ROBERT R. STRAIN.

Improvement in Earth Closets.

No. 121,068. Patented Nov. 21, 1871.

Fig. 1

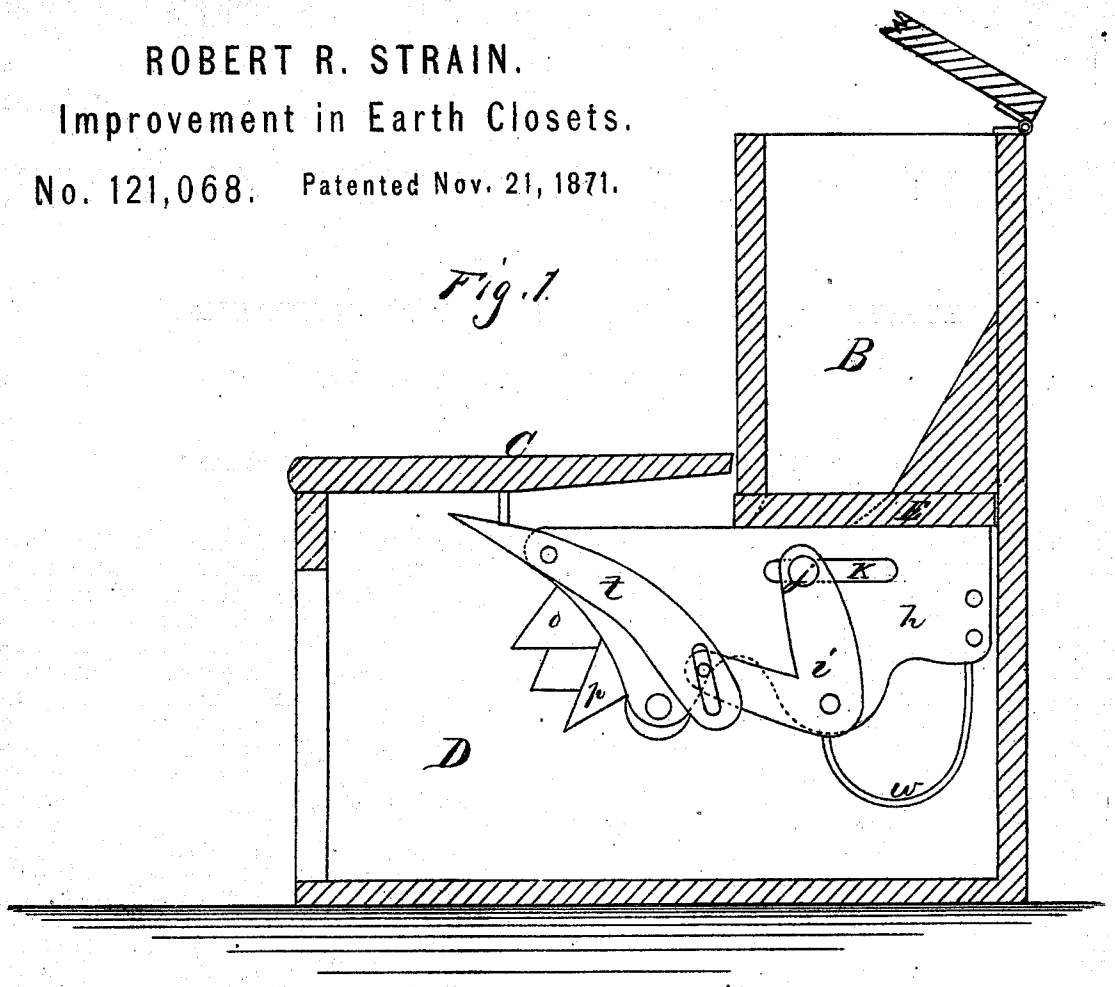


Fig. 2

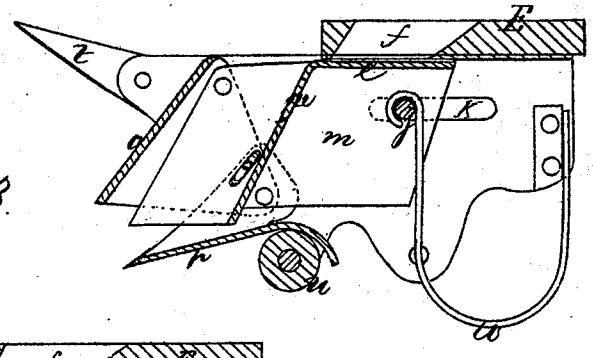
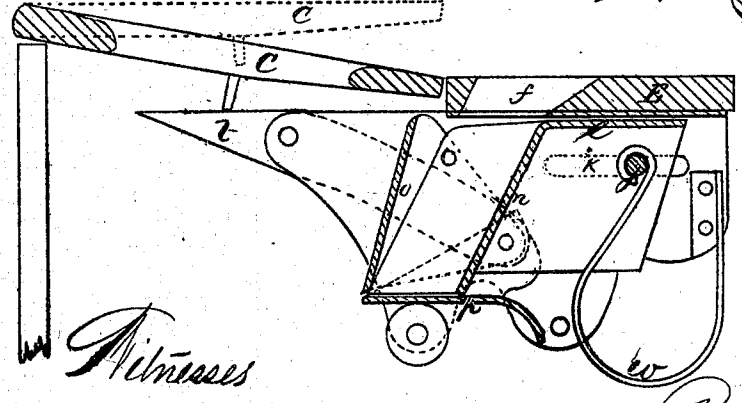


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT R. STRAIN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN EARTH-CLOSETS.

