Aug. 29, 1950 L. MARCHESE 2,520,847

GASOLINE PUMP HOUSING FOR MOUNTING MOVING SIGN MECHANISMS

Filed April 1, 1949 2 Sheets-Sheet 1

Fig. 1.

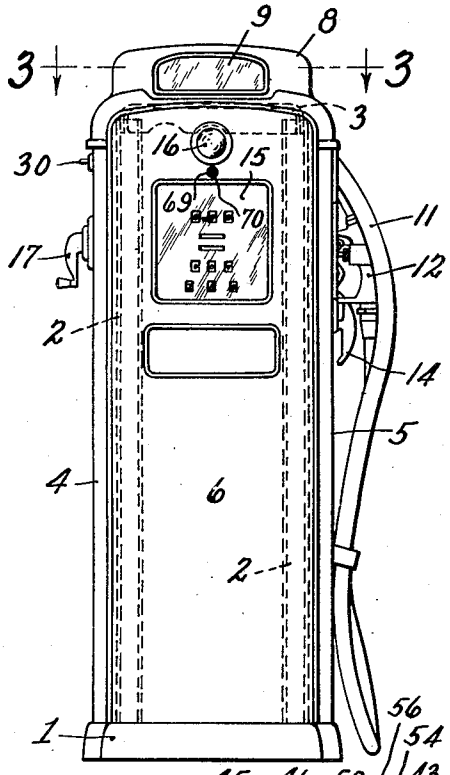


Fig. 2.

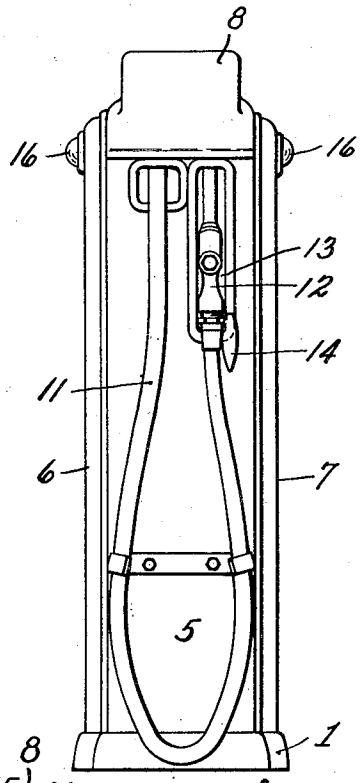


Fig. 4.

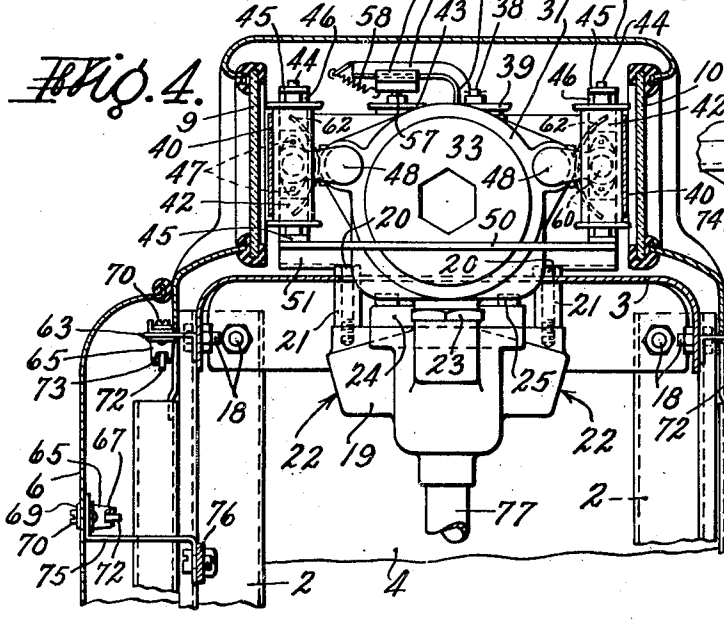
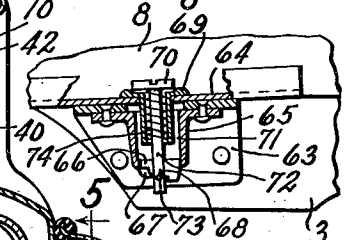


Fig. 5.



