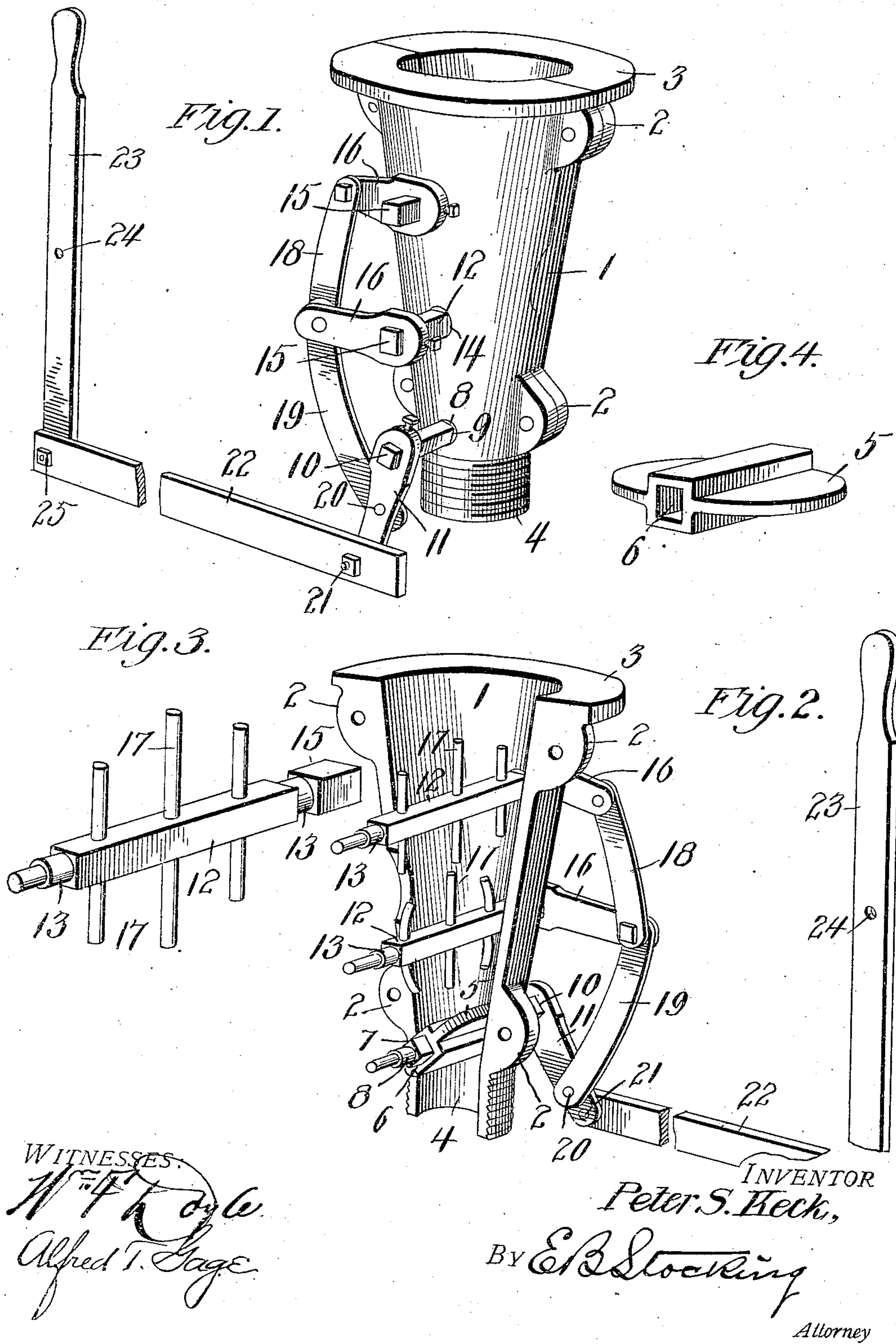


No. 855,183.

PATENTED MAY 28, 1907.

P. S. KECK.
SAND BOX.

APPLICATION FILED MAR. 27, 1907.



UNITED STATES PATENT OFFICE.

PETER S. KECK, OF ALLENTOWN, PENNSYLVANIA.

SAND-BOX.

No. 855,183.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed March 27, 1907. Serial No. 364,924.

To all whom it may concern:

Be it known that I, PETER S. KECK, a citizen of the United States, residing at Allentown, county of Lehigh, and State of Pennsylvania, have invented certain new and useful Improvements in Sand-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a sand box, and particularly to such a structure embodying stirrers and a discharge valve connected together for simultaneous operation.

The invention has for an object to provide 15 a construction of casing formed in two parts and adapted to contain a stirrer or agitator and an oscillating discharge valve mounted upon a horizontal pivot, the axes of these parts being provided with cranks connected 20 together for simultaneous operation so as to loosen damp, packed or clogged sand in the box and facilitate its rapid feed to the track where desired to be applied.

