July 5, 1966 I. V. K. HOTT ETAL 3,258,920

LIFT INSTALLATION

Filed May 10, 1963 3 Sheets-Sheet 1

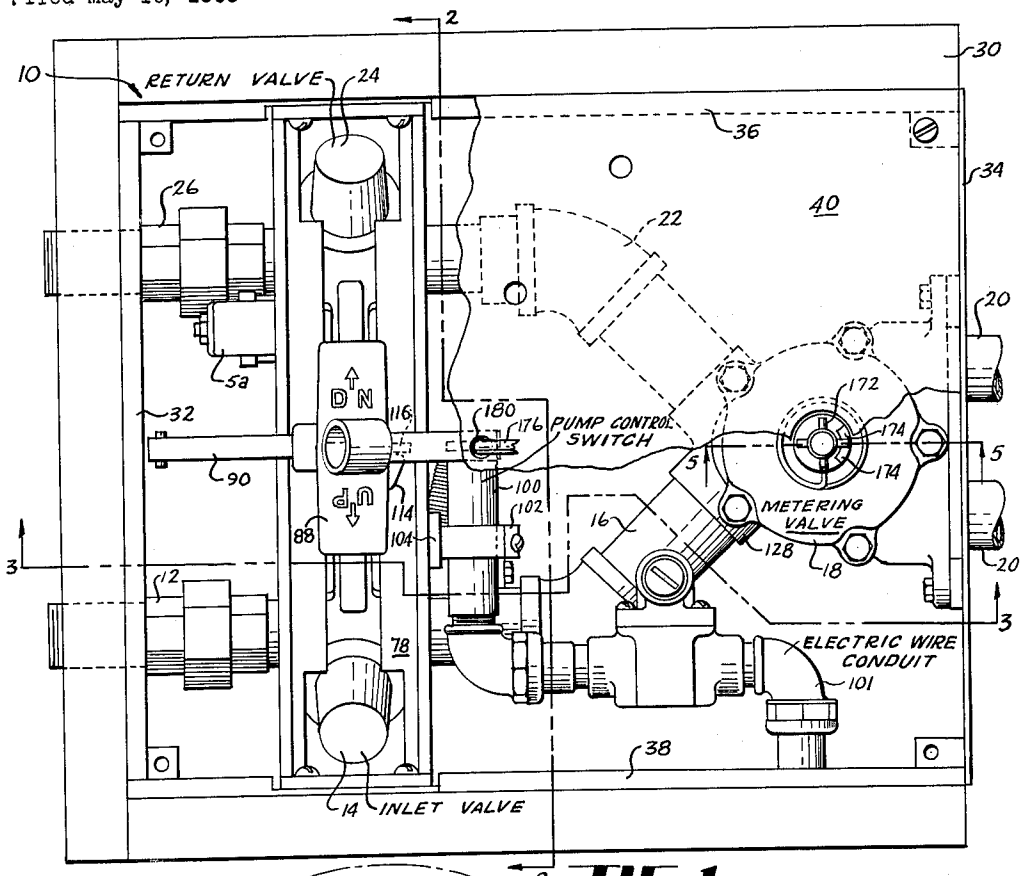

FIG. 1

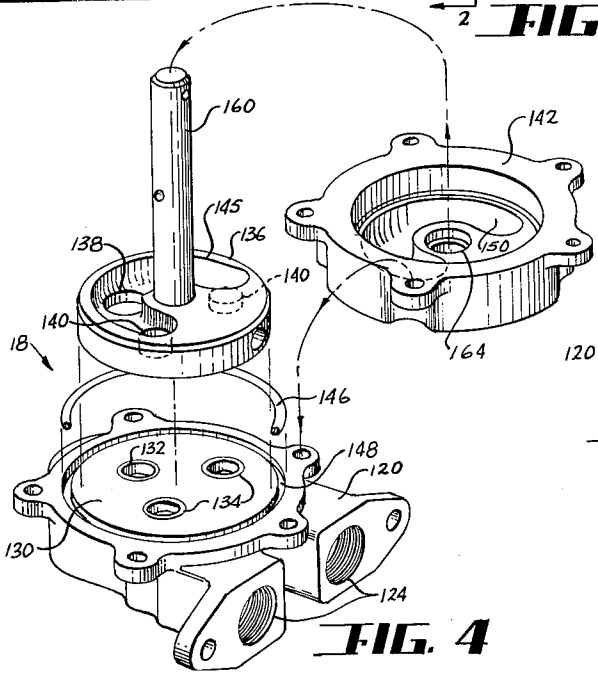

FIG. 4

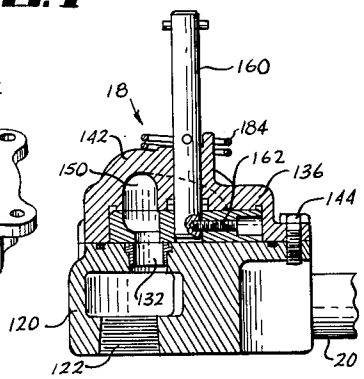

FIG. 5

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LIFT INSTALLATION

Filed May 10, 1963 3 Sheets-Sheet 2

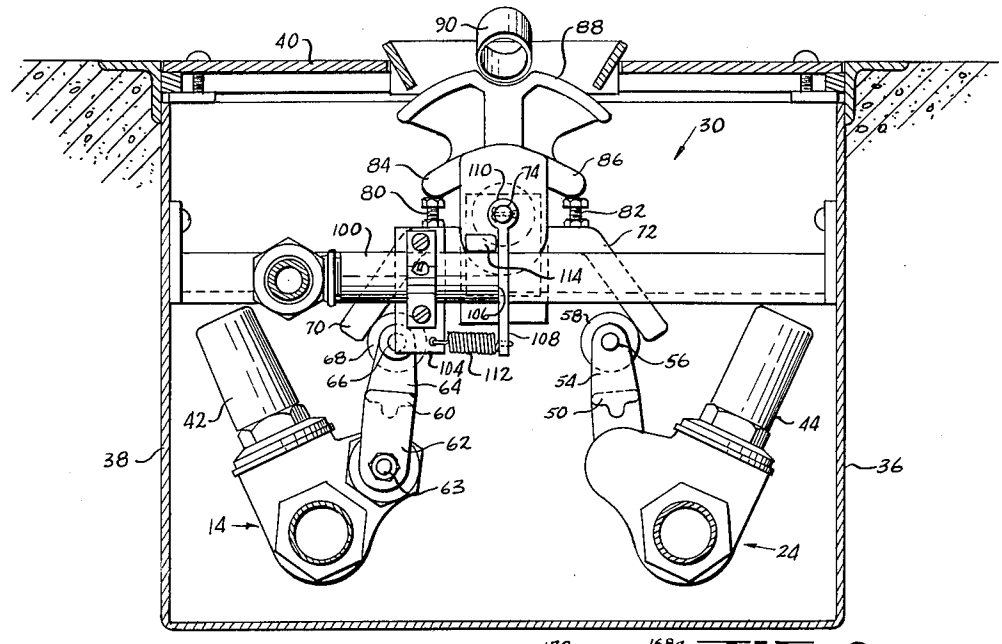

FIG. 2

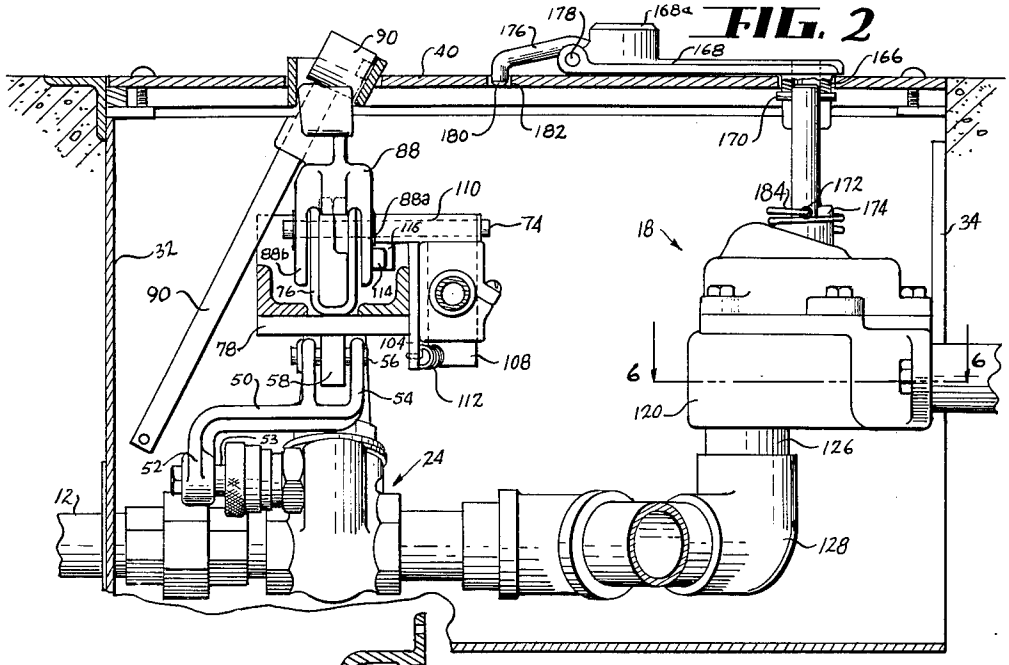

