

April 22, 1930.

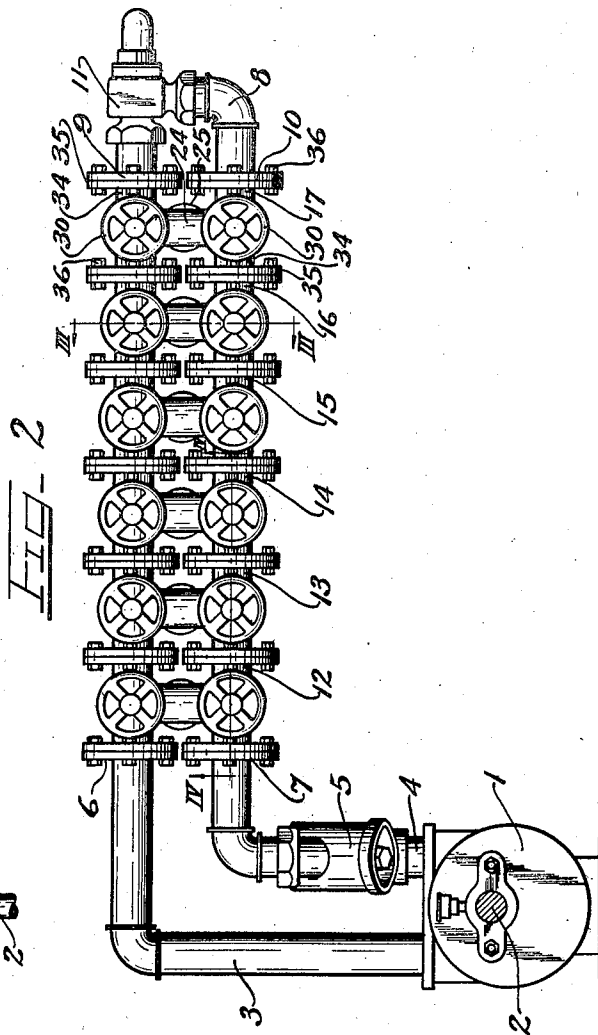
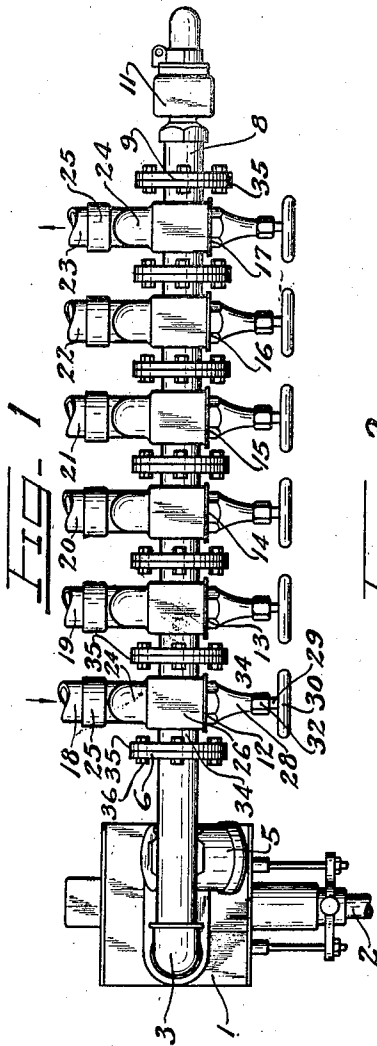
A. M. MORRISON

