(No Model.)

J. BARRETT.

WATER CLOSET SEAT AND HINGE.

No. 564,583. Patented July 28, 1896.

FIG. 1.

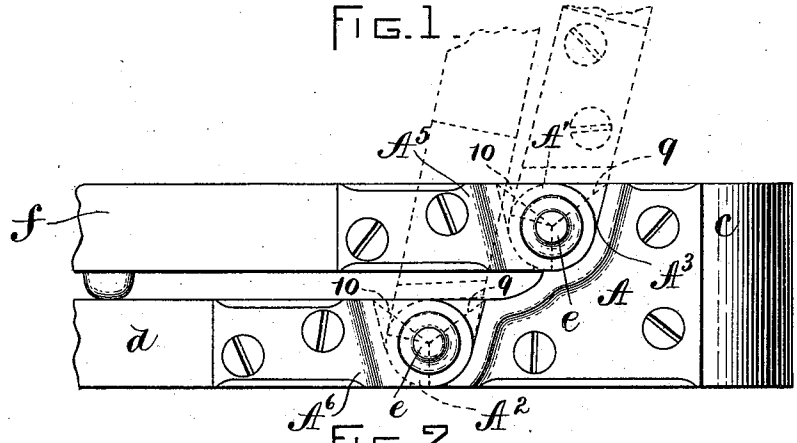


FIG. 2.

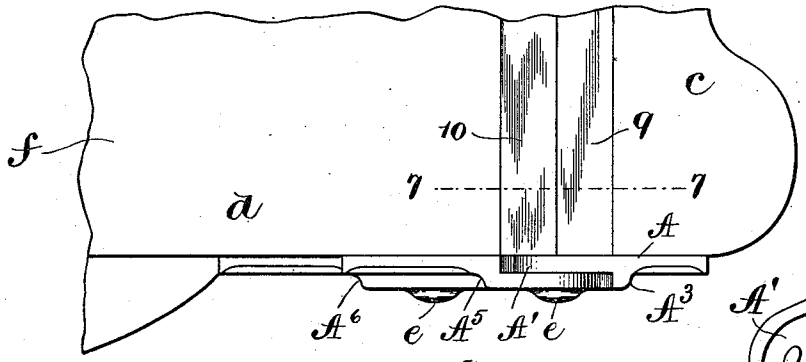


FIG. 6.

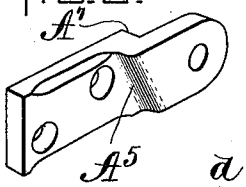


FIG. 3.

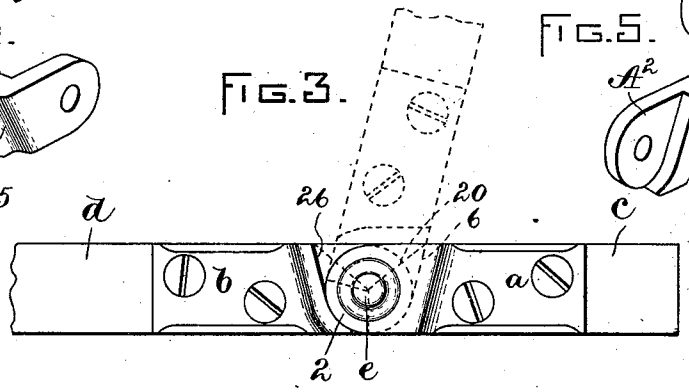


FIG. 5.

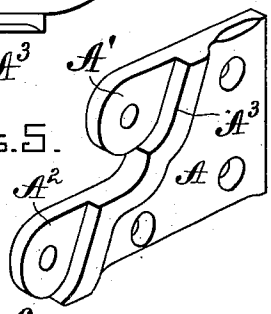


FIG. 7.

