

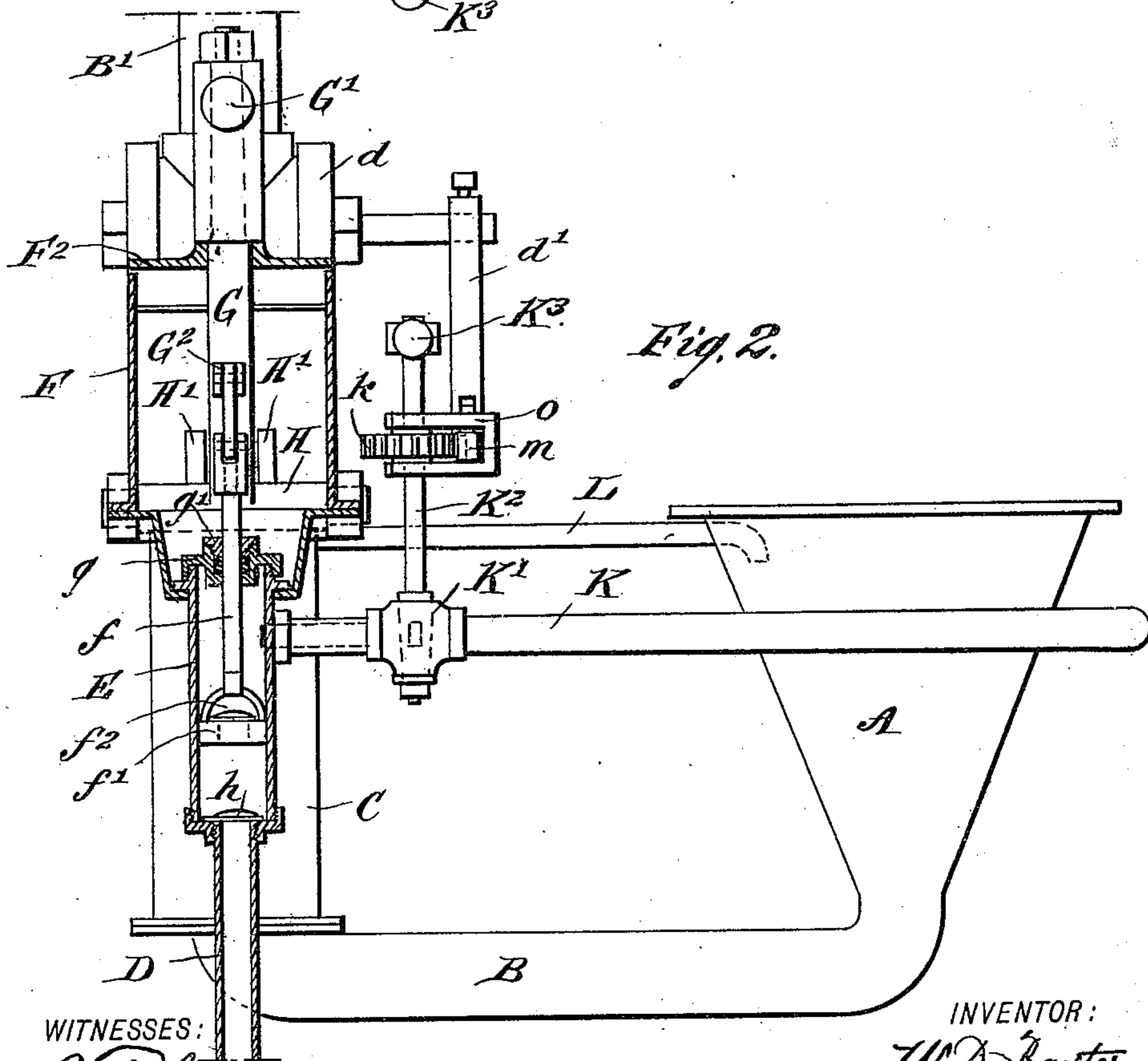
