May 3, 1932. T. GRILLO ET AL 1,856,159

WATER CLOSET SEAT

Filed Nov. 28, 1930

FIG. 1.

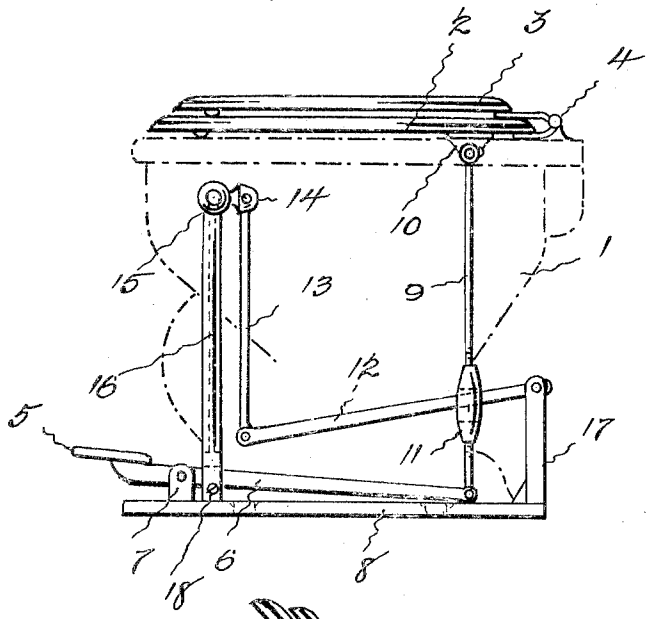
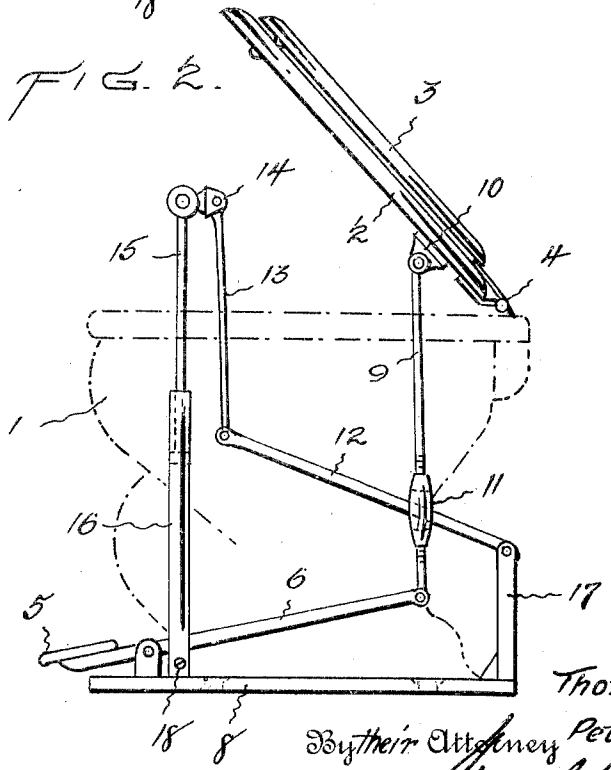


FIG. 2.



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UNITED STATES PATENT OFFICE

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WATER CLOSET SEAT

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The present invention relates to seats for water closets and the like and more especially to mechanism for operating the seat cover so as to raise and lower the cover for obvious purposes and reasons. The invention consists of a novel and practically constructed mechanism which efficiently performs its function and at the same time the mechanism is designed so as to include the minimum number of parts. By reason of this special designing the mechanism may first of all be produced economically and because of its simplicity it can be readily applied to seats in general use by an inexperienced person. Another advantage in the simplicity of the construction is that due to the minimum number of parts in the mechanism the same is less liable to get out of order and furthermore there being less joints and wearing friction is materially lessened.

Heretofore various forms of mechanisms have been proposed and it will be noted by comparison that in many, if not all, instances the present mechanism has decided advantages as aforesaid and having these advantages the commercial success of the improved construction should be assured

The improved mechanism has the important advantage that it may be readily adjusted to fit seats in general use and also in the adjustment the mechanism may be so located relatively to the seat so that various adjustments may be obtained by the mere setting of the mechanism when installing the same and which feature is of decided advantage because in practice the conditions are variable.

An embodiment of the invention will be more fully described hereinafter with reference to the accompanying drawings, wherein—

Figure 1 is a side elevation showing the seat in the closed position and the operating mechanism in its normal position; and

Figure 2 is a side elevation showing the position of the seat and mechanism when the seat is raised.

Referring to said drawings, 1 represents the bowl of the closet and this bowl may be of any type or size, as generally used, and besides variation in the size or shape of the bowl the height thereof may also be variable. The usual double cover 2—3 is provided and these covers are jointly hinged at 4 in such a way that the said covers may be raised separately or together. When closed the said covers rest one on the other and the lower cover rests on the edge of the bowl in the usual manner and with the usual cushions.

