H. WYGODSKY.

SALINE OPERATED ELECTRIC CIRCUIT AND ELECTRORESPONSIVE APPARATUS.

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1,327,262. Patented Jan. 6, 1920.

Fig. 1.

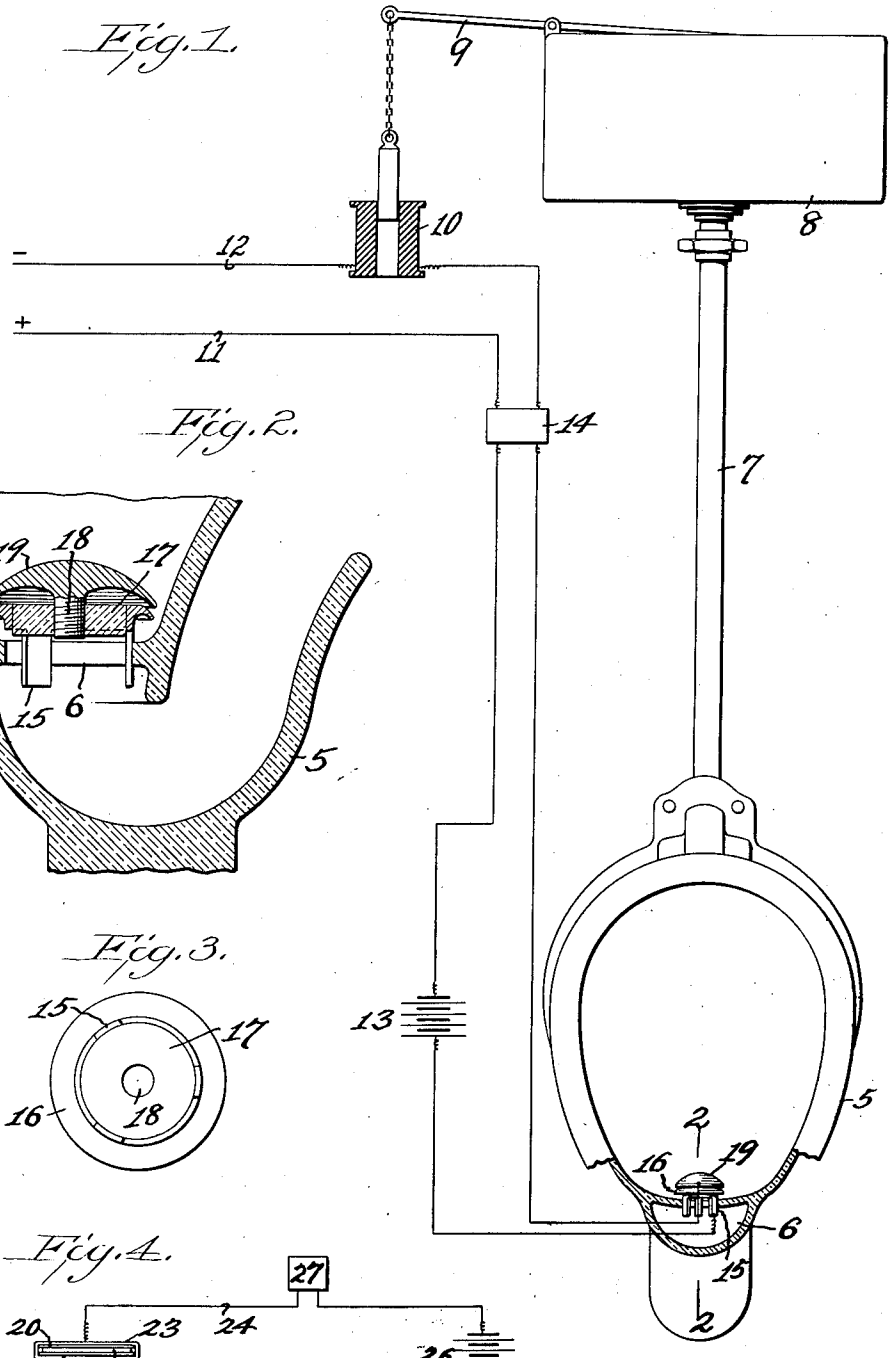


Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES

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SALINE-OPERATED ELECTRIC CIRCUIT AND ELECTRORESPONSIVE APPARATUS.

1,327,262. Specification of Letters Patent. Patented Jan. 6, 1920.

