E. J. WACKERLE.

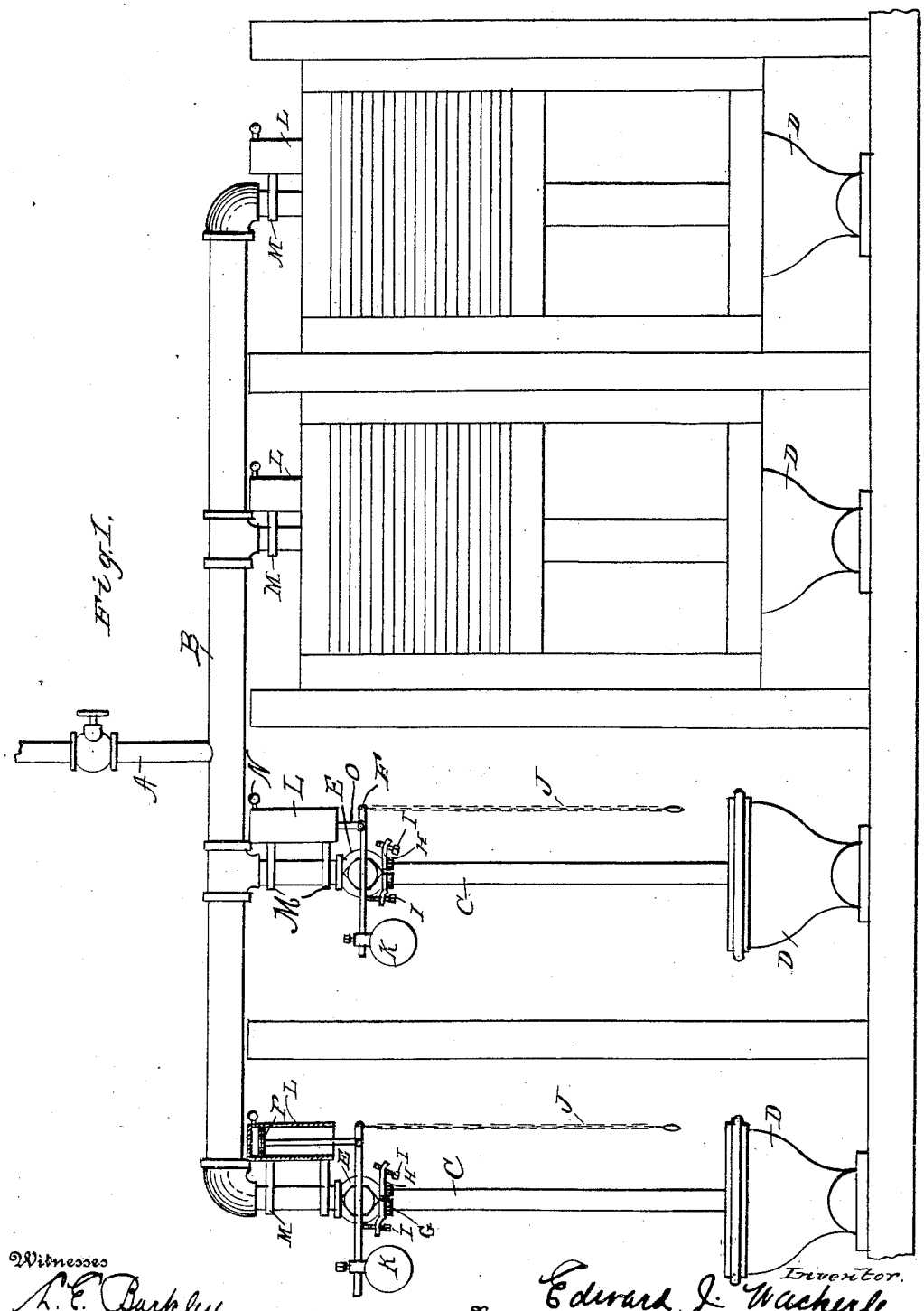
FLUSHING TANK VALVE.

APPLICATION FILED NOV. 12, 1908.

954,065.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.



