

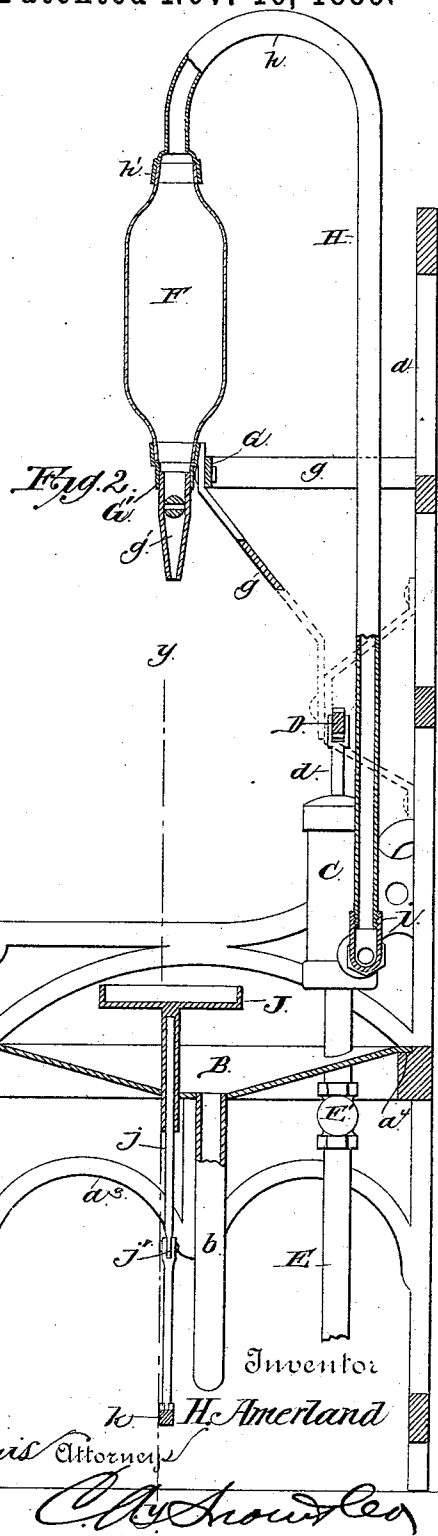
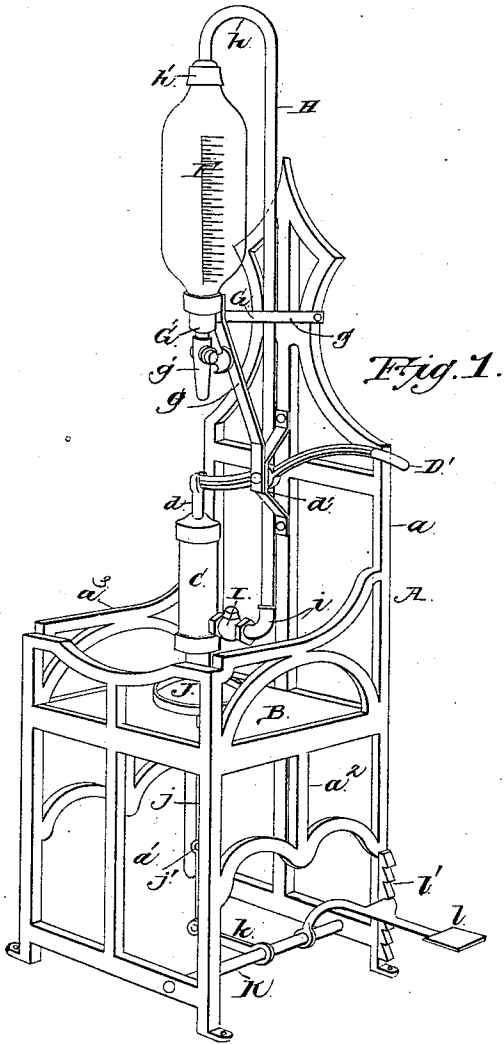
(No Model.)

2 Sheets—Sheet 1.

H. AMERLAND.
MEASURING PUMP.

No. 352,671.

Patented Nov. 16, 1886.



Witnesses
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H. Bonukar

Inventor
H. Amerland
By *His Attorney*
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(No Model.)

