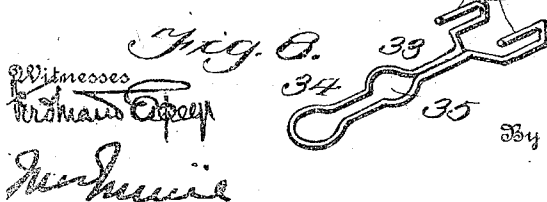
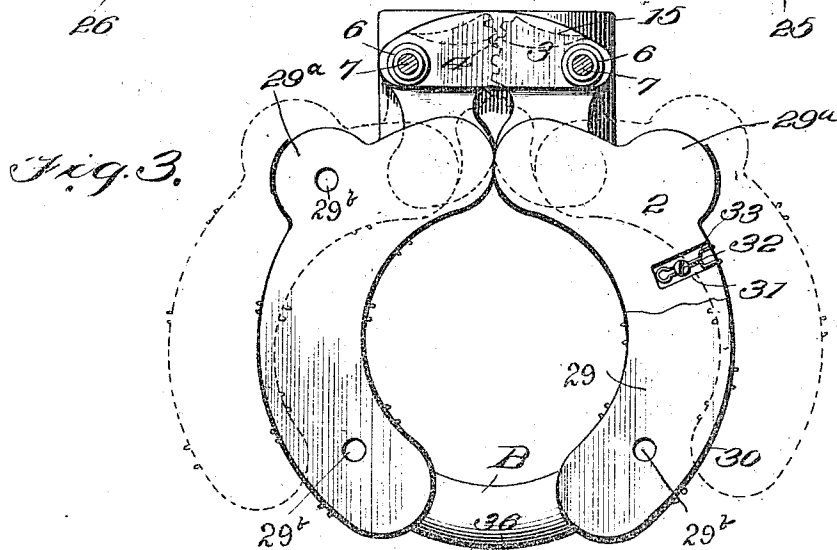
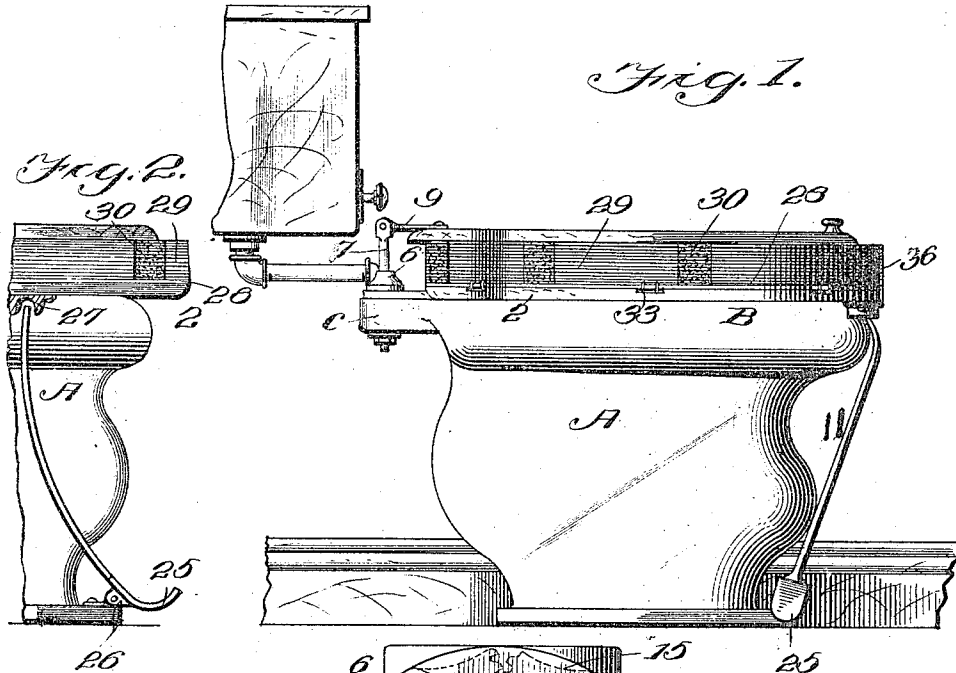


F. J. GRAVES.
 SANITARY WATER CLOSET SEAT.
 APPLICATION FILED SEPT. 11, 1912.

1,063,431.

Patented June 3, 1913.

2 SHEETS—SHEET 1.



Inventor
 F. J. Graves.

