

H. D. KAHLER.
Railway-Gates.

No. 222,634.

Patented Dec. 16, 1879.

Fig. 1.

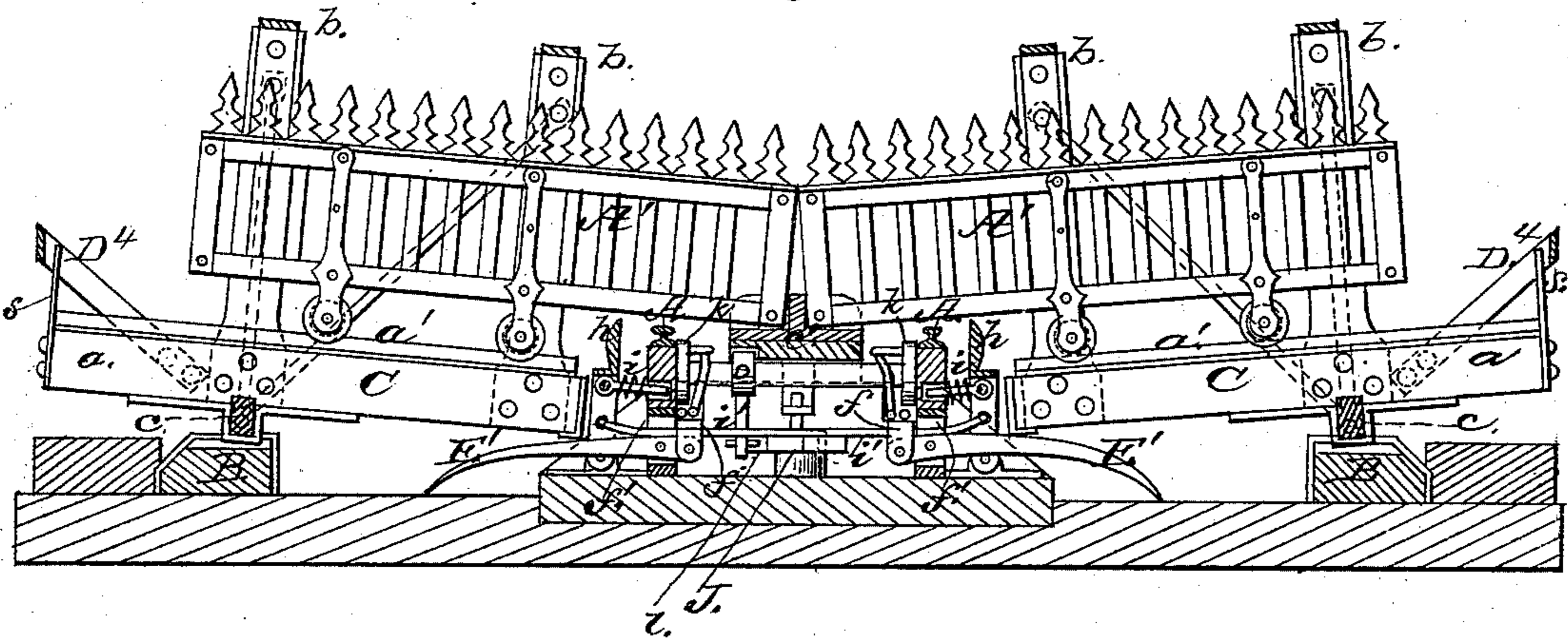
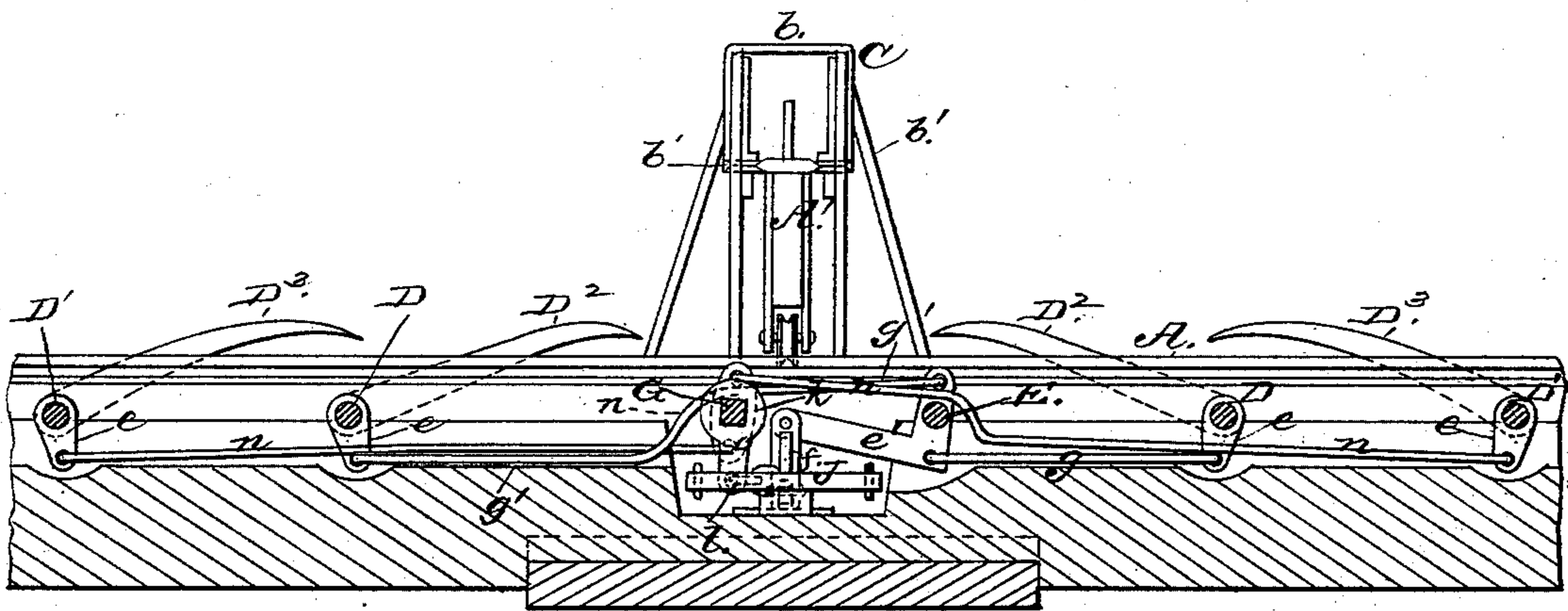