Other and further objects and advantages 25 of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is a perspective of the invention; Fig. 2 is a similar view with 30 one side removed; Fig. 3 is a detail perspective of one of the stirrer shafts, and Figure 4 is a similar view of the discharge valve.

Like numerals refer to like parts in the several views of the drawing.

35 The numeral 1 designates the body of the casing or sand box which is formed in two parts each provided with lugs 2 by which they are secured together, and at the upper portion with the attaching flange 3 by which 40 the box may be connected to any desired part of a car structure. The lower end of the box is formed as a discharge spout 4 and may connect with any suitable conveying tube or pipe to the point of application for 45 the sand. In the lower portion of this box a valve 5 is pivotally mounted to control the discharge therefrom, and comprises the disk member having the central aperture 6 there-through of rectangular configuration which 50 is adapted to fit upon the angular portion 7 of its shaft. The ends of this shaft are provided with bearing portions 8 resting in suitable apertures 9 formed in the casing. One end of the shaft 7 is squared as shown at 10 55 and a crank arm 11 secured thereon. This valve normally stands in an inclined position

diagonally to the axis of the outlet as shown in Fig. 2 being of slightly greater diameter than the discharge portion 4 of the box.

Above the valve, the stirrer or agitator 60 shaft 12 pivotally mounted by means of the bearing portions 13 at the end thereof resting in apertures 14 in the casing, while the extended end of this shaft is squared as at 15 and a crank arm 16 applied thereto. The 65 shaft is provided with a series of stirrer or shaker teeth 17 extended radially therefrom and adapted in the oscillation of the shaft to loosen the sand and secure a free feed thereof. These stirrers may be duplicated as 70 shown in Figs. 1 and 2, and when so disposed the free ends of the crank arm 16 are pivotally connected together by the link 18.

For the purpose of simultaneously operating these stirrers and the valve a connecting 75 bar 19 extends from the stirrer crank arms to the crank arm 11 of the valve to which it is pivotally connected at 20, while the outer end of this crank arm is pivotally connected at 21 with the operating bar 22 extended to 80 a lever handle 23 pivotally mounted at 24 upon any suitable support and connected at its lower end 25 with the bar 22.

In the operation of the invention it will be seen that when the valve is oscillated up- 85 ward to permit the escape of sand the stirrers are simultaneously moved to loosen any wet or packed sand in the box to insure an even accurate feed thereof. This is particularly important because in many cases 90 the sand is desired for immediate use on the track, and if upon opening the valve of a sand box no discharge is secured serious accidents are liable to result. This objection can be entirely avoided by the simultane- 95 ous operation of the stirrers and valve through the medium of a single controlling lever. The construction here presented is simple and very efficient in use and being of such structure as to obviate the necessity of fre- 100 quent repair. The squared or angular portions of the valve and stirrer shafts retain the same against longitudinal movement thereof in the sand box, while a bearing is secured upon the curved end portions of these 105 shafts. The structure of the valve with the angular aperture therethrough provides for the positive operation thereof in the turning of its shaft, while the connecting links between the several crank arms afford a move- 110 ment of the parts carried thereby at a minimum exertion of strength and limit of travel.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. A sand box comprising a casing having
5 a discharge portion at its lower end, an oscillating valve mounted at said portion upon a shaft extending across said casing, a stirrer comprising a shaft having teeth extended laterally therefrom and disposed above said
10 valve, and means connecting the stirrer and valve shafts for simultaneous oscillation thereof.

2. A sand box comprising a casing, an oscillating valve mounted therein, a stirrer
15 mounted to oscillate above said valve, crank arms carried by said stirrer and valve shafts, a link pivotally connected to each of said arms, and an operating connection with the arm of the valve.

20 3. In a sand box, a casing, a disk valve mounted in the lower portion thereof and provided with a central angular aperture therethrough, a shaft for said valve having an angular portion to fit said aperture and
25 bearings at its ends in opposite sides of said casing, and means for oscillating said shaft.

4. In a sand box, a casing, a disk valve mounted in the lower portion thereof and provided with an angular aperture there-
30 through, a shaft for said valve having an an-

gular portion to fit said aperture and bearings at its opposite ends in said casing, a stirrer shaft mounted at its opposite ends in said casing and provided with a crank arm, a crank arm upon the valve shaft, a connect- 35 ing link between said crank arms, and means connected to one of said arms for simultaneously operating the stirrer and valve.

5. In a sand box, a casing, a pivoted valve mounted at the lower portion thereof and 40 provided with a crank arm, a plurality of stirrer shafts disposed one above another and each provided with a crank arm, a link pivoted to the crank arms of each stirrer shaft, a connecting link from the lower stirrer shaft 45 to the valve arm, and an operating connection from said valve arm.

6. In a sand box a casing provided at its lower portion with a tubular outlet, a disk valve of greater diameter than said outlet 50 portion and disposed therein diagonally to the axis of the outlet, and means for oscillating said valve.

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

PETER S. KECK.

Witnesses:

WILLIAM H. MEYER,
OLIVER F. HEILMAN.