No. 883,538. PATENTED MAR. 31, 1908.

T. T. GRASER.

TOILET ROLL PAPER HOLDER.

APPLICATION FILED AUG. 27, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

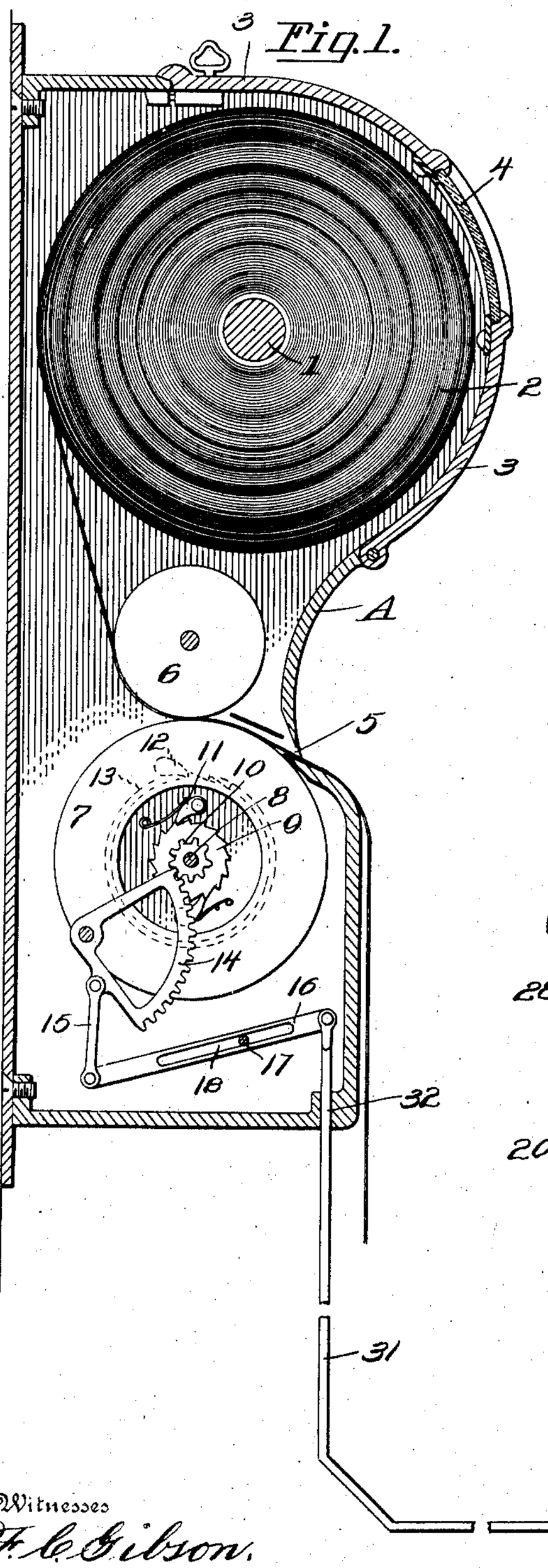
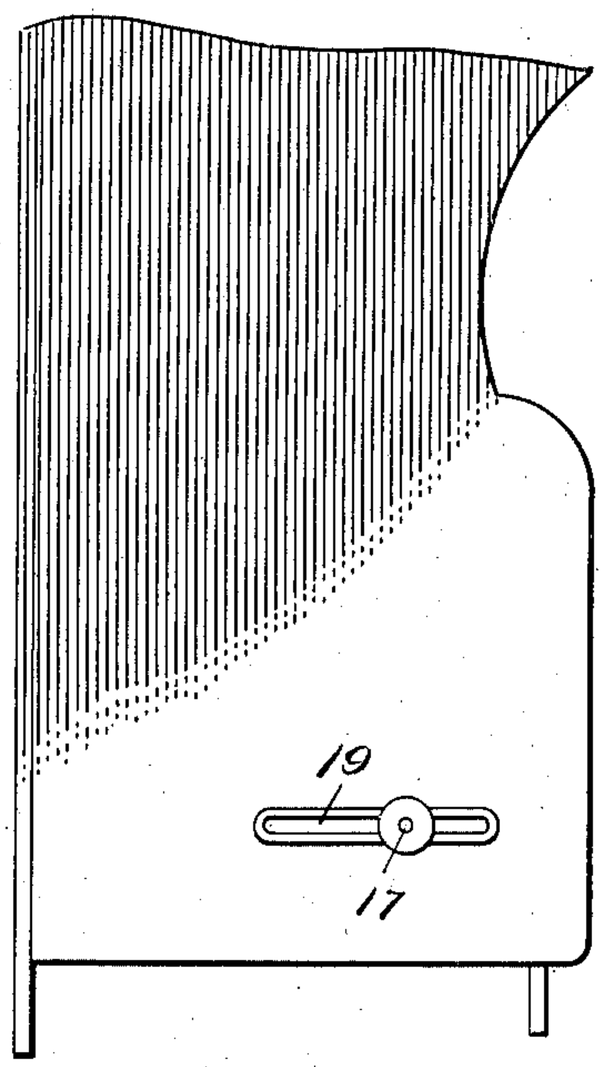
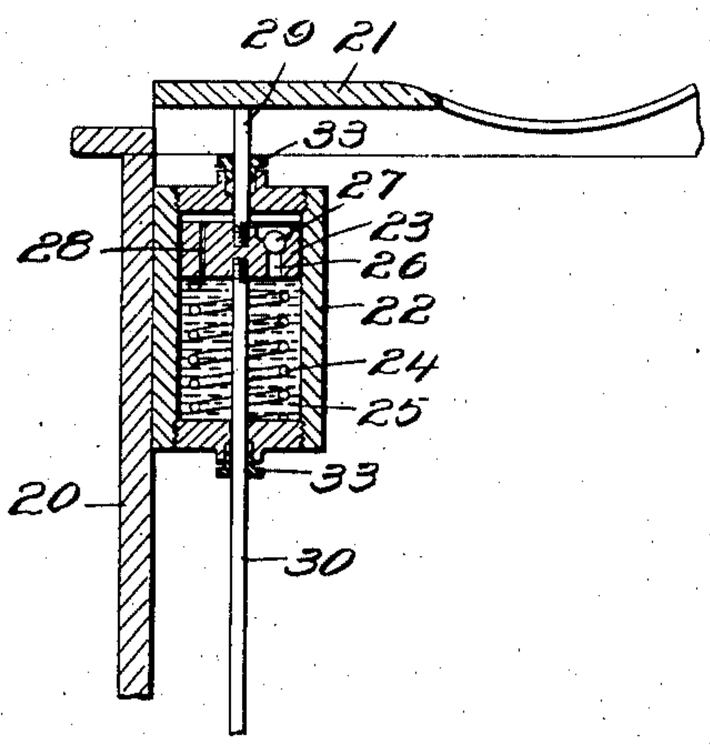


