(No Model.) 2 Sheets—Sheet 1.

G. D. ACKLEY.

SEAT ACTION FLUSHING APPARATUS.

No. 598,834. Patented Feb. 8, 1898.

Fig. 1.

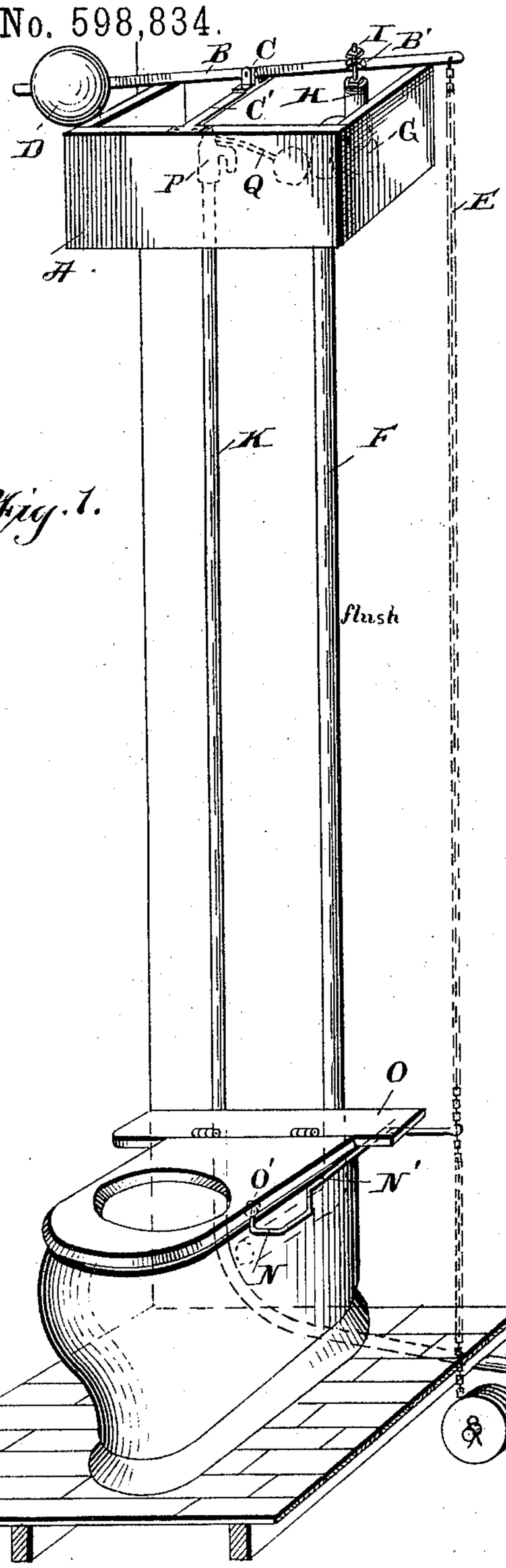
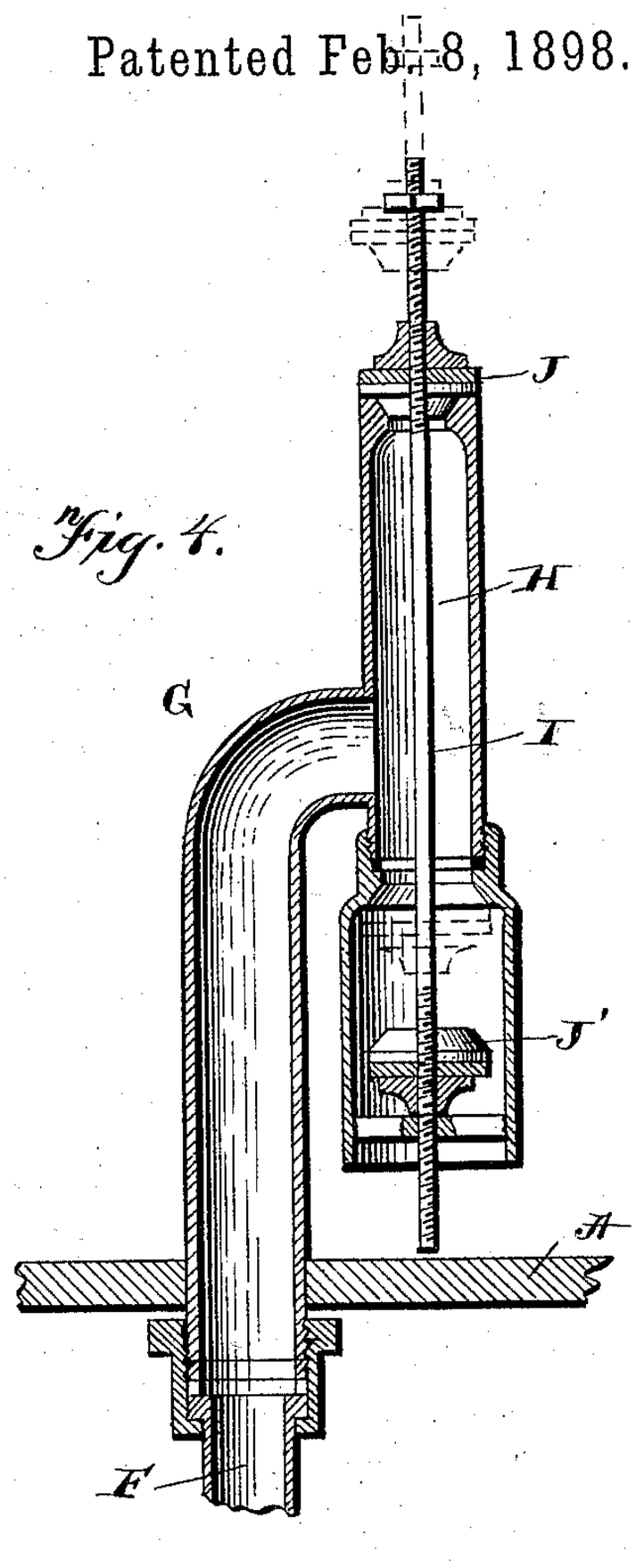