The mechanism for raising the seat cover and permitting the self-return by gravity alone to the closing or normal position forms the main subject of the present invention and this mechanism is operated by a treadle 5 as is common in practice. Said treadle is located at the free end of an operating lever 6 which is pivotally mounted on the fulcrum 7 carried on the supporting base 8. This supporting base, it will be noted, is a salient feature of the present invention for it carries or supports the entire operating mechanism. Said base is secured directly to the floor, either at the right or left side of the bowl and the mechanism is so designed that it will operate in either position. The location of the base plate will, to a great extent, provide the required adjustment of the mechanism with the seat cover to be operated. The operating mechanism includes a connecting rod 9 which is pivotally connected to the operating lever 6 and at the other end, said connecting rod is pivotally connected to a bracket 10 which in turn is secured to the lower seat member 2. The connecting rod 9 carries a turn-buckle 11 employed as an adjusting device which is manipulated to lengthen or shorten the connecting rod 9 as required. A connecting link 12 is pivotally secured at one end to an individual support 17 which latter is rigidly mounted on the base plate 8. Said link 12 passes through a slot in the turn-buckle 11 and said slot is of a length to allow sufficient play or floating movement of the link 12 so as to permit it to assume different angular positions. The other end of said link 12 is pivotally connected to another link 13, which in turn is pivotally connected to a head or block 14 and which block is carried on the outer end of a piston rod 15. This piston rod carries a pis-

ton which is arranged to slide within the barrel of a dash pot device 16 rigidly mounted or secured on said base plate 8.

It will be noted the improved mechanism is self-contained, that is, the operating lever and treadle and power transmission levers and connecting rods are all mounted on the base plate 8 so that the complete mechanism may be installed as a single unit in operative relation with the seat cover and the only connection to be made is the securing of the bracket 10 to said seat cover. In seating the mechanism the base plate may be secured to the floor in the most convenient position and the bracket may be set in whatever position desired with relation to the seat so as to get the required leverage which may be determined to meet the variable conditions that might exist due to the varying weight of different kinds of seat covers. Furthermore, the mechanism may be initially located so that the connection to the seat is at the desired point and according to the location the seat cover will be brought into the predetermined raised position by a full operation of the operating treadle.

In the operation of the device, as stated, the treadle 8 is pressed down by the foot of the operator throwing the operating lever 6 upwardly and in turn the rod 9 connecting the lever 6 with the seat is raised to bring the seat in the raised or open position. When the rod 9 is raised the lever or connecting bar 12 is raised and in this movement said lever pivots on the rigid post 17 and which post is a part of or secured to the base plate in any suitable manner. The bar 12 has a sliding connection with the turn-buckle 11 which is provided to adjust the length of the rod 9 to adapt the mechanism for seats of different heights. The angular movement of the bar 12 through the rod connection 13 raises the head 14 connected to the piston rod 15 which travels in the dash pot 16. This dash pot is employed to cushion or retard the downward or closing movement of the seat which occurs when the pressure on the treadle is released. The seat is returned to its closed position by gravity alone and in order to vary the retardation to meet variable conditions, due to the varying weight of the seats and the mechanism, the dash pot 16 is provided with one or more pin holes which may be closed by screws 18 so that the opening allowing escape of the air from the dash pot may be adjusted by removal of one or more of said screws.

Various modifications may be made in carrying out the constructional details of the invention or in the application of the same other than hereinbefore described and it is therefore to be understood any modification coming fairly within the terms of the appended claims shall be covered thereby.

We claim:

1. In a device of the class described, a closet, a hinged cover therefor, mechanism for operating said cover connected therewith, said mechanism comprising an operating lever having a fulcrum mounted on a separate base, a rigid adjustable rod between said lever and said cover, said cover being arranged to close by gravity, a dash pot provided to retard the closing movement of the said cover, said dash pot being operatively connected with said connecting rod by a compound leverage comprising a floating link pivotally connected to an individual support on said base and said floating link being loosely connected with said connecting rod so as to permit floating movement of said link.

2. In a device of the class described, a closet, a hinged cover therefor, mechanism for operating said cover connected therewith, said mechanism comprising an operating lever having a fulcrum mounted on a base separate from said closet, a rigid or non-folding connecting rod between said lever and said cover, said cover being arranged to close by gravity, a dash pot provided to retard the closing movement of the said cover, said dash pot being operatively connected with said connecting rod by a leverage system comprising a floating link pivotally connected to a separate fixed point on said base, said link being loosely connected with said connecting rod by means of a turn-buckle adjustably mounted on said connecting rod so as to permit adjustment of said rod and free movement of said link.

In testimony whereof we affix our signatures.

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