

March 6, 1951

E. E. EICKMEYER
HOSE FOR DISPENSING PUMP AND MEANS
FOR SUPPORTING A LOOP THEREIN
Filed Jan. 8, 1948

2,544,073

FIG. 3

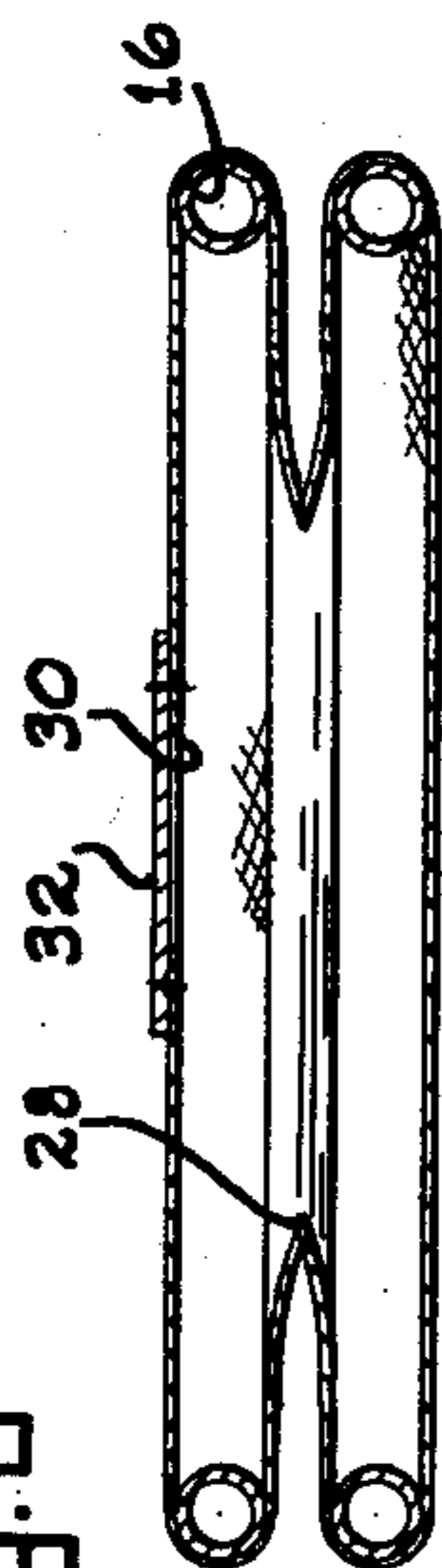


