Aug. 24, 1948. E. W. CONNER 2,447,738

TOILET SEAT

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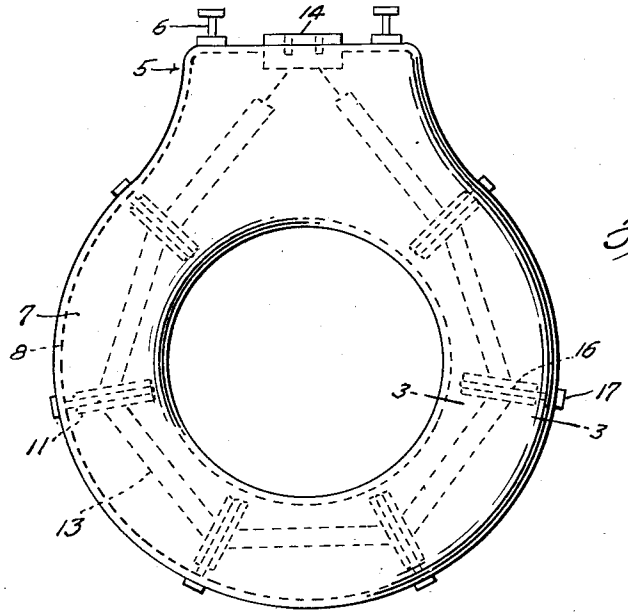


Fig. 1.

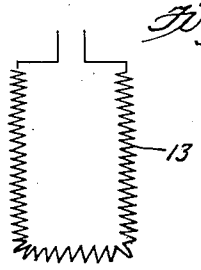


Fig. 4.

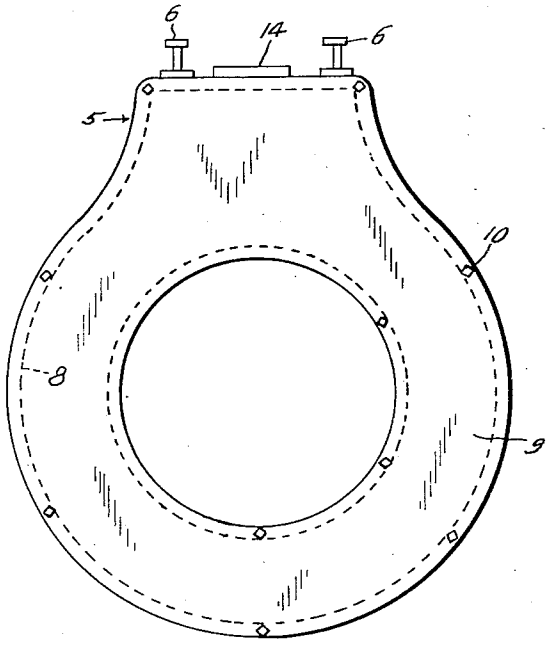


Fig. 2.

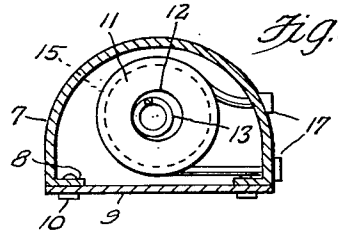


Fig. 3.

Inventor

Edison William Conner.

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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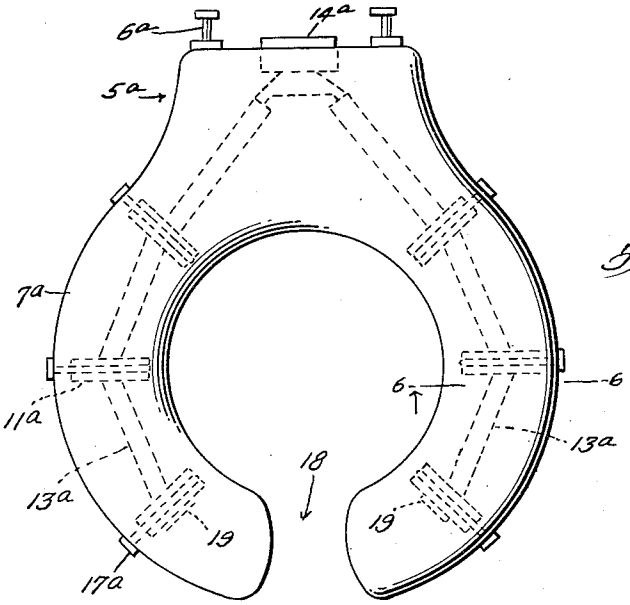


Fig. 5.

