June 12, 1923. 1,458,852

C. A. RUSSELL, JR

SUPPLY DEVICE FOR FILLING STATIONS OR STANDS

Filed Feb. 17, 1921

Fig. 1.

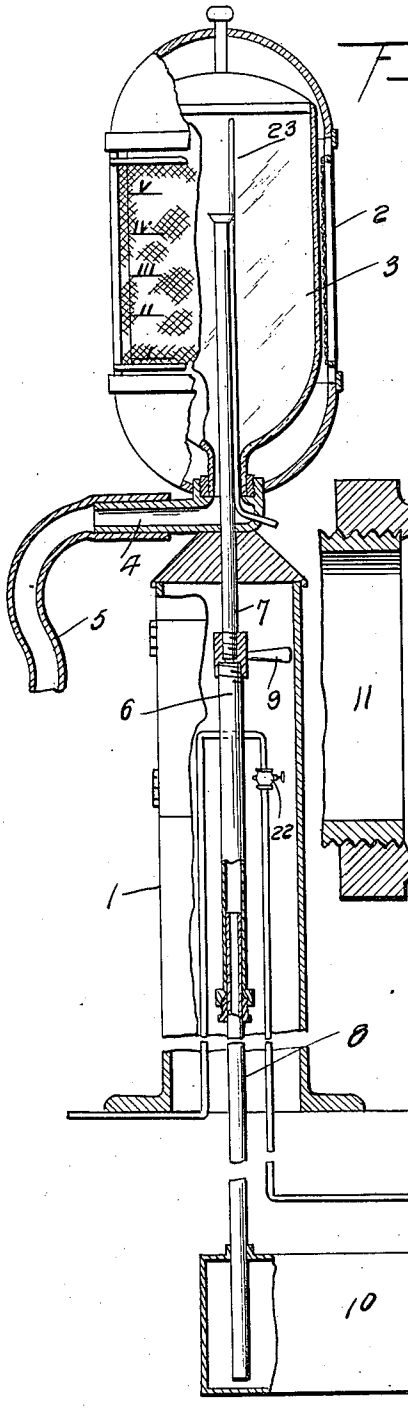
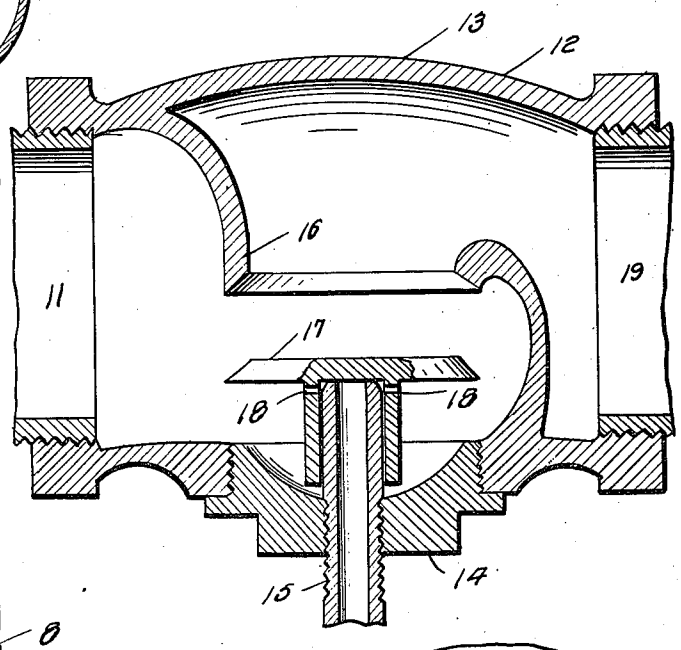
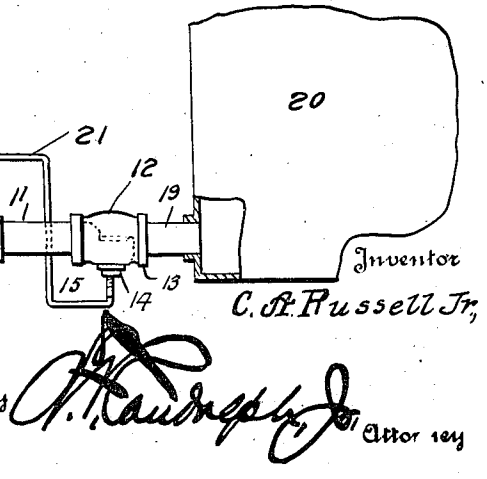


Fig. 2.





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UNITED STATES PATENT OFFICE.

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SUPPLY DEVICE FOR FILLING STATIONS OR STANDS.

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To all whom it may concern:

Be it known that I, CHARLES A. RUSSELL, Jr., a citizen of the United States, residing at Orange, in the county of Orange and State of Texas, have invented certain new and useful Improvements in Supply Devices for Filling Stations or Stands; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in supply devices for filling stations or stands and has for its primary object the provision of pneumatic means for forcing liquid from a storage tank to the container of a filling stand or station so that the liquid may be dispensed from the container and obviate the employment of pumps heretofore used for such a purpose, and also reduce the expenditure of manual labor.

