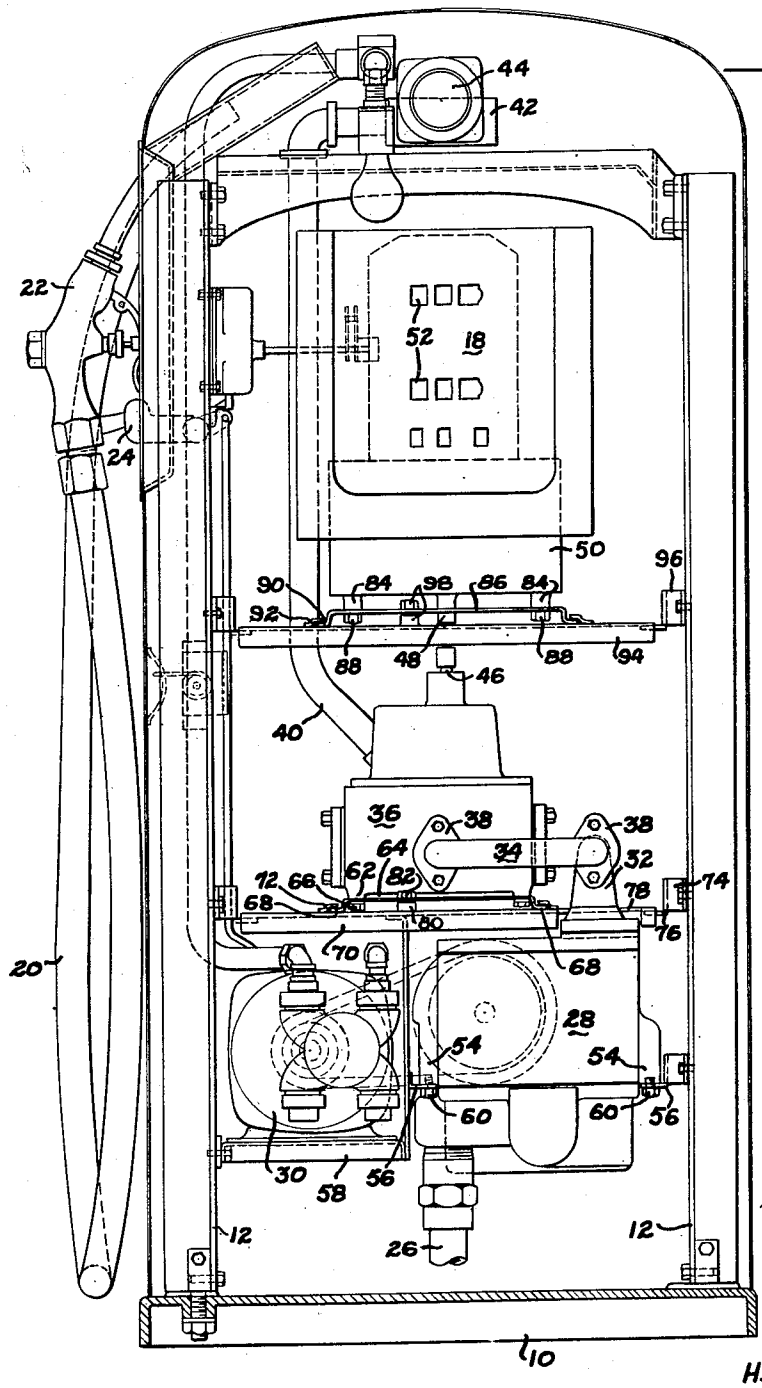
March 17, 1953 H H. WOLFE 2,631,754

MOUNTING MEANS FOR LIQUID DISPENSING DEVICE AUXILIARIES

Filed Jan. 21, 1948 2 SHEETS—SHEET 1

FIG. 1



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FIG. 2

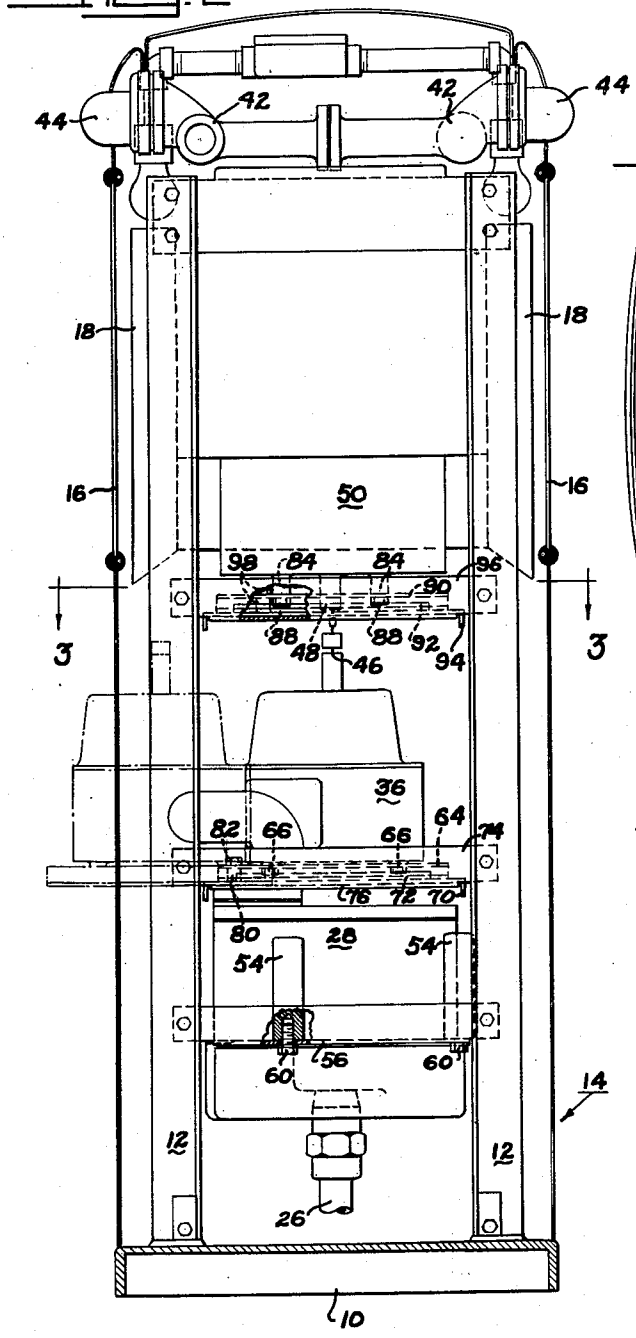


FIG. 3

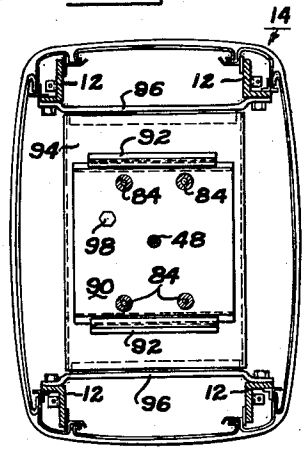
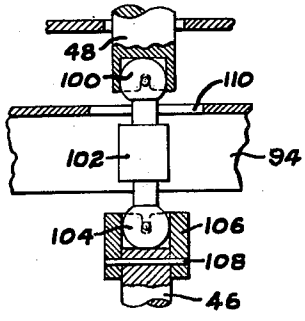


FIG. 4



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MOUNTING MEANS FOR LIQUID DISPENSING DEVICE AUXILIARIES

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5 Claims. (Cl. 222—28)

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This invention relates to dispensing pumps and particularly to dispensing pumps of the type employed in service stations and which include a pumping mechanism, a meter connected to receive the fluid flow from said pumping mechanism, and a computer connected to be driven by the meter and arranged to indicate the quantity and price of the delivered fluid.

Pumps of the type referred to above are generally arranged with the pumping mechanism and drive motor therefor mounted in the bottom of the pump housing and with the meter placed thereabove and operatively connected with the computer and indicator which is mounted in the top of the pump casing.

The pumps are generally quite compact and there is little waste space within the pump housing. Accordingly, the computer, meter and pump, when mounted in the pump housing, are difficult to service due to lack of working space.

Also, these auxiliaries generally have mounting feet or projecting bosses thereon by means of which they are secured to the supporting frame work of the housing. These mounting feet or bosses make the removal of the auxiliaries difficult because the said auxiliaries must be lifted from the supporting frame work when they are to be removed from the pump housing. This operation is especially difficult when the pump assembly becomes compact and the various parts are closely arranged therein.

According to this invention the foregoing difficulty in connection with the assembly and servicing of metering and computing pumps is eliminated by a novel arrangement wherein the several pump components are slidably mounted in the pump housing.

The primary object of this invention is to provide a dispensing and computing pumping mechanism which is easier to assemble and service.

Another object of this invention is the elimination from dispensing and computing pumps, and similar mechanisms, of the usual type of supporting means for the several auxiliaries of the pump, such as the pump proper, the meter, and the indicating computer.

A still further object is the provision of an improved supporting means for the several auxiliaries of a computing-dispensing pump such that the said auxiliaries will be positively aligned within the pump frame when secured therein.

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:

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Figure 1 is a view looking at the indicating side of a typical dispensing pump and with the front panel removed;

Figure 2 is a view looking at the pump illustrated in Figure 1 from the right side thereof and with the near panel removed;

Figure 3 is a plan view indicated by the line 3—3 on Figure 2 and showing more in detail the improved supporting means for the pump auxiliaries according to this invention; and

Figure 4 is a somewhat enlarged view showing the removable drive connection employed for connecting the computer with the output shaft of the meter.

