

No. 624,131.

Patented May 2, 1899.

F. W. TILDEN.
SAND BOX FOR TRACK SANDING DEVICES.

(Application filed May 31, 1898.)

(No Model.)

Fig. 1.

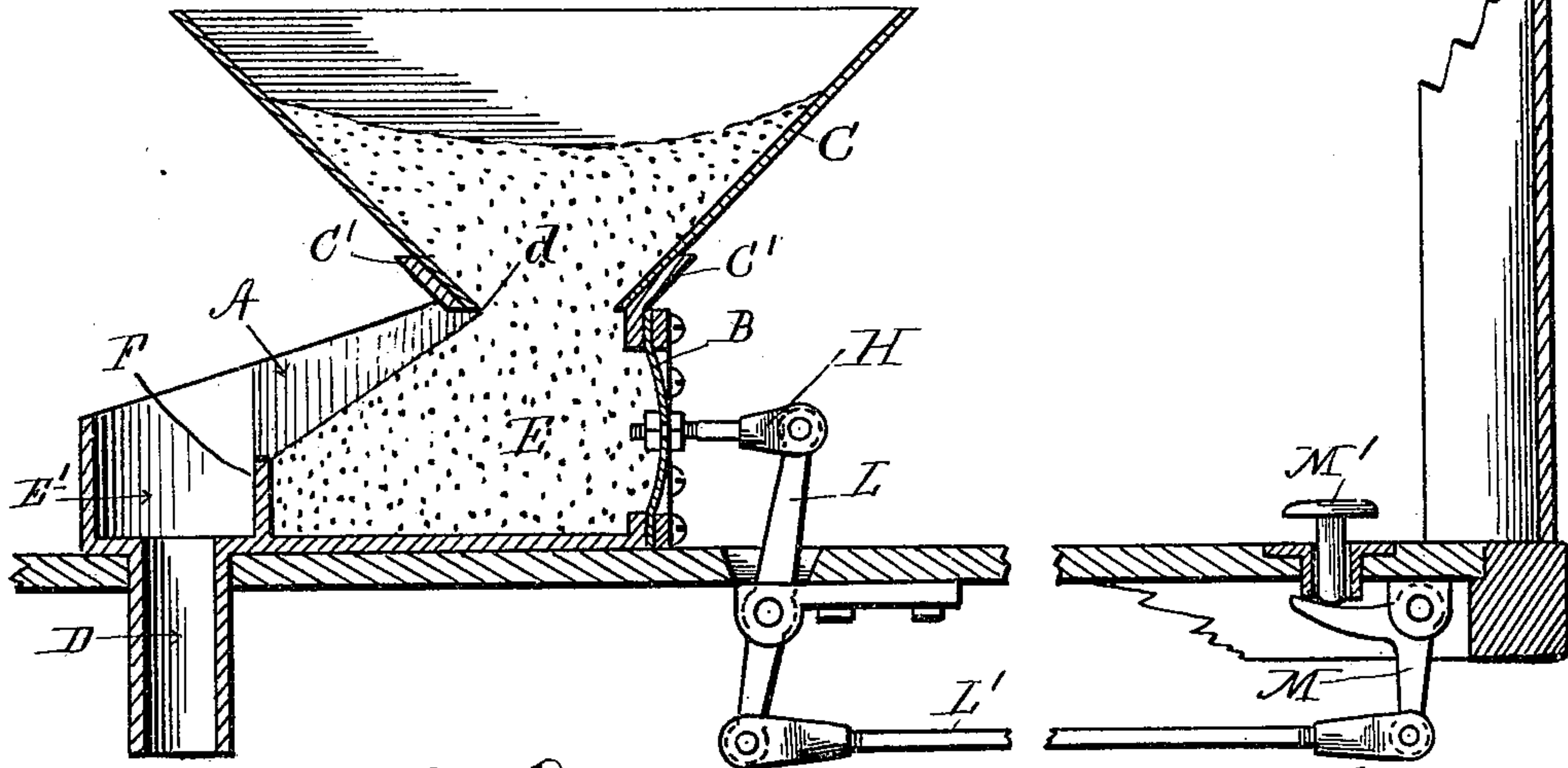


Fig. 2.

