

G. C. STONE.
Water-Closets.

No. 151,933.

Patented June 9, 1874.

Fig. 1.

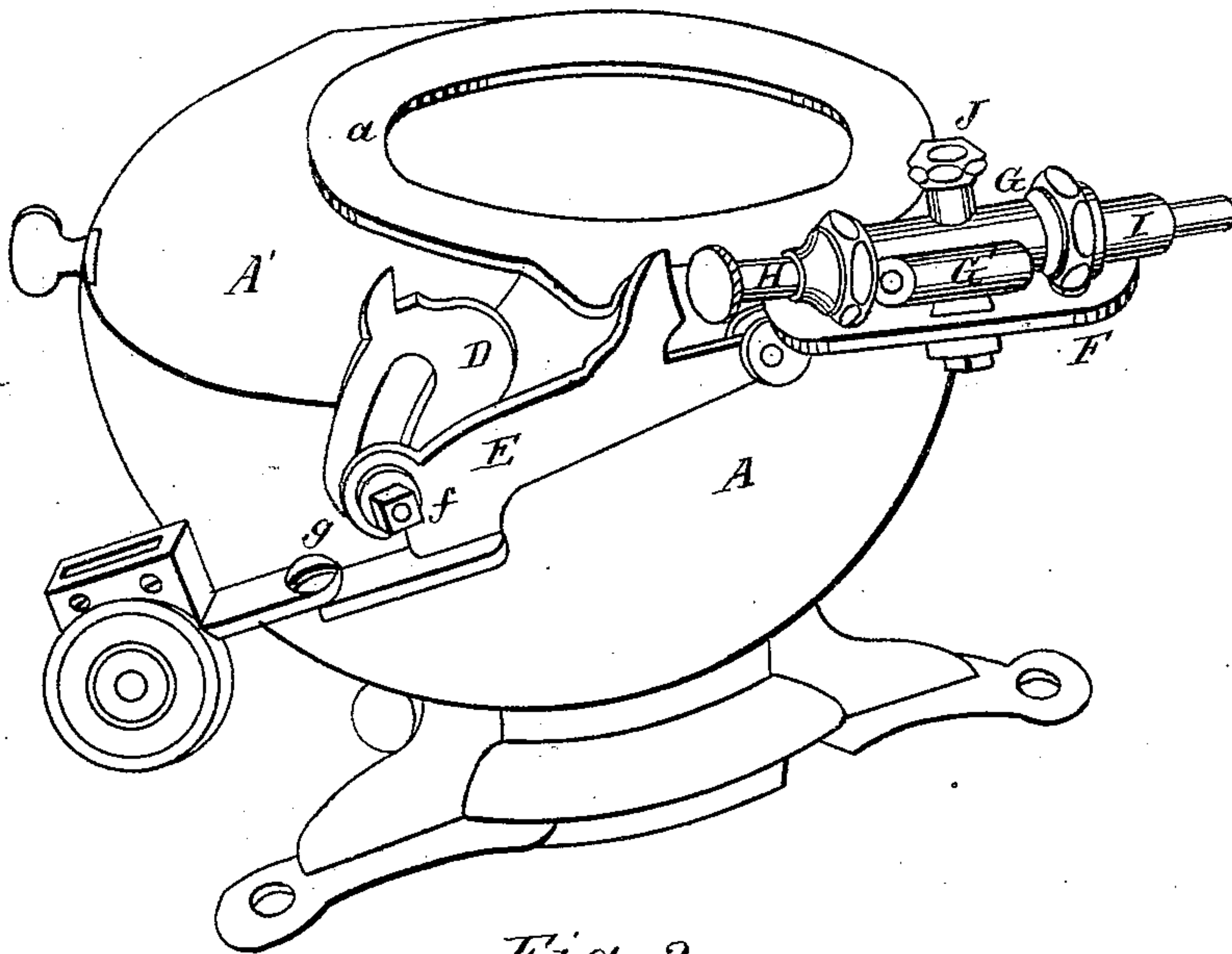
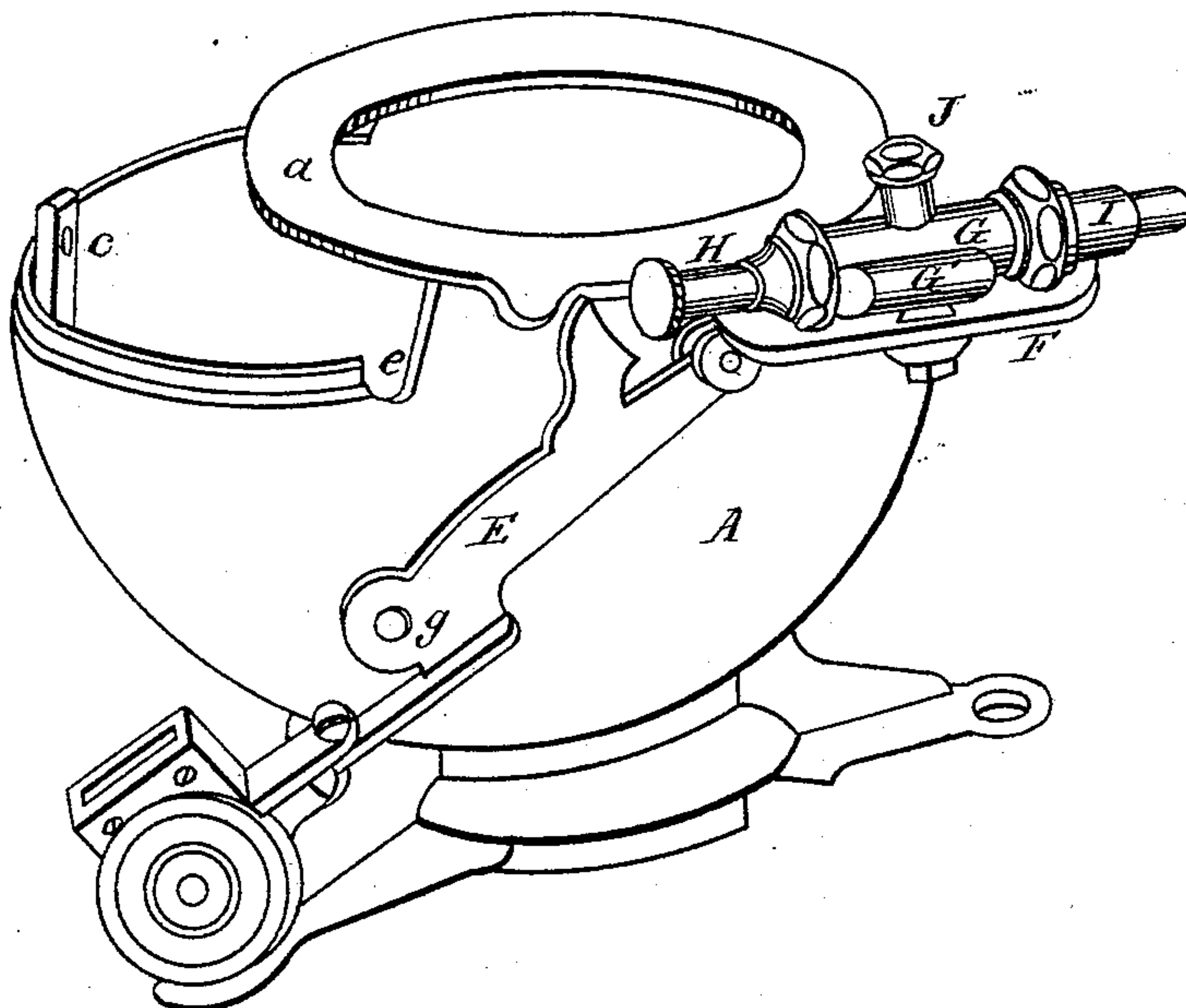


Fig. 2.