FIG. 3

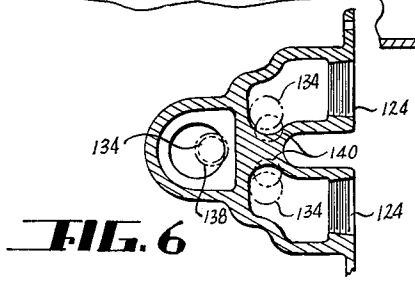

FIG. 6

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LIFT INSTALLATION

Filed May 10, 1963 3 Sheets-Sheet 3

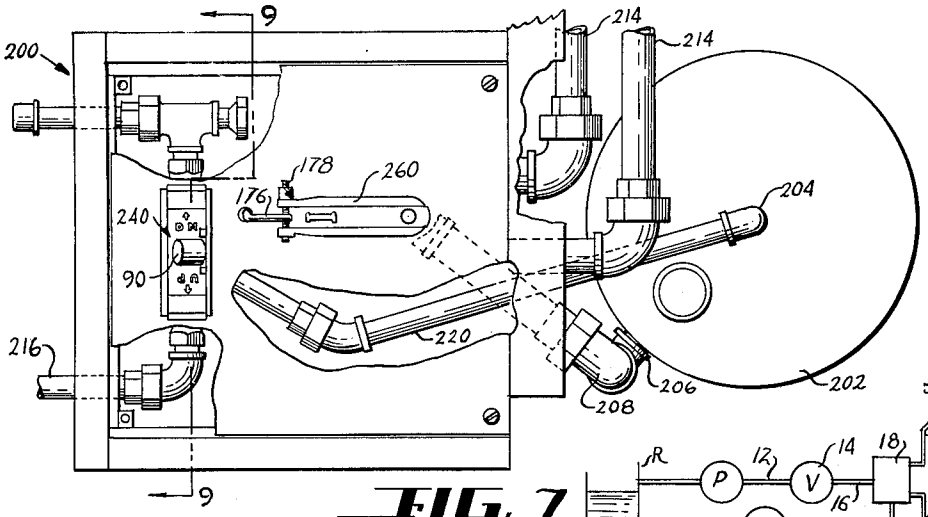


FIG. 7

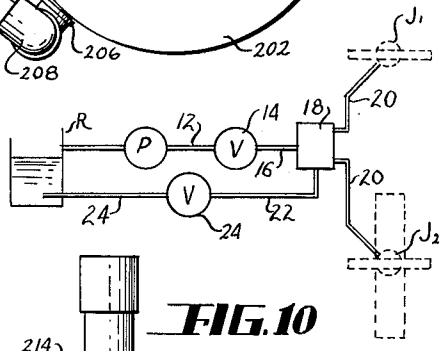


FIG. 10

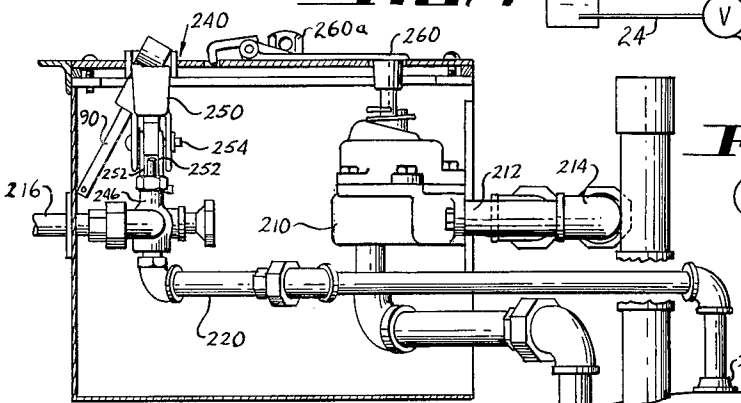


FIG. 8

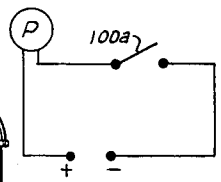
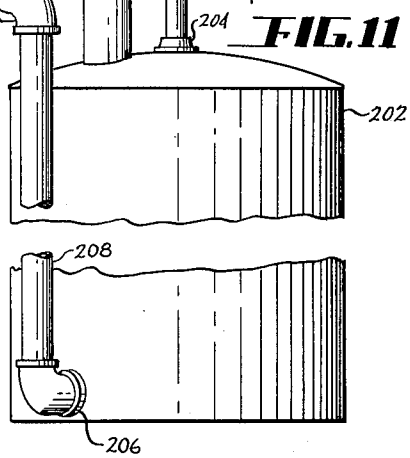


FIG. 11



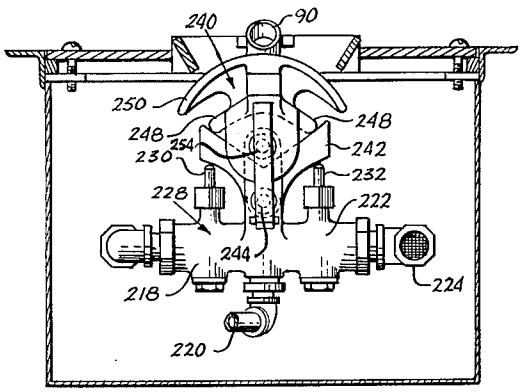


FIG. 9

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3,258,920

LIFT INSTALLATION

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Filed May 10, 1963, Ser. No. 279,568
6 Claims. (Cl. 60—52)

This invention relates to a lift installation and more particularly to means for controlling the operation of the lift jacking units of a two post hydraulic vehicle lift. However, as will appear below, the invention is not necessarily so limited.

