

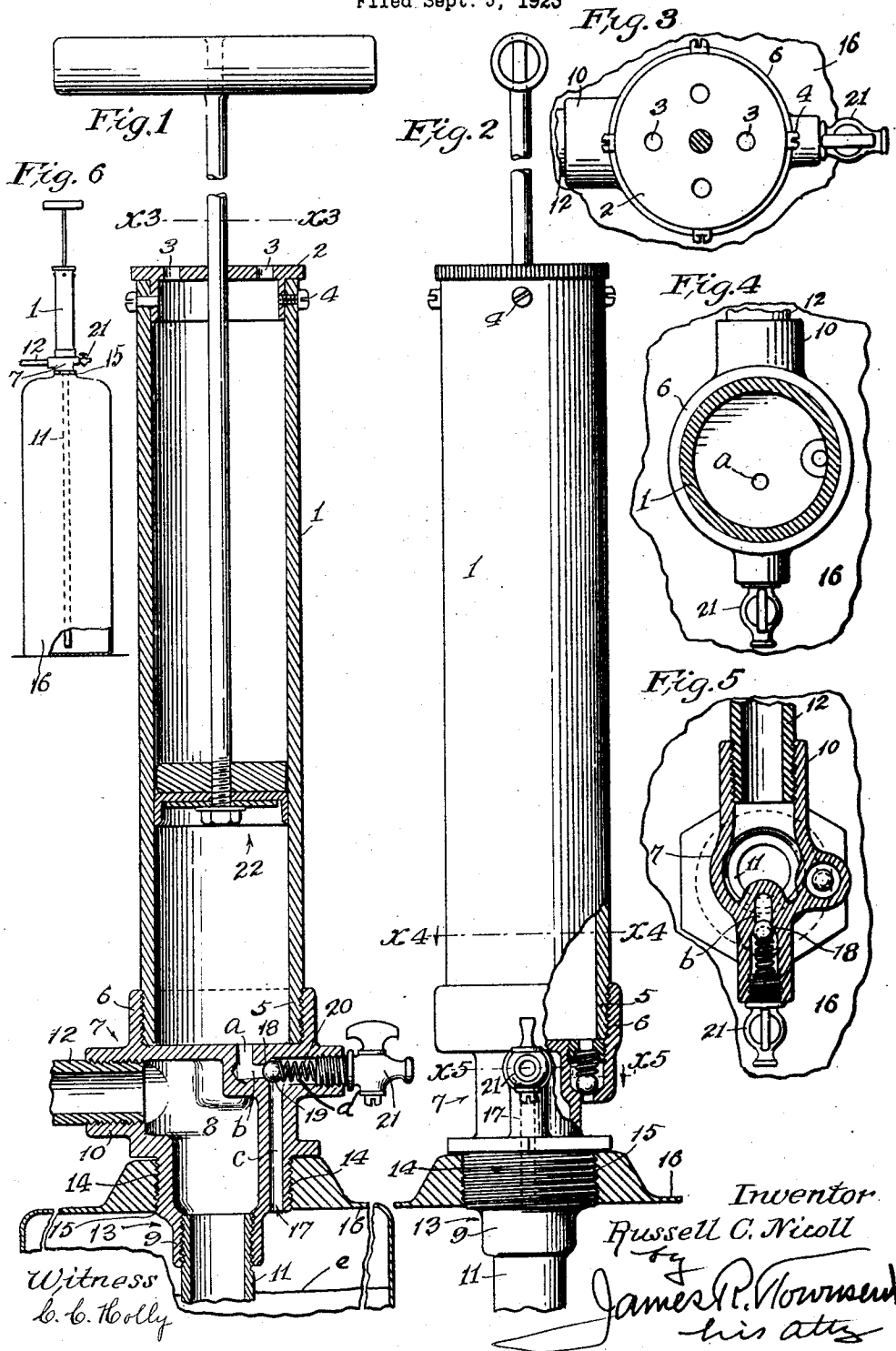
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R. C. NICOLL

TANK PUMP

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UNITED STATES PATENT OFFICE.

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TANK PUMP.

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This invention relates to means for delivering gasoline and the like from vending or storage drums or tanks to other containers, such as the fuel tanks of automobiles, tractors, or the like.

An object of the invention is to make provision whereby explosive or highly inflammable hydro-carbons can be safely transferred from one container to another, thus to enable a user to store a quantity of gasoline and to draw the gasoline from such storage as may be required, and with perfect safety.

An object of this invention is to make provision whereby air pressure can be cheaply, simply, easily and safely employed to transfer gasoline liquid fuels and other liquids from one container to another.

In carrying out this invention, I provide for an air pump barrel, a fitting which is adapted at one end, for an air tight connection to said barrel, and at the other end for attachment to a container, and provided with a way adapted to connect at one end with a pipe in said container, and at the other end with a pipe outside of said container, said fitting also being provided with a valved passage adapted to communicate between said pump barrel and said container, and with a vent connected to said passage.

