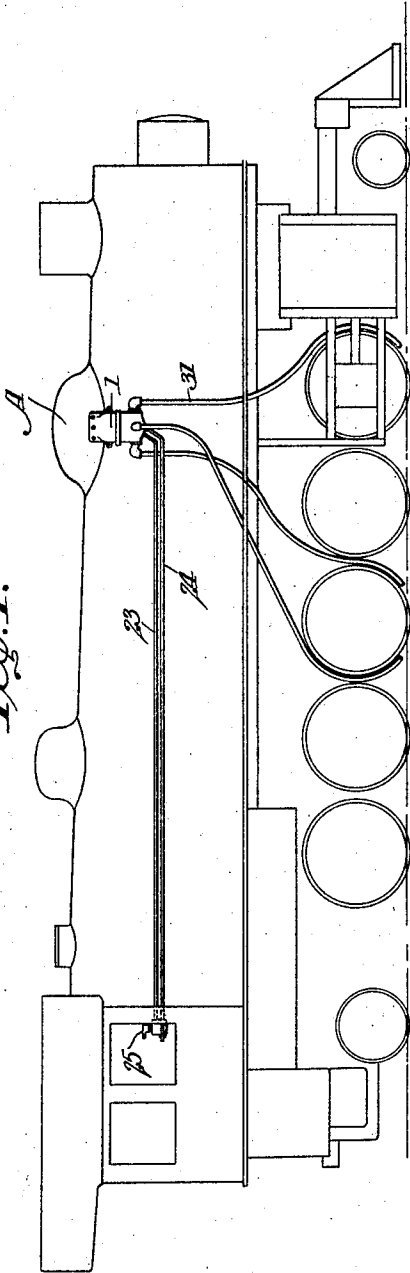


H. M. SHADE.
TRACK SANDER.
APPLICATION FILED MAR. 7, 1921.

1,392,230.

Patented Sept. 27, 1921.
3 SHEETS—SHEET 1.

FIG. 1.



E. H. Bahr.

WITNESS:

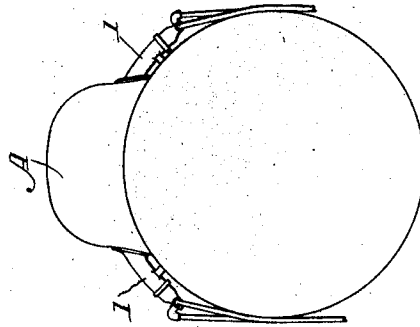


FIG. 2.

