

(No Model.)

H. E. MARCHAND.

LIQUID MEASURE.

No. 245,188.

Patented Aug. 2, 1881.

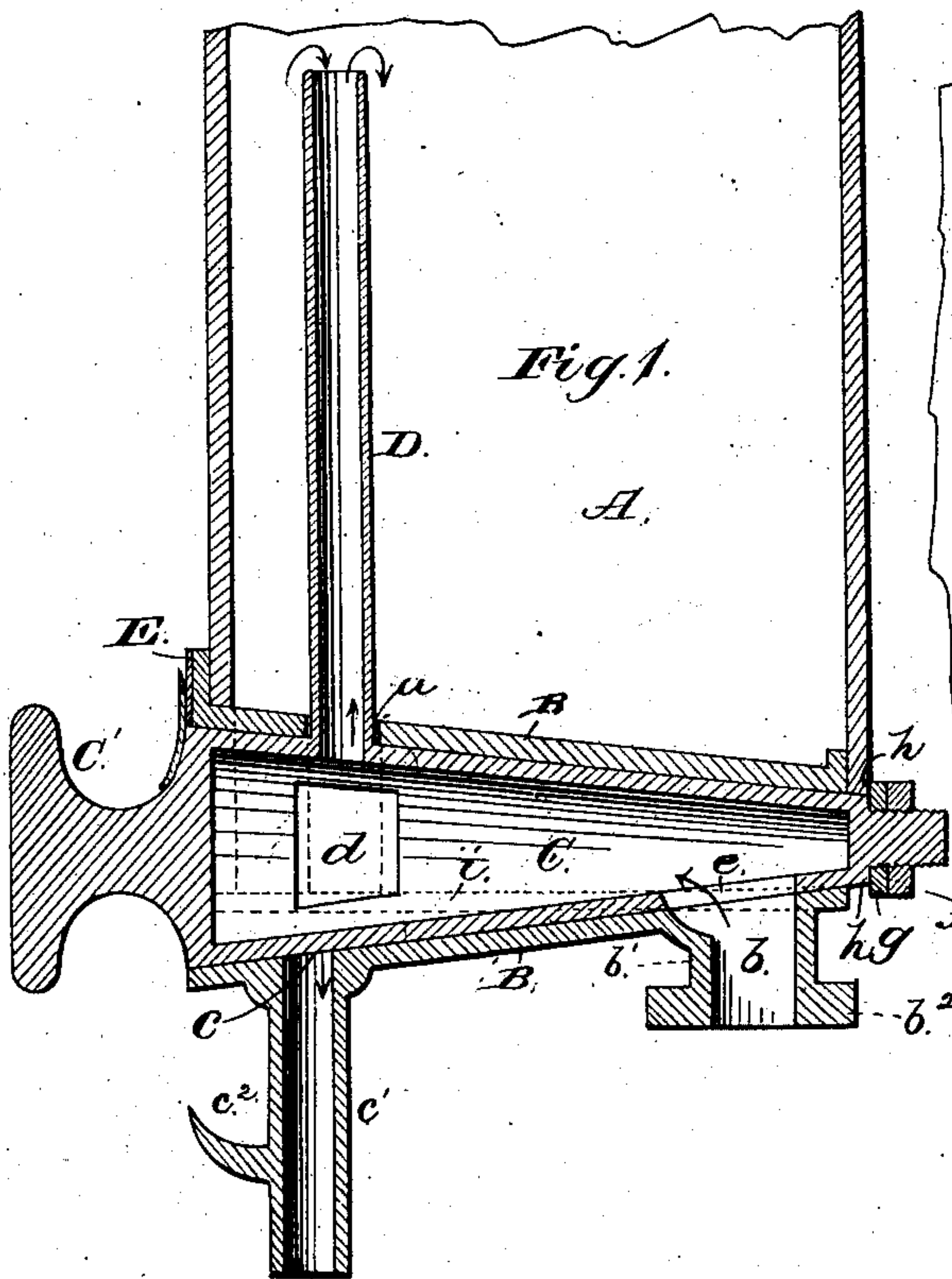


Fig. 1.

