No. 655,305. Patented Aug. 7, 1900.

G. W. MUDD.

TRACK SANDING DEVICE.

(Application filed Mar. 22, 1900.)

(No Model.)

FIG. 1.

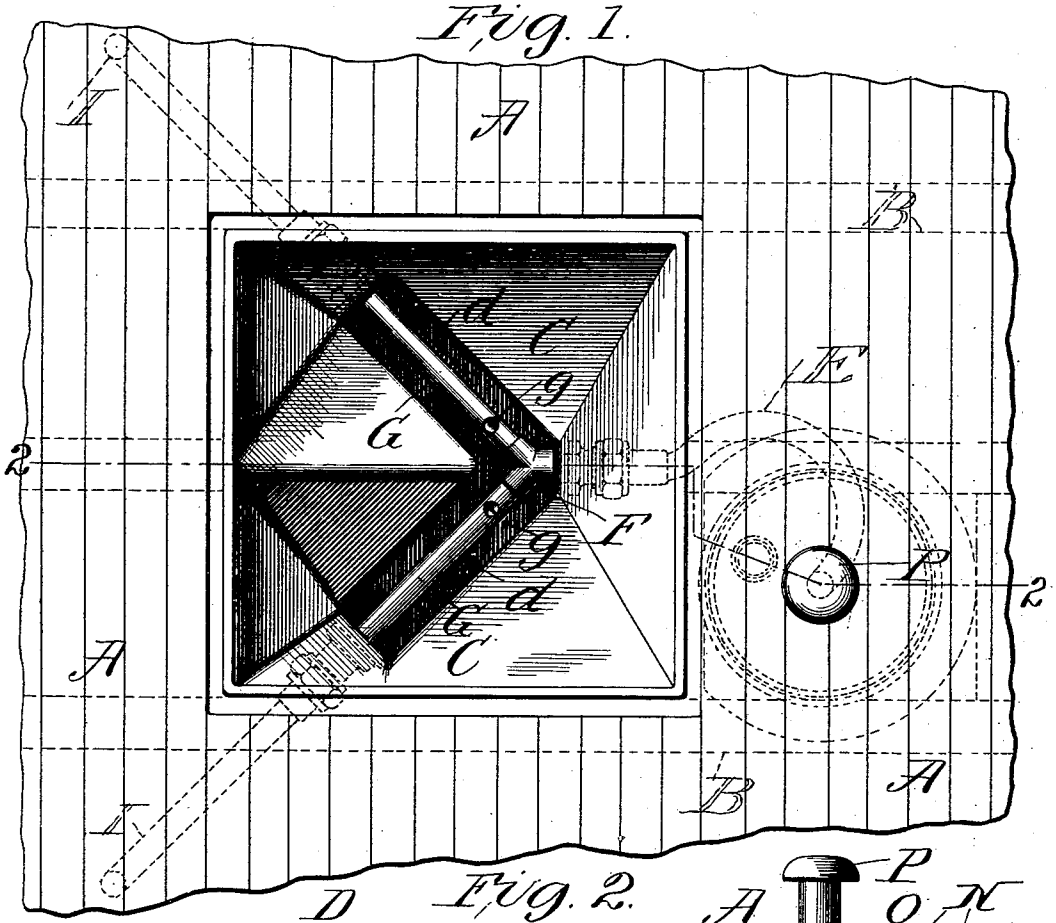


FIG. 2.