Witnesses
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Inventor
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att'y.

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Fig. 3.

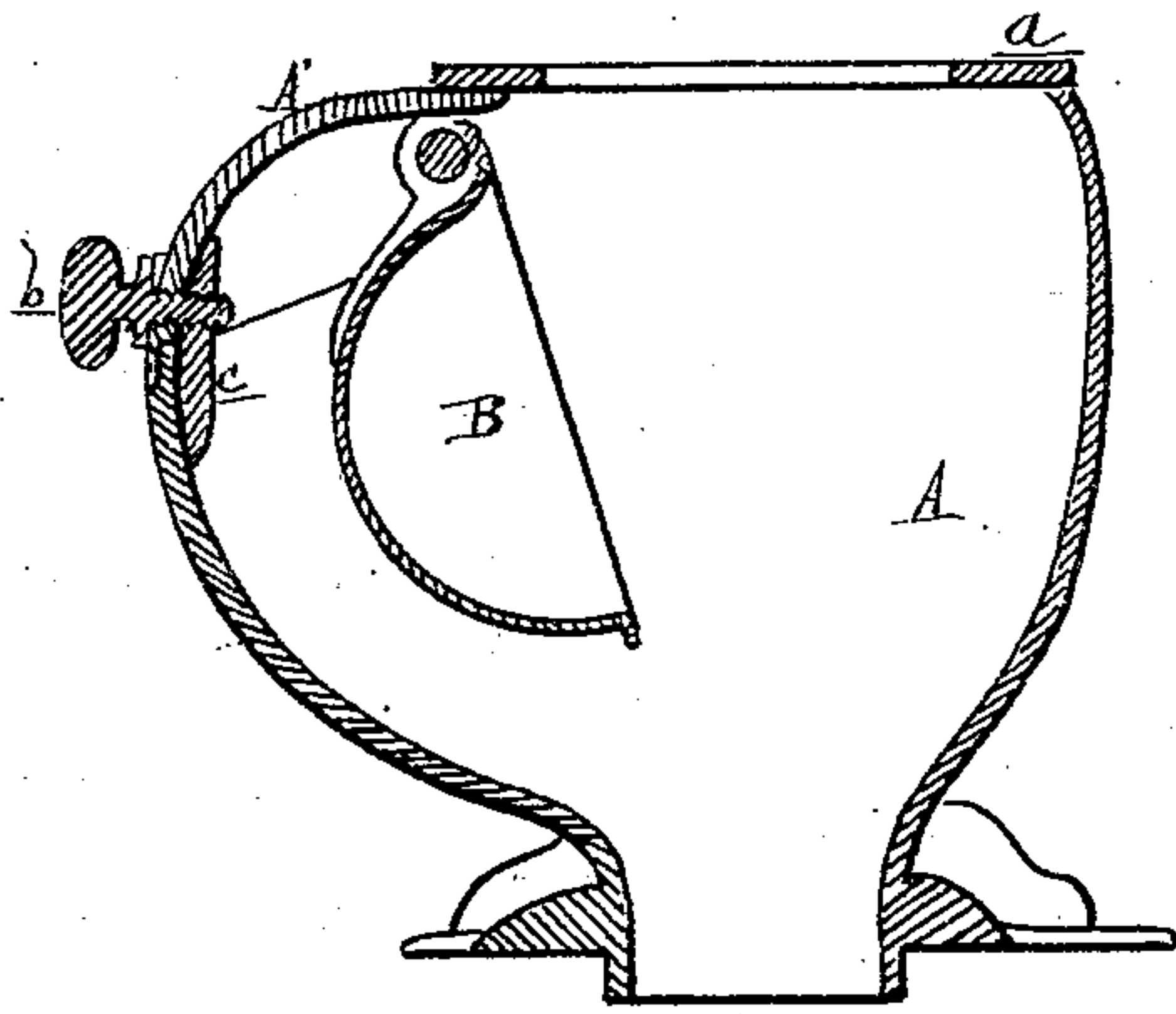


Fig. 4.