Fig. 2.



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Fig. 3.

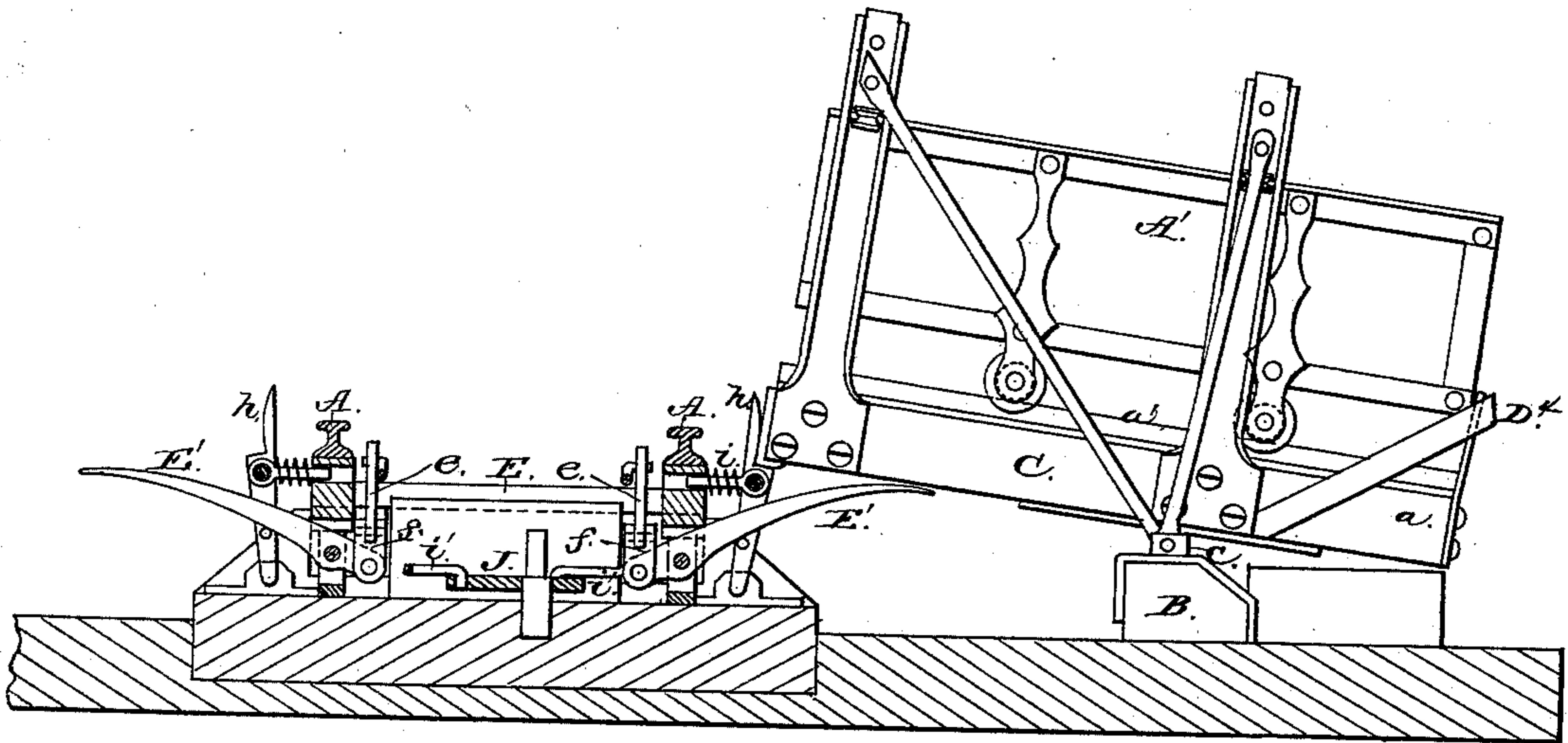


Fig. 4.