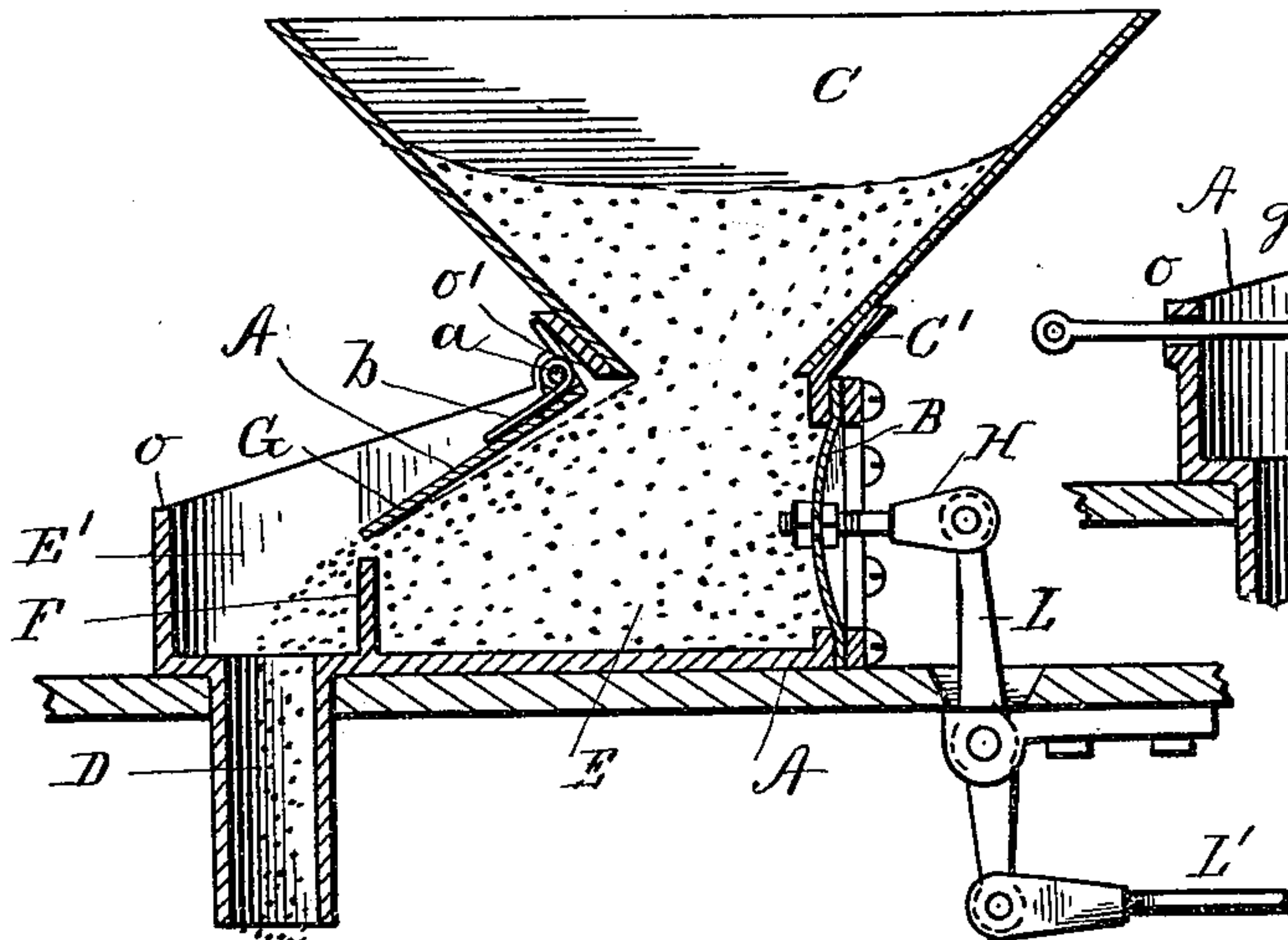


Fig. 4.