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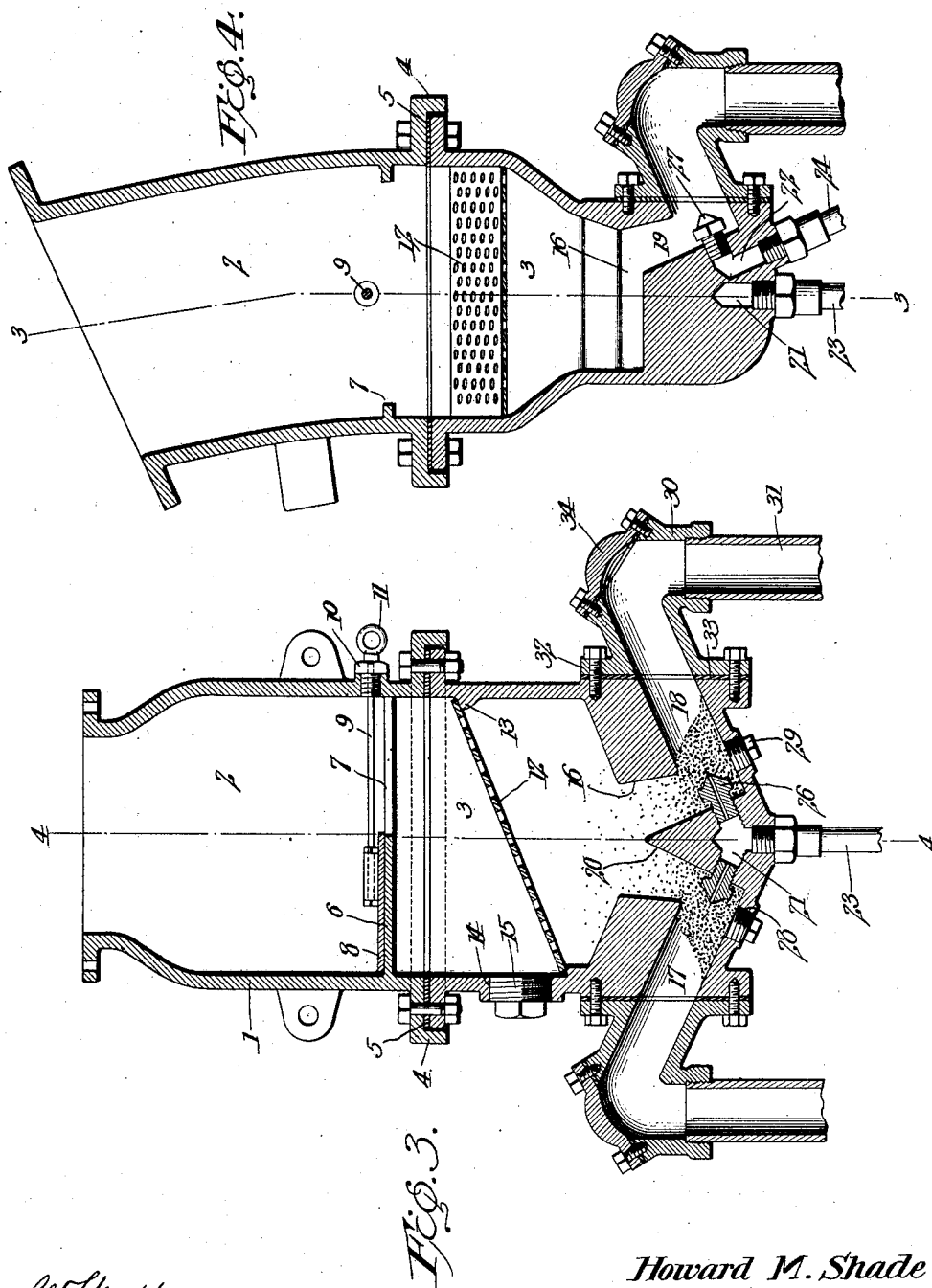
BY *Victor J. Evans*
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3 SHEETS—SHEET 2.



G. F. Baker

WITNESS:

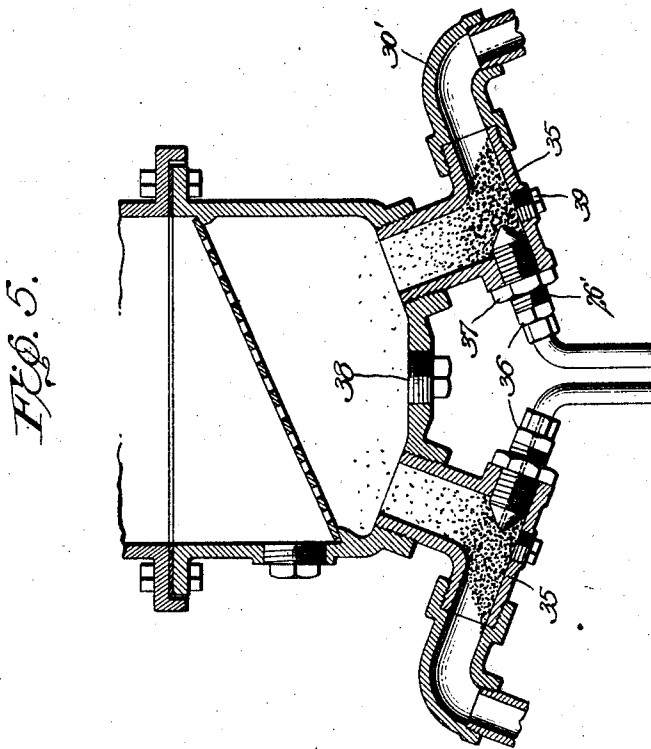
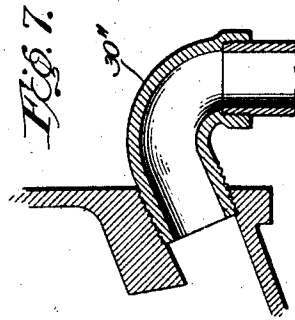
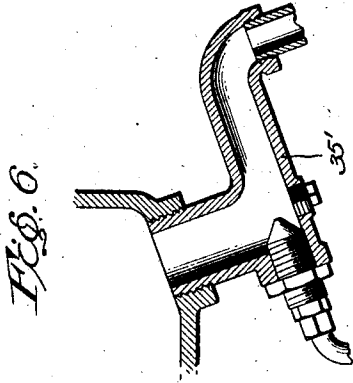
Howard M. Shade
 INVENTOR

