

(No Model.)

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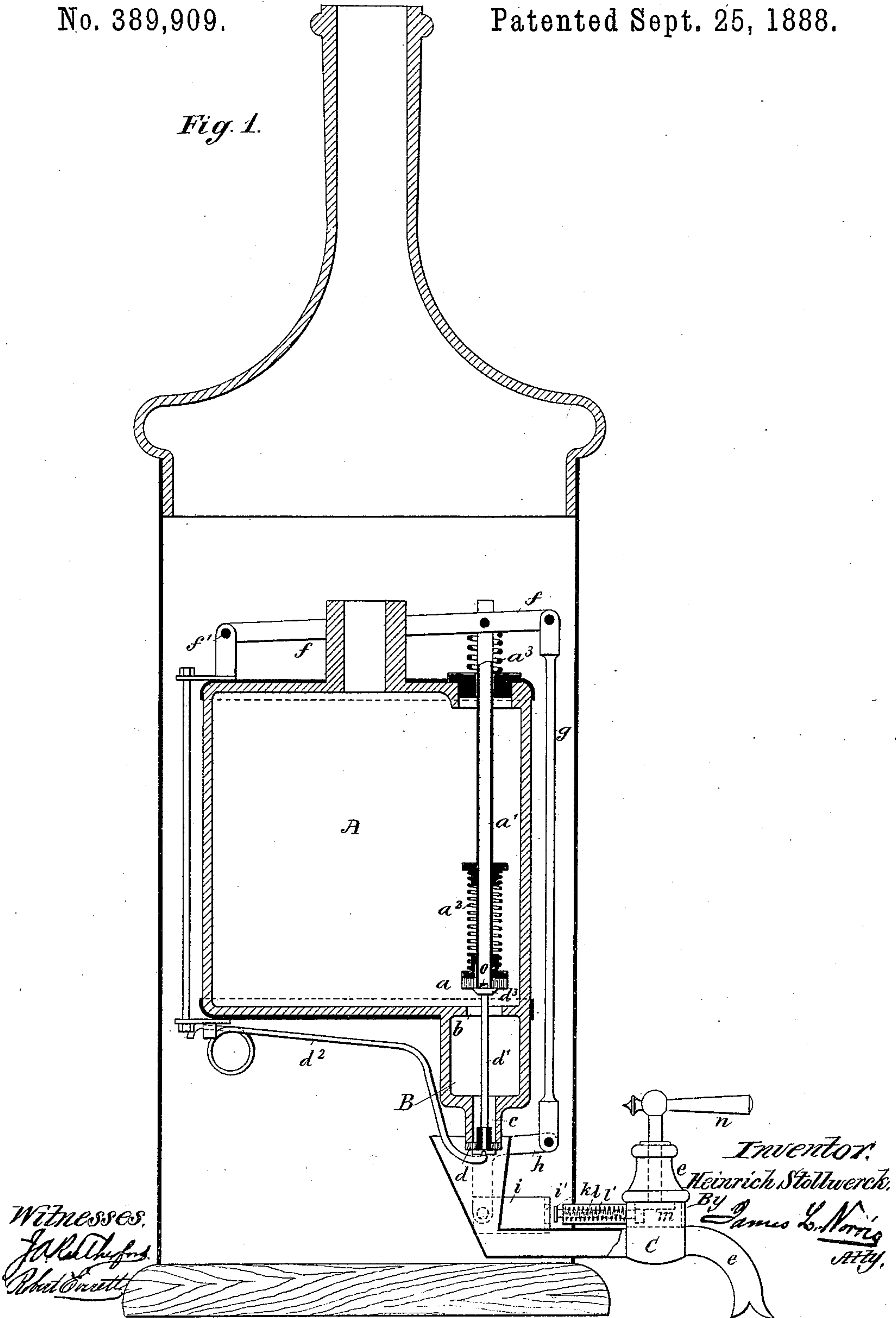
H. STOLLWERCK.

APPARATUS FOR THE DELIVERY OF A GIVEN QUANTITY OF LIQUID
IN EXCHANGE FOR A COIN.

No. 389,909.

Patented Sept. 25, 1888.

Fig. 1.



(No Model.)