Fig. 2.





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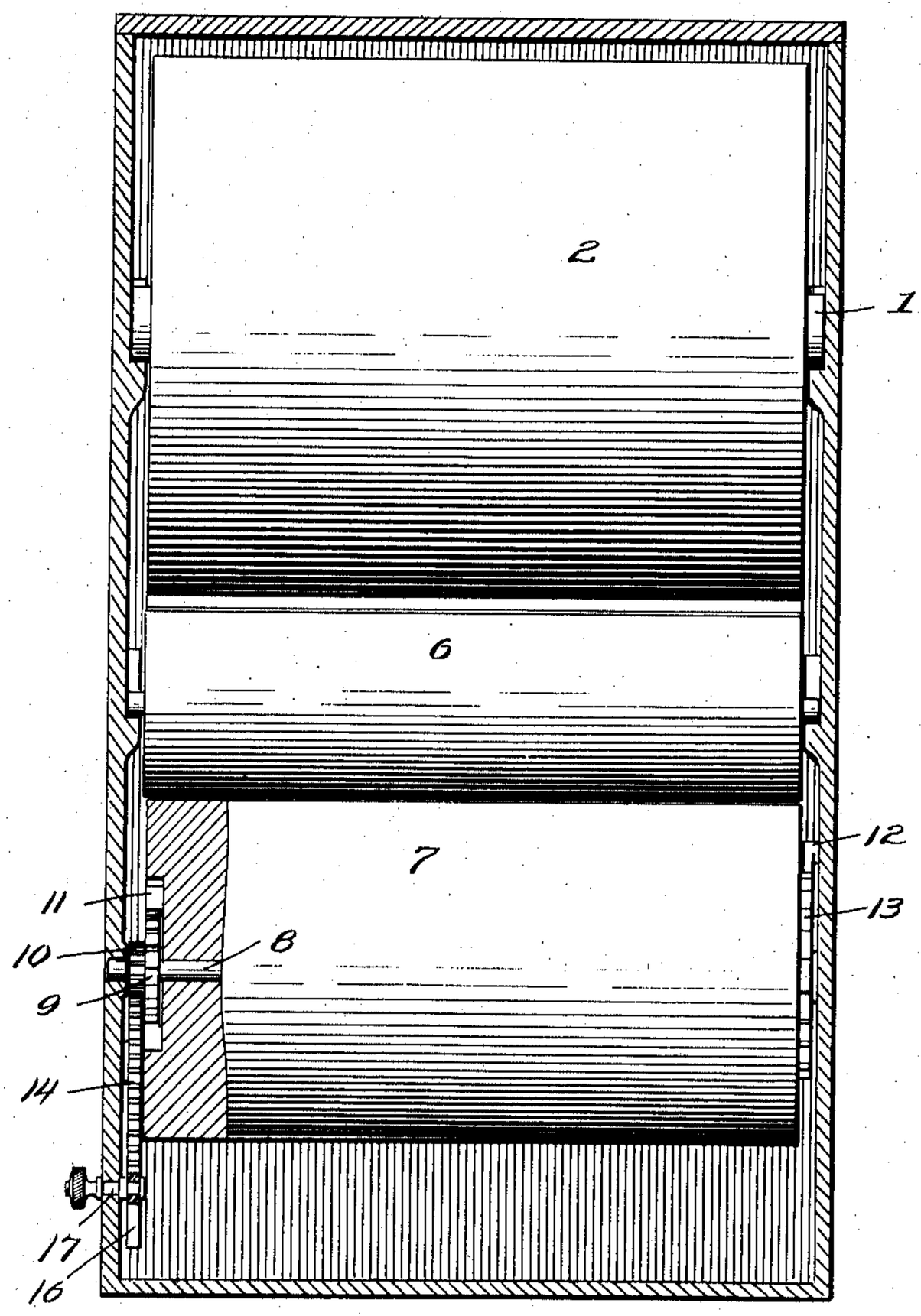
2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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TOILET-ROLL-PAPER HOLDER.

