(No Model.)

J. H. FOX.

DEVICE FOR AUTOMATICALLY OPERATING CAR BRAKES.

No. 457,313. Patented Aug. 4, 1891.

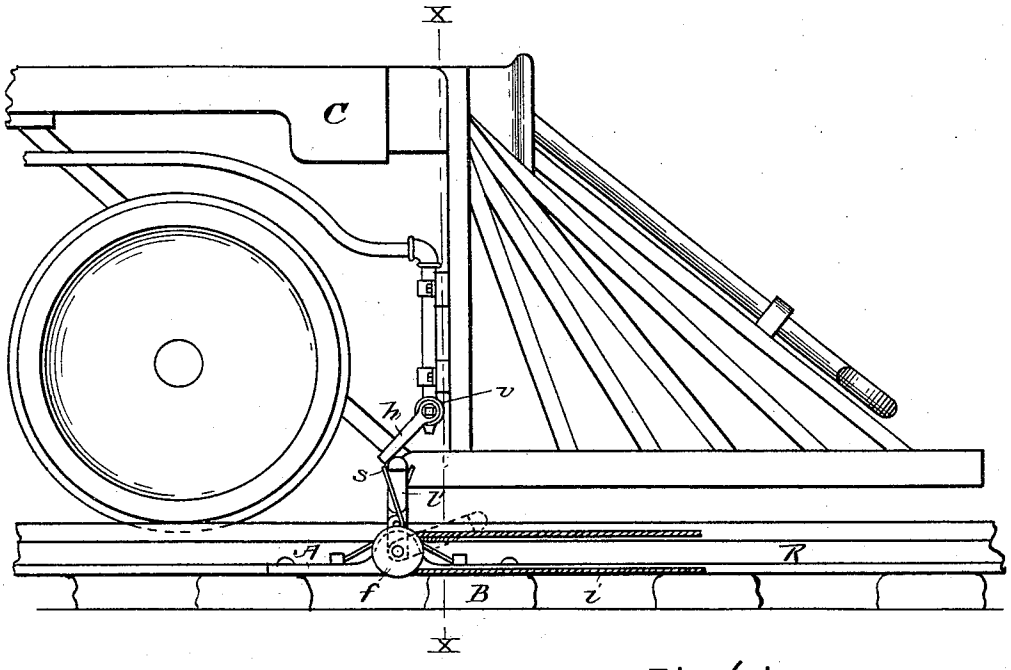


Fig. 1.

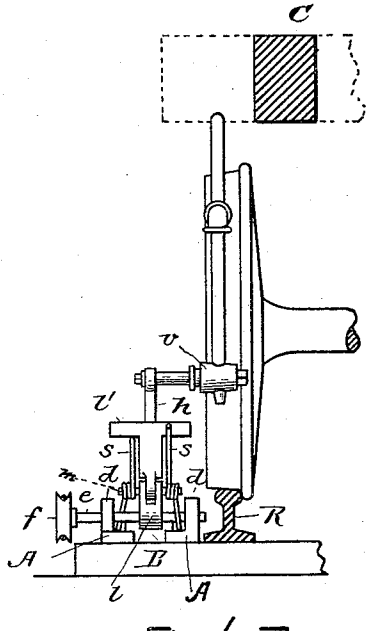


Fig. 2.

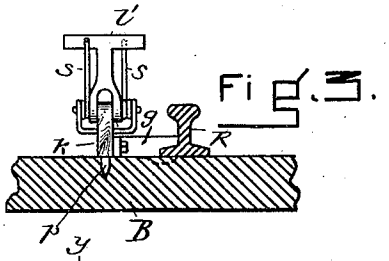


Fig. 3.

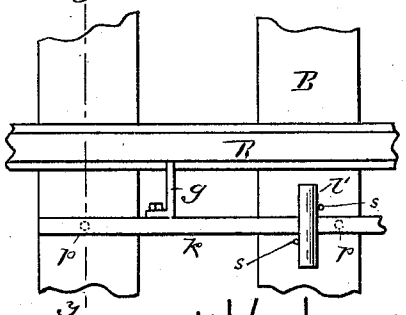


Fig. 4.