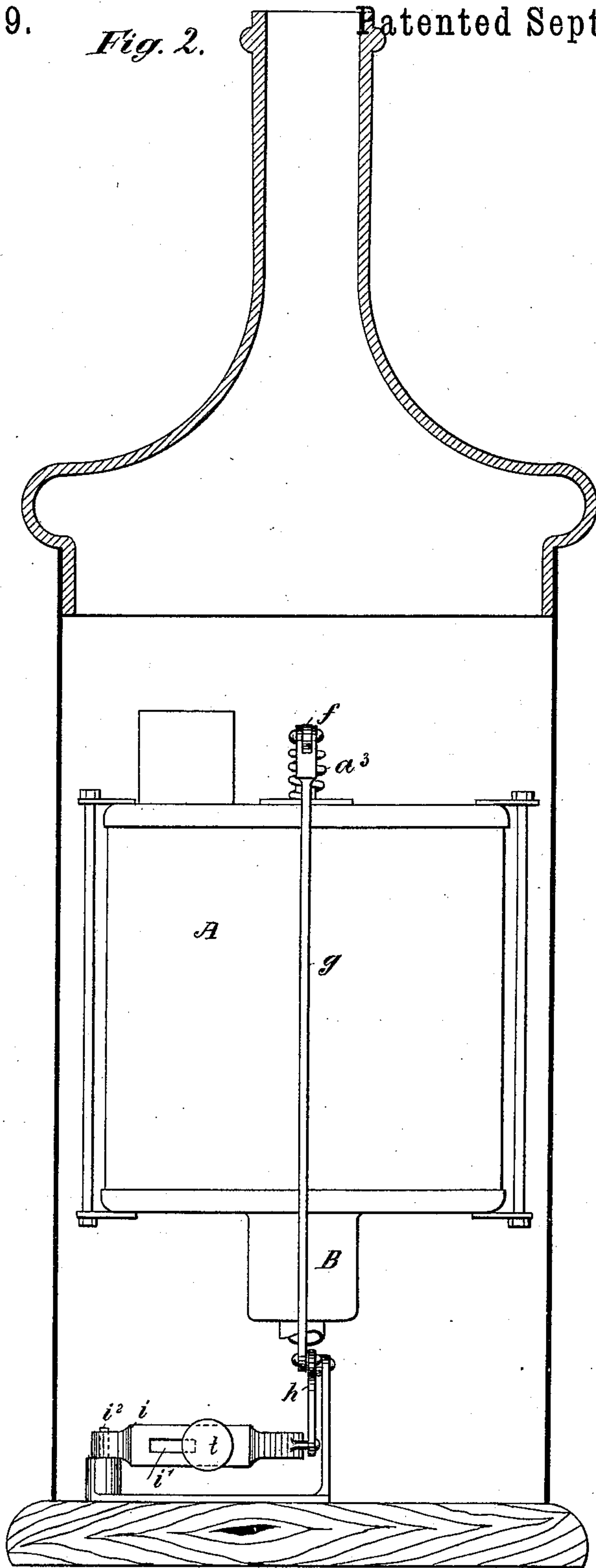
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Fig. 2.

Patented Sept. 25, 1888.



Witnesses.

J. A. Rutherford
Robert Everett

Inventor.

Heinrich Stollwerck
By James L. Norris, atty.

(No Model.)