An object of this invention is to provide an improved control structure for a two post vehicle lift installation.

Another object of this invention is to provide an improved control structure for a two post vehicle lift in which a single operating lever can be used to meter the supply of fluid to the two jacking units utilizing only a single control valve.

Still another object of this invention is to provide a control structure for a two post vehicle lift installation utilizing a pair of manually operable control members, one of which controls the elevation of the two lift posts simultaneously and the other of which controls the relative positions of the two posts.

A further object of this invention is to provide an improved control structure for a vehicle lift which utilizes a magnetic proximity switch to automatically control an electric pump. The operating parts of the proximity switch are all enclosed within a sealed housing. Accordingly, much longer life of the switch can be expected than with ordinary switches in the environment of a vehicle lift.

Other objects and advantages reside in the construction of parts, the combination thereof, the method of manufacture and the mode of operation, as will become more apparent from the following description.

Referring to the drawings:

FIGURE 1 is a plan view, with parts broken away, of a two post vehicle lift control structure made in accordance with this invention.

FIGURE 2 is a transverse cross-sectional view, with parts broken away, of the control structure shown in FIGURE 1 taken along line 2—2 thereof.

FIGURE 3 is a longitudinal sectional view of the control structure of FIGURE 1 taken along line 3—3 thereof.

FIGURE 4 is an exploded perspective view of a metering valve used in the control structure of FIGURE 1.

FIGURE 5 is a cross-sectional view of the metering valve of FIGURE 4 as viewed in the direction of arrows 5—5 of FIGURE 1.

FIGURE 6 is a cross-sectional view of a portion of the metering valve of FIGURE 4, as viewed in the direction of arrows 6—6 of FIGURE 3.

FIGURE 7 is a plan view, with parts broken away, of a modified control structure made in accordance with this invention. FIGURE 7 also shows an oil reservoir for use with the lift installation.

FIGURE 8 is a side elevational view of the structure of FIGURE 7, with parts broken away and in cross-section.

FIGURE 9 is a transverse cross-sectional view of the embodiment of FIGURE 7, taken along the line 9—9 thereof.

FIGURE 10 is a schematic representation of a complete two post vehicle lift installation using the control structure shown in FIGURE 1.

FIGURE 11 is a simplified schematic representation of an electric circuit for energizing an oil supply pump used in connection with the control structure of FIGURE 1.

A control structure, generally designated **10**, is illustrated in FIGURES 1 through 3, which control structure is to be used in association with a "two post" vehicle lift installation. As well known, a two post vehicle lift installation includes a pair of jacking units, each comprising a cylinder which receives a piston or ram. The control structure shown in FIGURES 1 through 3 is designed for use with jacking units known as "full hydraulic." A "full hydraulic" lift or jacking unit relies upon the introduction of oil or other hydraulic media into the lift cylinder to force the piston or ram upwardly. In this case, the oil is forced into the lift cylinders by an electric pump.

Referring to FIGURE 10, which illustrates a lift installation employing the control structure **10** made in accordance with this invention, oil is pumped by an oil supply pump P from a reservoir R through a fluid inlet conduit **12**, an inlet valve **14**, and a fluid conduit **16** leading from the inlet valve **14** to a metering valve **18**. Two conduits **20** direct fluid from the metering valve **18** to the two different jacking units J_1 and J_2. As apparent, if the pump P is operating to direct oil through the conduit **12** while the inlet valve **14** is open, oil will pass through the metering valve **18** to the cylinders of the jacking units J_1 and J_2 in order to raise the lift pistons or rams. The oil is dumped back into the reservoir R through an outlet conduit **22**, which is connected between the metering valve **18** and an outlet or discharge valve **24** to a discharge conduit **26**. Assuming the inlet valve **14** to be closed and the discharge valve **24** to be open, oil will pass from the jacking units J_1 and J_2 through conduits **20**, the metering valve **18**, the conduit **22**, the discharge valve **24** and the discharge conduit **26** to the reservoir R.

Referring to FIGURES 1, 2 and 3, the control structure, including the valves **14**, **18** and **24**, may be mounted in a housing, generally designated **30**, having opposed rearward and forward end walls **32**, **34**, respectively, side walls **36**, **38** connected therebetween, and a cover member **40**. The entire housing **30** may be located within a pit in the earth or floor with the cover member **40** flush with the top thereof. As apparent from an inspection of FIGURES 1 through 3, the conduits **12** and **26** are supported by the rearward end wall **32** while the metering valve **18** and its associated conduits **20** are supported by the forward end wall **34**.

