

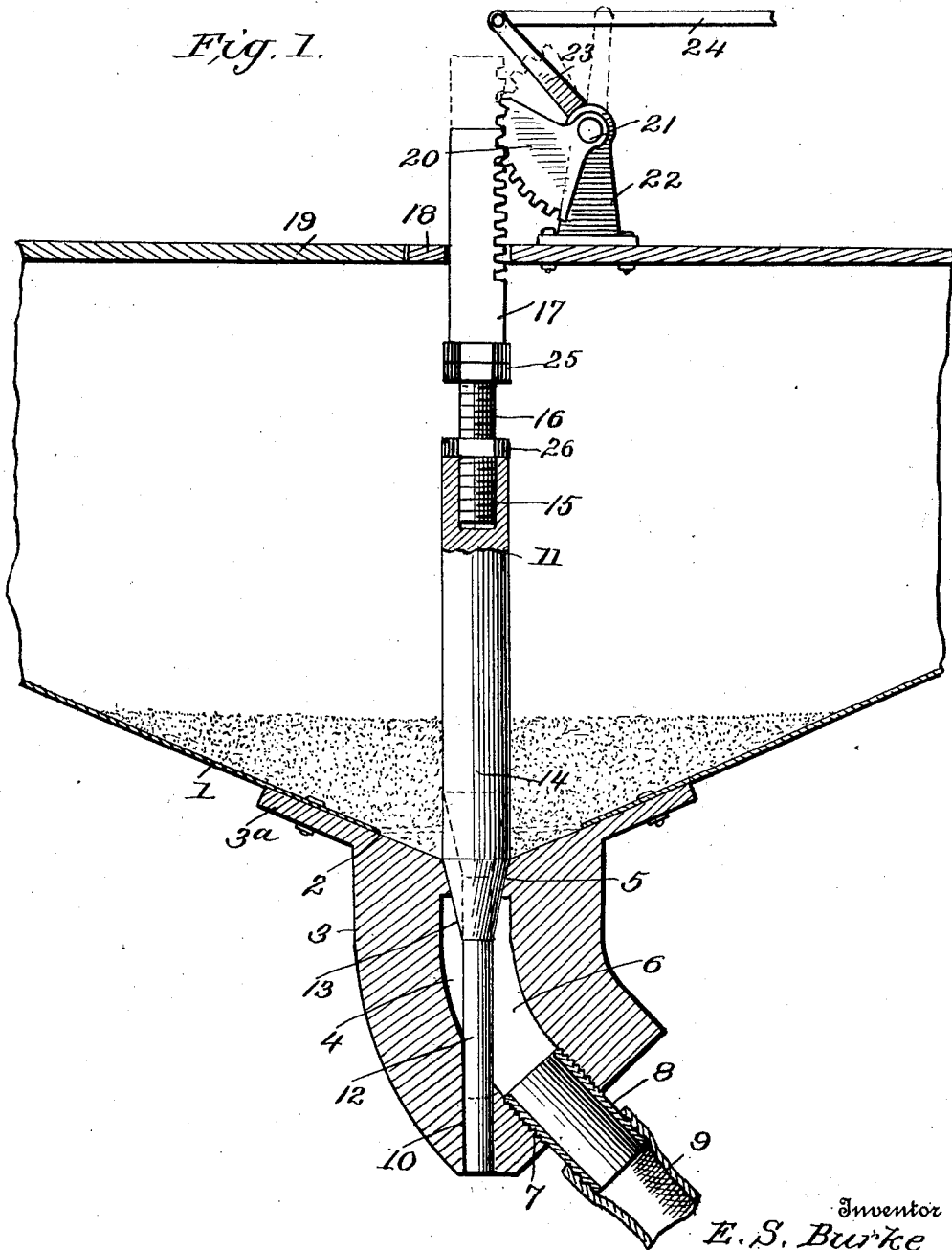
E. S. BURKE.
 SANDING DEVICE.
 APPLICATION FILED DEC. 23, 1910.