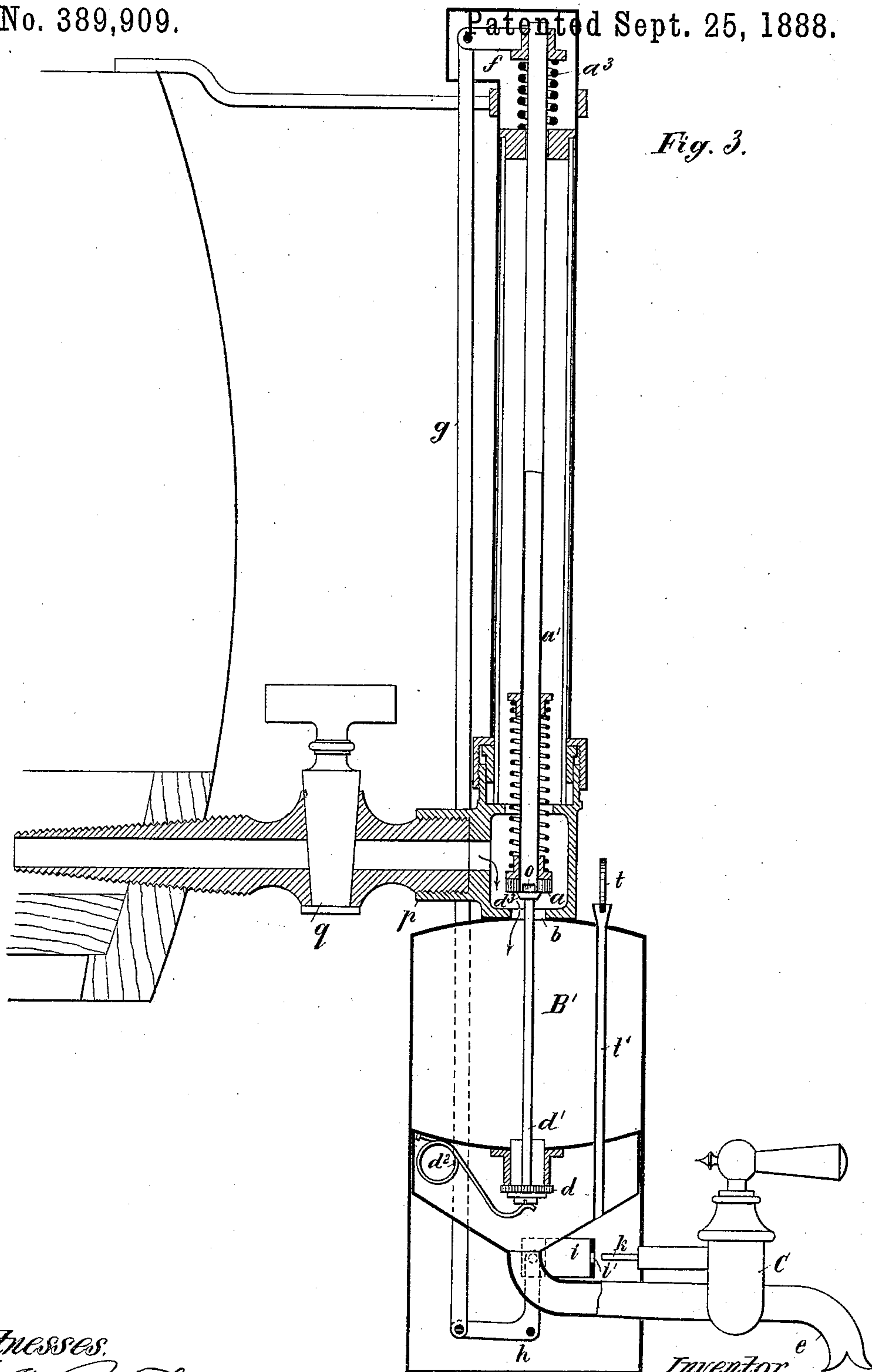
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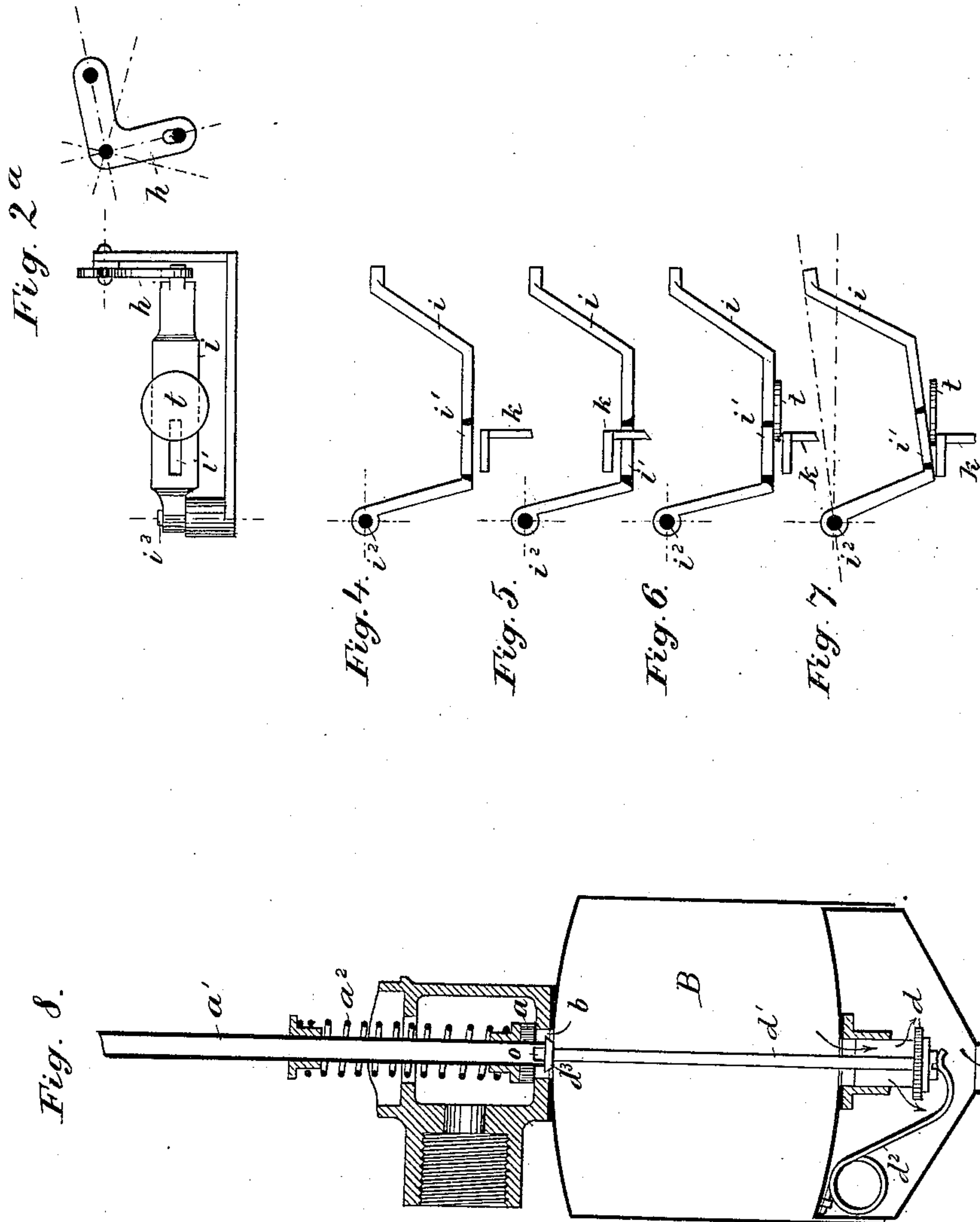
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Robert Everett.

