E. ADAMS & C. NIEMITALO.

RAILROAD CROSSING GATE.

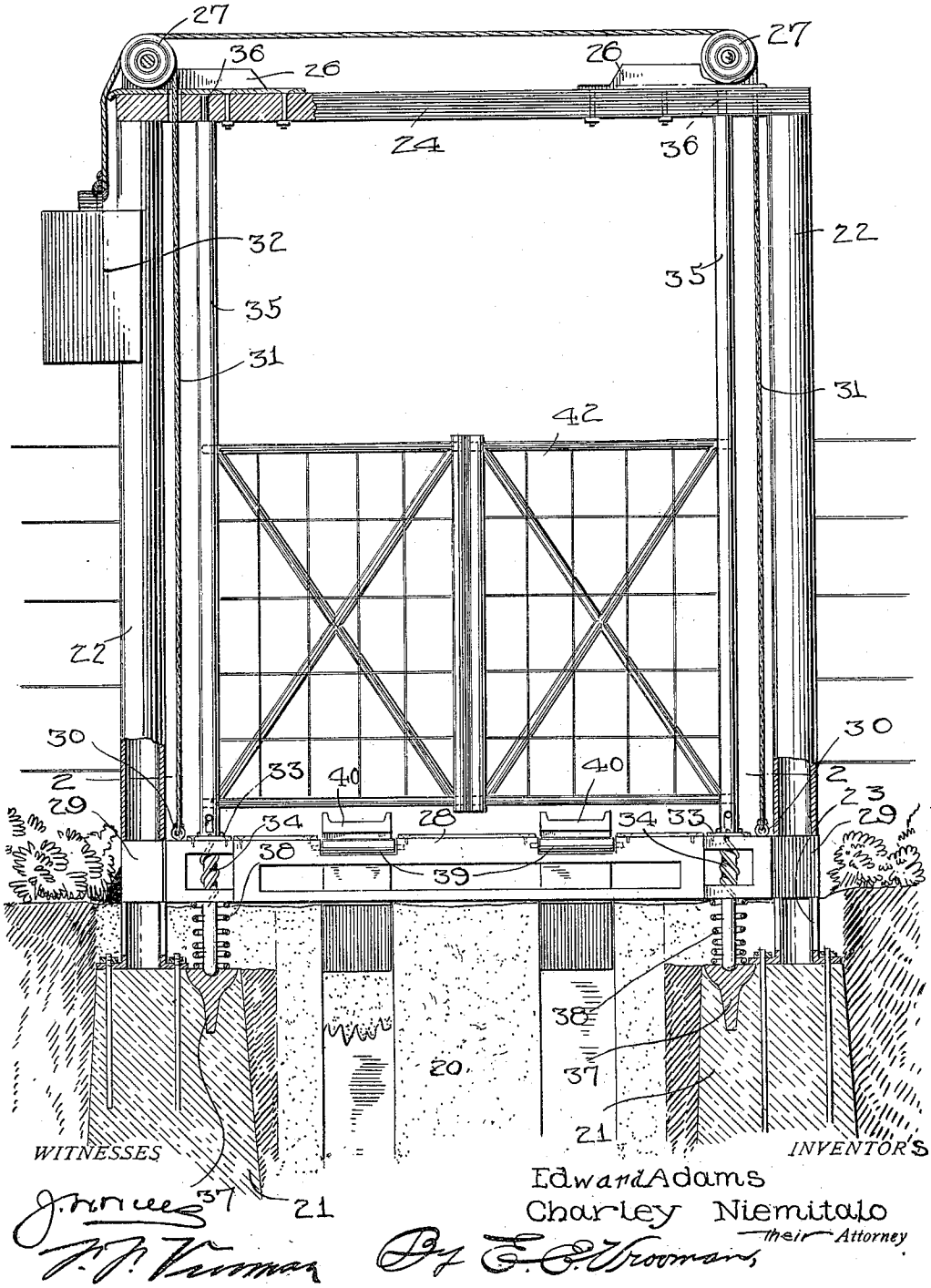
APPLICATION FILED APR. 14, 1914.

1,132,821.

Patented Mar. 23, 1915.

