

951,019.

J. W. MORROW.
AUTOMATIC RAILWAY GATE.
APPLICATION FILED DEC. 16, 1908.

Patented Mar. 1, 1910.
3 SHEETS—SHEET 1.

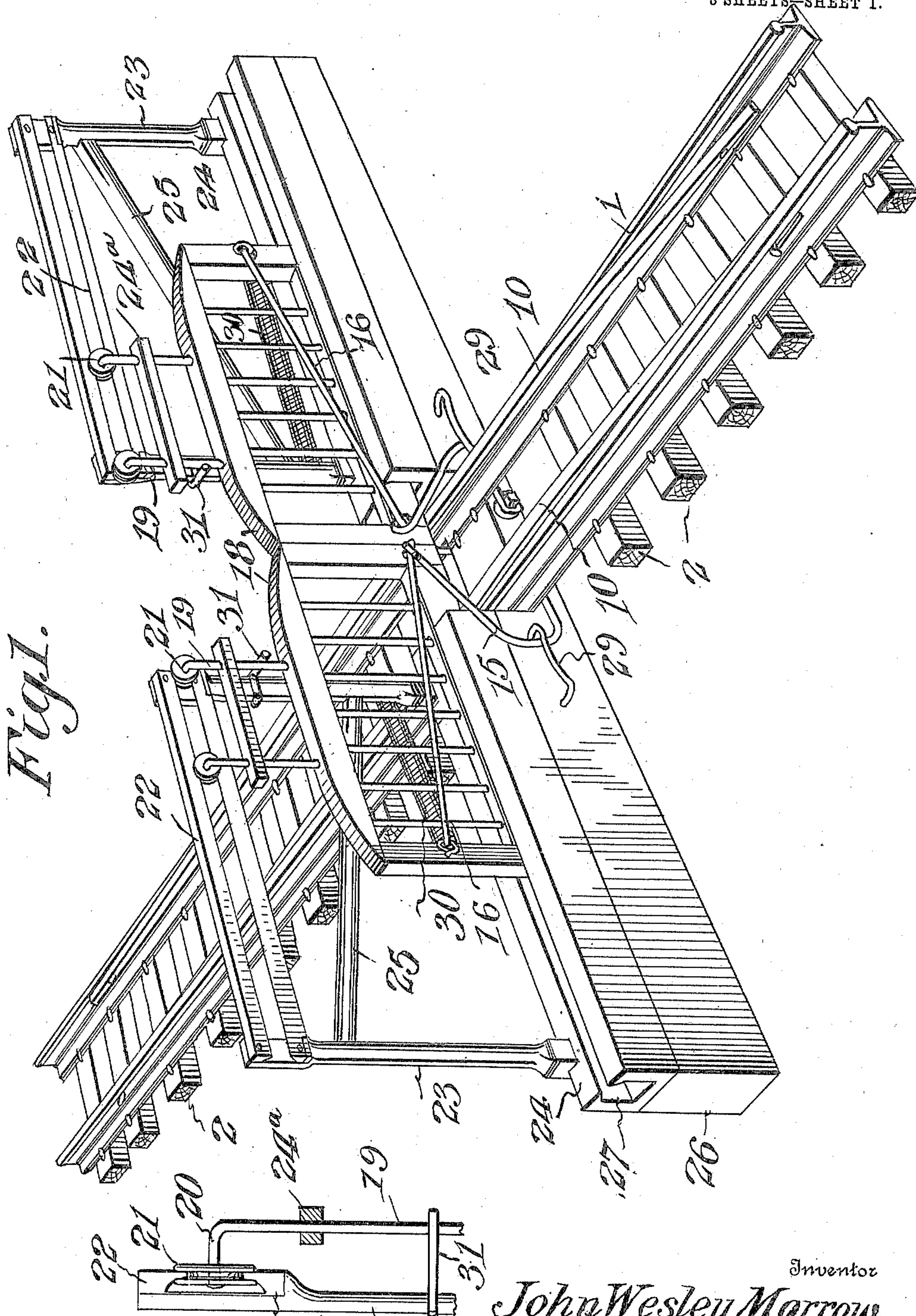


Fig. 1.

