

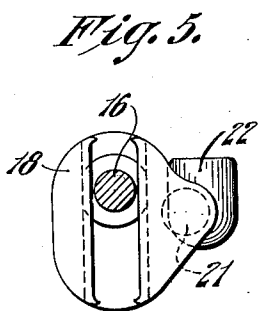
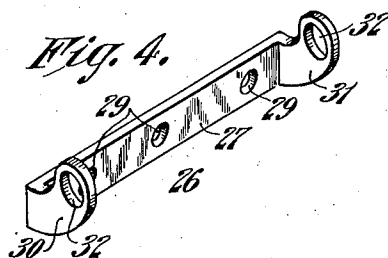
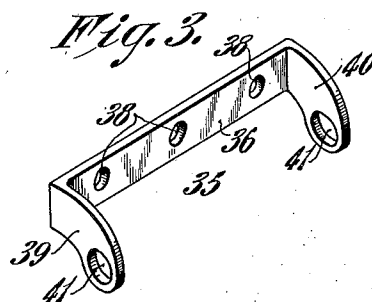
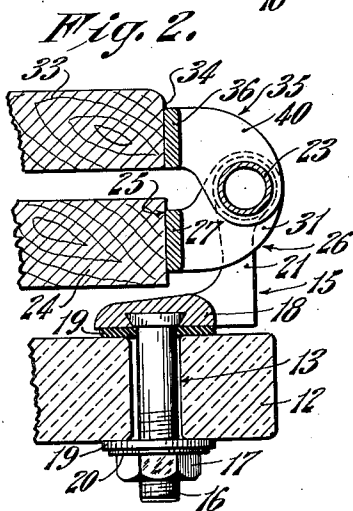
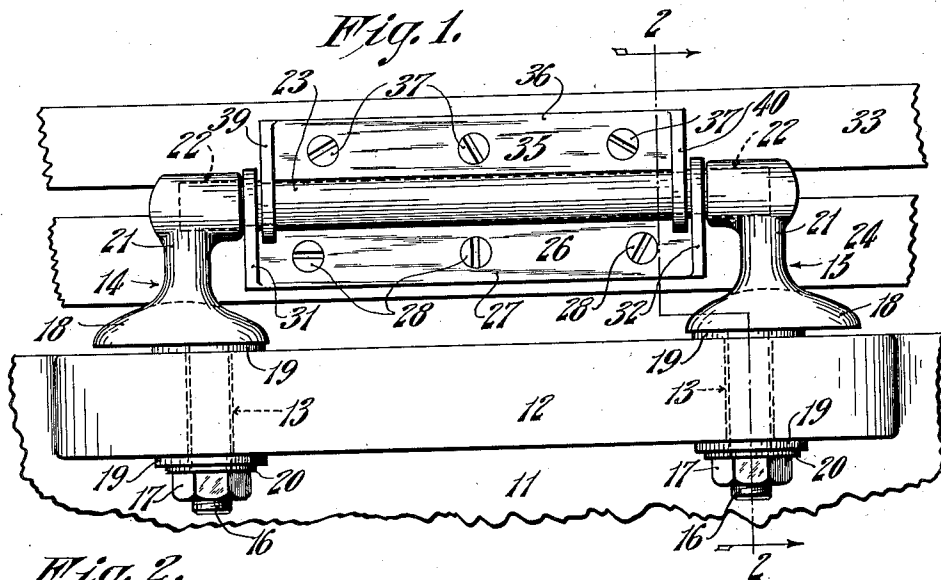
Nov. 17, 1936.

V. W. CAMPBELL

2,060,852

HINGE FOR TOILET SEATS AND COVERS

Filed June 10, 1935



INVENTOR,
Vernon W. Campbell,

BY

Frank E. Haskell
ATTORNEY.

UNITED STATES PATENT OFFICE

2,060,852

HINGE FOR TOILET SEATS AND COVERS

Vernon W. Campbell, Nashua, N. H., assignor to
C. F. Church Mfg. Co., Willimansett, Mass., a
corporation of Massachusetts

Application June 10, 1935, Serial No. 25,852

5 Claims. (Cl. 4—236)

One of the objects of the present invention is to provide a hinge for a toilet seat and cover which shall be as inconspicuous as possible. In carrying out this general object it is one of the specific objects of the invention to fasten the hinge members to the rear of the seat and cover respectively without any fastening means whatever on the top, bottom, or sides of the seat or cover to be seen from the front from which direction an observer would ordinarily be looking.

connection with installations where it has heretofore still been standard practice to employ a back strip of wood or similar material to cover the rear portion of the opening in the bowl and to attach the seat and cover thereto by means of strap hinges. Without the necessity of redesigning the porcelain bowl or changing the location of the aperture therein the hinge of the present invention effectually covers such portions of the bowl and moreover in itself presents an unusually attractive appearance.