Another object of this invention is the provision of a supply device for filling stations or stands of the above stated character which will be simple, durable, and efficient, and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a sectional view illustrating a supply device for filling stations or stands constructed in accordance with my invention,

Figure 2 is sectional view drawn on an enlarged scale illustrating a pneumatic controlling valve.

Referring in detail to the drawings, the numeral 1 indicates a stand carrying at its upper end a frame 2 in which is mounted a transparent container 3. The container 3 is provided with graduations to indicate the number of gallons of liquid contained therein. The container 3 is connected to a discharge nozzle 4 to which an ordinary discharge hose 5 of a flexible nature may be connected for the purpose of directing the liquid from the container 3 into the fuel supply tank of an automobile or like vehicle. A combined supply and overflow pipe 6 is carried by the stand 1 and enters the container 3 and consists of a pair of sections 7 and 8. The section 7 enters the container 3 and has slidable connection with the section 8 and is provided with a handle 9 for the purpose of regulating the height of the section 7 within the container so as to govern the amount of liquid to be retained within the container. The section 8 has connection with an auxiliary tank 10 located at a point foreign to the stand and the section 8 terminates adjacent the bottom wall of said auxiliary tank as clearly shown in the drawings.

The auxiliary tank 10 is provided with an intake pipe 11 connected with a valve 12 consisting of a casing 13 having in its bottom wall a clean out plug 14 provided with a screw threaded aperture to receive a tube 15. The casing 13 is provided with a valve seat 16 adapted to be engaged by a valve 17, the stem of which is of hollow formation and slidably mounted upon the inner end of the tube 15. The valve stem adjacent the valve head is provided with vent openings 18. The intake port of the valve casing is connected to a pipe 19 having communication with a main storage tank 20 located in a plane slightly above the plane of the auxiliary tank so that the liquid contained within the storage tank may flow into the auxiliary tank. The normal position of the valve 17 is unseated and moves into said position by gravitation.

The tube 15 is connected to an air supply pipe 21 which extends to the stand 1 and from the stand to a suitable air supply. The air pipe is provided with a valve 22 located at the stand for the purpose of controlling the passage of air pressure through said pipe to the valve 17.

In operation, when it is desired to fill the container 3 air under pressure is allowed to enter the valve casing 13 or strike against the valve head for the purpose of moving the same into engagement with the valve seat whence the air enters the auxiliary tank and forces the liquid therein into the container 3 by way of the pipe 6. When the desired amount of liquid is dispensed into the container 3, the valve 22 is closed and the valve 17 returned to its former position by gravity

and permits the auxiliary tank to be filled from the storage tank. The liquid now in the container 3 may be disposed therefrom in the usual manner through the discharge nozzle 4. The container 3 has located therein a vent pipe 23 which extends from a point adjacent to the upper end of the container to a point adjacent the stand for the purpose of permitting the liquid in the container to readily flow out of said container under atmospheric pressure.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination, and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described my invention what I claim is:

1. A supply device for filling stations comprising a stand, a container carried by said stand, a combined supply and overflow pipe connected to the container, an auxiliary tank connected to said pipe, a storage tank located in a plane above the auxiliary tank, a valve casing connecting said tank, a tube extending into the valve casing, a valve slidably mounted on said tube and adapted to engage a valve seat in the valve casing under pneumatic pressure and having a vent opening, and a pneumatic pressure pipe connected to said tube for seating the valve and for forcing liquid from the auxiliary tank to the container.

2. A supply device for filling stations including a dispensing container, a combined supply and overflow pipe communicating with the container, an auxiliary tank connected to said pipe, a storage tank located in a plane above the auxiliary tank, a valve casing establishing communication between the tanks and having a valve seat, a pneumatic tube extending into the valve casing and having its end located below the valve seat, a valve for said seat and having a tubular portion mounted for sliding movement on the stem and provided with an opening below the head, said valve normally occupying a position away from the seat to permit fuel to pass from the main tank to the auxiliary tank, and said valve adapted to be seated by air pressure from the tube to cut off the supply of fuel from the main tank to the auxiliary tank and to place the fuel in the auxiliary tank under air pressure, and a control valve in the tube.

3. A supply device having a tank, conduit means through which liquid may travel thereto, a normally open closure valve for the conduit means, and means to admit a pressure medium into the conduit through the valve to serve dually to seat the valve to close the conduit and to discharge liquid from said tank.

4. A supply device having a storage tank, an auxiliary tank in communication therewith and into which liquid flows by gravity therefrom, a normally open valve to control the flow of liquid from the storage tank to the auxiliary tank, and means operable to admit a pressure medium through the valve into the chamber of the valve and into the auxiliary tank to serve dually to seat the valve and to discharge liquid from the auxiliary tank.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. RUSSELL, JR.

Witnesses:

HENRY F. CHRISTENSON,

ISIDOR HAGLER.