Inventor.
Heinrich Stollwerck.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

HEINRICH STOLLWERCK, OF COLOGNE, PRUSSIA, GERMANY, ASSIGNOR TO
SCHILLING, STOLLWERCK & CO., OF NEW YORK, N. Y.

APPARATUS FOR THE DELIVERY OF A GIVEN QUANTITY OF LIQUID IN EXCHANGE FOR A COIN.

SPECIFICATION forming part of Letters Patent No. 389,909, dated September 25, 1888.

Application filed December 22, 1887. Serial No. 258,707. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH STOLLWERCK, of the city of Cologne-on-the-Rhine, in the Kingdom of Prussia and German Empire, have
5 invented a certain new and useful Improvement in Apparatus for the Automatic Delivery of Liquids, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of
10 reference marked thereon.

This invention relates to an improved apparatus which is intended to deliver a certain quantity of liquid, or of a solid substance, after
15 a coin has been introduced into the said apparatus.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional view of my improved apparatus. Fig. 2 is an
20 elevation of the same at right angles to Fig. 1. Fig. 2^a is a detail of Fig. 2. Fig. 3 is a sectional view of a modification of the improved apparatus. Figs. 4 to 8, inclusive, show details of construction.

Referring to Figs. 1 and 2 of the drawings,
25 A is a receptacle, and B a measure or measuring-compartment, which, like most of the actuating parts, are shown as being contained in a casing of the shape of a bottle. The receptacle A, which is to contain the liquid to be sold, communicates with the measuring-compartment B
30 through an aperture, *b*, which is arranged to be closed by means of a valve, *a*, controlled by the spiral spring *a*². The measure B is provided with an outlet, *c*, which is controlled by
35 a valve, *d*, moved from its seat in an opposite direction to the movement of the valve *a*, the valve-rod *d'* of the said valve *d* forming a continuation of the rod *a'*, carrying the valve *a*.