Witnesses
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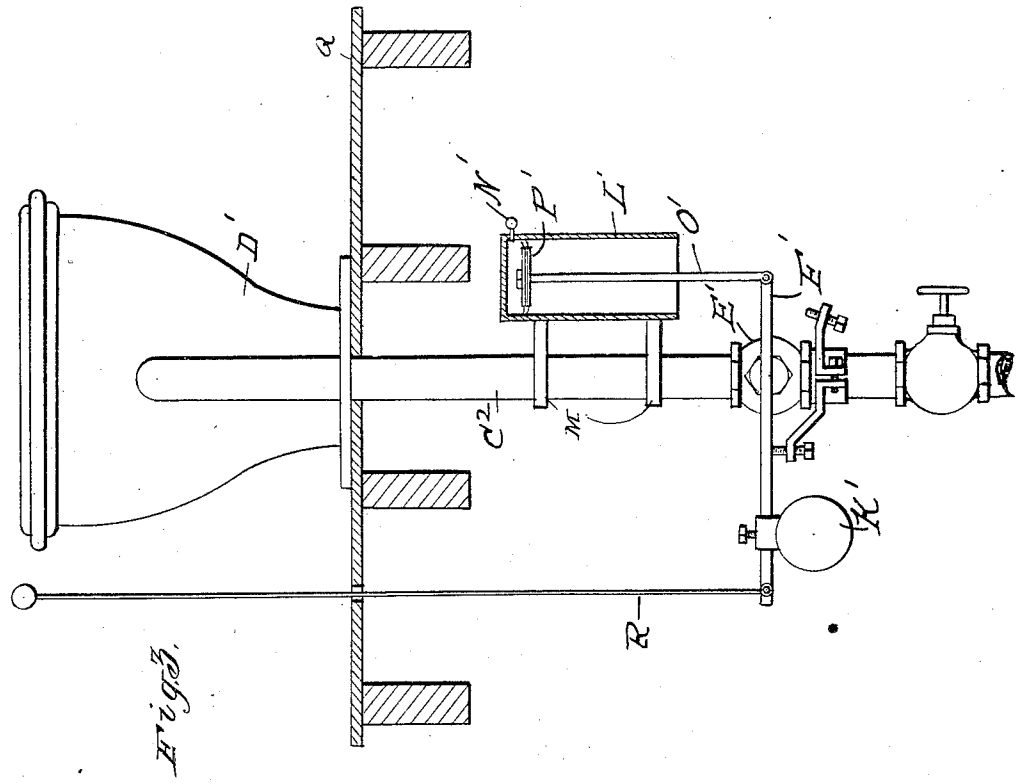

Fig. 1.

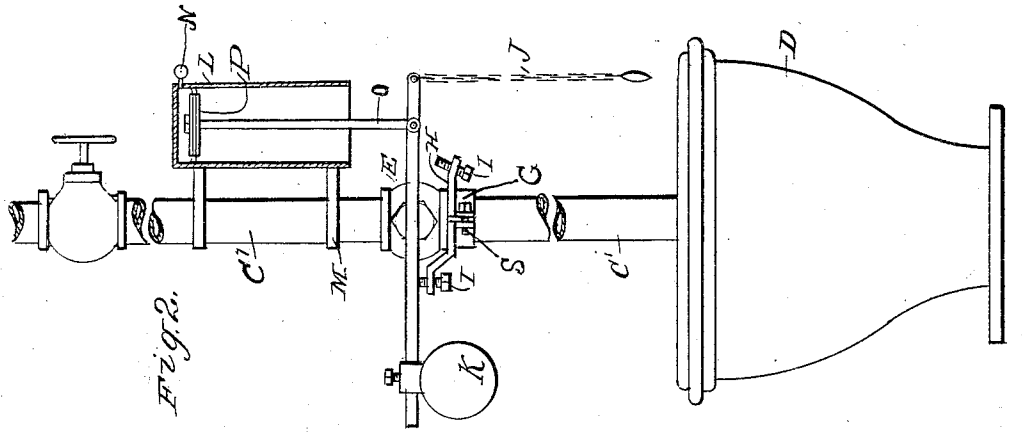

Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD J. WACKERLE, OF JACKSONVILLE, ILLINOIS.

FLUSHING-TANK VALVE.

954,065. Specification of Letters Patent. Patented Apr. 5, 1910.

Application filed November 12, 1908. Serial No. 462,323.

To all whom it may concern:

Be it known that I, EDWARD J. WACKERLE, a citizen of the United States of America, residing at Jacksonville, in the county of Morgan and State of Illinois, have invented certain new and useful Improvements in Flushing-Tank Valves, of which the following is a specification.

This invention relates to baths and closets and particularly to an apparatus for flushing closet bowls and the said invention has reference more particularly to supplying water directly from the service pipes.