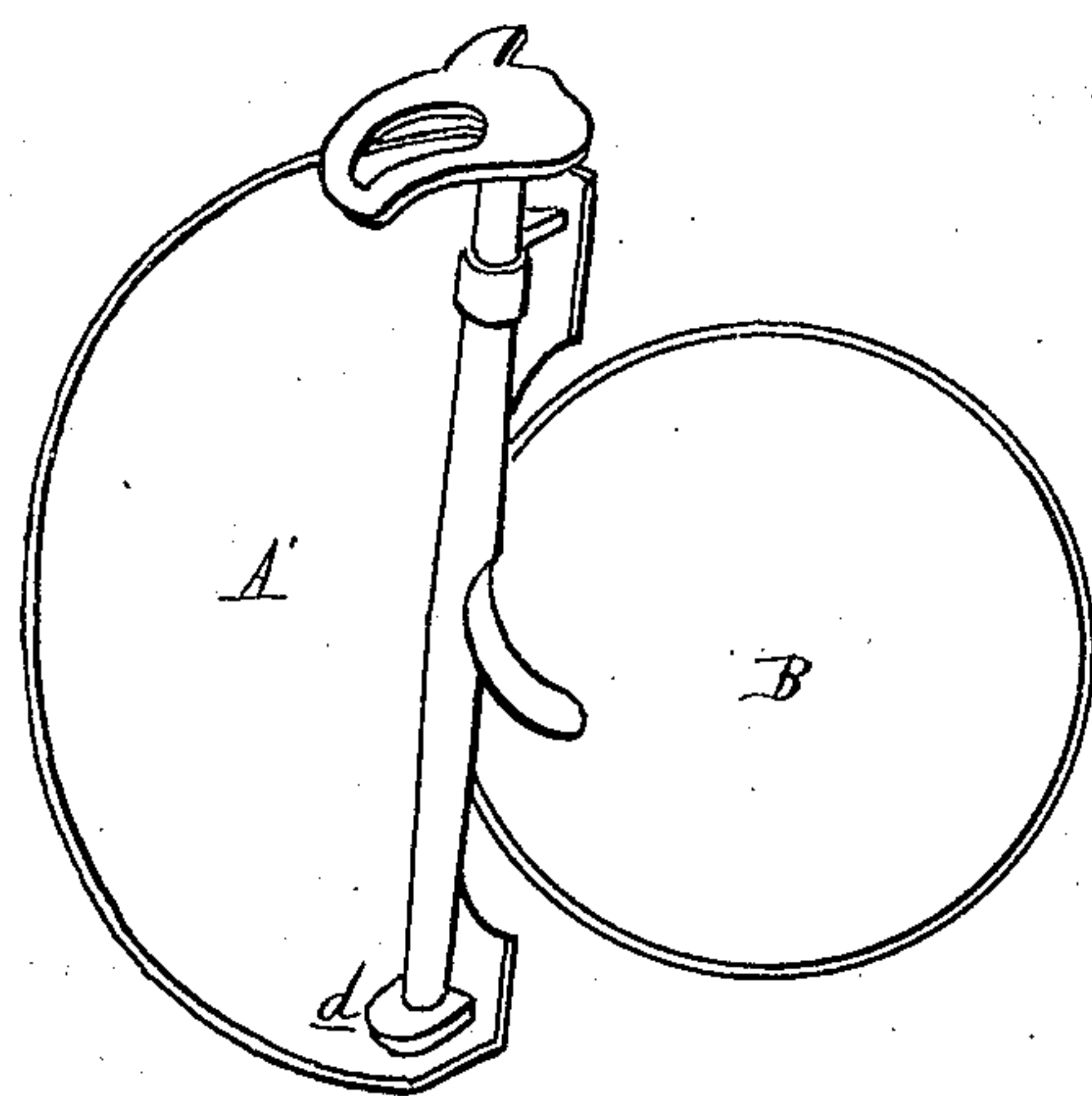


Fig. 5.