When the apparatus is in its normal position, the valve *a* will be open, while the outlet
40 *c* of the measure B is closed by the valve *d*, which is held upon its seat by a spring, *d*². It will be seen that by means of this arrangement a suitable mechanism brought to act with downward pressure upon the rod *a'* of the valve *a*
45 would at the same time both close the aperture *b* by means of the valve *a* and open the outlet *c* by means of the valve *d*, so that the liquid, having entered from the receptacle A
50 into the measure B and filling the latter,

would by the operation of the said mechanism be allowed to escape therefrom through the outlet *c*, and through a tap, *e*, connected therewith, into a glass or other receptacle held under the said tap *e*. The said mechanism, 55 which is put into operation by the insertion of a coin in any convenient and well-known manner, consists of a lever, *f*, fulcrumed at *f'*, and carrying the valve-rod *a'* and the connecting-rod *g*, pivoted thereto, the other end 60 of which is pivoted to a bell-crank lever, *h*, connected to the bent lever *i*, whose peculiar shape is best seen from Figs. 2^a and 4 of the drawings, and which is fulcrumed to the bottom of the casing at *i*², Fig. 2, and provided 65 with a slot or aperture, *i'*.

k is an angular sliding bar, the free end of which corresponds to the size of the slot *i'*, and is arranged at such a distance from the latter as to cause the coin which is introduced between 70 the lever *i* and the angular bar *k* to be held by the latter against that part of the lever *i* having the slot *i'*, as shown in the top view, Fig. 6. The angular sliding bar *k* has an extension, *l*, surrounded by a spiral spring, *l'*, 75 and provided at its rear end with a projection acted upon by a cam, *m*, which is contained within the dummy-cock C and forms the lower part of the vertical pivot of the handle *n*. If there is no coin between the lever *i* and the 80 angular piece *k*, the outlet *c* cannot be opened by moving the cam *m* of the dummy-cock C by means of its handle *n*, as in this case the said cam will push the piece *k* clear through the slot *i'* of the lever *i*, as shown in Fig. 5 of 85 the drawings. The lever *i*, and consequently the outlet *c* and its intermediate connections, will therefore not be operated, but will remain in their normal positions. If, however, a coin is introduced between the lever *i* and 90 the angular piece *k*, as shown in Fig. 6, and the handle *n* turned, the said piece *k* will press the said coin against the surface of the lever *i* and turn the latter on its pivot *i*². By reason of the inclined position which is thus given to 95 the surface of the lever *i* the angular piece *k* will now be out of line with the slot *i'* and its free end commence to bear against the surface of the lever *i*, as shown in Fig. 7, when the coin will be released and drop down into a suit- 100

able receiver. (Not shown in the drawings.) The pushing-piece *k*, now bearing against the lever *i*, will turn the latter so that the bell-crank lever *h* will now be turned on its fulcrum and will pull down the rod *g*, which will operate valve-rod *a'*, and thus close the valve *a* and open the valve *d* against the tension of the spring *d'*. The contents of the measuring-compartment B will then flow out through the pipe of the tap *e*, as will be readily understood. When the glass or other receptacle which is held under the said tap *e* is filled with the contents of the measure B and the latter emptied, the purchaser will take his hand from the handle *n* of the dummy-cock C, whereupon the spiral spring *l'* and the spiral spring *a''*, encircling the valve-rod *a'* and arranged between the receptacle A and the lever *f*, will cause the handle *n* and the angular piece *k*, as well as the bell-crank lever *h* and the lever *i*, to move into their normal positions, while the spring *d'* will close the valve *d* and raise the valve-rod *a'*, now relieved of the pressure exerted upon the same by the operation of the lever *i*.

The valve-rod *d'* may be provided at its upper end with a fixed collar, *d''*, so that the valve *a* may not be raised against the tension of the spiral spring *a''* until it is in contact with the said sleeve *d''*, in order to prevent the liquid from the receptacle A from entering the measure B before the outlet of the latter has been closed, the said valve-rod *d'* having in such case no fixed connection with the valve *d*.