Fig. 4.

Witnesses:

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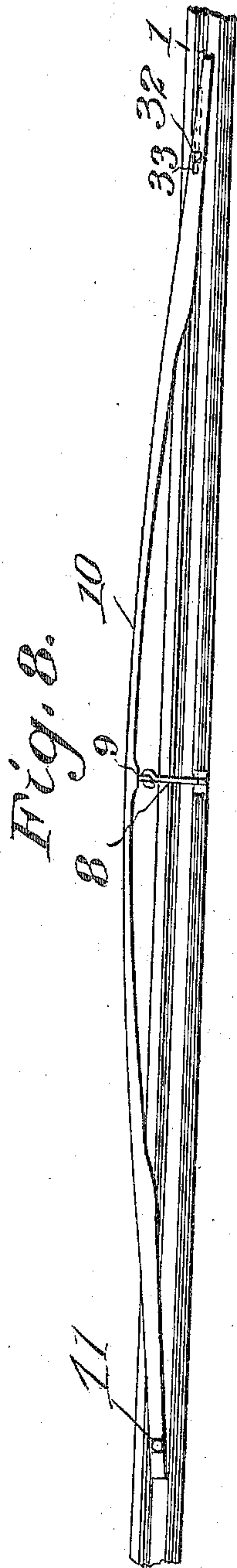
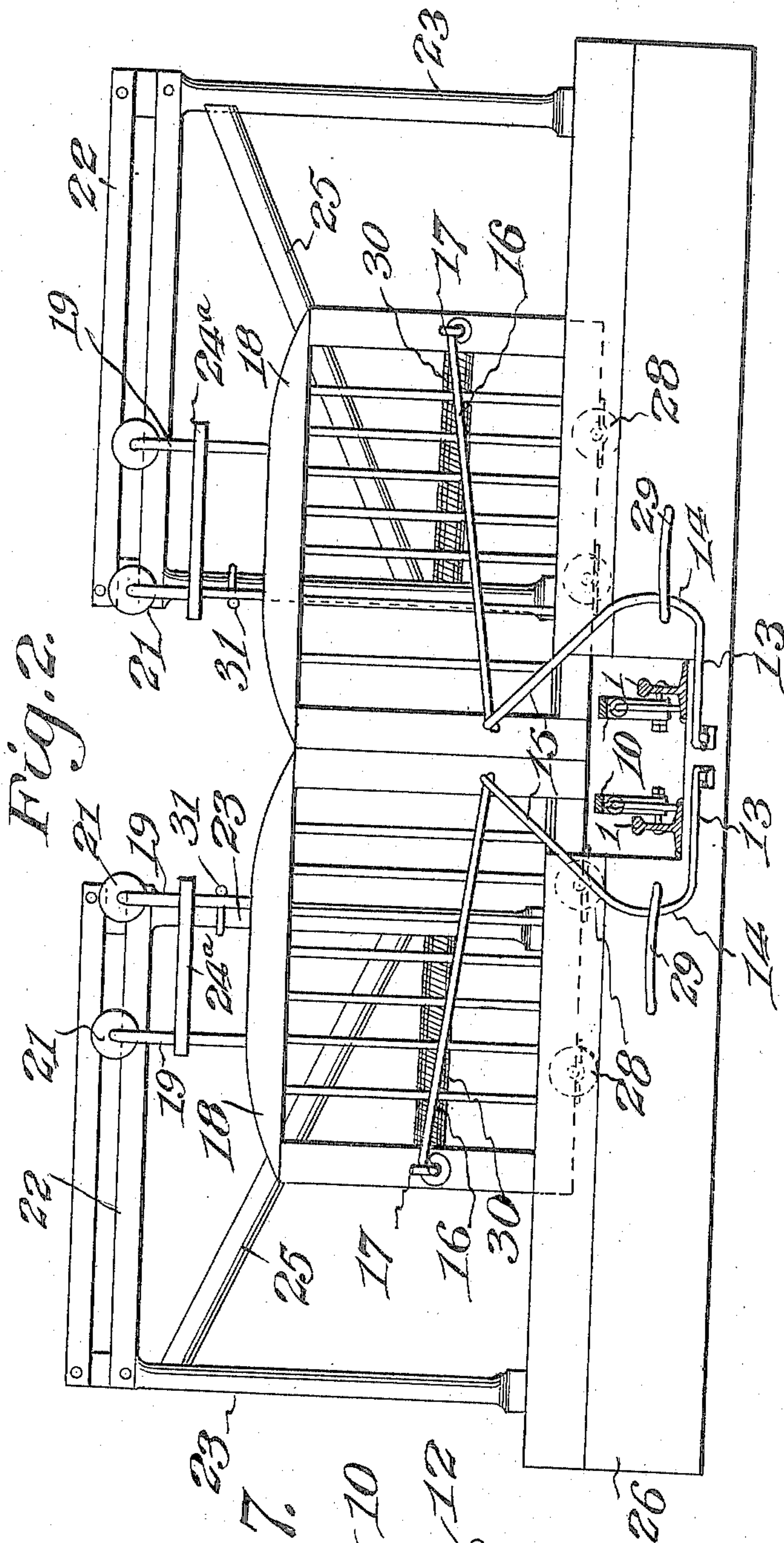
By Victor J. Evans.