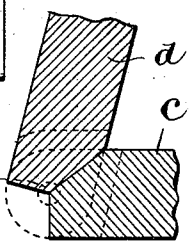
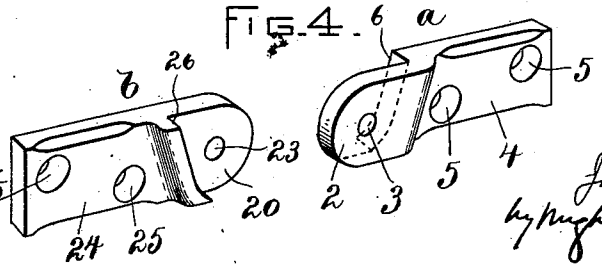


FIG. 4.



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UNITED STATES PATENT OFFICE.

JAMES BARRETT, OF BOSTON, MASSACHUSETTS.

WATER-CLOSET SEAT AND HINGE.

SPECIFICATION forming part of Letters Patent No. 564,583, dated July 28, 1896.

Application filed July 15, 1895. Serial No. 555,980. (No model.)

To all whom it may concern:

Be it known that I, JAMES BARRETT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Water-Closet Seats and Hinges, of which the following is a specification.

This invention has for its object to provide improved means of connection between a fixed supporting-bar and a swinging lid or seat, the chief object being to so connect the fixed bar and the swinging part as that when the swinging part is raised it will be supported in its raised position wholly by its contact with the fixed bar without imposing undue strain upon the connecting-hinges and without incurring the liability of accidentally breaking the movable from the fixed part.

The invention consists in the improvements which I will now proceed to describe and claim.

In the accompanying drawings, Figure 1 represents a side view of a hinge constructed in accordance with my invention, and end views of the fixed and movable parts connected by said hinge. Fig. 2 represents a top view of the construction shown in Fig. 1. Fig. 3 represents a side view of a simpler form of hinge embodying my invention. Fig 4 represents a perspective view showing the parts of the hinge represented in Fig. 3 detached from each other. Figs. 5 and 6 represent, respectively, views showing the detached parts of the hinge represented in Figs. 1 and 2. Fig. 7 represents a sectional view on the plane of line 7 7 of Fig. 2, showing the movable part raised.

The same letters of reference indicate the same parts in all the figures.

Referring to Figs. 3 and 4, it will be seen that the hinge embodying my invention, when made in its simplest form, includes two members *a* and *b*, one of which, *a*, is intended for attachment to a fixed supporting bar or piece *c*, and will be hereinafter termed the "fixed member." The other member *b* is intended for attachment to the seat *d* and permits the swinging movement of the seat, so that I term the member *b* the "movable member." The member *a* has at one end an ear 2, which is perforated at 3 to receive the connecting pivot-pin which connects it with the member *b*, the other end of said member being formed as a shank 4, provided with screw-holes 5 5, adapted to receive screws, whereby it may be attached to the supporting-bar *c*.

On the member *a*, at the inner side of the ear 2, is formed an inclined shoulder 6. The other member *b* is provided at one end with an ear 20, perforated at 23 to receive the pivot-pin, its other end being formed as a shank 24, having holes 25 to receive the attaching-screws which secure the member *b* to the seat *d*. The member *b* is provided with an inclined shoulder 26, which is arranged at the outer side of the ear 20.

When the members *a* and *b* are assembled and connected by the pivot-pin *e* and the movable member is in the position it occupies when the seat *d* is in its closed position, the shoulder 26 stands at a tangent with the ear 2, as shown in Fig. 3. Said shoulders are arranged so that they permit the seat to be raised until its center of gravity crosses the pivot-pin *e* and the seat stands in the inclined position represented by dotted lines in Fig. 3. The shoulder 26 then comes to a bearing on the upper edge of the member *a*, the corresponding edge of the member *b* at the same time coming to a bearing on the shoulder 6. There is, therefore, an extended bearing of each member upon the other when the seat is raised, this bearing enabling the fixed member to support the movable hinge member and the seat connected therewith in the raised inclined position shown by dotted lines in Fig. 3 without undue strain upon the connecting pivot-pins and without permitting the seat to swing back far enough to come in contact with external objects behind the supporting-bar *c*.