FIG. 7

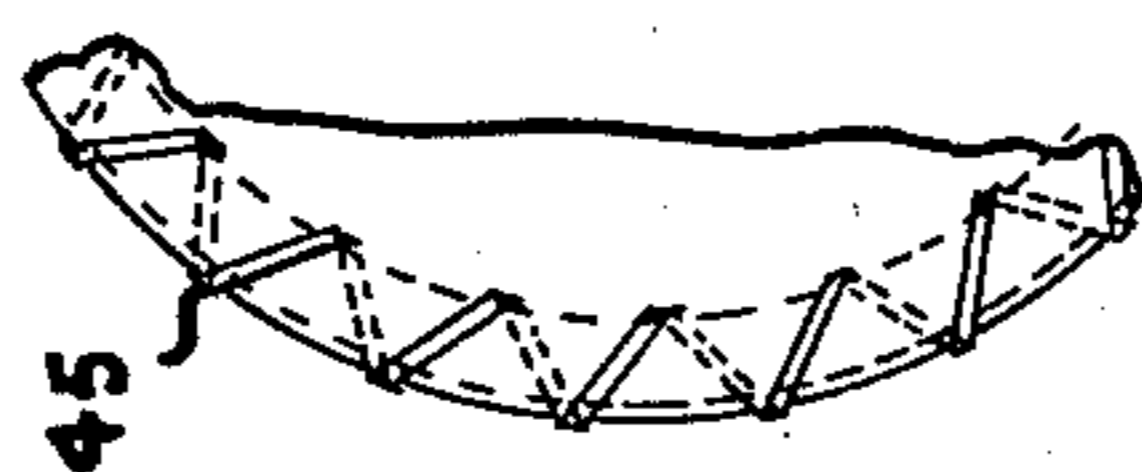


FIG. 4

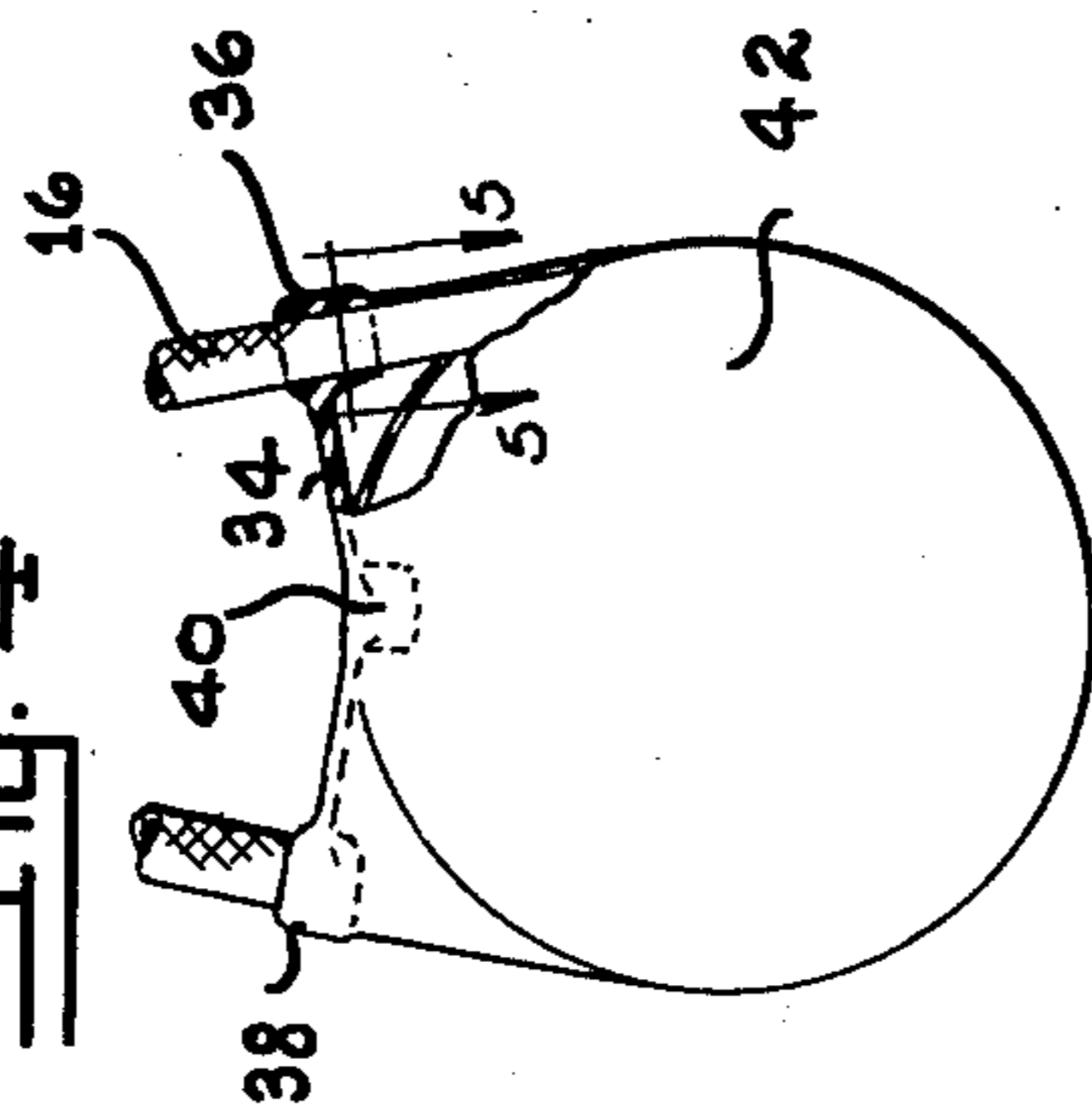