While the hinge is primarily intended for use with a seat and cover together it is to be understood that the invention may also be employed with a seat only except where such use is inconsistent with the limitations set forth in the claims.

The foregoing and other objects of the invention will more readily appear to those skilled in the art to which it appertains by a consideration of the following description of one embodiment thereof taken in connection with the accompanying drawing in which

Fig. 1 is a rear view of a hinge for a toilet seat and cover embodying the invention and shows a portion of the seat and cover to which the hinge is attached and a portion of the bowl upon which it is mounted;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the hinge element which is secured to the cover;

Fig. 4 is a perspective view of the hinge element which is secured to the seat; and

Fig. 5 is a bottom plan view of the base of one of the hinge posts showing the adjustable means employed for clamping the posts to the toilet bowl.

Referring to the drawing more in detail the reference character 11 indicates a toilet bowl having a rearwardly extending shelf 12 through which extends a pair of vertical apertures 13. Hinge posts 14 and 15 are positioned above the apertures 13 and are secured to the bowl by means of threaded members 16 which extend through the apertures and are engaged below the shelf 12 by nuts 17. The threaded member 16 may be rigidly secured to the base 18 of the post or formed integrally therewith or it may be a separate member and adjustable with respect to the post. As shown in the drawing this adjustability is provided by means of a slot in the base 18, a construction which is more fully described and claimed in my copending application Serial No. 21,847 filed on May 16, 1935. Washers 19 of rubber or other suitable material may be em-

In addition to rendering the hinge elements themselves inconspicuous it is a still further object of the invention to conceal the rear portion of the opening in the toilet bowl which in many prior arrangements can be seen behind the rear edges of the seat and cover. This object is furthered by hingedly mounting the seat and cover as far to the rear as possible. One of the specific means employed for this purpose is the use of a pair of hinge posts each of which has a threaded member extending downwardly through one of the usual apertures in the bowl and has a bearing arm extending upwardly and rearwardly with the bearing positioned rearwardly from the aperture.

It is also an object of the invention to provide a hinge which shall be symmetrical in appearance and the parts of which shall be simple in form and construction. In carrying out this idea of symmetry the height of the common pivotal axis of the seat and cover is selected so as to be at a level which is about midway of the level of the seat and the level of the cover.

It is a still further object of the invention to provide hinge members to be secured to the seat and cover respectively which shall be of the simplest possible form both for purposes of manufacturing and for appearance. Still more specifically each hinge member is U-shaped and comprises a middle portion and two end portions all three being of flat strip, the middle portion being secured to the edge of the seat or cover, as the case may be, and the end portions having apertures therein for the reception of a bearing pintle. Such a form lends itself to practical fabrication in either of two ways. In small quantities, for example, when the total number being manufactured is small, the parts just described can be readily made as castings. In large quantities, when the total production has reached a large number, a still less expensive method of manufacturing such as punching from plates and bending into shape, could be employed.

The construction outlined in discussing the foregoing objects has a special application in

played under the base 18 and above the nut 17 respectively for distributing the pressure uniformly against the porcelain. A metal washer 20 is also usually interposed between the nut 17 and the rubber washer 19.

The hinge post 15, as may be clearly seen in Fig. 2 has an upwardly and rearwardly extending arm 21 which is provided at its upper portion with a bearing socket 22. The other hinge post 14 also has an upwardly extending arm which is likewise positioned to the rear of the threaded member 16 and its aperture 13 and has a bearing socket 22 in the upper portion thereof. A bearing pintle 23 is pivotally supported at its ends in the sockets 22 of the two hinge posts 14 and 15.

A toilet seat is shown at 24 which has a rear edge 25 which is substantially a flat vertical surface. A U-shaped hinge member or element 26 is used for connecting the seat to the pintle and comprises three portions. The middle portion 27 is in the form of a flat strip of rectangular cross-section adapted to be secured to the flat rear edge 25 of the toilet seat. One suitable way of securing the portion 27 to the seat is by means of screws 28 which pass through screw holes 29, provided in the portion 27, and into the wood of the seat 24. Extending at right angles from the strip 27 at either end thereof are ears 30 and 31 which are also flat strips curving rearwardly and upwardly with bearing apertures 32 in the ends thereof through which the pintle 23 extends and by which the hinge element 26 and seat 24 are pivotally supported. It is to be noted that the distance between the outer faces of the two ears 30 and 31 is slightly less than the distance between the inner faces of the two hinge posts 14 and 15 so that the hinge member is definitely positioned longitudinally of the pintle with only just the slight clearance necessary to minimize friction.

