Nov. 18, 1924.

1,516,222

H. E. VAN DOREN

SANITARY SEAT COVER

Filed Oct. 23, 1920

Fig. 1.

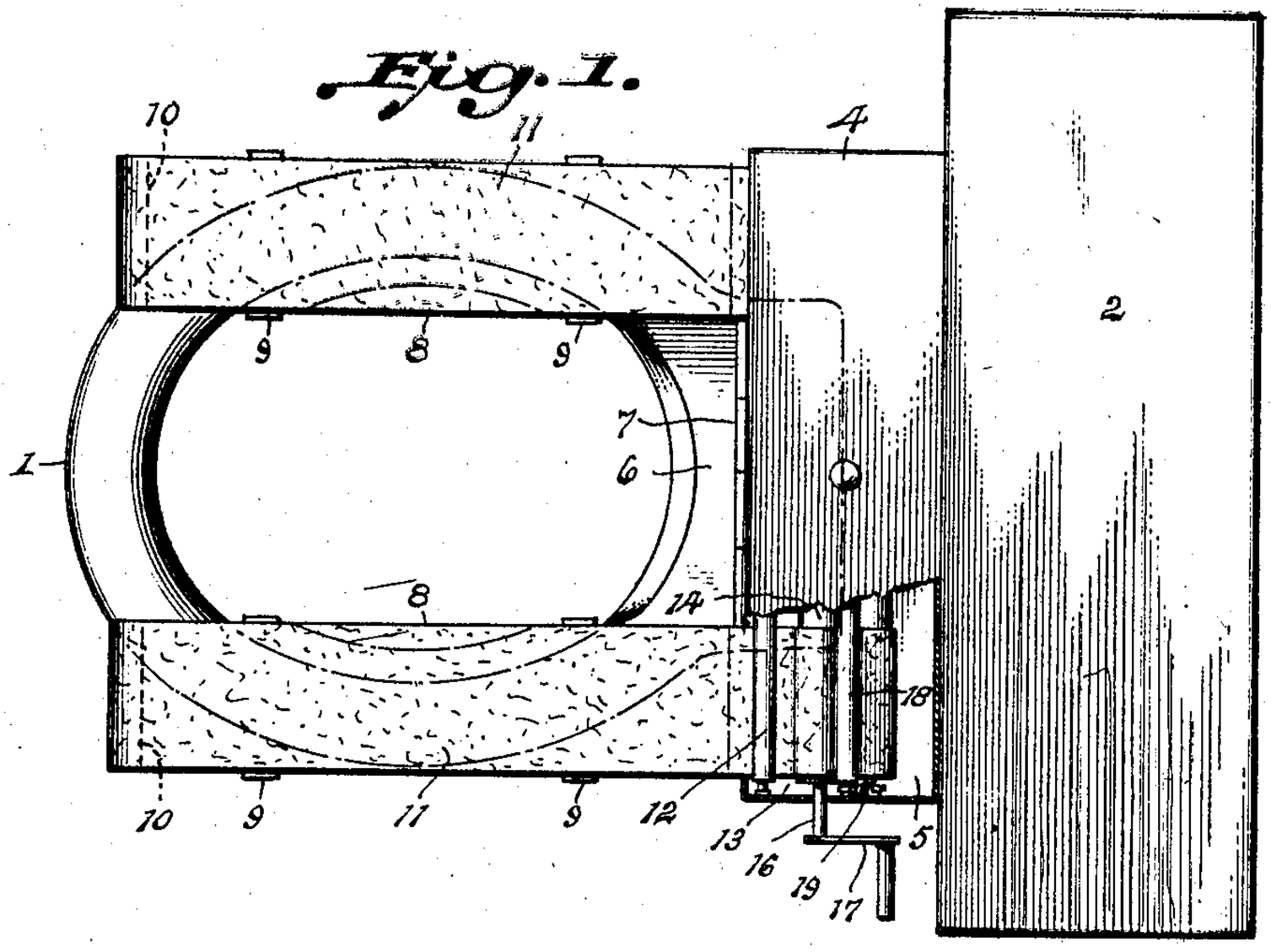


Fig. 2.

