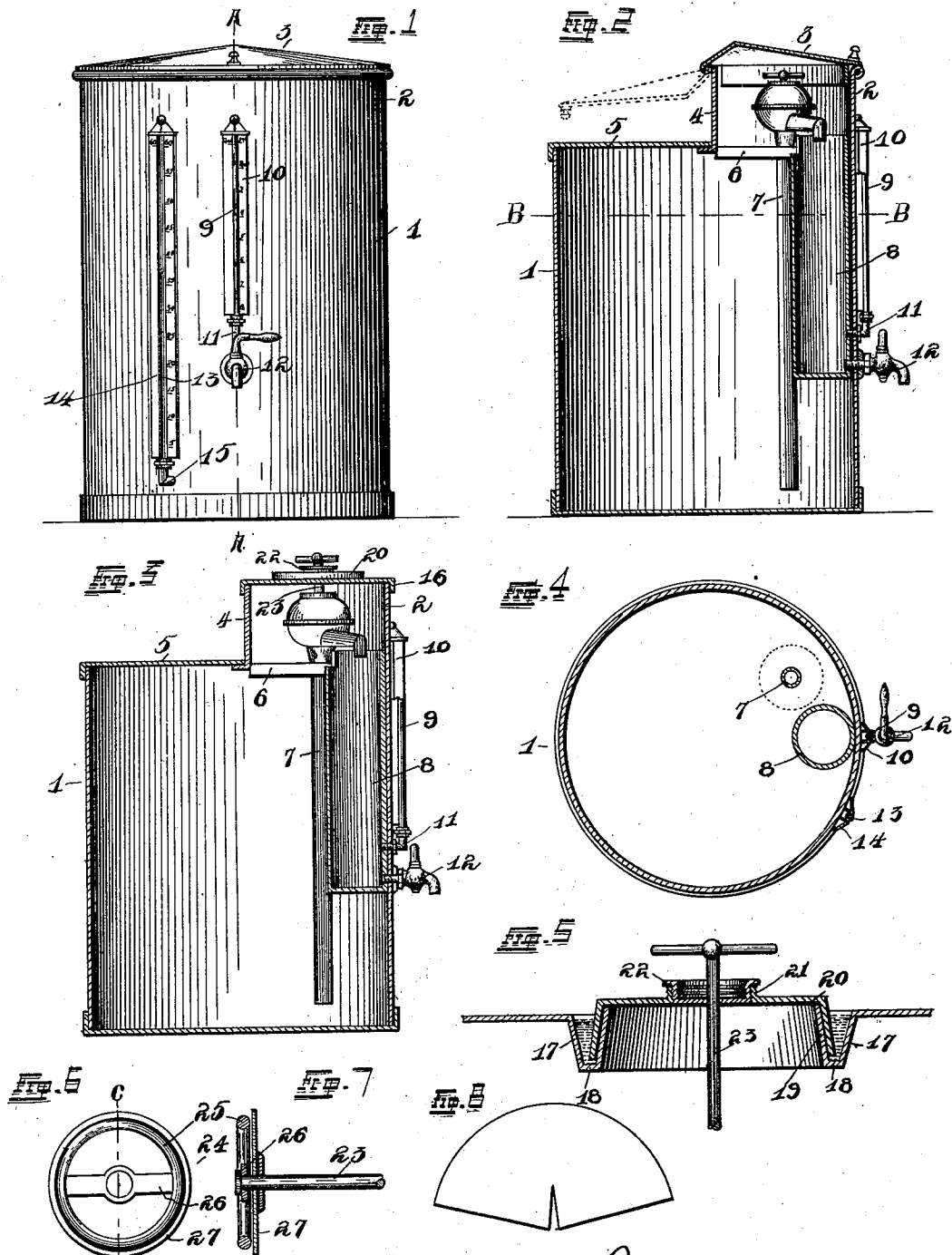


(No Model.)

L. W. HEMP.
SELF MEASURING TANK.

No. 504,527.

Patented Sept. 5, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

LEWIS W. HEMP, OF ST. LOUIS, MISSOURI.

SELF-MEASURING TANK.

SPECIFICATION forming part of Letters Patent No. 504,527, dated September 5, 1893.