Witnesses
 Wm. H. Cope
 J. H. Cope

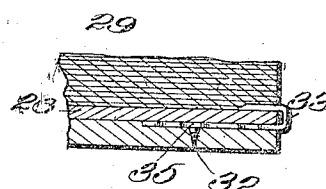
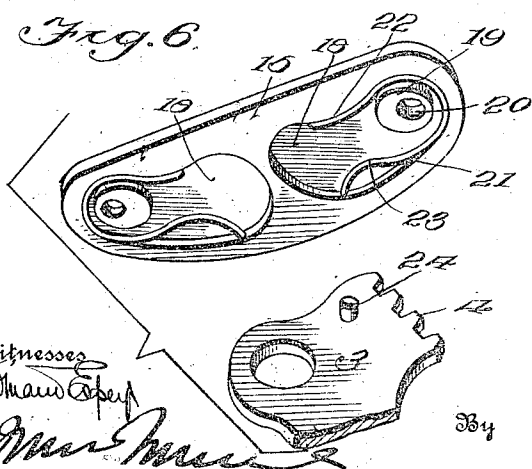
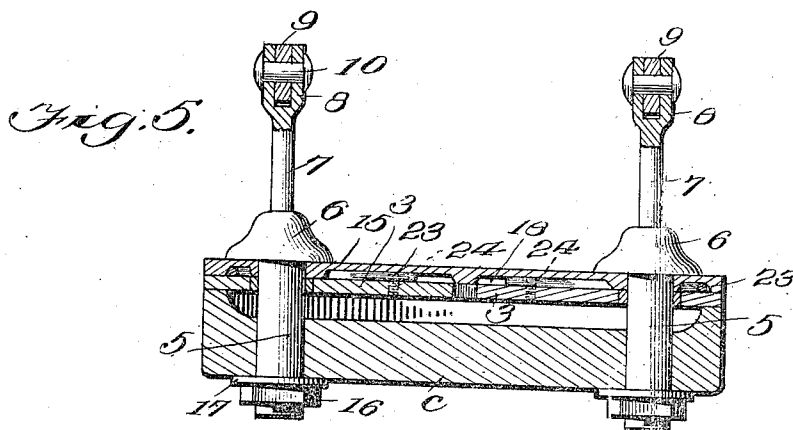
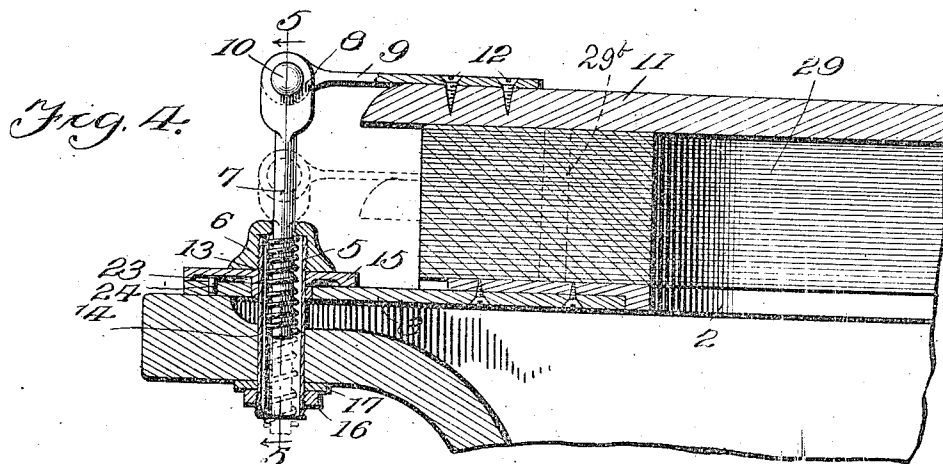
H. H. Cope, Attorneys.

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2 SHEETS—SHEET 2.



Witnesses
Wm. H. [Signature]
Wm. H. [Signature]

Inventor
 F. J. Graves.

Wm. H. [Signature] Attorneys.

UNITED STATES PATENT OFFICE.

FRANK J. GRAVES, OF SPRINGFIELD, MASSACHUSETTS.

SANITARY WATER-CLOSET SEAT.

1,063,431.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed September 11, 1912. Serial No. 719,815.

To all whom it may concern:

Be it known that I, FRANK J. GRAVES, citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Sanitary Water-Closet Seats, of which the following is a specification.

My invention relates to seats for water closets and particularly to means for providing a sanitary covering for the seat.