Application filed December 29, 1916. Serial No. 139,698.

To all whom it may concern:

Be it known that I, HENRY WYGODSKY, a subject of the Emperor of Russia, and a resident of New York, borough and county of Bronx, and State of New York, have invented certain new and useful Improvements in Saline-Operated Electric Circuits and Electroresponsive Apparatus, of which the following is a specification.

My invention relates to the operation of mechanical devices by means of an electro-magnet arranged in a normally open electrical circuit adapted to be closed by a saline fluid, for instance urine, the terminals of which circuit are in permanently spaced relationship, and the main object thereof is to provide such apparatus of a simple form of construction and installation adapted to perform a mechanical operation in the presence of a saline fluid.

My invention is fully described in the following specification, of which the accompanying drawings form a part, in which like characters refer to like parts in each of the views, and in which:—

Figure 1 is a view, partly in section, of the adaptation of my invention to the flush-tank of a urinal;

Fig. 2 is an enlarged section taken on the line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view of the attachment shown in Figs. 1 and 2, to the bowl of the urinal; and

Fig. 4 is a diagrammatic view of an adaptation of the invention to alarms actuated by the saline fluid.

Referring to Figs. 1, 2 and 3, the bowl 5 of a urinal is provided with a drain opening 6 and with a flush-pipe 7 leading from a water tank 8 having the usual or any desired type of valve therein operable by means of a lever 9 for flushing the urinal, said lever being actuated by an electro-magnet 10 arranged in a normally open circuit through conductors 11 and 12, through a relay 14, and, by means of a supplemental normally open circuit of low voltage, through the source of energy 13, to actuate the valve lever 9 by means of the electro-magnet.

Arranged in the drain opening 6 is a spider 15 having a flanged ring 16 at its top of conductive material and, in turn, supporting an insulating disk 17 having a threaded bore therein for the reception of a screw threaded post 18 having a convex disk 19 at its upper end of conductive material, the ring 16 and disk 19 serving as terminals in the supplemental circuit and being in permanently spaced relationship the gap between which may be narrowed or widened at will by the rotation of the post 18 in the insulator 17, and it will be noted that the disk 19 is arranged over the ring 16 in such manner as to insure the passage of urine from said disk 19 to said ring when the urinal is being used.

This saline fluid in spanning the gap closes the circuit through the electro-magnet 10 and the flushing valve lever is actuated to flush the bowl 5 and, inasmuch as the saline property of the urine is weakened by the flushing water and its superior electrical conductivity over ordinary water is thus overcome and the circuit is again interrupted between the terminals 19 and 16, the electro-magnet deënergized, and the valve lever returns to normal position to again close the flushing valve, both the actuation and release of the said lever being entirely automatic and under the control of the saline fluid.

In Fig. 4 I have illustrated an apparatus designed for actuating an alarm connected with a bed containing a baby, said apparatus consisting of two flexible terminal plates 20 and 21 spaced apart by means of a dry strip of cloth or paper serving to insulate said plates from each other and shown at 22, a suitable binding 23 holding the parts together.

The terminals 20 and 21 are connected with electrical conductors 24 and 25 led through a source of electrical energy 26 and through a buzzer 27 and, upon a saline discharge by the baby, beneath which the terminal plates and insulator are arranged, the fluid saturates the absorbent insulator and the terminals are electrically connected through said saline fluid and the buzzer 27 is actuated to notify a nurse that changes in the clothing of child and bed should be made.

Inasmuch as I have knowledge of electrical circuits having terminals movable toward each other by the influx of water in a receptacle, attention is particularly drawn to the fact that my juxtaposed terminals are permanently spaced with respect to each other and never contact, the gap therebetween being bridged by a saline fluid of high electrical conductivity rela-

tively to the practical non-conductivity of ordinary water as supplied to communities.

While I have shown two adaptations of my invention, it will be obvious that many other uses might be conceived, and I reserve the right to make structural changes to adapt the invention to such other uses.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

The combination with a urinal and a flushing device; of an electro-magnet in operative connection with said device, a source of electrical energy, a conductive ring arranged in said urinal, an insulator carried by said ring, a conductive convex disk carried by said insulator, and an electrical conductor passed from said ring to said disk through said electro-magnet and said source of energy, said disk and ring being adapted to be electrically connected by a saline fluid interposed therebetween and electrically disconnected by the substitution of water for said saline fluid.

HENRY WYGODSKY.