(No Model.)

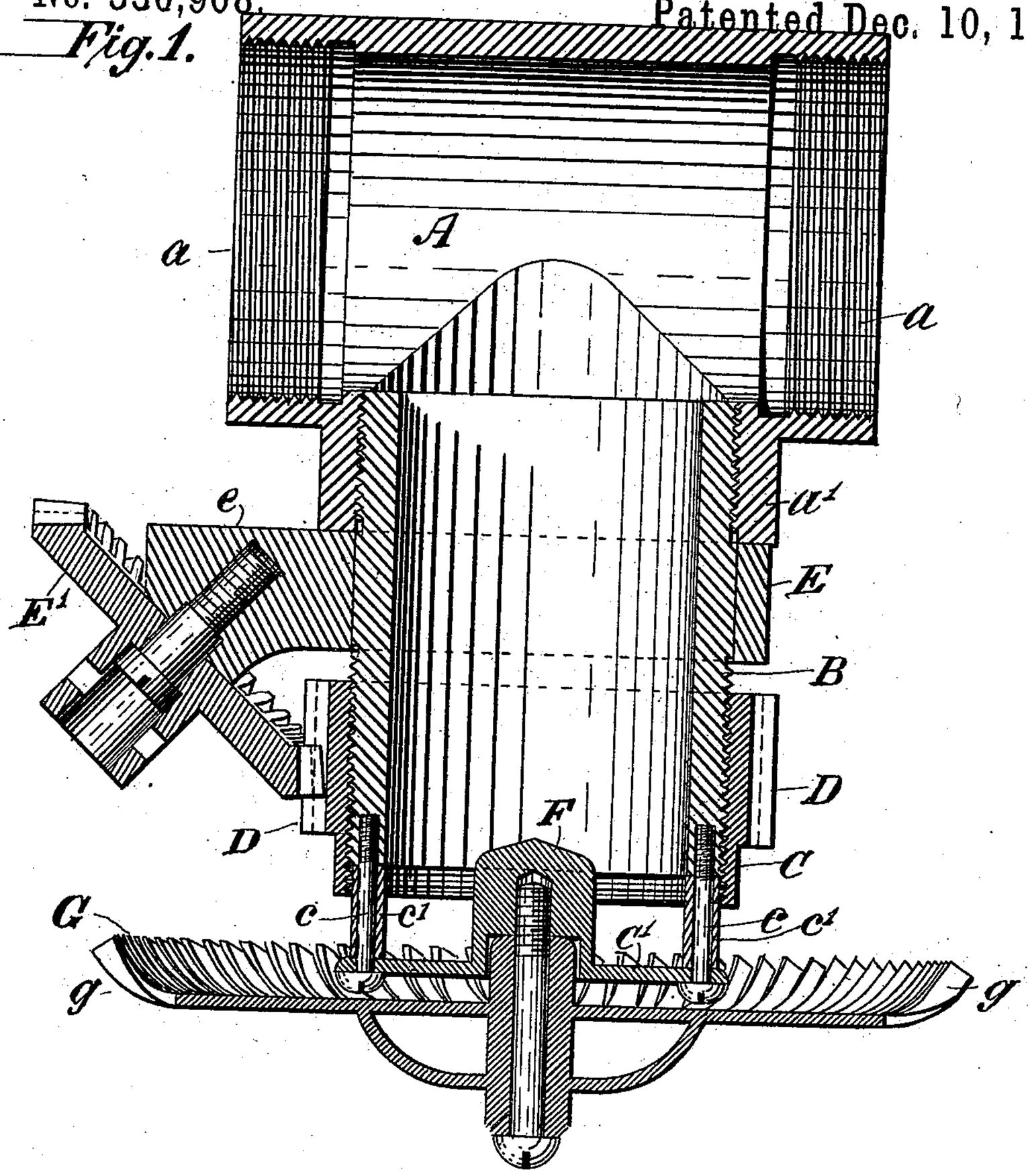
2 Sheets—Sheet 1.

M. H. HART.

DEVICE FOR AERATING BEER.

No. 550,968. Patented Dec. 10, 1895.

Fig. 1.



WITNESSES:

Pierson L. Wells.

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INVENTOR

Milton H. Hart

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HIS ATTORNEY

(No Model.) 2 Sheets—Sheet 2.

M. H. HART.

DEVICE FOR AERATING BEER.

