Aug. 9, 1932. E. L. DELANY 1,870,715

METHOD OF ASSEMBLING AND HINGING TOILET SEATS AND COVERS

Filed May 31, 1930

FIG. 1.

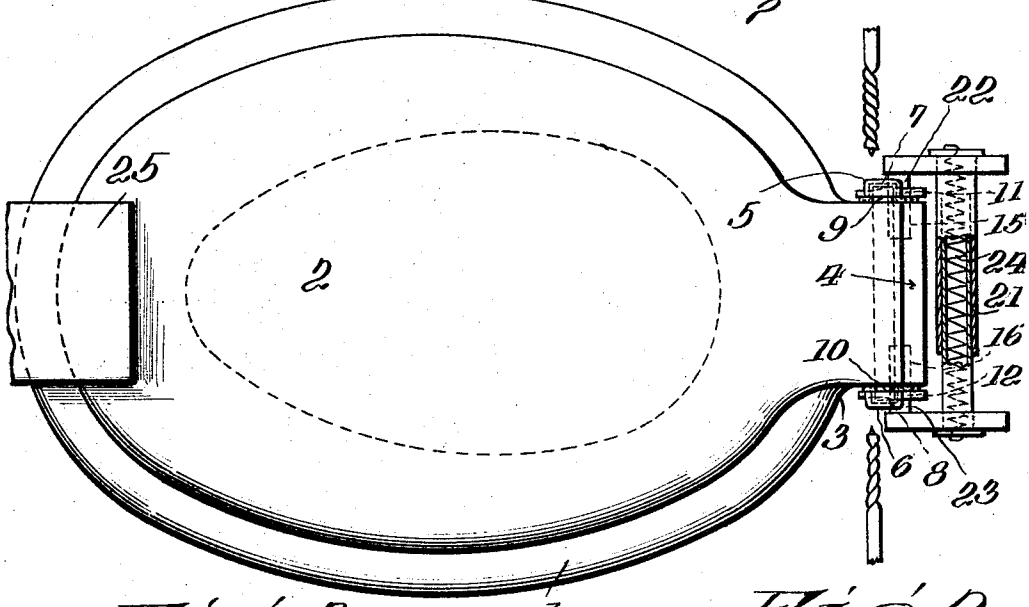


FIG. 3.

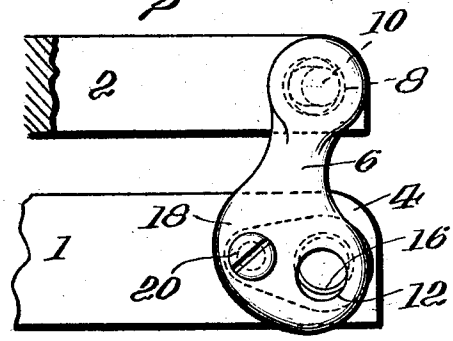


FIG. 2.

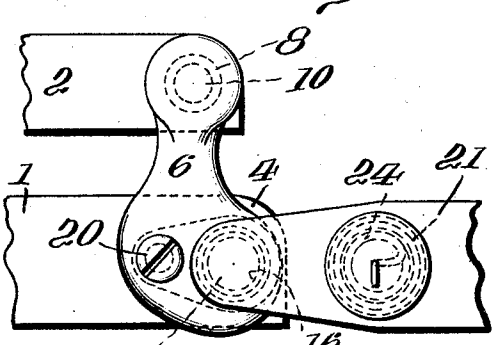


FIG. 5.

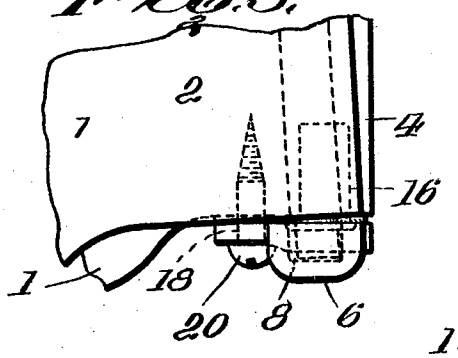
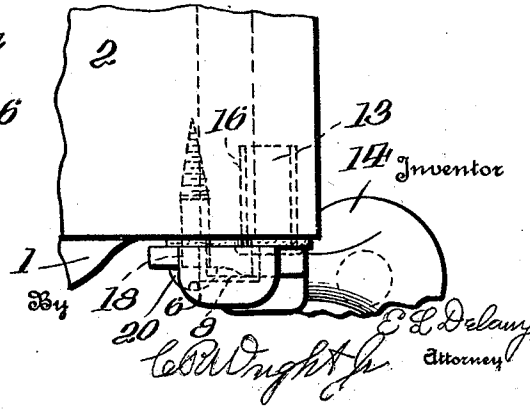


FIG. 4.