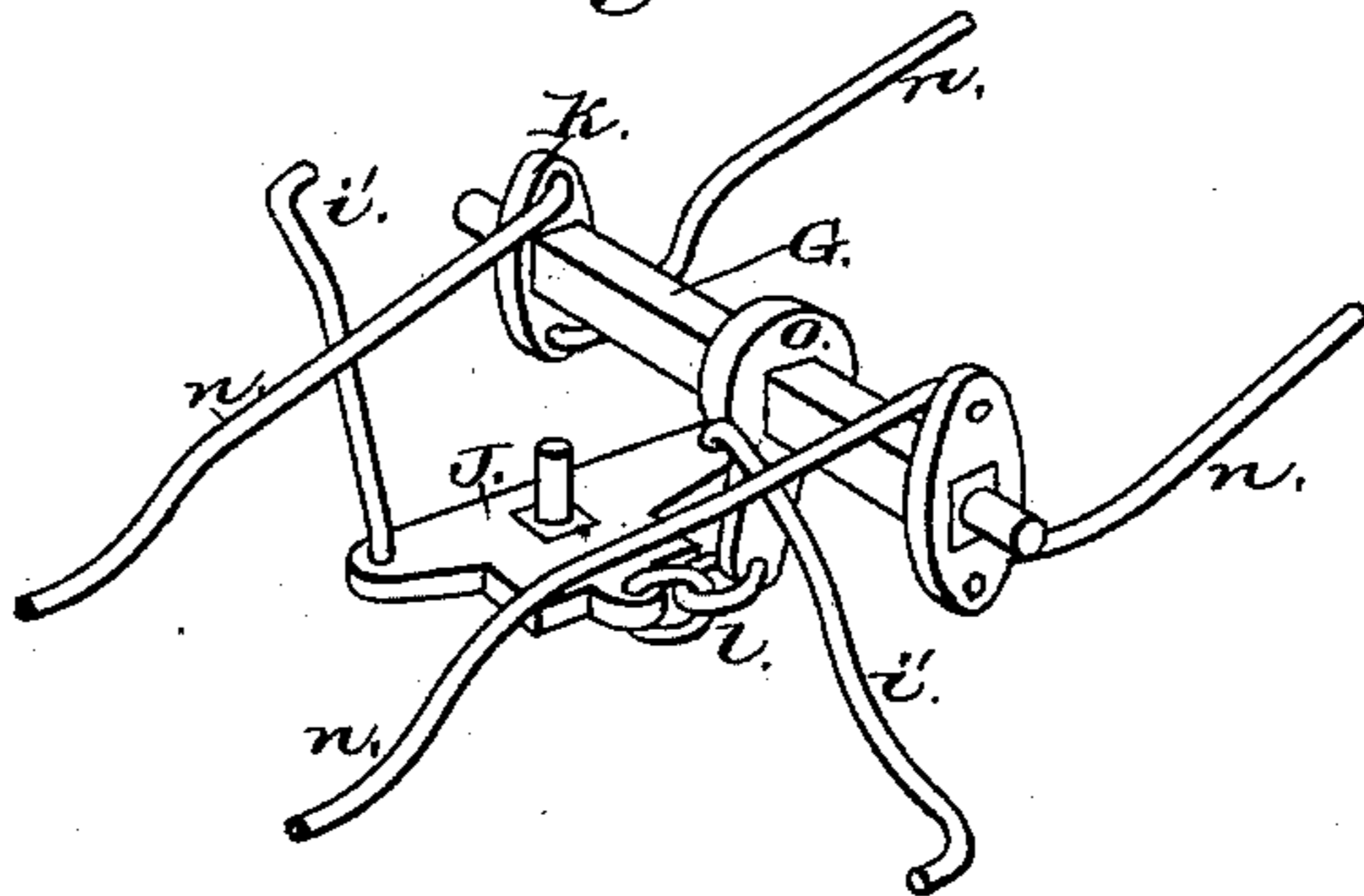
