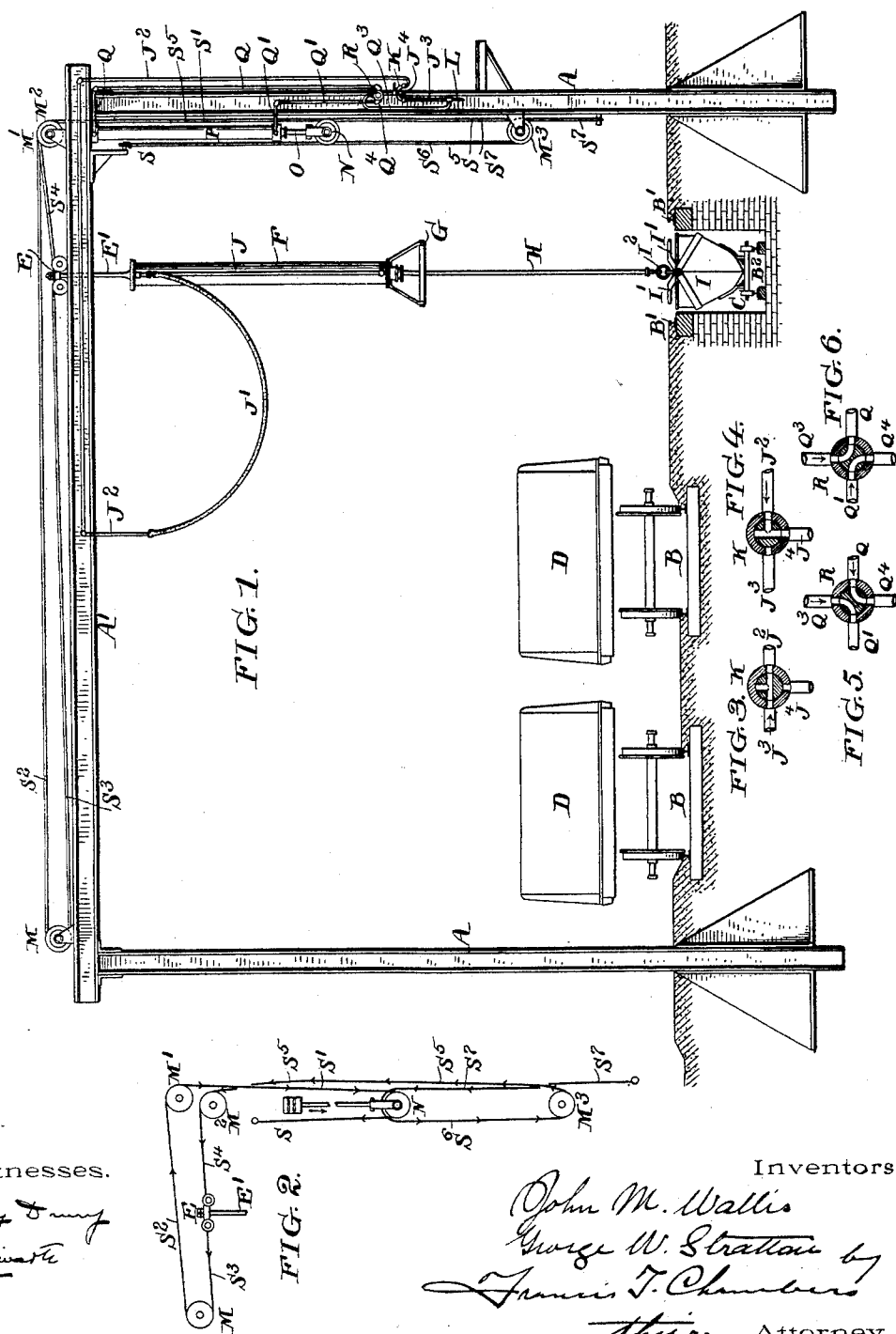


(No Model.)

J. M. WALLIS & G. W. STRATTAN.
DEVICE FOR HANDLING LOCOMOTIVE ASHES.

No. 586,581

Patented July 20, 1897.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN M. WALLIS AND GEORGE W. STRATTAN, OF ALTOONA, PENNSYLVANIA.

DEVICE FOR HANDLING LOCOMOTIVE-ASHES.

SPECIFICATION forming part of Letters Patent No. 586,581, dated July 20, 1897.

Application filed December 21, 1895. Serial No. 572,845. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. WALLIS and GEORGE W. STRATTAN, citizens of the United States of America, residing in Altoona, in the county of Blair, in the State of Pennsylvania, have invented a new and Improved Device for Handling Locomotive-Ashes, of which the following is a true and exact description, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to the construction of a device or apparatus for the convenient and rapid handling of locomotive-ashes, its object being to provide effective and simple mechanism by which the ashes drawn from locomotives can be rapidly and easily disposed of.

The nature of our improvements will be best understood as described in connection with the drawings in which our invention is illustrated, and in which—

Figure 1 is an elevation showing our device in its most perfect and elaborate form. Fig. 2 is a diagrammatic elevation of a portion of the device, showing the manner in which the trolley is operated. Figs. 3 and 4 are sectional views showing the three-way cock, which forms a part of our mechanism, in two different positions; and Figs. 5 and 6 are similar sectional views showing the four-way cock, which also forms a part of our apparatus, in different positions.

