

(No Model.)

W. L. ROWLAND.

DEVICE FOR DISCHARGING LIQUIDS FROM VESSELS.

No. 505,642.

Patented Sept. 26, 1893.

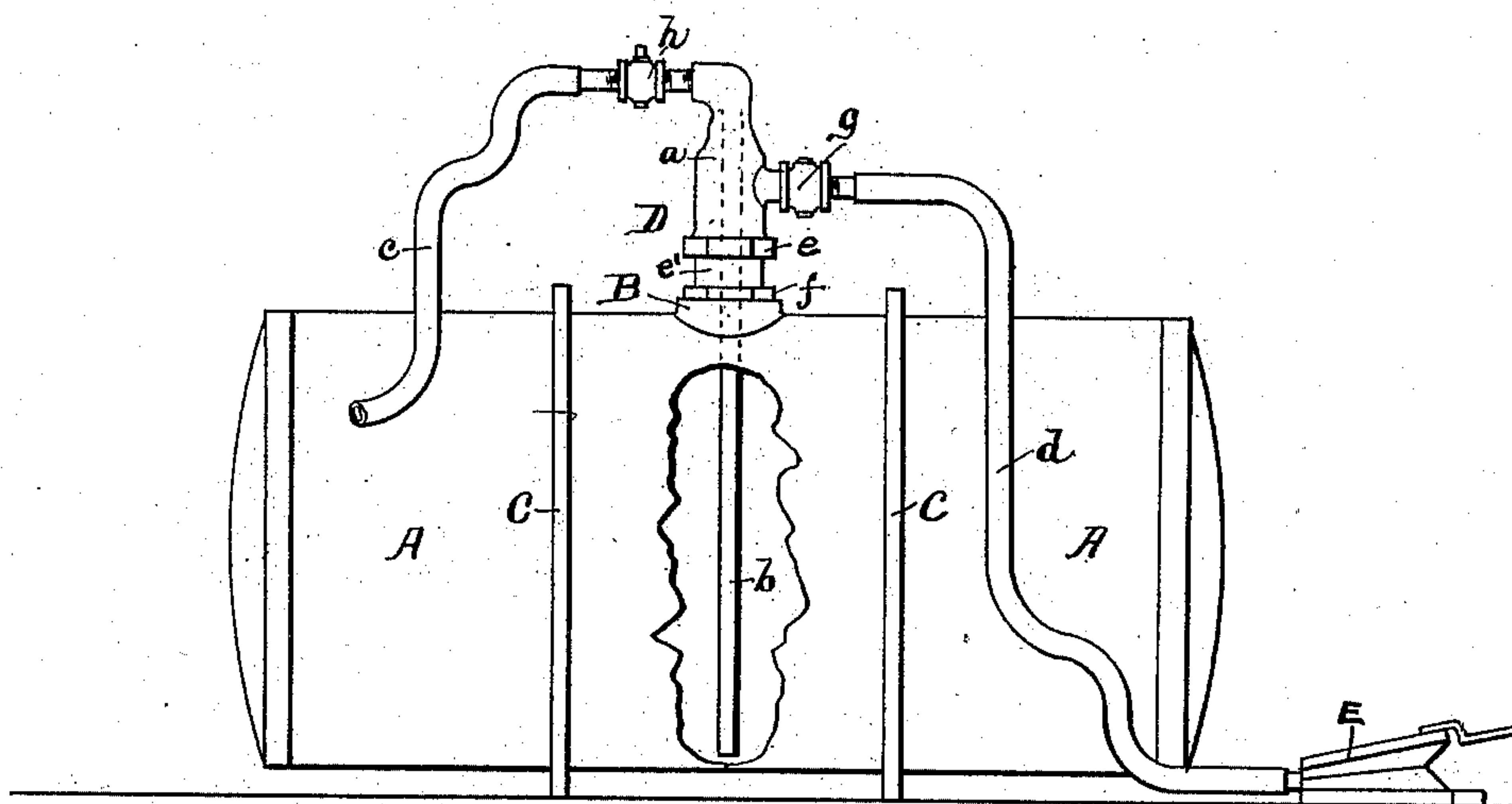


FIG. 1.