Inventor

By E. L. Delany

C. R. Wright Jr. Attorney

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UNITED STATES PATENT OFFICE

EDWARD L. DELANY, OF BROOKLYN, NEW YORK

METHOD OF ASSEMBLING AND HINGING TOILET SEATS AND COVERS

Application filed May 31, 1930. Serial No. 458,410.

My invention relates to improvements in method of assembling, hinging and shipping toilet seats and covers.

My invention pertains in part to method and apparatus for assembling hinges of the character described and disclosed in my application filed May 31, 1930, Serial No. 458,411 for improvements in hinges for the seat and cover for toilets. In toilet seats of this character, as set forth in the heretofore mentioned application, the cover is smaller in area than the seat and it has been found very advantageous not to permanently connect the seat and cover together, but to allow of a lateral movement of the cover in respect to the seat when shipping and yet it is necessary that all necessary holes be provided for, whereby the seat can be readily attached to the hopper obviating any adjustment and at the same time providing for an absolute accurate alinement of the seat and cover so that the ordinary layman or plumber can assemble the seat on the hopper.

When the seat and cover are permanently or rigidly connected, ready for use, it has been found that any lateral strain on the cover due to the fact that it is of less area than the seat, causes a fracture or breaking of the seat or cover around the pivots or trunnions and therefore it is advantageous to provide means whereby this lateral movement may be provided for without bringing any strain upon either the seat or cover in the shipping of the same.

My invention further pertains to a method and apparatus whereby the hinge plates can be accurately positioned and connected to the seat and cover so that they remain fastened together by the hinge plates and yet have a limited lateral movement to prevent the lateral strain of the pivots or trunnions on the seat or cover and at the same time assure of the proper registering of the holes in hinge plates and the seat and cover when the trunnions of the stud posts are placed in the seat.

In the accompanying drawing:—

Figure 1 is a top plan view of a toilet seat showing the first two steps of assembling my improved hinge to the seat.

Figure 2 is an enlarged side elevation of Figure 1 showing the seat and cover partly broken away and showing the third step of assembling.

Figure 3 is a side elevation similar to Figure 2 showing the fourth step in my method of assembling the hinge.

Figure 4 is a top plan view of Figure 3.

Figure 5 is a top plan view similar to Figure 4 showing the cover moved laterally in respect to the seat.

Referring now to the drawing:

1 represents the seat and 2 the cover which has been described in my application executed on even date herewith, and are of any desired or well known form and provided at their rear ends with the tongue 4 serving as means by which the hinge plates may be readily attached to allow of the free swinging of the seat together with the cover as a unit.

In this application, the hinge is formed of the two L shaped hinge plates 5 and 6 and the upper ends of said plates are provided with openings 7 and 8 into which extend the trunnions 9 and 10 carried by the cover 2 whereby the cover is free to have a swinging movement independent of the hinge plates. These plates 5 and 6 are provided with openings 11 and 12 through which pass the trunnions 13 carried by the attaching posts 14 and said trunnions pass into openings 15 and 16 arranged in the vertical walls of the extension 4 of the seat.

The hinge plates 5 and 6 are provided with openings 17 and 18 through which pass the attaching screws 19 and 20 for securing the plates to the seat so that the cover is carried by the plates and yet the plates are free to swing upon the screws so that the cover can

have the desired lateral movement in respect to the seat without bringing any lateral strain upon the pivots eliminating the strain on the openings in the seat and cover.

