

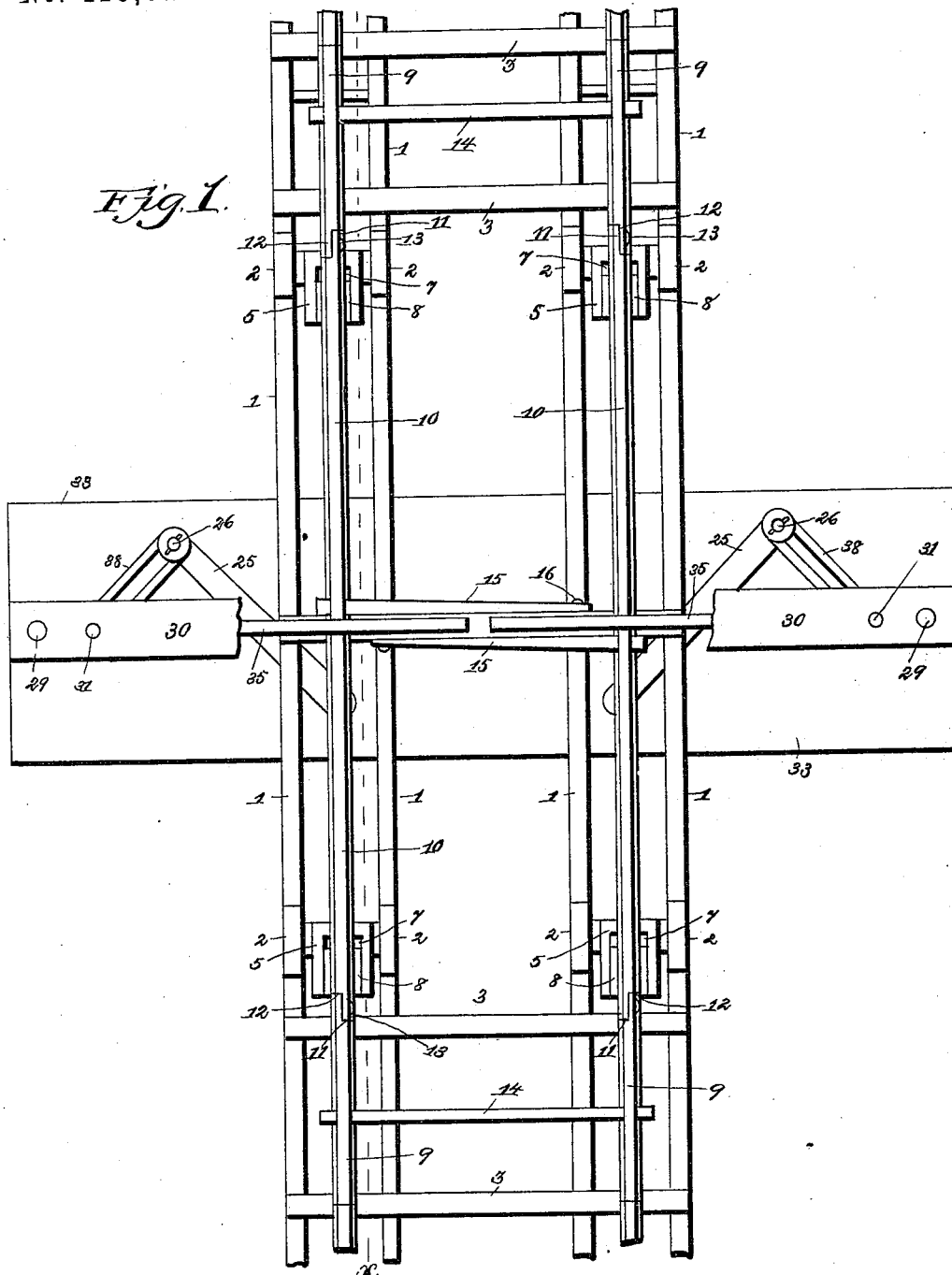
(No Model.)

2 Sheets—Sheet 1.

S. L. ADKINS.
RAILWAY GATE.

No. 419,619.

Patented Jan. 21, 1890.