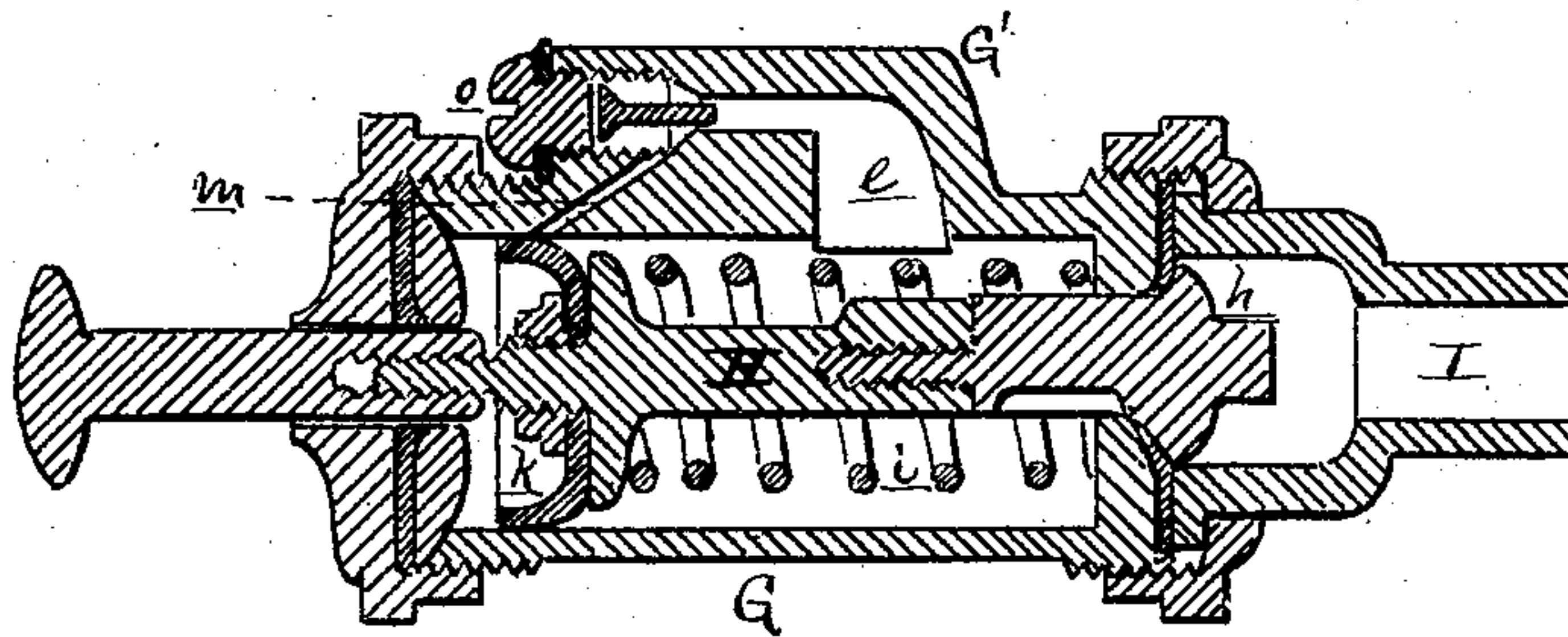