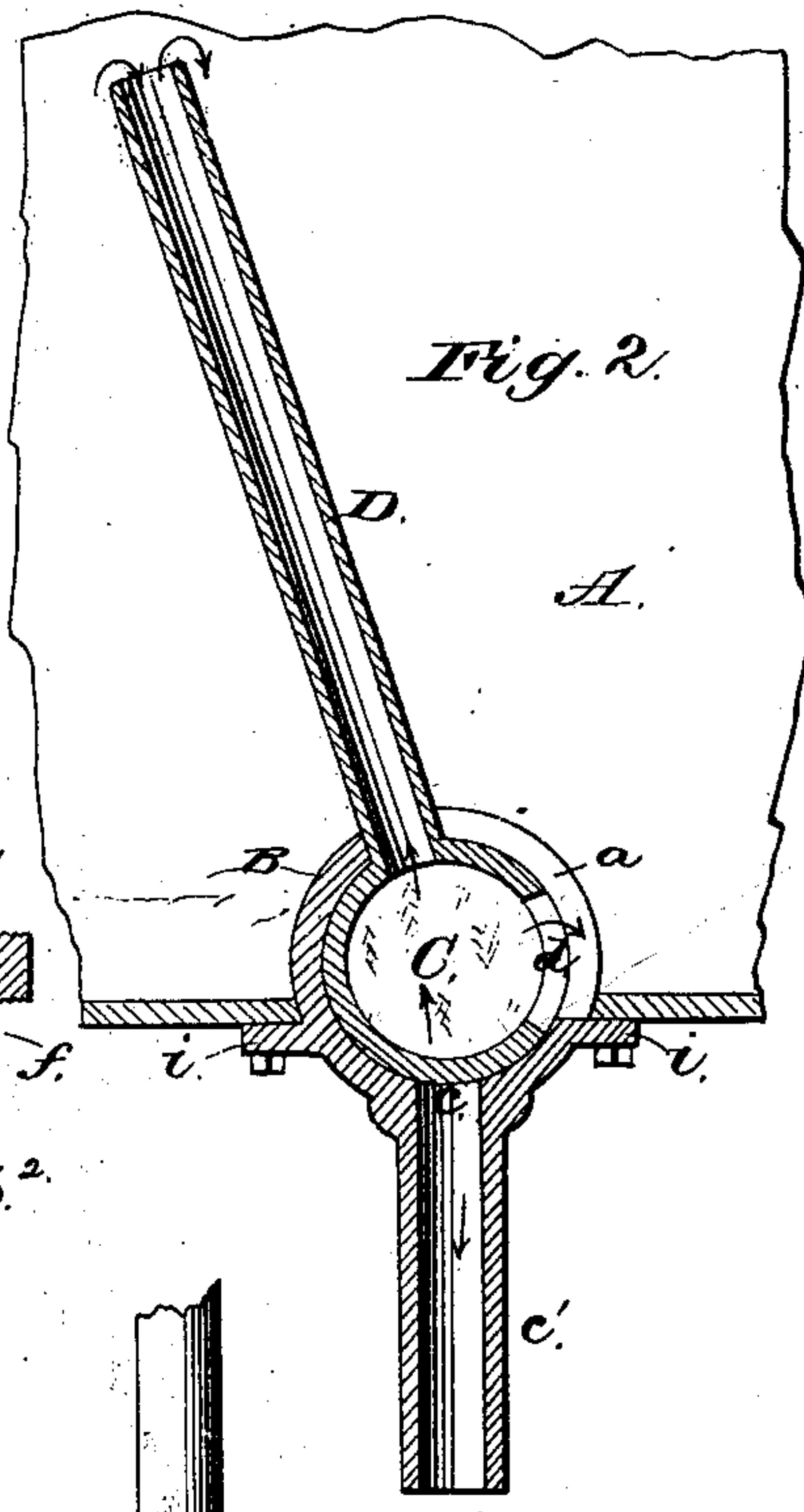


Fig. 2.

Fig. 3.