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CONCENTRATED CONTROL UNIT

Filed Dec. 17, 1927

2 Sheets-Sheet 1



INVENTOR

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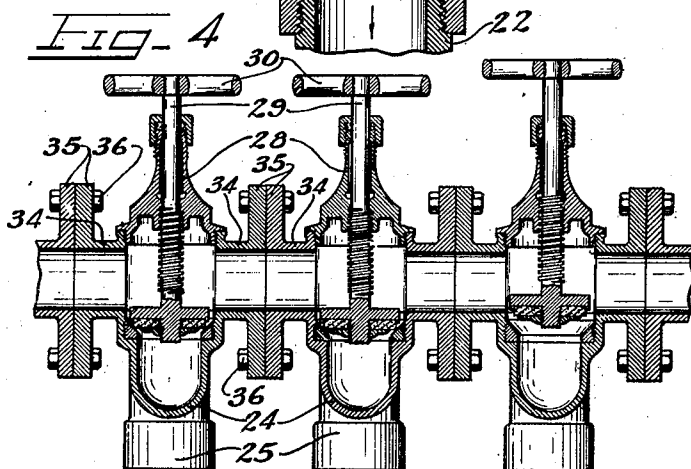
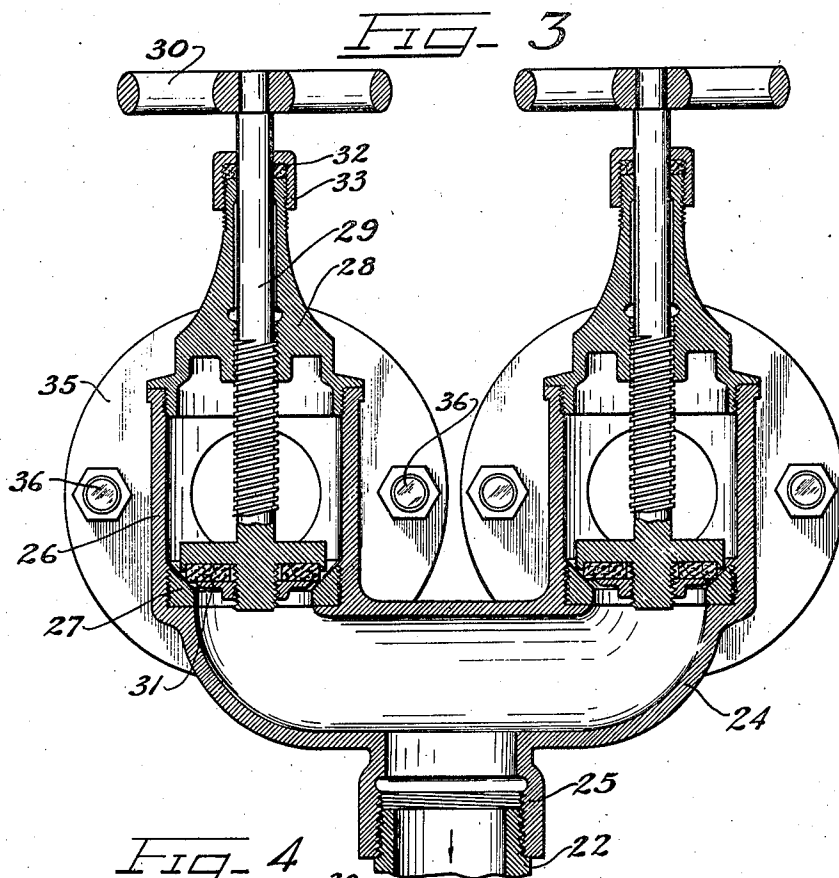
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INVENTOR

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UNITED STATES PATENT OFFICE

ANDREW M. MORRISON, OF DUBUQUE, IOWA

CONCENTRATED-CONTROL UNIT

Application filed December 17, 1927. Serial No. 240,909.

This invention relates to a concentrated control unit for use in connection with oil tanks and the like, and affords a central combination control whereby a plurality of valves may be selectively operated to permit oil or the like to be received from a tank car and delivered to any one of a plurality of tanks, or a loading rack, or from one tank into another by merely operating the respective control valves, which are conveniently mounted in a grouped relation, for operation by a single operator.

It is an object of this invention to provide an improved simplified combination or concentrated valve control unit for governing the filling and discharge of a plurality of remotely located tanks and the like, said control unit being adapted to be operated by a single operator.

It is also an object of this invention to provide a concentrated control for oil tanks and the like, said control comprising a plurality of connected, adjacently disposed double valve units, respectively connected with a tank car, tanks, a loading rack and the like, and with a pump mechanism, to afford an arrangement whereby a single operator may distribute or redistribute oil or the like from one to the other of the tanks, the loading rack or the like.

It is an important object of this invention to provide a compact control unit, operable by a single operator at a central station, to permit oil or the like to be received from a supply tank car and be pumped into one or more receiving tanks or into a loading rack, with said unit having the control valves so arranged that oil may not only be distributed to a selected tank or to the loading rack, but may be redistributed from the respective tanks into other tanks, as desired.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

This invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a top plan view of the concen-

trated control unit embodying the principles of this invention.

Figure 2 is a front elevation thereof.

Figure 3 is an enlarged longitudinal section of one of the valve units, said section being taken on line III—III of Figure 2.

Figure 4 is an enlarged fragmentary detail section taken on line IV—IV of Figure 2.

As shown on the drawings:

The reference numeral 1 indicates a pump mechanism provided with a driving shaft 2, adapted to be rotated by a motor or any other suitable source of power. Connected to the discharge opening of the pump 1 is one end of a discharge pipe 3. Also connected with the pump 1 is a suction or intake pipe 4, having a filter unit 5 therein. Integrally formed on the upper end of the discharge pipe 3 is an apertured flange 6, while the upper end of the suction pipe 4 has an apertured flange 7 integrally formed thereon.

A U-shaped union 8 forms the second end of the control unit and has apertured flanges 9 and 10 integrally formed thereon. Connected in the union 8 is a relief valve 11. Connected between the union 8 and the pump pipes 3 and 4 are a plurality of adjacently disposed connected valve units 12, 13, 14, 15, 16 and 17, having respectively connected thereto pipe lines 18, 19, 20, 21, 22 and 23. The pipe line 18 connects the valve unit 12 with an oil supply tank car while the pipe lines 19, 20, 21 and 22 are respectively connected to oil tanks or containers mounted in remote positions. The pipe line 13 leading from the valve unit 17 is connected with a remote loading rack adapted to supply oil from any one or selected number of the storage tanks to oil distributing cars or trucks.

