R. W. RIDDLE.

Earth-Closet.

No. 203,943. Patented May 21, 1878.

Fig. 3

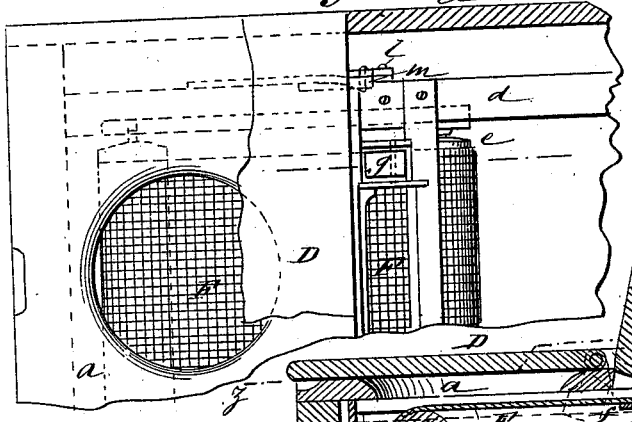


Fig. 1

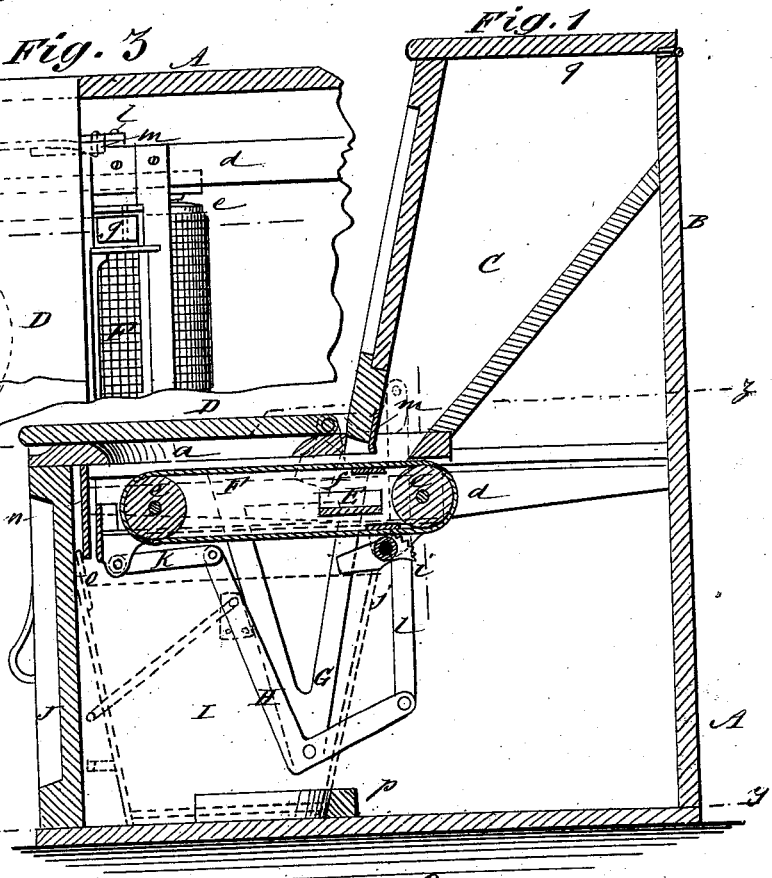


Fig. 4

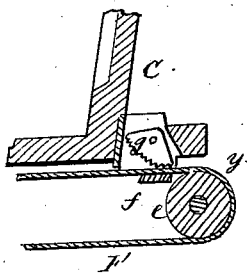


Fig. 2

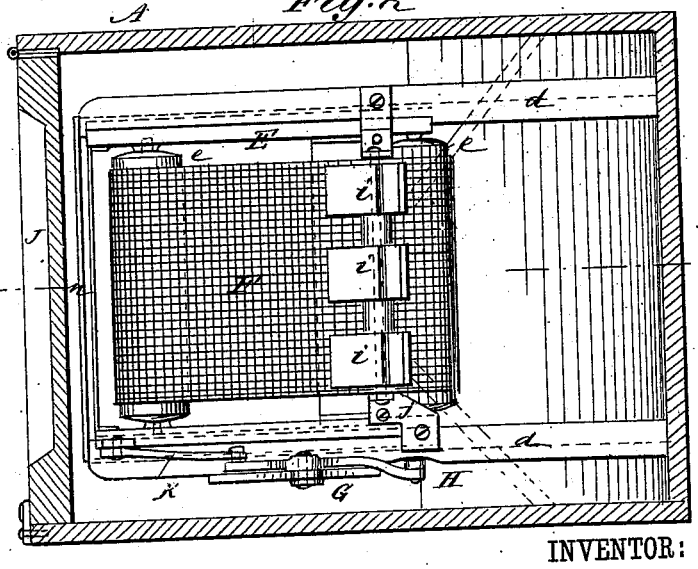
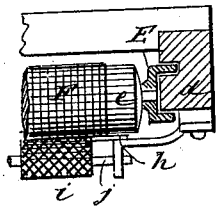


Fig. 5



WITNESSES:

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UNITED STATES PATENT OFFICE

RICHARD W. RIDDLE, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN EARTH-CLOSETS.