Since the shoulder of each member abuts or comes to a stop against the edge of the other or opposite member, the strain is received edgewise, as above stated, and therefore in the direction of the greatest strength of the members.

I further support the seat *d* in its raised position by a beveled face 9 on the fixed supporting-bar *c* and a correspondingly-beveled face 10 on the seat *d*. The meeting edges of these faces coincide with the centers of the pivot-pins *e*, as shown in Fig. 3, so that when the seat is lowered the faces 9 and 10 form

a V-shaped depression. When the seat is raised, the face 10 comes in contact with the face 9 when the seat reaches the inclined position, by which it is supported by the shoulders of the hinge, as above described, and is additionally supported by the bearing of the faces 9 and 10 upon each other.

In Figs. 1, 2, 5, and 6 I show the construction adopted when a hinged cover *f* is used in connection with the seat *d*. In this case the fixed member of the hinge is represented by A, and comprises two ears A′ A^2 and shoulders A^3 A^4, located beside said ears, as shown in Fig. 5, the ear A^2 being located below and in advance of the ear A′. In this case two independent movable members A^5 A^6 are employed, one hinged to the ear A′ and the other to the ear A^2. The cover *f* is attached to the member A^5, and the seat *d* to the member A^6. The members A^5 and A^6 are provided with shoulders A^7, which, when the movable parts on which they are attached are raised, bear upon portions of the fixed member, the shoulders A^3 A^4 at the same time bearing upon portions of the movable member.

It will be seen that the construction last described embodies the same essential features as that shown in Figs. 3 and 4, the difference being that provision is made for the connection of two movable parts to the fixed member. The location of the ear A^2 below and in advance of the ear A′ enables both the seat and cover to be raised and to stand backwardly inclined, so as to be held in their raised position by their own weight.

The described improvements are intended chiefly for water-closet seats and the hinged covers therefor, the part *d* being the usual seat and the part *f* the cover for the same, the said seat and cover being supported, as described, by the improved hinges and by the beveled faces 9 10 when raised.

An important advantage of the described improvement is that the hinge members are arranged edgewise or at right angles with the top surfaces of the parts connected thereby, so that their strength is fully utilized, the shoulders being adapted to abut against the edges of the opposite shanks, and the hinges being thus enabled to withstand a much greater strain than would be possible if their members were parallel with the top surfaces of the parts which they connect.

I claim—

1. A hinge comprising two members, each of said members comprising the following construction, viz: an ear formed to receive a connecting-pivot, a lateral shoulder offset or at one side of the ear, and a flat shank formed to receive attaching devices parallel with the pivot, the shoulder of each member being inclined and arranged to bear on the edge of the other member when the movable member is raised.

2. A hinge comprising a fixed member having two ears, one located below and in advance of the other, two fixed inclined shoulders beside said ears, and two independent movable members having ears pivotally connected to the ears of the fixed member, and each having an inclined shoulder, the shoulders of the fixed member presenting abutments on which the movable members bear when raised, the shoulders of the said movable members bearing at the same time on edge surfaces of the fixed member.

3. The combination of a fixed supporting-bar having at one edge the beveled face 9, the seat having the beveled face 10 arranged to meet the face 9, and the hinge members affixed respectively to the supporting-bar and seat and comprising the ears connected by pivots which coincide with the meeting edges of the faces 9 10, the inclined shoulders adjacent to said ears, and the shanks adapted for connection with the parts connected by the hinge, the said hinge members being attached to the edges of the supporting-bar and seat, and the inclined shoulders being adapted to abut against the edges of the shanks of the opposite members.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 13th day of June, A. D. 1895.

JAMES BARRETT.

Witnesses:
A. D. HAINSON,
W. P. ABELL.