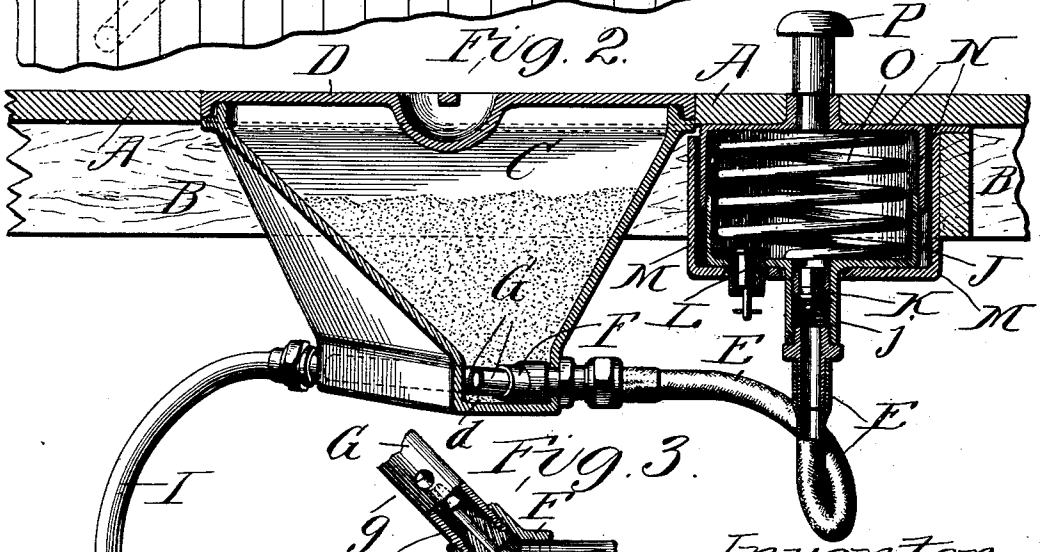
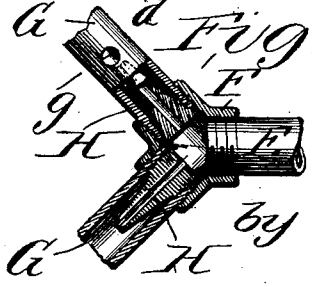
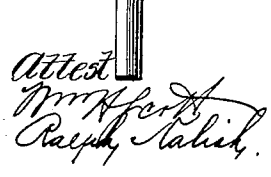


FIG. 3.





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UNITED STATES PATENT OFFICE.

GEORGE W. MUDD, OF MOBERLY, MISSOURI.

TRACK-SANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 655,305, dated August 7, 1900.

Application filed March 22, 1900. Serial No. 9,735. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MUDD, a citizen of the United States, residing at the city of Moberly, Randolph county, State of Missouri, have invented a certain new and useful Improvement in Track-Sanding Devices, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a portion of a street-car platform, showing my improved sanding device in position, the cover-plate for the receptacle being removed to show the interior mechanism. Fig. 2 is a vertical longitudinal sectional view through the device, and Fig. 3 is a horizontal sectional view through the blast-nozzles and their associate parts.

This invention relates to a new and useful improvement in apparatus for sanding rails, and is designed more particularly for use in connection with devices of the character described, wherein compressed air is employed as the medium for forcing the sand from the receptacle into and through the delivery-pipes.

The object of my present invention is to provide suitable mechanism whereby air for driving the sand from the sand-box can be supplied by the application of manual power in order that sand may be delivered to the rails when required and in such proportion as deemed advisable.

With this object in view the invention consists in the construction, arrangement, and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates the platform of a car, and B the sills, such parts being of well-known construction.

C indicates a receptacle for the sand, which is mounted in the platform, the upper end of said receptacle being open and designed to receive a cover-plate D. (Shown in Fig. 2.) The side walls of this receptacle converge toward the bottom, as shown in Figs. 1 and 2, to form a V-shaped trough *d*, in which trough is arranged my improved sanding apparatus.

E indicates a pipe for supplying compressed air to the apparatus, which pipe passes through the side wall of the receptacle at the junction of the trough, the inner end of said pipe entering a Y-shaped coupling F.

G indicates pipes threaded into the diverging members of the Y-shaped coupling, said pipes having nozzles H threaded into their inner ends, as shown in Fig. 3. *g* indicates openings through which sand is admitted to the pipes G in front of the nozzles H. Pipes G extend throughout the lengths of the members of the trough and are inclined upwardly to prevent the sand entering through the openings *g* from jarring out into the delivery-pipes in the absence of a blast of air. The diverging ends of the pipes G penetrate the walls of the receptacle and have secured to their outer ends suitable delivery-pipes I, which terminate above the rails, as is well understood.

In order to supply air to the nozzles and create a blast by which the sand is driven through the pipes G into and through the delivery-pipes, I secure a suitable cylinder J to the under side of the platform, from which projects a nose *j*, pipe E being connected to the end of this nose. An outwardly-opening valve K is arranged in the nose, and a spring is provided for said valve to hold the same to its seat. An inwardly-opening valve L is arranged in the cylinder for admitting air thereinto, as is well understood.

