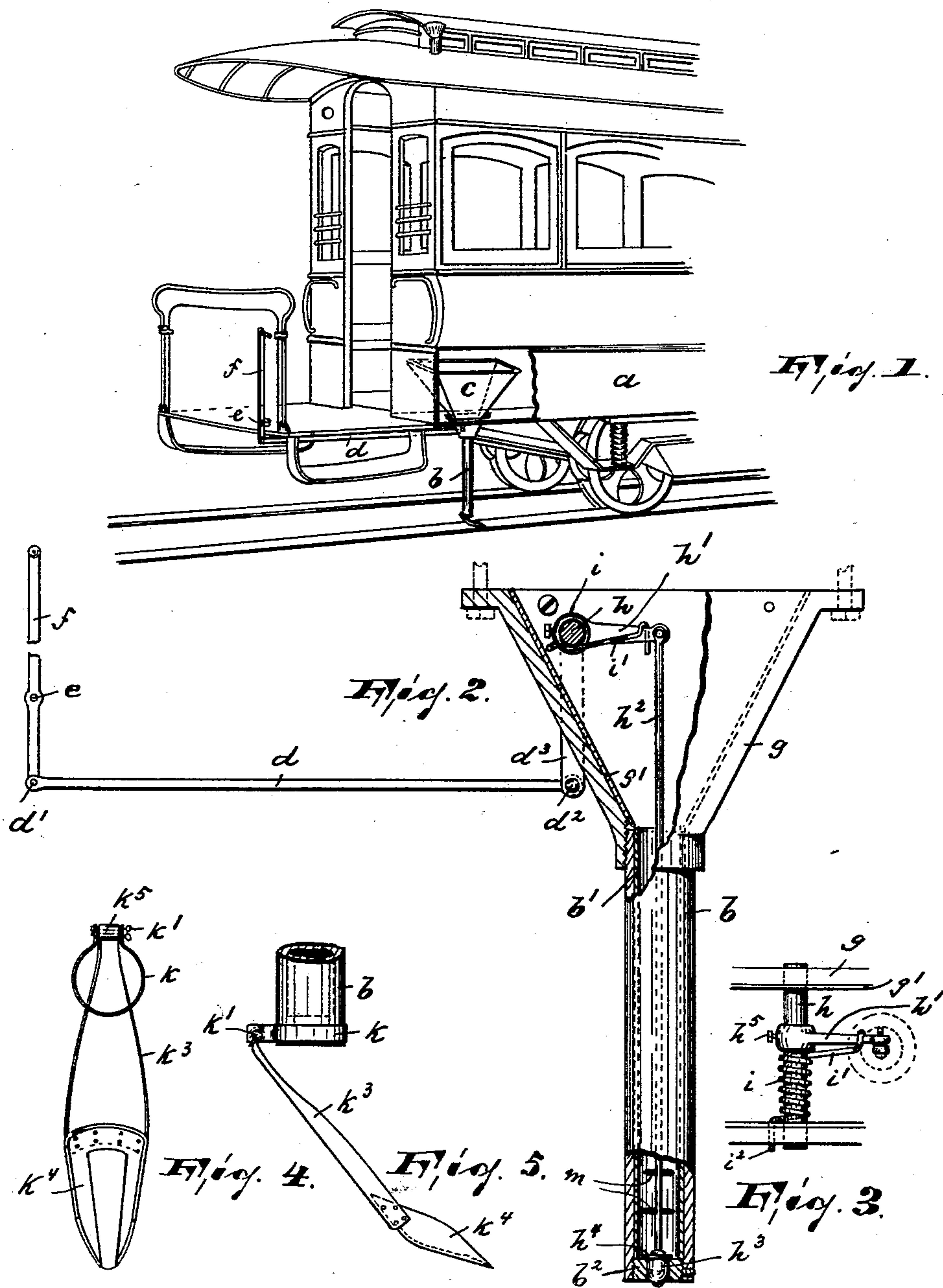


(No Model.)

E. HEIZ.
SAND BOX FOR CARS.

No. 563,035.

Patented June 30, 1896.



WITNESSES:

INVENTOR :

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UNITED STATES PATENT OFFICE.

EMIL HEIZ, OF PATERSON, NEW JERSEY.

SAND-BOX FOR CARS.

SPECIFICATION forming part of Letters Patent No. 563,035, dated June 30, 1896.

Application filed April 18, 1896. Serial No. 588,210. (No model.)

To all whom it may concern:

Be it known that I, EMIL HEIZ, a citizen of the United States, residing in Paterson, Passaic county, and State of New Jersey, have
5 invented certain new and useful Improvements in Sand-Boxes for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as
10 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 The object of this invention is to provide a sand-box for street and other cars of simple, strong, and durable construction, reliable in operation, and easily attached to cars of almost any construction.

20 The invention consists in the improved sand-box, its valve-operating mechanism, and in the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in
25 the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a perspective view of a
30 portion of a car provided with my improved sand-box; Fig. 2, an enlarged side elevation of the sand-box detached, with certain portions broken away and others shown in sections; Fig. 3, a detail top plan view of a certain
35 spring-controlled valve-operating shaft, and Figs. 4 and 5 detail views of a sand guider or distributor to be used in connection with my improved sand-box.