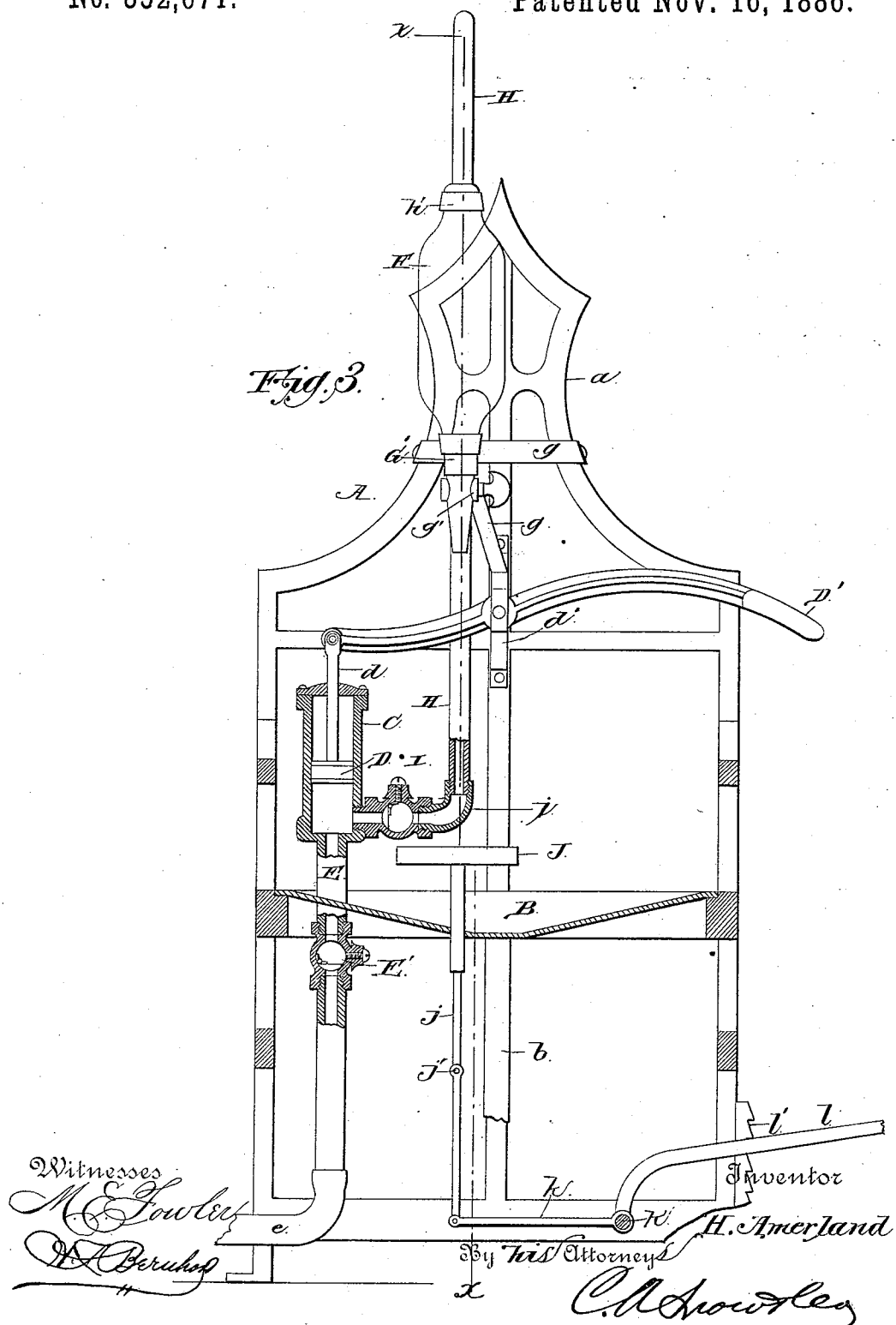
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UNITED STATES PATENT OFFICE.

HENRY AMERLAND, OF FARGO, DAKOTA TERRITORY.

MEASURING-PUMP.

SPECIFICATION forming part of Letters Patent No. 352,671, dated November 16, 1886.

Application filed March 1, 1886. Serial No. 193,662. (No model.)

To all whom it may concern:

Be it known that I, HENRY AMERLAND, a citizen of the United States, residing at Fargo, in the county of Cass, Dakota Territory, have invented new and useful Improvements in Liquid-Measures, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in liquid-measures; and it consists of the peculiar and novel construction and combination of parts, substantially as hereinafter fully described, and specifically pointed out in the claims.