1,002,365.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



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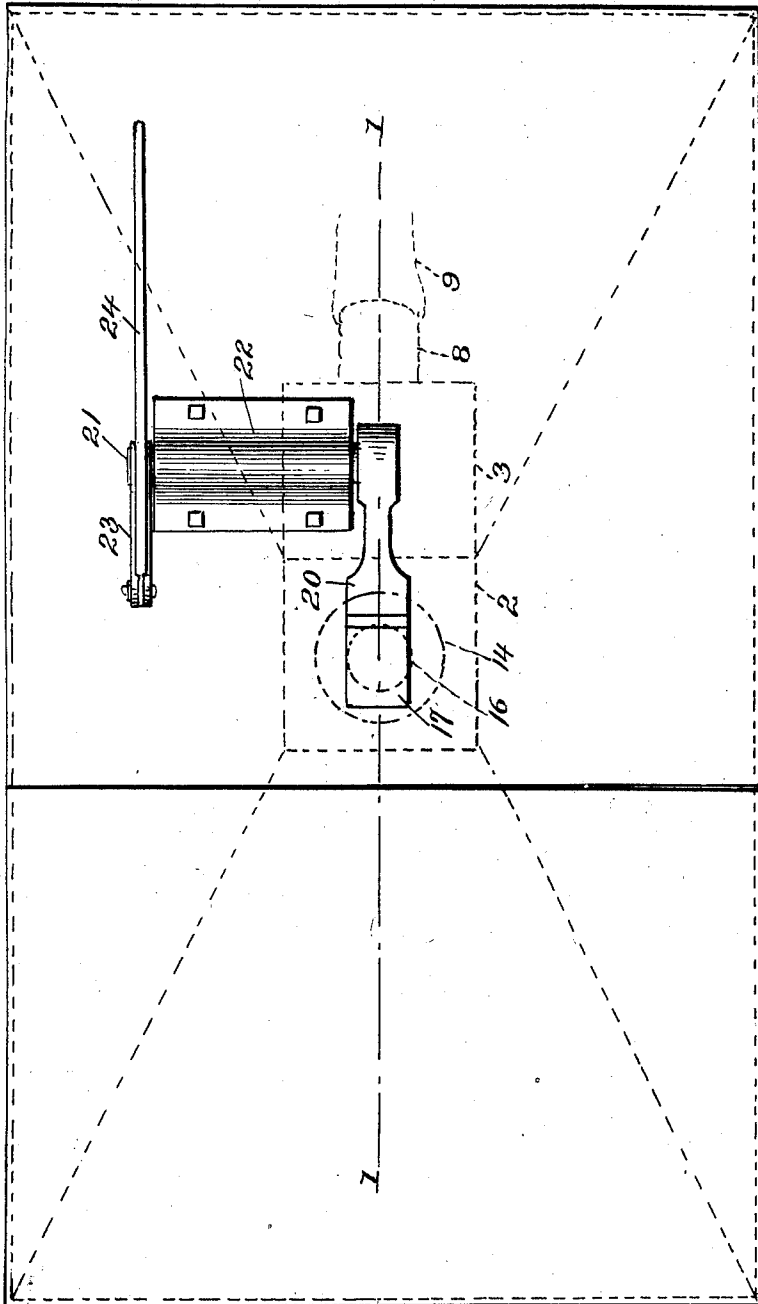
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2 SHEETS-SHEET 2.

Fig. 2.



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SANDING DEVICE.

1,002,365.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ELBERT S. BURKE, citizen of the United States, residing at Dante, in the county of Russell and State of Virginia, have invented certain new and useful Improvements in Sanding Devices, of which the following is a specification.

This invention comprehends certain new and useful improvements in track sanding devices of the vertically reciprocating feed type, and the invention has for its primary object a simple, durable and efficient construction of apparatus of this character, the parts of which will be cheap to manufacture and easy to assemble and install, and which will be strong and not liable to get out of order.

The invention also has for its object an improved construction of apparatus for feeding sand from the sand box of a mining locomotive car, or the like, the sand being, when released, fed down to the rails by gravity and the flow being continuous as long as required and the supply lasts. And the invention also has for its object to simplify and otherwise generally improve this class of devices and render them more useful and commercially desirable.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a vertical sectional view of my improved sanding apparatus, the section being taken substantially on the line 1—1 of Fig. 2; and, Fig. 2 is a top plan view of the device.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the body portion of my improved sand box, the same preferably sloping down from four sides toward a centrally disposed bottom discharge opening 2, around which is bolted or otherwise secured a discharge head 3 which is preferably in the form of a casting with flanges 3^a which have direct attach-

ment to the bottom of the box. The discharge head 3 is formed with a discharge passage 4 extending therethrough and designed to feed the sand out from the box by gravity, said passage being preferably formed with a downwardly tapering upper end 5 and with a laterally curving lower end 6, the lower extremity of which is preferably threaded, as indicated at 7, so as to receive an exteriorly threaded nipple 8. A feed pipe 9 of rubber or the like is designed to be slipped over the downwardly projecting end of the nipple 8, the pipe 9 leading to the rail, as is customary. In addition to the passage 4, the discharge head 3 is formed with a bottom opening 10 in line with the upper tapered portion 5 of the passage 4, as shown, and intersecting the passage 4 intermediate of the ends of the latter. Preferably, the opening 10 is of less diameter than the passage 4.