No. 883,538. Specification of Letters Patent. Patented March 31, 1908.

Application filed August 27, 1907. Serial No. 390,353.

To all whom it may concern:

Be it known that I, THOMAS T. GRASER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Toilet - Roll - Paper Holders, of which the following is a specification.

This invention relates to holders for rolls of toilet paper, and it has for its object to provide a device which shall be operable by the movement of the closet seat to expel from the casing of the holder a predetermined length of paper which shall be capable of being conveniently and accurately regulated.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a vertical sectional view showing a roll paper holder and means for operating the same, constructed in accordance with the invention. Fig. 2 is a detail side view of a portion of the casing. Fig. 3 is a vertical sectional view taken through the casing on the plane indicated by the line 3—3 in Fig. 1.

Corresponding parts in the several figures are denoted by like characters of reference.

A suitable casing A is provided with bearings for a shaft 1 upon which a roll 2 of toilet paper is supported in the usual manner; access to the casing being had through a door 3 which, for convenience, is provided with a sight opening 4. The casing A is provided with the discharge slot 5 to which the paper is guided between a pair of suitably supported pressure rollers 6 and 7 which are supported for rotation upon their respective shafts, and one of which is positively operated by means to be presently described for the purpose of expelling or discharging the paper through the slot or aperture 5.

The shaft 8 supporting the roller 7 also supports a ratchet wheel 9 having a pinion 10 formed upon or connected with one side thereof. The ratchet wheel 9 is in engagement with spring actuated pawls 11 upon one end of the roller 7 so that, when the ratchet wheel is rotated in one direction the roller will be rotated thereby while rotation of the ratchet wheel in the opposite direction will cause it to slip idly by the pawls 11; reverse rotation of the roller 7 is prevented by a dog or pawl 12 which is pivoted upon the wall of the casing adjacent to the end of the roller in engagement with a ratchet wheel 13 suitably connected with said roller.

The ratchet wheel 9 is actuated by means of a suitably supported pivoted rack segment 14 that meshes with the pinion 10 which latter, as hereinbefore stated, is secured upon or connected with the ratchet wheel 9. The rack segment 14 is connected by a link 15 with an operating lever 16 having an adjustable fulcrum consisting of a set screw 17 engaging a slot 18 in the lever; said set screw also engages a slot 19 in the side wall of the casing A where it may be readily secured at various adjustments, thus shifting the fulcrum of the lever 16 and regulating the length of the throw of the end of the lever which is connected by the link 13 with the rack segment 14, and consequently gaging the extent of the movement of said rack segment.

