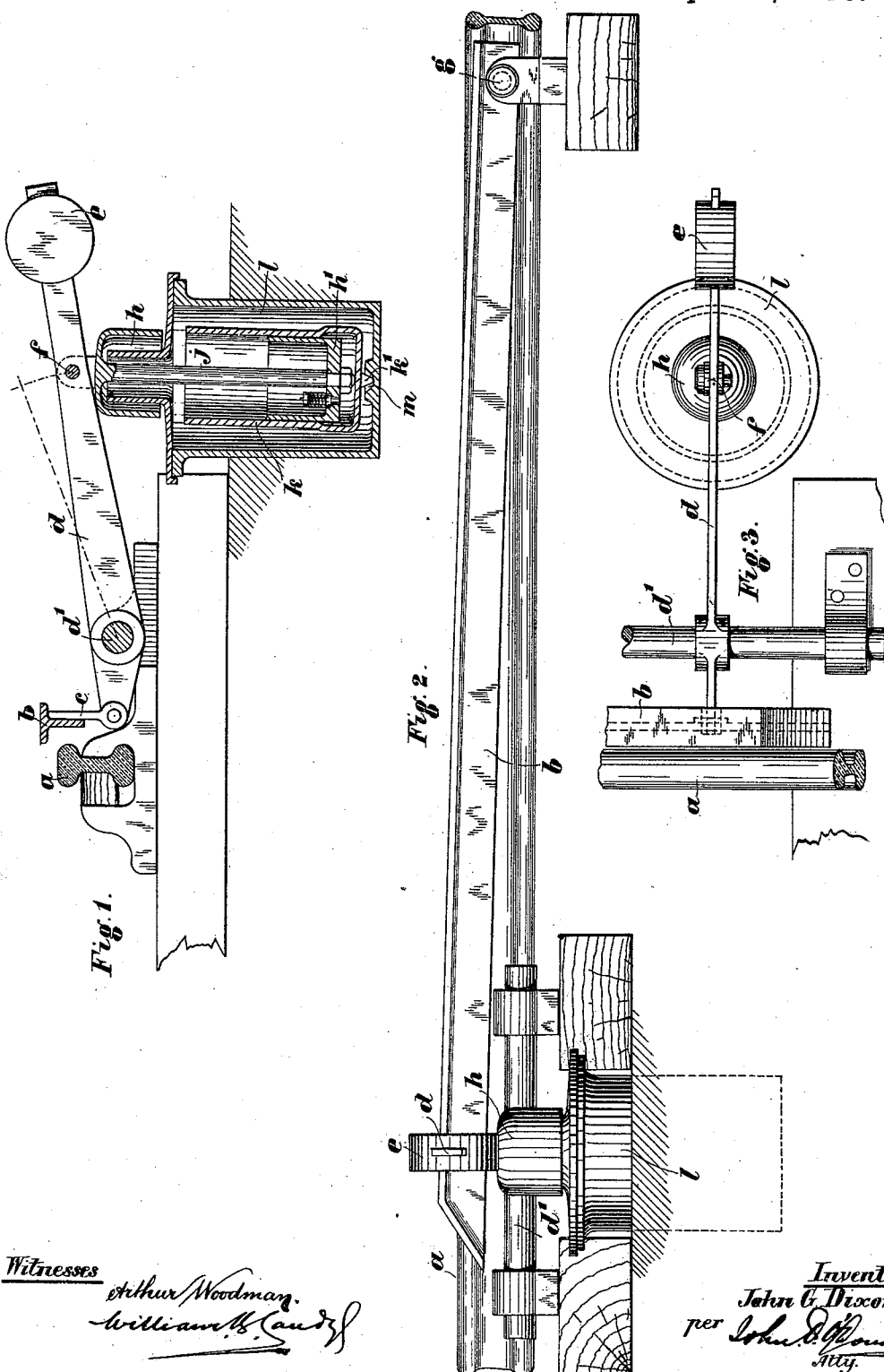


(No Model.)

J. G. DIXON.
TREADLE FOR USE IN RAILWAY SIGNALING.

No. 538,156.

Patented Apr. 23, 1895.



UNITED STATES PATENT OFFICE.