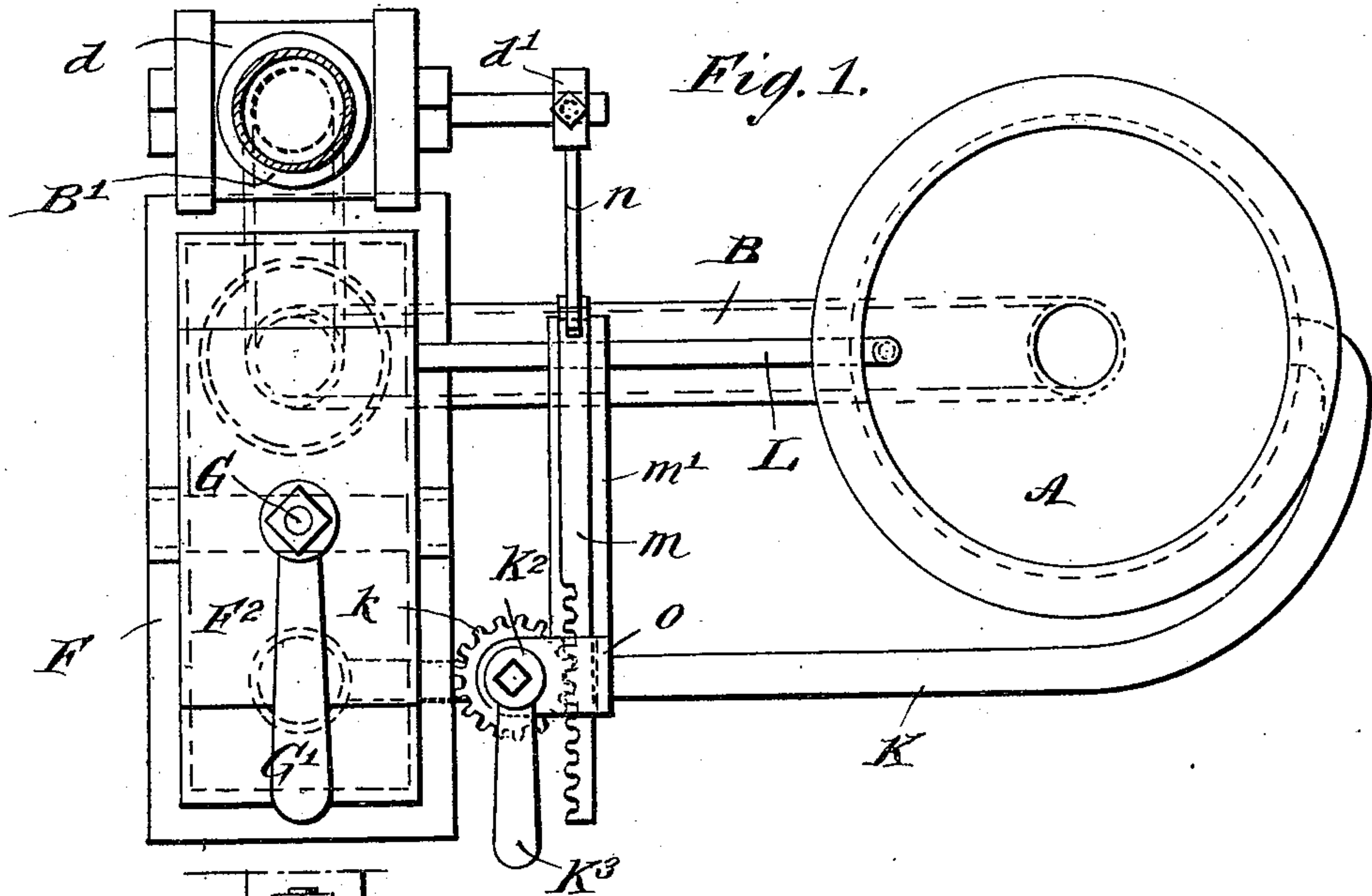
(No Model.)