No. 550,968. Patented Dec. 10, 1895.

Fig. 2.

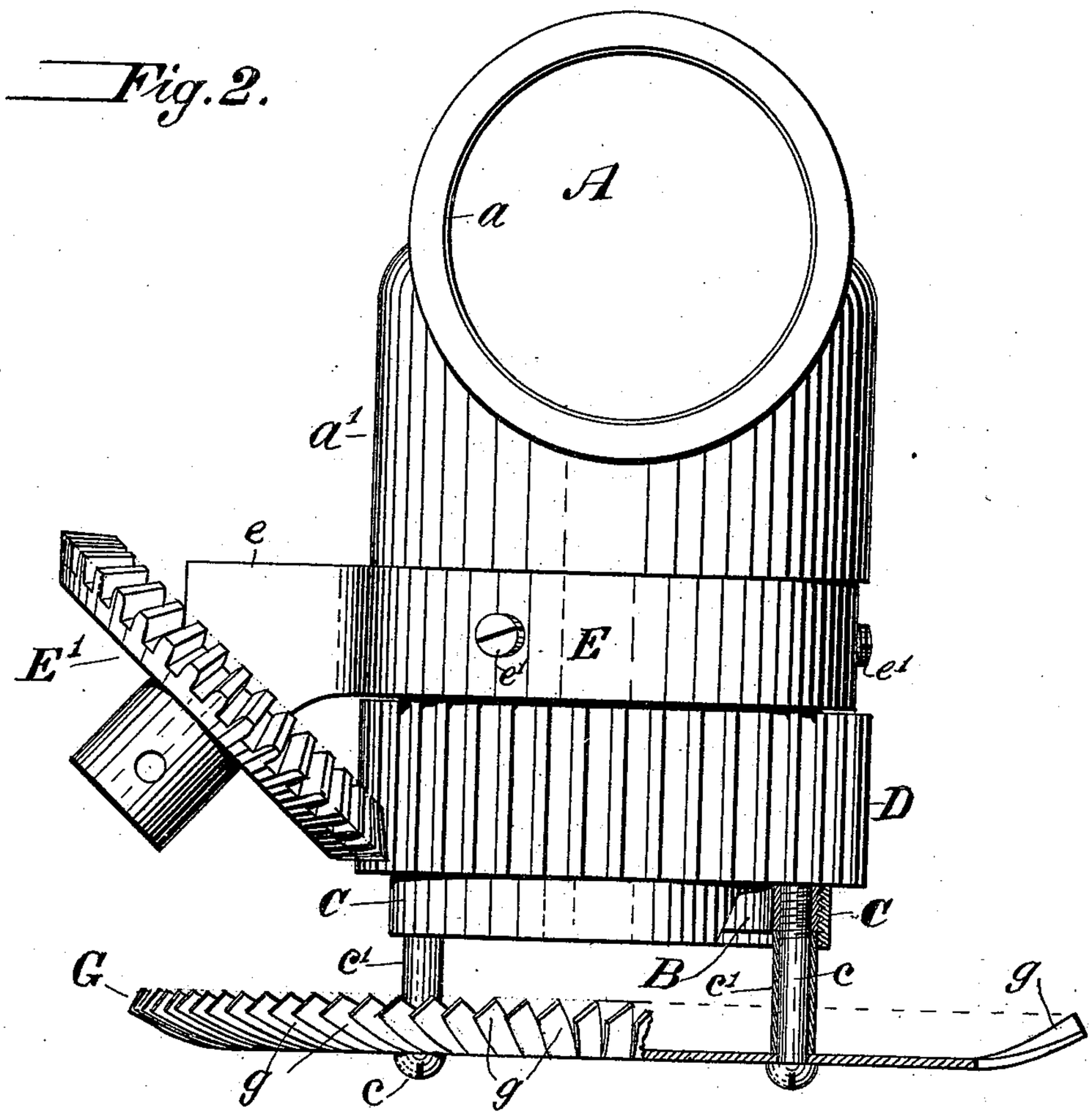
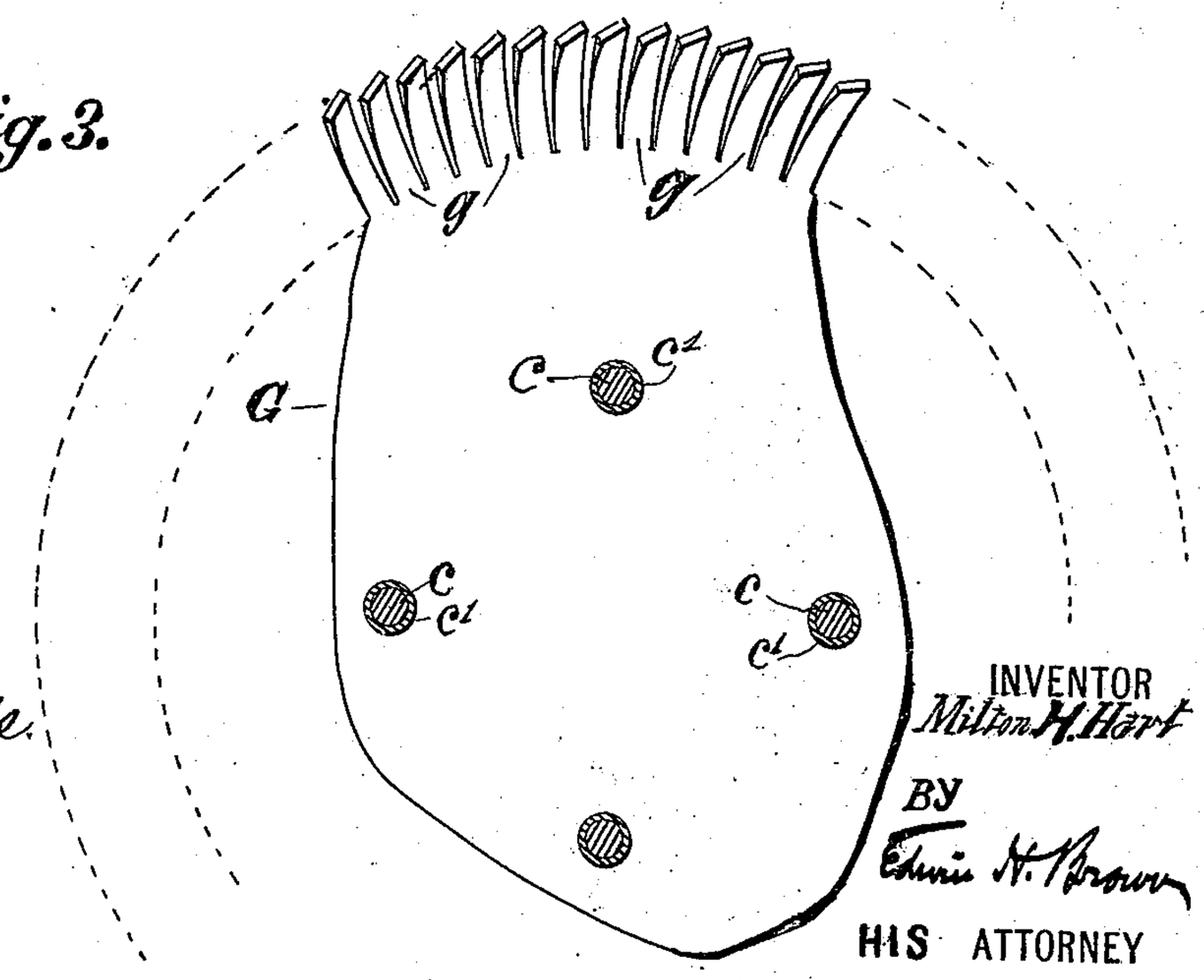