All of the valve units 12 to 17, inclusive, are constructed exactly alike and each comprises a U-shaped passaged casing 24, having integrally formed at the middle portion thereof an internally threaded neck or arm 25, adapted to have one of the pipe lines 18 to 23, inclusive, connected thereto. Integrally formed on each end of the casing 24 is a valve housing 26, having a valve seat 27 seated therein adjacent the end of the casing 24.

The outer end of each valve casing 26 is

closed by a threaded cap 28, which is axially
 passaged and threaded to receive a threaded
 valve stem 29, having a valve handle or wheel
 30 secured on the outer end thereof. Mount-
 5 ed on the inner end of the valve stem 29 is a
 valve head 31 adapted to co-act with the valve
 seat 27 to close or open the passage between
 the casing 24 and the interior of the valve
 housing 26. Seated on the outer threaded
 10 end of each valve cap 28 is a packing 32, held
 in place by means of an internally threaded
 closure member or cap 33.

Integrally formed on opposite sides of the
 middle portion of each of the valve casings 24
 15 is a pair of pipe sleeves 34, each having inte-
 grally formed on the outer end thereof an ap-
 ertured flange 35. A plurality of bolts 36 are
 used for bolting the adjacently disposed
 flanges 35 of the valve units together, with
 20 the outermost flanges 35 of the end valve units
 12 and 17 being bolted to the flanges 6 and 7
 and the flanges 9 and 10 respectively of the
 pump pipes and the arms of the pipe union 8.

With the respective valve units 12 to 17,
 25 inclusive, connected one to the other between
 the pump pipes and the union 8, a concen-
 trated control unit is provided which is oper-
 able by a single operator from a central sta-
 tion or position, so that the discharge and fill-
 30 ing of remotely positioned cars, tanks, and the
 like may be conveniently governed so that a
 supply of oil from a tank car may be conven-
 iently delivered through the pipe line 18 when
 the lower valve of the unit 12 is opened and
 35 when the upper valve of one of the remaining
 units is opened, in which case, the supply of
 oil from the tank car is drawn by a suction
 action caused by the pump 1 through the low-
 er open valve of the unit 12 then through the
 40 suction pipe 4 and the filter 5 connected there-
 in, and is delivered to the pump 1, which acts
 to discharge the oil under pressure through
 the discharge pipe 3 through the upper pas-
 sage afforded by the connected pipe sleeves 34
 45 through the respective open upper valve of
 one of the units and is consequently delivered
 through the respective pipe line to the par-
 ticular oil receiving tank or to the loading
 rack, as the case may be.

50 After a tank car has been emptied, the low-
 er valve of the valve unit 12 may be closed,
 after which the supply of oil delivered to the
 respective tank, as hereinbefore described,
 may be delivered to the loading rack or to any
 55 one or more of the other tanks which may need
 replenishing.

It will thus be noted that the improved con-
 centrated control affords a convenient ar-
 rangement whereby a plurality of control
 60 valve units are connected in adjacent rela-
 tion with a pump mechanism to afford a cen-
 tral control easily operable by a single per-
 son to conveniently control the distribution
 of oil or the like from a plurality of remote-
 65 ly located tanks or containers for the con-

venient filling or emptying of a plurality of
 tanks. A central selective control for a plu-
 rality of supply and delivery oil tanks is af-
 70 forded by the improved unit of this invention,
 whereby an operator may conveniently con-
 trol the delivery of oil from a supply car to
 any selected one or group of receiving tanks
 or, if preferred, directly to a loading rack
 or other oil distributing or delivery mech-
 75 anism.

I am aware that many changes may be
 made, and numerous details of construction
 may be varied through a wide range without
 departing from the principles of this inven-
 80 tion, and I, therefore, do not purpose limit-
 ing the patent granted hereon, otherwise than
 necessitated by the prior art.

I claim as my invention:

1. A concentrated control unit comprising
 a pump mechanism, means for operating the
 85 same, a pair of pipes connected with said
 pump mechanism, a filter unit connected in
 one of said pipes, an end pipe union, a relief
 valve therein, a plurality of double valve units
 connected in communicating relation ad-
 90 jacent one another between said pipe union
 and the pipes connected with said pump mech-
 anism, and a plurality of pipe lines connected
 with the respective double valve units and
 adapted to be connected with a tank car, a
 95 plurality of tanks and a loading rack, as de-
 sired.

2. A concentrated control unit comprising
 a pump mechanism, a strainer connected
 therewith, a pipe union, a valve in said pipe
 100 union, a plurality of valve units connected
 one to the other between said pump mech-
 anism and said pipe union, said valve units
 each comprising a U-shaped casing, a neck
 integrally formed thereon intermediate the
 105 ends thereof, a pair of valve housings in-
 tegrally formed on the ends of said casing, a
 valve seat adjustably mounted in each of said
 housings, a valve for co-action therewith,
 means for operating the valve, and a pair of
 110 oppositely directed flanged pipe sleeves in-
 tegrally formed on each of said valve hous-
 ings.

In testimony whereof I have hereunto sub-
 115 scribed my name at Dubuque, Dubuque Coun-
 ty, Iowa.

ANDREW M. MORRISON.

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