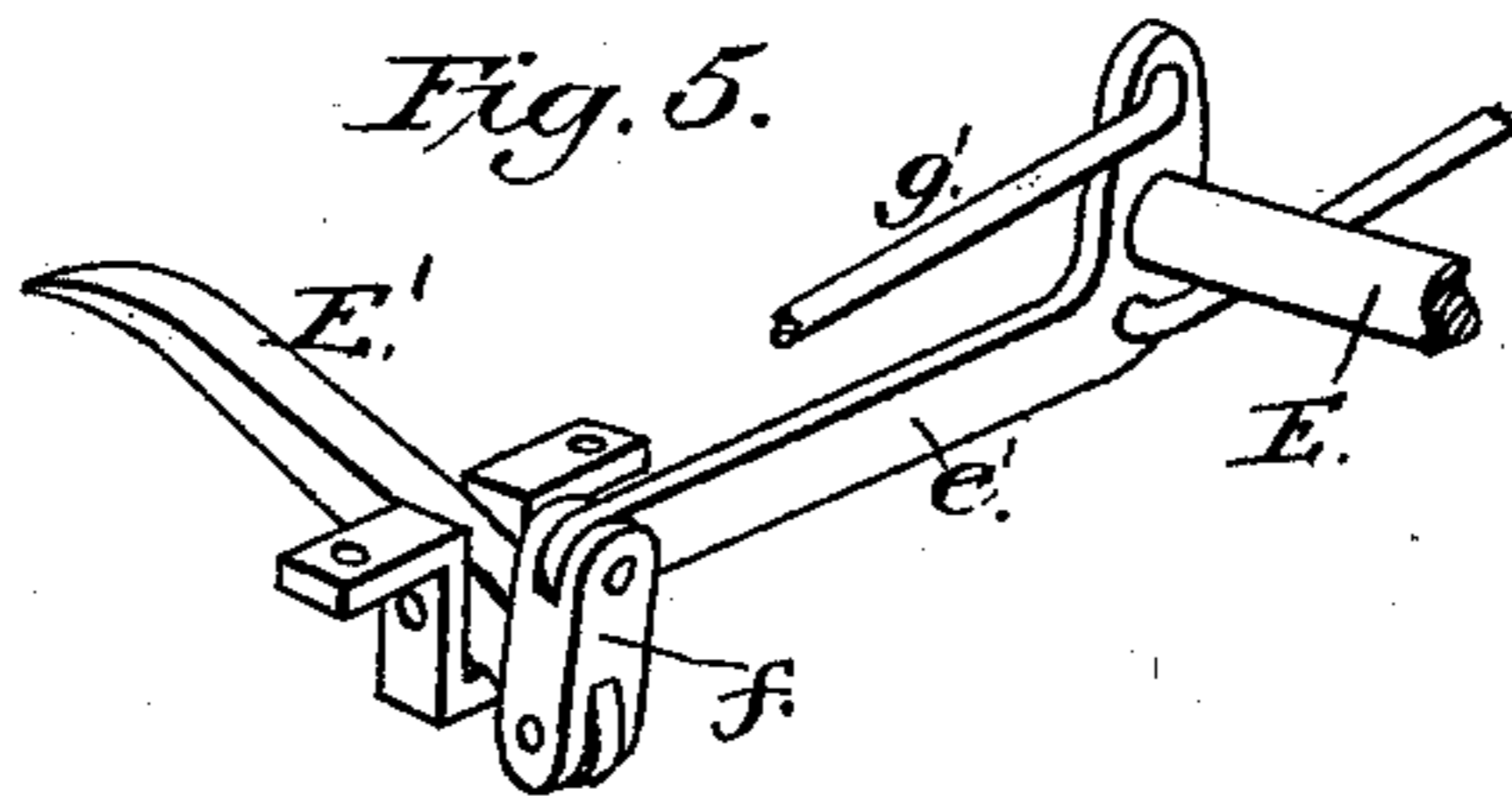


