(No Model.)

R. F. SCANNELL.

GASOMETER FOR WASHING CARBONIC ACID GAS.

No. 300,018. Patented June 10, 1884.

Fig. 1.

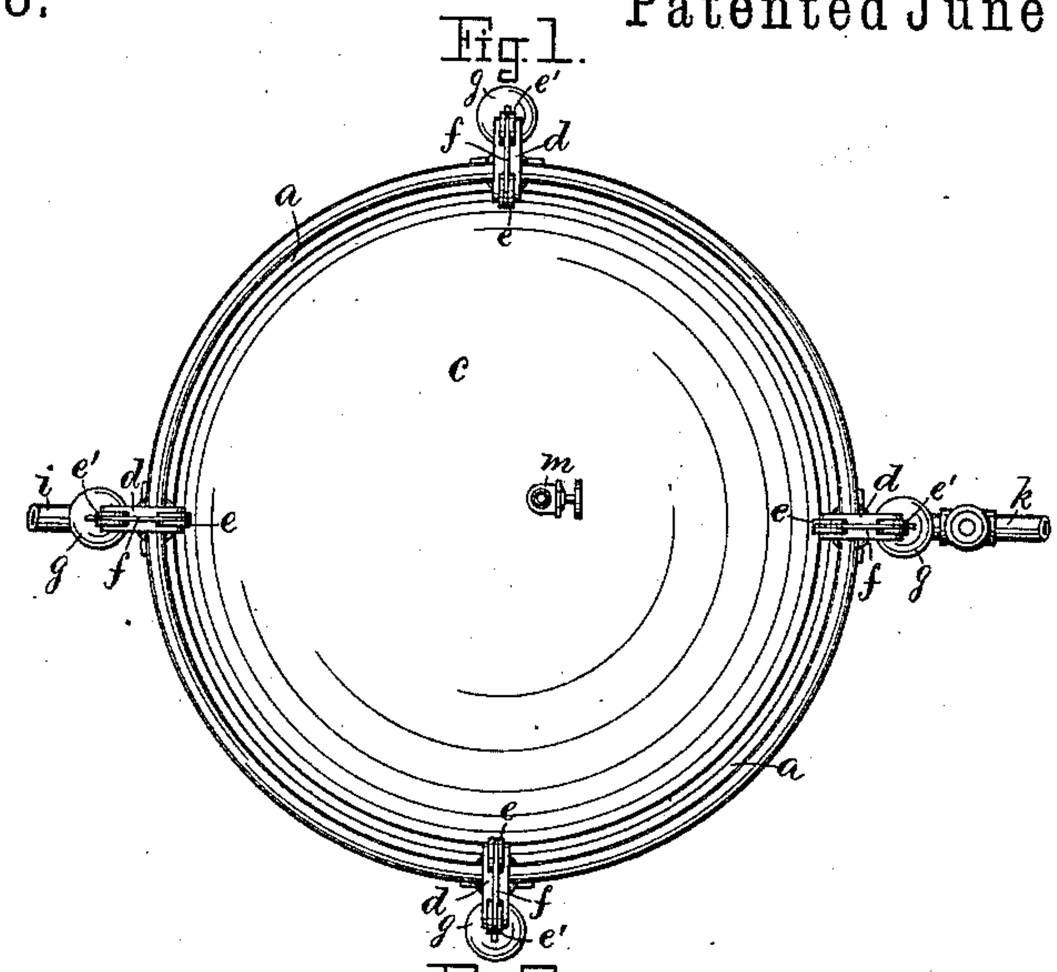
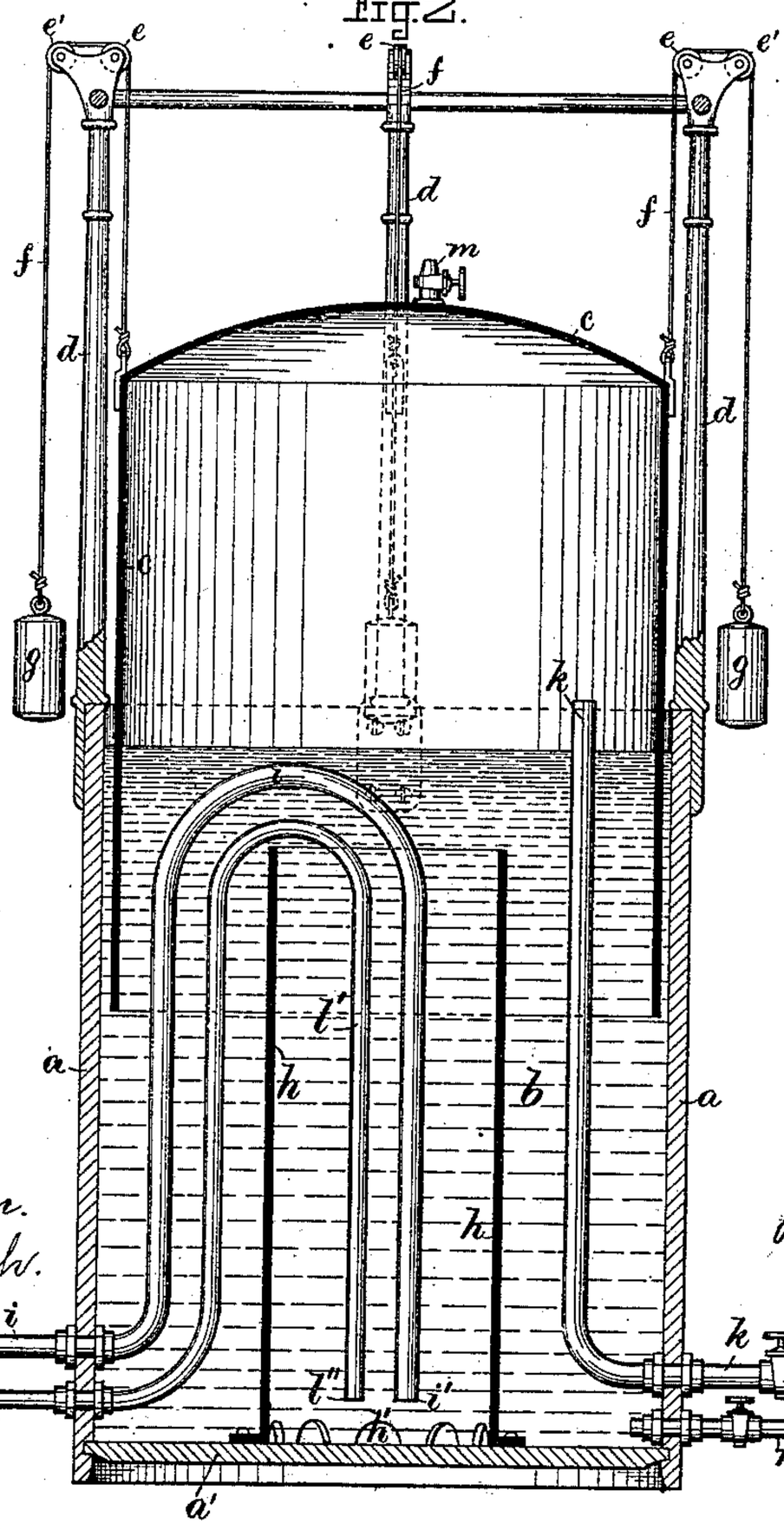


