No. 708,929. Patented Sept. 9, 1902.

S. T. SIMMONS & W. T. MOORE.

SANDER.

(Application filed June 10, 1902.)

(No Model.)

Fig. 1.

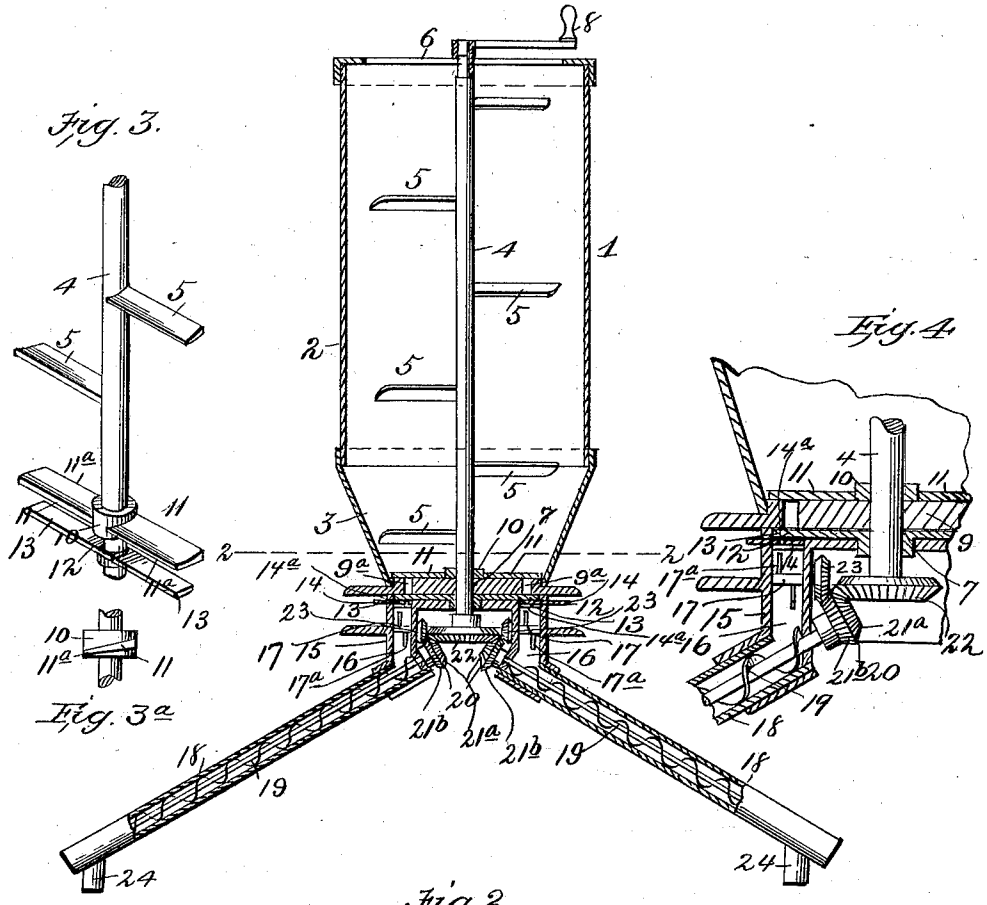
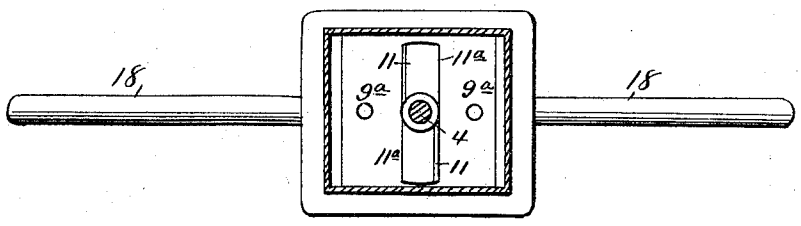


Fig. 3.

Fig. 3a

Fig. 4.

Fig. 2.



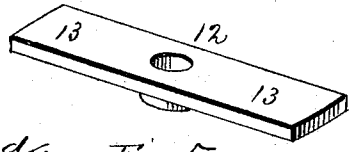


Fig. 5.

Witnesses:
F. L. Ourand.
Frank G. Radelfinger.

Inventors:
Samuel T. Simmons
Walter T. Moore,
by Louis Bagger & Co.
Attorneys.

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UNITED STATES PATENT OFFICE.

