

No. 750,228.

PATENTED JAN. 19, 1904.

J. H. SEAGER & J. J. KELLY.

FLUSH TANK APPARATUS.

APPLICATION FILED JULY 8, 1903.

NO MODEL.

Fig. 1.

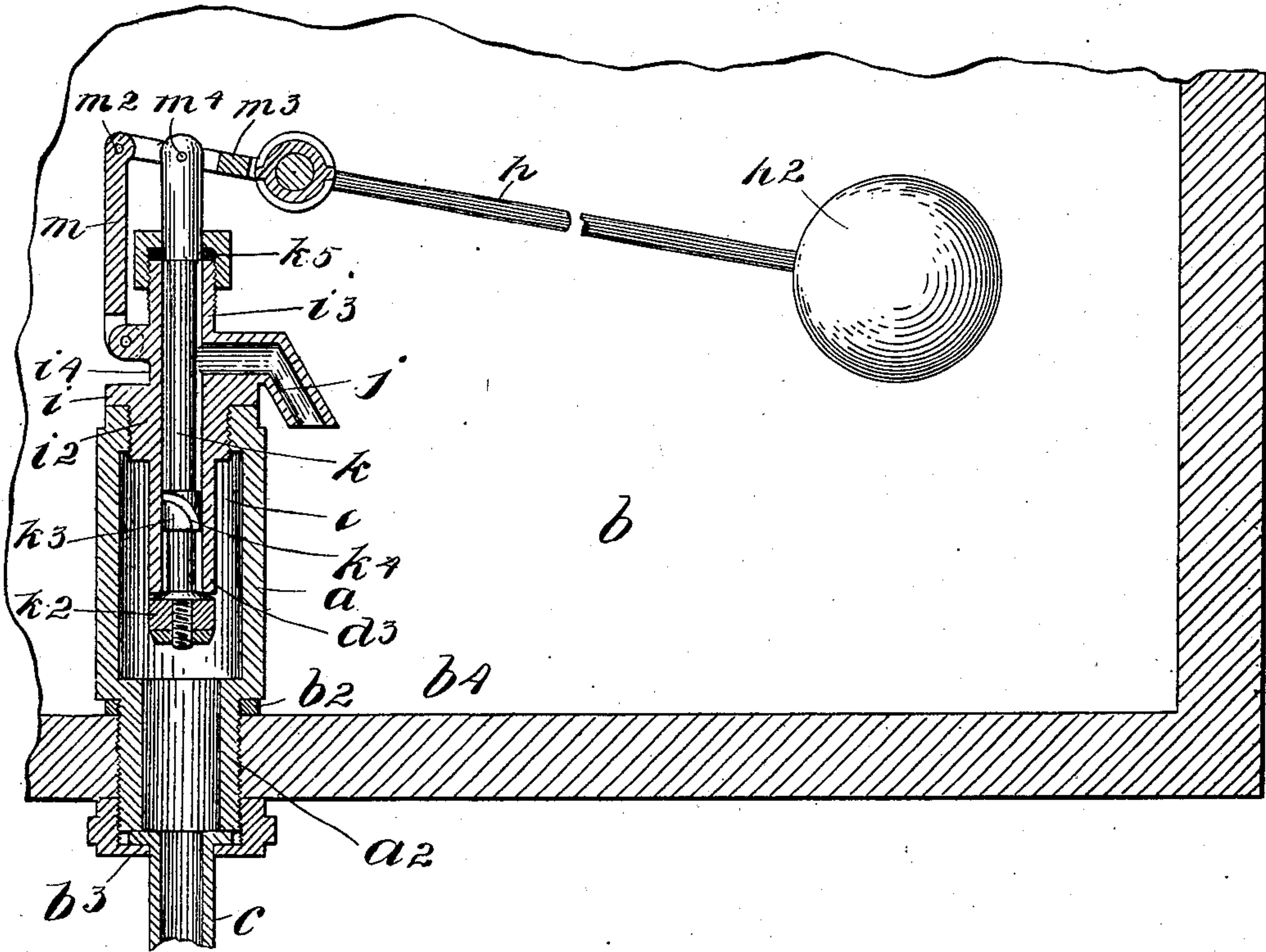
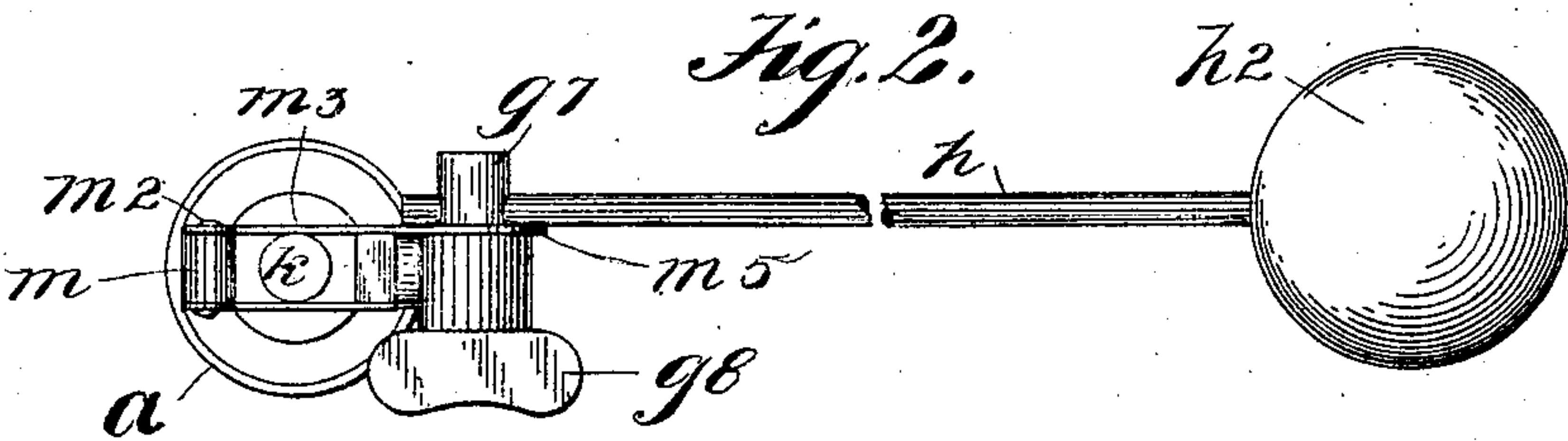