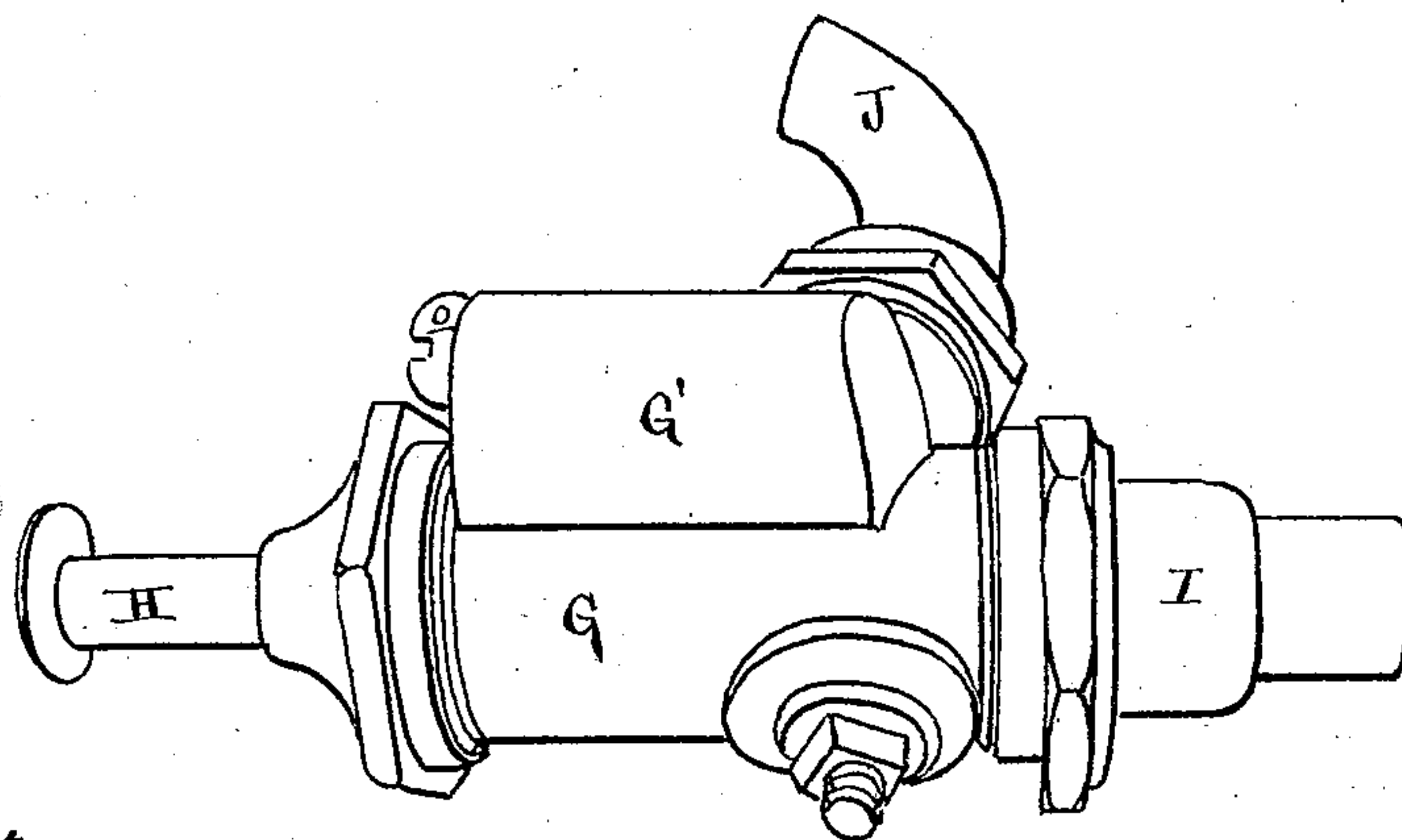