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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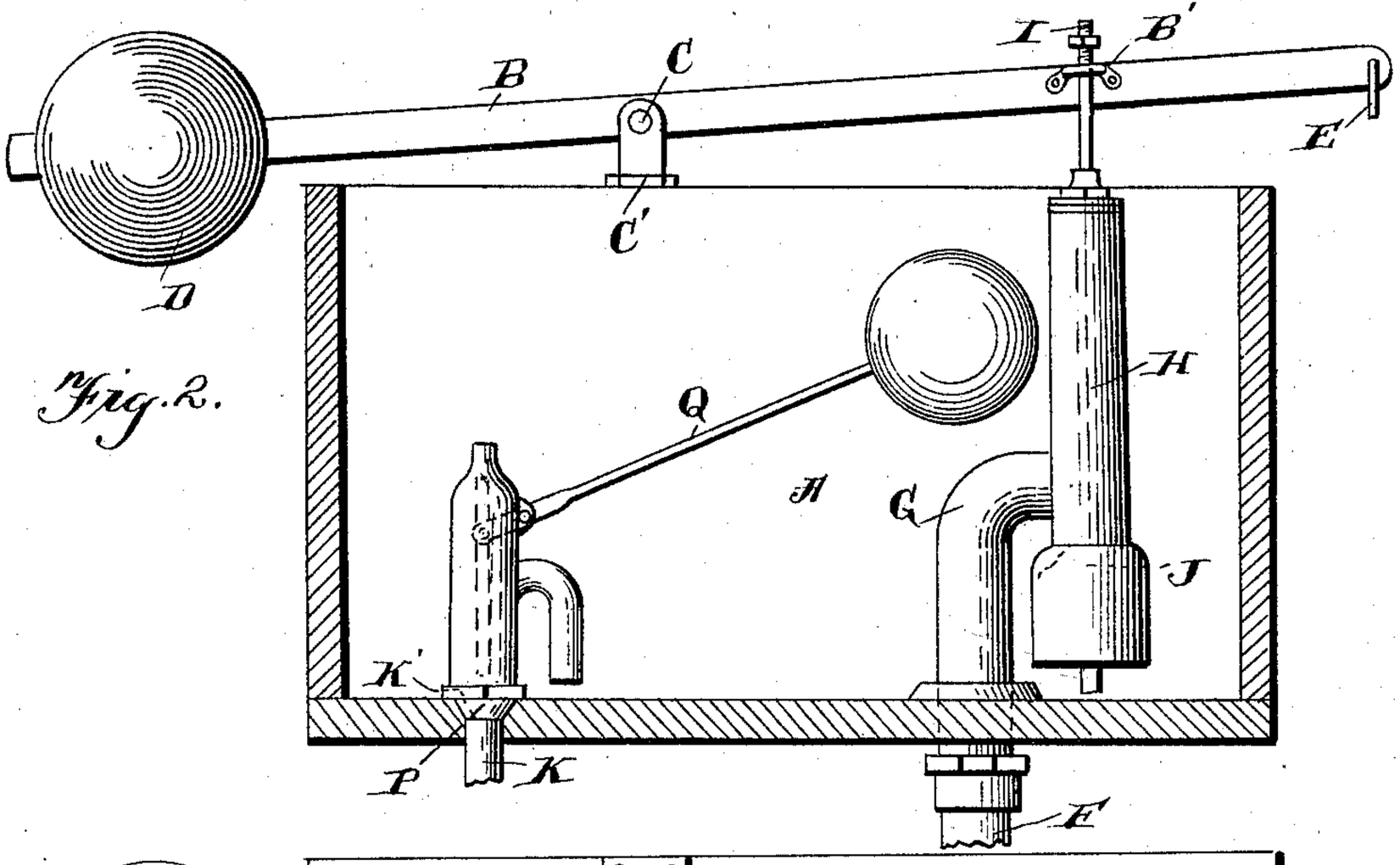