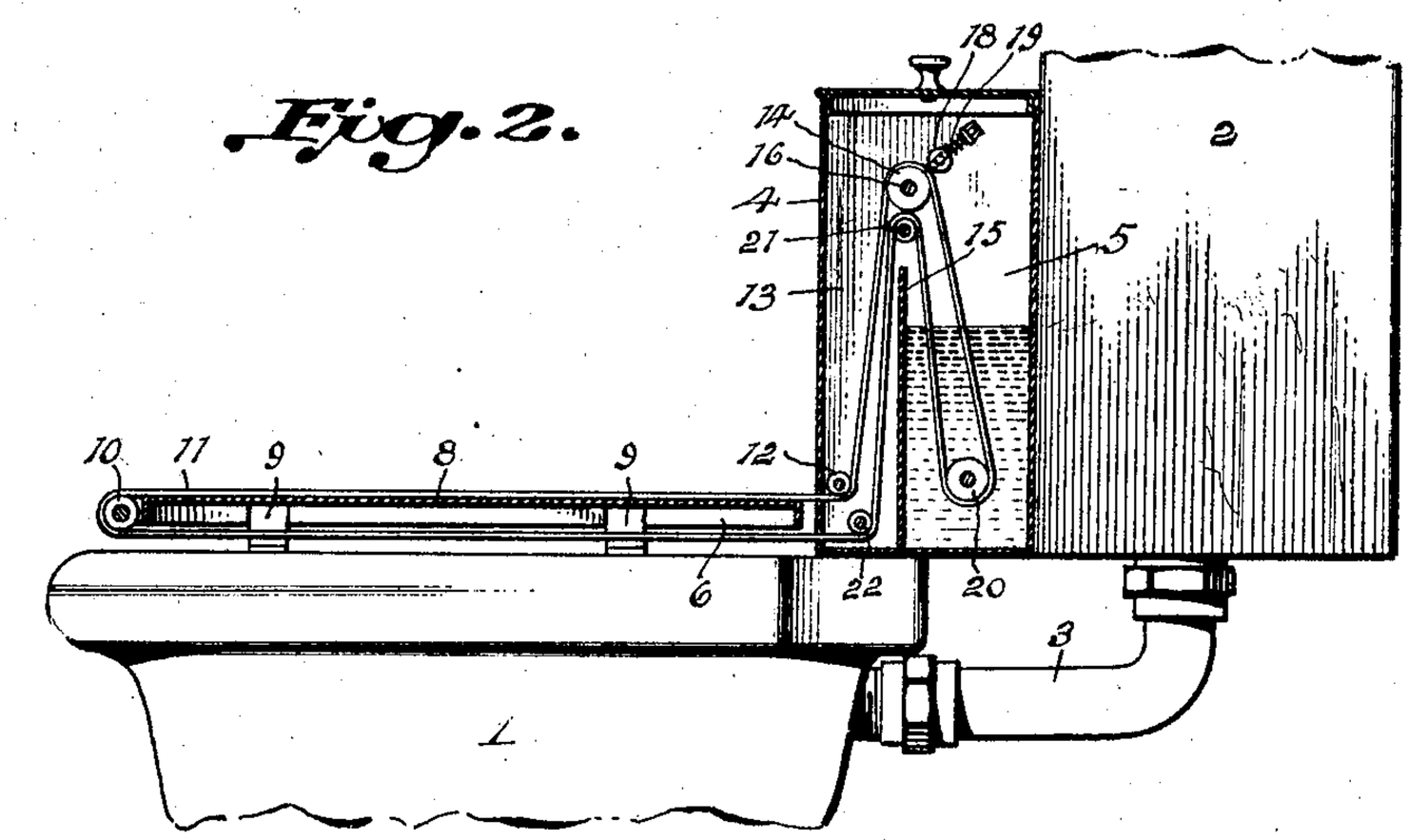
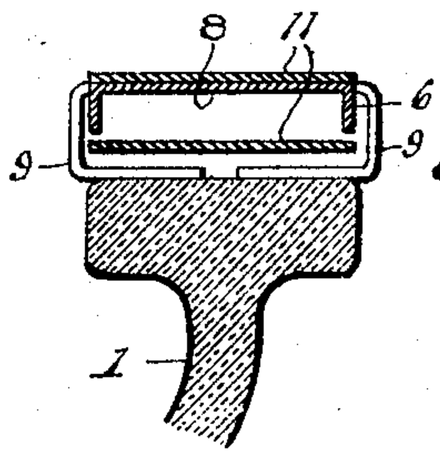


Fig. 3.



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UNITED STATES PATENT OFFICE.

HORATIO E. VAN DOREN, OF DETROIT, MICHIGAN.

SANITARY SEAT COVER.

