

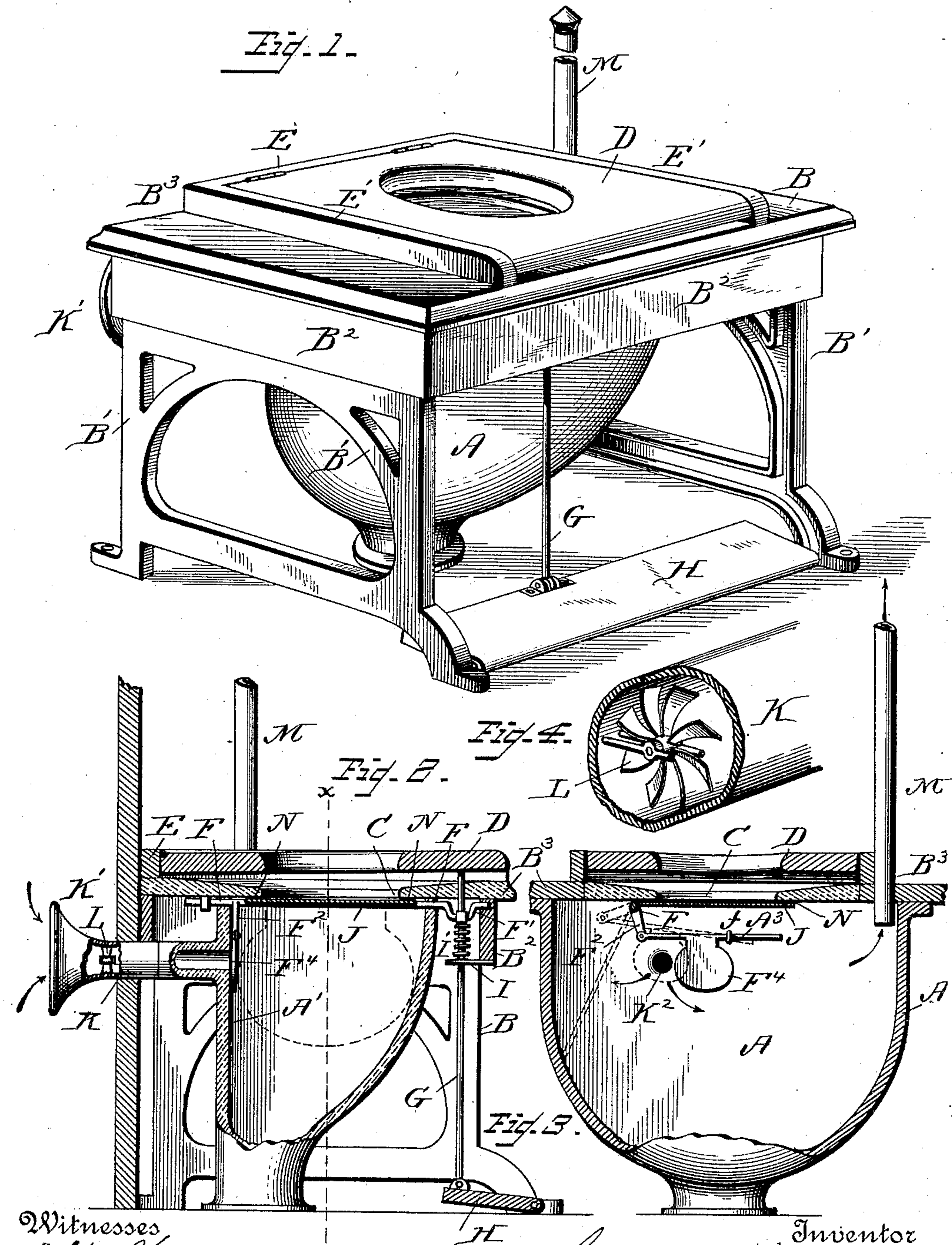
(No Model.)

C. KELLEY.

COMBINED AIR TRAP AND SEAT FOR PRIVY VAULTS.

No. 465,862.

Patented Dec. 29, 1891.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES KELLEY, OF TORONTO, CANADA.

## COMBINED AIR-TRAP AND SEAT FOR PRIVY-VAULTS.

SPECIFICATION forming part of Letters Patent No. 465,862, dated December 29, 1891.

Application filed April 2, 1891. Serial No. 387,403. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES KELLEY, a subject of the Queen of Great Britain, residing at Toronto, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in a Combined Air-Trap and Seat for Privy-Vaults; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in privies; and it relates more particularly to that class of privies which are adapted for use in country towns and in other localities in which from lack of proper sewerage connections the use of a cess-pool or vault is necessitated.

The invention has for its object to provide a privy of the character described with attachments whereby the excrement-hole in the seat will be automatically closed, except when in actual use.

The invention has for its further object to provide an inlet-pipe for ventilating purposes, the said pipe having an enlarged open end upon the outside of the building and leading directly into the basin beneath the privy-seat, the inner end of the said pipe being provided with a trap so arranged and connected with the seat-operating mechanism as to cause the trap to be automatically opened simultaneously with the closing of the opening in the privy-seat and again closed when the excrement-hole in the seat shall have been opened.