Fig. 2.

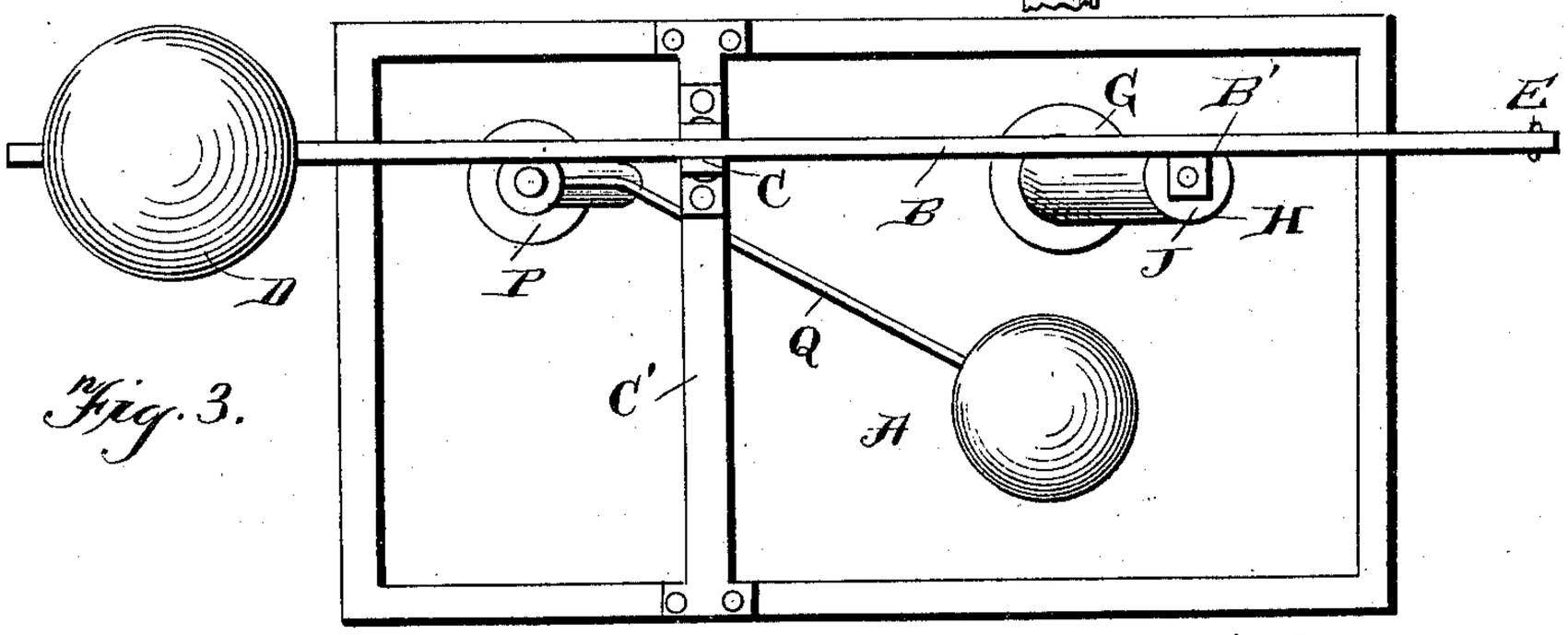

Fig. 3.

