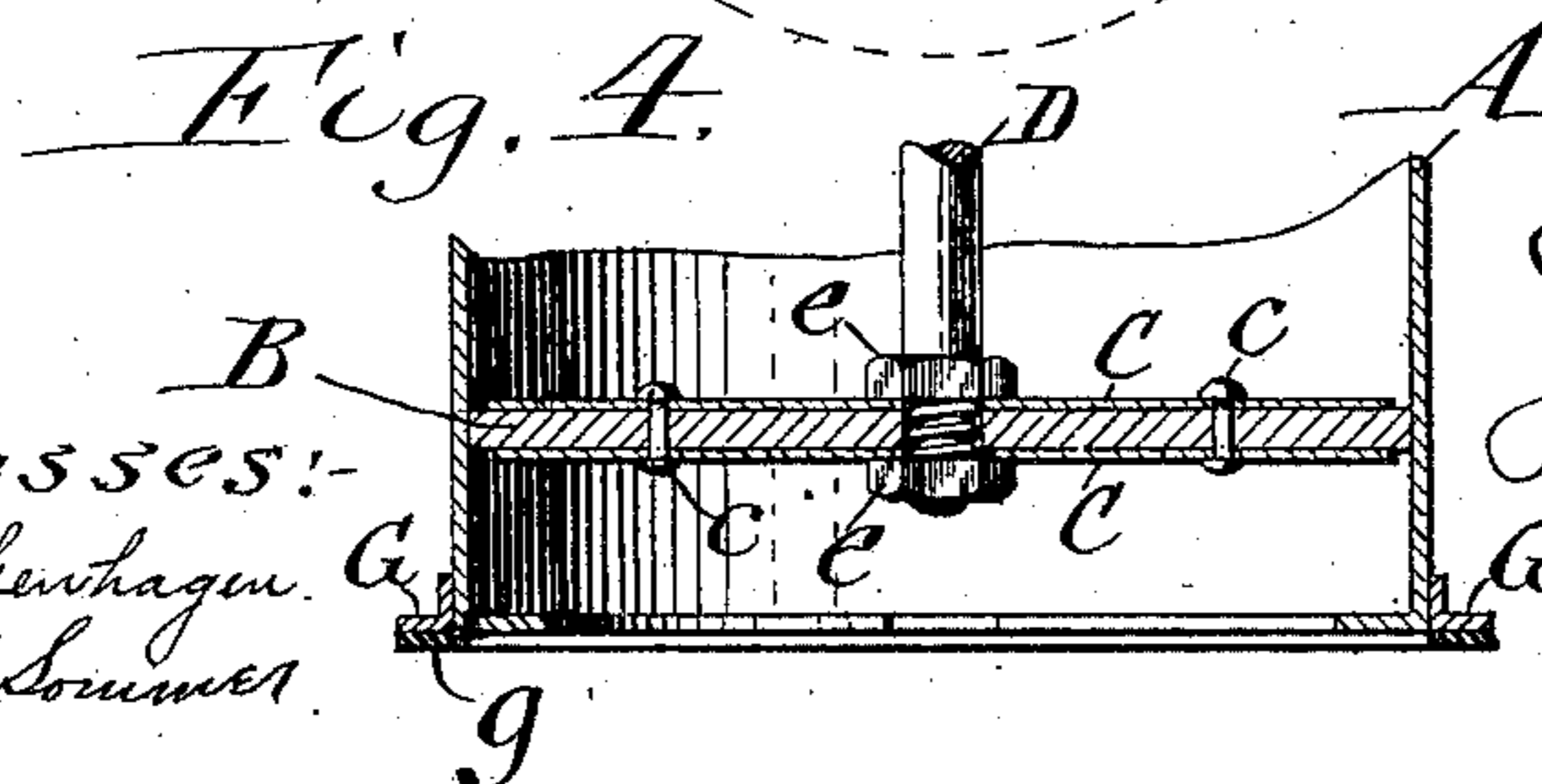