FIG. 5



FIG. 6

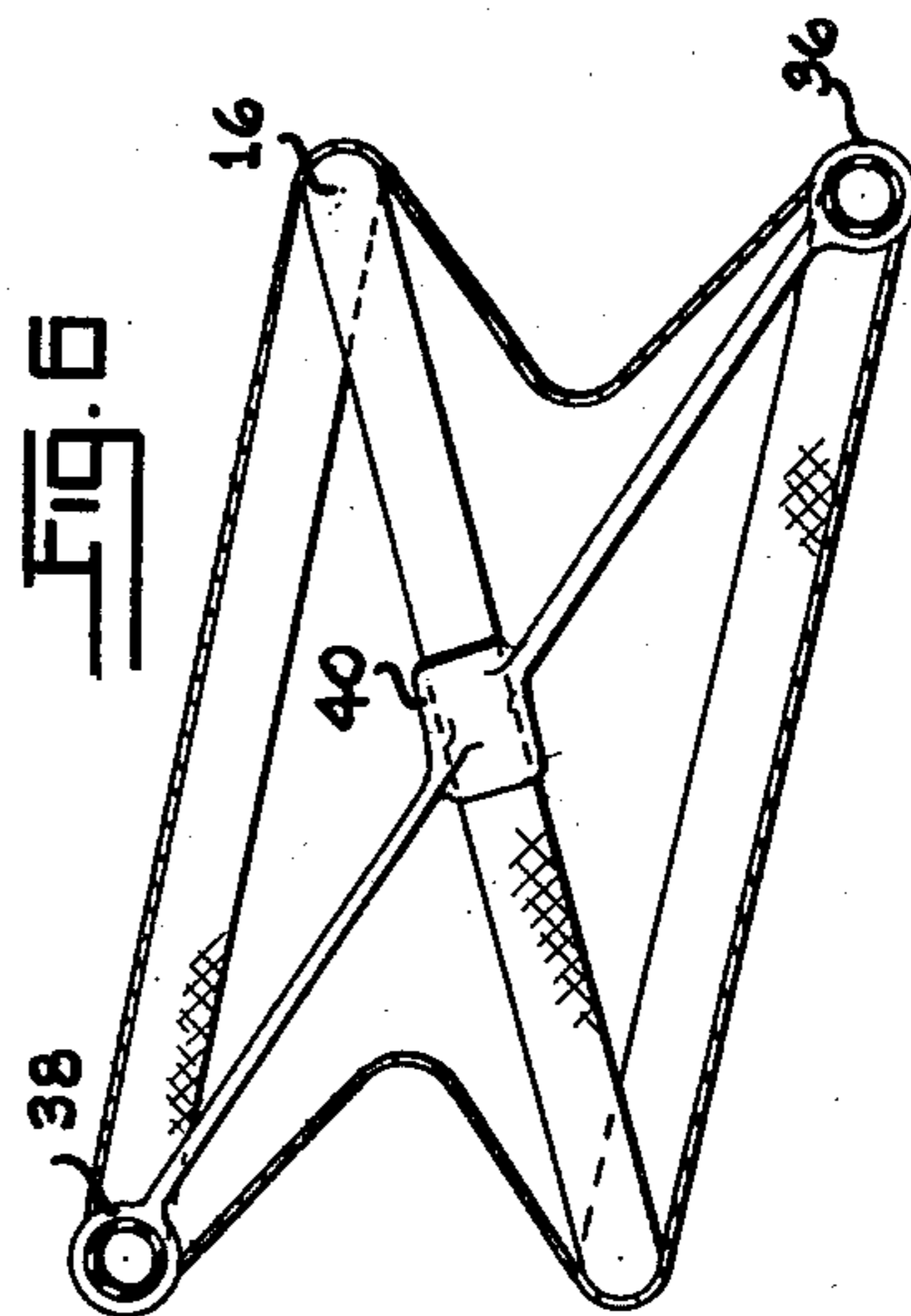


FIG. 1