INVENTOR
LAWRENCE MARCHESE
BY Clapp & Neal
ATTORNEYS

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Fig. 3.

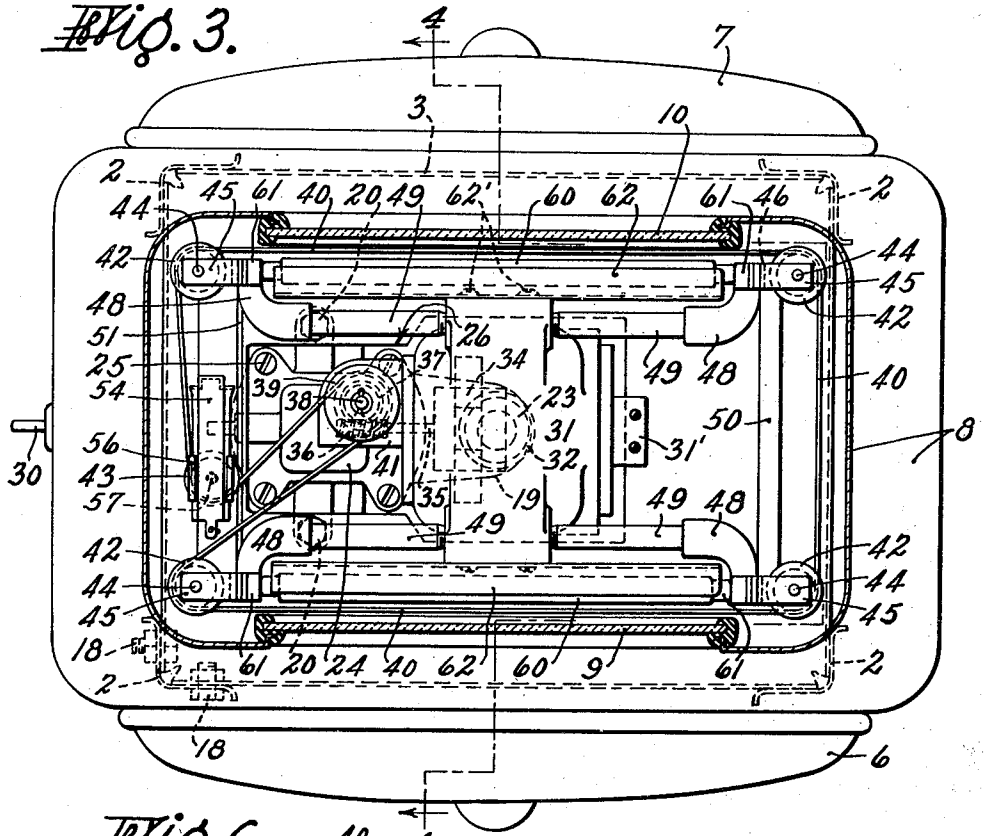
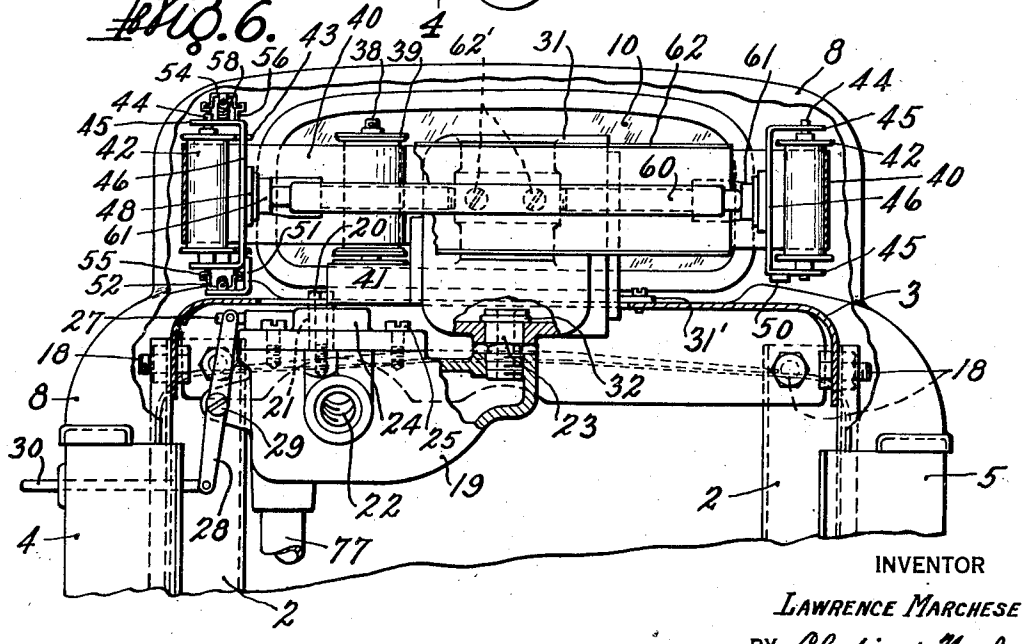