Referring to the drawings, a pump adapted to be arranged according to this invention may comprise a base member 10 and secured to the said base member and upstanding therefrom are a plurality of angles 12 forming corner posts for the supporting frame work for the pump. A housing comprising a plurality of front, side and top panels as generally indicated at 14 is mounted about the frame work and may be supported thereby in any suitable manner.

The front and back panels as indicated in Figure 2 may comprise windows 16 through which the indicating faces as at 18 of the computer and indicator may be viewed.

Suspended from one side of the pump is a flexible dispensing hose 20 which may include a nozzle 22 on the free end thereof and which normally is suspended on a hose hook as indicated at 24.

The pump comprises an inlet pipe 26 which leads to a pumping mechanism 28 which is arranged to be driven by an electric motor 30. The pump has a discharge at 32 which is connected by a conduit 34 with a meter 36. The conduit 34 preferably includes the flanged connectors at 38 which can be disconnected thereby to separate the meter and pump if so desired.

The discharge side of the meter is connected by a conduit 40 which leads upwardly within the frame of the pump to a casting member 42 which in turn is connected by means of a conduit, not shown, with the stationary end of the dispensing hose 20. The cast member may include sight glass elements 44 which are arranged, as shown, above each of the indicator faces 18.

The meter 36 has an output shaft 46 which rotates at a speed corresponding to the rate of fluid flow through the meter. This shaft is connected with an input shaft 48 for the computing device 50 which is arranged to have indicating

dials projecting through the windows 52 in the indicator faces 18.

The internal construction of the pump meter and computer form no particular part of the present invention and they are therefore shown in elevation and without any detail construction.

Each of the foregoing auxiliaries is subject to being serviced at periodic intervals and accordingly it is desirable that they be easily removable from the pump frame. Accordingly, the pumping mechanism 28 has the laterally projecting parts 54 which rest on guides or angle members 56 which extend across the pump frame from front to back thereof. The guide member 56 at the right side of the pump in Figure 1 is supported between the corner posts 12 at that side of the pump, while the guide member 56 at the left side of the meter in Figure 1 is carried on a frame work 58 which is connected with the side posts 12 at the other side of the pump and which forms a mounting platform for the drive motor 30.

The pump 28 is rigidly connected with the guide members 56 by means of the cap screws 60 which pass through the said guides and into threaded bores in the laterally projecting parts 54 of the pump frame. It will be apparent that if the cap screws 60 are removed the pump 28 can be removed from the pump frame by sliding it in a horizontal direction off the guide members 56.

Turning now to the meter 36, it will be observed that the said meter has projecting from the bottom thereof a plurality of bosses 62 which rest on a tray or platform 64 and which are secured thereto by the cap screws 66 passing through the platform and into the said bosses. The tray or platform 64 extends the width of the meter 36 and has laterally projecting feet or skid portions 68 thereon. These skid parts rest on a fixed platform or shelf 70 and are slidable beneath the cleats 72. The arrangement thus provides for a guide by means of which the meter can be placed in the pump frame or removed therefrom by sliding it in a horizontal plane.

The fixed platform 70 comprises a plate having the front and back edges thereof turned down for the purpose of giving it rigidity and extending from side to side within the corner posts 12 of the pump frame. The said platform is supported on the corner posts by the bracket members 74 which extend between the corner posts at the side of the pump frame and have the turned under lips 76 which engage the underneath side of the platform 70 on each side thereof. The shelf or platform 70 is preferably cut out as at 78 to provide a recess within which the outlet fitting 32 of the pump 28 can be received.

It is to be noted that the outlet fitting 32 of the pump is positioned to one side of the meter so that the meter can be inserted in the pump frame and removed therefrom without interfering with the pump in any manner whatever.

For rigidly clamping the meter in position there may be a boss 80 secured to the upper side of the shelf 70 and a cap screw 82 passing through the tray 64 and into the boss 80. In this manner the position of the meter on the shelf or platform 70 can be definitely fixed. This provides for rigid alignment of the said meter with the pumping mechanism and when both have been placed on their corresponding guide members and clamped thereto the standard interconnecting conduit member 34 can be employed for effecting fluid connection therebetween.

Turning now to the computer mechanism 50,

it will be seen that this auxiliary, similarly to the meter 36, comprises dependant boss members 84 which rest on a tray 86 and which are secured to the said tray by the cap screws 88. The tray 86 comprises the laterally extending skid parts 90 receivable beneath the guide members 92 which are mounted on the upper side of a shelf or platform 94 carried in the pump frame by the bracket members 96 which correspond to the bracket members 74 associated with the shelf 70.