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY D. KAHLER, OF MOUNT AUBURN, IOWA.

IMPROVEMENT IN RAILWAY-GATES.

Specification forming part of Letters Patent No. 222,634, dated December 16, 1879; application filed October 31, 1879.

To all whom it may concern:

Be it known that I, HENRY D. KAHLER, of Mount Auburn, in the county of Benton and State of Iowa, have invented a new and valuable Improvement in Railway-Gates; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a cross-sectional view of my improved railway-gate. Fig. 2 is a longitudinal section of the same; and Figs. 3, 4, and 5 are details.

This invention has relation to improvements in automatic railroad-gates; and the nature of the invention consists in the combination, with a tilting track-frame arranged at each side of a track at right angles thereto, of gates moving endwise in said frames and designed to run across the track or away therefrom, and a mechanism actuated to tilt said frame by the contact of the wheels of the car.

It also consists in certain minor improvements whereby desirable results are obtained, as will be hereinafter more fully set forth.

In the annexed drawings, the letters A A indicate the rails of the track, laid upon ties in the usual way. B indicates sills arranged one at each side of the track, parallel thereto, and affording bearings to the vertically vibrating or tilting frames C. These are composed of the sills *a* and two or more vertically-slotted uprights, *b*, suitably braced. These frames are at right angles to the track, and are provided each with journal-arms *c*, that have their bearings on the ground-sills and readily tilt thereon. The sills *a* of these frames are provided with a rail, *a'*, upon which runs a gate, A', of open-work construction, so as not to hold the wind, the upper rail of which is horizontal and runs between the anti-friction rollers *b'*, thus maintaining the gates in a vertical position and causing them to have free endwise movement under any circumstances. When these frames are tilted on their bearings so that their ends adjacent to the rails are lowest, the gates run down the incline until they come together at the middle of the track and form a complete barrier across it;