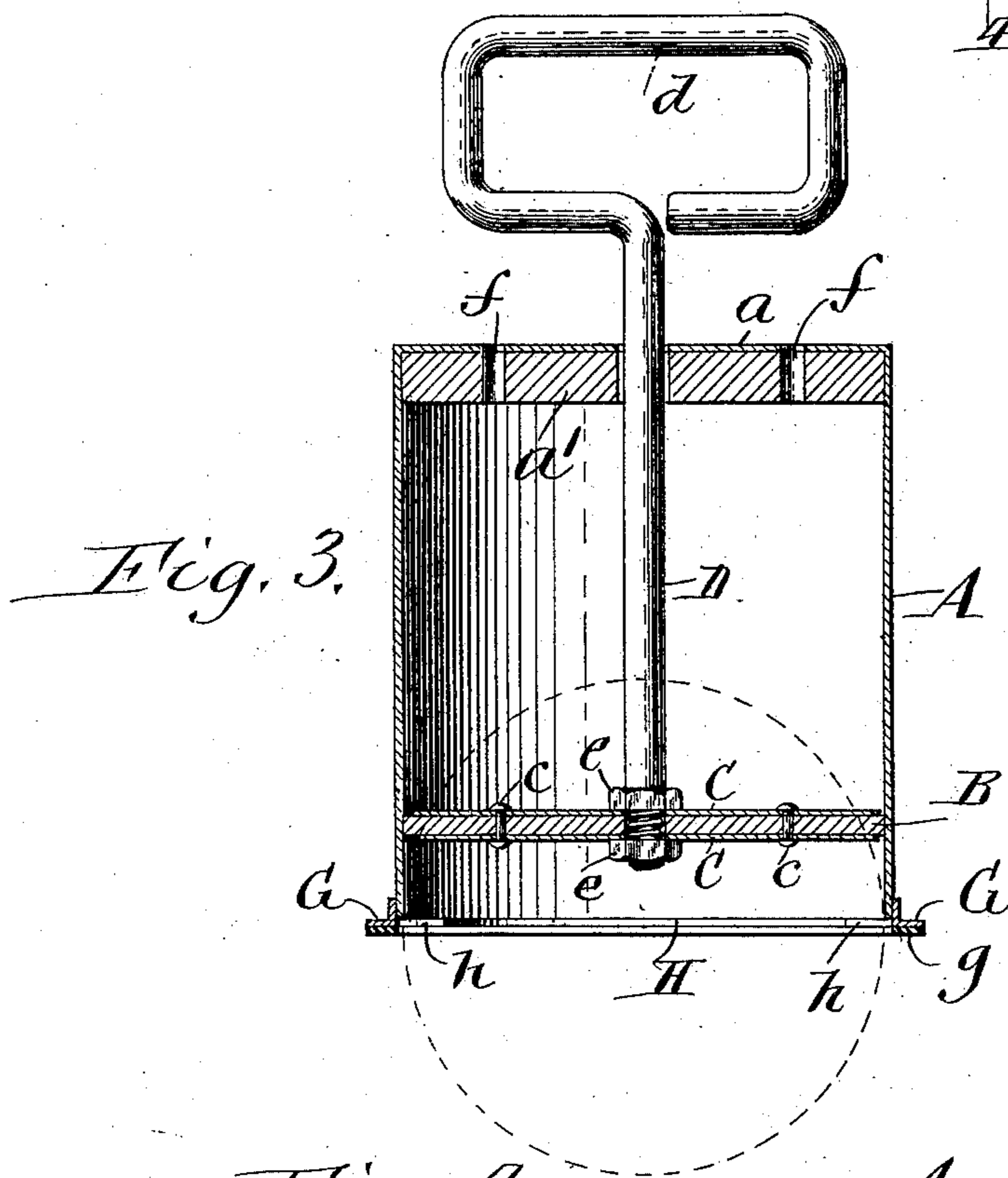