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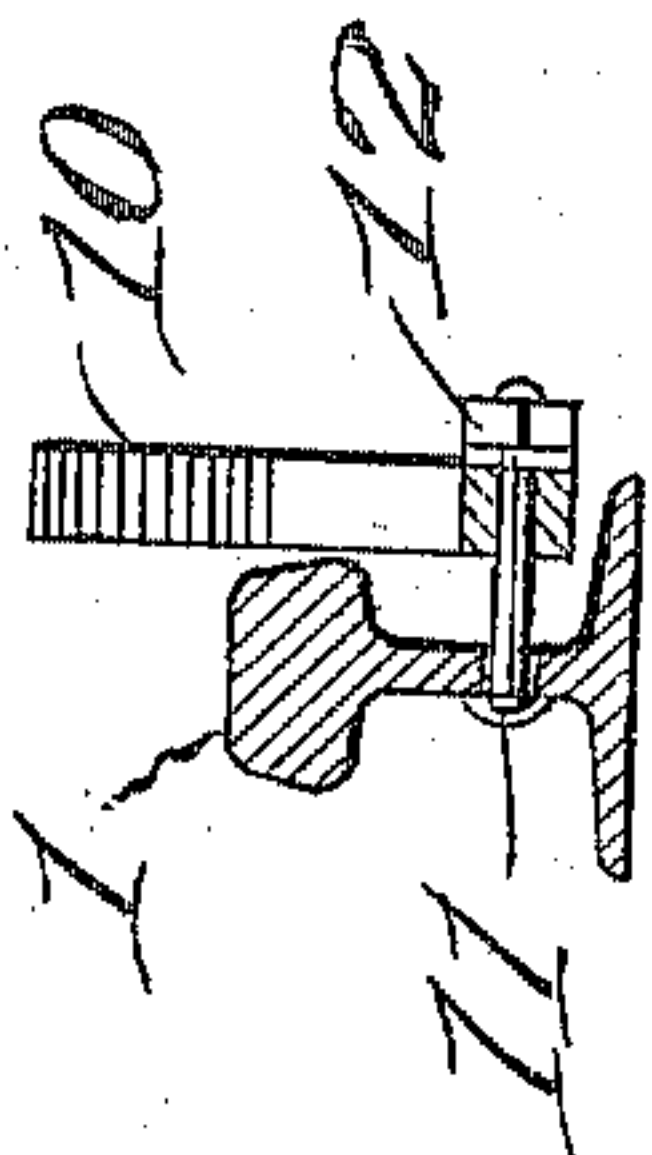
Patented Mar. 1, 1910.
3 SHEETS—SHEET 2.