Application filed October 23, 1920. Serial No. 418,885.

To all whom it may concern:

Be it known that I, HORATIO E. VAN DOREN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Sanitary Seat Covers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a sanitary device for water closet seats and more particularly to such a device wherein the surface upon which the person sits is cleaned or sterilized after being used.

The object of the invention is to provide a cheap and simple device which may be applied to the ordinary closet construction and which is such that it may be readily operated to present a new surface after each use and to thoroughly cleanse and sterilize such surface.

A further object is to provide a device wherein waste of the sterilizing fluid is prevented and such fluid may be used for a maximum period of time. A further object is to provide a construction wherein the seat surface may be thoroughly cleansed and sterilized or wherein the closet may be used without such cleansing or sterilizing of the seat. A further object is to provide a construction wherein the seat surface is provided by a traveling flexible member which is adapted to be operated to present a clean surface and wherein the seat surface member is subjected to a cleansing or sterilizing action during such movement or travel.

A further object is to provide certain other new and useful features in the construction and arrangement of parts, all as will hereinafter more fully appear.

With the above and other ends in view, the invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which—

Figure 1 is a plan view of a closet construction with a device illustrative of the invention in operative position thereon, portions of the device being broken away to more clearly show the construction;

Fig. 2 is a side elevation of a closet showing the device embdying the invention applied thereto and in vertical section; and

Fig. 3 is a sectional detail showing a portion of the rim of a closet bowl and a seat member thereon, in transverse vertical section.

As shown in the drawing, 1 indicates a closet bowl of the usual construction and 2 the usual flush tank supported at the back of the bowl and connected thereto in the usual manner by the flush pipe 3. Supported upon the rear edge of the bowl and adjacent the forward side of the tank 2 is a tank or container 4 having a compartment 5 therein for holding a suitable cleansing and sterilizing fluid. The seat or member for supporting the person upon the bowl comprises a rigid seat structure 6 which may be hinged in the usual manner, at 7, to the rear edge portion of the rim of the bowl and this seat member is formed with two forwardly extending parallel wings 8 which are adapted to be supported upon the rim of the bowl at each side edge thereof by means of suitable brackets or feet 9 attached to the wings adjacent their edges and extending downwardly and inwardly beneath the wings to rest upon the rim of the bowl and support the wings in spaced relation to the rim. As illustrated in the drawing, this seat member 6 and its forwardly extending wings, the forward ends of which are substantially rectangular in plan view, may be formed of a sheet metal construction but it will be understood that any suitable construction of seat member may be employed.

At the forward end of each wing 8, is journaled a suitable roller 10 which roller is simply an idler over which a belt 11 is adapted to travel, there being two belts, one for each wing of the seat member and the upper run of each belt is adapted to lie flat upon and cover the upper surface of a wing of the seat member. Extending partly around the roller 10, each belt passes backwardly beneath the seat wing and beneath the small guide roll 22 located within and near the bottom of a chamber 13 in the forward side of the container 4 and thence upwardly in said chamber and over a small roll 21 located above the upper edge of a wall 15 separating the chambers 5 and 13. From the roll 21 each belt extends downwardly in the chamber 5 around a roll 20 in said chamber located near the bottom thereof, and thence upwardly to and over a roll 14 journaled in the casing 4 adjacent and above the roll 21 so that the belt, in passing around said roll 20 which is submerged in the fluid contained in the chamber, will be carried through this

cleaning and sterilizing fluid. From the roll 14 each belt extends downwardly in the chamber 13 to an idler roll 12 located adjacent an opening in the front wall of the chamber substantially in the plane of the upper surface of the seat wing and passes outwardly through said opening and forwardly over said seat wing surface to the roll 10, said rolls 10 and 12 serving to hold the upper run of the belt flat upon said surface and guide the same in its travel. This roll 14 may be a driving roll, as shown in the drawing, its shaft 16 being extended at one end through the end of the casing 4 and provided with a crank handle 17 by means of which this roll may be turned. Adjacent the roll 14 and in engagement with the upper surface of the belt is a small drying roll 18 which is held in firm yielding contact with the surface of the belt by means of springs 19, in any suitable manner, and this drying roll is preferably formed with a yielding body, such as rubber, in order that the belt in passing between it and the roll 14 may be squeezed dry, in a manner similar to that of a clothes wringer, and, if found desirable, the body of the roll 14 may also be of rubber or other yielding material, which will assist in drying the belt and also in causing its travel when the roll is turned.