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3 SHEETS—SHEET 3.



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WITNESS:

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UNITED STATES PATENT OFFICE.

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TRACK-SANDER.

1,392,230.

Specification of Letters Patent. Patented Sept. 27, 1921.

Application filed March 7, 1921. Serial No. 450,212.

To all whom it may concern:

Be it known that I, HOWARD M. SHADE, a citizen of the United States, residing at Conemaugh, in the county of Cambria and State of Pennsylvania, have invented new and useful Improvements in Track-Sanders, of which the following is a specification:

This invention relates to a sander device for locomotives, the general object of the invention being to provide air-blast means for forcing the sand from a pocket connected with the sand dome to the delivery pipes.

Another object of the invention is to provide means for adjusting the nozzles of the air blast means so as to regulate the amount of sand discharged into the delivery pipes.

A further object of the invention is to provide means for screening the sand passing through the pockets so that the sand entering the delivery pipes is free of all coarse particles.

Another object of the invention is to provide means for delivering the sand either in front of the wheels, for the forward movement of the train, or in rear of the wheels for the reverse movement of the train.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a diagrammatic view showing my invention applied to a locomotive.

Fig. 2 is a diagrammatic end view showing the invention applied to a locomotive.

Fig. 3 is a longitudinal sectional view through a sand pocket and its associated parts, the section being taken on line 3—3 of Fig. 4.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is an enlarged sectional view showing a modification.

Fig. 6 is a detailed sectional view of a further modification.

Fig. 7 is a detail view of still another modification.

In these views 1 indicates a pocket which is in communication with the sand dome A of the locomotive and which is secured in place in any suitable manner. I prefer one of these pockets at each side of the locomotive. Each of these pockets comprises an upper part 2 and a lower part 3, the adjacent ends of which are provided with flanges 4, the flange of the upper part 2 overlapping the flange of the lower part so as to provide a water-shed and the flanges are bolted together with the gasket 5 between them so as to make a water-tight joint. A partition 6 is arranged in part 2 adjacent the bottom thereof which is provided with an opening 7 for permitting the sand to pass into the lower part 3. This opening is controlled by a gate 8 to which is connected an operating rod 9 which passes through a gland nut 10 in part 2, the projecting end of the rod being provided with a handle 11. Thus the flow of sand from the upper part of the pocket to the lower part can be controlled or it can be entirely shut off so as to permit the removal of the lower part if necessary.

A perforated plate or screen 12 is inclinedly supported in the lower part 3 of the pocket by the ledge 13 so as to screen the sand dropping through the opening 7 in order to remove the coarse particles caught by the screen I provide an outlet hole 14 in part 3 adjacent the lower end of the screen and this hole being closed by a screw plug 15.