The valve-rod *a'* is made of the form of a tube, which above the sleeve *d''* is provided with a vent or air hole, *o*, Figs. 1 and 8, for the purpose of establishing a communication between the outside air and the interior of the measuring-compartment, and thus to insure the flowing out of the liquid from the latter.

Fig. 3 shows a modification of the apparatus for automatically delivering samples of liquids, as hereinbefore described with reference to the accompanying drawings, the said modified apparatus being intended for use with barrels, casks, or receptacles of larger dimensions. This apparatus is screwed by means of the threaded sleeve *p* upon the tap *q* of the barrel, cask, or the like, and the measure B may be of any convenient size. The volume of the said measure may be regulated to any desired quantity by balls of glass or the like placed in the said measure. The coin *t* is inserted in the passage *t'*, which will conduct it into position between the lever *i* and the angular piece *k*.

As will be readily understood, the valve-rod *a'* may, in lieu of the dummy-cock C, be actuated by a suitable gear of wheels put in operation by a coin dropping upon a suitable lever and forcing down the valve-rod *a'* by means of a suitable cam acting upon the connecting-rod *g* and upon the lever *f*, so as to close the valve *a* and open the valve *d*. I also wish it understood that, without departing from the nature of my invention as heretofore described, I may combine the said dummy-cock C with the

said lever *i*, for the purpose of delivering solid substances instead of liquids after the insertion of a coin into the apparatus. Instead of using the cam *m*, I may operate the said angular piece *k* by means of a button fastened upon the end of some suitable sliding bar, as will be readily understood.

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

1. The combination, with the measuring-vessel having an inlet and outlet opening, of the vertically-moving valve-rod carrying a downwardly-closing valve for the inlet-opening and an upwardly-closing valve for the outlet-opening, a pivoted swinging lever, *i*, having an aperture, *i'*, connections between the pivoted lever and valve-rod, and a reciprocating bar, *k*, for swinging the lever when a coin is placed between said lever and bar, substantially as described.

2. The combination, with the measuring-vessel having the top inlet and the bottom outlet opening, of the vertically-moving valve-stem carrying a downwardly-closing valve for the inlet-opening and an upwardly-closing valve for the outlet, the bell-crank lever *h*, and a vertical rod, *g*, connected with the bell-crank lever and valve-rod, substantially as described.

3. In an apparatus for automatically delivering liquids in determined quantities, the combination, with a containing-receptacle, and a measuring-vessel connected therewith having inlet and exit openings, valves connected together and working in opposite directions for opening and closing said inlet and exit openings, a valve-stem, a pivoted bell-crank lever, *h*, and connections between said lever and valve-stem, the bent lever *i*, having slot *i'*, the angular sliding bar *k*, and the cam *m*, and dummy-cock or lever C, for actuating the lever *i* and connected parts through the medium of a coin inserted between said bar and lever *i*, substantially as described.

4. In an apparatus for delivering liquids in determined quantities, the combination, with the receptacle A, the measuring-vessel B, communicating with a delivery-pipe and with said receptacle A, valves *a* and *d*, connected together and working in opposite directions, the lever *f*, fulcrumed at *f'*, connecting-rod *g*, bell-crank lever *h*, one arm of which is connected with rod *g*, the pivoted bent lever *i*, connected with lever *h* and having a slot, *i'*, the angular sliding bar *k*, the retracting-spring *l*, for holding the sliding bar out of contact with the lever *i*, so as to admit of the insertion of a coin therebetween, and a dummy-cock having a cam, *m*, engaging with said sliding bar to actuate the same, substantially as described.

5. The combination of the receptacle A, measuring-vessel B, valve-rod *a'*, having vent *o* and valve *a*, controlling communication between receptacle A and vessel B, the valve-rod *d'*, having sleeve *d''* and valve *d*, and the outlet *e*, the spring *d'*, and lever *f*, and means,

substantially as described, rendered operative by the insertion of a coin in the apparatus, for actuating the valves, substantially as specified.

6. The combination, with the lever *i*, provided with slot *i'*, of the angular sliding bar *k* and the dummy-cock C, having cam *m*, engaging with and actuating said sliding bar, the construction being such that the insertion of a coin between the sliding bar and lever will
5
10 render the parts operative by preventing the

said bar from passing through slot *i'*, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HEINRICH STOLLWERCK.

Witnesses:

GUSTAVE ALBERT OELRICHS,
WM. D. WARNER.