Two endless flexible traveling members or belts are thus provided and these belts cover the upper surface of each wing of the seat, forming a surface to support the user of the closet. After use, by turning the crank handle 17 the two belts are caused to travel simultaneously and a new or different portion thereof is brought into position for use and during such travel that portion of the belt which has supported the previous user is carried through the body of sterilizing fluid in the tank and thoroughly cleansed. As the belt moves out of the sterilizing fluid during its travel, it is thoroughly dried by passing between the rolls 14 and 18 so that the portion of the belt which covers the upper surface of the seat wing is always dry, clean and ready for use. It will be noted that the upper surface of the belt upon which a person sits is the lower surface of the lower run of the belt beneath the wing of the seat and passes into the sterilizing fluid without any possibility of coming into contact with the cleansed and sterilized portion of the belt. The seat member 6 may be attached to the bowl in any suitable manner, as by the hinge indicated at 7, the flexibility of the belt and the position of the rolls 12 and 22 adjacent to the hinge, permitting the seat member to be turned thereon. However, if found desirable, this seat member may be made stationary by attaching it directly to the rim of the bowl, but it is desirable, in order that the device may be readily applied to closets of the usual construction, that the seat member be hinged and be supported upon the rim of the bowl at a short distance therefrom in order that the belt may pass beneath the seat wings free of the bowl rim. When installed in public lavatories, this device may obviously be provided with suitable coin-controlled mechanism for controlling its operation and it is also obvious that suitable means may be installed for automatically moving the belt after each use of the closet. If found desirable, it is also obvious that the distance between the rolls 14 and 21 and the rolls 12, 22 and 20, may be so proportioned relative to the length of the seat wings, or the portion of the belt which is exposed, may be such that the run of the belt between rolls 12 and 14 will be substantially equal to the upper run of the belt over the wing of the seat, and thus this run of the belt within the casing will be exposed to the air and be dried thereby during the time that the belt is stationary after each use of the closet and before it is again used, and further, the proportioning may be such that the run of the belt which is immersed in the fluid will be of a length substantially equal to the upper run of the belt over the closet seat, and thus every portion of the belt will be held immersed during the stationary periods of the belt and will be thoroughly impregnated and sterilized by the fluid.

The particular arrangement of the rolls and the travel of the belt thereover may obviously be changed to suit the particular conditions of installation and the construction and arrangement of the device as shown may also be modified within the scope of the appended claims without departing from the spirit of the invention, and I do not, therefore, limit myself to the particular construction shown.

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

1. In a device of the character described, the combination with a horizontally disposed seat member for the support of a person sitting thereon, of an endless flexible belt arranged with the upper run of the belt extending horizontally across and covering that portion of the seat adapted to support a person and prevent contact of the person's body with any part of the seat, and with the lower run of the belt extending horizontally beneath the seat member, means for imparting a traveling movement to the belt, a tank for cleansing fluid, and means for guiding the belt to and from the tank and through a cleansing fluid therein with an extended portion of the belt exposed to the atmosphere between the tank and seat member to afford a drying period during the travel of the belt.

2. In a device of the character described, the combination with a seat member having parallel forwardly extending side portions

adapted to cover the side edges of a bowl, of flexible endless members extending longitudinally of said side portions of the cover member with the upper run of each endless member covering the upper surface of the seat member, and the lower run thereof extending beneath said cover member, and means for imparting a traveling movement to said endless members.

3. In a device of the character described, the combination of a cover member having forwardly extending wings, means for supporting said wings upon the rim of a bowl with a space between said rim and wings, endless belts extending longitudinally of the wings with the upper runs of the belts lying upon and covering the upper surfaces of the wings, and means for imparting a traveling movement to the belts.

4. A device as characterized in claim 1, and including rolls between which the belt travels after being subjected to the fluid, to dry the belt.

5. In a device of the character described, the combination with a seat member having parallel forwardly extending side portions, endless flexible belts extending longitudinally of said side portions with their upper runs engaging and covering the upper surfaces of said side portions and their lower runs extending beneath said side portions, a casing at the rear of said seat member having a fluid chamber, rolls in the casing in engagement with which the belt travels, one of said rolls being positioned within the fluid chamber to guide the belts in their travel, into the fluid, means positioned above the fluid chamber to engage the belts and dry the same, and means for imparting a traveling movement to the belts.

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

HORATIO E. VAN DOREN.

Witnesses:

ANNA M. DORR,

ARTHUR MINNICK.