but when they are tilted in the opposite direction the gates move away from each other and open the track, being prevented from running off at the ends of their respective tracks by means of a stop, D, at the ends thereof, and guarded against injurious jars by a spring, *s*. In coming together, also, the gates are stopped by a shoe, *c'*, between the rails, in which the lower ends of said gates are received, and by means of which they are prevented from injurious contact. Extending across the track, at suitable distances apart, and on each side of the gate, are the rock-shafts D D', carrying each a downwardly-projecting arm, *e*, and having applied on their projecting ends, outside of the rails, the curved tread-levers D² D³, the former being on the shafts D, and the latter on the shafts D'. Between the rock-shafts D D', on one side of the gate, is a rock-shaft, E, provided inside of the rails with the angular levers *e'*, one arm of which is vertical, and the other or lower arm horizontal. The extremities of the horizontal arms of these levers are connected by a link, *f*, to the vertically-vibrating levers E', having their fulcrums in an upright, *f'*, under the track, and extending under the tilting track-frames aforesaid.

g indicates metallic rods extending from the bend of levers *e'* to the arm *e* of rock-shaft D, and forming flexible joints both with the levers and with the arms.

It is evident that the depression of the levers D² of shafts D on this side of the gates will, through the arms *e*, rods *g*, arms *e'*, links *f*, and levers E', raise the ends of the tilting frames next the track and cause the gates to open. The same result is attained from the other side of the gate by means of the rods *g'*, pivoted to the arms *e* of the shaft D on this side of the gate, extending past the gate, and pivoted to the upper end of the angular arm *e'* of the shaft D on the other side of the said gate.

When the tread-levers D² on one side of the gate are depressed the other levers D² are also depressed. The track-frames being tilted and the gates being opened, upright vibrating props *h* are forced under the frames by the springs *i* and hold them until the train has passed. These props are connected to a horizontally-arranged cross-head, J, by means of

the rods *i'*, connected pivotally at one end to the props, and at the other to the ends of the horizontally arranged and vibrating cross-head aforesaid. Above the cross-head is a rock-shaft, G, having at each end, inside of the rails, the fixed cross-heads *k*, extending up equally above and below it. Between the heads *k* is a downward-projecting arm, *o*, flexibly coupled to an offset, *l*, projecting at right angles from the head. The lower ends of the heads *k* are connected by the rods *n* to the arms *e* of the shafts D' on one side of the gate, and the upper ends thereof to the corresponding arms *e* of the shafts D' on the other side of said gates; so when either of the treads D³ is depressed the props are withdrawn from under the tilting frames, when the latter, being heavier at their ends adjacent to the track, tilt downward, and the gates run toward each other, closing the track automatically. Like the levers D², the levers D³ are raised and depressed simultaneously.

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

1. The combination, with the track A A, the tilting frames C, arranged at the sides of the track, and the traveling gates A', mounted in said frames, of the vertically-vibrating levers E', extending under the frames, the links *f*, the rock-shaft E, the levers *e'*, the connecting-rods *g*, the rock-shafts D D, having arms *e*, and the tread-levers D² on the ends of said shafts, substantially as specified.

2. The combination, with the tilting frames

C and the sliding gates A', of the vibrating props *h*, the springs *i*, the horizontally-vibrating cross-head J, the rods *i'*, connecting the props and ends of said head, the rock-shaft G, having the arm *o*, pivoted to the cross-head, the arms *k*, the rock-shafts D', having the arms *e*, the rods *n*, connecting said arms *e* and *k*, and the tread-levers D³ on the ends of said shafts, substantially as specified.

3. The combination, with the tilting frames C C and the gates A', sliding endwise therein, of the stops D⁴ and springs *s* at the outer ends of said frames, and the stop-shoe *c'* between the rails, substantially as specified.

4. The combination, with a track, the tilting frame at each side thereof, and the gates moving endwise in said frames, of the vertically-vibrating levers E', extending under the frames, the links *f*, the angular levers *e'* on shaft E, the rock-shafts D D', having crank-arms *e*, and rock-shaft G, having cross-heads *k*, the connecting-rods *g*, *g'*, and *n*, the latter uniting the upper and lower ends of the cross-heads of the shaft G and the said crank-arms *e* of shafts D' and the tread-levers D³ D³, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY D. KAHLER.

Witnesses:

NICHOLAS SCHNOOR,
FREDERICK WANDSCHNEIDER.