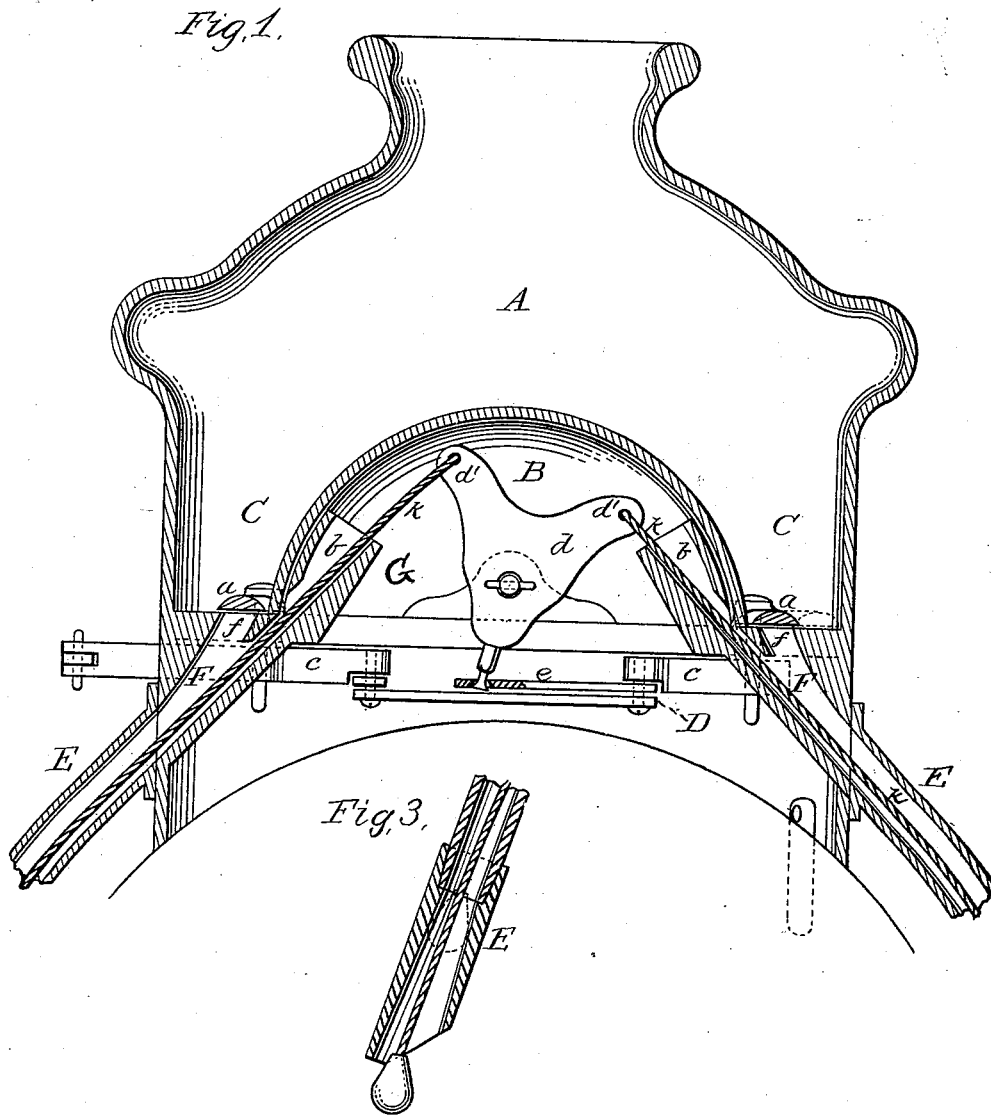


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SAND-BOXES FOR LOCOMOTIVES.

No. 188,399.

Patented March 13, 1877.



WITNESSES
Vilhelm Anderson.
W. C. Mason

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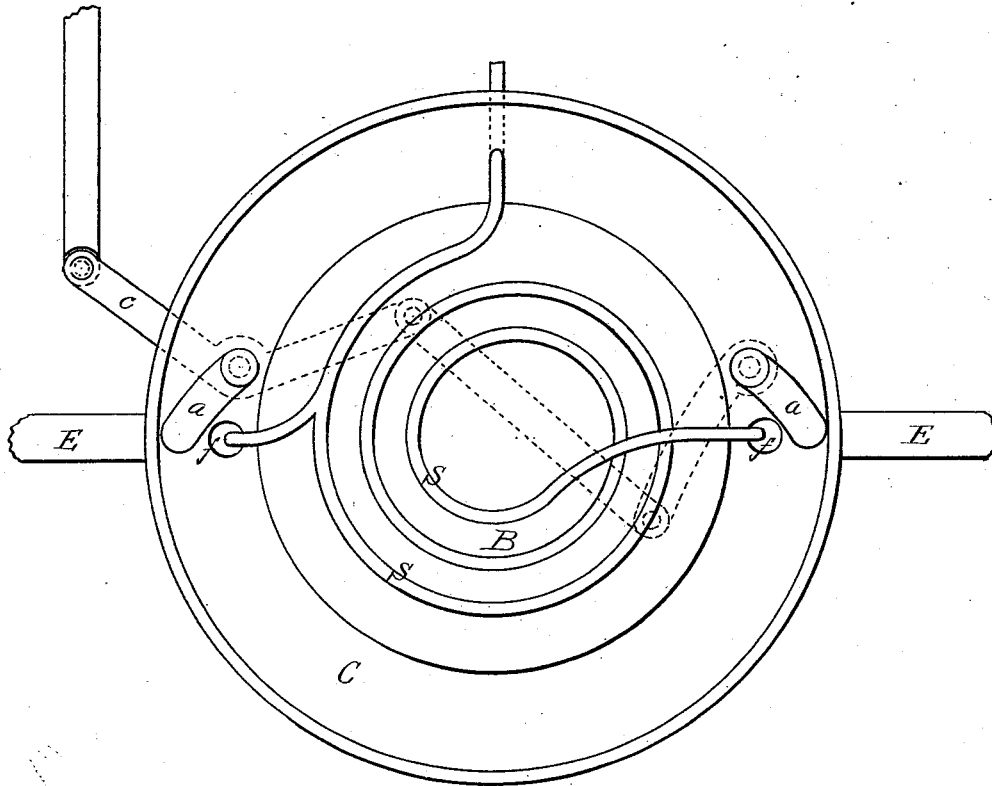
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Fig. 2.