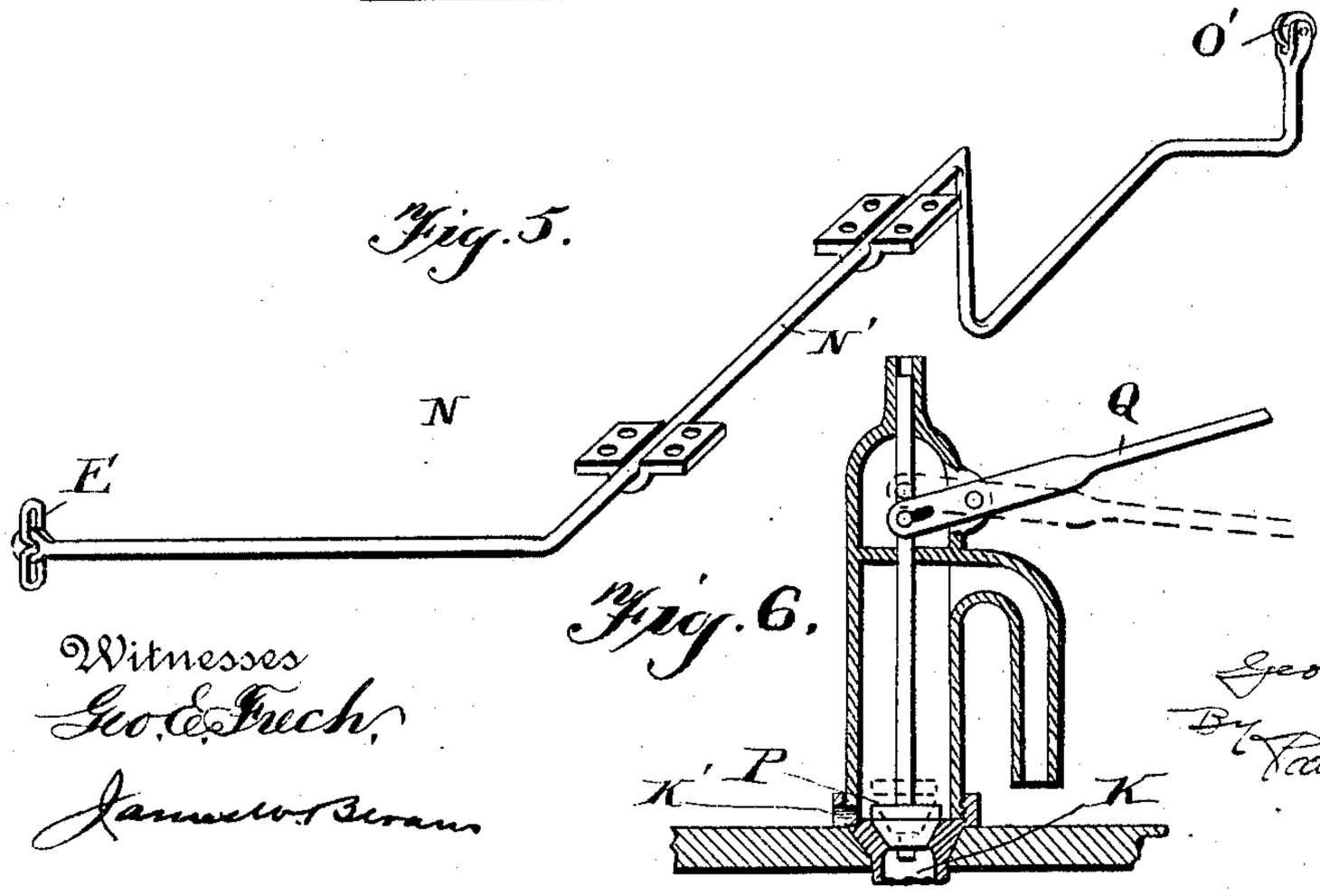

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE D. ACKLEY, OF FORT WORTH, TEXAS.

SEAT-ACTION FLUSHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 598,834, dated February 8, 1898.

Application filed December 31, 1896. Serial No. 617,666. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. ACKLEY, of Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Seat-Action Flushing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to an improved seat-action flushing apparatus; and the object is to provide a cistern into which the water is admitted only when the seat is occupied and from which it drains completely when the seat is released, the water draining also from the cistern-supply pipe, so that where the closet is exposed to cold there is no opportunity for the water to freeze.