Fig. 6.



INVENTOR

LAWRENCE MARCHESE

BY Chapin & Neal

ATTORNEYS

Patented Aug. 29, 1950 2,520,847

UNITED STATES PATENT OFFICE

2,520,847

GASOLINE PUMP HOUSING FOR MOUNTING MOVING SIGN MECHANISMS

Lawrence Marchese, Springfield, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts

Application April 1, 1949, Serial No. 84,814

5 Claims. (Cl. 40—32)

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This invention relates to improvements in the housings of gasoline measuring and dispensing pumps for enabling the use therein of movable advertising signs in a safe and satisfactory manner.

Since advertising signs of the class referred to, involve an electric motor to drive the endless perforated belt, which forms the moving sign, and electric lamps to emit light through the perforations of the belt, they present a fire hazard, when used in a gasoline dispenser, unless mounted and installed in a special manner to secure safety.

This invention has for its object the location of the moving sign mechanism above the highest point in the conduit system, through which gasoline is dispensed, and, more particularly, in the space provided within a canopy, which surmounts the frame of the pump housing.

Another object of the invention is to support the entire moving sign mechanism from a socket of a junction box, which forms part of the electrical conduit system of the gasoline dispenser, with the electrical supply wires for the lamps and motor of the moving sign mechanism extending through the supporting means for the mechanism and through chambers and passages in the supporting frame of such mechanism so as to be sealed up in gas tight fashion.

A further object of the invention is to provide for the mounting of the moving sign mechanism within a canopy, which surmounts the cap member of the pump housing frame, and also for the quick and convenient removal and replacement of the canopy by means of quick-acting fasteners which connect the canopy to the frame.

These objects will best be understood from the following description of one illustrative example of the invention in the accompanying drawings, in which:

Figs. 1 and 2 are front and side elevational views, respectively, of a gasoline dispensing pump housing embodying the invention;

Fig. 3 is a sectional plan view, taken on the line 3—3 of Fig. 1 and drawn to a larger scale;

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

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

Fig. 6 is a fragmentary front elevational view with parts broken away and parts in section to reveal interior construction.