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SAMUEL E. MOSHER, OF CHILLICOTHE, OHIO.

IMPROVEMENT IN SAND-BOXES FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **188,399**, dated March 13, 1877; application filed December 23, 1876.

To all whom it may concern:

Be it known that I, SAMUEL EARL MOSHER, of Chillicothe, in the county of Ross and State of Ohio, have invented a new and valuable Improvement in Sand-Boxes for Locomotives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of this invention. Fig. 2 is a plan view of the top of the dome, showing the steam-pipes. Fig. 3 is a sectional view of the discharging-spout, showing its lower valve.

This invention has relation to sand-boxes for locomotives; and it consists in the construction and novel arrangement of a wire-cable, jointed rod, or other movable device extending within the pipes from the bottom to or near the top by or through the valves, and, in connection therewith, the arms or lever-connections to which the cables are attached, the lower section of the sand-box having a stand or pins, upon which it rests, and apertures and pipes, through which the cables pass; and, in connection with these pipes and cables, the valves arranged at the lower ends of the pipes; and, finally, the steam-pipes passing through the sand-pipes into the sand-box, as hereinafter shown and described.

In the accompanying drawings, the letter A designates the cavity of the sand-box, and B a central dome or rising in the floor thereof, over which the sand is guided into the side channel C. D represents the lower portion or section of the box, whereof the bottom is constructed in the form of a stand, or is provided with suitable pins for attachment to the boiler. Pipes E E extend from over the driving-wheels to the lateral outlets F of the sand-box, said outlets being, in the construction illustrated, forked in their upper portions, one branch, *f*, leading to the sand-channel C, while the other, *b*, leads to the cavity G under the dome in the lower section of the box. *a a* represent valves applied to the mouths of the sandways *f*, which are operated by a system of levers, *c d e*, which com-

municate with the engineer's cab. In this system is arranged a branched or triangular lever, *d*, the upper portion of which is extended transversely in the cavity of the dome B, and is provided with arms or horns *d'*, for the attachment of the reciprocating clearers *k*, which are constructed of wire-cable, jointed rods, or other suitable devices, and are designed to pass through the inner branches *b* into the sand-pipes, through, or nearly through which they extend, and serve to clear the way by dislodging or jarring any sand that may have become clogged therein from moisture or other cause, when moved by the lever system which opens the valves by independent mechanism or by hand. Sometimes, instead of using the upper valves *a* in the sand-channel of the box, I may prefer to employ valves in the lower ends of the discharging-pipes. S designates a steam coil or pipe, which is arranged to pass through the sand-box, and, when thought necessary, through the discharging-spouts of said box. This serves to heat and dry the sand, so that it will not be liable to clog in the spouts. In some cases these steam-pipes will operate sufficiently well as clearers in the sandways, so that the reciprocating clearers will not be needed.

Having thus described my invention, and illustrated a method of carrying it into practice, I do not desire to be confined to the precise construction and mode of operation herein set forth, as this may be modified in many ways by persons skilled in the art.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the discharging-spouts of a sand-box, of longitudinal clearers extending therein, substantially as specified.

2. The reciprocating clearers herein described, arranged within the discharging-pipes of a sand-box, and designed to clear said pipes when operated, substantially as specified.

3. The combination, with the reciprocating spout-clearers, of the transversely-vibrating lever *d*, for operating the same, substantially as specified.

4. The combination, with the valves *a* and their operating mechanism, of the spout-clearers and their lever *d*, substantially as specified.

5. The combination of the lower section of

the sand-box, having the cavity G, the pipes E E, provided with passages b b, and cleaner k, substantially as specified.

6. The combination, with the reciprocating clearers in the discharging-spouts, of the valves arranged in the lower portions of said spouts, substantially as specified.

7. The combination, with the sand-box and its discharging-spouts, of the steam-pipes ar-

ranged therein to heat and dry the sand, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL EARL MOSHER.

Witnesses:

JOHN M. DOTY,

PHILIPP KORST.