, the space in which the loop hangs is open from top to bottom of the pump as will be apparent upon reference to the drawings.

After the dispensing hose passes over the roller 50 it turns and extends across the top of the pump housing and during its travel thereover is engaged by at least one other roller as at 52.

At the side of the pump housing opposite the side thereof within which the loop of the hose hangs, there is a bracket 54 mounting a plurality of rollers 56 which are grouped around the hose and give it free running support in all directions. The hose then extends through an opening in the side wall of the pump and in passing through the said opening is engaged by still another group of rollers as at 58 which further guide the hose but at the same time permit it to be free running in its movement in and out of the pump housing.

The hose externally of the pump housing, after it has passed the roller 58, hangs in a loop as at 60 and at the free end of the hose there is secured the usual type dispensing nozzle 62.

There is provided at the side of the pump housing and adjacent the top thereof a hook member 64 adapted for supporting the hook end of the hose when not in use and this hook member may, according to practices well known in this art, be interconnected with the switch for the drive motor of the pump 16 in order to de-energize the said motor when the nozzle is placed on its supporting hook.

The arrangement described above provides for a normal length of dispensing hose externally of the pump housing so that under usual circumstances a car can be serviced merely by utilizing the length of hose contained within the loop 60. However, should extra length of hose be needed this can be acquired by pulling on the hose in order to draw it from the pump housing and to shorten the loop which is hanging within the side wall of the pump.

It will be apparent that the roller means described above permits the hose to be free running so that the extra length of hose can freely be drawn from within the pump housing.

Also, since the loop is hanging in a space which is open substantially from the top to the bottom of the pump housing, practically all of the said loop can be utilized by drawing it from the pump. This is a distinct advantage over other arrangements of the loop which might be such that the computer and indicating mechanism would limit the amount which the loop could be shortened.

It is desirable that the hose be returnable into the pump housing with a minimum of effort. Accordingly, there is provided within the pump housing a counterweight 66 which is secured to the hose on one side of the loop inside the pump housing by a clamp 68. The counterweight 66 is engaged by a flat bar 70 inside the pump housing which has its lower end supported in the base part 10 of the pump housing by means of the pin 72, and its upper part secured as at 74 to a member 76 that extends between and is secured to an adjacent pair of columns 12 at the side of the pump on which the aforementioned loop hangs.

The weight, which will be better seen in Figure 4, has a slot therein through which the bar 70 extends and a pair of straps or a plate as indicated at 78 is provided for retaining the weight and bar in engagement. The bar thus guides the weight in its vertical movements within the pump housing and prevents the said weight from turning thereby preventing twists from being thrown into the hose which would possibly cause the loop to become entangled with some of the mechanism in the pump casing.

In operation, the weight is movable from an upper position as shown by the dot-dash outline indicated at 80 in Figure 2 to a lowermost position indicated by the dot-dash outline 82 in Figure 2.

In order to cushion the weight at the lowermost point of its travel to prevent it from striking the base 10 of the pump there may be provided a resilient means such as the spring 84 which engages the said counterweight and cushions the last part of its downward travel.

Reference to Figure 2 will reveal that the bar 70 is adjacent one of the columns 12 and extends vertically through the pump housing parallel to the said column. Also, the said column has mounted thereon a plurality of rollers 86 which are vertically spaced and which are in alignment with the hose in the loop. These rollers are for the purpose of providing a friction free guide for the said loop and thus to prevent the hose from rubbing on the column or any other stationary parts of the pump and thereby wearing or abrading in use.

In Figure 1 it will be noted that there is still a further roller means provided at 88 adjacent the top of the loop on the weighted side thereof and this roller is for the purpose of preventing the hose from rubbing against the side of the pump housing as it is being returned after use should the counterweight not draw it in as fast as the pump operator returns the hose to the pump housing.

It will be apparent that this invention provides for additional length of the hose in connection with a dispensing pump and accomplishes this in an inexpensive and simple manner and without substantially altering the standard construction for such pump.

Furthermore, by locating the loop adjacent one of the side walls of the pump it is possible to provide for greater length of available hose than

would be possible if the said loop were to lie adjacent the front or back wall of the pump. At the same time sharp bends in the hose are eliminated and abrasive contact of the hose with any part of the pump housing is prevented by positioning the guide rollers along the path that the hose follows.

It will be understood that this invention is susceptible to modification in order to adapt it to different usages and conditions and, accordingly, it is desired to comprehend such modifications within this invention as may fall within the scope of the appended claim.

I claim:

In a dispensing pump, a housing enclosing a dispensing apparatus therein, a dispensing hose having its nozzle end external of said housing and its other end connected to said dispensing apparatus internally of said housing, free running roller means in said housing spaced across the top at one side for guiding said hose as it moves in and out of the housing, a dependable loop in said hose hanging inside the side wall of said housing opposite the side from which the hose extends, a block counterweight fixedly secured to said hose on the side of the loop leading to said roller means, a guide bar extending

vertically in said housing and on which said counterweight is slidably mounted for guiding said counterweight vertically while preventing rotation thereof, and a plurality of roller means in said housing spaced vertically one from the other and in alignment with the side of said depending loop leading to the first-mentioned roller means and engaged by the hose as friction free guide means for said loop during vertical movement thereof in said housing, there being a vertical frame member in the housing extending along the other side of said loop whereby the loop is constrained against swinging in said housing.

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