3 SHEETS—SHEET 1.

Fig. 1



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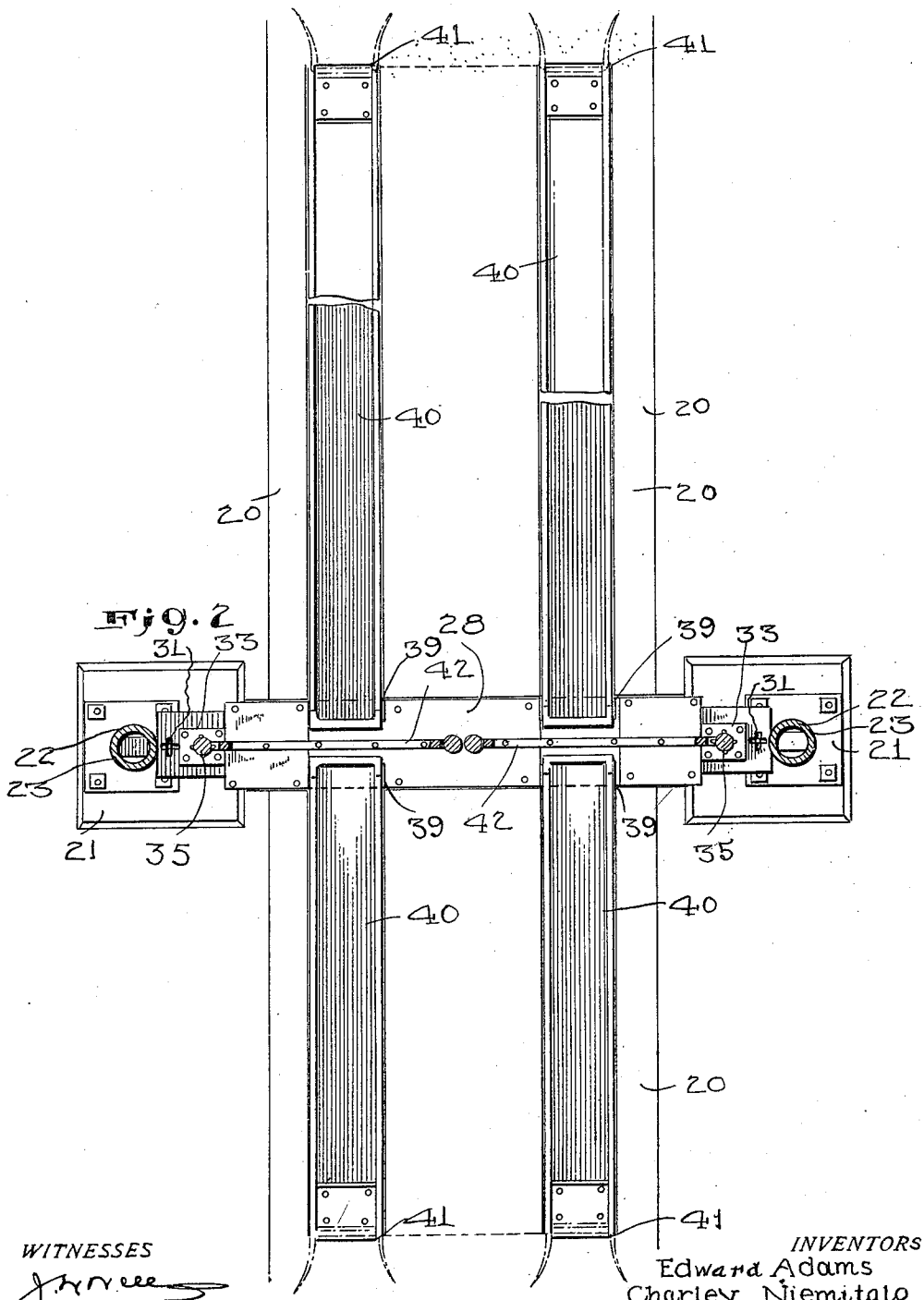


Fig. 2.