Referring to these drawings; there is shown in Figs. 1 and 2 a well known form of gasoline measuring and dispensing pump. This pump includes, as a supporting framework for the measuring and

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dispensing means, a substantially rectangular base 1; four angle iron columns 2, upstanding in parallel relation from, and located one near each corner of, the base 1 (see Fig. 3) and a cap 3, which interconnects the four columns 2 and ties them together near their upper ends. The space within these several frame members is enclosed by two side panels 4 and 5, which are each suitably fixed to the adjacent pair of columns 2, and front and rear panels 6 and 7, respectively, which are mounted for convenient removal. A canopy 8 surmounts the structure described, having ends which are supported from the upper edges of the side panels 4 and 5 (Fig. 6). The intermediate parts of the canopy enclose a space above cap 3 in which the moving sign mechanism, to be later described, is located. This moving sign may be observed through front and rear windows 9 and 10, respectively, provided in the front and rear walls, respectively, of the canopy.

The measuring and dispensing mechanism is contained, for the most part, inside the housing described. The dispensing hose 11 extends outside the housing and has the usual valve-controlled nozzle 12 (Fig. 1) on its outlet end. The hose is hung in a loop (Fig. 2) adjacent panel 5 with its nozzle hung on a suitable support provided at the bottom of recess 13. A handle 14 is provided adjacent the nozzle support to control the starting and stopping of the dispensing pump. The register, which shows the cost and quantity of the liquid dispensed, has its dial located adjacent a window 15 (Fig. 1) in front panel 6 and a similar window is usually provided for the same purpose in rear panel 7. A visible discharge indicator is shown at 16 and a crank for resetting the register at 17. The construction of the dispensing pump may, for one example, be as disclosed in the copending application of Herman O. Grimmeisen, Serial No. 752,964, filed June 6, 1947, and owned by the assignee of this invention. Reference to said application is made for a more complete disclosure of the liquid measuring and dispensing mechanism, if such is necessary or desired.

From Fig. 3, it will be seen that the cap 3 closely fits at its four corners in the angles of the four columns 2. This cap (Fig. 3) has a substantially rectangular top, disposed horizontally (Fig. 6), and side and end flanges (Figs. 4 and 6), which depend from the top and are secured to the columns 2 by bolts 18. Beneath this cap 3 is a junction box 19 (Figs. 4 and 6), which is secured to the cap by screws 20 and tubular spacers 21. This junction box has sockets 22 on opposite sides

thereof (one socket is shown in Fig. 6) for receiving the lamps used for illuminating the dials of the register and, usually also, an upstanding socket in its upper wall with its vertical axis located coincident with the central vertical axis of the pump housing. Such upstanding socket formerly carried a lamp, used to illuminate a glass globe, mounted on top of the pump housing. In this case, the last-named socket is omitted and the threaded lower end of a sleeve 23 is screwed into the opening formerly occupied by such socket. The junction box has a cover 24, secured to the box 19 by screws 25, which are accessible through a hole 26 (Fig. 3) provided in cap 3. The cover 24 contains a switch, which has a slidable actuating plunger 27, the outer end of which is pivotally connected to the upper end of a lever 28, which is pivoted intermediate its ends on a stud 29 to the junction box 19 and has its lower end pivotally connected to a plunger 30. The latter extends outside the pump housing through the panel 4 in position for convenient actuation.

The moving sign mechanism is entirely supported from the junction box 19. Such mechanism includes a central housing 31 (Figs. 3 and 4), having in its base an opening to receive and closely fit the smooth cylindrical part of the described sleeve 23 which projects above the junction box. A snap ring 32 fits into a circumferential groove near the upper end of sleeve 23 to hold the housing 31 in place. This housing has a substantially square lower end, which extends through a hole in cap 3. A plate 31' (Figs. 3 and 6), bolted to cap 3, engages one of the sides of the housing 31 and prevents it from turning on sleeve 23. The housing has in one end wall a removable, circular, threaded plug 33 (Fig. 4), normally closing a large opening through which access may be had to the interior of the housing. Within this housing (Fig. 3) is an electric motor 34, having a drive shaft 35, on the outer end of which is fixed a worm 36. The latter drives a worm gear 37, fixed on the lower end of a vertical spindle 38, on which is fixed the driving roll 39 for the moving sign 40. The worm and gear are located in a hollow gear case 41 extending laterally from housing 40.

