

No. 621,727.

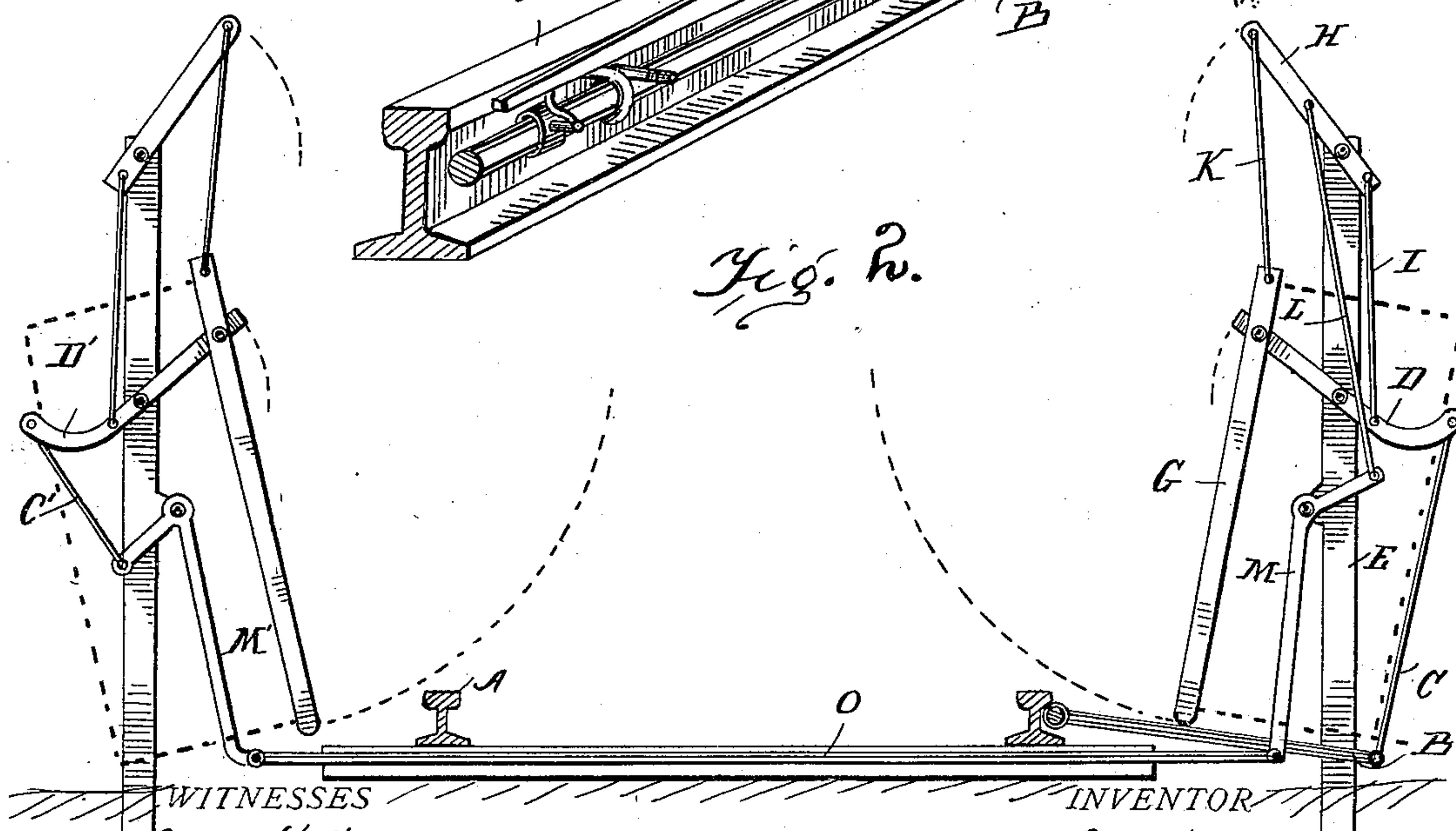
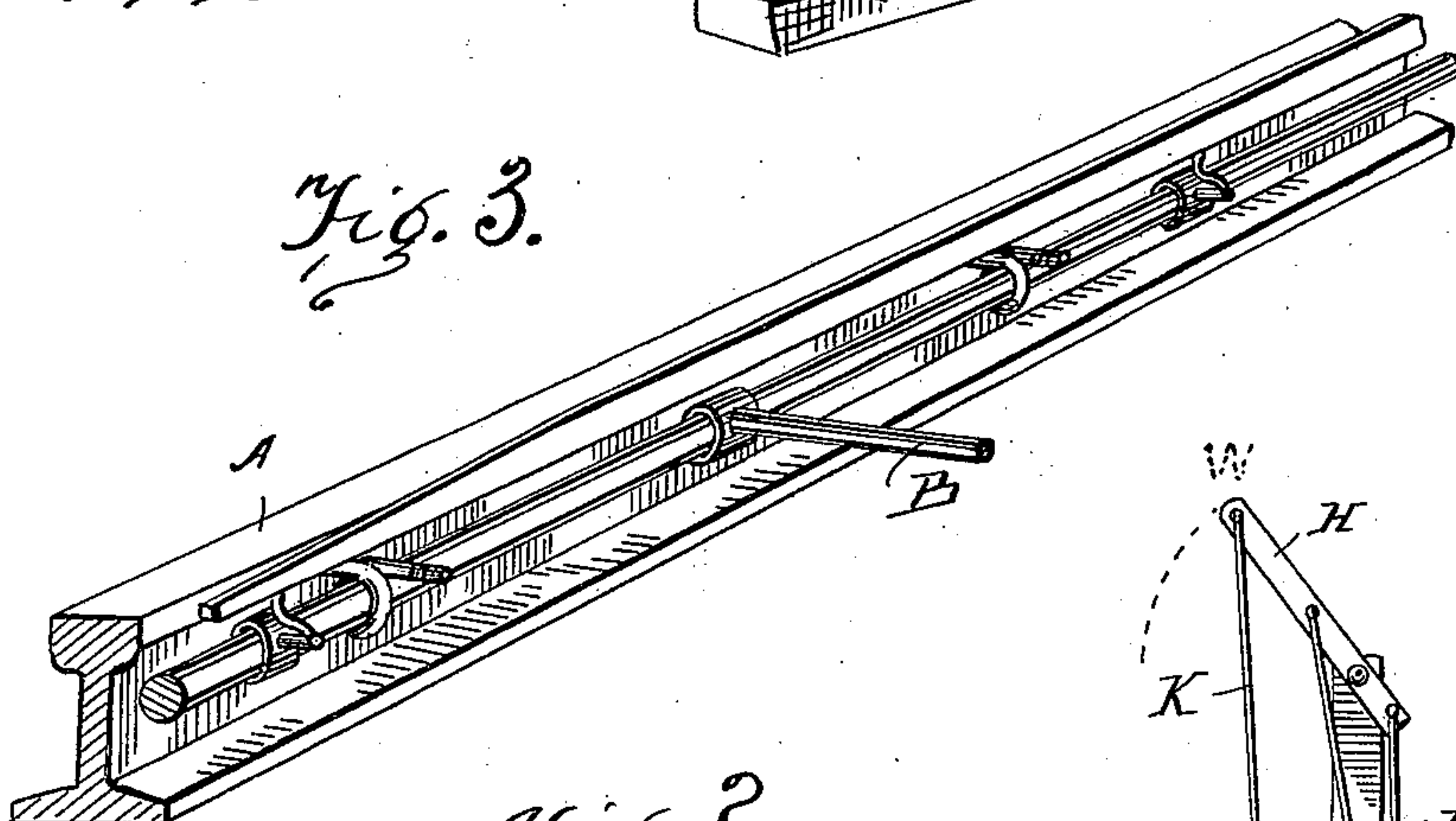