Finally, the invention has for its object to generally improve upon the construction of outside privy-vaults and their connections, whereby a perfect system of air ventilation will be at all times maintained when the privy is not in actual use and in which the escape of gases and offensive odors into the building will be prevented.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference

indicating like parts throughout the several views, and in which drawings—

Figure 1 is a perspective view of a privy constructed in accordance with my invention. 55  
Fig. 2 is a central transverse vertical section of the same. Fig. 3 is a central vertical longitudinal section through the basin.

Reference now being had to the details of the drawings by letter, A represents the bowl or basin, which is in all respects similar to the basins which are now in common use, excepting that its rear wall is vertical, as shown at A'. The bench or seat-support B may be of any suitable or desired construction, in the present instance consisting of the uprights B', 65  
cornice-strips B<sup>2</sup>, and top B<sup>3</sup>, which is provided with the usual excrement-hole C.

The seat proper D is hinged at its rear edge to the strip E, and in the drawings I have shown strips E' secured to the top of the stand and extending from the front to the rear of the same along the side edges of the seat, though this construction is not material, and it is at once evident that these strips 75  
both at the rear and side edges of the seat may be omitted when desired, and the rear edge of the seat in that event may be hinged directly to the top of the stand.

F is a crank-shaft, which is journaled within 80  
suitable bearings upon the under face of the stand-top B<sup>3</sup> and extends transversely across the basin from front to rear at one side of and adjacent to the excrement-hole C. This shaft is provided at a point adjacent to its 85  
front end with a crank F', and to this crank is loosely or pivotally attached the vertical shaft G, the upper end of which shaft is passed loosely through an opening formed for its passage in the stand-top and bears against 90  
the under face of the front edge of the hinged cover D. The lower end of the said shaft G is pivotally attached to the rear edge of the foot-board H, the front edge of the said board being hinged either to the floor or to the front 95  
edges of the foot of the standards or legs B', as shown. A short distance below the point at which the shaft G is attached to the crank-shaft F' a ledge I is provided, through which the shaft passes, and sleeved upon the shaft, 100  
with one of its ends bearing against the ledge I and its opposite end bearing against the



point of attachment of the said shaft to the crank F', is a spiral spring I'. It will be seen that by this construction when a weight is applied to the seat D the shaft G will be depressed against the tension of the spring I' and that this depression of the shaft will serve to rotate the crank-shaft F, and it will also be observed that the same result will be obtained by the depression of the foot-board H.

J is a sheet-metal plate, which at one of its side edges is secured to the shaft F and is adapted, when the said shaft is rotated by the depression of either the seat D or the foot-board H, to be thrown down so as to occupy a vertical position, as indicated in dotted lines in Fig. 2 of the drawings, and upon release of the pressure to be returned by the rotation of the shaft to its normal position, covering the excrement-hole, as shown in full lines in said figure of the drawings.

At the point at which the shaft F passes through the rear wall of the basin A it is provided with an arm F<sup>2</sup>, to the free end of which is pivoted the end of a shaft F<sup>3</sup>, which is loosely sleeved within keepers f upon the rear wall of the basin.

K is an air-inlet pipe provided at its outer end with an enlarged or flaring opening K' upon the outside of the building and at its inner end communicating with the interior of the basin through an opening formed in its rear vertical wall.

The shaft F<sup>3</sup> is provided with a shutter F<sup>4</sup> of heavy sheet metal, said disk or shutter being secured at one of its edges to the shaft and adapted, when the shaft is moved by the rotation of the crank-shaft F, to be moved across the opening K<sup>2</sup> and removed therefrom upon occasion of a reverse movement of the shaft F<sup>3</sup>. In practice I so adjust the arm F<sup>2</sup> as to cause the same to move the shaft F<sup>3</sup> so as to close the opening K<sup>2</sup> simultaneously with the opening of the excrement-hole in the seat by the turning down of the trap J, and in turn the same will be opened when the said trap is closed by the return movement of the crank-shaft occasioned by the release of pressure upon either the seat or foot-board. A pipe M, communicating with the basin and leading to the open air without the building,

serves to insure an outlet for the gases and foul air, and a constant and free current of air will thus at all times be maintained when the trap is closed.

In order to prevent the possible escape of gases or air into the privy through the spaces which may intervene around the edges of the trap J, I provide a felt strip or pad N, which surrounds the excrement-hole upon the under face of the stand-top B. This pad I keep moistened with carbolic acid or with some other disinfectant suited to the purpose.

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

1. In a privy, the combination, with the basin having an air-inlet, valves adapted to control the excrement-hole and air-inlet, respectively, and mechanism arranged to operate the said valves simultaneously by a depression of the seat, substantially as and for the purpose described.

2. The combination, with the basin, the air-inlet thereto, the seat, valves controlling the excrement-hole in the seat and the air-inlet, respectively, the foot-board hinged as described, and connections between the foot-board and valves, whereby the said valves may be actuated simultaneously by the depression of the foot-board, substantially as and for the purpose specified.

3. In a privy, a basin having an air-inlet, a seat having an excrement-hole therein and hinged at one of its edges, as described, a crank-shaft beneath the seat, valves controlling the air-inlet and excrement-hole, respectively, and connected with the crank-shaft, a foot-board, and a shaft pivotally attached to the crank-shaft and extending from the foot-board to the seat and adapted, when moved by the depression of either the seat or foot-board, to rotate the crank-shaft and to open the one and close the other of the respective valves connected therewith simultaneously, substantially as and for the purpose described.

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

CHARLES KELLEY.

Witnesses:

A. L. HOUGH,  
FRANKLIN H. HOUGH.