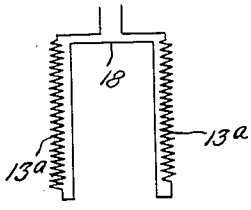


Fig. 8.

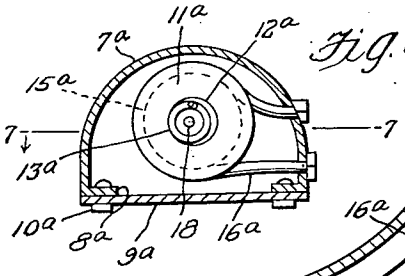


Fig. 6.

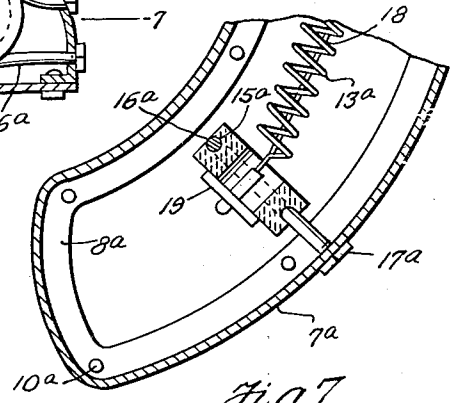


Fig. 7.

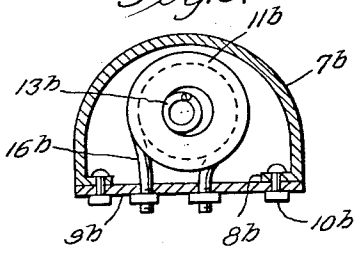


Fig. 9.

Inventor

Edison William Conner.

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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UNITED STATES PATENT OFFICE

2,447,738

TOILET SEAT

Edison William Conner, Detroit, Mich.

Application August 1, 1945, Serial No. 608,262

1 Claim. (Cl. 219—19)

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This invention relates to toilet seats of that type having an electrical heating or resistance coil incorporated therein, so that the seat may be heated and brought to an agreeable temperature.

The primary object of the present invention is to provide a toilet seat of the above kind which is comparatively simple in construction and may be expeditiously manufactured in an economical manner.

A more specific object of the invention is to provide simple and efficient means for mounting the resistance or heating coil within and insulating the same from the toilet seat.

The exact nature of the present invention will become apparent from the following description when considered in connection with the accompanying drawings, in which:

Figure 1 is a top plan view of a toilet seat constructed in accordance with the present invention.

Figure 2 is a bottom plan view thereof.

Figure 3 is an enlarged transverse section taken on line 3—3 of Figure 1.

Figure 4 is a diagrammatic view of the heating or resistance coil.

Figure 5 is a view similar to Figure 1, of a modified form of the invention.

Figure 6 is an enlarged transverse section taken on line 6—6 of Figure 5.

Figure 7 is a fragmentary horizontal section through an end of the seat shown in Figure 5, drawn on an enlarged scale and taken substantially on the plane of line 7—7 of Figure 6.

Figure 8 is a diagrammatic view of the heating or resistance element, forming part of the construction shown in Figure 5.

Figure 9 is a view similar to Figure 3, showing a further modification.

Referring in detail to the drawings, the seat shown in Figures 1 to 4 inclusive is of the type embodying an endless ring having a rearward enlargement 5 to which are attached the usual hinges 6 for mounting the seat upon the closet in the usual manner. The seat proper comprises an inverted channel 7 of rounded cross section having an inwardly directly horizontal flange 8 along its edges, and a flat bottom plate 9 closing the channel at the bottom of the seat and marginally secured to the flange 8 by bolts 10 or the like. The seat may be made of any sanitary material, the inverted channel 7 being molded or pressed into shape. Mounted at suitable uniform intervals within the channel 7 is a series of vertically disposed insulator discs 11 having central openings 12 through which is threaded or strung