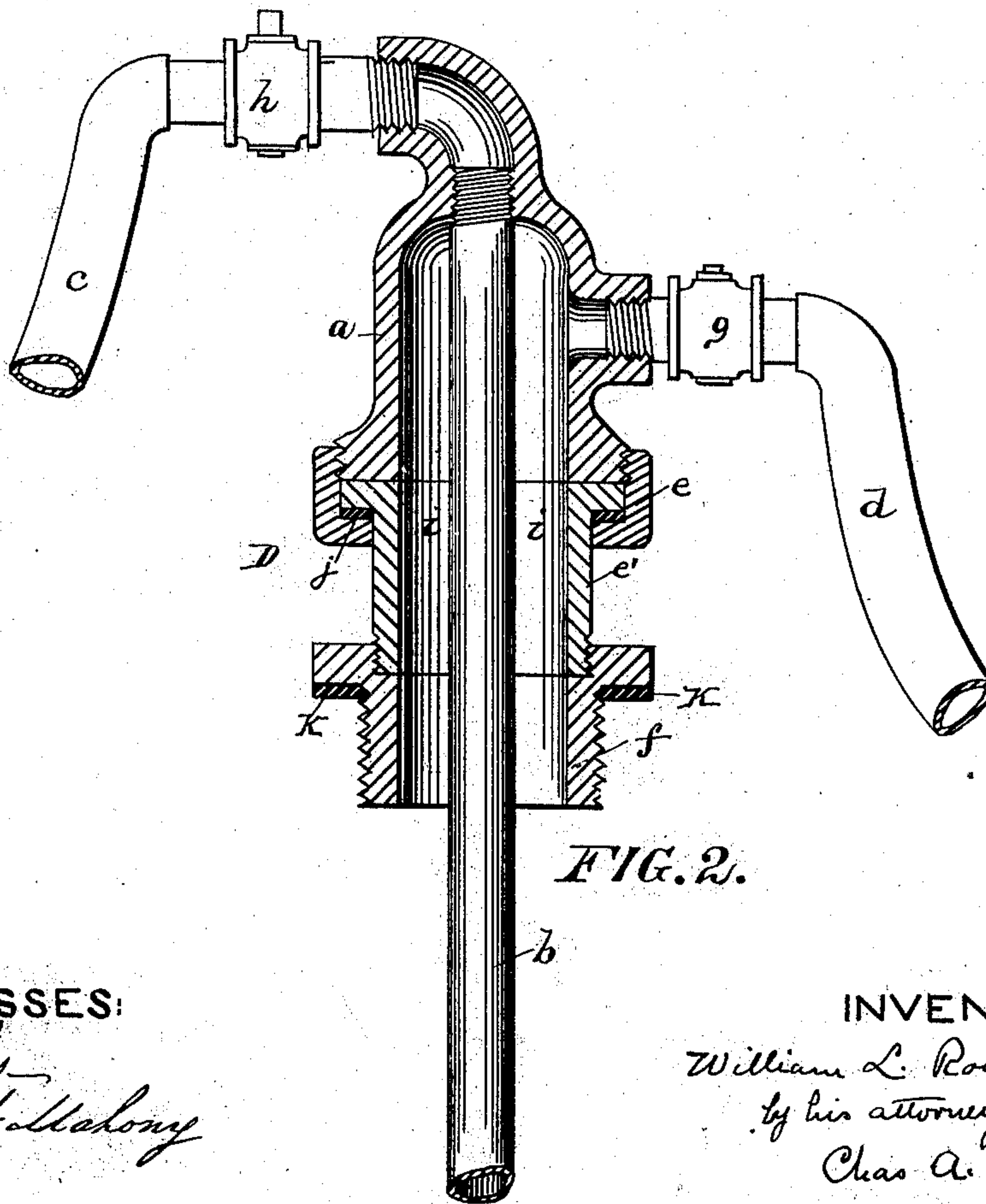


FIG. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM L. ROWLAND, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR DISCHARGING LIQUIDS FROM VESSELS.

SPECIFICATION forming part of Letters Patent No. 505,642, dated September 26, 1893.

Application filed December 8, 1892. Serial No. 454,425. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. ROWLAND, a citizen of the United States, and a resident of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Discharging Liquids from Vessels, of which the following is a specification.

