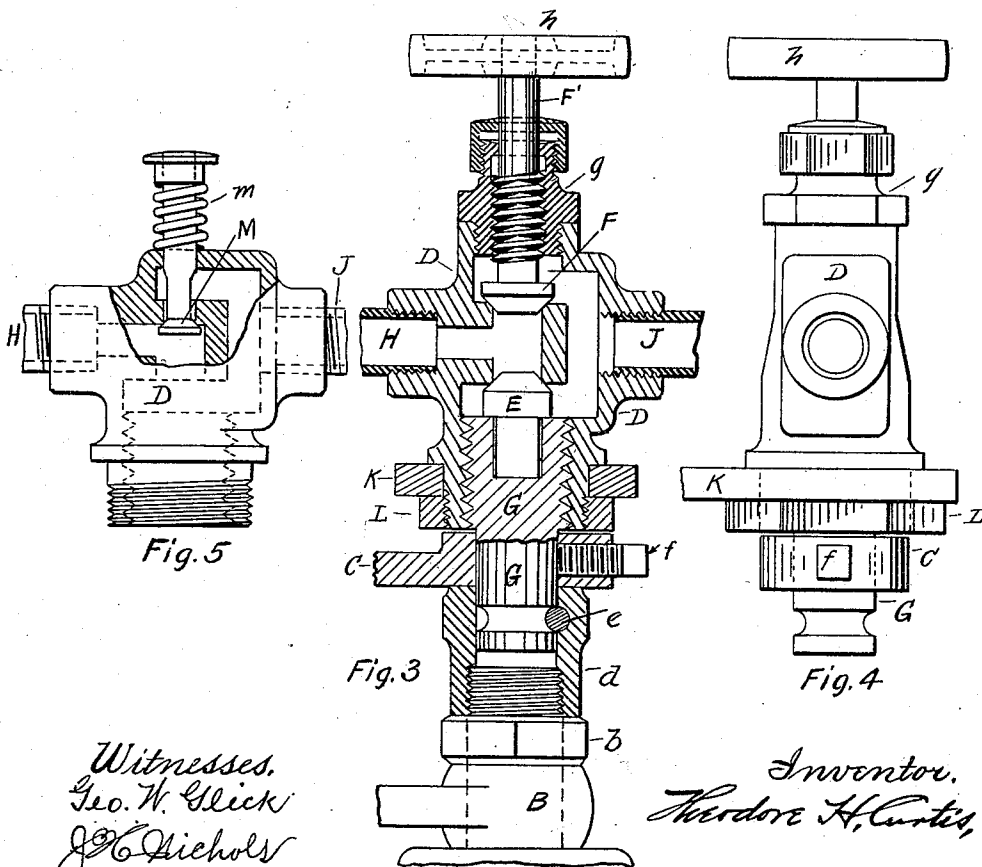
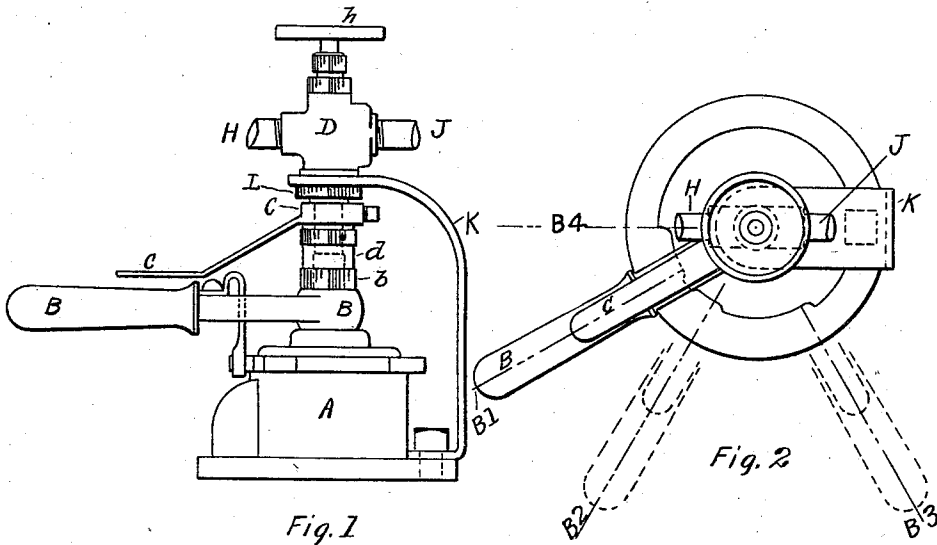


2 Sheets—Sheet 1.

BLAST CONTROLLING VALVE FOR TRACK SANDING APPARATUS.