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a suitable heating or resistance coil 13 whose ends terminate at the back of the seat and enter a further insulator 14 mounted in the channel 7. As shown, the insulator 14 may comprise the body of an attachment plug receptacle so that the heating coil may be connected with a source of current by the use of an ordinary attachment cord. Each insulator disc 11 is provided with a peripheral groove as indicated at 15 to receive the intermediate portion of a U-bolt 16 whose ends extend through the outer wall of the channel 7 and has nuts 17 adjustably threaded thereon. By adjusting the nuts 17, the insulator discs may be adjusted to place the heating or resistance coil under tension, thereby maintaining all portions of said coil out of contact with the seat proper. The U-bolts preferably support the insulator discs in spaced relation to the walls of the seat, and it will thus be seen that the heating coil is effectively insulated from the seat proper. In practice, the heating coil is threaded through the insulator discs and the U-bolts are engaged in the peripheral grooves of said discs. This assembly is then inserted in the channel 8 and the U-bolts are effectively secured in place. The bottom plate 9 is then attached to the channel so as to complete the assembly, it of course being understood that the ends of the heating coil are first suitably connected with the insulator or receptacle 14. Obviously, the supply of current to the heating coil may be suitably controlled, such as by means of a switch carried by the attachment cord used to connect the heating element with the source of current.

In the embodiment of Figures 5 to 8 inclusive, the seat is of the bifurcated type in which the seat is divided at the front as at 18. In this form, the channel 7*a* is of substantially C-shape in plan and is provided with the rearward enlargement 5*a* intermediate its ends, which carries the hinges 6*a*. Within each side portion of the channel 7*a* is mounted a series of uniformly spaced insulator discs 11*a* having peripheral grooves 15*a* in which the intermediate portions of U-bolts 16*a* are seated. The ends of the U-bolts 16*a* extend through the outer walls of the side portions of channel 7*a* and have nuts 17*a* adjustably threaded thereon, as with the form of Figure 1. The heating coil in this embodiment consists of spaced portions 13*a* connected in series at 18 by means of a wire which extends through the coil portions 13*a* and may be suitably insulated from the latter. One coil portion 13*a* is located in each side portion of the channel 7*a* and threaded through the adjacent insulator

discs 11a. At the front insulator disc of each side portion of the seat, the adjacent heating coil portion 13a is anchored by passing the adjacent part of the wire 18 through a washer 19 that is disposed against the forward side of the foremost or forward insulator disc as shown in Figure 7. The ends of the heating coil are passed into a receptacle or insulator 14a at the back of the seat and mounted in the wall of the channel 7a, as with the form of Figure 1. A bottom plate 9a is provided for closing the bottom of the inverted channel 7a, said plate 9a being flat and of substantially the same C-shape form in plan as the channel 7a. Channel 7a has the inturned flange 8a along its edges to which the plate 9a is marginally secured by bolting or the like at 10a. It will of course be understood that the insulator discs 11a are centrally apertured as at 12a to have the portions of the heating coil threaded or strung therethrough.

As shown in Figure 9, the U-bolts 16b may be vertically disposed with their ends passing through the bottom plate 9b, thus mounting the heating coil 13b on said bottom plate for removal with the latter from the channel 7b. In this case, the U-bolts will embrace the insulator discs 11b for sufficient portions of their circumference to hold them in the desired position.

In use, the heating coil is simply energized by permitting and causing current to flow therethrough, whereupon the coil effectively warms the seat proper and brings the same to an agreeable temperature.

It will be seen that I have provided a very simple and durable heated toilet seat that may be expeditiously and economically manufactured and that will insure long continued satisfactory service. The channel member may be made of suitable metal or enameled ware but it is preferably made of vari-colored substantially transparent or translucent plastic material.

What I claim is:

A sanitary toilet seat comprising a casing composed of an inverted channel having an inwardly directed flange along its edges, a flat plate closing the channel at the bottom, and means passing through the margin of said plate and said flange for removably securing said plate to the channel, a series of centrally apertured insulator discs disposed in spaced relation within the channel, said insulator discs being provided with peripheral grooves, U-bolts having their intermediate portions engaged in the grooves of the insulator discs and having nutted ends passing through a wall of the casing, said U-bolts removably supporting the insulator discs within the casing in a vertical position and in spaced relation to the walls of said casing, and a heating coil strung through the centers of the insulator discs so as to be maintained out of contact with the channel and the plate, the ends of the U-bolts passing through the outer side wall of the casing to provide for lateral adjustment of the insulator discs and tensioning of the heating coil.

EDISON WILLIAM CONNER.

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