Cylinder J is inclosed by a suitable housing M, which forms a supporting-bracket, by which means the cylinder is fixedly mounted in position under the platform.

N indicates a plunger in the form of an inclosing sleeve coöperating with the fixed cylinder J, a spring O being confined between the plunger and the cylinder to hold the parts in position for operation at all times.

P indicates a button or projection loosely mounted in the plunger N and projecting above the floor of the platform within easy reach of the operator's foot.

When the plunger N is depressed by operating the button P, air within the cylinder is forced beyond valve K and into and through the nozzles via the pipe E, the air passing from said nozzles in the form of blasts across the inlet-openings *g* and driving the sand in the pipe or that which falls through

the openings through the pipes G and into and through the delivery-pipes. When pressure is taken from button P, the spring O returns the plunger to its elevated position, the valve K closes to prevent back suction through the nozzles, and valve L opens to admit air between the plunger and cylinder and in readiness to be forced beyond the valve K at the next depression of the plunger.

From the above it will be seen that when the operator depresses the plunger air is delivered across the sand-inlet openings in the form of blast impulses, which drive only a small quantity of sand into and through the delivery-pipes, repeated vibrations of the plunger resulting in repeated blast impulses, so that the operator can sand the rails with any quantity of sand desired by regulating the number of vibrations given to the plunger.

The invention above described is particularly adapted for use in connection with street-cars, and the sanding apparatus is designed to be arranged in position under the platform at each end of the car. The foot-buttons may be removed when not in use, so as to prevent passengers accidentally operating the air-impulse generator.

It is obvious that if a reservoir is present on the street-car, said reservoir containing a supply of compressed air, a valved pipe could be used in connection with the blast-nozzles, the valve in said pipe being placed within reach of the operator, whereby when said valve is opened compressed air could be forced through the nozzles to drive the sand onto the rails; also, that mechanism could be employed in lieu of foot-button P, whereby the operator could operate the air-impulse generator by hand.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my apparatus can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a track-sanding apparatus, the combination with a receptacle whose side walls converge toward the bottom, said receptacle being formed with a V-shaped trough in its bottom, of a pneumatic sanding apparatus arranged in said trough, an air-supply pipe leading into said apparatus, means for generating impulses of air and forcing the same through the supply-pipe, and delivery-pipes leading from the diverging ends of said apparatus to the rails on each side, substantially as described.

2. In a track-sanding apparatus, the combination with a receptacle formed with converging side walls and having a V-shaped trough in its bottom, of a Y-shaped coupling in the trough at the junction of its members, an air-supply pipe leading into said coupling, pipes G leading from the diverging members of said Y-shaped coupling, said pipes being inclined upwardly toward their outer ends, nozzles arranged in the inner ends of said pipes for directing blasts of air across sand-inlet openings in said pipes, and sand-delivery pipes arranged on the outer ends of said pipes G, substantially as described.

3. The combination with a suitable support, of a cylinder mounted on said support, a plunger coöperating with said cylinder, a spring interposed between said plunger and the end wall of said cylinder, an inlet-valve in said cylinder, an outlet-valve in said cylinder, a pipe for conducting the air passing beyond said outlet-valve into and through the sand-receptacle, said pipe terminating above the rail, a blast-nozzle in said pipe, and an opening for admitting sand into said pipe, said opening being located within the receptacle, substantially as described.

4. The combination with a platform, of a receptacle arranged therebeneath for containing sand, a cylinder mounted beneath the platform, a plunger coöperating with said cylinder, a spring for elevating said plunger, a button mounted on the plunger and extending through the platform, a pipe leading from said cylinder and passing through the sand-receptacle, said pipe terminating above the rail, inlet and outlet valves in said cylinder, the pipe within the limits of the sand-receptacle being provided with an inlet-opening for admitting sand thereinto, and a nozzle in said pipe behind said opening, substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 19th day of March, 1900.

GEORGE W. MUDD.

Witnesses:
WM. H. SCOTT,
RALPH KALISH.