20 designates a casing supporting the closet seat 21 which has a limited vertical movement. Suitably mounted and supported upon the casing 20 is a vertically disposed cylinder 22 wherein operates a piston 23 which is normally forced in an upward direction by means of a spring 24 within the cylinder; the latter contains a suitable fluid 25, preferably of a viscous nature such as oil, glycerin or the like, although water, alcohol or other similar liquid may be used, if preferred. The piston 23 is provided with a port or passage 26 provided with an upwardly opening valve 27, and said piston is also provided with a leakage port or bleed aperture 28. A piston rod 29 extending upwardly through the cylinder engages the underside of the vertical movable seat 21 which will be thereby supported in a raised position; the piston 23 also has a downward

extending rod 30 having a yoke or extension 31 which is guided through an aperture 32 in the bottom of the roll paper casing A, and is pivotally connected with the lever 16. The heads or ends of the cylinder 22 are provided with packing glands 33 surrounding the piston rods to prevent leakage.

When the closet seat 21 is depressed, the piston 23 is forced downward in the cylinder 22 against the tension of the spring 24, the liquid contained in the cylinder passing through the valve port or passage 26 in the piston from below the piston to the upper end of the cylinder. The piston rod 30 and its extension 31 actuates the lever 16, the throw of which has been previously determined by proper adjustment of the set screw 17 which constitutes the fulcrum of the lever; the rack segment 14 will thus engage the pinion 10 causing the ratchet wheel 9 to engage the pawls 11, thus rotating the roller 7 and causing a length of paper to be delivered by the rollers 7 and 6 through the slot or aperture 5 where it may be readily torn off. When pressure from the seat 21 is relaxed, the piston 23 will be restored to its initial position by the action of the spring 24, but the movement of the piston in the cylinder will be obstructed by the liquid contained in the latter which, when the piston is forced upward, will be compelled to pass from the upper to the lower end of the cylinder through the leakage port or bleed aperture 28 in the piston. The time occupied by the piston in gaining its initial position will be governed partly by the area of the leakage port, and also by the consistency of the liquid contained in the cylinder.

It will be seen that by this invention, only a predetermined quantity of paper will be expelled from the roll paper casing at each operation; it will also be seen that an interval of time must necessarily occur after each operation before the apparatus is restored to its initial position for a repetition of the operation. Wastage of paper is thus positively prevented, and the apparatus being atomatic in operation, will supply the quantity of paper previously determined upon with certainty and accuracy, without personal attention.

Having thus fully described the invention, what is claimed as new is:—

1. In a device of the class described, a casing having a discharge slot, a roll of paper supported for rotation in the casing, a pair of feed rollers, means for positively actuating one of the feed rollers, means for regulating the extent of the movement of the positively operated feed roller at each operation and means for temporarily retaining the operating mechanism in inactive position.

2. In a device of the class described, a roll paper casing having a discharge slot, a pair of feed rollers loosely supported in peripheral contact with each other, means for positively actuating one of the feed rollers including a pinion, a segment rack, a lever, and a link connecting the lever with the segment rack, an adjustable fulcrum for the lever, and means for actuating the lever including a cylinder, a valve spring actuated piston operating therein and having a leakage port, liquid contained in the cylinder, a yoke connecting the piston with the lever, a rod extending upwardly from the piston, and a vertically movable seat supported upon the piston rod.

3. In a device of the class described, a roll paper casing having a discharge aperture, a pair of feed rollers supported loosely in peripheral contact with each other, means for positively actuating one of the feed rollers including a pinion, a rack segment, a slotted lever, and a link connecting the lever with the rack segment, an adjustable fulcrum consisting of a set screw adjustable in a slot in the wall of the casing and engaging the slotted lever, a vertically movable closet seat, and means for transmitting motion from the closet seat to the lever.

4. In a device of the class described, a roll paper casing having a discharge aperture, a pair of feed rollers supported loosely in peripheral contact with each other, means for positively actuating one of the feed rollers including a pinion, a rack segment, a slotted lever, and a link connecting the lever with the rack segment, an adjustable fulcrum consisting of a set screw adjustable in a slot in the wall of the casing and engaging the slotted lever, a vertically movable closet seat, and means for transmitting motion from the closet seat to the lever, said means including a cylinder containing liquid, a spring actuated piston operating in the cylinder and having a valved passage for the passage of the liquid and an auxiliary leakage port or bleed aperture, a yoke connecting the piston with the slotted lever, and a piston rod supporting the vertically movable seat.

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

THOMAS T. GRASER.

Witnesses:
R. S. GRASER,
MATHEW H. SMITH.