The moving sign 40, which may be a paper band, perforated to spell out the desired message, is trained over four corner rolls 42, a take-up roll 43 and the driving roll 39, as best shown in Fig. 3. Each corner roll 42 is mounted on a spindle 44 (Fig. 6), which in turn is rotatably mounted near its upper and lower ends in the upper and lower ears 45 of a yoke. The cross member of the yoke is shown at 46 and it is secured by screws 47 (Fig. 4) to a hollow elbow-like fitting 48, threaded on the outer end of a conduit 49 (Fig. 3). The other end of each conduit is threaded into the hollow housing 31. The lower ears 45 of the two right hand rolls 42 (Figs. 3 and 4), are interconnected by a flat bar 50 suitably secured at its ends, as by welding, one to each ear. The other pair of yokes are interconnected by an angle iron 51, the vertical leg (Fig. 6) of which abuts, and is welded near its upper end to, the back 46 of the yoke. The horizontal leg of this angle iron carries a yoke which supports the take-up roll 43. This yoke is generally U-shaped and has one horizontal leg 52 (Fig. 6) resting on the horizontal leg of the angle iron 51 and suitably secured thereto. The cross bar 53 of this yoke rises vertically (Fig. 4) from the lower leg 52 and, extending from the upper end of the cross bar is the other horizontal leg 54. The yoke has the channel-shaped section shown in Fig. 6. Slidably mounted on channel-shaped parts 52 and 54 are slides 55 and 56, respectively, which support the lower and upper ends of the spindle 57 of take-up roll 43. A spring 58 (Fig. 4), connects the bearing 56 to one end of arm 54 and it is to be understood that a similar spring (not shown) similarly connects the lower bearing 55 to one end of arm 52, so that the roll 43 is pulled downwardly (as viewed in Fig. 3) to tension the sign band 40.

The moving sign, or so much of it as appears behind the windows 9 and 10, is illuminated by two fluorescent tubes 60, extending parallel to the windows and each located on the opposite side of the band 40 from the adjacent window. Each tube is received at its ends in two confronting sockets 61, formed one on each of two elbows 48. A reflector 62 is provided adjacent each tube 60 and is secured by screws 62' (Fig. 6) to an adjacent side wall of housing 31.

The canopy 8 is held to the frame of the pump housing by quick-releasable means so that the canopy may easily and quickly be removed, whenever necessary, as for example when changing signs. For example, the cap 3 (Fig. 4) may have fixed thereto, one to each of two opposite sides thereof, angle irons 63 carrying fastening elements for co-operation with other fastening elements on an overlying flange 64 of hood 8. Each fastening element on the angle iron 63 consists of a hollow cylindrical socket 65 (Fig. 5) open at its upper end and having in its lower end wall a diametrical slot 66. From each end of this slot, extends a cam 67 of about 90 degrees extent and just beyond the high point of each cam is a recess 68. The fastener element on the canopy 8 consists of a ferrule 69 to receive a head 70, which has a screw driver slot therein, and a depending cylindrical socket 71 through which extends a stem 72, integral with head 70 and having on its lower end a cross pin 73. A spring 74 within the socket 71 tends to elevate head 70 and draw up stem 72 until arrested by the abutment of the cross pin 73 with the bottom wall of socket 65. When the canopy 8 is placed in position with its flanges 64 resting on the horizontal legs of angle irons 63, the sockets 71 will enter the sockets 65 and the stems 72 will be held elevated by the springs 74. Each head 70 is then turned with a screw driver and downward pressure is applied thereto. Hence, when the cross pin 73 moves into registration with slot 66, it will be pushed through the slot and its ends will lie adjacent the low parts of the two cams 67. Then, as the stem is turned, these ends of the cross pin will ride up the cams, drawing stem 72 downwardly until the head 70 rests on ferrule 69, when the pins reach the high parts of the cams. Then, by turning stem 72 a slight amount further, the ends of the cross pin 73 will drop into the recesses 68 and be held therein, whereby the pin will be held against retrograde movement and the two parts 63 and 64 locked together.