My invention relates to improvements in devices for discharging liquids from vessels and more particularly to improvements in devices for discharging aqua ammonia, &c., from the iron drums or barrels in which it is usually shipped in bulk. At present it is usual to discharge iron shipping drums by means of a suction pump or by a siphon. Both of these methods are objectionable. The first is not reliable for aqua ammonia, particularly in summer weather as the ammonia boils at a comparatively low temperature; the second, in that the drums, which with their contents are very large and heavy, have to be elevated upon skids in order to obtain a sufficient elevation for the operation of the siphon. My device for discharging the drums consists of what I term a pressure faucet which is screwed into the bung hole of the drum and which is furnished with an air passage or passages through which air may be forced into the interior of the drum from a foot blower or other suitable air compressing device and with a discharging pipe, through which the liquid contents of the drum may be forced by the pressure of air to the receiving vessel.

In the accompanying drawings forming part of this specification and in which similar letters of reference indicate similar parts throughout the several views, Figure 1 is a side elevation partly broken away of a drum furnished with my discharging apparatus and Fig. 2 an enlarged central sectional elevation of the pressure faucet.

A. is the usual shipping drum, B. the bung hole of the drum C. C—bands secured to the drum and at each side of the bung to protect this latter from injury when the drum is being rolled from one place to another.

The faucet D is constructed of five pieces, an upper part or cap *a*, a liquid discharge pipe *b*, a flanged pipe *e'*, a coupling *e*, for securing the cap *a*, and flanged pipe *e*, together,

and a screw plug *f*, into the upper end of which the flanged pipe *e'* is screwed. A pipe or hose *c* conducts the liquid from the faucet to the vessels to be filled, and an air pipe *d*, conducts air from the blower to the interior of the faucet.

E. is a foot blower, or some other suitable device for compressing air, which is connected with the upper part of the faucet by means of the hose or pipe *d*. *g* is a check valve on this hose or pipe which allows air to pass to the interior of the faucet but prevents its return to the blower.

h, is a stop cock on the outlet pipe *c* by means of which the flow of liquid through this pipe may be regulated.

The bung holes of the shipping tanks are of a uniform size and are necessarily small, and in order that the liquid outlet pipe *b* may be of sufficient capacity to empty the tank quickly it is necessary that it be arranged substantially as I have shown it, that is, placed within the faucet D, preferably centrally located within this faucet, leaving an air space *i* all around it through which air from the pipe *d* may pass to the interior of drum A. After the lower piece is screwed into the bung hole the upper part *a* may be turned in any required direction and the union *e* then set up to make a perfectly tight joint between the upper part *a* and the stationary part *e'* of the union. *j* is a packing to prevent leakage at the union and *k* a packing to prevent leakage between the lower part *f* and the bung.

In operating the device it is only necessary for the attendant to occasionally operate the blowers E which will force enough air into the drum A, and under sufficient pressure, to cause the liquid in the drum to flow up through the pipe *b* and out through pipe *c* to the receiving vessel in a steady stream. The blower is operated again when the stream of liquid passing out pipe *c* is seen to be becoming weak. The pipe *b* it will be seen from Fig. 1 reaches nearly to the bottom of the drum so as to discharge all or nearly all the contents of the drum.

What I claim is—

1. The combination in a faucet for discharging liquids from vessels of a hollow screw plug adapted to be screwed into the bung hole of

the vessel, a pipe, the lower end of which is adapted to be screwed into the upper end of said screw plug and the upper end of which is flanged, an upper part or cap adapted to
5 be placed on the flanged pipe, and having an air inlet at its side and a liquid outlet at its top, a coupling for securing the flanged pipe and cap together, a liquid discharge pipe secured to the liquid discharge opening in said
10 cap and passing down through said cap, flanged pipe and screw plug, and devices substantially as described for compressing air and conveying it to and through said air inlet in said cap.

15 2. The combination in a device for discharging liquids from vessels of a hollow screw plug adapted to be screwed into the bung hole of the vessel, a flanged pipe projecting upwardly

from said screw plug, a cap resting on said flanged pipe, an air outlet inside of said cap, 20 a liquid outlet in top of said cap, a coupling for securing said cap to said flanged pipe, a liquid discharge pipe secured to the liquid discharge opening in said cap and passing downward through said cap, flanged pipe and 25 screw plug, an air compressing device, a pipe leading from said air compressing device to air inlet inside of cap, and a check valve between said air compressor and said air inlet in said cap, all substantially as and for the 30 purpose set forth.

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Witnesses:

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