Fig. 3.



WITNESSES:
Pierson & Wells.
Jac. Allemann Jr.

INVENTOR
Milton H. Hart
BY
Edwin H. Brown
HIS ATTORNEY

UNITED STATES PATENT OFFICE.

MILTON H. HART, OF NEW YORK, N. Y., ASSIGNOR TO FRANK P. BASSETT, OF SAME PLACE.

DEVICE FOR AERATING BEER.

SPECIFICATION forming part of Letters Patent No. 550,968, dated December 10, 1895.

Application filed December 18, 1894. Serial No. 532,273. (No model.)

To all whom it may concern:

Be it known that I, MILTON H. HART, of the city, county, and State of New York, have invented a certain new and useful Improvement in Devices for Aerating Beer and other Liquids, of which the following is a specification.

I will describe a device for aerating beer and other liquids embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a device for aerating beer and other liquids embodying my improvement. Fig. 2 is an end elevation of the same. Fig. 3 is a plan view of what I may call an "atomizer" of modified construction.

Similar letters of reference designate corresponding parts in all the figures.

A designates a chamber or vessel made in the form of a connection suitable for attachment to a pipe or other conduit conveying beer or other liquid which is to be aerated and carrying the various parts of the aerator. In the present instance it is in the form of a T-coupling, whose horizontal member *a* may be screw-threaded for the purpose of attaching it to the pipe.

The cross member *a'* of the connection A is screw-threaded interiorly to engage with the upper end of the spout or discharge-tube B. This latter tube is threaded exteriorly at its lower portion to receive a threaded sleeve C, which, as a result of this formation of the engaging surfaces, is longitudinally adjustable along the tube B.

Suspended below the lower extremity of the tube B is a plate C', which will with advantage be carried by screws *c*, whose upper ends enter tapped holes in the lower edge of tube B. Separators *c'*, in the form of short tubes, encircle the shanks of screws *c* and retain the plate C' at a suitable distance below the tube B to form an annular opening through which the beer or other liquid is discharged. The upper edge of this annular opening is formed by the lower edge of the sleeve C. The sleeve, being adjustable to and fro on the tube B, will constitute a gate, serving the purpose of contracting or enlarging the opening for the discharge of the liquid. I also provide means for facilitating the adjustment of the sleeve C. For this purpose it may be provided with peripheral teeth D.

E is a collar fitted to the tube B and provided at one side with an arm *e*, in which is journaled a bevel-wheel E', meshing with the teeth D, carried by the sleeve C. Bevel-wheel E' may be provided with a suitable shaft by which it may be rotated.

Preferably the collar E will be mounted upon the tube B in a manner that will permit it to be freely rotated about the latter. In this case it will have set-screws *e'*, by which it may be firmly secured to the tube. This rotatability of the sleeve E offers a convenient way of leading the driving-shaft of gear E to the latter in any convenient direction.

The upper surface of plate C' may or may not be provided with a spreader or device for guiding the discharging liquid outward to the annular discharge-opening between the plate C' and the lower edge of the sleeve B, as thought desirable. In Fig. 1 I have shown such a spreader consisting of a cylindrical block F, having a cone-shaped top attached to the plate C'.

G is what I may call an "atomizer," its purpose being to divide and open up the stream of discharging liquid as it passes from the annular opening already mentioned. It is made in the form of a flat circular plate having an upturned peripheral edge provided with incisions forming a series of fingers or teeth *g*. These teeth are bent or twisted at an angle with the edge of the plate, separating as a result from each other and forming guides by which the liquid as it flows outward is deflected from its path of movement and separated into numerous streams. The reaction produced by this change in direction of flow caused by the teeth may be utilized to give the atomizer G a rotary movement. In this case it will be suitably journaled in the plate C' to permit of such a movement. The rotation of the plate will further assist the atomizing or dividing action upon the outflowing liquid. The atomizer may, however, be immovable, in which case it may be rigidly secured to tube B. This method of construction, in which the stationary plate C', sup-

ported from the vessel A, is utilized as a deflecting-plate to change the downward movement of the liquid to an outward movement, is especially advantageous when a rotating plate G is used. The whole pressure arising from changing the direction of the path of flow is transmitted to the vessel A by the screws *c*, leaving the plate G free to move in its bearings.

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

1. In a device for aerating liquids, the combination of a vessel provided with a continuous discharge opening, a gate for regulating the size of the discharge opening, a plate carried by the vessel and situated beyond the opening to receive the weight of the discharging liquid and a plate whose periphery is provided with a series of fingers and which is mounted to rotate below the first mentioned plate, substantially as specified.

2. In a device for aerating liquids, the combination of a vessel provided with a continuous discharge opening, a gate for regulating the size of the discharge opening, a plate carried by the vessel and situated beyond the opening to receive the weight of the discharging liquid, a spreader located above the plate and a plate whose periphery is provided with a series of fingers and which is mounted to rotate below the first mentioned plate, substantially as specified.

3. In a device for aerating liquids, the combination of a vessel having a discharge opening, a plate arranged beyond the discharge opening, screws and bolts for supporting the plate extending from the latter and engaging with the walls of the opening, a movable gate for regulating the size of the discharge opening, and an atomizer mounted to rotate below the plate, substantially as specified.

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

MILTON H. HART.

Witnesses:
ANTHONY GREF,
PIERSON L. WELLS.