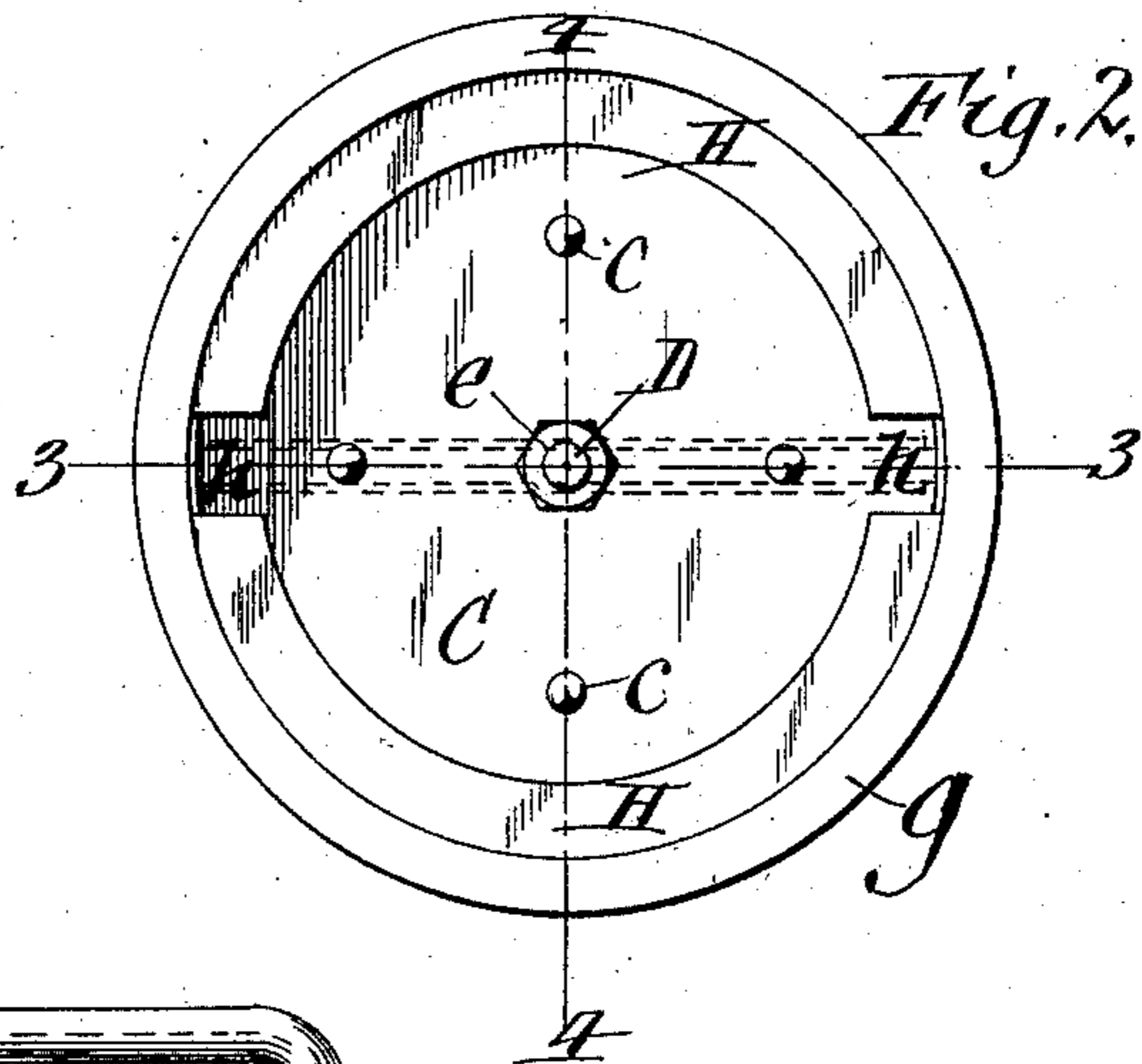