Fig. 2.



Witnesses

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by

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UNITED STATES PATENT OFFICE.

ROGER F. SCANNELL, OF BOSTON, MASSACHUSETTS.

GASOMETER FOR WASHING CARBONIC-ACID GAS.

SPECIFICATION forming part of Letters Patent No. 300,018, dated June 10, 1884.

Application filed January 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROGER F. SCANNELL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Gasometers for Washing Carbonic-Acid Gas; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in gasometers for washing carbonic-acid gas, and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a plan view, and Fig. 2 represents a central longitudinal section, of the improved gasometer.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, *a* represents the stationary tub or receptacle, as usual, containing the water *b*, in which the carbonic-acid gas is washed. *a'* is the bottom of the tub *a*, as usual. The upper end of the tub is open, and into it projects downward the inverted bell *c*, the lower end of which is open and submerged into the liquid *b* in the ordinary manner of arranging the bell in combination with the tub of a gasometer.

d d d are the pulley-posts, secured in their lower ends to the tub *a*, and provided in their upper ends with pulleys *e e'*, over which are carried the respective chains or cords *f f f*, the inner ends of which are secured to the bell *c*, and having suitable balance-weights, *g g g*, attached to their respective outer ends in the usual manner, for the purpose of guiding and partially balancing the bell *c* as it moves vertically up or down in the tub *a*. Within the tub *a* is located the cylinder, pipe, or vessel *h*, that is open in its upper end and secured in its lower end in a suitable manner to the bottom *a'* of the tub *a*, as shown in Fig. 2. At the junction of the bottom *a'* of the tub and the lower end of internal cylinder, *h*, are on the latter a number of perforations, *h' h'*, to permit free access of the liquid *b* to the interior of cylinder *h* from the surrounding portion of tub *a*, and vice versa when the gasometer is in use and while it is being emptied of its liquid contents.

i is an inverted-U pipe leading from the carbonic-acid-gas generator, and terminating in its lower open end, *i'*, within and near the bottom of the interior shell or cylinder, *h*, as shown in Fig. 2. Said pipe *i* serves to conduct the gas that is to be washed into the lower end of shell *h*, and thence upward through the liquid *b* and into the bell or receiver *c*, and by this means to prevent a portion of the ascending gas from escaping through the annular space between the exterior of bell *c* and interior of tub *a*, as is a common objection in gasometers where the gas is free to ascend throughout the entire liquid contents of its tub. The interior shell or cylinder, *h*, with its inclosed delivery-pipe *i*, forms an essential feature of my invention, and by its means all unnecessary waste of gas is entirely prevented during the process of washing it. *k* is the usual gas-delivery pipe leading from the interior of the bell *c* (above the level of the water *b*) to the agitator in the ordinary way.

In filling siphon-bottles a great deal of waste of the best and purest gas is occasioned by the usual letting off of the surplus gas from the bottle to enable it to be thoroughly filled. The usual method in filling siphons with aerated liquids is to charge them with the gas and liquid thoroughly mixed until an equilibrium of pressure is established between the pump and the interior of the siphon. A portion of the gas is set free within the siphon and rises above the liquid in the same, and to enable the siphon to be filled it has been found necessary to allow the free gas in the siphon to escape by opening the cock of the bottle, and after the gas has escaped the bottle is closed and recharged, and the process repeated until the siphon is thoroughly filled with the aerated beverage. To prevent such waste of the best and purest gas I conduct a pipe, *l*, from the gas-exhaust on the filling-machine (any of the usual kind—not, however, shown in the drawings) to the interior of tub *a*, where it terminates as an inverted-U pipe, *l'*, the lower open end, *l''*, of which projects into the shell *h*, as shown in Fig. 2, by which arrangement the exhaust-gas let out from the

siphons during the process of charging them is automatically conducted into the gasometer and mixed with the gas contained therein, to be used over again, and thus preventing all unnecessary waste.

m is the usual valve in the upper part of bell *c*, for the purpose of allowing atmospheric air within the bell *c* to escape when the machine is first being charged.

n is a discharge-pipe with a valve, as usual, for the purpose of drawing off the liquid contents of the tub *a*, as occasions may require.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. A gasometer having the stationary tub *a* and vertically-adjustable bell *c*, in combination with the interior shell or cylinder, *h*, and gas-delivery pipe *i*, as and for the purpose set forth.

2. The combination of tub *a*, having shell *h*, and gas-inlet pipe *i*, terminating near the bottom of said shell, with bell *c*, as and for the purpose set forth.

3. The combination of tub *a*, having shell *h*, and inlet-pipe *l*, terminating near the bottom of said shell, with bell *c*, as and for the purpose set forth.

4. The combination of tub *a*, having shell *h*, and inlet-pipes *i l*, terminating near the bottom of said shell, as and for the purpose set forth.

5. The combination of tub *a*, having shell *h*, and gas-inlet pipe *i*, terminating near the bottom of said shell, with bell *c* and gas-discharge pipe *k*, as and for the purpose set forth.

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

ROGER F. SCANNELL.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.