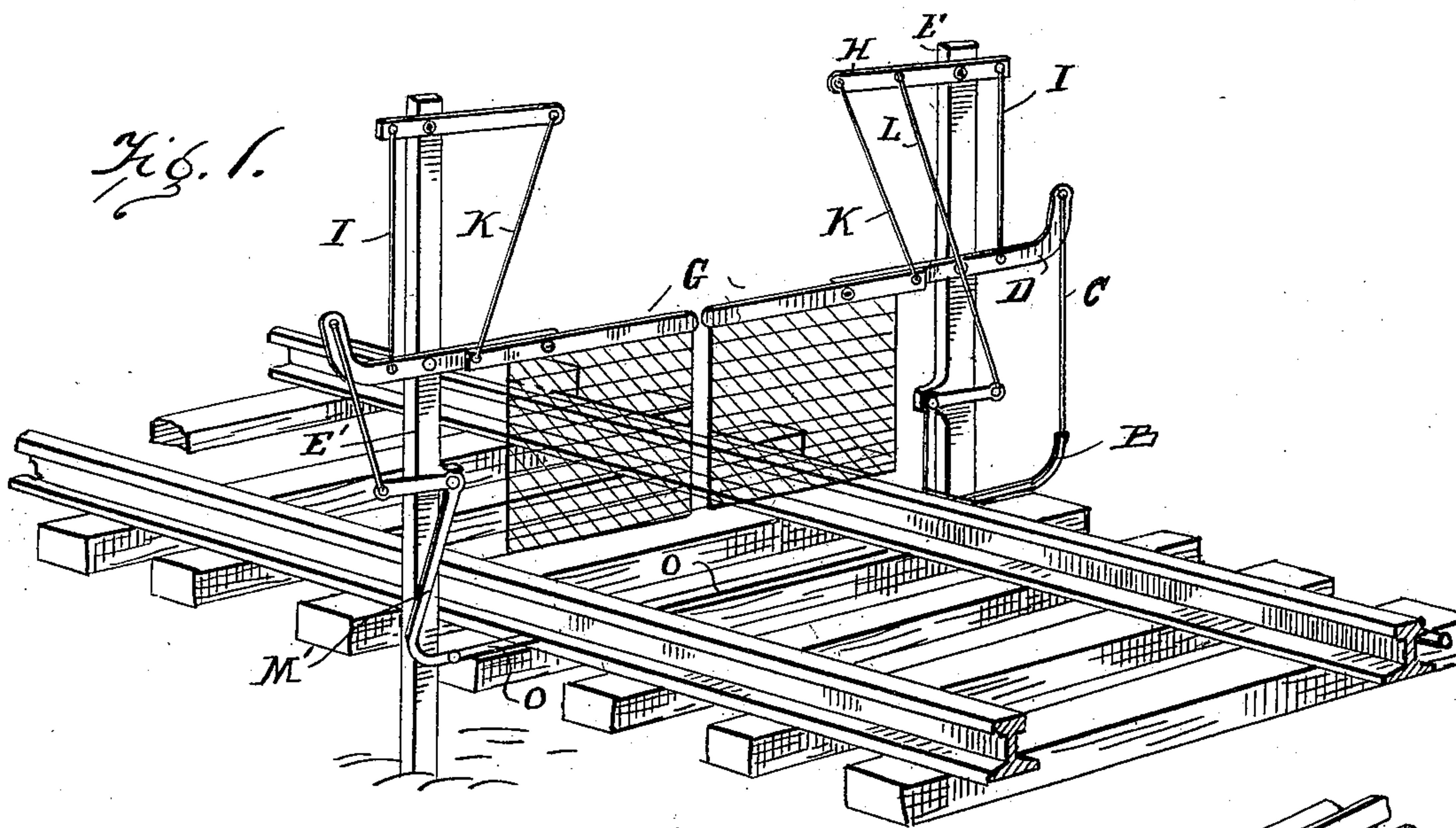
Patented Mar. 21, 1899.