11 designates the feed valve of the apparatus. This valve is in the present instance formed with a reduced lower end or stem 12, an intermediate tapering portion 13 which constitutes the valve proper and which is adapted to fit in the tapered upper end 5 of the passage 4, said tapered end constituting the seat for the valve, and an upper preferably cylindrical portion 14, the upper extremity of which is formed with a threaded socket 15 designed to receive the lower end of a threaded coupling rod 16. The upper end of the coupling rod 16 is connected to or formed on the lower end of a vertically disposed rack bar 17, which passes through an opening formed in a top section 18 of the box to a point above the latter. This section 18 of the top is preferably longer than the other section 19 and is stationary, while the section 19 is removable for the purpose of supplying the box with sand. The rack bar 17 meshes with a gear segment 20 formed on one end of a horizontally disposed shaft 21, said shaft being journaled in a bracket or standard 22 bolted or otherwise secured to the top section 18. The other end of the shaft 21 carries a crank arm 23 connected by a link rod 24 to a hand lever (not shown), foot treadle or the like, for the purpose of partially rotating the shaft 21 about its longitudinal axis, so as to raise the rack bar 17 and the valve rod 11 carried thereby. In order to limit the upward movement of the rack bar and rod,

lock nuts 25 are secured upon the upper end of the coupling rod 16, said nuts being designed to abut against the lower surface of the top section 18 so as to constitute stops. Obviously, the valve rod 11 may be vertically adjusted relative to the rack bar 17, as required, owing to the threaded connection between the coupling rod 16 and the valve rod 11, and to secure the parts in adjusted position after the proper adjustment has been effected, I mount upon the coupling rod 16 a lower locking nut 26.

From the foregoing description in connection with the accompanying drawing, the operation of my improved sanding device will be apparent. In the normal inoperative position of the parts, the weight of the valve rod and the downward pressure of the sand thereon will tend to hold said rod securely with the valve 13 snugly fitting against the tapered valve seat 5, the flow of sand being thereby effectually shut off. In order to operate the device when required, it is only necessary to rock the shaft 21 in a direction to raise rack 17 and the valve rod 11, which is suspended therefrom, the valve 13 being thereby raised from its seat 5 so as to permit the sand to freely flow around the tapered valve and out through the discharge passage 4 around the relatively small guide stem 12. Upon releasing the pressure on the crank arm 23, the valve will automatically close. The opening movement of the valve will be a comparatively free and easy one, owing to the buoyant action of the sand on the rod, while it is just as true that after the pressure on the crank arm 23 has been released, the gravitating action of the sand as well as the weight of the parts will tend to automatically and quickly close the valve to its seat and shut off the flow of sand.

While the accompanying drawings illustrate the preferred embodiment of my invention, it is to be understood that the invention is not limited thereto, as various changes may be made in the construction, arrangements and proportions of the parts without departing from the scope of the invention as defined in the appended claims.

Having thus described the invention, what is claimed as new is:

1. A sanding apparatus, comprising a sand box formed with a discharge opening, a discharge head secured to the box at said opening and formed with a discharge passage extending therethrough, the upper end

of said passage constituting a valve seat and the head being formed below said valve seat with an opening intersecting the passage, a valve rod provided at its lower end with a guide stem working in said opening, with an intermediate portion adapted to constitute a valve to rest on said seat to shut off the flow of sand through the passage, a coupling rod extensibly connected to the upper end of the valve rod, a rack bar connected to the upper end of the coupling rod, a gear segment meshing with said rack bar, and means for moving said segment.

2. A sanding apparatus, comprising a sand box formed with a discharge opening, a discharge head secured to the box at said opening and formed with a discharge passage extending therethrough, the upper end of said passage constituting a valve seat and the head being formed below said valve seat with an opening intersecting the passage, a valve rod provided at its lower end with a guide stem working in said opening, with an intermediate portion adapted to constitute a valve to rest on said seat to shut off the flow of sand through the passage, a coupling rod extensibly connected to the upper end of the valve rod, a rack bar connected to the upper end of the coupling rod, the sand box being provided with a top having an opening through which the rack bar projects upwardly, a shaft journaled on the top, a segment secured to one end of said shaft and meshing with the rack bar, and a crank arm connected to the other end of said shaft.

3. A sanding apparatus, comprising a sand box provided with a discharge opening, a vertically reciprocating valve rod designed to control the passage of sand from said opening, the upper end of the valve rod being formed with a threaded socket, a threaded coupling rod engaging said socket, a rack bar connected to said coupling rod, the sanding box being provided with a top through which the rack bar projects upwardly, means for actuating said rack bar, and a stop secured to the coupling rod and adapted to engage the lower surface of the top to limit the upward movement of the rack bar.

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

ELBERT S. BURKE. [L. s.]

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