Witnesses

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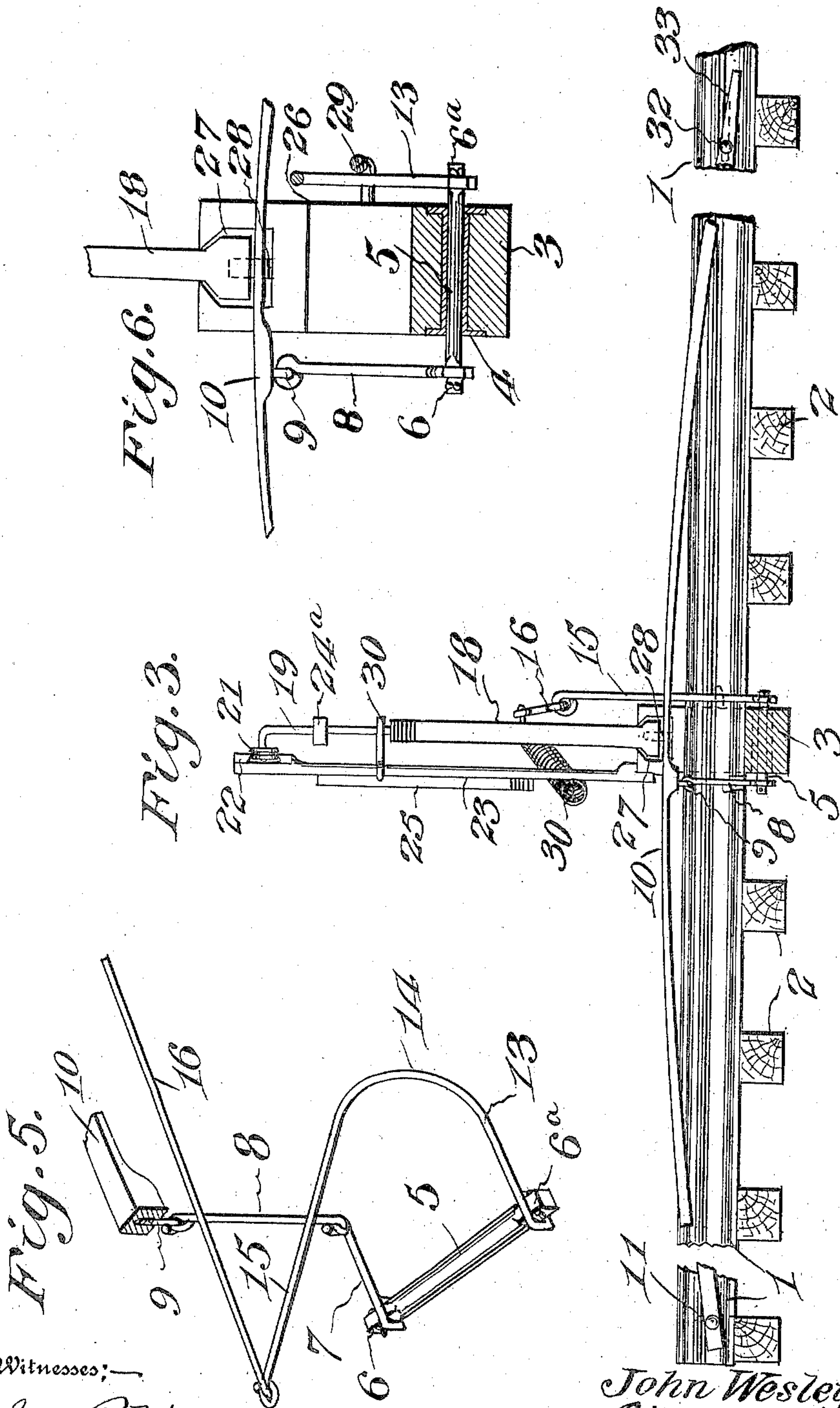
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3 SHEETS—SHEET 3.