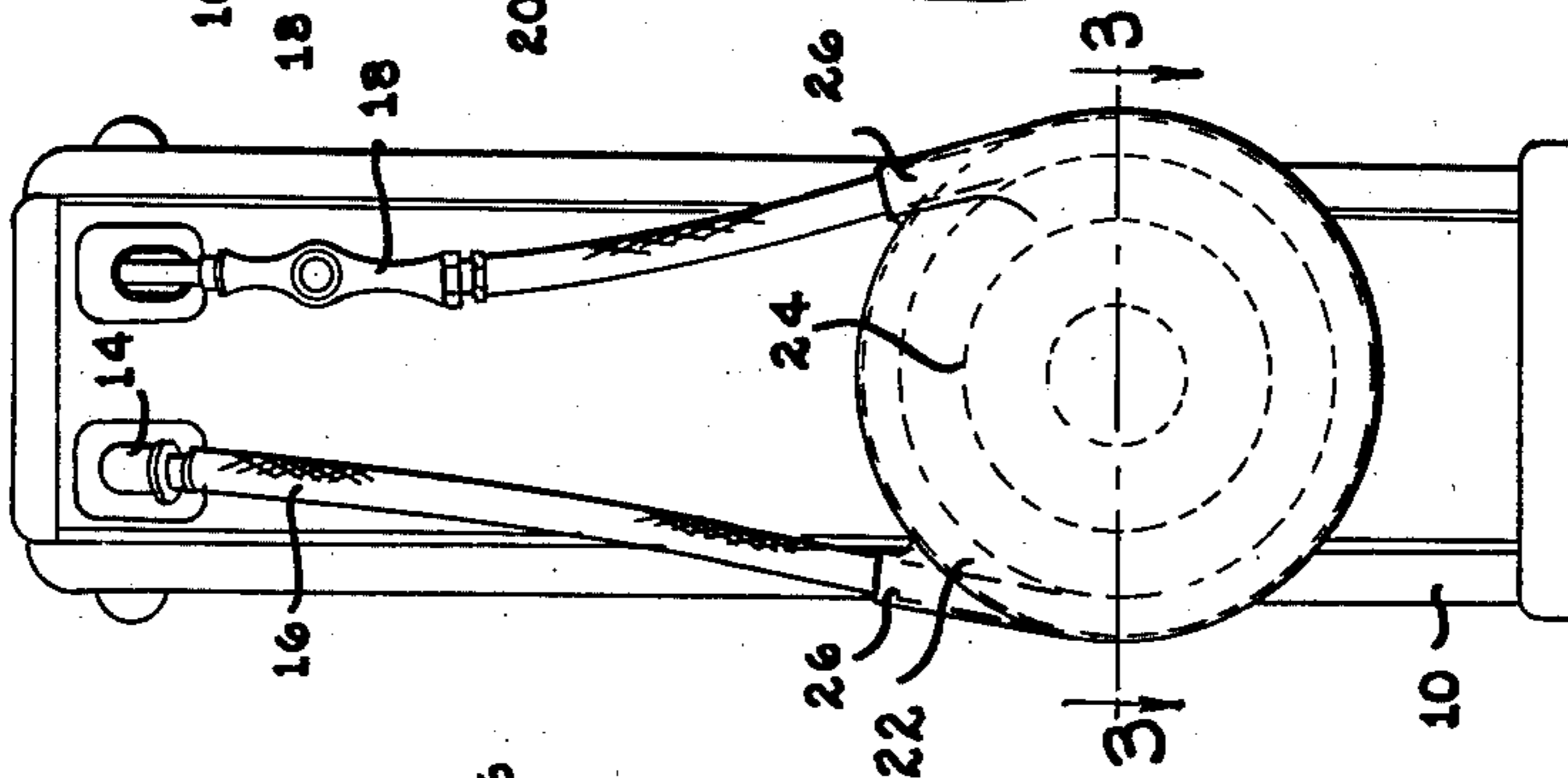
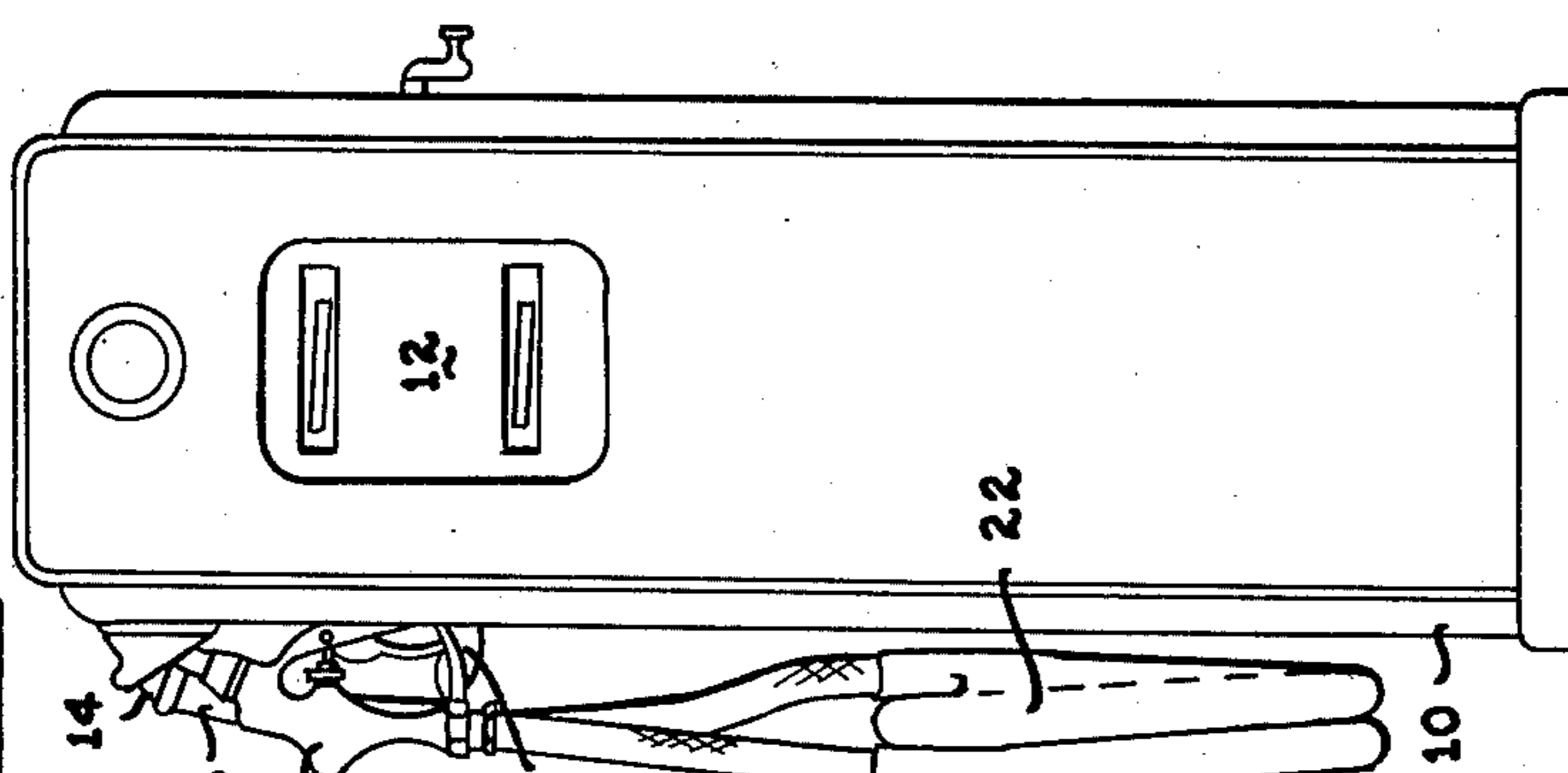


