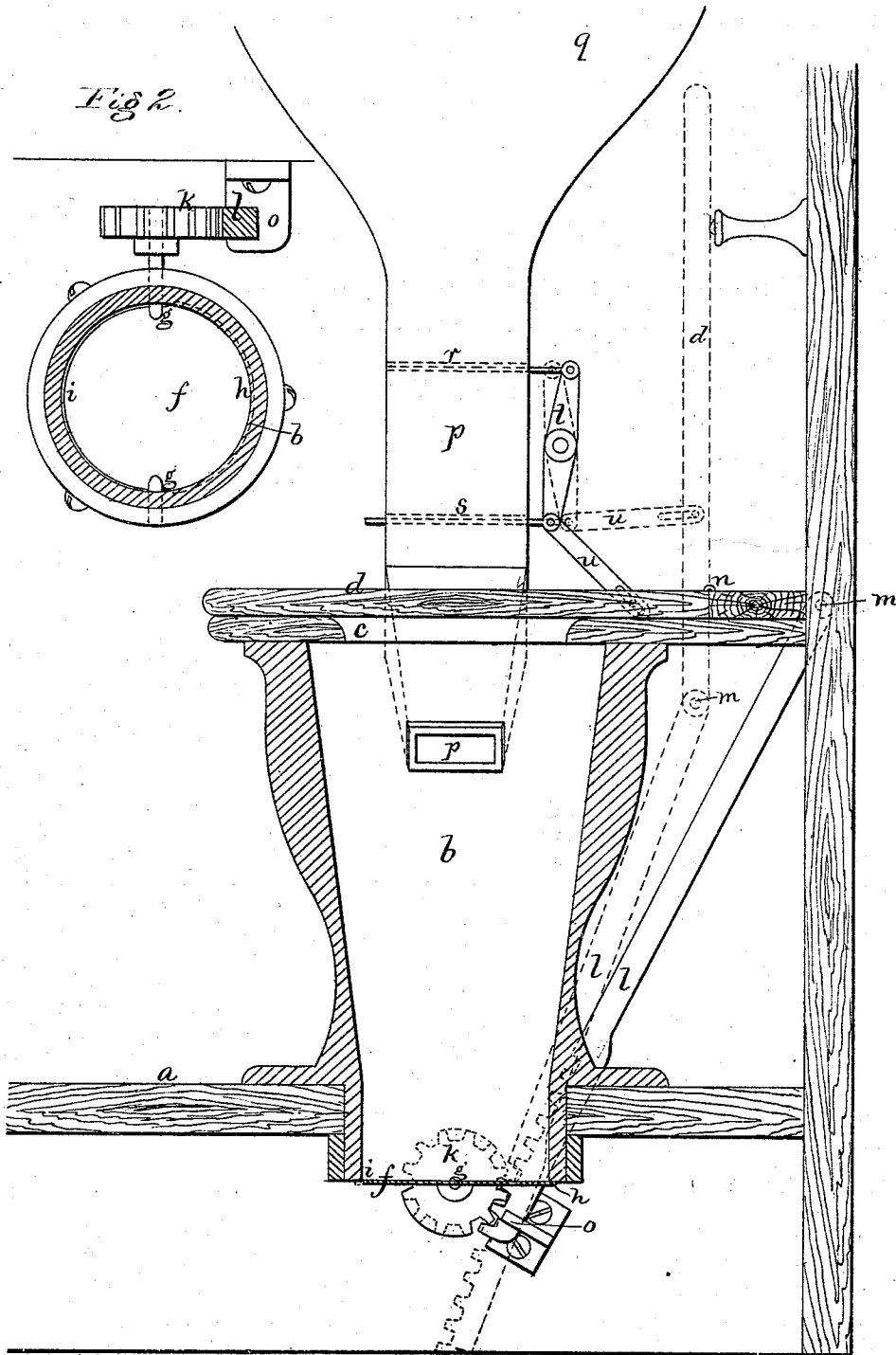


C. W. BROWN & L. H. LATIMER.
Water-Closets for Railroad-Cars.

No. 147,363.

Fig. 1.

Patented Feb. 10, 1874.



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UNITED STATES PATENT OFFICE.

CHARLES W. BROWN, OF SALEM, AND LEWIS H. LATIMER, OF SOMERVILLE,
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IMPROVEMENT IN WATER-CLOSETS FOR RAILROAD-CARS.

Specification forming part of Letters Patent No. 147,363, dated February 10, 1874; application filed
January 14, 1874.