The inlet and discharge valves **14** and **24** may be conventional and include valve plates (not shown) spring biased by means of springs located in spring housings **42** and **44**, respectively, which bias the valve plates to a valve closing position. As shown in FIGURES 2 and 3, the operating mechanism for the discharge valve **24**, which serves to overcome the bias provided by the spring within the housing **44**, comprises a generally horizontally disposed arm **50** having a downwardly extending sleeve portion **52** which encircles a valve operating rod **53**. The arm **50** is further provided with a pair of upwardly extending flanges on the forward portion thereof forming a yoke **54** which supports an axle **56** upon which a roller element **58** is mounted. The sleeve portion **52** is rigidly affixed to the rod **53** so that the spring located within the housing **44** positions the arm **50** such that the yoke portion **54** thereof extends generally vertically, as shown in FIGURE 2. The valve control member for the valve **14** comprises a similar structure including an arm **60** having an upwardly extending yoke portion **64** supporting a roller element **68** on an axle **66** and a downwardly extending portion **62** connected to a valve operating rod **63**. The valve members **14** and **24** may be identical, but are mounted on the conduits **12** and **26**, respectively, in

opposite directions so that pivotal movement of either of the arms **50** or **60** toward the center of the housing **30** will in each case serve to open its associated valve.

Referring to FIGURE 2, the roller elements **58** and **68** are engaged and actuated by a pair of treadle arms **70** and **72**, each of which is mounted for rotation about a pivot pin **74**, which in turn is mounted upon a U-shaped bracket **76** (FIGURE 3) welded to a generally horizontal support piece **78**. The treadle arms **70** and **72** are each provided with adjusting screw and nut assemblies **80** and **82**, respectively, which are engaged by ears **84** and **86**, respectively, mounted on opposed sides of a treadle **88**, which also is mounted for pivotal movement about the pivot pin **74**. An elongate manual valve actuating lever **90** is mounted for sliding movement within an aperture in the treadle **88** in a fashion similar to that described in a copending application for United States Letters Patent, Serial No. 201,151, filed on June 8, 1962 by Ion V. K. Hott. As apparent from an inspection of FIGURES 1 and 2, if the actuating lever **90** is extended upwardly of the housing **30**, it can conveniently be used to pivot the treadle **88** about the pivot pin **74**. Such pivotal movement will result in selective opening of the valve **14** or the valve **24**. For example, if the treadle **88** is pivoted downwardly, as viewed in FIGURE 1, in the direction of the "UP" arrow, the oil inlet valve **14** will be opened. Similarly, the discharge valve **24** is opened if the treadle **88** is pivoted upwardly as viewed in FIGURE 1.

It is necessary to actuate the oil supply pump P at approximately the same time as the valve **14** is opened in order to pump oil to the metering valve **18**. In accordance with this invention, downward pivotal movement of the treadle **88**, as viewed in FIGURE 1, serves to open a switch which controls the oil supply pump. As shown best in FIGURES 1 and 2, a magnetic proximity switch **100** is affixed as by a clamp **102** to a bracket **104**, which in turn is mounted upon the support piece **78**. The proximity switch **100** is connected by a conduit enclosed within piping **101** in an electric pump control circuit, shown schematically in FIGURE 11 as including a source of electrical energy, the proximity switch contacts **100***a* and the pump **P**. The details of construction of the proximity switch **100** are not disclosed herein, since a variety of conventional proximity switches could be used.

Importantly, the proximity switch contacts **100***a* are enclosed within a sealed housing. Since the operating parts of the switch are so enclosed and thus protected from damage, the switch can be relied upon for a longer useful life. The electric circuit for energization of the pump P could be designed to use a switch **100** having normally closed contacts. For simplicity, the proximity switch **100** illustrated is the type in which switch contacts **100***a* (FIGURE 11) are normally open when a ferromagnetic plate is closely adjacent to or contacting the forward face, designated **106**, thereof. Should the ferromagnetic plate be removed from the area of the front face **106** of the proximity switch **100**, the switch contacts **100***a* therein will close. In accordance with this invention, a ferromagnetic switch operating plate **108** is suspended from a sleeve **110** mounted for pivotal movement on the pivot pin **74** forwardly of the treadle **88**. The lower end of the plate **108** is biased by a spring **112** affixed at one end thereto and at its other end to the bracket **104**. Consequently, the plate **108** is normally held in engagement with the forward face **106** of the proximity switch **100**, whereby the switch contacts **100***a* are open.