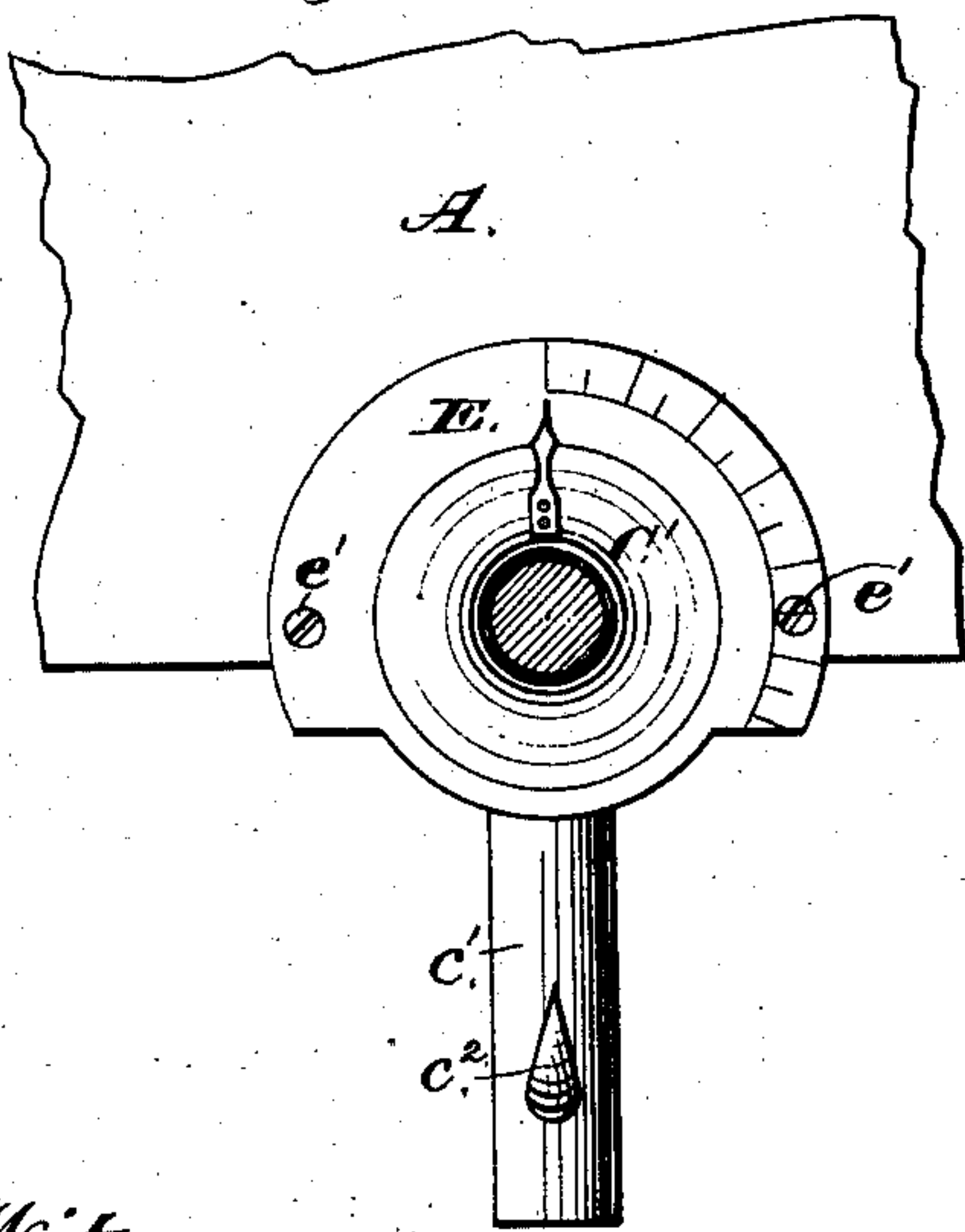


Fig. 4.