To all whom it may concern:

Be it known that we, CHARLES W. BROWN, of Salem, in the county of Essex, and LEWIS H. LATIMER, of Somerville, in the county of Middlesex, all in the State of Massachusetts, have invented certain Improvements in Water-Closets for Railway Passenger-Cars; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

In the construction of water-closets for railway passenger-cars it is customary to make the hopper with an open bottom, and without any pan beneath. For this reason the apparatus, although cleanly so far as relates to the adherence of excrementious matter, is neither agreeable to use nor wholly safe, the draft through the hopper being always excessive, while the annoyance from dust, cinders, and other matters thrown up from the track is so great as to forbid or discourage the use of the apparatus except under extreme circumstances. Our invention has reference to such a construction of a water-closet apparatus for railway-cars as shall obviate the objections to the use of such closets as they are now built or applied.

In our invention, we apply to the hopper a pivoted bottom, that is automatically closed by the raising of the seat-cover, and automatically opened by the closing of the said cover, this bottom being, preferably, pivoted at its center, and so as to be rotated one hundred and eighty degrees at each opening or closing movement of the seat-cover, in which case the bottom is always closed, whether the seat-cover is in a raised position or closed position, it being turned bottom up by the raising of the seat-cover. We also prefer to construct the apparatus with an earth-closet mechanism; by which a supply of dry earth, sand, or equivalent material is lodged upon the bottom or receiving and discharging plate whenever the seat-cover is raised, and before the apparatus is used.

Our invention consists, primarily, in a railway-car water-closet apparatus, in which the hopper is provided with a pivoted bottom or bottom-plate that is always automatically brought to

position to close the end of the hopper and receive the excrement when the seat-cover is raised, and is automatically thrown open by the closing of the seat-cover.

The drawing represents an apparatus embodying the invention.

Figure 1 shows the apparatus in sectional elevation. Fig. 2 is a sectional plan of the bottom of the hopper.

a denotes the floor of the car; *b*, the hopper; *c*, the seat, and *d* the seat-cover. Under the hopper, and closing its end, is seen the bottom or receiving and discharging plate *f*. This plate is hung on its center, as seen at *g g*, and in such manner that one edge laps under one side of the hopper-tube, as seen at *h*, while the opposite edge (seen at *i*) is in position to turn up into the tube. On one of the gudgeons *g* is a pinion, *k*, into which meshes the teeth of a gear-bar, *l*, which bar, at its upper end, is jointed to an arm projecting from the rear edge of the seat-cover *d*, as seen at *m*, the seat-cover being hinged at *n*, and the arm extending beyond the hinge, and turning down, as seen by the dotted lines, when the seat-cover is turned up. The turning down of the arm when the seat-cover is raised forces down the gear-bar *l*, which is guided by a bearing, *o*, causing the bar to turn the pinion *k*, thereby reversing the position of the plate *f*. Leading into the upper part of the hopper is seen the spout *p* of an earth-reservoir, *q*, and in the spout are two valves, *r s*, jointed to a lever, *t*, one arm of which lever, by a link, *u*, is connected to the seat-cover, the valves and their method of operation being the same as in many earth-closets.

Each valve slides under, or rests upon, a valve-seat, and has a suitable passage, connecting, at proper time, with a corresponding passage through its valve-seat, and the movements imparted to the respective valves are such that at each time the seat-cover is shut down the lower valve is closed and the upper one opened, thereby letting the earth from the reservoir *q* down through the upper valve, to lodge upon the lower one; while, when the seat is raised, the upper valve is closed, to stop the supply from the reservoir, and the lower one is opened, to let the earth lodged upon the

valve or valve-seat down through the spout into the hopper, and down upon the receiver-plate *f*, the connections being such that the earth does not fall to the plate until the latter reaches a position to retain it. When the seat-cover has been thus raised, and the apparatus has been used, the excrement will lodge upon the earth-covered receiving-plate; and, when the seat-cover is closed, the plate is reversed in position, discharging the earth and excrement, and closing the hopper-tube, the earth preventing any adhesion of the excrement, and causing the apparatus to be kept entirely free from foulness.

The plate *f* may be operated by a hand-pull, but not with so good results as when connected to and operated by the seat, as described.

Although modifications may be made, as we have generally described, the construction and arrangement substantially as shown is preferred.

The upper valve may be made with an ori-

fice that will let the earth drop through from the reservoir into the hopper when the apparatus is in use, to insure the covering of the excrement as it falls.

We claim—

1. The closing, receiving, and discharging plate *f*, hung centrally, as described, in combination with the hopper *b*, and operated by the seat-cover *d*, gear-bar, and pinion, substantially as shown and described.

2. In combination with the plate *f*, the earth-reservoir and its valves, operated, in connection with the plate, substantially as shown and described:

3. In combination with the hopper *b*, the reversible plate *f*, arranged to operate substantially as described.

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Witnesses:

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