The primary object of my invention is to provide oppositely disposed pads composed of a plurality of sheets of paper, these pads being located on each side of the seat and to provide in connection therewith means whereby the pads may be normally held contiguous to each other, thus providing an approximately annular seating surface of paper, or whereby, upon the depression of a treadle the pads may be opened apart from each other so as to relieve the upper end of the bowl of the closet from any obstruction.

A further object is to provide means whereby the cover or lid of the closet may always contact with the paper no matter whether the pads of paper are all full sized or have been decreased by usage, and in this connection to provide means whereby the lid or cover may be drawn downward as the paper is used so as to hold the cover at all times in line with the upper face of the paper pads.

Another object is to provide a very simple and cheap method of attaching the paper pads to supporting members and in this connection to provide clips whereby new pads of paper may be attached or connected to the supporting members.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of a water closet constructed in accordance with my invention, the lid being closed; Fig. 2 is a partial front elevation of the bowl and lid and the means whereby the paper pads may be shifted laterally to disclose the upper end of the bowl; Fig. 3 is a plan view of the seat of a closet with the pads thereon, the supporting members therefor and showing incidentally one of the clips whereby the pads are attached to the supporting members; Fig. 4 is a section from front

to rear of a portion of the bowl, a portion of the lid, a portion of the pad supported on the seat of the closet and illustrating in detail the means whereby the lid is always held in position to close tightly against the upper sheet of each paper pad; Fig. 5 is a section on the line 5—5 of Fig. 4, the spindle 7 and the members 5 and 6 being shown in elevation; Fig. 6 is a perspective view looking at the underside of the spring inclosing casing, whereby the pad supporting members are normally urged to a closed position, this figure also showing in perspective a portion of one of the supporting members; Fig. 7 is a fragmentary vertical section through the pad, the pasteboard base thereof and one of the supporting members and showing the clip whereby the pad and base are held to the supporting member; and Fig. 8 is a perspective detail view of one of the clips removed from the supporting members.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these drawings, A designates the bowl of a water closet of any suitable construction, the bowl being formed with the approximately oval rim B upon which in the ordinary form of water closet the seat rests. I have not shown a seat as applied to this rim B as the paper pads which will hereafter be described constitute the seat. It will be understood that a regular seat might be used if desired.

The rim B is illustrated as being formed with a rearward prolongation C and rotatably mounted upon this prolongation are the oppositely disposed crescent shaped pad supporting members designated 2. These may be made of wood, metal or any other suitable rigid material. When these crescent shaped supporting members are in their closed position as shown in full lines in Fig. 3, they are disposed over the rim B the rear ends of the crescent shaped supporting members meeting but the forward ends thereof being spaced apart from each other. Attached to the rear ends of the supporting members 2 and shown as attached to the bottom face of the rear ends of the supporting members are the sector gears 3 having intermeshing teeth 4, these teeth being struck concentrically to the center of rotation of the gears 3. These gears 3 are each pivot-

ally supported by means of a tubular member 5 which as illustrated in Fig. 4 passes up through the prolongation C and at its upper end carries an interiorly threaded head 6 or cap nut having a central orifice smaller than the passage of the tubular member 5. There are two of these tubular members 5 disposed in such position as to be opposite the hinge member of the lid. Passing through each of these tubular members 5 is a vertical spindle 7 the upper end of which is bifurcated as at 8 and forms one member of a hinge, the other member 9 being connected to the bifurcated portion 8 by means of the transverse pin 10 and being attached to the lid 11 by screws 12 or other suitable fastening devices. The spindle 7 is vertically movable within the tube 5 and surrounding the spindle 7 and disposed within the tube 5 is a coiled compression spring 13. A pin 14 passes through the end of the spindle 7 and the spring 13 is held between this pin 14 and the contracted end of the cap 6 so that the spring naturally urges the spindle 7 downward and any upward movement of the spindle 7 and therefore of the lid 12 is resisted by the tension of the spring. The spindle 7 may be held from rotation within the tube 5 if desired. Disposed between the head 6 and the sector gear 3 is a plate 15 which permits the sector gear 3 to rotate freely around the tubular member 5. The tubular member 5 is held in proper engagement with the extension C of the bowl by means of a nut 16 and washer 17, the lower end of the tubular member being screw threaded for engagement with the nut. It will be seen that with this construction any lateral movement of one of the supporting members 2 will cause a like lateral movement of the other supporting member but in the opposite direction, and that thus the supporting members may be opened out or closed in so as to either conform to the oval contour of the upper end of the bowl and rest upon the portion B, or that they may be moved out of place so as to leave the opening of the bowl unobstructed.