FIG. 2



BY

Inventor
EARL E. EICKMEYER
Toulmin & Toulmin
Attorneys

UNITED STATES PATENT OFFICE

2,544,073

HOSE FOR DISPENSING PUMP AND MEANS
FOR SUPPORTING A LOOP THEREINEarl E. Eickmeyer, Dayton, Ohio, assignor to The
Dayton Pump and Manufacturing Company,
Dayton, Ohio, a corporation of Ohio

Application January 8, 1948, Serial No. 1,096

7 Claims. (Cl. 138—61)

1

This invention relates to dispensing pumps of the type used in filling stations for dispensing gasoline and the like, and in particular relates to an improved arrangement for increasing the effective length of the dispensing hose for such a pump.

In most dispensing pumps the effective length of hose is that which will hang in a single loop between the fluid outlet for the pump and a hook provided on the pump for supporting the hose nozzle when not in use.

Modern types of pumps are considerably shorter than they were formerly due to improved design thereof and more compact internal mechanisms, and thus the length of hose which can be supported on a modern type pump in this manner has become substantially shorter than could formerly be provided. Due to this fact it is often found that the length of hose on the dispensing pump is not sufficient adequately to service cars and trucks.

Some types of pumps have been produced which attempt to overcome this difficulty by providing for an extra length of hose inside the pump arrangement to be counterbalanced or rolled up on a reel when not in use, and while such devices are usually satisfactory they nevertheless involve considerable expense and afford no relief for the owner of pumping equipment not adapted for being so converted.

Among other suggested manners of providing for the additional length of hose required is that of supporting one or more convolutions or coils in the hose between its connection with the pump and the nozzle hook. An arrangement of this nature is satisfactory but ordinarily requires a specially constructed hose having internal wires or spring members which will normally support the aforementioned convolutions or coils when the hose is hanging on the pump and yet permit the hose to be extended to substantially its maximum length to be used. Due to the fact that special manufacturing techniques are required for producing a hose having a spring integral therewith, the cost of such a hose is considerably greater than of an equivalent length of standard hose.

The primary object of the present invention is to provide a means for increasing the effective length of a dispensing hose on a dispensing type pump and to do so by utilizing standard hose construction.

A still further object of this invention is to provide a simple and inexpensive means for increasing the effective length of the hose on a dis-

2

pensing pump and to do so without requiring any redesigning of the internal mechanism of the pump.

A still further object of this invention is to provide a means for supporting one or more coils or convolutions in the flexible dispensing hose of a dispensing pump and to maintain the said coils protected from injury at all times.

A still further object is a means for increasing the effective length of a flexible dispensing hose such that one or more coils or convolutions are maintained in the hose when not in use but which may readily be pulled out to a substantially uncoiled position when it is desired to use the hose.

These and other objects and advantages will become more apparent upon reference to the following description taken in connection with the accompanying drawings in which:

Figure 1 is a side view of a typical dispensing pump looking from the hose side thereof and showing a dispensing hose constructed according to this invention;

Figure 2 is a view looking from the right side of Figure 1 and shows the appearance of the hose from the front side of the pump;

Figure 3 is a plan section indicated by the line 3—3 on Figure 1 and shows the convolutions in the hose and the shroud member therefor according to this invention;

Figure 4 is a fragmentary front view similar to Figure 1 and showing a modified form of coil supporting device according to this invention;

Figure 5 is a fragmentary section indicated by the line 5—5 on Figure 4 and showing one manner of clamping the coil supporting device of this invention to the hose;

Figure 6 is a plan section similar to Figure 3 but showing the device of Figure 4 in partially extended position;

Figure 7 is a fragmentary view showing one manner of securing the hose to the shrouding member along its entire enclosed length.