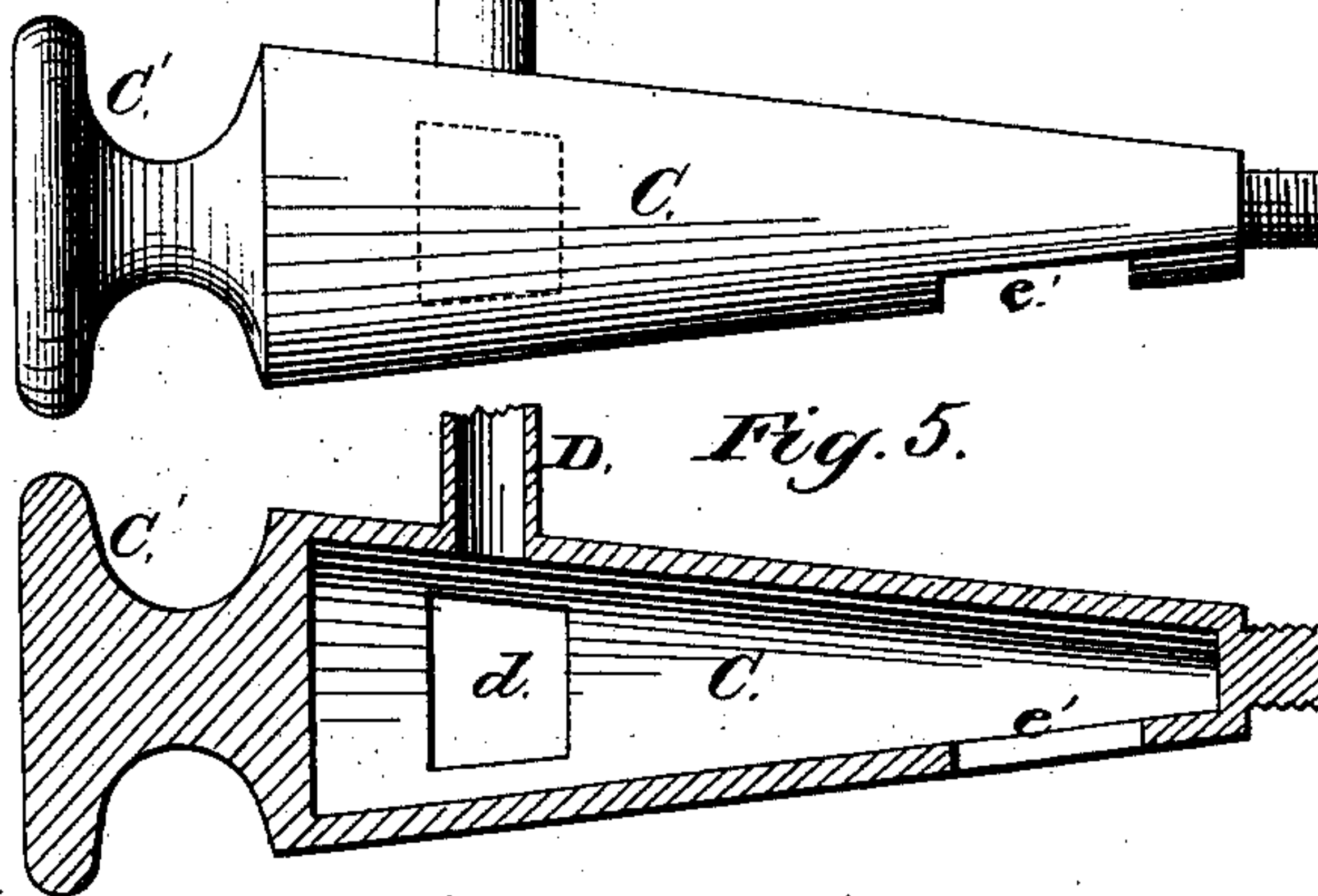


Fig. 5.

