

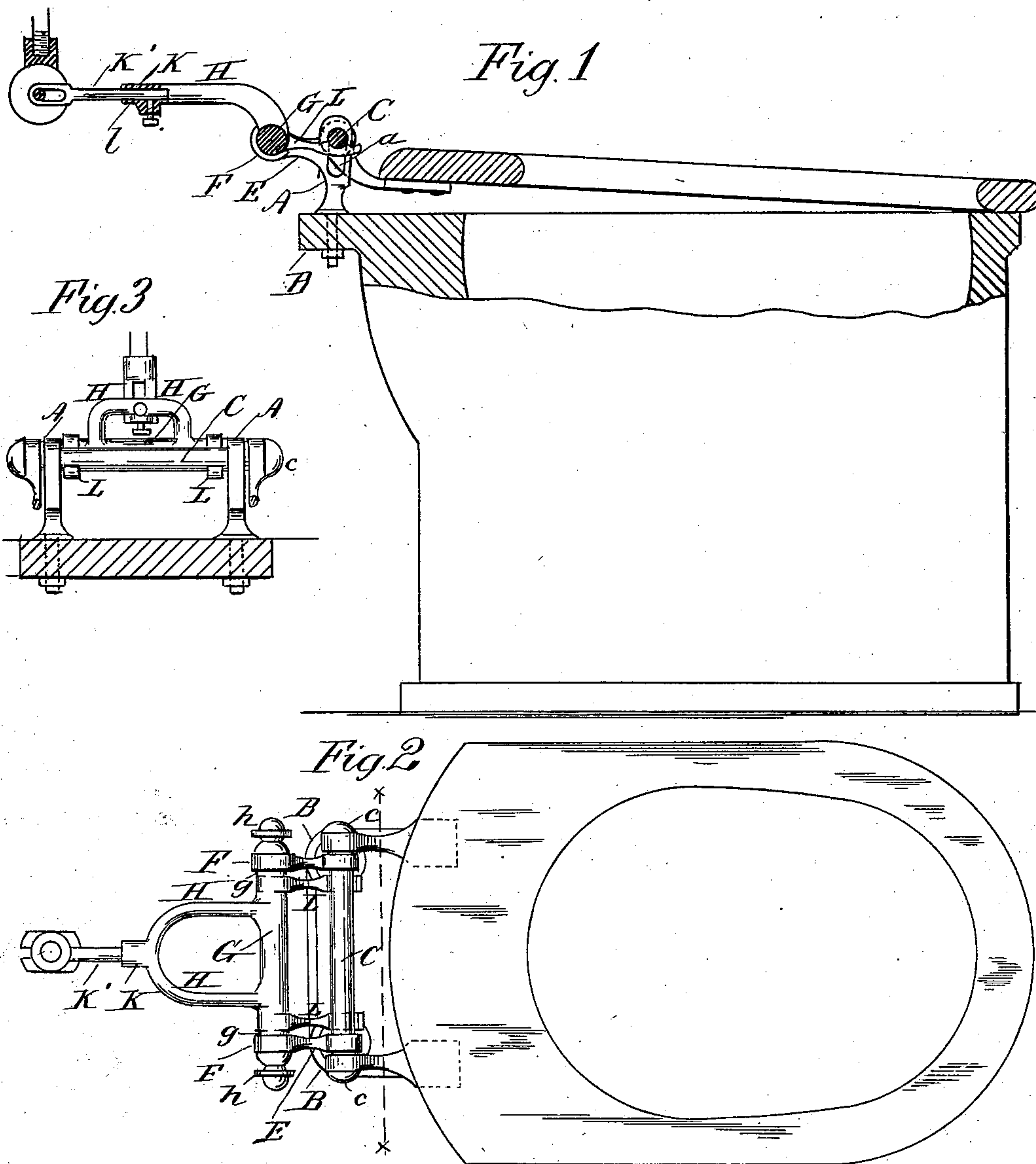
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Patented Mar. 4, 1902.

P. F. GLACKIN.
HINGE FOR WATER CLOSET SEATS.

(Application filed Mar. 22, 1900.)

(No Model.)



WITNESSES

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HINGE FOR WATER-CLOSET SEATS.

SPECIFICATION forming part of Letters Patent No. 694,628, dated March 4, 1902.

Application filed March 22, 1900. Serial No. 9,791. (No model.)

To all whom it may concern:

Be it known that I, PETER F. GLACKIN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hinges for Water-Closet Seats; 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 appertains to make and use the same.

My invention relates to improvements in water-closets and the seats for same, and especially to that part of the seat equipment known as the "seat-action," used for the purpose of automatically flushing the water-closet, and has for its object the rendering of a water-closet more sanitary.

In water-closets which depend upon the flushing apparatus of same being operated by hand flushing is frequently neglected, and the closet is therefore left in an unsanitary condition. Where automatic devices have been employed, very unsatisfactory results have resulted on account of the liability of such devices to fail to operate from various causes, chiefly because their members, owing to the comparatively great strains they have to undergo in use and the rough usage to which they are frequently subjected, become bent, twisted, and out of order, and depending for their perfect operation upon exactness in adjustment these defects render them totally valueless. In water-closets of the best types it is indispensable that the seat should be hinged, so as to permit of the seat being raised from the front and be supported in a vertical position while open. The automatic flushing seat-actions have been made integral or directly connected with this seat-hinge, some seats being prevented from coming in contact with the closet in front by the weight of the seat supported upon the mechanism for flushing the closet and closed by the weight of the person using same sitting down upon the seat, while other constructions have the seat elevated at the rear and when depressed cause the automatic flushing apparatus to act.