2 Sheets—Sheet 1.

W. D. BAXTER.
PUMP WATER CLOSET.

No. 438,981.

Patented Oct. 21, 1890.



WITNESSES:

Donn Twitchell
C. Sedgwick

INVENTOR:

W. D. Baxter

BY

Munn & Co
ATTORNEYS

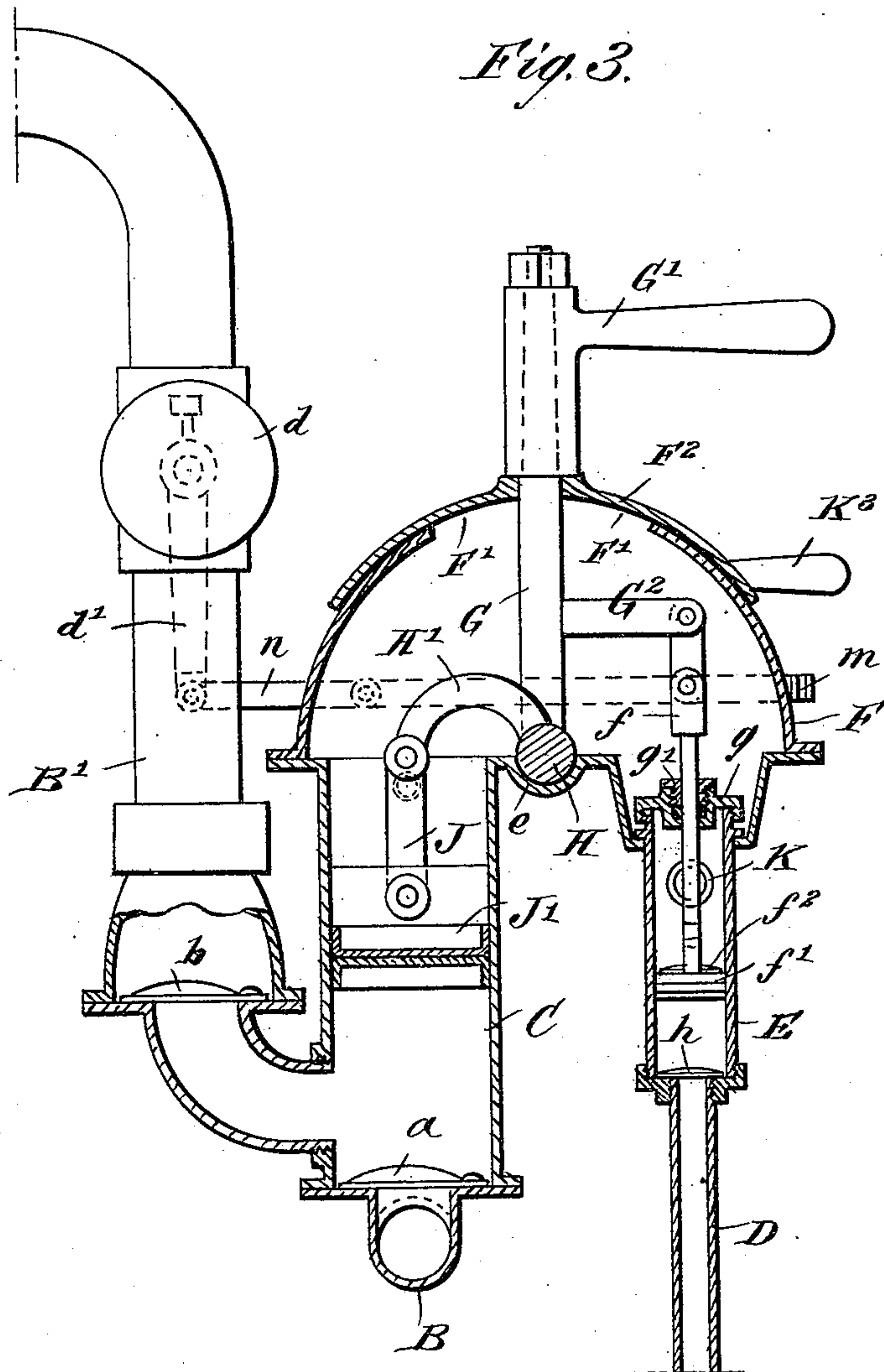
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UNITED STATES PATENT OFFICE.

WILLIAM D. BAXTER, OF BROOKLYN, NEW YORK.

PUMP WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 438,981, dated October 21, 1890.

Application filed May 3, 1890. Serial No. 350,475. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. BAXTER, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Pump Water-Closet, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of water-closets in which the water is applied to the bowl and soil-pipe by means of a pump; and the object of my invention is to produce a water-closet that is especially adapted to yachts and other marine vessels, but which may be used wherever water is to be obtained, and also to provide means for thoroughly flushing the bowl and shutting off all offensive odors.

To this end my invention consists in a water-closet having its connections constructed and arranged substantially as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the device. Fig. 2 is a side elevation with the water-supply pump in vertical section, and Fig. 3 is a vertical section showing the water-supply and soil-pipe pumps and the manner in which the two are connected.

The bowl A is of the usual construction, and opening from the bottom of the bowl is a soil-pipe B, which enters the bottom of the pump C, and a continuation B' of the pipe opens from the side of the pump and passes off to a place of deposit.

The pump C is provided at the bottom with a check-valve *a*, which prevents the return of matter from the pump to the soil-pipe B, and the pipe B' is provided with a check-valve *b*, which prevents the return of matter from the pipe to the pump. The pipe B' is also provided with a valve *d*, the valve-stem of which is provided with a depending crank *d'*, which is connected by a lever mechanism with a valve of the flushing-pipe, so that the soil-pipe and flushing-pipe may be simultaneously opened or closed in the manner described below.

