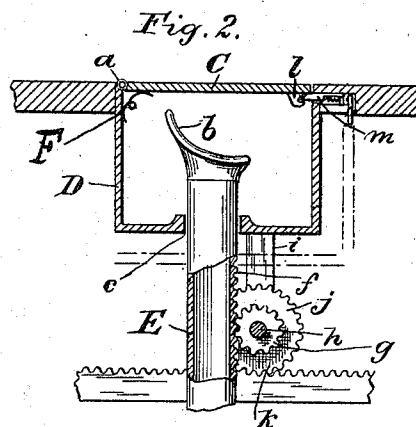
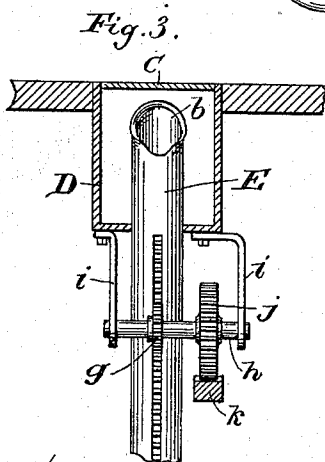
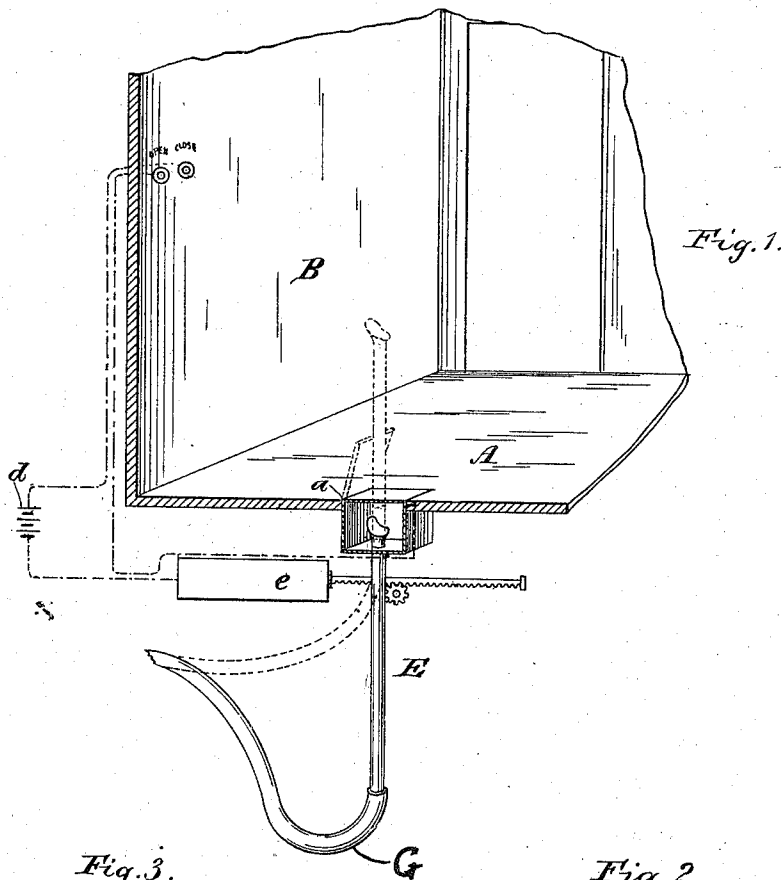


(No Model.)

F. C. REES.
URINAL.

No. 580,329.

Patented Apr. 6, 1897.



Witnesses:
L. N. Legendre,
J. W. Lynn

Inventor
Frank C. Rees,
By J. W. Barker,
Attorney.

UNITED STATES PATENT OFFICE.

FRANK C. REES, OF HAMPTON, VIRGINIA.

URINAL.

SPECIFICATION forming part of Letters Patent No. 580,329, dated April 6, 1897.

Application filed February 27, 1896. Serial No. 581,078. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. REES, a citizen of the United States, residing at Hampton, in the county of Elizabeth City and State of Virginia, have invented certain new and useful Improvements in Urinals, of which the following is a full, clear, and exact specification.

This invention relates to a convenient form of urinal for use by female persons; and its object is to enable females to utilize such article while standing, the urinal being concealed beneath the flooring of an apartment when not in employment, and adapted to be raised and lowered automatically by suitable mechanism.

In order that my invention may be clearly understood and explained in detail, I have annexed hereto a sheet of drawings, in which—

Figure 1 is a view showing the corner of an apartment with my improved urinal arranged in normal position beneath the flooring and shown in dotted lines elevated for use. Figs. 2 and 3 are, respectively, different side views, partly in section, showing the main portion of the device.

A indicates the flooring of an apartment, and B a wall thereof. At a convenient place in said floor is provided a small trap-door C, the same being hinged at *a* and arranged to be opened upwardly, or said door may slide or move open in any other desired manner. Beneath said door C is a box or casing D, which forms a receptacle for the mouth or open end *b* of a tube E, the said tube passing through a hole *c* in the bottom of box D. The tube E is arranged to have a vertical movement within and through the box D and into the apartment, and the means communicating said movement may be any suitable mechanism operated by electricity, steam, compressed air, or other motive force. The means which I have shown in this application for moving the tube E comprise a battery *d*, motor *e*, and connecting-wires, push-buttons to "open" and "close" the device being indicated on the wall B.

Along the tube E is provided a rack *f*, with which is meshed a pinion *g*, said pinion being fast upon a shaft *h*. Said shaft *h* is pivotally supported by the brackets *i*, which are

secured to the box D, and a gear-wheel *j* is also rigidly mounted upon said shaft *h*.

Arranged transversely to the tube E is a rack-piece *k*, the teeth of which are adapted to mesh with the gear-wheel *j*. The horizontal movement of said rack-piece *k*, imparted by the motor *e* or other means, causes movement to be communicated to the tube E, through shaft *h* and pinion *g*, and said tube E is thus caused to rise or descend, as desired.

F indicates a spring which exerts a tension against door C when said door is closed and locked to cause the same to fly open when released. *l* is catch on said door C, and *m* a bolt which is normally spring-held in engagement with catch *l* to keep the door locked.

My invention provides for the simultaneous withdrawal of bolt *m* from the catch *l* with the upward movement of tube E, the same electric current performing the two operations.

The door C may be closed with the foot when the tube E has been returned under the flooring, or it may be closed by a simple electromechanical means, (not shown,) as desired.

The mouth *b* of tube E is preferably shaped to conform to the parts to which it is to be applied, and at the opposite end of said tube E is fitted a flexible tube G, which connects with a convenient waste-outlet. (Not shown.)

Having now described my invention, I declare that what I claim is—

1. In a urinal, a tube, a rack upon said tube, a gear-wheel meshing with said rack, said gear-wheel being pivotally supported, a rack-piece engaging with said gear-wheel, and means for moving said rack-piece, substantially as set forth.

2. A urinal consisting of a receptacle normally concealed beneath a flooring, a trap-door obscuring said urinal, and means for automatically and simultaneously opening said trap-door and elevating said receptacle, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of January, 1896.

F. C. REES.

Witnesses:

F. M. DAMALL,
R. J. PATRICK.