The front and rear panels 6 and 7, respectively, are also held in place by quick-acting fasteners, which may be similar to those described as indicated in Fig. 4 in connection with the panel 6. The ferrule 69, head 70, socket 71, pin 72 and spring 74 are carried by the front panel 6 and the socket 65, with its cams 67, is fastened to the vertical leg of an angle iron 75, fixed to a cross bar 76, which spans a pair of angle irons 2 and is secured at its ends thereto. It is understood

that similar fastening means are provided for the panel 7 although not shown in Fig. 4.

In applying the moving sign mechanism to the pump, the front and rear panels 6 and 7, respectively, are removed, as well as the canopy 8. The sleeve 23 is fixed in the junction box and a pair of wires from the latter extend upwardly through the sleeve and project beyond the upper end thereof. Then, the moving sign mechanism, complete as one unit, except that the band 40 and the plug 33 are removed, is put in place by sliding the hollow hub on the bottom of casing 31 over the upwardly projecting end of sleeve 23. The snap ring 32 is then applied to sleeve 23 to hold the casing against vertical displacement. The wires from the junction box 19 are connected to the proper wires within casing 31, working through the large opening in the casing and then plug 33 is applied to close such opening. Then, the plate 31' is bolted to cap 3 to hold casing 31 from turning. The particular moving sign 40 desired is then trained over the rolls 39, 42 and 43, while the takeup roll 43 is drawn back (upwardly as viewed in Fig. 3) to permit. The assembly of the moving sign mechanism is then complete. The canopy 8 is replaced and locked by the quick-acting fasteners described. Then, the front and rear panels 6 and 7, respectively, are put in place and locked by similar fasteners.

Whenever it is desired to change signs, the panels 6 and 7 and canopy 8 may be easily and rapidly removed because each is held in place by quick-acting fasteners, such as described. With the canopy 8 removed, the complete moving sign mechanism is exposed and the old sign 40 can be quickly removed and replaced by another sign.

If it is necessary to service the moving sign mechanism, this can be done readily by removing plug 33, disconnecting the wires from the junction box 19, removing snap ring 32 and removing plate 31; after which the moving sign mechanism may be lifted from the pump, taken to a convenient place for servicing and then replaced as above described. Replacement of an old mechanism by a new one may readily be made in the same manner.

The moving sign mechanism has all its electrical connections enclosed in gas-tight enclosures, such as the elbows 48, conduits 49, and casing 31. The latter may also house the ballast means for the fluorescent tubes 60. The pump has its own gas-tight conduit system, shown in part by the conduit 77 (Fig. 6), for the lighting circuits of the pump. This conduit terminates at the junction box 19. By supporting the moving sign mechanism by means of its central casing 31 from the junction box 19, as described, a gas-tight connection may be made between the box and casing. Hence, the moving sign mechanism may be applied to a gasoline pump in a safe manner such as to eliminate any fire hazard.

The moving sign mechanism unit per se forms no part of the present invention, which is based on the mounting of such unit, or another equivalent unit in the manner and at the location described.

The motor 34, and the fluorescent tubes 60, or other lighting means, may be controlled by means of the switch-actuating plunger 30 by using inside the cover 24 of the junction box 19 a special multiple-position switch, which in one position will light the dial lamps in sockets 22, and in another position will start motor 34 and illuminate tubes 60, without lighting the dial lamps, and in another position will light the dial lamps and the fluorescent tubes and start the motor and in still another position will stop the motor and extinguish the dial lamps and fluorescent tubes. Optionally, a switch may be used which will start the motor and illuminate tubes 60 coincidentally with the lighting of the dial lamps.