Witnesses:

Inventor

W. H. L. L. L.
W. S. L. L.

By his Attorneys, Samuel L. Adkins

C. A. Snow & Co.

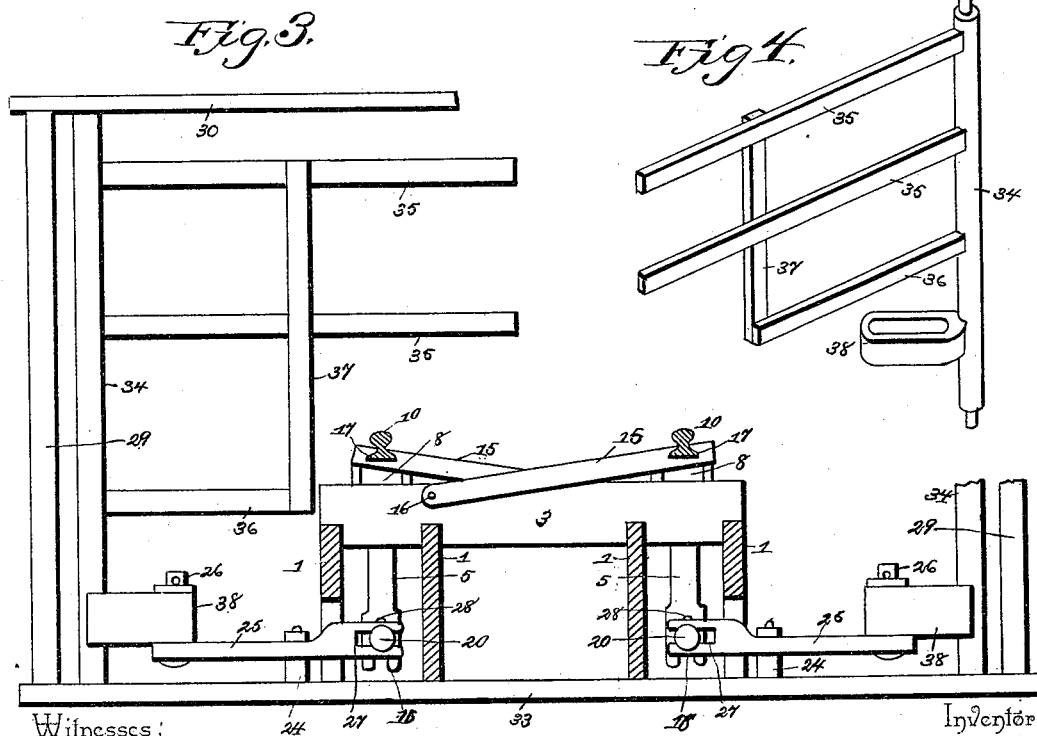
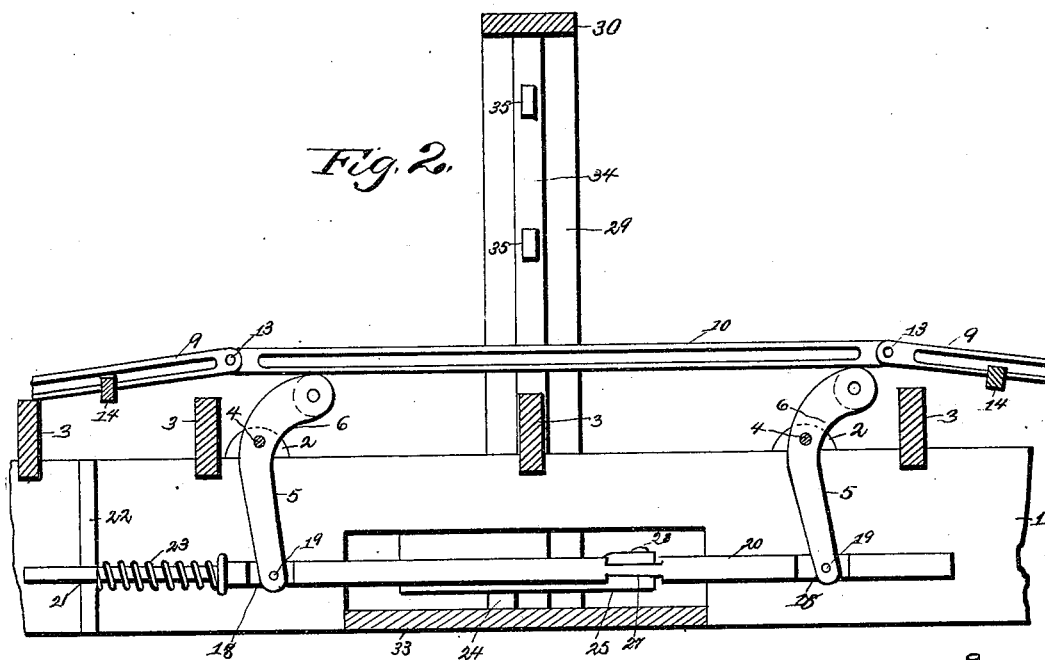
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2 Sheets—Sheet 2.

S. L. ADKINS.
RAILWAY GATE.

No. 419,619.

