

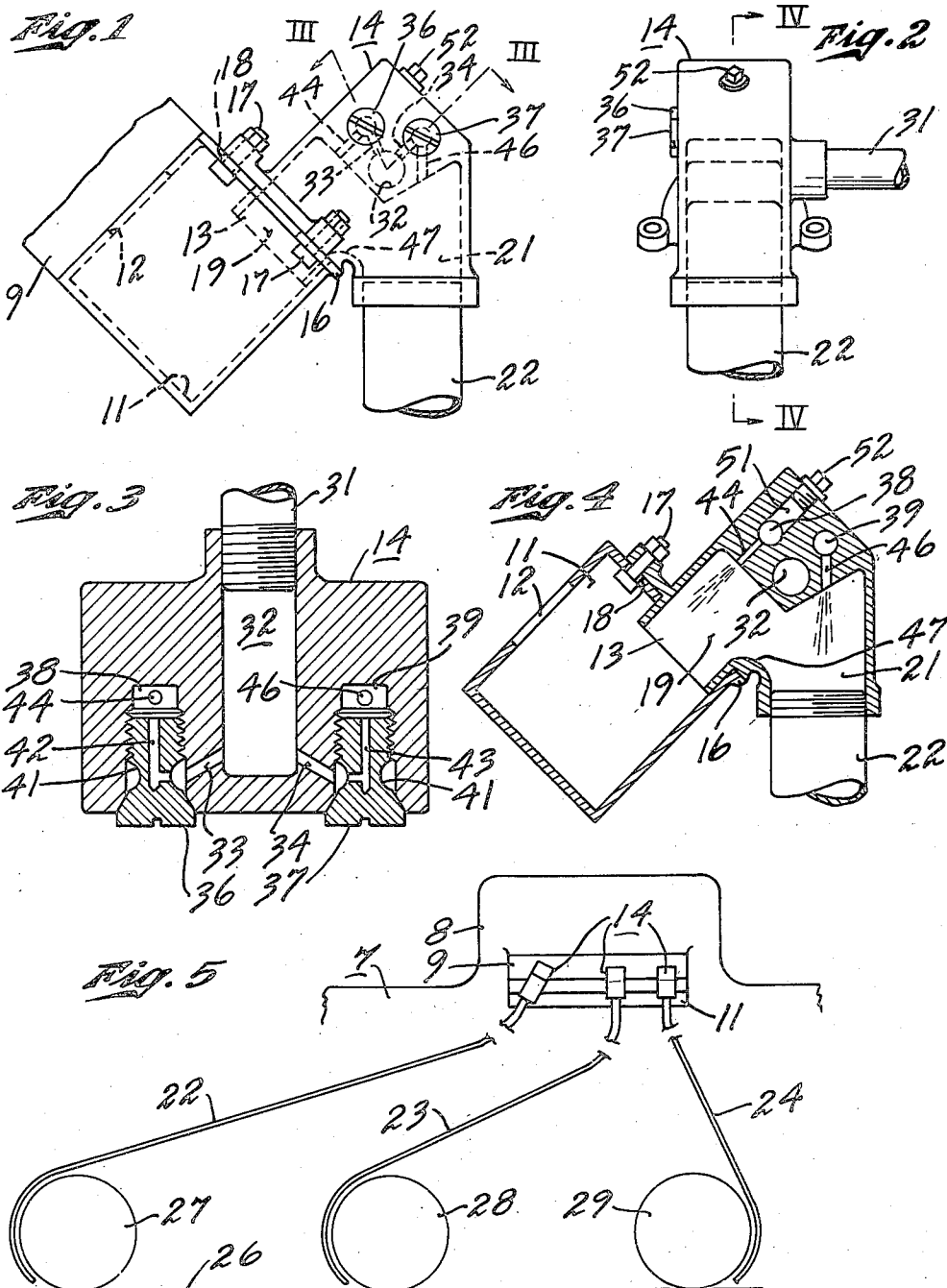
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SANDING APPARATUS

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SANDING APPARATUS

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4 Claims. (Cl. 291—11)

My invention relates to sanding apparatus and more particularly contemplates the provision of apparatus adapted for use with locomotives, street cars, and the like, for the purpose of placing a film of sand upon the tracks to increase the traction of the vehicle.

My invention further contemplates the provision of apparatus in which compressed air is employed to distribute the sand from a sand box through a plurality of conduits to the rails adjacent the various points of use, together with means for controlling the amount of sand passing through the several conduits and also for controlling the velocity of same. In devices of this kind it is essential to control the rate of travel of the sand passing through the conduits onto the tracks, otherwise it will either not pass through the conduits or will be blown off the tracks by the air.

My invention further contemplates the provision of apparatus which may readily be placed in position for use on present types of steam locomotives and without the necessity of making numerous changes in the present arrangements of parts.

My invention embodies other novel features, details of construction, and arrangement of parts which are hereinafter set forth in the specification and claims and shown in the accompanying drawing, forming part thereof.