Witnesses:

Joe. P. Wähler.
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UNITED STATES PATENT OFFICE.

JOHN WESLEY MORROW, OF HENDERSON, KENTUCKY.

AUTOMATIC RAILWAY-GATE.

951,019.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed December 16, 1908. Serial No. 467,774.

To all whom it may concern:

Be it known that I, JOHN WESLEY MORROW, a citizen of the United States of America, residing at Henderson, in the county of Henderson and State of Kentucky, have invented new and useful Improvements in Automatic Railway-Gates, of which the following is a specification.

This invention relates to automatic railway gates, and one of the principal objects of the same is to provide durable and efficient means operated by a moving train for opening and closing a gate or gates which extend transversely of a track to prevent cattle or animals from passing from one side of the gate to the other upon the car track.

Another object of the invention is to provide a pair of sliding gates and means actuated by the moving train for separating said gates and thus opening a passageway for the train, means being provided for closing the gates after the train has passed through.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of an automatic gate made in accordance with my invention. Fig. 2 is an elevation of the gate, the tracks and the bearing springs being shown in section. Fig. 3 is an elevation illustrating the inner side of one of the track rails and the manner of connecting the bearing spring thereto, together with the contiguous parts shown in elevation. Fig. 4 is a detail elevation illustrating the manner of supporting the gates from above. Fig. 5 is a detail perspective view, showing the spindle and connections for operating the gate. Fig. 6 is a detail elevation and partial section, showing the manner of mounting the spindle in a sleeve extending through the tie. Fig. 7 is a detail section showing the manner of supporting one end of one of the bearing springs. Fig. 8 is a detail view in elevation, showing one of the bearing springs secured to one of the track rails upon the inside of said rail.

Referring to the drawing, the numeral 1 designates the track rails, and 2 are the ties. At the point where the gate is supported the tie 3 is provided with an opening extending horizontally through the same in line with the track and upon the inside thereof, and placed in said opening is a bearing sleeve 4. Mounted in the bearing sleeve 4 is the spin-

dle 5, said spindle 5 being round in cross section for nearly its entire length and provided with squared ends 6, 6^a, said ends projecting beyond the bearing sleeve 4. Connected to one of the squared ends of the spindle 5 is a rod or bar 7 which projects at right angles to the spindle 5 and has connected to its outer end a link 8, the upper end of which is engaged with a hook 9 connected centrally to the bearing spring 10. It will be understood that there are two of these bearing springs and that they are connected to the spindles 5 in substantially identical manner. Hence a description of one will serve as a description of both.

The bearing springs 10 are of bow-shape, as shown in Figs. 3 and 8, and at one end the spring is secured by means of a bolt 11 which extends through the track 1 and through the spring 10, said bolt being provided with an end nut 12, as shown in Fig. 7.

Secured to the squared end 6^a of the spindle 5 is a gate-operating lever 13, said lever having a curved portion 14 and an upwardly and inwardly extending portion 15. Secured to the end of the portion 15 of the lever is a connecting rod 16, the opposite end of which is attached to the outer upright of the gate, as at 17.