The invention includes the various parts and combinations of parts which I have produced in carrying out this invention.

The principle of the invention is that means are provided whereby air pressure may be introduced onto the top of a body of liquid in a container and when so applied will force the liquid out from a pipe arranged for that purpose, and further means are provided whereby the air pressure introduced into the container may be readily relieved when the desired transfer of liquid from one container to another has been effected.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

The accompanying drawing illustrates the invention.

Figure 1 is a fragmental, axial section of a tank constructed in accordance with this invention, and arranged to transfer gasoline from a gasoline drum to a user's tank.

Fig. 2 is an elevation of the device shown

in Fig. 1, portions being broken to expose interior parts.

Fig. 3 is a plan of the device shown in Figs. 1 and 2.

Fig. 4 is a plan section on line x^4 , Fig. 2.

Fig. 5 is a plan section on line x^5 , Fig. 2.

Fig. 6 is an elevation on a small scale showing the pump in place on a tank.

The pump cylinder or barrel 1 is provided with a cap 2 which has air holes 3 and is adapted to be fixed to the barrel by means of a screw 4, and said barrel 1 has at the end opposite the cap a threaded portion 5 adapted to be secured air tight to a seat 6 at one end of a fitting 7, which is shown provided with an internally threaded seat adapted to screw on the threaded portion 5. The fitting 7 is provided with a bent passage 8 which is adapted at its ends as by the threaded portions 9 and 10 to connect with pipes 11 and 12 adapted to deliver liquid to, and to discharge it from the bent passage 8. The fitting is provided with a pin 13 having a threaded portion 14 adapted to screw into the bung 15 of a transportation or storage drum or tank 16.

Said fitting is provided with a valve way 17 extending from the barrel seat 15 through the threaded pin 13 and said way is provided with a valve seat 18 in which is seated a valve 19 held in place by a valve spring 20, that in turn is held in place by an air vent petcock 21.

The way 17 comprises a vertical bore a , a lateral bore b terminating in the valve seat 18, and a vertical bore c terminating at the end of the threaded pin 13 and the lateral bore and its valve seat are coaxial with the horizontal spring chamber d which is of greater diameter than the ball valve 19 and the spring 20, and is threaded to receive the petcock.

In practice, the fitting with pump cylinder 1 and the receiving pipe 11 attached, will be applied to the drum or tank from which the delivery is to be made; this is done by inserting the pipe 11 into the bunghole of the drum or tank and screwing the pin 13 into the bunghole; the pipe 11 connected to the fitting extends below the liquid level e ; the petcock being closed, plunger 22 of the pump will be operated to compress air into the drum through the way 17, causing air pressure on top of the liquid and causing the liquid to flow up the pipe 11 and out through passage

8 and on to the place of final delivery. When such delivery has been completed, the petcock will be opened by the operator, thus allowing the air to vent from the container
5 into which it had been compressed.

I claim:

1. An appliance of the character described, comprising a pump; a liquid container; a fitting connecting the pump and the liquid
10 container, and formed with a bore for admitting air under pressure from the pump to the interior of the container above the level of the liquid therein, and also formed with a liquid outlet passage; an outlet pipe
15 threaded into one end of said passage and extending into the container to deliver liquid under pressure therefrom, said fitting further provided with a horizontally extending lateral passage communicating with said
20 bore; a valve seat formed at the intersection of the lateral passage and bore; a ball valve for said seat; a spring disposed in said passage for normally holding said valve upon said seat, and a stop cock in said lateral pas-
25 sage adapted for actuation to relieve the pressure in said container through said bore and passage.

2. The tank pump set forth comprising a fitting, a pump cylinder threaded into said
30 fitting; a storage tank having a bung; a threaded pin on said fitting adapted to screw into the bung of the storage tank, said fitting having a passage extending therethrough, a pipe threaded into said passage and extend-
35 ing into the liquid in said tank, to deliver

the liquid therefrom, said fitting having an irregular bore extending from the pump cylinder to the interior of the tank and a horizontally extending lateral passage opening into said bore, a ball valve in said passage, 40 and a seat for said valve formed at the intersection of the passage with said bore, a spring in said passage adapted for actuating the valve to closed position, and a stop cock in said lateral passage controlling the com- 45 munication between the storage tank and the atmosphere.

3. The tank pump set forth comprising a fitting having threaded portions adapted for connecting the pump to a liquid container 50 and to a pipe for delivering liquid under pressure from the container, said fitting formed with vertical bores, and a lateral bore connecting said vertical bores and formed with a seat at the intersection there- 55 of; a horizontally extending passage communicating at one end with the said lateral bore and with the atmosphere at the other end; a ball valve engaging said seat; a pet cock in said horizontal passage; a spring dis- 60 posed in said passage between said pet cock and ball valve for normally holding said valve upon said seat, and the said pet cock adapted to be opened to allow air under pressure in said container to escape. 65

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 28th day of August, 1923.

RUSSELL CHARLES NICOLL.