In said drawings, *a* represents the car, to
40 the under side of which and in front of the wheels is secured, by bolts or in any desired manner, the hopper *g* with discharge-tube *b*. The said hopper communicates with a box or receptacle *c*, arranged, preferably, under the
45 seat of the car, and which receptacle contains the supply of sand for the hopper *g*, which latter can be refilled at will, as will be manifest.

The hopper *g* and the discharge-tube *b* are
50 lined, as at *g'* and *b'*, with tar-paper, asbestos, or any other suitable non-conductive material to prevent freezing and sticking of the sand in cold or damp weather.

In the lower end of the tube *b* is removably

secured, by a screw-thread connection, or in any desired manner, a plug *b²*, provided with
55 a valve-seat for the reception of the valve *h³* and its flange *h⁴*. Said valve is secured to the lower end of the centrally-arranged vertical rod *h²*, fulcrumed at its upper end to the free end of crank-arm *h'*, which in turn
60 is adjustably secured, by means of the thumb-screw *h⁵*, to the horizontally-arranged shaft *h*, having its bearings in the sides of the hopper *g*. The rod *h²* is preferably provided with a series of horizontally-arranged arms or break-
65 ers *m*, adapted to agitate the sand when the said rod is being operated. To the projecting end of the shaft *h* is secured a depending arm *d³*, connected, by means of the horizontally-arranged rod *d*, with the lever *f*, fulcrumed,
70 as at *e*, to the car, and adapted to be operated from the platform, as will be manifest. The said rod *d* is pivotally connected, as at *d²* and *d'*, respectively, with the said depending arm *d³* and the lever *f*.
75

At or near the lower end of the discharge-tube *b* is adjustably arranged a metal band
80 *k*, the free ends of which are separated by a sleeve *k⁵*, and are held together and clamped onto the said tube *b* by means of the thumb-screw *k'*. On said thumb-screw is fulcrumed
85 the skeleton frame *k³*, carrying and supporting a flanged receptacle or shovel *k⁴*, adapted to receive the sand from the tube *b* and to uniformly discharge and spread the same on
the rail. This device is generally used when the tube *b* and its hopper *g* cannot be secured to the car in such a manner as to come right
above the rail.

By operating the lever *f* forward, the valve
90 *h³* is raised and sand is allowed to drop from the discharge-tube. When the said lever is released, it is returned by the action of the spiral spring, and the outlet-opening or valve-seat is closed, as will be manifest.
95

I do not intend to limit myself to the precise construction shown and described, as various alterations can be made without changing the scope of my invention; but

What I claim as new, and desire to secure
100 by Letters Patent, is—

1. In a sand-box, the combination with the hopper and the discharge-tube, of a valve-seat removably secured to the lower end of the said tube, a horizontal shaft traversing
105 said hopper, a crank-arm adjustably secured

to said shaft and within the hopper, a vertically-arranged rod pivotally connected to the free end of said crank-arm, a valve on the lower end of said rod and adapted to engage the valve-seat, a spiral spring surrounding the horizontal shaft and secured with one end to the hopper and with its other end to the crank-arm to normally depress the same, and means for operating the horizontal shaft, substantially as and for the purposes described.

2. In a sand-box, the combination with the hopper and the discharge-tube, of a non-conductive lining covering the inside of said hopper and tube, a horizontally-arranged shaft traversing said hopper, a spring-controlled crank-arm adjustably secured to said shaft and within the hopper, a vertical rod pivotally secured at or near the free end of the rod, a valve-seat, adapted to be engaged by said valve, and removably secured in the lower end of the discharge-tube, a crank-arm secured to the projecting end of the shaft, and means for operating said crank-arm, substantially as and for the purposes described.

3. The combination with the discharge-tube of a sand-box, of a band adjustably arranged on said tube, a thumb-screw for adjustably securing said band to the tube, a skeleton frame fulcrumed on said thumb-screw, and a receptacle or shovel carried by said skeleton, substantially as and for the purposes described.

4. In a sand-box, the combination with the hopper and the discharge-tube, of a valve-seat removably secured in the lower end of said tube, a valve adapted to engage said valve-seat, a vertically-arranged rod carrying said valve, a horizontal shaft traversing the hopper, a crank-arm secured on said shaft and pivotally connected with the valve-carrying rod, means for oscillating said shaft, and a receptacle or shovel adjustably arranged at the lower end of the discharge-tube, substantially as and for the purposes described.

5. In a sand-box, the combination with the hopper and the discharge-tube, of a valve-seat removably secured to the lower end of the said tube, a horizontally-arranged shaft traversing the hopper, a spring-controlled crank-arm on said shaft, a vertically-arranged rod pivotally secured to said crank-arm, a valve on the lower end of said rod and adapted to engage the valve-seat, a series of arms or breakers projecting from the rod, and means for operating the horizontal shaft, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of March, 1896.

EMIL HEIZ.

Witnesses:

ALFRED GARTNER,
DUNCAN M. ROBERTSON.