The bottom of part 3 of the pocket is provided with a central opening 16 for delivering the sand to the three outlet ports 17, 18 and 19, a deflector 20 projecting into said opening for directing the sand to the three ports. This deflector is provided with the substantially T-shaped passage 21 and the substantially L-shaped passage 22, air being supplied to the passage 21 by pipe 23 and to the passage 22 by pipe 24, these pipes being connected with the compressed air supply of the train and controlled by the valve 25 located in the cab and so arranged that air can be supplied to either the pipe 23 or pipe 24 as desired. A pair of nozzles 26 are associated with the passage 21 and a nozzle 27 is associated with the passage 22, these nozzles being arranged to direct the air into the discharge ports 17 and 18 and 19, the blast coming from

each nozzle carrying the sand along with it. Openings 28 are formed in the bottom of the pocket adjacent the nozzles 26, said openings being closed by the screw plugs 29.

5 Elbows 30 are provided for connecting the discharge ports with the delivery pipes 31 which deliver the sand upon the rails adjacent the drive wheels of the locomotive, as shown in Fig. 1. These elbows are provided with flanges 32 which are bolted to the pocket, gaskets 33 being provided for making a tight joint. The elbows are provided with removable caps 34 which are bolted to the elbows, these caps being so arranged as to receive the impact of the sand being forced through the discharge ports and elbows by the air blast. Thus the caps can be replaced by new ones when they have become worn by the sand.

20 The nozzles 26 and 27 are screwed into the passages and this permits the nozzles to be adjusted by screwing them in or out and thus the flow of sand to the track can be controlled as when the nozzles are moved outwardly less sand will be forced into the delivery pipes than when the nozzles are screwed in. The wrench for screwing and unscrewing said nozzles can be passed through the holes 28 or through the elbows after removing the caps 34.

30 It will thus be seen that the flow of sand from the upper part of the pocket to the lower part can be controlled by the sliding gate or entirely shut off by said gate so as to permit removal of the lower part of the pocket. The screen will separate all the coarse particles so that the sand passing into the discharge ports will be free of large particles and thus the danger of stoppage of these ports will be eliminated.

40 By manipulating the valve 25 the air blast will carry the sand from the discharge ports through the elbows into the delivery pipes and discharge it upon the track either in front of the drive wheels or in rear thereof, as desired. By adjusting the nozzles the amount of sand delivered can be controlled and due to the flanges and gaskets there is no danger of the sand within the device becoming wet and thus failing to flow.

In the modification shown in Fig. 5, substantially T-shaped pipes 35 are screwed into the bottom of the pocket and the elbows 30' are screwed to these pipes. The nozzles 26' are also screwed in the pipes so as to direct the air blast toward the elbows. These nozzles can be adjusted from the exterior as they are provided with wrench receiving parts 36 and with lock

65 nuts 37. In this form the bottom of the pocket is provided with a clean-out hole closed by a screw plug 38 and the pipes 35 are also provided with clean-out holes closed by plugs 39. In other respects this form of the invention is similar to that before described.

In the modification shown in Fig. 6, the elbows are eliminated and one end of each pipe 35' is curved to engage directly the delivery pipe. In other respects this form of the invention is similar to that shown in Fig. 5.

Fig. 7 shows an elbow 30'' threading into the discharge port of the pocket and having its outer end provided with a screw threaded pocket to receive the screw threaded end of the delivery pipe. In this form when the elbow is worn by the sand it can be removed and replaced by a new one.

80 It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising a pocket formed of an upper and lower part, means for connecting the two parts together in a water proof manner, means for controlling the flow of sand from the upper part to the lower part, a screen in the lower part, means permitting the removal of the coarse material from the screen, a delivery pipe connected with the bottom of the lower part an air blast means for forcing the sand from the said lower part into the delivery pipe.

2. A device of the class described comprising a bracket having a discharge opening in its bottom, a deflector extending into said opening, said bottom having three outlet ports therein communicating with the opening and the deflector having a T-shaped port therein and an L-shaped port therein, a pair of nozzles adjustably mounted in the T-shaped port, a nozzle adjustably mounted in the L-shaped port, said nozzles being arranged to discharge into the three ports above mentioned, means for supplying compressed air to the T and L-shaped ports and delivery pipes connected with the three ports above mentioned.

In testimony whereof I affix my signature.

HOWARD M. SHADE.