Patented Mar. 9, 1897.



Witnesses.
Geo. W. Glick
J. H. Nichols

Inventor,
Theodore H. Curtis,

(No Model.)

2 Sheets—Sheet 2.

T. H. CURTIS.

BLAST CONTROLLING VALVE FOR TRACK SANDING APPARATUS.

No. 578,318.

Patented Mar. 9, 1897.

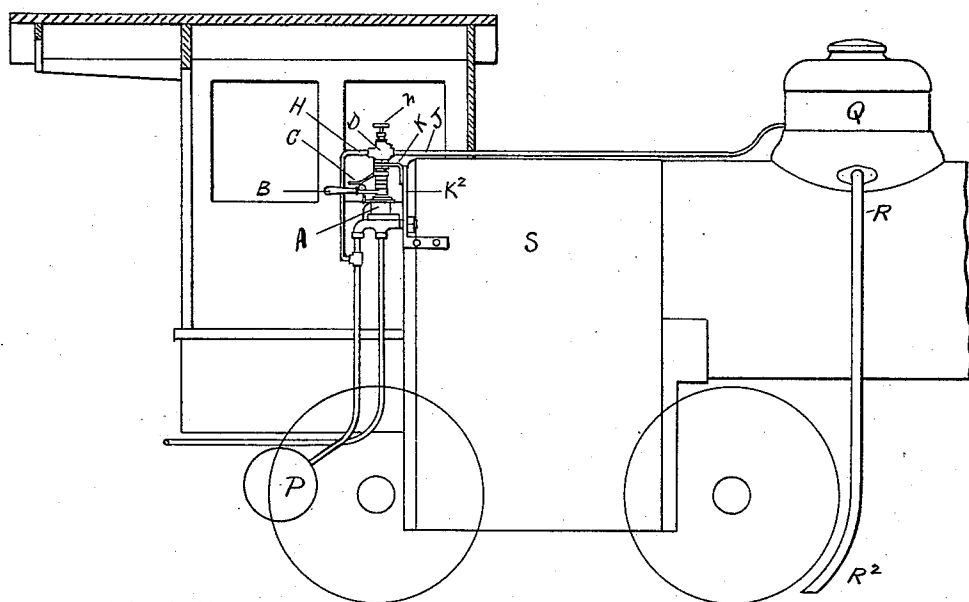


Fig. 6

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UNITED STATES PATENT OFFICE.

THEODORE H. CURTIS, OF CLEVELAND, OHIO.

BLAST-CONTROLLING VALVE FOR TRACK-SANDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 578,318, dated March 9, 1897.

Application filed October 30, 1896. Serial No. 610,634. (No model.)

To all whom it may concern:

Be it known that I, THEODORE H. CURTIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Blast-Controlling Valves for Track-Sanding Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention consists of a valve controlling an air-blast through a fluid-pressure passage to the track-sanding apparatus, the valve being actuated by a handle which is within a hand's grasp of the handle of the engineer's brake-valve, and its object is to provide a blast-controlling valve which is readily operated independently or simultaneously with the movement of the handle of the engineer's brake-valve, there being no operative connection between the handle of the engineer's brake-valve and the handle which actuates the blast-controlling valve, although the two handles are held in one grasp and operated together. Either of the handles can be operated independent of the other.

Referring to the accompanying drawings, Figure 1 is a side view of the blast-controlling valve in combination with the engineer's brake-valve. Fig. 2 is a plan of the blast-controlling valve and the engineer's brake-valve. Fig. 3 is a sectional view of the blast-controlling valve. Fig. 4 is a full front view of the blast-controlling valve. Fig. 5 is a full view and a partial sectional view of a modification in the form of valve. Fig. 6 is a side elevation of the improvement as applied, the cab being shown in section.

In the drawings the reference-letter A indicates the engineer's brake-valve, which is held in position by the bracket K², which is supported from the boiler S or some other suitable holding.

K indicates the support for the blast-controlling valve.

B indicates the handle of the engineer's brake-valve.

E indicates the main valve, which is opened and closed by the valve-stem G.

F indicates the secondary valve, which is operated by the hand-wheel *h*, in combination with the connecting-stem F'.

g indicates the stem-nut, having a suitable packing-nut thereon to pack the stem F'.

H indicates the induction-pipe from the main reservoir P to the blast-controlling valve.

J indicates the eduction-pipe from the blast-controlling valve to the track-sanding apparatus in the sand-box Q.