WITNESSES

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DEVICE FOR AUTOMATICALLY OPERATING CAR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 457,313, dated August 4, 1891.

Application filed March 23, 1891. Serial No. 386,151. (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 Devices for Automatically Operating the Valves of Power Car-Brakes, of which the following description is a specification.

My invention relates to improvements in the construction of the devices which are placed beside the rail of a railway to act upon the lever which operates the brake-valve of a passing train; and it consists of a jointed arm, the lower end of the lower portion of which is rigidly attached to a shaft supported beside the track and having a pulley or crank upon one end, by which this shaft is turned through its connection with a draw-bridge or switch. The upper portion of the arm is pivoted to the lower portion and is normally held in a straight line with the lower portion by means of springs so arranged upon each side thereof that they will yield to any unusual pressure—for instance, the striking of a snow-plow upon the upper portion of the arm—and permit it to turn upon the pivot of the joint between the upper and lower portions; but when the arm is turned downward by the revolution of the shaft to which its lower end is secured the springs will keep the upper and lower portions substantially in line.

In the drawings forming a part of this specification, Figure 1 is a side elevation of my improved brake-valve-operating devices and the pilot of a locomotive with the valve and valve-lever attached thereto. Fig. 2 is a front elevation of the devices with the pilot cut away upon the line *x x*, Fig. 1. Fig. 3 is an elevation of my improved devices as arranged upon a portable frame, with the rail and one sleeper in section. Fig. 4 is a plan view of such portable devices.

Referring to the drawings, in which the same part of the devices is indicated by the same letter in all the figures, A are the supports for the shaft-bearings, which are bolted to the sleepers B beside the rail; *d*, the shaft-bearings; *e*, the shaft; *f*, a pulley upon the end of the shaft, over which a rope *i* runs and from thence to the switch or draw-bridge.

l is the lower portion of the arm constituting my brake-valve-operating device, secured to the shaft *e*, and *l'* the upper portion of that arm, pivoted to the lower portion at *m*. The upper end of the part *l'* is enlarged to present a wider surface for operating the lever *h* of the brake-valve *v*.

s s are two springs, arranged so as to act upon opposite sides of the arm *l'* and hold it normally in an upright position, the springs being of sufficient strength to move the valve-lever *h*, but at the same time allow the arm *l'* to be turned upon its pivot *m* whenever there is any unusual pressure against it, yet automatically return it to the normal position as soon as such pressure is withdrawn. As heretofore mentioned, such unusual pressure might be caused by a snow-plow, which hangs low over the rails. The reason for having the valve-operating device project so far above the rail is to permit the brake-valve and its operating-lever to be located high enough above the rail to pass over all ordinary obstructions without being acted upon.

I also construct a portable device in the same manner, (see Figs. 3 and 4,) except that the arm *l'* is pivoted directly to a strip *k*, preferably made of wood for the sake of lightness. The strip *k* is held securely beside the rail by means of two or more clamp-pieces *g*, fastened to the strip *k* at one end and at the other end made to fit closely the lower flange of the rail, and two or more spikes *p*, projecting from the lower side of the strip *k*, which are forced down into the sleepers B after the clamps are locked upon the rail.

When the switch or draw-bridge, with which the rope *i* is connected, is closed, the rotation of the pulley *f* turns the jointed arm *l l'* down into the position shown in dotted lines, Fig. 1, out of operative relation to the valve-lever *h*.

The operation of the device will be readily understood by reference to Fig. 1, where the valve-lever *h* is shown in contact with the operating device *l'* and has been partially turned to a position which will open the brake-valve *v*. A little farther advance of the locomotive will turn the lever *h* nearly to a horizontal position, open the valve *v*, and set the brakes.

I claim—

In an automatic brake-valve-operating de-

vice, the combination of a rocking shaft supported in bearings beside the rail and connected with a switch or draw-bridge, a two-part jointed arm with one end of the lower part secured to said shaft and the upper part adapted to tilt forward or backward upon the pivot connecting it with the lower part, and a spring or springs to hold the upper part of the arm normally in a straight line with the lower part and return it to its normal position when deflected in either direction, substantially as described.

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Witnesses:
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