J. WILHELM.

GATE.

(Application filed Dec. 12, 1898.)

(No Model.)



WITNESSES
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JOSEPH WILHELM, OF WHEATON, MINNESOTA, ASSIGNOR OF ONE-HALF TO
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GATE.

SPECIFICATION forming part of Letters Patent No. 621,727, dated March 21, 1899.

Application filed December 12, 1898. Serial No. 699,039. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WILHELM, a citizen of the United States, residing at Wheaton, in the State of Minnesota, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to automatic gates for cattle-guards and for other purposes along railways, whereby the passing trains are made to open and close the gates.

In my Patent No. 614,915, dated November 29, 1898, I describe and claim a mechanism for operating a cattle-guard gate; and the mechanism of that invention or other mechanism which operates in similar manner may be used to operate the mechanism of the present invention.

The object of this invention is to produce a gate which will swing in a very small space and which will largely counterbalance itself.

Figure 1 is a perspective view of a section of railway with a double gate according to this invention arranged across the track. Fig. 2 is a section of the railway, showing the position of parts of the open gate and by dotted lines indicating the lines of movement of some of the parts and the outline of the open gates. Fig. 3 is a perspective view of one of the rails of the railway and the gate-operating rock-shaft and its mechanism therefor, the same being according to my aforesaid invention and being a convenient means for operating the gate of the present invention.