A seat cover is shown at 33 which has a substantially flat vertical rear edge 34 positioned above the rear edge 25 of the seat 24. A U-shaped hinge member or element 35 is provided for connecting the cover with the pintle 23. The middle portion 36 of the member 35 is in the form of a flat strip of rectangular cross-section and may be secured to the rear edge 34 of the cover 33 by any suitable means such as screws 37 which pass through screw holes 38 in the portion 36 into the wood of the cover. At each end of the portion 36 there is an ear, 39 and 40 respectively, having bearing apertures 41 therein. These ears 39 and 40 are preferably integral with the portion 36 and extend rearwardly and downwardly toward the pintle 23 which is positioned in the apertures 41 and pivotally supports the hinge element 35 and attached seat cover 33. The distance between the outside faces of the two ears 39 and 40 is slightly less than the distance between the inside faces of the two ears 30 and 31 so that the longitudinal movement of the member 35 on the pintle 23 is only sufficient to minimize friction.

It is to be noted that the outer contours of the ears or curved arms 30 and 31 are substantially that of a quarter circle and they merge with the outer contours of the curved arms 39 and 40 so as to give together a semicircular appearance.

The general form of the two hinge elements 26 and 35 are such that they may be readily fabricated by casting, if the total production is not very great, or they may be formed from sheet stock by punching and bending, if the total production is large. There are marked advantages

in having hinge members of the character described which are simple in form and readily lend themselves, without any change in design, to two different methods of fabrication.

It is also to be noted that the rear edge 25 of the seat 24 is positioned below the rear edge 34 of the cover 33 and the base 18 of the hinge posts, or rather the threaded members 16 thereof which are positioned in the apertures 13, are below the two edges. The bringing toward the rear of the bowl of the seat and cover which is done by the rearwardly positioning of the bearing socket 22 with respect to the apertures 13 results in a more effective covering up of the unsightly portions of the rear of the bowl such for example as the rear portion of the opening in the bowl.

It is to be understood that the foregoing embodiment of the invention has been selected for purposes of illustration only and various changes may be made therein without departing from the spirit and scope of the invention as defined in the subjoined claims.

I claim:

1. In combination, a toilet bowl having a pair of vertical apertures positioned near the rear thereof, a toilet seat and cover having rear edges positioned in approximately the same vertical plane as said apertures, hinge posts having members positioned in said apertures for securing said posts in place, each post having an upwardly and rearwardly extending arm with a bearing therein whereby said bearings are positioned rearwardly of said vertical plane, a pintle pivotally supported in said bearings, and hinge members secured to the rear edges of said seat and cover and having rearwardly extending portions pivotally supported by said pintle.

2. A hinge for a toilet seat and cover comprising a horizontal bearing pintle, hinge posts having bearing sockets therein for pivotally supporting said pintle positioned one at each end thereof, the base of each of said posts being positioned forwardly of said pintle and connected with its socket by an arm extending forwardly and downwardly from said socket to said base, a hinge member for said seat extending from said pintle forwardly and downwardly to the rear edge of said seat, and a second hinge member for said cover extending forwardly and upwardly to the rear edge of said cover, the bases of said hinge posts being positioned approximately beneath the portions of said members which are secured to the seat and cover respectively.

3. In combination, a toilet bowl having a pair of vertical apertures positioned near the rear thereof, a toilet seat having its rear edge positioned in approximately the same vertical plane as said apertures, hinge posts having members positioned in said apertures for securing said posts in place and each post having an upwardly and rearwardly extending arm, hinge means secured to said rear edge of the seat and having rearwardly extending portions, and pivotal connections between the ends of said upwardly and rearwardly extending arms and said rearwardly extending portions.

4. A hinge for a toilet seat comprising horizontal pivoting means, hinge posts having bearings therein for pivotally supporting said pivoting means positioned one at each end thereof, the base of each of said posts being positioned forwardly of said pivoting means and connected with its bearing by an arm extending forwardly and downwardly from said bearing to said base, a hinge member for said seat extending from said

pivoting means forwardly to the rear edge of said seat whereby the bases of said hinge posts are positioned approximately beneath the portion of said member which is secured to the rear edge of said seat.

5 5. A hinge for a toilet seat and cover comprising a horizontal bearing pintle, hinge posts having bearing sockets therein in which are positioned the ends of said pintle for pivotally supporting and limiting the longitudinal movement of said
10 pintle, the base of each of said posts being positioned forwardly of said pintle and connected with its socket by an arm extending forwardly and downwardly from said socket to said base, a
15 U-shaped hinge member having a middle portion for securing to the rear edge of said seat and having bearing apertures in its end portions through which said pintle extends, the over-all

dimension between said end portions being slightly less than the space between said sockets whereby the axial movement of said U-shaped hinge member on the pintle is limited, a second U-shaped hinge member having a middle portion
5 for securing to the rear edge of said cover and having bearing apertures in its end portions through which said pintle extends, the over-all dimension between said end portions being
10 slightly less than the space between the end portions of said first-named hinge member whereby the axial movement of said second-named U-shaped hinge member on the pintle is limited, the
15 bases of said hinge posts being positioned approximately beneath the middle portions of said U-shaped hinge members.

VERNON W. CAMPBELL.