In assembling the hinges, the first step is to place the two hinge plates over the trunnions of the cover 2 and then spreading the assembling tool 21 apart so that the pins 22 and 23 may pass through the openings 11 and 12 in the hinge plates and enter the previously drilled openings 15 and 16 in the seat and the spring 24 of the assembling tool will force or draw the pins in the proper position within the openings within the seat. The cover 2 is then properly alined as shown in Figure 1 of the drawing and an ordinary wood clamp 25 is used to clamp the cover on the seat in its proper alined position. The alining of the cover on the seat moves the hinge plates 6 and 7 to their proper position by the rocking thereof on the pins of the assembling tool. When thus clamped the two drills pass through the openings 17 and 18 in the hinge plates 5 and 6 and drill holes in the seat and after the drills are removed, the screws 19 and 20 are screwed therein clamping the hinge plates to the side of the seat and holding the cover 2 between the plates. These screws are not tightened sufficiently to clamp the hinge plates against movement, but tight enough to prevent spreading thereof and yet sufficiently loose to allow the hinge plates to rock on the screws when the assembling tool is removed. The assembling tool is then removed and the clamp removed and the seat and cover is ready for shipment. It is understood that the attaching posts are packed separate in shipping and in placing the seat on the bowl all that is necessary is to place the trunnions of the attaching posts through the openings in the hinge plates and into the openings in the seat which insures of the proper alining of the cover on the seat.

Having thus fully described my invention, what I claim is:—

1. A method of assembling hinges on toilet seats and covers for shipment consisting in first, pivotally connecting the cover to the hinge plates said plates having alining and trunnion holes, second alining and holding the hinge plates in proper position on the seat, third alining seat and cover, fourth drilling holes in the seat through the alining holes in the hinge plates, fifth inserting alining and fastening means in said drilled holes.

2. A method of assembling hinges on toilet seats and covers for shipment consisting in first pivotally mounting the cover between the hinge plates said plates having alining and trunnion holes, second alining and holding the hinge plates in proper position on the seat through the previously formed openings designed for the trunnions of the stud posts, third alining seat and cover, fourth drilling holes in the seat through the alining holes in the hinge plates, inserting alining and fastening means in said drilled holes.

3. A method of assembling hinges on toilet seats and covers and shipping same consisting in first pivotally mounting the cover between the hinge plates said plates having alining and trunnion holes, second alining and holding the hinge plates in proper position on the seat through openings in the hinge plates and the seat designed to receive the trunnions of the stud posts, third alining seat and cover, fourth drilling holes in the seat through the alining holes in the hinge plates, fifth inserting alining and fastening means in said drilled holes and packing seat and cover in a box whereby the cover may move on the seat without exerting any lateral strain on the pivots.

4. A method of attaching hinge sections to a toilet seat and cover for packing and shipping, consisting in first pivotally connecting and mounting the cover between the hinge plates having alining and trunnion holes, second alining and holding the hinge plates in proper position on the seat through openings in the hinge sections and the seat adapted to receive the trunnions carried by the post studs, third alining seat and cover, fourth clamping the cover and seat together in alined position, fifth drilling holes in the seat through the alining holes in the hinge plates, sixth inserting alining and fastening screws in said drilled holes removing the alining means and the clamping means.

5. A method of attaching hinge sections to toilet seats and covers for packing preparatory to shipping, consisting in first pivotally connecting the cover to the hinge plates having alining and trunnion holes, second alining and holding the hinge plates in proper position on the seat through openings in the hinge sections and the seat adapted to receive the trunnions of the stud posts, second alining seat and cover, third clamping seat and cover in alined position, fourth drilling holes in the seat through alining holes in the hinge plates, fifth inserting alining and fastening means in said drilled holes removing the alining means and the clamping and placing the seat and cover with the trunnions of the stud posts removed from the openings in the hinge plates and the seat in a carton.

6. A method of packing toilet seats and covers preparatory to shipping consisting in connecting the hinge plates to the seat to have a rocking movement to allow of a lateral movement of the cover in respect to the seat and holding the hinge plates to the seat so that the openings in the seat and hinge plates can be alined to allow the insertion of the trunnions of the stud posts and placed in a carton tightly fitting the seat.

7. A method of packing toilet seats and covers preparatory to shipping consisting in pivotally connecting the hinge plates to the

seat to allow of a rocking movement of the hinge plates on the seat to allow of a lateral movement of the cover on the seat and whereby the openings in the seat and hinge plates can be alined to receive the trunnions of the stud posts and whereby a limiting lateral movement of the cover on the seat will not put any strain on the pivots of the seat and cover when the trunnions of the posts are removed and placed in a carton tightly fitting the seat.

In testimony whereof, I have signed this specification.

EDWARD L. DELANY.