The treadle **88** includes a pair of depending side plates **88***a* and **88***b* straddling the U-shaped bracket **76**. A switch actuating lug **114** is affixed to the exposed face of the side plate **88***a* so that when the treadle **88** is in its neutral position, as illustrated in the drawing, the lug **114** is to the left (as viewed in FIGURE 2) of the plate **108**. Depending from the sleeve **110** is a cooperating lug **116** which is substantially coplanar with the plate **108**. As apparent, counterclockwise pivotal movement of the treadle **88**, as viewed in FIGURE 2, causes the lug **114** to engage the lug **116** to pivot the plate **108** about the pivot pin **74** in a counterclockwise direction, thus removing it from the area of the forward face **106** of the proximity switch **100**. Accordingly, when the valve **14** is open, the oil supply pump is energized. When the treadle **88** is returned to its neutral position, the spring **112** returns the plate **108** to its position in contact with the switch **100**. Note that clockwise pivotal movement of the treadle **88**, as viewed in FIGURE 2, does not affect the position of the plate **108**. Of course, it is unnecessary for the pump to be operating when the discharge or outlet valve **24** is opened.

Referring to FIGURES 4, 5 and 6, the metering valve **18** includes a base fixture **120**, having a threaded inlet port **122** and a pair of threaded outlet ports **124**. As shown in FIGURE 3, a vertical fluid conduit **126** is connected to a union **128** to which the fluid conduits **16** and **22** are connected. The member **126** in turn is in threaded connection with the inlet port **122**. The previously described conduits **20** connect the two outlet ports **124** to the two jacking units J_1 and J_2.

The upper surface of the base fixture **120** forms a stationary valve plate, designated **130**, and is provided with three apertures therein, one aperture, designated **132**, being in direct communication with the inlet port **122**. The other two apertures, designated **134**, are connected separately to the outlet ports **124** (see FIGURE 6). The centers of the apertures **132** and **134** are separated by substantially 120° each from the others and are substantially equally spaced about a vertical axis passing generally centrally through the plate **130**. The flow of fluid through the apertures **134** is controlled by a rotatable valve plate **136** having an inlet aperture **138** and two outlet apertures **140**. The bottom surface of the plate **136** abuts the valve plate **130**. The top surface of the valve plate **136** is provided with an arcuate recess **145** communicating between the three apertures **138** and **140** therein. A valve cap **142**, which is connected to the base fixture **120** as by a plurality of bolts **144**, is provided with a recess receiving the rotatable valve plate **136** and holds it in engagement with the valve plate **130**. To prevent leakage of oil, a sealing ring **146** is located within a recess **148** within the top surface of the base fixture **120**. The cap **142** is provided with an arcuate recess **150** cooperating with the recess **145** in the top surface of the plate **136** to form a cavity enabling the free flow of oil from the aperture **138** equally to both apertures **140**.

As diagrammatically illustrated in FIGURE 6, the apertures **134** are located on centers which are more widely spaced than are the centers of the apertures **140**. The apertures **138**, on the other hand, is located on the same center as the aperture **132**. As apparent, rotation of the valve plate **136** about its center in either direction would creats an area of greater overlap, and hence, greater fluid flow, through one aperture **140** and its associated aperture **134** then the other pair of apertures **140** and **134**. Further rotation of the valve plate **136** would block the flow of fluid between one of the apertures **140** and its associated aperture **134**. Thus, the rate of fluid flow through the two outlet ports **124** may be varied by rotation of the valve plate **136**.

Rotation of the valve plate **136** is accomplished by means of a valve control rod **160**, having its lower end fixedly connected to the center of the valve plate **136** as by a set screw **162**. The control rod **160** extends vertically upwardly through an aperture **164** in the valve cap **142** and through an aperture **166** in the cover member **40** (see FIGURE 3). The top of the control rod **160** is connected to a metering valve control handle **168** by means of a pin and slot connection, generally designated **170**. The extent of rotatable movement of the

valve plate **136** is limited by a stop pin **172**, which is adapted to strike a stop lug **174** extending upwardly from the housing cap **142**. As apparent, the control handle **168** can be rotated in either direction from the neutral position, which is diagrammatically illustrated in FIGURE 6, to either of two extreme positions to cut off the flow of fluid to either of the ports **124**. If desired, a coil spring **184** may be affixed to the cap **142** and one of the pins **172** to bias the valve control rod **160** to its neutral position. The spring **184** is designed to be relaxed in the neutral position and is placed under either tension or compression when the control rod **160** is rotated. The control handle **168** is normally locked in a neutral position by means of a latch pin **176** welded to a pivot pin **178** (FIGURE 7) on the outer end thereof, the latch pin **176** having a downwardly extending rearward portion **180** which passes into an aperture **182** in the cover member **40**. Briefly, the operation of the structure described above is as follows. Assuming the parts are positioned as shown in FIGURE 2, the lever **90** is extended upwardly of the housing **30** and moved in a counterclockwise direction to pivot the treadle **88** in the direction of the "UP" arrow shown in FIGURE 1. The lug **114** thereupon engages the cooperating lug **116** on the sleeve **110**, whereby the plate **108** is withdrawn from the area of the front face of the proximity switch **100**. Consequently, switch contacts **100***a* are closed whereupon oil is pumped by the oil supply pump P into the fluid inlet conduit **12**. At the same time, the inlet valve **14** is opened, whereupon oil from the reservoir R passes through the metering valve **18** into the two jacking units J_1 and J_2. Since the valve control handle **168** is locked in its neutral position, due to the engagement of the pin portion **180** within the cover member aperture **182**, the oil flow to the two jacking units will be substantially equal.