JOHN GEORGE DIXON, OF HUDDERSFIELD, ENGLAND.

TREADLE FOR USE IN RAILWAY SIGNALING.

SPECIFICATION forming part of Letters Patent No. 538,156, dated April 23, 1895.

Application filed November 5, 1894. Serial No. 527,934. (No model.) Patented in England October 3, 1894, No. 18,714.

To all whom it may concern:

Be it known that I, JOHN GEORGE DIXON, a subject of the Queen of Great Britain and Ireland, residing at Ivy House, Lindley, Huddersfield, in the county of York, England, have invented certain new and useful Improvements in Treadles for Use in Railway Signaling, (for which I have obtained a patent in Great Britain, No. 18,714, dated October 3, 1894,) of which the following is a specification.

My invention relates to improvements in the form of dash-pot or cylinder described in the specification of Letters Patent granted to me in the United States, No. 527,481, dated October 16, 1894. In that specification there was described a treadle bar fulcrumed at one end below the rail and projecting above the rail at the other end. Attached to that bar was a transverse lever and at the other end of the transverse lever a piston working in a cylinder. The cylinder was fixed on timbers and was consequently rigid. With this cylinder, if the timbers got out of position or the rails were packed or through any cause the position of the piston was slightly moved or the transverse lever moved out of its position, there was a great tendency to the piston binding in the cylinder, getting jammed and rendering the correct working thereof difficult.

With my present invention I arrange that the cylinder itself is an oscillating one pivoted at the bottom or resting loosely and oscillating in a socket, so that whatever variation may take place through the packing of the sleepers or sinking or movement to either side of the cylinder no obstruction can take place because the cylinder absolutely works on a center and accommodates itself to any unevenness that may arise.

My invention consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In order that my invention may be better understood and more readily carried into effect I will describe the drawings hereto annexed.

Figure 1 is a cross section showing the rail, sleeper, dash-pot or cylinder and cylinder case. Fig. 2 is a side elevation of my apparatus. Fig. 3 is a plan of the dash-pot or cylinder partly showing the treadle bar.

The same letters refer to the same parts in the several figures of the drawings.

a is the rail; *b*, the treadle bar; *c*, the connection from the latter to the transverse lever *d*.

d' is a rocking shaft forming the fulcrum of the transverse lever *d*; *e*, the balance weight.

f is the pin connecting the transverse lever to the piston rod.

g is the fulcrum of the treadle bar.

h is the upper cap of the piston rod.

j is the piston rod; *h'*, the piston.

k is the cylinder; *k'*, the pivot; *l*, the cylinder case, and *m* the cup at the lower end of the cylinder case receiving the pivot *k'*.

The action of my invention is as follows:—

In the normal position of the treadle the end attached to transverse lever *d* is above rail level and in position to be struck by the first wheel of the passing train. When the treadle is depressed by the passage of the train the far end of the transverse lever is moved upward into the dotted position shown in Fig. 1 and the piston carried with it. The piston is free to move upward as the air has a free exit. During the passage of the train the treadle is kept out of position free of further blows from the wheels from the fact that before the treadle can return to its normal position, that is, above rail level, the air must escape from the lower part of the cylinder through the valve to the upper part. The time necessary for this movement is a matter of adjustment and can be regulated as desired, depending on the operator. The principal feature of my invention, however, consists that the cylinder, through the pivot *k'* and its seating *m*, accommodates itself to any unevenness of the road and consequently the piston is always correct in action, there being no tendency to jamming.

Having fully described my invention, I wish it to be understood that I am aware that a dash-pot or piston and cylinder has been used before in railway signaling. I therefore do not desire to broadly claim this, but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination, with the treadle bar, and its transverse lever; of a dash pot cylinder supported on a central pivot *k'* and free

to move laterally in all directions, and a piston sliding in the said cylinder and operatively connected with the said lever, substantially as set forth.

- 5 2. The combination, with the treadle bar, and its transverse lever; of a stationary casing provided with a cup *m* at its bottom, a dash pot cylinder provided with a central pivot *k'* resting in the said cup and free to
10 move laterally in all directions, and a piston

sliding in the said cylinder and operatively connected with the said lever, substantially as set forth.

JOHN GEORGE DIXON.

Witnesses:

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