Referring to the drawings, Figures 1 and 2 illustrate a dispensing pump 10 which includes an indicator panel 12 for indicating the quantity of fluid dispensed and the cost thereof, and having a fluid outlet at 14 to which a flexible dispensing hose 16 is connected. The end of the said hose opposite its connection with the outlet 14 carries a nozzle 18 which, when it is not in use, is retained in position on the pump by hanging it on a hose hook 20.

According to this invention it is desired to increase materially the effective length of hose which hangs between the outlet 14 and the nozzle

3

hook 20. To accomplish this object of the invention the hose hangs in one or more coils or convolutions as indicated at 22.

Due to the weight of the hose and its relatively stiff nature, it is necessary to provide some support to the portion of the hose which is so coiled. According to this invention the support for the hose is accomplished by placing around the coil part thereof a shroudlike member 24. This shroudlike member is of rubberlike material and is highly flexible so that the coil can be substantially straightened out when it is desired to extend the hose for use. The enclosure or shroud 24 is secured to the portions of the hose leading from the coil therein as by the extended parts 26 which surround the said portions of the hose and are secured thereto either by clamping, tying or cementing.

In order to increase the flexibility of the diaphragm like enclosure or shroud 24, it preferably has pleats therein as indicated at 28 in Figure 3. These pleats extend inwardly of the periphery of the coil in the hose and between the convolutions thereof and permit easy extension of the hose when it is desired to use the same but at the same time provide adequate support for the coil in the hose.

Preferably, the rubberlike member includes an opening as at 30 in the back thereof and this may be closed by a flexible cover member 32 cemented or laced in place in order to exclude atmosphere and moisture from inside the shroud member.

It will be understood that the shroud member could be made from suitably shaped parts cemented together or could be formed as an integral unit, whichever method of manufacture happened to be the most applicable to the particular form of shroud desired.

In connection with very heavy or stiff hose it may be necessary to provide auxiliary support for the coil therein in addition to that provided by the shroud. To this end, the construction illustrated in Figure 4 may be employed wherein there is shown a flexible extensible member as at 34 which has its ends secured to the portions of the hose leading away from the coil therein as at 36 and 38 and its intermediate part secured to the center of the top of the coil between the said parts as at 40. This flexible extensible member may include any type of spring means such as the rubberlike device illustrated and is sufficiently yielding to permit the coils of the hose to be straightened out for use while providing adequate support for the said coil when the hose is hanging on the nozzle hook.

The extensible supporting member 34 may be utilized alone for supporting the coil or it may be employed in connection with a shroud as at 42 which is similar to or identical with that illustrated in Figures 1 through 3.

Suitable means are provided for clamping the parts 36, 38, 40 to the adjacent part of the hose and one means of accomplishing this is illustrated in Figure 5 wherein there is shown a metallic clamp 44 molded integral with that portion of the flexible member which passes around the dispensing hose. In connection with the clamp 44 a screw 46 is sufficient to provide for a secure connection between the flexible member and the dispensing hose. It will be understood that other means of attaching the flexible member to the hose could be employed if desired.

Reference may be had to Figure 6 in order to determine the manner of operation of the device

4

illustrated in Figure 4. In Figure 6 the coils of the hose are shown as partly straightened out as occurs when the nozzle is removed from the nozzle hook and drawn away from the pump to a usable position.

It will be noted in Figure 6 that the flexible member 34 stretches freely thereby permitting the coils to at least partially straighten out while at the same time the connection of the said member with the center part of the intermediate convolution of the coil supports it so that it does not drag on the ground. Simultaneously with the stretching of the member 34 the shroud 42 expands as shown in Figure 6.