The primary object of my invention is to provide an improved apparatus of the class named for drawing oils and various other liquids from casks, tanks, or other reservoirs in which such liquids are kept, and for accurately measuring the quantity of the liquid before it is discharged into the can or other vessel that is provided for the reception of the liquid.

A further object of my invention is to provide an improved portable apparatus that can be easily and readily moved and transported from place to place, and placed in a store at some distance from the tank or reservoir from which the liquid is to be drawn and to which the apparatus is connected, which, in case the reservoir contains oil and is employed in a grocery store, is usually kept in a cellar.

A further object of my invention is to provide improved means for supporting the operating devices; to provide improved means for adjusting a can-carrier at different heights from the discharge-nozzle, so that cans of different dimensions can be placed in proper position to receive the mouth of the discharge-nozzle; to provide improved means for catching and discharging the drippings or waste oil from the measuring-vessel, and to provide means that shall be simple, strong, and durable in construction, thoroughly effective and reliable in operation, and comparatively cheap of manufacture.

I attain these objects by the mechanism illustrated in the accompanying drawings.

Figure 1 is a perspective view of my improved measure. Fig. 2 is a vertical sectional view on the line $x x$ of Fig. 3. Fig. 3 is a sec-

tional view on line $y y$ of Fig. 2, showing the pump-cylinder and the supply and exit ports in section.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures of the drawings, A designates the supporting-frame of my improved liquid-measure, which comprises the upright sections $a a' a'' a'''$, which are arranged at substantially right angles to each other, and secured together in any suitable or preferred manner. Each section of the frame is cast in one piece, and for the sake of lightness and strength in construction, to render the apparatus portable, the sections are provided with open sides, so that they resemble fret-work, and on their inner faces the sections of the frame are provided with flanges or ledges a' , on which is secured and supported a drip-pan, B, that receives the waste oil from the measuring-vessel, presently described. This drip-pan B is suitably held in place on the flanges, and at or near its middle it is provided with a discharge-tube, b , that extends below the pan and projects beyond the frame to discharge the oil into a proper receptacle provided for this purpose. This drip-pan may have an upwardly-projecting flange at each of its side edges to prevent the oil or other liquid from splashing; and it may be made concave or inclined, to adapt the oil to flow toward the center or at one side.

C designates the pump-cylinder, that is suitably held in place at the angle where the sections $a a'$ meet, and in this cylinder works a piston, D, that is secured to a piston-rod, d , which extends vertically through the cylinder and its cap and is pivotally connected to one end of a handle or operating-lever, D' , which is arranged transversely across the section a of the frame A, and is pivoted at or near its middle on a pin or bolt that is secured to a bracket or support, d' , suitably secured to the section a of the frame, as clearly shown.

E designates a supply-pipe to the pump cylinder, said pipe being arranged vertically and suitably supported on the frame. One end of this supply-pipe connects, by means of any intermediate flexible or other pipe, e , with a cask, tank, or other reservoir in which the liquid is stored or kept, and the other end of the supply-pipe E enters the cylinder D at its bottom,

a check-valve, E', being fitted to the pipe and cylinder to prevent any liquid from the cylinder passing back into the supply-pipe E.

F designates the measuring-vessel, that is supported on the frame A, above the pump-cylinder, and this vessel is preferably made of glass, to permit ready inspection of its contents, and provided with a graduated scale, by means of which the quantity of liquid in the vessel can be ascertained and measured. This vessel is made tapering toward its ends, and the lower end is seated in a socket provided therefor in a bracket, G. This bracket is provided with diverging supporting-arms, g, that are suitably secured and held upon the section a of the frame; and the socket of the bracket has an opening therein that receives the discharge-nozzle G', which carries a cut-off cock or valve, g', by means of which the vessel can be emptied of its contents.

H designates a supply-pipe, intermediate of the pump-cylinder and measuring-vessel; and this supply-pipe is arranged vertically and suitably held on the section a of the frame. The upper end of the supply-pipe H is siphon-shaped or bent, as at h, and carries an enlarged flared disk, h', that provides a socket for the open tapered upper end of the measuring-vessel, which is seated therein, and thus retained and held in place; and the lower end of this supply-pipe H connects with an elbow, i, which in turn connects with a check-valve, I, intermediate of the elbow and the lower end of the pump-cylinder, said check-valve I serving to prevent the liquid from flowing back into the cylinder from the pipe H.