Fig. 2.



WITNESSES

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JAMES H. SEAGER AND JOHN J. KELLY, OF FLUSHING, NEW YORK.

FLUSH-TANK APPARATUS.

SPECIFICATION forming part of Letters Patent No. 750,228, dated January 19, 1904.

Original application filed April 21, 1903, Serial No. 153,708. Divided and this application filed July 8, 1903. Serial No. 164,690.
(No model.)

To all whom it may concern:

Be it known that we, JAMES H. SEAGER and JOHN J. KELLY, citizens of the United States, residing at Flushing, in the county of Queens and State of New York, have invented certain new and useful Improvements in Flush-Tank Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to flush-tanks for water-closets; and the object thereof is to provide improved means for controlling the flow of the water into tanks of this class, so as to avoid the "hammering" which almost always accompanies apparatus of this class and to thus avoid a very disagreeable feature of such operation.

This application is a divisional application based on a prior application filed by us April 21, 1903, Serial No. 153,708, and the invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a sectional side view of a part of a flush-tank provided with our improvement, which is shown in section; and Fig. 2, a plan view of our improvement removed from tank.

In the drawings forming part of this specification a means for conveying water from the tank to the basin or other article to be flushed is not shown, this invention relating only to the means for conveying the water into the tank.

In the practice of our invention we provide a casing *a*, having at its lower end a reduced screw-threaded member *a*², which in the form of construction shown passes through the bottom of the tank *b* and which is preferably packed both above and below said bottom, as shown at *b*³ and *b*³, and connected with lower end thereof is a water-supply pipe *c*. The casing *a* is provided with a cap *i*, having a screw-threaded member *i*², which is screwed into the top of the casing and which is pro-

vided with a tube *d*³, which extends downwardly into the casing *a*. The cap *i* is provided with an upwardly-directed extension, and the central bore of the pipe or tube *d*³ passes upwardly thereto, as shown at *i*⁴, and said upwardly-directed extension *i*³ of the cap *i* is provided at one side with a discharge-spout *j*, which empties into the tank *b*.

Passing vertically through the cap *i*, the tube *d*³, and the upwardly-directed extension *i*³ of the cap *i* is a valve-rod *k*, the lower end of which is provided with a valve *k*², and above the valve *k*² the rod *k* is provided with a piston member *k*³, which serves to center said rod and hold it centrally of or in operative position within the tube *d*³, and this piston member *k*³ is provided in the sides thereof with spiral or other grooves *k*⁴, through which water is free to pass.

The upper end of the extension *i*³ of the cap *i* is provided with a stuffing-box *k*⁵, through which the upper end of the valve-rod *k* passes, and pivoted to one side of said extension *i*³ of the cap *i* and preferably opposite the discharge-spout *k* is an upwardly-directed arm or link *m*, to which is pivoted, as shown at *m*², a link *m*³, in which the upper end of the valve-rod *k* is pivoted, as shown at *m*⁴, and the link *m*³ is provided at one side with an extension *m*⁵, through which a screw, bolt, or similar device *g*⁷ is passed, and through one end of this screw, bolt, or similar device is passed the float-rod *h* of the valve-float *h*², and the other end thereof is provided with a thumb-nut *g*⁸.

The casing *a* forms an air-chamber *e*, which is filled with air at all times, and said air forms a cushion when the water flows into said casing, and especially at the time when the operation of the float *h*² closes the passage through the pipe *d*³, and this air-cushion serves to prevent hammering of water, which constitutes a great objection to apparatus of this class, the force of the water being taken up by the air-cushion in such a manner that no sound, hammering, or noise is produced.

It will be observed that the valve operates in the direction of the inflow of the water and no water can enter the tube *d*³ after the valve

is seated, and this also facilitates the operation of the apparatus in the accomplishment of the desired result, as the force of water is directly exerted on the air-cushion in the chamber *e*.

The connection of the float-rod *h* with the link *m*³ is a rigid connection, and said link and the valve-rod *k* rise and fall with the float; but the action of said float-rod *h* with the valve-rod *k* may be made in any desired way.

This apparatus is simple in construction and comparatively inexpensive and may be employed wherever apparatus of this class is desired, and changes in and modifications of the various parts thereof may be made without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a water-supply device for flush-tanks, a casing forming an air-cushion chamber and provided at one end with means for securing a water-supply pipe thereto, a detachable cap connected with the other end of said casing and provided with a tube which passes into said casing a predetermined distance, said cap being also provided with an extension having a central bore which communicates with the central bore of the said tube, and said extension being also provided at one side with a discharge, a valve-rod passing loosely through said extension and said tube and provided at its inner end with a valve which operates in connection with the inner end of the said tube within said chamber, and a float-rod connect-

ed with said cap at one end and in operative connection with the outer end of said valve-rod, substantially as shown and described.

2. The combination with a flush-tank of a water-supply device, comprising a casing forming an air-cushion chamber and provided at its lower end with a reduced extension which passes through the bottom of the tank, a detachable cap connected with the upper end of said casing and provided with a tubular member which passes downwardly thereto a predetermined distance, said cap being also provided with a vertical extension having a central bore which communicates with the central bore of said tube, and said extension being also provided at one side with a discharge-spout, a valve-rod passing loosely through said extension and said tube and provided at its inner end with a valve which operates in connection with the inner end of said tube within said chamber, and a float-rod loosely connected with said cap at one side thereof and in operative connection with said valve-rod whereby the vertical movement of said float-rod will raise and lower said valve and open and close said tube, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 2d day of July, 1903.

JAMES H. SEAGER.
JOHN J. KELLY.

Witnesses:

HOWARD B. SNELL,
LOUISE SNELL.