Patented Jan. 21, 1890.



Witnesses:

Inventor

E. Hurdman.
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By his Attorneys, Samuel L. Adkins

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UNITED STATES PATENT OFFICE.

SAMUEL LOVE ADKINS, OF HIND'S CREEK, TENNESSEE.

RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 419,619, dated January 21, 1890.

Application filed August 24, 1889. Serial No. 321,826. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL LOVE ADKINS, a citizen of the United States, residing at Hind's Creek, in the county of Anderson and State of Tennessee, have invented a new and useful Railway-Gate, of which the following is a specification.

This invention has relation to railway-gates for "stock-gaps," by which is meant a gate arranged in a narrow gap for the purpose of preventing stock from passing therethrough, whereby the lives of the same are endangered by passing trains.

Among the objects in view are to provide a simple pair of gates, one arranged at each side of the track, and mechanism connecting the track with the gates, whereby the passing train will serve to open the gate for the passage of the train, said gates being automatically closed after the train has passed, the gates being adapted to be operated from either direction, if desired.

With these general objects in view the invention consists in mounting a loose section of rails upon a suitable trestle and pivoting the ends of the section to the opposite ends of the main rails, and in supporting said loose section upon swinging arms or levers connected by a connecting-rod and connecting said rod with a pivoted lever at each side of the trestle, which is usually connected with the swinging gate-post; and, furthermore, in the provision of a returning-spring, whereby said gates are automatically closed after the weight of the train has passed from over the loose section.

Referring to the drawings, Figure 1 is a plan of a gate embodying my invention. Fig. 2 is a longitudinal section on the line $x x$ of Fig. 1. Fig. 3 is a transverse section; Fig. 4, a detail in perspective of one of the swinging gates.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing the trestle which forms a portion of the road-bed, I provide that portion of the bed within the gap with longitudinally-opposite pairs of beams 1, each pair of which is provided at equidistant points at each side of the gate with bearings 2, the bearings of one pair at one side of the gate aligning with those of the opposite pair. Suitable

ties 3 are arranged at intervals across the opposite pairs of beams or sleepers, and in each pair of bearings 2, upon bearing-pins 4, are loosely-pivoted levers 5, the lower ends of which depend between their respective pairs of beams 1 and the upper ends of which are slightly curved, as at 6, and bifurcated, as at 7, and provided with loose pulleys 8.

9 represents the two rails, the adjacent ends of which incline upwardly, and 10 the intermediate loose sections engaging the rails 9, the loose sections being supported upon the longitudinally-opposite pairs of levers 5 and upon the friction-pulleys thereof. The ends of the intermediate loose sections 10 are shouldered, as at 11, and overlap similar opposite shoulders 12, formed in the ends of the main rails 9, and through said shoulders is inserted a pin 13, whereby the intermediate loose rail-sections are pivotally connected to the main rail-section.

14 represents opposite connecting-rods, the ends of which are dovetailed to embrace the base of the main rails 9 and prevent the same from spreading at those points next the pivoted point of connection with the loose sections.

15 represents opposite levers, the inner ends of which are pivoted, as at 16, to a central tie, and the outer ends of which are dovetailed, as at 17, to embrace the webs of the rail-sections 10, said levers 15 being oppositely disposed and each embracing one section, and by reason of their pivotal connection at their rear ends said loose sections may be depressed and yet no spreading thereof occur.

The lower ends of the arms or levers 5 are bifurcated, as at 18, and by means of a pin 19, inserted through perforations in the bifurcations, a connecting-rod 20 loosely connects each pair of longitudinally-opposite levers. The connecting-rods 20 pass beyond their point of connection with the arms 5, and their ends pass through bearing-openings 21, formed in blocks 22, located between the pairs of beams 1, and between their points of connection with the arms 5 and said blocks said rods are provided with coiled springs 23, adapted to maintain the swinging arms or levers 5 in a substantially vertical position. At each side of the outer beams 1 are mounted upwardly-projecting bearing-trunnions 24,

and pivoted upon the same are oscillating levers 25, the longer portions of the levers being their outer ends, which are provided with upwardly-projecting studs 26. The inner ends of the levers 25 are bifurcated, as at 27, and embrace the central portion of the connecting-rods 20, and are pivoted thereto by a vertical pin 28.