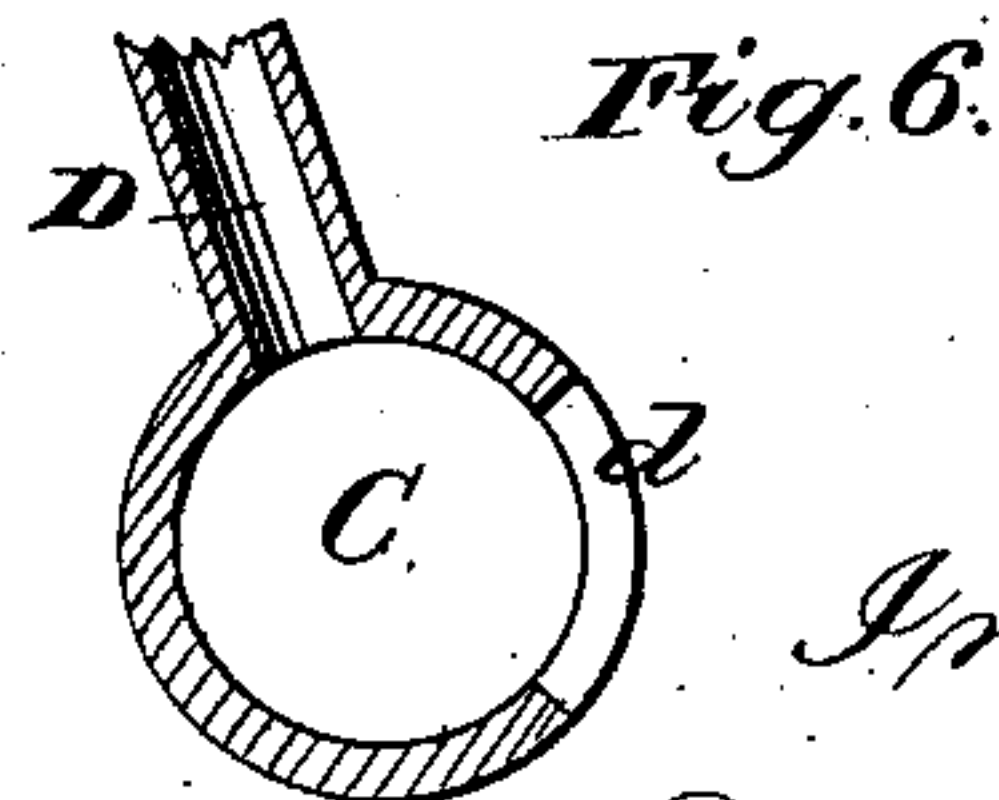


Fig. 6.

Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

HENRY E. MARCHAND, OF PITTSBURG, ASSIGNOR OF TWO-THIRDS TO WILLIAM J. BECKFELD AND JACOB C. LANGE, SR., BOTH OF ALLEGHENY, PENNSYLVANIA.

LIQUID-MEASURE.

SPECIFICATION forming part of Letters Patent No. 245,188, dated August 2, 1881.

Application filed June 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. MARCHAND, a citizen of the United States, residing at Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented new and useful Improvements in Liquid-Measures, of which the following is a specification.

This invention relates to automatic liquid-measures, the object being to provide an apparatus which, when set for operation, will receive and discharge a definite predeterminate quantity of liquid without the necessity of the liquid being handled by the operator, thus avoiding the usual disagreeable liability of soiling the clothing or hands from measuring such liquids as oils or molasses.

The invention consists, first, in a measuring-reservoir having in its lower part a cylindrical casing or shell for the reception of a hollow key-plug, which is provided with a pipe or tube that projects through a suitable opening into the reservoir, and is adapted to swing therein as the key is turned, so as to raise or lower its upper end, whereby the liquid contained in the reservoir is drawn off to the level of the upper end of said tube in any definite quantity, as indicated upon a dial attached to the outer part of the reservoir; second, in the combination, with a measuring-reservoir having in its lower part a cylindrical shell or casing provided with suitable ports or passages, of a hollow key-plug having openings arranged at right angles to alternately correspond with the ports in the lower side of said casing, and, further, provided with a tube projecting through a suitable opening into the reservoir, and adapted to turn with the key-plug, so as to permit the liquid to escape through its upper end to the level of the inclination at which the tube is turned, as hereinafter more fully set forth.

In the annexed drawings, which fully illustrate the invention, Figure 1 is a vertical longitudinal section. Fig. 2 is a vertical transverse section. Fig. 3 is a front view. Fig. 4 is a view of the hollow key-plug provided with projecting tube. Fig. 5 is a longitudinal section of the same, and Fig. 6 is a cross-section.

Similar letters of reference indicate corresponding parts in the several views. 50

The letter A represents a measuring chamber or reservoir, which may be constructed of any suitable material and in any convenient form. This reservoir is provided at its lower central part with a cylindrical shell or casing, B, which may project slightly below the lower surface of the reservoir, with which it communicates through the opening or passage *a*. 55

At the lower part of the shell or casing B is an inlet-port, *b*, and an outlet-port, *c*, the first being provided with a tube, *b'*, having a flange or half-union, *b²*, to connect with any suitable source of supply, and the port *c* being connected with an outlet-tube, *c'*, having a hook, *c²*, for attaching the vessel to be filled. 60 65

Within the casing B is fitted a cylindrical hollow key-plug, C, having openings *d e* arranged near the opposite ends of the plug and at right angles to each other, so as to correspond alternately with the ports *b c*. The hollow key-plug C is also provided with a tube, D, which passes through the passage *a* into the reservoir. This tube communicates with the key-plug through an opening near the opening *d*, but at an angle therewith. The plug C is held in place within the casing B by the nut *f* and washer *g*, which bear against the flange or shoulder *h* at the rear of the reservoir or casing. 70 75

