No. 673,546. Patented May 7, 1901.

J. M. NYE.

SIPHON.

(Application filed Aug. 27, 1900.)

(No Model.)

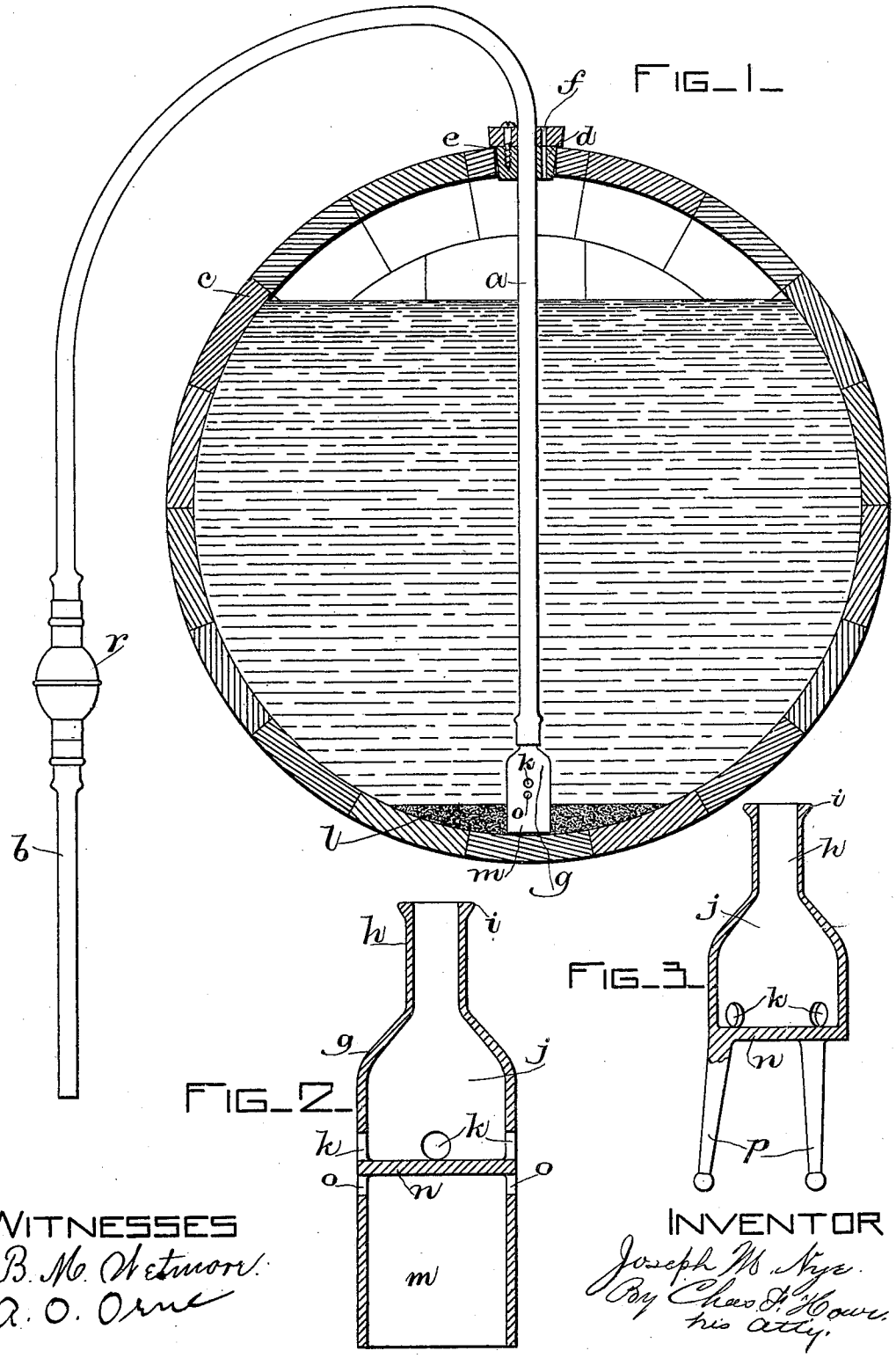


FIG. 1.

FIG. 2.

FIG. 3.

WITNESSES

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SIPHON.

SPECIFICATION forming part of Letters Patent No. 673,546, dated May 7, 1901.

Application filed August 27, 1900. Serial No. 28,205. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MERRILL NYE, a citizen of the United States, residing in Dorchester, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Siphons, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relating to siphons concerns particularly devices for preventing disturbance of the sediment usually precipitated from liquids contained in receptacles as the liquid is removed therefrom.