29 represents opposite standards, arranged at each side of a trestle and at the mouth of a gap, said standards, if desired, being connected by a transverse tie-bar 30, provided near the standards 29 with bearings 31 in a vertical line, with similar bearings 32 formed in a transverse base or beam 33, extending under the trestle, or in any suitable bearing-block. In the vertically-aligned bearings 31 and 32 are mounted pivotal gate-posts 34, from which project lateral gate-bars 35 and 36, the two upper bars 35 overlapping the road, and those of one gate meeting those of the opposite gate, thus completely closing the gap. The lower bar 36 is shorter than the upper bar 35 and nearly reaches the beams 1, said lateral bars being connected by a tie-bar 37. From the lower ends of the gate-posts 34 there project inwardly-slotted levers 38, which receive the upwardly-projecting studs 26, located at the outer ends of the levers 35.

The operation of my invention is as follows: An approaching train weighs upon the intermediate sections of rails 10, which are supported by the rocking arms 5, and by reason of the upper portions of said arms being curved or offset from the vertical pivot line thereof the sections 10 are depressed and the levers or rocking arms thrown out of a vertical line against the tension of the return-springs 23. The depression of either pair of arms will by reason of the connecting-rods 20 likewise operate the opposite rocking arms, and as the connecting-rods are swung in either direction they carry with them the inner shorter end of the levers 25, the outer ends of which are oscillated or swung a short distance and likewise swing, through the medium of the slotted lever connected with the same, the gate-posts 34 and their gates. When the weight of the train is removed from the sections 10, the springs 21, operating against the lower ends of the rock-arms 5, serve to return said rock-arms to a vertical position, and through the connecting-rods and other mechanism just described the gates are returned to a closed position.

Having described my invention, what I claim is—

1. A road-bed provided with ties, in combination with movable rail-sections arranged above the ties, pivoted rocking levers for supporting the rails, and opposite rail-embracing levers, the inner ends of which are pivoted to the ties, whereby the rails may be depressed for operating a gate mechanism and yet prevented from lateral spread, substantially as described.

2. In a railway-gate, movable rails, in combination with pivoted rock-arms for supporting the same, opposite levers having their inner ends connected with the rock-arms, and opposite gates connected with the outer ends of the levers and adapted to be operated by a depression of the rails and swinging of the rock-arms, substantially as specified.

3. In a railway-gate, the combination, with longitudinally-opposite pairs of depending pivoted rock-arms, each pair connected by a connecting-rod and supporting a loosely-mounted rail-section, the ends of which are loosely connected with the main rails, of two levers pivotally mounted, one at each side of the road-bed, and pivotally connected with the connecting-rods, and opposite gates, each of which is provided with a slotted lever loosely connected with the inner end one of the previously-mentioned levers, substantially as specified.

4. In a railway-gate, the combination, with longitudinally-opposite pairs of depending swinging rock-arms, each pair connected by a connecting-rod, loose rails mounted upon each pair of rock-arms and pivoted to the main rails, and gate-operating levers pivoted between their ends to the bed and at their inner ends to the rock-arm connecting-rods, of opposite gates overlapping the track, the posts of which are provided with slotted arms connected with the outer ends of the gate-operating levers, whereby, when the rock-arms swing from a vertical position, the gates are opened, and of springs for returning the gates to a closed position, substantially as specified.

5. In a railway-gate, the combination, with the opposite longitudinal pairs of beams 1, set in a road-bed and forming a trestle, connected by suitable ties and provided at a suitable distance apart with transversely-aligning pairs of bearings, of bearing-pins inserted through the bearings, rock-arms mounted on the bearing-pins and having their upper ends curved out of a vertical line and provided with friction-rollers, connecting-rods between the lower ends of each pair of rock-arms, loose rail-sections mounted on the rollers, pivoted levers mounted at each side of the trestle and having their inner ends pivotally connected to the connecting-rods, and opposite gates provided with slotted arms loosely connected with the outer ends of the pivoted levers, substantially as specified.

6. In a railway-gate, opposite parallel pairs of beams connected by ties and forming a continuation of a road-bed, and at suitable distances apart provided with opposite pairs of perforated bearings, in combination with rock-arms curved or offset at their upper ends, mounted on the pins inserted in the bearings and depending between the pairs of beams, and having their lower ends bifurcated and connected in longitudinal pairs by connecting-rods pivoted thereto, said rods being projected beyond their points of connection and passing through openings formed in

bearing-blocks and provided with springs
coiled thereon between their bearing-blocks
and their points of connection, loose rail-sec-
tions supported on the rock-arms, pivoted le-
5 vers arranged at each side of the track and
having their inner ends pivoted to the con-
necting-rods, and opposite gates overlapping
the track and mounted in bearings and pro-
vided with slotted arms loosely connected

with the outer ends of the levers, substan- 10
tially as specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
presence of two witnesses.

SAMUEL LOVE ADKINS.

Witnesses:

T. S. KINCAID,
W. DUGAN.