If it is desired for one reason or another to elevate one of the jacking units at a faster rate than the other, the valve control handle **168** may be removed from its neutral position by pivotal movement of the latch pin **176** and rotation of the control handle **168** in the desired direction. As soon as the jacking units reach the desired height, the lever **90** is returned to its central position whereupon both valves **14** and **24** are closed and the jacking units held in their raised position. As the treadle **88** is returned to its neutral position, the switch operating plate **108** is returned into engagement with the front face of the proximity switch **100**, thereby deenergizing the oil supply pump P. The jacking units can then be lowered by pivoting the treadle **88** in a clockwise direction, as viewed in FIGURE 2, thereby opening the valve **24**, whereupon the weight of the pistons and the vehicle carried thereby force the oil back through the conduits **20**, the metering valve **18**, the outlet conduit **22** the valve **24** and the discharge conduit **26**. The relative rate of descent of the two pistons or rams can be controlled by movement of the handle **168** as described above. If desired, suitable notations can be marked on the cover member **40** to indicate the direction in which the valve control handle **168** should be rotated to selectively control the two jacking units.

Referring to FIGURES 7, 8 and 9, a control structure **200** is shown therein for use with the type of hydraulic lift in which oil is forced into the lift cylinders by compressed air. Air under pressure is supplied to the top of an oil reservoir **202** through an air inlet port **204** forcing oil through an outlet port **206** and a fluid conduit **208** to the base of a metering valve **210**, which may be identical to the valve **18** previously described, and finally through a pair of outlet ports **212** into fluid conduits **214** leading to the jacking units (not shown). To raise the pistons associated with the jacking units, air under pressure is supplied by a compressor (not shown) through an air inlet conduit **216**, an air inlet valve **218** and an air conduit **220** to the port **204**. The pistons may be subsequently lowered by dumping the air to atmosphere on opening of an air outlet valve **222**, which directs air through a muffler **224** to atmosphere. The air inlet valve **218** and the air outlet valve **222** may be mounted in a common housing **228** and are controlled by a pair of spring biased valve stems or plungers, namely an air inlet plunger **230** and an air exhaust plunger **232**. Both plungers **230** and **232** are spring biased upwardly. Should the inlet plunger **230** be depressed, air under pressure will be forced through the air conduit **220** into the fluid reservoir **202**. Similarly, should the exhaust plunger **232** be depressed, air will be exhausted from the reservoir **202** through the air conduit **220** and the muffler **224** to atmosphere. This type of valve structure is the common poppet valve structure which may be controlled by means of a treadle mechanism, generally designated **240**, which employs a valve stem rocker arm **242** mounted for pivotal movement about a horizontal axis upon a pivot pin **244** passing through a generally vertical support rod **246** which is integral with the valve housing **228**. The valve stem rocker arm **242** is of a conventional type having opposed lower surfaces adapted to engage the valve stems or plungers **230** and **232**. The upper arcuate surface of the rocker arm **242** is generally concave and is adapted to be engaged by opposed depending arms **248** forming a part of a treadle **250** mounted for rotation about a horizontal axis upon vertically upwardly extending arm portions **252** of the rod **246** by means of a treadle pivot pin **254**. It will be noted in FIGURE 8 that the axes of rotation of the rocker arm **242** and the treadle **250** are parallel. Accordingly, counterclockwise pivotal movement of the treadle **250**, as viewed in FIGURE 9, causes counterclockwise pivotal movement of the rocker arm **242**, forcing the inlet valve stem or plunger **230** downwardly. Clockwise rotation of the treadle **250**, as viewed in FIGURE **9**, similarly forces the discharge valve stem or plunger **232** downwardly.

As in the embodiment described in relation to FIGURES 1 through 7, movement of the treadle **250** is controlled by a treadle control lever **90** having an elongate rod portion and a hollow cylindrical knob portion connected thereto. The rod portion is again received for vertical sliding movement within a rectangular bore formed at an inclined angle in the body of the treadle **250**.

The operation of the mechanism described in relation to FIGURES 7 through 9 is believed obvious. Again, the metering valve control handle, designated **260**, can be used selectively to control the movement of the two jacking units. In this embodiment, the air compressor would have to be separately energized. However, it is apparent that a suitable switch could be associated with the treadle **250**, as in the embodiment of FIGURES 1 through 7, to energize the air compressor.