For the purpose of urging the supporting members 2 to a closed position; that is, to the position shown in full lines in Fig. 3, I provide springs which resist the outward movement of the supporting members. As illustrated these springs are contained within recesses formed in the plate 15 (see Fig. 6). This plate is formed with the opposed oval recesses 18 each recess being formed with a stud 19 located at one of the foci of the ellipse and perforated as at 20 for the passage of the tube 5. Disposed within the recess is an approximately U-shaped spring 21 whose looped end passes around the hub or boss 19. One of the free ends of this spring bears against the side of the recess

as at 22, while the other is outwardly and then inwardly curved or bowed as at 23 so as to engage with an upwardly projecting stud or pin 24 carried by the adjacent gear wheel 3 as shown in Fig. 6. It will thus be seen that when the supporting members are moved from the position shown in full lines in Fig. 3 to the position shown in dotted lines in said figure, the studs 24 will press inward on the bowed portions 23 of the springs 21 and that these springs will act to return the parts to their normal position. While these supporting members 2 might be opened out or closed by hand, I have provided a treadle whereby the supporting members may be shifted outward when desired, this treadle being shown in Figs. 1 and 2 and designated 25. The treadle has practically the form of a bell crank lever and has an ear 26 which is pivoted to the base of the bowl. One arm of the bell crank lever extends outward nearly parallel with the floor so as to be conveniently engaged by the foot of a person desiring to use the closet, while the other arm of the bell crank lever extends upward in a curve and is loosely extended into a socket 27 carried on the underside of one of the members 2.

A person desiring to use the closet without the paper covering simply depresses the treadle 25 with the foot which acts to draw one of the pad supporting members 2 laterally and hence of course shifting the other laterally but in the opposite direction. As soon as the pressure of the foot is relieved the springs 21 will act to return the parts to their original positions.

The pads which rest upon the supporting members 2 have practically the same form as these supporting members. That is, are approximately semicircular or crescent shaped. Each pad is composed of a base 28 of cardboard or like relatively stiff material and a plurality of sheets of paper designated generally 29 preferably connected to each other by binding strips of glue designated 30. (See particularly Fig. 1). This glue or other adhesive which is applied to the edges of the paper at a plurality of points act to bind the sheets to each other and also act to bind the sheets to the base cardboard or pasteboard. It will therefore be seen that the sheets may be torn off successively as they are used and that there will always be provided a fresh sheet beneath the one torn off until the entire pad has been used up.

For the purpose of holding the pads to the supporting members I provide the supporting members at a plurality of points with clips illustrated in Fig. 8 and shown in position in Figs. 3 and 7. The upper faces of the supporting members are radially recessed as at 31 and projecting upward

from the bottom of this recess is a screw or headed pin 32. Disposed in each recess is a clip 33 illustrated in Fig. 8 comprising a length of wire bent at its middle to form a loop 34, then extended in parallel relation, then bowed outward as at 35, then again extended in parallel relation and having the hooks 36, these hooks being upwardly turned and returned upon the body of the clip. A screw 37 or like attaching device passes through the body of the clip and the hooked ends 36 engage over the marginal edge of the pasteboard base 28 as illustrated in Fig. 7. When it is desired to remove the pasteboard base so as to permit new pad to be applied it is only necessary to draw the clips outward permitting the loop 34 to engage with the screw 37 and when a new pad is put in place the hooks are then forced inward, the clip engaging over the margin of the pasteboard.

The operation of my invention will be entirely evident from what has gone before. When it is desired to use the closet for certain purposes the treadle 25 is depressed thus opening out the pad supporting members and the pads. As soon as the pressure is relieved the pads swing into position immediately above the rim of the bowl. After the closet has been used the user tears away the top sheet of paper and the seat is then in condition for use by the next person. When the lid 11 is lifted of course the spring 14 will act to retract the spindle 7, but when it is desired to close the lid down against the pads the weight of the lid will raise the spindles to the position shown in full lines in Fig. 4 and the lid will rest flat and tight upon the faces of the pads. It will be seen that the lid will fall down with the gradually decreasing pads so that there will always be a tight joint between the lid and the pads.

It will be obvious that my device has many advantages over that form of sanitary closet seat which includes a plurality of sheets of paper to be drawn from magazine behind the closet and drawn over the seat. These sheets are liable to get rumpled; are liable to get out of place; there is nothing to hold them in place upon the bowl and it is difficult to tear these sheets across without injury to the remaining sheets or those projecting from the magazine. With my device the pads are always held in proper position for use. No central opening has to be provided in a sheet and therefore there is less waste than there is in the form of closet protector above referred to. The sheets are readily detached and easily applied and a thoroughly tight closure is kept at all times between the lid and the pads.