My invention consists in the novel con-

struction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of a closet bowl and seat having my improvements applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a transverse sectional view on the line *xx* of Fig. 2.

In my construction, which pertains to seats of the latter class, I make eyebolts or standards *AA*, which when attached to the water-closet-seat lugs *BB* form the journal in which rests the rod *C*, which forms the journal of the seat-hinge proper. This journal-rod is threaded upon the ends and has a nut *c* screwed upon each end to secure it in place. The upper ends of the eyebolts or standards have slots *a* of the width of the diameter of the rod *C*, used to form the journal of the hinge, and these slots are segments of circles the radius of which is equal to the distance from the point where the front end of the seat is in contact with the closet proper to the center of the slot or journal-rod which works in them. These slots being of this radius, the backward-and-forward motion so common to closet-seats, owing to the motion of the seat following the radius of the hinge-centers to which such seats are attached, is prevented. The object of the slots *aa* in the eyebolts or standards *AA* is to permit of the seat being raised at the rear as high as may be necessary to secure the operation of the flushing connections to the mechanism of the tank. It will thus be understood that the closet-seat has a hinge permitting the raising of the seat from a horizontal to a perpendicular position and also when in a horizontal position permitting of the raising of the rear end of the seat to a height equal to the length of the slots in the eyebolts or standards *AA* without causing any backward or forward motion to the seat.

Upon the side of each of the above-described eyebolts or standards *AA* a projection *E* is made of suitable proportion for the purpose intended. The end of each projection *E* farthest from its eyebolt forms a bearing *F* and has a hole through it for that pur-

pose. The levers connecting and transmitting the motion caused by the depressing of the seat to the flushing mechanism in the tank are attached to or form a part of the construction which is carried in the bearings F F. This part of the apparatus consists of a casting G of suitable length, the ends of which rest in the bearings F F, a shoulder *g g* being formed at each end next to the eyebolts A A to prevent horizontal motion of the part G. The ends of the part G are threaded to receive suitable nuts *h h* to hold same in position. When the part G is in position, two arms H H, with which it is provided, extend horizontally from its body to the rear and, converging toward each other, unite together and form an extension *l*, upon which is formed the journal or eye K, to which is attached the rod K', forming the connection between the seat mechanism and the tank apparatus. From the part G also project horizontally to the front two arms L L. These arms are located close to the shoulders *g g* and inside of the journals F F, which form the hinge and support of the flushing connection to the tank, and extend to and pass under the rod C, which forms the journal of the hinge of the closet-seat. It will thus be seen that the seat at the rear rests upon these two projecting arms L L and in front rests upon the rim of the closet, and that when pressure is applied to the seat, the front end being supported by contact with the closet and its rear end supported upon and by the seat-hinge working in the before-mentioned slots, the rear end will be depressed to the extent permitted by the slots in the eyebolts A A, and that in the descent of the seat the arms projecting from the body of the automatic flushing mechanism and passing under and in contact with the hinge-rod will be depressed to the extent that the seat is depressed, and that the other lever projecting rearwardly will be elevated proportionately to its length from the center or fulcrum upon which it rests.

The operation of a water-closet equipped with my invention is as follows: In the normal position for use the seat of the closet rests at the front upon the rim of the closet-bowl and at the rear upon members of the seat-hinge proper, the connecting-rod or pintle C of which in turn rests upon the projecting arms L L from the body G, the mechanism which operates the flushing apparatus in the tank. When pressure is applied to the seat of the closet, it remains stationary with respect to horizontal motion; but at the rear it is depressed until it comes in contact with the closet-bowl, or the hinge-rod C comes in contact with the bottom of the slots in the

eyebolt or standard A A, thus causing the seat at the rear to describe the arc of a circle the center of which is at the point where the front of the seat is in contact with the closet. As the seat descends at the rear by reason of pressure applied to it from above the hinge-rod C of the seat presses upon the arms L L, carrying them down with the seat and causing the lever mechanism to rotate and the lever upon the other side of the lever mechanism to rise. This lever is connected with a rod which rises from it and enters the tank for the purpose of operating the flushing mechanism within the tank. When the pressure is removed from the seat, the weight of the rod causes the latter to descend and depresses the rear lever below the seat, and reversing the operation before described causes the front levers to rise, carrying the rear end of the seat up with the movement and leaving the closet ready for a repetition of the operation.

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

1. A hinge for water-closet seats consisting of stationary standards attached to the bowl of the closet and having curved slots, in combination with a flush-operating lever having forwardly-projecting arms and hinge members attached to the seat and connected by a horizontal pintle passing through said slots and adapted to bear on said arms when the rear of the seat is depressed, substantially as described.

2. The combination with a water-closet seat of the eyebolts or standards A, A, attached to the bowl and formed with segmental slots *a a* and rearwardly-extending projections E E the transverse shaft C adapted to move in said slots and having its ends connected to the seat-hinge members, the shaft G journaled in the projections E E and provided with the forwardly-extending arms H H upon which the shaft C rests and connections between the shaft C and the flush-operating mechanism, the parts being constructed and adapted to operate the flushing mechanism when the seat is depressed at the rear and prevent the horizontal movement of said seat, the seat being arranged so that its rear end when depressed shall move in the arc of a circle of which that portion of the seat normally resting on the bowl is the center, substantially as described.

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

PETER F. GLACKIN.

Witnesses:

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