Application filed March 6, 1893. Serial No. 464,793. (No model.)

To all whom it may concern:

Be it known that I, LEWIS W. HEMP, of the city of St. Louis and State of Missouri, have invented certain new and useful Improve-
5 ments in Self-Measuring Liquid-Receptacles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in a
10 "self-measuring liquid receptacle" and consists in the novel arrangement and combination of parts, as will be more fully hereinafter described and designated in the claims.

The object of my improvement is to construct a receptacle which with slight alteration can be adapted for either the reception
15 of gasoline or other evaporative liquids, or coal oil and other like liquids which are not so evaporative.

The invention embodies a self-measuring interior receptacle located within a tank, and provided with an exterior sight-tube in order
20 that its contents can be determined upon and the tank is also provided with a sight-tube to enable a knowledge of its contents.

A pump normally located within the tank-head is removable therefrom to pump liquid from a barrel or other receptacle into the tank,
25 and the outer gage is again brought into requisition to measure the amount of liquid that is being placed in the tank.

In the drawings: Figure 1 is a front elevation of my complete invention. Fig. 2 is a vertical transverse sectional view taken on a
35 line A—A in Fig. 1. Fig. 3 is a vertical transverse sectional view of my invention with a head especially constructed for use with gasoline. Fig. 4 is a plan sectional view taken on a line B—B in Fig. 2. Fig. 5 is a detail vertical sectional view of the construction which
40 I use to prevent the liquid from evaporating through the tank-head. Fig. 6 is an inverted plan view of the improved valve made use of in the pump. Fig. 7 is a vertical sectional view of the same taken on a line C—C in Fig.
45 6. Fig. 8 is a plan view of a blank from which a head is made.

Referring to the drawings: 1 indicates a cylindrical tank which in this case is shown as
50 holding sixty gallons of liquid, and commercially known as a "sixty gallon tank." It has an upwardly projecting portion 2 of substan-

tially about one half of its area, this portion being commonly known as a "head" and such it will be herein termed.

In Figs. 1 and 2 the construction is shown as
55 intended especially for coal oil or other liquids which do not evaporate, and in Figs. 3 and 5 is detailed substantially the same construction with an additional feature added in
60 order that the tank may be used for gasoline, alcohol or other evaporative fluids.

When the tank is used for coal oil the head
2 is provided with a hinged lid 3, which is secured to its inner or straight side 4. Securing
65 said side wall 4 with the periphery of the tank 1 and on a line with the top 5 of said tank is a plate 6 which provides a support for the pump barrel 7, the head of which is located
70 above said support 6 and is provided with a spout which leads over a cylindrical measuring receptacle 8 located within the tank 1 and secured to the periphery of the wall there-
75 to. In this instance the measuring receptacle 8 is designed to hold eight quarts or two gallons of liquid, and to determine the contents of said measuring receptacle without opening the lid 3, I have provided a sight tube 9 held in a frame 10 upon the exterior of the
80 can, the lower end of said sight tube connecting with the receptacle 8 by means of an elbow-coupling 11. A faucet 12 leads from said receptacle near its bottom in order that the liquid may be drawn off from said recep-
85 tacle.

Indicating numerals and letters are arranged along one side of the sight-tube 9, and arranged with the smallest numeral at the top and the largest at the bottom, and as
90 shown in the illustration, the marks read, beginning with the top, 1 qt., 2 qts., 3 qts., 4 qts., 5 qts., 6 qts., 7 qts., and 8 qts. The lid 3 is raised and the pump used to fill the receptacle 8 and if the retailer desires to sell one
95 or more quarts of the liquid he opens the faucet 12 and allows the liquid to run off until it is on a level with a line indicated by the numerals as desired.

In order that the amount of liquid in the entire tank may be determined upon, exclu-
100 sive of the measuring receptacle 8, I have provided an additional sight tube 13 secured in the frame 14 fastened to the exterior of the tank, said sight tube leading in the tank

near its bottom by means of an elbow-coupling 15. Upon said frames are indicating numerals ranging from five up to sixty in the multiples of five, and indicating the number 5 of gallons in the tank.