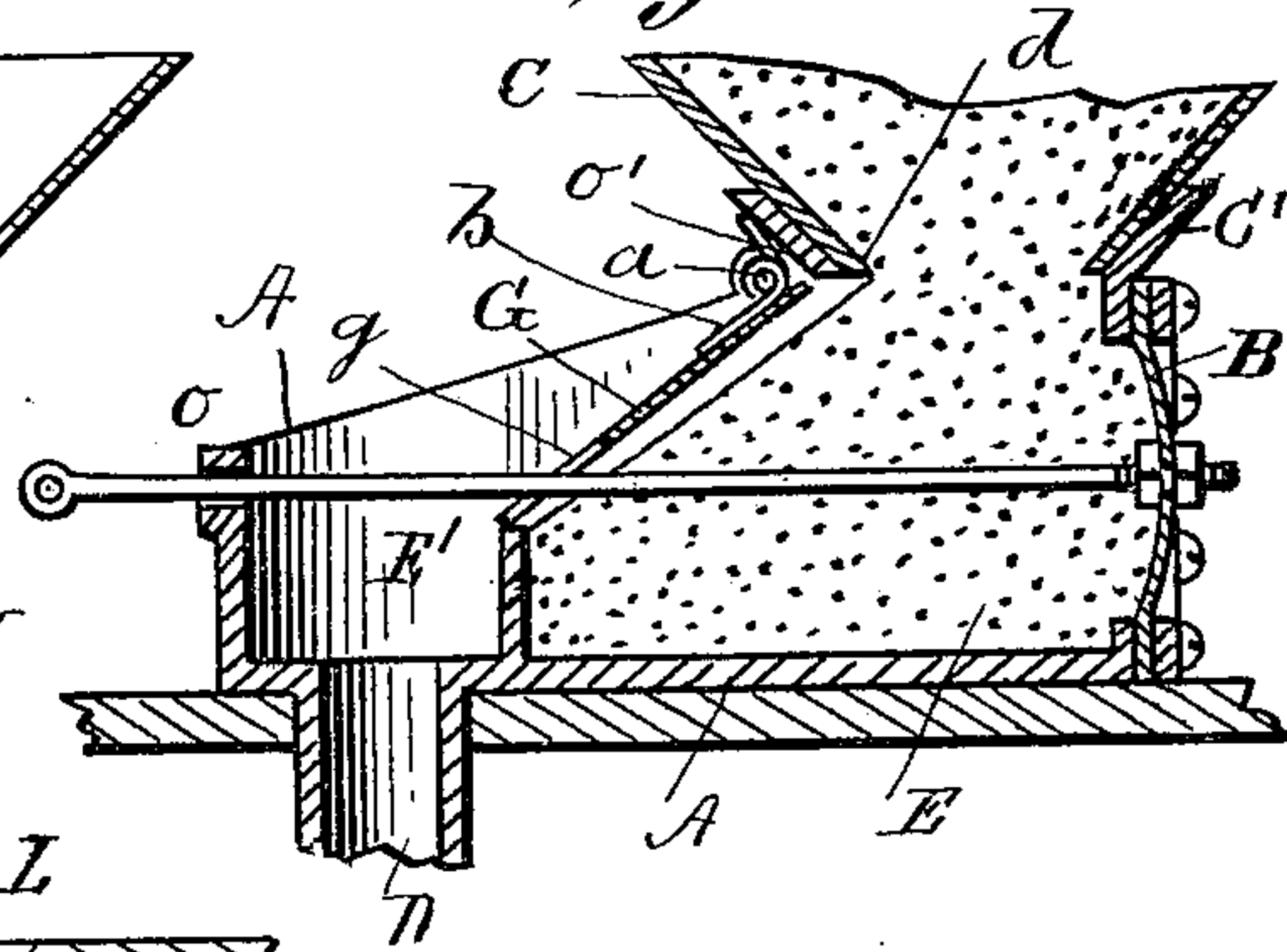


Fig. 3.