I will first describe the construction and operation of a single gate, as illustrated at the right-hand side of Figs. 1 and 3.

A A indicate the rails of a railway-track. Projecting at the side of one of the rails there is an arm B, which swings down on the approach of a train. To this arm B a draw-rod C is attached, and the other end of this draw-rod is connected to gate-lever D. Gate-lever D is pivoted to post E, which stands beside the track, and when the gate is closed the position of this lever is preferably horizontal, or nearly so, one end of the lever projecting nearly over the track-rail.

The gate-bar G is pivoted to gate-lever D and extends inwardly from its pivot over the

track or other space to be closed and also outwardly alongside the lever D, (when the gate is closed.) Any suitable form of wirework or the like may be connected to the gate-bar G to complete the gate.

A lever H is pivoted to the post E, and this lever H, I term the "top" lever. The outer end (that end away from the track) of this lever H is connected to gate-lever D by a draw-rod (wire or cord) I, and the inner end of said lever H is connected to the outer end of gate-bar G by a rod (wire or cord) K; but preferably rods will be used as connecting-links, as the rigidity of the rods causes them to act both as draw and push rods. Such connecting-rods are usually passed loosely through holes in the levers.

The mechanism described is sufficient to effect the operation of one gate, and one gate may be made to close the line or opening, if desirable. When constructed as described, the gate being in the position of Fig. 1, the downward movement of an arm B draws down on the outer end of gate-lever D and the inner end of lever D rocks upward, raising the gate-bar pivot with it. The downward movement of outer end of lever D causes rod I to rock top lever H, and this lever, by means of rod K, lifts the outer end of gate-bar G and turns down the inner end of said bar. This compound movement of gate-pivot and gate-bar causes the gate-bar and attached gate to swing outward and assume a nearly vertical position near post E, as indicated in Fig. 2. The bar G will itself serve as a gate should no other part be provided.

As the parts can be so arranged that the weight lifted substantially balances the weight lowered, the opening or closing of the gate may be effected with very little expenditure of power and with great rapidity.

Where a double gate is used, as illustrated, the parts described, except the arm B and rod C, are duplicated at the opposite side of the track. In such case a draw-rod L is connected to the inner arm of top lever H, and this rod L connects to one arm of crank-lever M, which lever is pivoted to post E. The other arm of crank-lever M has a draw-rod O connected thereto, and this draw-rod O passes below the track-rails and connects to a crank-

lever M' on the opposite side of the track. Crank-lever M' is connected by a draw-rod C' to the gate-lever D', and from that on the construction and operation of the left-hand gate
5 are like that of the right-hand gate, heretofore described.

Should it be desired to open the gate by such power as described and close it by other means, a weight or power might be applied.

10 What I claim is—

1. A gate for railway cattle-guards and the like, having a supporting-post, a gate-lever pivoted to said post and a gate-bar pivoted to said lever, a top lever pivoted to the post, an
15 operative connection from the gate-lever to the top lever outside the post, and an operative connection from the top lever to the gate-bar within the post, all combined substantially as described.

20 2. In a gate for cattle-guards and the like, the upright post, the gate-lever and top lever pivoted thereto, and the gate-bar pivoted to the gate-lever, a draw-rod connecting the outer arms of the gate-lever and top bar-lever, and
25 a draw-rod connecting the inner end of the top lever to the gate-bar, and an operating-lever moved by the train and connected to the outer arm of the gate-lever, all combined substantially as described.

3. The double gate described consisting essentially of a post at each side of the opening to be closed by the gate, a gate-lever and
30 a top lever pivoted to each post, gate-bars pivoted to each gate-lever and projecting toward each other in closed position, draw-rods connecting the outer arms of gate-levers to top
35 levers and draw-rods connecting the inner ends of top levers to gate-bars, and a connection from one operating-lever to the other whereby the gates move together, all combined
40 substantially as described.

4. In a cattle-guard gate as described, the two upright posts each having a top lever and a gate-lever, and a gate pivoted to the gate-lever, and connections as described whereby
45 the lever movement operates the gate, crank-levers pivoted to each post and to each other as described, and connections from the operating-levers to the crank-levers whereby the
50 two parts are caused to operate together, all combined substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH WILHELM.

Witnesses:

T. K. MORK,
OSCAR RYDELL.