As siphons are commonly used no provision is made for preventing the loose end of the draft-tube from stirring up any foreign matter contained in the receptacle, and in consequence it is difficult to put up the liquids in merchantable condition in convenient packages without considerable loss of liquid and time. The less liquid in the receptacle the greater the annoyance becomes, and it is necessary to filter many gallons of each receptacle or else wait many hours for the liquid to again become clear. So, also, if the discharge should be stopped the liquid in the siphon will when returned to the receptacle impinge violently on the sediment, rendering the liquid turbid and preventing renewal of the discharge for a long time.

My invention overcomes the faults above outlined; and it consists of devices attached to the draft-tube of the siphon that restrain or prevent its motion in the liquid, furnish passages that tend to prevent strong currents and direct whatever currents there may be clear of the precipitated settlement, and that support the draft-tube from the bottom of the receptacle, or, if desired, in an adjustable manner from some other portion thereof or from some other convenient fixture.

An efficient form of my invention may have a heavy mass attached to the draft-tube which by its weight will, if resting on the bottom of the receptacle, prevent motion of the tube or, if suspended in the liquid, check or diminish the swaying of the tube, the inlets to which may be above and about parallel or inclined upward sufficiently from the surface of the sediment of the receptacle to prevent currents or jets in either direction from rendering the liquid turbid. Any device may be used to keep the end of the tube still. A weight is referred to merely as convenient.

Referring to the drawings, Figure 1 shows my siphon attached to a cask. Fig. 2 shows a longitudinal section of the mass or liquid inductor. Fig. 3 shows a modification of the inductor.

The siphon, made of any suitable material, as rubber, consists of a draft-tube *a* and a discharge-tube *b*, the draft-tube being positioned in the cask *c* by a stopper *d*, having a supporting-shoulder *e* resting on the edge of the bung-hole. The draft-tube fits rather tightly in the stopper, so the friction may be sufficient to support the tube at any height in the cask, and an aperture *f* is provided in the stopper to admit air-pressure above the liquid. It is advantageous to make the stopper in two pieces, which may be united by screws or cement.

I attach to the extremity of the draft-tube an inductor *g*, made of non-corrosive heavy metal, by means of a neck *h*, having a ridge *i* to form a tight joint with the tubing, the neck affording a passage from the tubing to the chamber *j* in the body of the inductor. This chamber is supplied with a series of openings *k* near its bottom to cause the liquid to flow from all directions into the chamber in small streams, each of which is of insufficient volume by itself or the combined currents of all at once flowing into the inductor to affect the precipitate on the bottom thereof, as the currents converging at the center nullify each other. The openings should be at such angles in the inductor that if liquid should flow into the cask, as when the flow is stopped and the discharge-tube is lifted to clear the system, the streams from the openings will be parallel or slightly inclined upward from the level of the sediment, so as to prevent disturbance of the same. As it is necessary to keep the openings *k* above the sediment *l* of the cask, I furnish the inductor with a hollow base *m*, that is preferably made continuous below the said inductor to cut off currents of liquid that might pass beneath the bottom *n* of the chamber. Near the top of the base holes *o* are made to permit air to escape as the device sinks in the liquid, so

there may be no bubbling as the base enters the sediment. Sometimes the base consists of legs *p*. This, however, makes the device lighter, which is not so well suited to the purposes of the invention.

The discharge-tube *b* includes a syringe *r* to remove the air from the siphon, so it may fill with liquid from the cask by means of the air-pressure admitted through the aperture *f* to the surface of the liquid to start the flow, which is maintained by the air-pressure through the said aperture *f* in the stopper. Once started the flow will continue until the liquid falls below the openings *k*, when the liquid in the siphon will fall out of each tube. If it is desired to stop the flow before the cask is drained, in case the discharge-tube should not be furnished with a stop-valve, the discharge-tube may be lifted high enough to allow the liquid to fall into the draft-tube to the level of the liquid in the cask. Then to again start the flow the air which has entered the discharge-tube and the portion of the draft-tube above the liquid-level must be again removed by the syringe *r*.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a siphon, a draft-tube provided with a series of inlets for the liquid and a hollow heavy base closed at the top but open at the bottom with holes through the said base near its top, a support resting on the cask having a frictional connection with the draft-tube and means for admitting air to the cask, combined with a discharge-tube provided with devices for removing air from the discharge and draft tubes.

2. An inductor for a draft-tube provided with a chamber in its body having openings therethrough and a neck for connecting the draft-tube, combined with a hollow base open at the bottom and having holes in the said base near its top, substantially as described.

In testimony whereof I have hereunto subscribed my name this 23d day of August, A. D. 1900.

JOSEPH MERRILL NYE.

Witnesses:
B. M. WETMORE,
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