A further object is to provide a siphon of improved form.

The invention consists of the novel features of construction hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a closet provided with my improved flushing apparatus. Fig. 2 is an elevation of the cistern, the side thereof being removed to expose the internal mechanism. Fig. 3 is a plan view. Fig. 4 is a vertical sectional view of the siphon and inlet. Fig. 5 is a detailed perspective view of the seat-operated crank-shaft for starting the flush. Fig. 6 is a vertical sectional view of the cistern-supply valve.

A designates the cistern, and traversing its top is lever B, which is fulcrumed between its ends in chair C, supported by transverse bar C′. Adjustably secured to the lever upon one side of the fulcrum is weight D, while depending from the opposite and projected extremity of the lever is the operating rope or chain E. Upon the upper end of flush-pipe F is siphon G, the leg H of the siphon being open at its upper and lower ends. Rod I moves vertically in the leg H and carries valves J and J′, adapted, respectively, to seat upon the upper and lower ends of leg H by the vertical movement of the rod and thus alternately open and close said ends for the purpose presently to be explained. Each valve consists, preferably, of a rubber washer, which is secured to and adjustable on the rod by a screw-nut, as shown. The upper end of rod I projects through keeper B′, carried by lever B, and is provided with nut I′, whereby the movement of the lever independent of the valve-rod is adjusted and regulated. Supply-pipe K extends from the three-way valve L in the water-main to the cistern, and this valve is operated by weighted arm M, to which the lower end of chain E is secured. Shaft N, having the central bend or crank portion N′, is loosely mounted to turn on the under side of the fixed portion O of the closet-seat. The extremities of the shaft are turned at right angles to its main portion and in opposite directions, as shown, one end thereof being secured to chain E, while its opposite extremity is provided with a slight vertical bend where it carries roller O′, which engages the under side of the seat O.

In operation when the seat is depressed shaft N is turned and an upward pull exerted upon chain E, the pull being sufficient to lift weighted arm M of the main valve, thus permitting water to flow through supply-pipe K to the cistern. Weighted arm M is sufficient to counterbalance weight D of lever B, and hence said weight D is normally raised and the opposite end of lever B depressed. In this position the upper open end of siphon-leg H is closed and its lower end open. When, however, chain E is relieved of the weight of arm M through the medium of seat-operated shaft N, lever B is caused to swing vertically through the action of weight D, and in so doing lifts rod I and raises valve J from its seat and closes the lower valve J′. The water continues to flow into the cistern until cut off by valve P at the upper end of the supply-pipe, said valve being closed by the vertically-swinging float carrying arm Q, as will be readily understood. When the seat O is released, weighted arm N is permitted to drop, with the result that the supply to pipe K is cut off, and at the same time lever B is drawn downward, so as to close the upper end of the siphon-leg and open its lower end, through the medium of valves J and J′, whereby the

siphon is started and the flush set in operation. Nearly all of the water drains through the siphon, and that portion remaining therein passes downward through opening K′ in the supply-pipe, so that all water is drained from the cistern. Valve L opens communication between supply-pipe K and drain-pipe R, so that the water remaining in pipe K empties therethrough, as does also the residue of the cistern-water, as just explained. Leg H of the siphon is open at its upper end and provided with valve J, so that if float-arm Q or valve P should fail to operate to shut off the supply the water would simply overflow into the siphon, and thence downward through the flush-pipe instead of overflowing the cistern. The closing of the upper end of the siphon-leg is simultaneous with the opening of its lower end, so that the action of the siphon is in no way impaired.

A flushing apparatus is thus provided in which no water is permitted to stand in the cistern or to remain in the cistern-supply pipe, and thus all danger of freezing is avoided.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

An improved water-closet and flushing apparatus comprising a cistern, a supply-pipe therefor, a weighted vertically-movable arm, a valve in the supply-pipe actuated by said arm, a siphon-discharge for the cistern, a valve for closing the siphon, mechanism arranged intermediate said siphon-valve and the weighted arm, whereby the weighted arm serves to hold said valve normally open, the crank-shaft suitably supported and connected at one end to said intermediate mechanism, and a depressible closet-seat adapted to actuate the opposite end of the crank-shaft, whereby when the seat is depressed the water-supply is opened and the siphon is simultaneously closed, substantially as shown and described.

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

GEORGE D. ACKLEY.

Witnesses:
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ROBT. G. LITTLEJOHN.