It will be apparent from the foregoing that while it may not be possible to completely straighten out the hose in order to use all of the length thereof, it is possible to utilize the greatest portion of the hose length.

Due to the fact that the number of convolutions which can be supported in the hose coil are not limited, substantially any length of hose can be made available by employing this invention. Thus, if a single convolution in the coil were not sufficient, then two or three convolutions could be supported therein and combined give as great an effective length of hose as necessary.

Due to the fact that at certain times the hose will be extended far enough to substantially straighten out the coil therein, it may be desirable to secure the hose to the rubberlike shroud surrounding the coil substantially the entire length of the hose. This may be accomplished by any of several attaching means and one thereof is illustrated in Figure 7 wherein the lace 45 winds around the hose and is laced through the periphery of the shroud. In this manner any slipping between the hose and the shroud is eliminated and when the hose is returned to its idle position the coil will be properly supported therein.

Among other advantages this invention permits adaptation of standard equipment to an installation requiring an unusually long hose length, permits the use of standard and inexpensive hose, and protects the coil supported in the hose against the weather and also from injury by preventing the said coil from snagging on car bumpers and the like.

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 claims.

I claim:

1. In combination with a dispensing pump, a flexible dispensing hose, and means yieldably supporting at least the middle part of said hose in a coil comprising a rubberlike shroud enclosing the said coil and secured to the parts of the hose extending away from said coil.

2. In combination with a dispensing pump, a flexible dispensing hose, means yieldably supporting at least the middle part of said hose in a coil comprising a rubberlike shroud enclosing the said coil and secured to at least the parts of the hose leading away from said coil, and an auxiliary yielding means extending between the said parts of the hose and secured intermediate the said parts to the center part of said coil.

3. In combination with a dispensing pump having a flexible dispensing hose, means for yieldably supporting at least the middle part of said hose in a coil comprising a rubberlike shroud enclosing the said coil and secured at least to

5

the parts of the hose leading away from said coil, and an auxiliary resilient member extending between the parts of the hose leading away from said coil and also secured intermediate its ends to the center part of said coil.

4. In combination with a dispensing pump having a fluid outlet and a nozzle hook adjacent the top end thereof, a flexible dispensing hose having one end connected with said outlet and having a nozzle on its other end adapted for being supported by said hook, and means for retaining a coil in the part of the hose suspended between said outlet and hook comprising, a pleated diaphragm-like enclosure member passing around the said coil, said diaphragm member having a connection with the parts of said hose extending from said coil and being resilient to permit said hose to be extended for use.

5. In combination with the flexible hose of a dispensing pump, a rubberlike enclosure substantially circular in cross section and adapted for receiving therein coils of said hose, means securing said hose to said enclosure at least at the point of emergence therefrom of said hose, and pleats in said enclosure extending inwardly between the convolutions of said coil to give the said coil greater flexibility when pulled out for use.

6. In combination with the flexible hose of a dispensing pump, a rubberlike enclosure sub-

6

stantially circular in cross section and adapted for receiving therein coils of said hose, pleats in said enclosure extending inwardly between adjacent of the convolutions of said coil to give said hose greater flexibility when pulled out for use, and means securing said hose to said enclosure along the entire enclosed length of said hose thereby to prevent shifting of the hose in the enclosure when said hose is extended for use.

7. In combination with the flexible hose of a dispensing pump, means for supporting a coil in said hose when suspended from its ends, said means comprising an extensible means having its ends secured to the parts of the hose leading away from said coil and its middle part secured to said hose at the top of said coil and a thin rubberlike shroud enclosing said coil.

EARL E. EICKMEYER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
D. 147,402	Ferguson	Sept. 2, 1947
2,032,753	James	Mar. 3, 1936
2,160,240	Wallace et al.	May 30, 1939
2,277,864	Horvath	Mar. 31, 1942