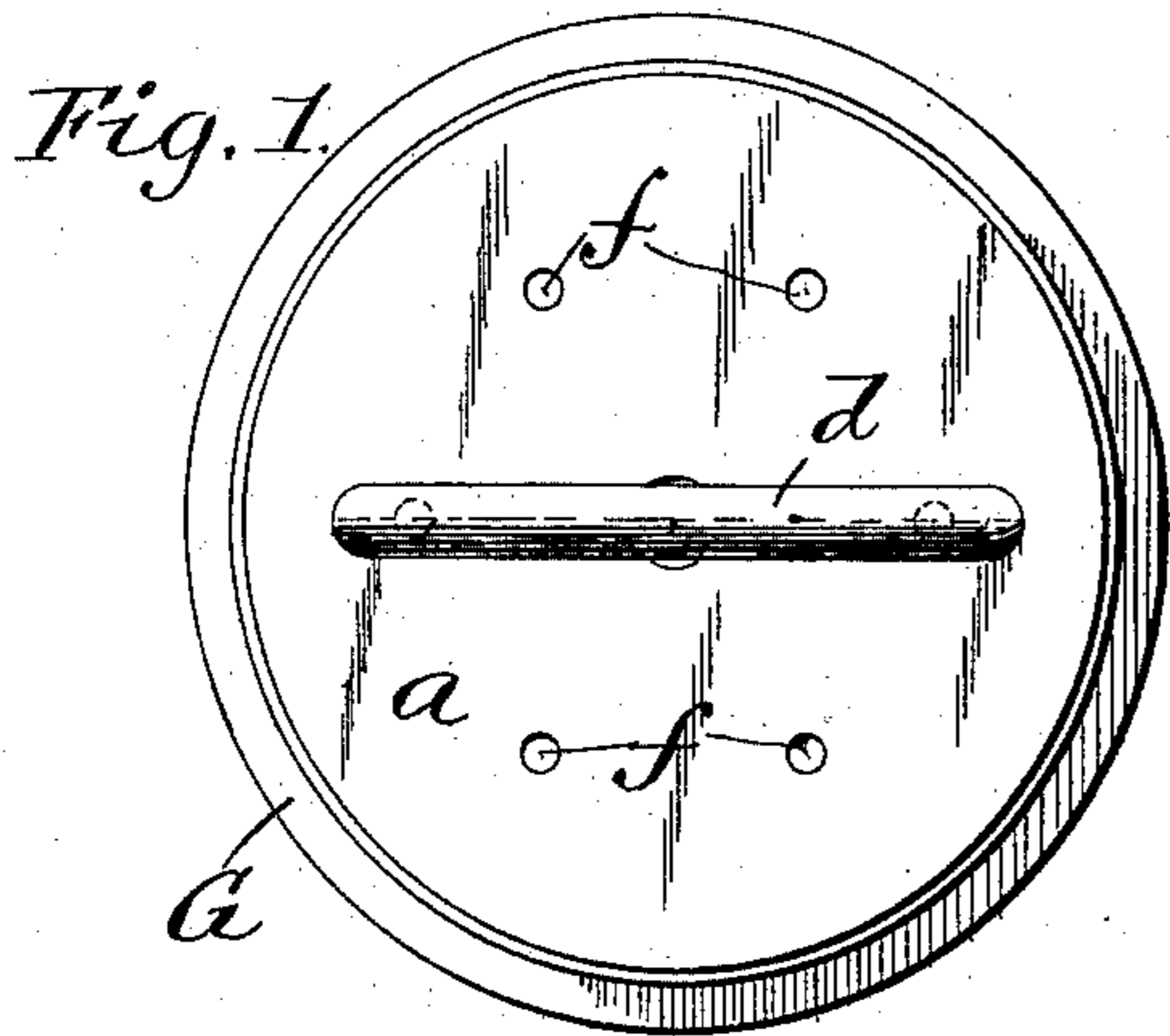