A A indicate the posts which support the transverse beam A', which beam also constitutes or supports a track upon which runs the trolley E.

B B indicate railway-tracks running beneath the beam or track A'; B' B', rails of a third track running beneath the beam A', said rails being placed on each side of an ash-pit C, at the bottom of which is a narrow track B², adapted to support the wheels of an ash-car, (indicated at I.)

D D indicate cars resting on the tracks B B and lying beneath the trolley track or beam A' in position to receive ashes delivered to them, as hereinafter described.

F indicates a pneumatic cylinder supported by a depending rod E' from the trolley E. At some distance below the lower end of this cyl-

inder and supported by rods extending from it is a ring G, the function of which will be hereinafter described.

H is a piston-rod connected with a piston on the inside of the cylinder F and adapted at its lower end to engage with a ring or hook I², secured to an ash-car I, which, as shown, is made up of hinged sections, from each of which project arms I', and as the rod H moves upward, carrying the car with it, the rims I' come in contact with the ring G and cause the hinged sections of the ash-car to open, thus dumping the load within the same. Air is introduced into the lower end of the cylinder F by means, as shown, of a pipe J, secured on the outside of the cylinder, and a flexible pipe J', secured to the top of the pipe J and to the end of a pipe J², which pipe J² connects, through a pipe J³, with the main supply-pipe L.

K indicates a three-way cock having connections with the pipes J² and J³ and also with an exhaust pipe or nozzle J⁴. When it is desired to admit compressed air to the bottom of the cylinder F, this cock is turned to the position shown in Fig. 3, the result being, of course, to force the piston upward and raise any weight, such as the ash-car, attached to the piston-rod H. When it is desired to lower the ash-car, the valve is turned to the position shown in Fig. 4, which permits the air in the cylinder to exhaust, the weight of the piston and the load attached to it causing it to sink down to the bottom of the cylinder.

M, M', M², and M³ are fixed pulleys, and N is a movable pulley, attached to the end of a piston-rod O, the piston connected with which moves in the double-acting pneumatic cylinder P, which receives its supply of air from a branch Q³ of the main supply-pipe L, at the end of which branch is situated a four-way cock R, from which cock extends the supply-pipes Q and Q', connecting, respectively, with the top and bottom of the cylinder P, Q⁴ indicating an exhaust-passage leading from the cock R. When the cock is in the position shown in Fig. 5, air is admitted to the bottom of the cylinder and exhausted from the top, and when the cock is in the position shown in Fig. 6 the reverse operation takes place,

air being taken in at the top of the cylinder and exhausted from the bottom.

S indicates one end of a belt, cord, or chain which is fastened to the framework and passes
 5 around the pulley N, its continuation S' passing over the pulley M', thence continuing, as S², over the pulley M, and thence, as S³, connecting to one end of the trolley E. To the
 10 other end of this trolley connects a similar chain, cord, or band S⁴, which passes over the pulley M², continuing, as S⁵, over the pulley M³, continuing, as S⁶, over the top of the pulley N, thence passing downward, as S⁷, and connecting to a fixed point on the frame.
 15 This arrangement is best shown in the diagrammatic view in Fig. 2, and it will be seen that as the pulley or pulleys N move up or down the trolley E will be drawn forward and backward upon its track.
 20 In operation the locomotive is run upon the tracks B', over the ash-pit C, and its ash, cinder, &c., dumped into an ash-car I, lying beneath it, and of these ash-cars there may be any desired number. When the ash-cars are
 25 filled, they are run along upon the tracks B², beneath any locomotive or locomotives which may be resting upon the tracks B', until they come beneath the trolley-track A'. The trolley and its cylinder F is then moved until it
 30 is directly above the ash-car, the piston-rod H lowered until it engages the ash-car, and the car is then raised out of the ash-pit and to whatever height is desired. The trolley is then moved along until it comes over a car D,
 35 placed to receive the ashes. Then the piston-rod H is drawn still farther up until the arms I' come in contact with the ring G, opening the car I and dumping its contents into the car D, placed to receive it. The trolley is
 40 then moved back over the pit C and the ash-

car lowered until it again stands upon the tracks B².

While we prefer to use compressed air as the motive power of our apparatus, it is obvious, of course, that steam or any other fluid under pressure can be used, and while we believe the apparatus shown to be in every way well adapted for use we do not desire to be confined to the particular construction indicated, except so far as it is clearly referred to in the claim appended to our specification.

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

In combination with a depressed ash-pit C 55 having rails as B' on each side thereof, and a track B² along its bottom, of a main track or tracks B, an overhead track crossing the ash-pit and tracks B, an ash car or cars adapted to run on track B², a trolley E adapted to run on the overhead track, a pneumatic hoisting-cylinder supported on the trolley, a piston movable in said cylinder and having connections whereby it can engage the ash-cars, a pneumatic cylinder and piston P, tackle 65 actuated thereby by which the trolley is moved to and fro, an air-conduit L, a branch J³ J² J' J leading to the lower end of the cylinder supported on the trolley, a three-way cock K situated in said branch, a branch Q³ 70 leading by branches Q and Q' to the top and bottom of the cylinder P and a four-way cock R regulating the admission and exhaust from cylinder P.

J. M. WALLIS.

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Witnesses:

GEO. W. WHELEN,
 W. L. JACKSON.