(No Model.)

J. H. FOX.

DEVICE FOR OPERATING VALVES FOR FLUID PRESSURE BRAKES.

No. 513,676. Patented Jan. 30, 1894.

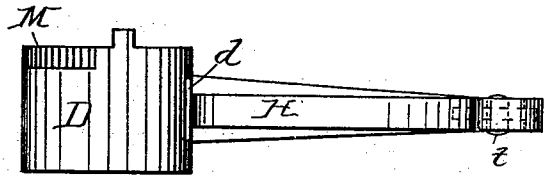

Fig. 1.

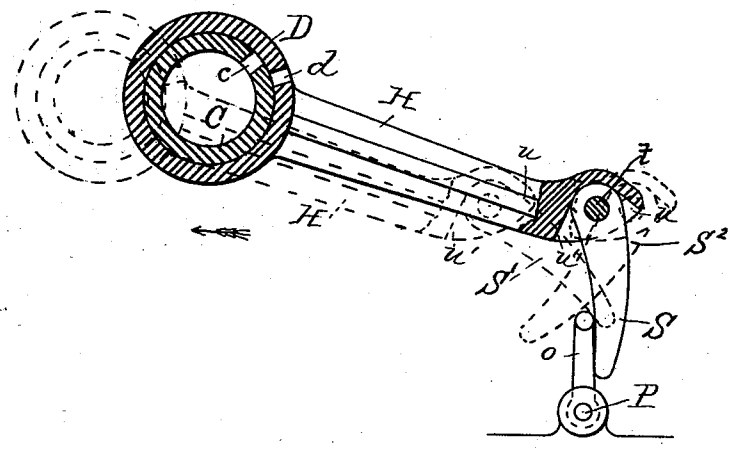

Fig. 2.

WITNESSES.

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DEVICE FOR OPERATING VALVES FOR FLUID-PRESSURE BRAKES.

SPECIFICATION forming part of Letters Patent No. 513,676, dated January 30, 1894.

Application filed March 11, 1893. Serial No. 465,656. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FOX, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain improvements in that class of devices by which the valves of steam or air brakes on moving trains are automatically operated by mechanism placed beside the tracks, of which the following is a specification.

My invention consists in the construction of the arm or lever which projects from the valve of the air or steam brake, and by which it is operated, in two portions, one of which is secured to the movable part of the valve and the other is an arm or pendent portion which is pivoted to the end of the first mentioned arm. I prefer to give this pendent portion a movement in a limited arc upon its pivot, by the use of shoulders or equivalent means, so that after it has been swung a short distance upon either side of a vertical line by the action of a suitable device beside the railway track, it will act upon and raise the lever which is attached to the valve and thus open the latter.

The object of my improved construction is to obviate the shock which occurs, in apparatus heretofore used, between the valve opening attachments and the devices placed beside the track which act upon such attachments, and by the employment of the supplemental arm pivoted at the end of the valve operating lever, the shock and friction between the several parts are reduced to a minimum.

In the drawings forming a part of this specification, Figure 1, is a top view of the valve operating lever. Fig. 2, is a side elevation of the lever with the supplemental arm pivoted at its outer end; the valve and the outer end of the valve operating lever being in section.

In the drawings I have shown my improved valve operating lever applied to a valve constructed with a sleeve which turns upon a fixed inner portion, the raising of the lever opening the valve by bringing the ports in the two parts opposite one another.

Referring to the drawings, C, is the fixed portion of the valve, D the movable sleeve which surrounds it, the operating lever H being attached to the sleeve D.

S is the supplemental arm pivoted to the lever H at *t*.

u, *u'* are shoulders against which the arm S bears when it is swung one way or the other by contact with the device *o*, placed beside the track.

c, *d* are the ports in the respective parts C and D of the valve, and when the train is moving forward as indicated by the arrow, the arm S will be forced back against the shoulder *u*, to the position indicated as S' in dotted lines, Fig. 2, and the further forward movement of the train will raise the lever H and bring the ports *c* and *d*, into coincidence thus opening the valve.

When the train is moving in a direction opposite to that indicated by the arrow, the supplemental arm of the lever H will be forced into the position indicated by the dotted lines as S^2, and as in the other instance, a further movement of the train will force the arm S upward, raise the lever H and open the valve.

I claim--

In combination with the valve of a steam or air brake, a jointed operating lever one member of which is secured to the movable part of the valve, the other member of which hangs normally in a vertical line when in position upon the engine or car and is adapted to swing in an arc of a circle upon either side of said vertical line by contact with an actuating device beside the rail, and means for limiting the movement of the swinging member upon the other member, substantially as described and for the purpose specified.

JOHN H. FOX.

Witnesses:
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