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PUMP.

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Patented Mar. 21, 1911.



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UNITED STATES PATENT OFFICE.

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PUMP.

987,217.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed November 29, 1910. Serial No. 594,670.

To all whom it may concern:

Be it known that we, EDWARD A. CONNOR and JOHN E. MILLER, citizens of the United States, and residents of Lackawanna, in the county of Erie and State of New York, have invented new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to a pump which is more particularly designed for cleaning the drains of kitchen sinks, closets and similar places.

The object of this invention is to produce a pump of this character which is simple and inexpensive in construction, efficient in operation and capable of being easily and conveniently manipulated.

In the accompanying drawings: Figure 1 is a top plan view of the pump embodying this invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a vertical longitudinal section of the same taken in line 3—3, Fig. 2. Fig. 4 is a fragmentary vertical longitudinal section thereof taken in line 4—4, Fig. 2.

Similar letters of reference indicate corresponding parts throughout the several views.

This pump comprises a casing or cylinder, a piston or plunger arranged within the casing and means for actuating said piston manually.

The casing preferably consists of a cylindrical body A which is open at its front end while its rear end is provided with a head *a* both of which are preferably constructed of sheet metal. On its inner side the head is preferably reinforced by a backing *a*¹ of wood, as shown in Fig. 3, which may be secured in place by any suitable means. The piston or plunger may be variously constructed but preferably consists of a packing disk B of leather or other suitable material engaging at its edge or periphery with the bore of the body and two supporting disks C of metal secured to opposite sides of the packing disk by rivets *c* or otherwise. This piston is reciprocated lengthwise within the body by an actuating device which preferably consists of a longitudinal piston rod D passing through an opening formed centrally in the head and its reinforcement and provided at its outer end with a handle *d* while its inner end is screw threaded and

arranged in an opening formed centrally in the packing disk and supporting disks of the piston and is secured thereto by means of screw nuts *e* arranged on the threaded parts of the piston actuating rod and engaging with the outer sides of the supporting disks.

Upon placing the front end of the body over the drain opening or outlet of the sink or closet and reciprocating the piston one or more times an alternate suction and compression of the air in said body and the drain pipe connected therewith will be produced whereby any material which may be caught in the drain and either obstructing or clogging the same will be removed or dislodged and thereby clear the drain.

In order to permit the piston to move freely in the body and thus enable the best effect to be produced with comparative ease, the head and its reinforcement are provided with vent openings *f* which permit the air to freely enter and leave the upper end of the body and thereby avoid interference with the movement of the piston.

For the purpose of permitting a tight joint to be produced between the body and the surface around the drain opening this end of the body is provided with an external annular bearing flange G which has a facing *g* on its front side of rubber or other elastic material. The latter when pressed against the surface around the drain opening produces a tight joint between the cooperating parts so as to enable the full effect of the pump to be obtained.

It is desirable to limit the forward movement of the piston so as to prevent its escape from the cylindrical body or casing and also to prevent the same from striking the surface around the drain opening when in use. For the purpose of arresting the forward movement of the piston and still permit of inserting the piston readily into the body and removing the same therefrom, a pair of curved stop flanges H are arranged internally at the front end of the body and separated at their corresponding opposing ends so as to form notches or passages *h* through which the piston may be moved edgewise, as shown by dotted lines in Figs. 2 and 3, into and out of the body when assembling and dismembering the parts.

Our improved force pump is not only effi-

cient in operation but the same can also be produced at comparatively small cost and the same is not liable to get out of order.

We claim as our invention:

5 1. A pump for the purpose described comprising a cylindrical body which is open at its front end and is provided at its rear end with a head, a piston arranged in the body, a piston rod connected with the piston and
10 passing through said head, and a pair of curved internal stop flanges arranged at the front end of the body and separated at their opposing ends so as to form notches or passages through which the piston may be
15 moved edgewise into and out of the body.

2. A pump for the purpose described comprising a cylindrical body which is open at its front end and is provided at its rear end with a head, a piston arranged in the body,

a piston rod connected with the piston and 20 passing through said head, a pair of curved internal stop flanges arranged at the front end of the body and separated at their opposing ends so as to form notches or passages through which the piston may be 25 moved edgewise into and out of the body, an external annular bearing flange arranged on the front end of the body, and an elastic packing arranged on the front side of said bearing flange. 30

Witness our hands this 28th day of November, 1910.

EDWARD A. CONNOR.
JOHN E. MILLER.

Witnesses:

JNO. J. MONAGHAN,
ROBERT H. REED.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