The invention provides for the location of the moving sign mechanism above the highest point in the conduit system through which the gasoline is dispensed. The visible discharge indicators 16 constitute the highest point in such system and these are located below cap 3 and thus below the moving sign mechanism. Since gasoline vapors fall in air, any vapors escaping cannot reach the space within which the moving sign mechanism is mounted.

Thus, I have provided an improvement in gasoline dispensing and measuring pump housings which enables moving sign mechanisms to be used therein safely and satisfactorily and in a manner enabling quick and convenient access to the mechanism for changing signs or other purposes.

I claim:

1. In a housing for a dispensing pump, a frame having a base, opposed pairs of columns upstanding from the base, and a cap rigidly interconnecting said columns near their upper ends; side panels and front and rear panels enclosing the space between the cap and base; a canopy surmounting the cap and having a top wall spaced vertically above the cap and side and end walls extending from the top wall to the cap, a window in at least one of said side walls, a moving sign mechanism mounted in the space between the top portion of the canopy and said cap and between the side and end walls of the canopy, the moving sign of said mechanism traveling in back of said window and parallel therewith, and quick-detachable means for holding the canopy to said frame and enabling quick and convenient removal of the canopy to gain access to said mechanism for changing the sign thereof.

2. In a housing for a dispensing pump, a frame having a base, opposed pairs of columns upstanding from the base, and a cap rigidly interconnecting the columns near their upper ends; a pair of side panels one connected to each pair of columns and enclosing the space between such pair of columns and the base and cap, a canopy surmounting the cap and having end portions resting on top of the side panels, said canopy having a top portion intermediate its ends disposed in vertically spaced relation with the cap and opposed side portions, a window in at least one of said side portions, a moving sign mechanism mounted in the space within the canopy and above said cap with its sign movable in back and closely adjacent said window, quick-detachable means for holding said canopy to said frame and enabling quick and convenient removal thereof to gain access to said mechanism for changing the sign thereof, front and back panels enclosing the space between the end panels and the sides of the canopy and base, the front and back panels covering said holding means, and quick-detachable means for holding the front and back panels to said frame.

3. In a housing for a dispensing pump, a frame having a base, opposed pairs of columns upstanding from the base, and a cap rigidly interconnecting said columns near their upper ends; side panels and front and rear panels enclosing the space between the cap and base; a canopy sur-

mounting the cap and having a top wall spaced vertically above the cap and side and end walls extending from the top wall to the cap, a window in at least one of said side walls, a junction box forming part of the electrical conduit system for illuminating the housing and supported from said frame, said box having an upstanding socket, and a moving sign mechanism supported from said socket with its sign traveling in back and parallel with said window.

4. In a housing for a dispensing pump, a frame having a base, opposed pairs of columns upstanding from the base, and a cap rigidly interconnecting said columns near their upper ends; side panels and front and rear panels enclosing the space between the cap and base; a canopy surmounting the cap and having a top wall spaced vertically above the cap and side and end walls extending from the top wall to the cap, a window in at least one of said side walls, an illuminating system for the housing including a conduit and a junction box fixed thereto and supported from said frame, said box having a vertically upstanding socket located centrally of and at about the same level as the cap; and a moving sign mechanism including motor, pulleys, sign band, and lamps, all mounted on a single frame having a depending hollow sleeve fitting said socket.

5. In a housing for a dispensing pump, a frame having a base, opposed pairs of columns upstanding from the base, and a cap rigidly interconnecting said columns near their upper ends; side panels and front and rear panels enclosing the space between the cap and base; a canopy surmounting the cap and having a top wall spaced vertically above the cap and side and end walls extending from the top wall to the cap, a window in at least one of said side walls, and a moving sign mechanism mounted in the space between the top portion of the canopy and said cap and between the side and end walls of the canopy, the moving sign of said mechanism traveling in back of said window and parallel therewith.

LAWRENCE MARCHESE.

No references cited.