In measuring a larger quantity of liquid than the receptacle will hold, the faucet is opened and the oil pumped continuously through said receptacle and faucet until the 10 desired quantity has been drawn as indicated by the numerals adjacent the sight tube 13.

In filling the tank from a barrel or other receptacle the lid 3 is raised and the pump 15 completely removed and the pumpstock 7 placed in the barrel with the spout in the head 2, and the amount of liquid pumped therein can easily be determined by the indicating numerals at the side of the sight tube 13.

In case the device is used for gasoline or 20 other evaporative materials, I have especially designed the construction shown in Figs. 3 and 5. The head 2 is provided with a hermetically sealed cover 16, which as shown in Fig. 5 is provided with an annular downwardly and inwardly projecting wall 17 having a horizontal inwardly projecting flange 18 and an upwardly and inwardly annular converging wall 19, this construction being located in alignment and above the pump 7 and 30 its parts. Upon a shell 19 thus formed is adapted to fit a cap 20 having a central opening surrounded by an upwardly projecting threaded nozzle 21 over which is adapted to fit a cap 22 which is provided in the center 35 with an opening for the passage of the pump rod 23. This construction practically eliminates all danger of evaporation of the liquid, and to prevent this evaporation I have provided the space between the walls 19 and 17 40 and filled the same with water as indicated in Fig. 5, thus preventing any air from entering the tank and making the same practically air tight.

In my improvements I also embody a valve 45 24 upon the lower end of the pump rod 23, said valve consisting of a ring 25 made of wire and connected by a cross-piece 26 secured to the lower end of said rod 23 and above said ring and upon said rod is secured a rubber 50 valve 27. This is claimed as an improvement over former constructions, as the leather or rubber 27 readily allows the passage of the liquid above the valve in its downward movement and prevents any movement of said 55 rubber or leather below its plane in the upward movement of the rod.

The advantages of the construction herein described and shown are readily apparent, as 60 my invention is intended as an improvement upon other constructions upon which I am well posted.

Heretofore in measuring tanks the difficulty has been found in the impossibility of measuring small amounts of liquids without having 65 a separate receptacle for each different

size of measure and in combining means for determining the entire contents of the tank, measuring the liquid as it is stored in the tank, measuring out small quantities of the liquid from the receptacle, and measuring 70 larger quantities through the receptacle by means of the indicating marks at the side of the sight tube 13, are all valuable improvements, as are also the means which I make use of to prevent the evaporation of the higher 75 priced liquids as herein described.

My reason for making the cover 3 in the shape as shown is obvious. The canted back and front may be used for signs, &c., which would not show to advantage on a flat top. 80 The invention therefore contemplates eliminating this fault in providing an inexpensive cover such as shown.

Having fully described my invention, what I claim is— 85

1. An improved self-measuring liquid receptacle having an upwardly projecting-head, above a tank, said head provided with a hermetically sealed cover, an opening in said cover, downwardly and inwardly converging 90 walls leading from said opening, an inwardly projecting annular flange around said walls, upwardly and inwardly converging walls from said flange, a cap having distended walls adapted to fit over said upwardly and inwardly converging walls, said cap provided 95 with a central opening surrounded by an upwardly projecting screw-threaded nozzle, a cap adapted to fit over said nozzle, an opening in said cap through which the pump 100 rod passes, and the space between the distended walls of said cap and the downwardly and inwardly converging walls adapted to be filled with water or other non-gaseous liquid to prevent the evaporation of liquids within 105 said tank, substantially as set forth.

2. An improved self-measuring liquid receptacle comprising a cylindrical tank, a cylindrical measuring receptacle located therein and secured thereto, a pump-stock supported by a horizontal plate, the upper end of said pump stock provided with a spout leading into said receptacle, a sight-tube leading from said receptacle by means of a coupling 115 through the wall of the tank, and provided with indicating marks adjacent its surface to indicate the amount of liquids therein, a pump rod in said pump-stock, the lower end of said rod provided with a valve comprising a circular ring of wire, secured by the cross-piece 120 to the pump-rod, and a leather or rubber washer held above said ring, substantially as set forth.

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

LEWIS W. HEMP.

Witnesses:

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