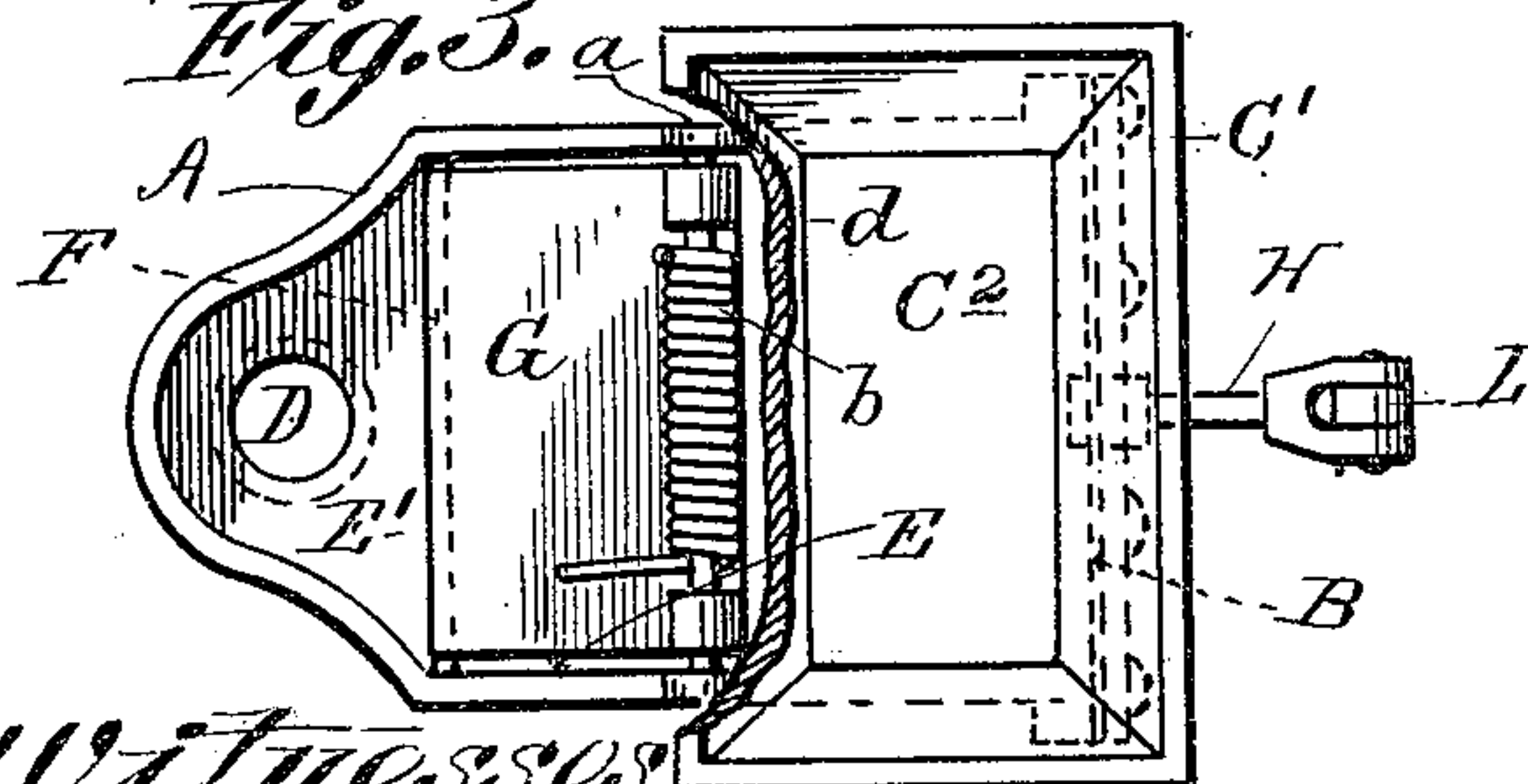
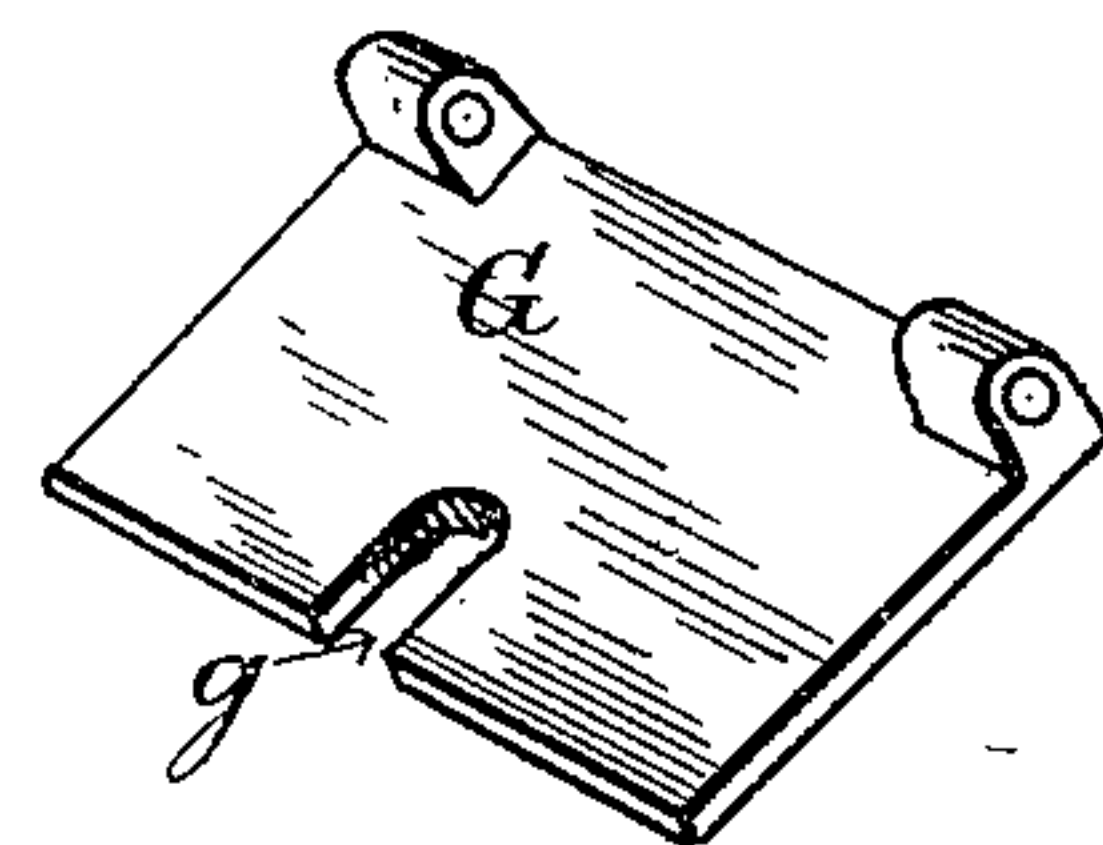