Fig. 6.



Attest.
O. E. Barthel.
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UNITED STATES PATENT OFFICE.

GEORGE C. STONE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN WATER-CLOSETS.

Specification forming part of Letters Patent No. **151,933**, dated June 9, 1874; application filed March 17, 1874.

To all whom it may concern:

Be it known that I, GEORGE C. STONE, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Water-Closets, of which the following is a specification:

This invention relates to an improvement in that class of water-closets wherein the tilting bowl is attached to a removable portion of the hopper or container, and relates to the combination with the water-valve of a supplementary valve for preventing the main valve from suddenly closing with violence upon releasing the pull-up lever.

Figure 1, Sheet 1, is a perspective view of the hopper and its attachments. Fig. 2 is a similar view, but without the bowl and removable plate of the hopper. Fig. 3, Sheet 2, is a cross-section. Fig. 4 is a perspective view of the inner part of the removable plate and bowl attached. Fig. 5 is an enlarged horizontal section of the valve and casing. Fig. 6 is a perspective view of the same.

In the drawing, A represents the hopper or "container," which is a cast-metal shell in the general form of an oblate spheroid, with an opening in the bottom, surrounded by a flange which sits over the soil-pipe. There is a circular opening in the top, surrounded by a flange, *a*, upon which the basin (not shown) rests. The upper part of one end or side of the shell is cut away below the flange *a*, the opening so made being closed by a plate, *A'*, as seen in Figs. 1 and 3, which is secured by a thumb-screw, *b*, tapped through its lower edge into a projection, *c*, cast in the inner wall of the container. B is the tilting bowl, secured to an arm on the rock-shaft C, the inner end of which is journaled in a bracket, *d*, cast in the plate *A'*, while the other end projects through a bearing, *e*, in the edge of the container, with a slotted crank, D, secured to its outer end. E is the operating-lever of the closet, pivoted at the forward end to a pair of lugs under a bracket-tray, F, cast on the container. At its rear end is the weight, and a slot for attaching the pull-up rod. (Not shown.) A single bolt, *f*, and nut, passing through the slot of the crank D, connects the latter with a heel or offset, *g*, in the lever. By removing the bolt *f* and the thumb-screw *b*, the plate *A'* and the bowl may be detached from the con-

tainer without being obliged to disconnect all the other levers, joints, arms, &c., as is the case in other water-closets.

I do not claim, but on the contrary disclaim, the invention of a hopper having a removable plate for giving access to the bowl, as such a one is shown in the patent issued May 28, 1873, to William S. Carr.

G is the valve-cylinder, mounted on the tray F. A stem, H, extends through the back head of the cylinder, and is pushed in by a lug on the lever when the lever is raised. At the other end of the stem is a valve, *h*, which is drawn against a seat in the end of the cylinder by a strong spring, *i*, spirally coiled about the stem between the front end or head and a cup-leather piston, *k*, on the spindle.

If the valve is suddenly seated as the lever is dropped, the bowl would not fill with water; therefore the valve must be kept suspended. To accomplish this I cast with the cylinder a supplementary cylinder, G', communicating with the body of the cylinder by a large port, *l*, opening into the cylinder G between the valve and piston. In the smaller cylinder is a valve, *n*, whose play is limited by a screw, *o*, tapped into the valve-chamber, from which a small port, *m*, communicates with the large cylinder back of the piston. I is the union-coupling for the service-pipe, and J the coupling for the delivery-pipe, which opens into the body of the large cylinder.

When the stem is pushed in to open the valve, the pressure of the water opens the valve *n* and fills the cylinder behind the cup-piston. When the lever is dropped the spring closes the valve *h* slowly, as the water behind the cup-piston must be forced through the small port *m* before the main valve *h* can be seated.

What I claim as my invention, and desire to secure by Letters Patent, is—

The valve-cylinder G, provided with the supplementary cylinder G', connected therewith by the ports *l m*, the valve *n*, and the adjusting-screw *o*, substantially as and for the purpose set forth.

GEORGE C. STONE.

Witnesses:

WM. H. LOTZ,
HERMAN BISCHOFF.