A water-supply pipe D is arranged adjacent to the pump C, and the pipe D terminates in a pump E. The pumps C and E both

terminate at their upper ends in a dome F, with which they are suitably connected. The dome F has an opening F' in the top, over which rests a sliding cover F², and projecting through the cover is a vertical rod G, which is provided at the top with a suitable handle G', and which is fixed at its lower end to the pivot-shaft H, which rests in a suitable bearing *e* at the base of the dome F. The rod G is also provided with a laterally-extending arm G², to which is pivotally connected by an interposed link the piston-rod *f* of the pump E. The piston-rod *f* projects through a suitable packing-box *g*, having a screw-gland *g'* to retain the packing, which box is screwed to the top of the pump E, and to the lower end of the piston-rod is attached the piston *f'* of the pump E, said piston fitting closely in the pump and having the usual check-valve *f*² therein to permit the water to pass up through the piston and to prevent it from flowing back.

In the bottom of the pump E is a check-valve *h*, which closes the entrance of the pipe D, and which swings upwardly when the water enters and which prevents the water from flowing back. All the valves used in the connections are of the usual construction and need no detailed description.

Fixed to the pivot-shaft H are curved arms H', which are pivotally attached by the links J to the piston J', said piston moving in the pump C in the usual manner.

Opening from the pump E is a flushing-pipe K, which enters the upper portion of the bowl A, and through which water is forced to flush the bowl.

An overflow-pipe L is connected with the pump C of the soil-pipe and opens into the upper portion of the bowl A, so that should there be any leakage past the piston J' the water will flow through the pipe L to the bowl A.

The flushing-pipe K is provided with a valve K', having the valve-stem thereof elongated into an upwardly-extending shaft K², which has a suitable handle K³ at the top, so that by turning the handle the valve may be opened or closed. The shaft K² has a pinion *k* fixed thereto, which meshes with a rack *m*, connecting by means of a rod *n* with the crank *d'* of the valve *d* in the soil-pipe, so

that when the shaft K^2 is turned to operate the valve K' the rack and rod will be moved and the valve d operated in unison with the valve K' . It will thus be seen that when one valve is opened the other will be opened also, thus insuring a free and open connection between the soil and flushing pipes and avoiding accidental overflow caused by operating the flushing-pipe when the soil-pipe is closed.

The rack m moves upon a suitable support m' , and is held in engagement with the pinion k by the guide-frame o , which incloses the rack and is pivoted to the shaft K^2 . The valve d being in a larger pipe is much larger than the valve k' ; but by connecting the two by the rack and pinion, as described, more throw is given to the valve d , and the two valves thus operate in perfect synchronism.

When the bowl A is to be flushed and emptied, the valves d and k' , are opened in the manner described. The operator then grasps the handle G' and moves the rod G back toward the soil-pipe, which is easily done, as the cover F^2 of the dome F slides easily thereon. The above movement depresses the piston J' in the pump C and raises the piston f' in the pump E , thus drawing water into said pump. The rod G is then moved forward and the piston f' is depressed and the piston J' raised, and upon the next back-stroke of the rod G the piston f' will force the water from the pump E through the flushing-pipe K into the bowl A , and the water will flow through the bowl A , pipe B , and valve a into the pump C , taking the excrement in the bowl with it, so that the descending stroke of the piston J' will force the material in the pump C out through the pipe B . The above

operation is repeated until the bowl and soil-pipe are thoroughly washed out, when the valves d and k' are closed, thus preventing any offensive odors from coming back through the soil-pipe.

From the foregoing description it will be seen that the two pumps work in perfect unison and that the bowl and soil-pipe may be quickly and thoroughly cleaned.

In constructing the water-closet the handles G' and K^3 should be arranged adjacent to the bowl A , where they may be conveniently reached.

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

A water-closet having a bowl, a soil-pipe, a pump connected with the soil-pipe, a valve in the soil-pipe beyond the pump, a water-supply pipe having a pump connected by a flushing-pipe with the bowl, a valve in the flushing-pipe, a gear-and-rack movement for simultaneously operating the valves, a dome connecting the pumps and having an upper opening and a sliding cover, a pipe leading from the dome to the bowl, a shaft pivoted in the dome, a rod fixed to the shaft and extending through the sliding cover, a link-connection between an arm of the rod and the piston of the water-supply pump, and an arm fixed to the shaft and connected with the piston of the soil-pipe pump, all substantially as described.

WILLIAM D. BAXTER.

Witnesses:

WM. A. BOOTH,
THEO. HALL.