Fig. 5.



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SAND-BOX FOR TRACK-SANDING DEVICES.

SPECIFICATION forming part of Letters Patent No. 624,131, dated May 2, 1899.

Application filed May 31, 1898. Serial No. 682,127. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. TILDEN, a citizen of the United States, residing at Hinsdale, in the county of Cheshire and State of New Hampshire, have invented new and useful Improvements in Sand-Boxes for Track-Sanding Devices, of which the following is a specification.

This invention relates to track-sanding devices for street and steam railways; and the object of the invention is to provide a ventilated box for containing the sand which is to be sprinkled on the car-tracks and with which box the sand-discharging pipe communicates, whereby the introduction of cold air or moisture-laden air into said box, which takes place under certain conditions, and particularly when the car is in motion, will be prevented; and a further object of the invention is to provide means for preventing the feeding of sand by gravity into the discharge-pipe of said box when the car is on a steep grade.

The invention consists in the construction, as fully described in the following specification and particularly pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a sectional elevation of a track-sanding device embodying my invention as applied to one end of a car. Fig. 2 is a sectional elevation of a sand-box and its hopper or sand-reservoir. Fig. 3 is a plan view of Fig. 2 with the hopper removed. Fig. 4 is a view similar to Fig. 2, showing a reversed position of the operating-lever. Fig. 5 is a perspective view of a swinging plate for preventing the escape of sand from the box by gravity.

It is a well-known fact that one of the most troublesome features of track-sanding devices as generally constructed is the liability of the sand to absorb moisture, which, by freezing, forms hard lumps that either will not pass through the discharge-pipe or which clog the sand-feeding devices, besides rendering a great part of the sand unfit for use, as the lumps roll off from the track on which they fall, thus performing no service and greatly reducing the efficiency of the device.

This introduction of moisture into the sand-box takes place through the discharge-pipe,

which extends from the bottom of the sand-box to a point in close proximity to the track, and it has been found in practice that if there be no direct communication between the sand-containing box and the said discharge-pipe the sand in said box may be kept in a dry state therein under the most adverse conditions and always be ready for use.