The two gates 18 are each provided with supporting bars 19, the upper ends of said bars being bent at right angles, as at 20, carrying grooved rollers 21 which move in spaced tracks 22 secured to supporting posts 23 rising from the guideway 24 in which the gates are mounted to slide. The supporting bars 19 are properly braced by a cross bar 24^a, and the posts 23 are strengthened by an oblique bar 25. The guideway 24 rests upon a suitable base 26 which may be an extension of the tie 3. The guideway 24 is provided with a longitudinal dovetail recess 27, and the guides slide in this recess and are provided with rollers 28 upon which they are adapted to move. The gates 18 are shaped at their lower ends to conform with the dovetail recess 27. Incident to this construction it will be seen that should it be desired to repair the gates the operating levers and the springs 30 can be detached therefrom and the gates removed bodily in an outward direction and entirely detached from the tie 26. By forming the lower portions of the gates to conform with the dovetail recess the gates can be always moved to their proper alinement and they cannot be-

come casually moved upwardly and out of said recess. The curved portions 14 of the levers 13 are inclosed within suitable keepers 29 which limit their action. Returning
 5 springs 30 are secured at one end to the gate and at the opposite end to the inner post 23, said springs exerting their stress to close the gates after they have been opened by the depression of the bearing springs 10. Suitable
 10 stops 31 are secured to the inner posts 23 for bearing against the supporting bars 19 upon the inner sides of the gates to form buffers.

One end of each of the bearing springs 10 is connected to the rail 1 by means of a bolt
 15 32 which passes through a slot 33 in the web of the rail 1, this construction permitting the movement of the end of the spring as required when depressed by the wheel of a passing car.

20 The operation of my invention may be briefly described as follows: As the car wheels pass over the tracks 1 and come into contact with the bearing springs 10, the latter are depressed until this action serves to
 25 partially rotate the spindles 5 which throw the bars 7 and actuate the levers 13 to open the gate. After the train has passed over the springs 10, the returning springs 30 serve to close the gates.

30 From the foregoing it will be obvious that a gate made in accordance with my invention will operate automatically to open when a train passes in either direction and to close after the train has passed, thus preventing
 35 cattle or animals from passing through upon the track. It will also be obvious that the construction is comparatively simple, and that the gate will operate smoothly and efficiently for its purpose.

40 Incident to the arrangement of the springs 10 they frictionally engage to an extent the sides of the rails of the track structure and through such engagement the elasticity of the springs to an extent is resisted. The
 45 springs 30 while serving the hereinbefore described purpose of normally holding the gate closed serve to actuate the controlling levers 13 to assist the springs 10 to automatically move back to their normal posi-
 50 tions after pressure has been released therefrom. It will thus be seen that the frictional engagement of the sides of the rails

with the outer surfaces of the springs 10 in no way mars the efficiency of the structure and the parts cannot easily become inoper- 55
 ative.

I claim:—

1. The combination with a track structure having one of its supporting ties extended beyond the sides of the rails of the structure 60 and formed upon its upper surface with guideways, of a gate embodying companion sections slidable in the guideways of the extended tie, revoluble spindles mounted in the tie, actuating levers connecting the spindles 65 with the sliding gate sections, a plurality of continuous springs extending longitudinally of the rails of the track structure and extended at points beyond the tread surfaces of the rails to be actuated and moved against 70 their tension by the rolling stock and connected with the spindles to revolve them in one direction and to revolve the spindles in opposite directions when pressure is released from the springs, and a retractile spring 75 operatively connected with each gate section, said retractile springs cooperating with the said longitudinally extending springs to assist them in moving the gate sections to their closed positions. 80

2. The combination with a track structure having one of its supporting ties extended beyond the rails of the structure and formed upon its upper surface with dovetail guide- 85 ways, the said guideways opening at their outer ends on the ends of the said extended tie, of a gate embodying companion sections slidably mounted in the said guideways and provided with dovetail lower portions oper- 90 atively positioned in the said dovetail guideways, said sections having supporting rollers to travel on the upper surface of the tie between the walls of the guideways, means for normally holding the gate sections in their closed positions, and wheel-actuated means 95 for moving the gate sections to their open positions.

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

JOHN WESLEY MORROW.

Witnesses:

JOE KOEWLER,

SAM. H. CROMWELL.