J designates a can carrier or disk that is arranged above the drip-pan and immediately beneath the discharge-nozzle of the measuring-vessel. This carrier or disk is mounted on the upper end of the vertically-movable rod j, which is jointed intermediate of its length, as at j', said rod moving through and guided by an opening of proper diameter in the drip-pan. The lower end of this vertically-movable jointed rod is pivoted to an arm, k, of a rock-shaft K, and this rock-shaft is journaled in proper bearings in the lower ends of the frame A, and carries a lever or foot treadle, l, which extends at its free end beyond the frame, within convenient reach of the operator standing beside the apparatus, the free outer end of this lever or treadle being adapted to engage one of a series of teeth on a rack-bar, l', so that the can carrier or disk can be securely maintained in its desired adjustment.

The operation of my invention is as follows: A can, bottle, or any other receptacle or vessel to be filled is placed on the carrier J, which is then adjusted vertically by pressing on the lever or treadle l, so that the rock-shaft will be oscillated and force the vertically-movable jointed arm upwardly until the disk reaches a proper elevation or height, so that the mouth of the can or other vessel can be fitted to snugly engage the lower end of the discharge-nozzle, after which the lever or treadle l is engaged

with the rack l' to hold the carrier and can or vessel firmly in place. The handle or lever D' is now moved or operated to reciprocate the plunger D vertically and draw oil or other liquid in the cylinder through the supply-pipe E, and when the oil has been drawn into the cylinder it is forced therefrom by the downstroke of the piston into the pipe H, and from thence into the measuring-vessel G. When the proper quantity of liquid has accumulated in the measuring-vessel, which can readily be ascertained by consulting the scale thereon, the operation of pumping is discontinued and the valve g' turned to allow the liquid to flow into the can or vessel through the discharge-nozzle, after which the carrier or disk is lowered and the can or vessel removed.

The above-described operation is repeated each time a vessel is to be filled with a given quantity of oil or other liquid.

It will thus be seen that all of the operative parts of my improved apparatus are carried by the frame, and that the same can be readily moved or transported from place to place.

The apparatus can be located at a distance from the reservoir that contains the liquid, and connected thereto, which features are of great advantage, particularly in stores or warehouses, as it saves the labor and inconvenience of going to the cask or reservoir each time the liquid is to be drawn, and which is usually located in the cellar, and of moving the heavy and cumbersome casks into juxtaposition with one another in emptying them.

Various slight changes in the form and proportion of parts and details of construction may be made without departing from the spirit or sacrificing the advantages of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a portable frame, as A, a drip-pan carried by the frame, a pump-cylinder, C, supported on the frame above the drip-pan and having the piston, a measuring-vessel, F, also supported on the frame and arranged above the drip-pan, and the cylinder carried thereby, a valved supply-pipe, E, to the cylinder, a pipe, H, intermediate of the cylinder and the measuring-vessel, and a pivoted lever for operating the piston, substantially as described, for the purpose set forth.

2. The combination of a frame, a supply-pipe having the socket h', a bracket, G, mounted on the frame and having a similar socket, and a measuring-vessel supported in the said sockets, substantially as described.

3. The combination of a frame, a supply-pipe, H, having a bent end and a flaring socket, h', a bracket, G, having a similar socket carrying a valved discharge-nozzle and provided with diverging arms securing the bracket to the frame, and a measuring-vessel having reduced open ends fitted in the said sockets to support the vessel, substantially as described.

4. In a portable measuring device, the com-

5 bination of a carrying-frame having a drip-
pan, a cylinder, C, secured to the frame, a pis-
ton working in the cylinder, a lever pivoted
on the frame and connected to the piston-rod,
10 a measuring-vessel secured on the frame above
the drip-pan and cylinder, a valved supply to
the cylinder, a supply-pipe intermediate of
the cylinder and measuring-vessel, a vertically-
movable can-carrier arranged above the drip-
15 pan, a rock-shaft journaled in the frame be-
neath the drip-pan, connections intermediate
of the rock-shaft and can-carrier for actuating
the latter, and means for oscillating the rock-
shaft, substantially as described.

15 5. In a portable measuring device, a frame

carrying a measuring-vessel and a drip-pan,
in combination with a vertically-movable can-
carrier arranged above the drip-pan, a rock-
shaft carrying an arm and a lever or treadle,
and a jointed rod or arm passing through the 20
drip-pan and connected to the can-carrier and
the arm of the rock-shaft, substantially as de-
scribed.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 25
presence of two witnesses.

HENRY AMERLAND.

Witnesses:

W. A. DAILEY,
J. D. VOWLES.