WITNESSES

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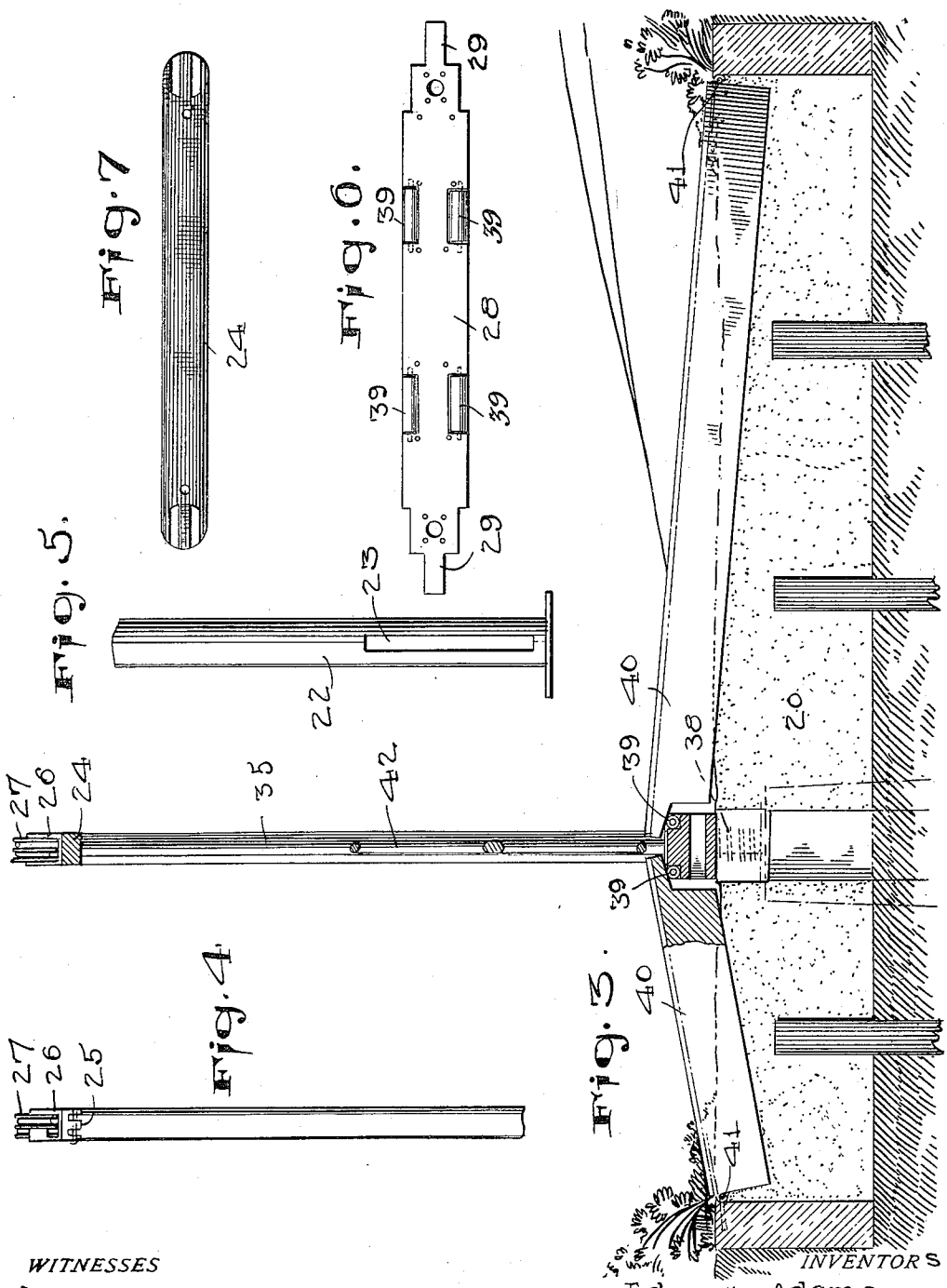
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UNITED STATES PATENT OFFICE.

EDWARD ADAMS AND CHARLEY NIEMITALO, OF BELDEN, NORTH DAKOTA.

RAILROAD-CROSSING GATE.

1,132,821. Specification of Letters Patent. Patented Mar. 23, 1915.

Application filed April 14, 1914. Serial No. 831,852.

To all whom it may concern:

Be it known that we, EDWARD ADAMS, a citizen of the United States, and CHARLEY NIEMITALO, a subject of the Czar of Russia, residing at Belden, in the county of Mountrail and State of North Dakota, have invented certain new and useful Improvements in Railroad-Crossing Gates, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to gates and has special reference to an automatic gate arranged to guard a railroad crossing so that animals passing along the road will not turn off the road upon the right of way of the railroad.

The principal object of the invention is to improve and simplify the general construction of devices of this character.

A second object of the invention is to provide a gate operable automatically when a vehicle is driven upon certain approaches thereto.

With the above and other objects in view the invention consists in general of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a front elevation partly in section through a gate constructed in accordance with this invention. Fig. 2 is a horizontal section on the line 2—2, Fig. 1. Fig. 3 is a transverse section through the gate. Fig. 4 is a detail view of the top part of one of the supporting frames. Fig. 5 is a similar view of the bottom of one of the frames or legs. Fig. 6 is a detail top plan view of a certain cross bar used herewith. Fig. 7 is a bottom plan of the cross bar at the top of the frame.