SAMUEL T. SIMMONS AND WALTER T. MOORE, OF COLUMBUS, OHIO.

SANDER.

SPECIFICATION forming part of Letters Patent No. 708,929, dated September 9, 1902.

Application filed June 10, 1902. Serial No. 111,064. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL T. SIMMONS and WALTER T. MOORE, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Sanders, of which the following is a specification.

Our invention relates to sanders; and the object of the same is to construct a device which will uniformly distribute wet, dry, or crusted sand on the rails beneath a car without choking up or wasting the sand.

The simple and novel construction employed by us in carrying out our invention is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a vertical section of our device. Fig. 2 is a horizontal section on the line 2 2, Fig. 1. Fig. 3 is a detail perspective of the vertical shaft and its blades. Fig. 3ª is a detail of the discharge-blades. Fig. 4 is a detail of the gearing. Fig. 5 is a detail of the cut-off blades.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 1 designates a sand-box of appropriate size, the upper portion 2 being cylindrical and the lower portion 3 being hopper-shaped. An agitator or stirrer is mounted in the box 1 and comprises a vertical shaft 4, having a series of blades 5. The shaft 4 is journaled in a cross-bar 6, extending transversely the box, and in an aperture 7 in the bottom 9 of the box. A crank 8 is keyed on the upper end of the shaft 4 and serves as means for operating the device. The blades 5 are beveled to a knife-edge to adapt them to cut through crusted sand. The bottom 9 is apertured at 9ª to permit the outflow of sand, and a hub 10 is keyed on the shaft 4 at a point just above the bottom 9 and carries two oppositely-extending blades 11, which we will term "discharge-blades." These blades 11 are beveled to a knife-edge 11ª and are set at an angle to the bottom 9, so that they will catch the sand, raise it up, and permit it to flow off of the back, thereby loosening it up and preventing it packing on the bottom 9. Also keyed on the shaft 4 and located beneath the bottom 9 and extending parallel to the discharge-blades 11 is a cut-off 12, comprising oppositely-extending arms 13, the upper faces of which bear on the under side of the bottom 9. By making a mark on the rim of the box 1 in alinement with the apertures 9ª the crank can always be set when stopped so that the arms 13 will cover the discharge-openings 9ª. A slide 14 is mounted in guides 14ª to also serve to cut off the discharge of sand. This is useful when the crank 8 is dispensed with and the shaft 4 is driven from some source of power instead.

Mounted just beneath the bottom 9 and secured thereto is a casing 15, containing two chambers 16, in which are mounted two feeders comprising shafts 17, bearing blades 17ª and journaled in the casing 15. Discharge-tubes 18 are connected to the casing 15 and extend down within a short distance of the track to be sanded. Feed-screws 19 are mounted in the tubes 18 and bear bevel-gears 20, having two sets of teeth 21ª and 21ᵇ thereon. The teeth 21ª are located to mesh with a bevel-gear 22, carried by the shaft 4, while the teeth 21ᵇ are located to mesh with gears 23, keyed on the shafts 17 of the feeders. Spouts 24 are mounted on the lower ends of discharge-tubes 18.

In operation the box 1 is filled with sand of any description. When it is desired to sand the track, the crank 8 is operated to rotate the shaft 4. This action will operate the discharge-blades 11 and cut-off arms 13 and force the sand through the apertures 9ª in the bottom. This sand will run down into the chambers 16, when it will be engaged by blades 17ª of the feeders and brought within reach of the screws 19, which will carry it down through the tubes 18 to the lower ends thereof, where it will drop through the spouts 24 onto the track.

We do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of our invention.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sander, the combination of a sand-box, having outlet-apertures in the bottom, a vertical shaft bearing discharge-blades set at an angle to the bottom thereof with their forward edges in contact therewith to adapt them to scrape the sand off the bottom and

raise it, and means for rotating said shaft, substantially as described.

2. In a sander, the combination of a sand-box, having discharge-apertures in the bottom thereof, chambers located below said apertures, rotatable feeders mounted in said chambers, tubes connected to said chambers, screws mounted in said tubes, and means for driving said feeders and said screws, substantially as described.

3. In a sander, the combination of a sand-box, having discharge-apertures in the bottom thereof, a shaft bearing discharge-blades located to scrape the bottom of said box, and cut-off arms carried by said shaft and located beneath said bottom parallel to said discharge-blades, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

SAMUEL T. SIMMONS.
WALTER T. MOORE.

Witnesses:
LULU LINDEMAN,
E. E. MOORE.