An object of the invention is to provide for readily controlling or limiting the oscillation of the valve actuating arm or lever, and to effect the same in a simple, expeditious and effective manner.

To these ends, the invention consists of the combination of parts, including their construction and arrangement, substantially as hereinafter fully disclosed and defined by the claims.

In describing the invention in detail, reference will be had to the accompanying drawing forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1, is a view in elevation showing a series of closet bowls with the controlling devices applied thereto, this figure showing the means for utilizing a series of bowls with one service pipe; Fig. 2, is an enlarged detail view in elevation showing one service pipe; and Fig. 3, is a view in elevation showing a slightly modified arrangement of the parts where the service pipe rises instead of descends to the bowl.

In these drawings A, denotes the service pipe, B, a pipe in connection therewith having a series of couplings to which the pipes C, are connected, which pipes C, lead to the bowls D. Each pipe C, is provided with a valve E, having a stem connected to the operating arm F, by which said valve is partially rotated. I here show the operating arm extending horizontally, in which position the valve is preferably closed. An adjustable split collar G, having ears thereon, is clamped to the pipe C and held securely in the desired position by means of the bolt S passing through said ears. This collar has formed thereon an arm H, having adjustable screws I I located in the ends thereof, said screws forming abutments to limit the oscillation of the operating arm F. The arm H is formed in two parts, one located on each side of the joint of the collar.

As shown in the drawing, the arm is supported in its horizontal position by the screw in one end of the cross arm and the screw in the opposite end of the cross arm will limit the downward movement of the operating arm F, when the chain or flexible connection J, is pulled.

The operating arm is provided with a weight K, which has a tendency to return the arm to its horizontal position after the operating arm has been pulled by the chain and in order to prevent a too rapid movement of the operating arm and the too rapid closing of the valve a dash pot L, is supported by the brackets M, from the pipe C, above the valve and said dash pot is provided with a valve N, which may be adjusted to regulate the escape of air from the dash pot, that is to say, the opening in the valve may be made larger or smaller according to the rapidity with which the operating arm is to move.

The operating arm is provided with a piston rod O, extending into the dash pot and is provided with a piston P, which piston reciprocates in the dash pot as the operating arm is moved. When the operating arm is pulled by the chain or flexible connection J, the valve is opened and the piston is carried toward the open end of the dash pot and when the pull on the chain or flexible connection is removed, the opposite end of the operating arm is caused to descend under the influence of the weight K, but as the piston in the dash pot is compressing air which is allowed to escape through the valve gradually, it follows that the movement of the operating arm is retarded and the valve is permitted to close very gradually, hence the flow of water through the pipe C, is gradually reduced and finally cut off.

In the form shown in Fig. 2, I utilize a single supply pipe C′, whereas the controlling device is the same as that shown in Fig. 1 and described in connection therewith.

In Fig. 3, the service pipe C^2, rises to the bowl D′, and the controlling mechanism is preferably applied to the service pipe below the floor Q. In this form, the rod R, projects through the floor and has its lower end connected to the operating arm F′, and the operating arm controls a valve E′. The operating arm F′, is also provided with a

weight K′, and a dash pot L′, is suspended from the service pipe in operative relation to the said operating rod. The piston rod O′, and piston P′, as well as the valve N′, are similar in construction and operation to the dash pot, piston, etc. described in connection with the disclosure in Fig. 1.

While I have described this controlling device as being applicable to baths and closets and flushing systems, it is to be understood that I do not wish to be restricted to such use of my invention as it is obvious that the same may be advantageously employed in connection with any valve under the control of a lever, or that is operated by a lever or a combination of levers.

I claim—

1. In a flushing apparatus, a supply pipe, a valve in said pipe, an operating arm connected to the stem of said valve, a collar adjustable longitudinally and circumferentially on said supply pipe, arms extending from said collar and adjustable means carried by the outer ends of said arms adapted to engage the respective ends of said operating arm, whereby the movement of the latter is limited.

2. In a flushing apparatus, a supply pipe, a valve in said pipe, an operating arm connected to the stem of said valve, a collar adjustable longitudinally and circumferentially on said supply pipe, and arms extending from said collar, one of said arms inclined downwardly in order to limit the downward movement of one end of the operating arm, the other arm bent upwardly and then laterally in order to limit the downward movement of the other end of said operating arm and to normally hold said arm in a horizontal position.

In testimony whereof, I affix my signature in the presence of two witnesses.

EDWARD J. WACKERLE.

Witnesses:

F. E. Baldwin,

Effie Moxon.