L indicates a nut to secure the support K.

R indicates the sand-delivery pipe, leading from the track-sanding apparatus in the sand-box Q to the track, delivering the sand in front of the driving-wheel at R².

M indicates a push-valve, which is held in position by the spring *m*, Fig. 5.

b indicates a nut to hold the handle B in position.

d indicates a lock-nut to *b* and forms a connection between the blast-controlling valve and the engineer's brake-valve.

e indicates a pin to retain the stem G in the nut *d*.

f indicates a set-screw to secure the handle C to the stem G.

In Fig. 1 the support K is attached to the engineer's brake-valve. In Fig. 6 the support K is attached to the support for the engineer's brake-valve. The support K is attached to any suitable holding so long as it maintains the handle which actuates the blast-controlling valve operative within a hand's grasp of the handle of the engineer's brake-valve.

The induction-pipe H connects the blast-controlling valve to the main reservoir P. The quantity of air passing through the blast-controlling valve through the eduction-pipe J to the track-sanding apparatus controls the quantity of sand to be delivered from the sand-box to the track through the track-sanding apparatus. Feeding sand from the sand-box through the sand-delivery pipe R to the track in front of the driving-wheel at R² is accomplished by opening the valve F, M, or E and permitting the desired quantity of air to pass to the track-sanding apparatus. Position B' of the handle of the engineer's brake-valve is what is known as "position while running." Position B² is the position of the handle for application of brakes, service stop. Position

B³ is the position of the handle for application of brakes, emergency stop.

The handle B being in position B', the valve E being tightly closed, the handle C is adjusted over the handle B and secured to the stem G by the set-screw *f*. The handle B is free to move without moving the handle C, there being no operative connection between the two handles. The connection-nut *d* is free upon the stem G. This connection *d* may be omitted, if desired. By grasping the two handles B and C together and movement of them to position B² will give a service stop for the train-brakes and at the same time unseat the valve E and permit a slight quantity of air to pass to the track-sanding apparatus. By grasping the handles B and C together and movement of them to position B³ will give an emergency application of the train-brakes and at the same time profusely sand the track by the large quantity of air passing through the blast-controlling valve to the track-sanding apparatus. The return of the two handles to position B' will close the blast-controlling valve, and the movement of handle B to position B⁴ will release the train-brakes. The return of the handle B to position B', the train-brake system and the blast-controlling valve are again ready for either separate or simultaneous operation.

The handle of the engineer's brake-valve extends beyond the end of the handle which actuates the blast-controlling valve to be readily grasped for independent operation.

I have shown in the drawings and referred to in the specification one certain type of engineer's brake-valve as manufactured by the Westinghouse Air-Brake Company and a main valve suitable to combine therewith. A different type of engineer's brake-valve will require suitable form of main valve. The secondary valve is used to control the blast for track-sanding in starting trains, while the main valve is used in braking trains. Each valve is adaptedly formed and adjusted for its specific functions.

The track-sanding apparatus herein mentioned and not shown in drawings may be of any approved design.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. In combination, a track-sanding apparatus with a fluid-pressure pipe thereto, an engineer's brake-valve, a valve in the fluid-pressure pipe, a handle to actuate said valve, said handle operating within a hand's grasp of the handle of the engineer's brake-valve and the handle of the engineer's brake-valve having movement independent of the handle which actuates the valve in the fluid-pressure pipe, substantially as described.

2. The combination, with a pipe with the main reservoir, discharging into the track-sanding apparatus, of a controlling-valve located in the pipe and having the axis of its movable parts central or parallel with the axis of the engineer's brake-valve, and a handle to actuate the controlling-valve extending to operative hand-grasping proximity of the handle of the engineer's brake-valve, substantially as described.

3. An air-blast-controlling valve in combination with a track-sanding apparatus and an engineer's brake-valve, the blast-controlling valve comprising a casing with a fluid-pressure passage therein with main and secondary valves to open and close the fluid-pressure passage, and a handle operating within a hand's grasp of the handle of the engineer's brake-valve to actuate the main valve, said handle having movement independent of the handle of the engineer's brake-valve, the secondary valve being operated by a connection extending through the casing, substantially as described.

4. For the purpose set forth, an engineer's brake-valve, in combination with a track-sanding apparatus with a fluid-pressure passage thereto, and main and secondary valves to open and close the said fluid-pressure passage, the main valve being actuated by a handle which operates within a hand's grasp of the handle of the engineer's brake-valve and having independent movement thereof.

THEODORE H. CURTIS.

Witnesses:

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J. H. NICHOLS.