In the drawing:

Fig. 1 is a side elevational view of my improved sanding apparatus;

Fig. 2 is a front view of same;

Fig. 3 is a sectional view taken along the line III—III of Fig. 1;

Fig. 4 is a sectional view taken along the line IV—IV of Fig. 2; and

Fig. 5 is a diagrammatic view of my device applied to a locomotive, showing the conduits leading from the sand box to the several points of use.

Referring now to the drawing for a better understanding of my invention, I show my apparatus as applied to a steam locomotive 7 having a sand reservoir 8 and a manifold 9 through which the sand passes to a sand chamber 11. The sand chamber is provided with an inlet 12 and outlets 13 and has a control valve 14 secured to a flange 15 provided around each outlet 13. The valves are angularly adjustable with respect to each other by means of the bolts 17 which engage in slots 18 formed in the flanges 16.

Each control valve is provided with an inlet 19 and an outlet 21 through which sand is adapted

to pass to its respective conduit 22, 23, or 24, as illustrated in Fig. 5, and thence to the top of the rail 26 adjacent the wheels 27, 28, and 29. An air conduit 31 leads to an air chamber 32 formed in the air valve, and a pair of passageways 33 and 34 lead from the air chamber to their respective air control screws 36 and 37.

The air control screws 36 and 37 are threaded into the screw chambers 38 and 39, respectively, and formed with grooves 41 leading to their respective passageways 42 and 43. The passageway 42 directs air through the center of the screw 36 into the screw chamber 38 and thence through an air outlet nozzle 44, the inlet 19, and the outlet 13 into the sand chamber 11. The passageway 43 directs air through the center of the screw 37 into the screw chamber 39 and thence downwardly through the velocity nozzle 46 and the valve outlet 21 into its respective sand conduit.

In the operation of the apparatus thus described, it will be seen that air from the air nozzle 44 agitates the sand within the sand chamber 11, causing it to move over the valve shoulder 47 into the valve outlet 21, and that by substituting a screw having a larger or smaller passageway 42 the quantity of sand moving from the sand chamber into the valve outlet 21 may be varied to suit conditions of operation. It will also be observed that screws having larger or smaller passageways 43 may be employed to increase or decrease the velocity of the air leaving the velocity nozzle 46. It will be observed by referring to Fig. 5 in the drawing that a greater velocity is required to carry the sand through the conduit 22 than through the conduit 24 as the conduit 22 is disposed at an angle approaching a horizontal plane and the conduit 24 is substantially vertical. It is therefore my purpose to provide a valve adapted to receive plugs or screws having air passageways of various diameters in order that the proper regulation may be acquired and maintained upon installation and in service.

A cleaning opening 51 is provided in the valve and in line with the air nozzle 44 and having a plug 52 to close same. During overhauling, this plug may be removed and a wire inserted through the opening 51 to remove any accumulation of dirt which might be obstructing the passage of air through the nozzle 44.

While I have shown my invention in but one form, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit thereof; and I desire, therefore,

that only such limitations shall be placed there-upon as are imposed by the prior art.

I claim:

1. In a sanding apparatus, a sand chamber
5 forming a sand trap and having an inlet and outlet for the passage of sand, a casing having a sand passageway leading upwardly and thence downwardly from the outlet provided in the sand trap, an air chamber provided in said casing,
10 threaded plug chambers formed in the casing, threaded plugs having air passageways from adjacent one end to the other end formed therein and adapted to be positioned in the plug chambers, said plugs being mounted in the side of the
15 casing and freely removable therefrom for cleaning, an air nozzle for directing air from one end of one of the plug chambers into the sand chamber, an air nozzle for directing air from one end of another plug chamber into the sand passageway and towards the outlet thereof, and passageways leading from the air chamber to adjacent
20 the other end of the plug chambers.

2. In a sanding apparatus, a sand trap having an outlet and inlet for the passage of sand, a casing having a sand passageway leading upwardly

and thence downwardly from the sand trap outlet, means for pivotally adjusting the casing with respect to the sand trap, an air chamber formed in the casing, threaded plug chambers formed in the outer wall of the casing, threaded plugs having
5 restricted passageways from adjacent one end to the other end formed therein and positioned in the plug chambers and freely removable therefrom for cleaning, an air nozzle for directing air from one end of one of the plug chambers
10 through the sand passageway into the sand trap, a second air nozzle for directing air from one end of another plug chamber into the sand passageway and towards the outlet thereof, and air passageways leading from said air chamber to
15 adjacent the other end of the plug chambers.

3. Apparatus according to claim 2 in which, a cleanout plug is positioned in the casing and in axial alignment with the air nozzle for directing
20 air from the plug chamber into the sand trap.

4. Apparatus according to claim 2 in which, a plurality of casings are mounted on the face of the sand trap and project outwardly therefrom in parallel relationship.

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