In carrying out this invention a suitable foundation 20 is provided which includes piers 21 whereon are located frame posts 22 having slots 23 adjacent their bottoms. These frame posts are connected at their upper ends by a cross bar 24 which is jointed to the post 22 by a tongue and groove joint 25. Mounted on the cross bar 24 are brackets 26 carrying sheaves 27. At the lower end of the post 22 is a slotted cross bar 28 which has reduced ends 29 slidable in the slots 23. Secured to this cross bar are eyes 30 and to these eyes are secured cords or wires 31 which extend upward over the sheaves and the ends of these cords are connected to a weight 32.

Secured to the cross bar 28 adjacent each of the members 22 is a steep pitched nut 33 wherethrough passes the reduced and threaded end 34 of uprights 35 which form the rear portion of the gate frame and extend upward and terminate in reduced portions 36 held in suitable sockets in the cross bar 24.

Seated in the foundation at the lower end of each of the members 35 is a socket 37 having a rounded recess wherein the lower end of the members 35 rest. Between this socket and the underside of the member 28 at each end there is provided a coil spring 38 which assists the action of the weight 32 in counterbalancing the parts. Secured to each of the members 35 is a gate section 39.

It will be obvious that if the member 28 is depressed the uprights 35 will be caused to revolve by the action of the nut and the gate sections will open. Upon allowing the cross bar 28 to rise the reverse action takes place and the gate sections will close. In order that a vehicle may accomplish this the cross bar 28 is provided with oppositely disposed pairs of rollers 39 and on these rollers rests one end of each of the track members 40, the other end being pivoted to the foundation as at 41. These track members are in the form of shallow channels so that the wheels of the vehicle may roll straight along them and the weight thereof cause the cross bar 28 to be depressed thus operating the gate.

It will be seen, by referring to Fig. 1, that the springs 38 surround the lower ends of the uprights 35 so as to bear upon the lower portions of the cross bar 28 in direct alinement with the threaded operating portions of the device. In this manner the bar 28 will normally be urged upwardly without a binding action at either end thereof since the placing of the springs adjacent the operating portions will cause an even upward pressure.

Having thus described the invention what is claimed as new, is:—

1. In a device of the class described the combination of a pair of vertical frame posts, vertical uprights pivotally supported adjacent said posts, said uprights provided with threaded portions adjacent their lower ends, gate sections fixedly secured to said

uprights, said frame posts provided with vertical slots adjacent their lower ends, a cross bar spanning the distance between said posts, said cross bar provided with a reduced integral end slidably mounted within said slots, said bar provided with a plurality of threaded openings, said vertical uprights passing through said openings so as to allow the threaded portions thereof to engage said threaded openings, whereby upon the moving of said bar said vertical uprights will be swung, the lower ends of said vertical uprights extending for a distance below said bar, coiled springs surrounding the lower ends of said uprights, said springs adapted to bear upon said cross bar, in direct alinement with the threaded openings, thereby normally forcing said bar upwardly and preventing a binding action at either end of said bar, and means for forcing said bar downwardly and compressing said springs.

2. In a device of the class described the combination of a pair of vertical frame posts, vertical uprights pivotally supported adjacent said frame posts, said uprights provided with gate sections, said uprights also provided with threaded portions adjacent their lower ends, said frame posts provided with vertical slots adjacent their lower ends, a cross bar spanning the distance between said posts and provided with reduced ends slidably mounted within said slots, said cross bar provided with a plurality of openings, said uprights extending downwardly through said openings for a spaced distance below said bar, nuts fixedly secured upon said bar and provided with internally threaded portions surrounding said openings, said nuts adapted to engage the threaded portions of said uprights whereby said bar will swing said vertical uprights when the same is moved, and coiled springs surrounding the lower end of each vertical upright, said coiled springs normally urging said cross bar upwardly and bearing in direct alinement with the openings formed in said bar whereby direct pressure will be brought to bear upon the operating portions of the bar and vertical uprights thereby preventing the bar from binding adjacent its end portions, and means for forcing said bar downwardly when it is desired to swing the gate sections.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

EDWARD ADAMS.
CHARLEY NIEMITALO.

Witnesses:
CHAS. ADAMS,
ANDREW SUHTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."