Specification forming part of Letters Patent No. 121,068, dated November 21, 1871.

To all whom it may concern:

Be it known that I, ROBERT R. STRAIN, of the city and county of San Francisco, State of California, have invented certain useful Improvements in Earth-Closets; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art and science to which it most nearly appertains to make and use the said invention or improvements without further invention or experiment.

My improvements in earth-closets relate to that part by which the earth is automatically taken from the hopper and deposited in the vessel below the seat in which the excrement is received; and it consists of a frame or box, which is caused to move back and receive a portion of earth from the hopper when the seat is pressed down by the weight of the body, but when the weight is removed the box is thrown forward and two hinged jaws at its front end are caused to fly open, so as to deposit the dirt in the vessel.

In order to explain my invention so that others will be able to understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side sectional elevation of the closet with one side removed. Fig. 2 shows an end view of the automatic parts. Fig. 3 shows the operative parts in connection with the seat.

A represents a closet having the hopper-shaped box B rising upward behind the seat. C is the seat, and D the chamber beneath the seat. The device which I employ for automatically receiving and depositing the earth is made in one operative piece, so as to be readily handled without disarranging the parts. The board E, to which the operative parts are attached, is arranged to slide in under the hopper B from the front, as shown, and is provided with a slot, *f*, which corresponds with the opening in the bottom of the hopper, directly beneath which it will come when the board is in position. Secured to the under side of the board E are two downward-projecting side plates, *h*, situated at the proper distance apart and parallel with each other. A bell-crank, *i*, has its angle connected by a rivet to the lower edge of the side plates *h*, at each side, while the extremities of one of their arms are connected by a bolt, *j*, which passes through a horizontal slot, *k*, in each of the side plates *h*. This bolt passes through the sides *m* in the frame. Between these two side plates is placed a metallic plate, *l*, the upper side of which rests against the under side of the board E, while the front end is bent downward, as shown. The sides *m* of this frame extend forward of the downward-projecting front end *n*, and an open-top receptacle is formed in front of the plate *n* by two doors or jaws, *o p*. The jaw *o* has its upper corners loosely attached to the projecting end of the plates *m*, and the lower one, *p*, is also attached to it in a similar manner, so as to form the bottom of the receptacle when closed. The sides of these jaws are also united by a rivet, *q*, which is fixed to the side of one of the jaws, and moves in a slot, *s*, in the side of the other jaw, so that the bottom or lower jaw *p* can be dropped down, thus causing the rivet which moves in the slot *s* to raise the jaw *o* to the position shown at Fig. 2. Levers *t* have their fulcrum in the side plates *n* and extend forward, as shown, so as to support the back side of the seat, while their opposite ends are connected with the other arm of the bell-cranks *i* by means of a slot and pin, as shown. The bottom of the receptacle or lower jaw has its back edge curved downward, and a roller, *u*, is arranged below it, so that when the receptacle moves forward the roller will cause it to open in the manner described above.

The operation of this device is as follows: When the weight of the body is placed upon the seat C the extremities of the levers *t* are depressed so as to cause the bell-cranks *i* to turn and carry the sliding frame and receptable back until the receptacle is immediately below the hopper, where it receives a portion of earth, and when the weight is removed from the seat a spring, *w*, at the back of the frame, will project it forward so as to cause the roller *u* to open the jaws *o p*, by which movement the earth is deposited automatically into the receptacle in the closet beneath the seat. By this arrangement I provide a simple, cheap, and automatic apparatus for supplying the proper or desired quantity of earth in earth-closets. By constructing the entire device so that it can be handled bodily in one piece it can be readily applied by any person to closets without other mechanical aid.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the hopper B, the slid-

ing receptacle, consisting of the plate *l* and hinged jaws *o p*, arranged and operated substantially as and for the purpose above described.

2. The sliding plate *l* with the hinged jaws *o p*, in combination with the levers *t*, bell-cranks *i*, spring *w*, and roller *u*, substantially as and for the purpose above described.

3. The hinged jaws *o p*, having their sides united by a pin and slot when the rear edge of the lower jaw is curved downward, in combination with the roller *u*, bell-crank *t*, and spring *w*, substantially as and for the purpose above described.

4. An automatic device for supplying a quantity of earth in earth-closets, consisting of the slotted board E, slotted side plates *h*, sliding plate *l*, jaws *o p*, roller *u*, bell-cranks *i*, levers *t*, and spring *w*, the whole constructed and arranged to operate substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

ROBERT R. STRAIN. [L. S.]

Witnesses:

J. L. BOONE,

A. T. DEWEY. (8)