The handle members **168** and **260** can be operated by a conventional elongate hooked actuating rod (not shown) by insertion of the hooked portion thereon within a pocket or recess portion, designated **168***a* in FIGURE 1 and **260***a* in FIGURE 7, of the respective arms **168** and **260**. The pins **176**, which have rearwardly extending portions **176***a*, will thereupon automatically pivot about the pins **176** whereupon the latches provided by the pins **176***a* can be released. The aforementioned actuating rod may also be used to actuate the valve actuating levers **90**, which are provided with hollow knob portions, as described in said application for United States Letters Patent Serial No. 201,151. The conventional actuating rod is of the type shown in FIGURE 5 of my copending application for United States Letters Patent, Serial No. 227,415, filed on October 1, 1962.

Although the presently preferred embodiment of the device has been described, it will be understood that within the purview of this invention various changes may be made in the form, details, proportion and arrangement of parts, the combination thereof and mode of operation, which generally stated consist in a device capable of

carrying out the objects set forth, as disclosed and defined in the appended claims.

Having thus described our invention, we claim:

1. In a vehicle lift installation, the combination comprising: a fluid operated jacking unit; a fluid reservoir; an electrically driven pump for pumping fluid to said jacking unit; a normally closed inlet valve located between said jump and said jacking unit; manually operable means including a treadle movable for opening said inlet valve to permit fluid to flow to said jacking unit; a proximity switch adapted to energize said pump, said proximity switch including a pair of switch contacts which open and close upon movement of a ferromagnetic element adjacent a surface portion thereof; a ferromagnetic plate pivotally mounted adjacent said surface portion; means biasing said plate into a predetermined position relative to said surface portion; and means connecting said treadle and said plate causing said plate to pivot away from said predetermined position upon movement of said treadle, whereby the opened or closed condition of said switch contacts is changed.

2. The combination of claim 1 wherein an elongate valve actuating lever is slidably mounted for generally vertical movement within an aperture in said treadle, said lever having a hollow knob portion adapted to be engaged and actuated by an actuating rod.

3. In a vehicle lift installation, the combination comprising: a pair of fluid operated jacking units; a fluid supply pump; fluid conduit means connecting said supply pump to said jacking units; a normally closed control valve connected by said conduit means between said pump and said jacking units; a fluid metering valve connected by said conduit means between said control valve and said jacking units, said metering valve having a single inlet port and two outlet ports, said conduit means including a single conduit member between said control valve and said inlet port and a pair of conduit members, one of said pair extending from one of said outlet ports to one of said jacking units and the other of said pair extending between the other of said outlet ports and the other of said jacking units, and control means connected to said metering valve selectively to control and apportion the fluid flow from said single conduit member to said pair of conduit members simultaneously to control the operation of said jacking units.

4. The combination of claim 3 wherein said metering valve includes a fixed valve plate having three spaced apertures therein on centers substantially equally spaced about an axis normal to the upper surface thereof, one of said apertures being in direct communication with said inlet port and the others of said apertures being in direct communication with separate ones of said outlet ports, and a rotatable valve plate having three apertures therein generally aligned with the apertures in said fixed valve plate; and wherein said control means include a control element connected to said rotatable valve plate adapted to rotate the same about said axis, the separation between the centers of said others of said apertures in said fixed valve plate being different from the separation of the centers of the apertures in said rotatable valve plate which are in general alignment therewith whereby rotation of said valve plate causes a greater area of overlap between one pair of generally aligned apertures than the other pair of generally aligned apertures.

5. The combination of claim 4 wherein said control element comprises a rod connected to said rotatable valve plate and a handle connected to said rod for manual actuation thereof, and wherein latch means are provided to retain said handle in a predetermined position.

6. The combination of claim 5 wherein said handle is provided with a recess to receive an actuating rod to enable remote operation thereof, and wherein said latch means includes a pivoted pin portion projecting into said recess which is pivoted to release said latch means upon entry of an actuating rod portion into said recess.

References Cited by the Examiner

UNITED STATES PATENTS

669,475	3/1901	Bullard	74—539
1,136,589	4/1915	Davis	137—625.46
1,484,266	2/1924	Holzbauer	74—539
1,491,077	4/1924	Beerworth	251—293 X
1,836,740	12/1931	Albers	137—636.1 X
1,907,208	5/1933	Lebel	60—52
1,975,278	10/1934	Lebel	60—52
2,311,864	2/1943	Parsons.	
2,582,565	1/1952	Schnippel et al.	60—52
2,681,077	6/1954	Hott et al.	137—636
2,847,181	8/1958	Muller	251—101 X
2,964,060	12/1960	Sargent	137—634
2,988,108	6/1961	Malmquist et al.	137—625.46
3,022,398	2/1962	Abel	200—87
3,053,050	9/1962	Sommerer	60—51

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