Specification forming part of Letters Patent No. **203,943**, dated May 21, 1878; application filed April 16, 1878.

To all whom it may concern:

Be it known that I, RICHARD W. RIDDLE, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and Improved Earth-Closet, of which the following is a specification:

In the accompanying drawings, forming part hereof, Figure 1 is a vertical section of my improved earth-closet, taken on line *x x* in Fig. 2. Fig. 2 is a horizontal section taken on line *y y* in Fig. 1, looking upward. Fig. 3 is a sectional plan view taken on line *z z* in Fig. 1. Figs. 4 and 5 are detail views of portions of the apron-operating apparatus.

Similar letters of reference indicate corresponding parts.

My invention relates to stationary or portable earth-closets; and it consists in an endless apron carried by a movable frame, which is connected with the seat-cover, so that it is moved forward when the cover is closed down, and is moved backward when the cover is raised.

It also consists in an arrangement of dogs or cams for clamping the apron and causing it to rotate when moved out or in, thus making two deposits of earth in the excrement-receptacle as the seat-cover is opened and closed.

Referring to the drawings, A is the box or casing forming the outer portion of the earth-closet or commode. The said box is provided with an elevated portion, B, in which is formed a hopper, C, for the reception of earth.

In front of the elevated part B there is an apertured seat, *a*, which is provided with a cover, D, which is hinged to the seat at the base of the elevated portion B.

Below the seat *a* there are horizontal ways *d* near opposite sides of the box, to which is fitted a frame, E, in which two rollers, *e*, are journaled, which are parallel to each other, and also with the front of the box A. Upon these rollers an endless apron, F, is placed, which runs near the mouth or lower end of the hopper C. Below the upper portion of the apron there is a stationary bar, *f*, for supporting the apron against the downward pressure of the earth in the hopper. Above this bar, and also above the apron at the sides of the hopper C, there are serrated dogs or cams *g*, which are capable of clamping the apron at every backward movement of the frame E, so as to prevent the apron from moving and cause it to rotate the rollers *e* as the frame E is carried back. Above the lower portion of the apron there is a stationary bar, *h*, below which there are serrated counterweighted dogs *i*, which are pivoted on the rod *j*, and automatically clamp the apron F whenever the frame E is moved forward. By means of the dogs *g* and *i* the apron is made to rotate always in one direction, whether the frame E moves forward or backward.

A triangular frame, G, projects downward from one of the guides *d*, and to it is pivoted a right-angled lever, H, the longer arm of which is connected with an ear on the frame E by a link, *k*, while the shorter arm is connected by a rod, *l*, with an arm, *m*, projecting from the hinge of the cover D. By means of this construction the frame E is moved backward when the cover D is raised, and is moved forward when the cover is closed.

When the cover is raised the backward movement of the rolls carries the lower half of the apron backward, while the portion of the apron which is immediately below the mouth of the hopper remains stationary. As the frame E moves backward the earth is discharged from the apron over the forward roll and falls into the excrement-receptacle I below, and when the cover is closed the frame E is moved forward, thereby rotating the upper portion of the apron and again discharging earth into the excrement-receptacle.

There is a guard, *n*, across the front of the box, and a similar guard, *o*, is attached to the front of the receptacle. The receptacle I is inserted into and removed from the box A through the door J, and is guided and stopped by a guide, *p*, secured to the bottom of the box A. The hopper is provided with a lid, *q*, which is opened when it is filled with earth.

The endless apron may be made of any suitable material, and the frames, levers, &c., may be made of cast-iron or other suitable material.

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

1. The endless apron F, supported by the

movable frame E, and connected by means of rods and levers with the seat-cover D, substantially as shown and described.

2. The combination of the dogs or cams *g i* with the apron F, substantially as herein shown and described.

3. The combination, in an earth-closet, of the hopper C, reciprocating frame E, carrying the endless apron F, the dogs *g i*, cover D, and means for connecting the same with the reciprocating frame E, substantially as herein shown and described.

RICHARD WHITTIER RIDDLE.

Witnesses:
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