The shell or casing B may be attached to the reservoir A by flanges *i*, or in any suitable manner, and carries at its front end a dial, E, which is secured to the front of the reservoir by screws *e' e'*. This dial is suitably marked or graduated to represent the various quantities or divisions of liquid-measure, any of which may be indicated upon said dial by the index-hand C' attached to the key-plug. 80 85

It will be observed that when the hollow key-plug C is arranged in the casing B in such position that its opening *e* coincides with the inlet-port *b* oil or other liquid will pass from the source of supply into and through the plug to the tube D, which passes through the opening *a* into the reservoir. After the reservoir has thus been filled, if the plug C is turned to the 90 95

right, so as to close the inlet-port *b*, the opening *d* in the plug will gradually coincide with the outlet-port *c*, so that the liquid in the reservoir may escape. When the plug is thus
5 turned it carries with it the tube *D*, lowering its upper end, through which the liquid in the reservoir will now pass until it descends to the level of the top of the tube. By turning the key-plug to the right until its hand *C'* indi-
10 cates the required quantity upon the dial *E* it will be seen that any definite predeterminate quantity of liquid may be automatically measured without the disagreeable necessity of di-
15 rectly handling the same. It will be understood, of course, that in order to produce this result the length and diameter of the tube *D* must be made to correspond with the dimen-
20 sions of the reservoir in such a way that by lowering or inclining the top of the tube a definite distance the capacity of the reservoir above that point will be equal to the quantity of liquid required, as indicated upon the dial. By turning the plug *C* to the left of the center line the outlet-port *c* is closed and the inlet-
25 port *b* opened, so that the reservoir or measuring-chamber will again fill.

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

30 1. An apparatus for measuring liquids, consisting of a measuring chamber or reservoir having in its lower part a cylindrical casing or shell provided with an opening communicating above with the reservoir, and with an inlet and
35 outlet port below, said casing being adapted to receive a hollow key-plug provided with a tube which projects through the upper opening of the shell into the reservoir, wherein it turns with the key, which is further provided
40 with openings that alternately coincide with the inlet and outlet ports of the shell, whereby, when the key is turned in one direction, the reservoir or measuring chamber is filled through the inlet-port, hollow plug, and at-
45 tached tube, and when it is turned in the opposite direction a definite predetermined quantity of liquid is withdrawn, as indicated upon a dial attached to the front of the reservoir, substantially as described.

2. In a liquid-measure, the combination, with 50
a measuring-reservoir having in its lower part a cylindrical shell or casing provided with suitable ports or passages, of a hollow cylindrical key-plug having openings arranged at a right angle to alternately coincide with the ports in 55
the lower side of said casing, and provided with a tube which projects through a suitable opening in the shell into the reservoir, and adapted to turn with the key-plug, whereby the reservoir is filled when the inlet-port is 60
opened, and a definite predetermined quantity of liquid withdrawn, as indicated upon a dial, when the outlet-port is opened by turning the key, substantially as set forth.

3. In a liquid-measure, the combination, with 65
a measuring chamber or reservoir, of a cylindrical shell or casing for a key-plug, said casing being attached to the reservoir by suitable flanges, and having an opening communicating above with the reservoir, through which is 70
passed a pipe or tube attached to a cylindrical key-plug, and provided below with an inlet and outlet port, substantially as and for the purpose shown and described.

4. In a liquid-measure having a reservoir 75
provided with a cylindrical shell or casing, a hollow cylindrical key-plug having an inlet and outlet opening arranged at a right angle to each other, and provided with a tube projecting at an angle from the body of the key 80
and adapted to enter the reservoir, in which it turns with the key, whereby, when the key is turned in one direction, the reservoir will be filled from any suitable source of supply, and when the key is turned in the opposite direc- 85
tion a definite quantity of liquid will be withdrawn through the upper inclined end of the said tube and hollow key, substantially as set forth.

In testimony whereof I have hereunto set my 90
hand in the presence of two subscribing witnesses.

H. E. MARCHAND.

Witnesses:

MARSHALL JOHNSTON,
S. HARVEY THOMPSON,
JOHN F. EDMUNDSON.