Also, a clamping and aligning boss and cap screw 98 are employed whereby the position of the computer on its shelf is definitely fixed. It will be apparent that once the meter and computing devices are mounted on their corresponding shelves and clamped thereto by their corresponding clamping screws, a connection can be made between the output shaft of the meter and the input shaft of the computer. The means for effecting this connection is illustrated in Figure 4 wherein it will be seen that the input shaft 48 of the computing device has a slotted end thereon into which extends the ball and pin fitting 100. The ball and pin fitting is a part of a shaft 102 which has a similar ball and pin fitting 104 at its lower end. The ball and pin fitting at the lower end engages a slotted sleeve 106 which is pinned to the output shaft 46 of the meter by a pin 108. By removing the pin 108 the sleeve 106 can be moved downwardly over the meter shaft and thereby release the shaft 102 so that the meter and computer can be disconnected. A clearance hole 110 in the shelf 94 provides for sufficient space for easily installing or removing the shaft 102.

From the foregoing description of the structural arrangement of this invention it becomes apparent that each of the pump auxiliaries comprising the pump 28, meter 36, and computing device 50, are mounted in the frame of the pump on a slide arrangement so that they can be placed in the pump by a sliding motion from one side thereof. Also, each of these auxiliaries can be removed from the pump frame by disconnecting it from its associated auxiliary and unclamping it from its supporting shelf and removing it by a horizontal sliding motion. This eliminates lifting and supporting these heavy units during their placement within the pump frame or their removal therefrom.

Also, and especially in connection with the indicating device or the meter, the auxiliaries can be loosened from their supporting shelves and partially removed from the pump as indicated by the dot-dash outline for the meter in Figure 2 whereby they are in position to be more easily serviced. This facilitates the servicing of the devices so that they can be restored to service much more quickly in case repairs are needed.

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 a dispensing apparatus, a substantially rectangular housing, a frame inside said housing, said frame comprising corner posts, a pair of vertically spaced horizontally extending shelves in said frame carried between and secured to said posts, spaced guide channels extending across said shelves and opening toward each other, a meter and a computer for said dispensing apparatus, said meter having an output shaft and said computer having an input shaft,

trays having laterally extending skid portions receivable in said channels and secured to said meter and computer, and means connecting said shafts with each other to drive said input shaft by said output shaft, said means including an aligning means for clamping said trays in a predetermined position on their corresponding shelves.

2. In a dispensing apparatus, a substantially rectangular housing including a frame inside of said housing, said frame having spaced corner posts, a pair of vertically spaced horizontally extending shelves in said frame carried between and secured to said posts, spaced guide channels extending across said shelves and opening toward each other, a meter and a computer for said dispensing apparatus, said meter and computer each having a shaft connected therewith, trays having laterally extending skid portions receivable in said channels and secured to said meter and computer, means for aligning said shafts with each other and for clamping said trays in position on their corresponding shelves whereby an operative connection can be made between said shafts, a fluid pump removably connected to said meter, and spaced guides for slidably receiving said fluid pump, said guides and said channels all extending across said frame in the same direction.

3. A dispensing apparatus comprising a substantially rectangular housing, a frame in the housing having spaced corner posts, a pair of vertically spaced horizontally extending shelves in said frame carried between and secured to said posts, a meter on one of said shelves and a computer on the other of said shelves, a driving shaft connected to said meter and a driven shaft connected to said computer, means for removably and slidably mounting said meter and computer on their respective shelves, means for securing said meter and computer on their respective shelves in a predetermined position, means for connecting and disconnecting said shafts, said connecting means being operative when said shelves are in said predetermined position.

4. A dispensing apparatus comprising a substantially rectangular housing, a frame in the housing having spaced corner posts, a horizontally extending shelf in said frame carried between and secured to said posts, a meter on said shelf, said meter having an inlet conduit connected thereto, and means for slidably and removably mounting said meter on said shaft, a

pump positioned adjacent to said meter and removably mounted to said corner posts, a discharge conduit connected to the output of said pump, means for securing said meter in a predetermined position to said shaft and means for connecting and disconnecting said conduits, said conduits being in the connected position when said meter is in said predetermined position.

5. A dispensing apparatus comprising a substantially rectangular housing, a frame in the housing having spaced corner posts, a pair of vertically spaced horizontally extending shelves in said frame carried between and secured to said posts, a meter on one of said shelves and a computer on the other of said shelves, a driving shaft connected to said meter and a driven shaft connected to said computer, means for removably and slidably mounting said meter and computer on their respective shelves, means for securing said meter and computer on their respective shelves in a predetermined position, means for connecting and disconnecting said shafts, said connecting means being operative when said shelves are in said predetermined position, a pump positioned adjacent to said meter and removably mounted to said corner posts, an inlet conduit connected to said meter, a discharge conduit connected to the output of said pump, means for connecting and disconnecting said conduits, said conduit connecting means being operative when said meter is in said predetermied position.

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