The sand-box forming the subject of this application does away with all of the above-named objections and is constructed as follows: The body of the box A is preferably made of cast-iron and is separated into two compartments by a bridge-wall F. In one of said compartments, E, is the sand-supply, and in the bottom of the other of said compartments, E', is located the discharge-pipe D. This may be cast integral with said box, as shown, or inserted therein, if desired. Across one end of the top of the box A is cast a rectangular hopper-support C'. Through the opening C² in this rectangular support the sand from a hopper C flows into said compartment E of the box A. Between the top of the bridge-wall F and the edge d of the hopper-support C' the angle is such that the sand in said compartment E will not flow by gravity over said bridge-wall. One side of said box consists of suitable flexible material secured to the box by its edges only, and at or near the center thereof a short stem H is secured thereto, whereby it may be reciprocally moved toward and from the center of said box and against the sand which is therein contained, and thus force a quantity of said sand over said bridge-wall F into compartment E', from whence it will fall onto the car-track through the discharge-pipe D. This flexible diaphragm in one side of the box forms no part of this invention, however. Any well-known means connected with the stem H for operating said flexible side of the box A may be employed. In the drawings said connections consist of an arm L, pivotally supported on the car-floor and having one end projecting therethrough, and from said end a connecting-rod L' runs to a right-angled lever M, to one arm of which it is pivotally connected, and the other horizon-

tal arm of said lever is in engagement with a pin M', operated by the foot of the operator on the car.

It not infrequently becomes necessary to
 5 reverse the position of the sand-box from that shown in Fig. 1 and place the discharge-pipe D toward the platform, in which case the inclination of the car in going down a steep grade, together with the jarring motion
 10 of the car, causes the sand in the box to flow over the bridge-wall F, thus wasting it. To overcome this defect, a light swinging plate G (shown in perspective in Fig. 5) is hinged at a on the sand-box and a spring b applied to
 15 the said hinge, whereby the end of said plate may be held by a slight pressure against the upper edge of the bridge-wall, thus interposing an obstruction to the free sliding of the sand over said wall when the car is de-
 20 scending a grade. Of course the tension of said spring b is light, and practically its sole function is to hold the plate G against said bridge-wall firmly enough to prevent the vibration of the plate against the edge
 25 of the bridge-wall by the jarring motion of the car, thus permitting sand to escape over said wall. Said plate may be made of wood or sheet metal or cast metal, and it may be used or not when the boxes are placed as
 30 in Fig. 1, as desired. Said plate in no wise interferes with the passage of the sand thereunder when the flexible side of the box is operated, as shown in Fig. 2, to apply sand to the rails, but is raised by the pressure of the
 35 sand, as shown in said figure, and as the sand settles back into the compartment E of the box after the pressure on the side B of the box has been removed said plate follows it, actuated by gravity and said spring b, until
 40 it rests on the top of the bridge-wall.

Whenever conditions necessitate the reversal of the position of the box from the position shown in Fig. 1, whereby the discharge-opening D will be located on the side

next to the car-platform, the stem H will
 necessarily have to extend through the sand-
 box, as shown in Fig. 4, and in that case a
 slot g is made in the edge of the hinged plate
 G, as shown in Fig. 5, to permit the passage
 of the said stem H therethrough. 50

As heretofore constructed these sand-boxes have been made closed—that is to say, that part of the top of the box between the points o and o' has been tightly covered by
 having a top cast thereon integral with the
 55 rest of the box, and as the sand filled the only other opening—viz., the passage C² therein—there remained no opening to provide for the escape of the air entering by way of the discharge-pipe, and consequently the sand
 60 would become so saturated with moisture that in cold weather boxes so constructed are absolutely inoperative by reason of the freezing of the water thus accumulated in the sand. With the herein-described open box the sand
 65 remains in a dry condition from one day to another and will gather no moisture under any conditions of service to which it may be subjected.

Having thus described my invention, what
 I claim, and desire to secure by Letters Patent, is— 70

In a track-sanding device for railway-vehicles, a sand-holding box consisting of four
 side walls and a bottom, an opening near one
 75 end through which sand may pass from said box to the rails of a track, and a bridge-wall extending between said side walls of less height than said last-named walls, a sand-
 supply opening on the top of said box, a plate
 80 hinged near said supply-opening and extending between the side walls of the box to a point over said bridge-walls, substantially as described.

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