In order to facilitate the tearing off of the sheets from the pads, the sheets of each

pad are preferably made near the rear end of the pad with protuberant portions 29^a whereby the sheets may be readily grasped by the fingers and torn off. Perforations 29^b may also be formed in the pads which will permit the insertion of a finger within the superposed layers of paper and the ready disengagement of one sheet from the next adjacent sheet.

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

1. A water closet seat including a pad composed of superimposed sheets of paper, and means detachably holding the sheets in engagement with each other, the superimposed sheets being formed with registering perforations whereby to permit the easy removal of the sheets.

2. The combination with a closet bowl of pivoted pad supporting members, pads composed of superimposed layers of paper mounted upon said members, and a treadle operatively connected to the supporting members to shift the same out of the way of the opening of the bowl.

3. The combination with a closet bowl of oppositely disposed semi-circular pivoted supporting members, semi-circular pads composed of superimposed sheets of paper mounted upon said supporting members, and treadle actuated means for shifting said supporting members away from each other to carry the pads away from the opening of the bowl.

4. The combination with a water closet bowl of semi-circular supporting members pivoted at their rear ends to the bowl, semi-circular pads composed of superimposed sheets of paper mounted upon said supporting members, means urging the supporting members into position over the rim of the bowl, and treadle actuated means for shifting the supporting members away from each other and away from the rim of the bowl.

5. The combination with a water closet bowl of semi-circular supporting members each pivoted at its rear end and each carrying a sector gear, the sector gears intermeshing with each other, spring actuated means for holding the supporting members closed and over the rim of the bowl, manually actuatable means for shifting one of said supporting members laterally, to carry the supporting members away from the rim of the bowl, and semi-circular pads carried upon said supporting members and including superimposed sheets of paper.

6. The combination with a water closet bowl of semi-circular supporting members pivotally supported at their rear ends at the rear of the bowl and adapted to be turned over the rim of the same, springs urging said supporting members into a closed position, means for shifting said supporting members into a divergent relation

to unclosethe top of the bowl, and semi-circular pads supported upon the said supporting members and composed of sheets of superimposed paper.

5 7. The combination with a water-closet bowl, of a pad composed of superimposed sheets of paper supported upon the top of the bowl, a cover, and means for hingedly supporting the cover, said supporting means
10 being vertically movable to permit the bodily vertical movement of the cover whereby the cover is always supported in contact over its whole surface with the uppermost sheet of paper.

15 8. The combination with a water closet bowl and a pad supported on the top of the bowl and composed of superimposed sheets of paper, of a vertically movable member mounted upon the bowl at the rear thereof,
20 means urging said member downward, and a lid hinged to the upper end of said member.

9. The combination with a water closet bowl and a pad composed of superimposed sheets of paper mounted upon the rim of the bowl, of a tubular member supported
25 vertically at the rear end of the bowl, a spindle passing into the upper end of the tubular member, a spring urging said spindle downward, a lid, and a hinge member attached to said lid and to the upper end of the spindle.
30

10. The combination with a water closet bowl and a pad composed of superimposed sheets of paper mounted upon the rim of the bowl, of a tubular member vertically dis-

posed in the rear end of the bowl, a cap 35 closing the upper end of the tubular member, a compression spring within the tubular member, a spindle passing through the tubular member and engaged with the lower end of the spring, a lid normally resting 40 upon the uppermost sheet of paper, and a hinge member connected to the lid and pivotally connected to the upper end of the spindle.

11. The combination with a water closet 45 bowl of upwardly projecting members constituting pivots disposed at the rear end of the bowl, sector gears mounted upon said pivots and intermeshing, oppositely disposed semi-circular pad supporting members at- 50 tached one to each sector gear, pads composed of superimposed sheets of paper mounted upon said supporting members, a plate through which the tubular members pass, said plate having recesses on its under 55 face, springs located in said recesses, and studs on the sector gears engaging said springs, the springs acting to hold the supporting members in closed position upon the rim of the bowl to permit the support- 60 ing members to be moved to a divergent position to disclose the opening of the bowl.

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

FRANK J. GRAVES. [L. s.]

Witnesses:

MARGARET E. GANLEY,
ERNESTINE H. ARNOLD.