

E. SHELTON.
Railway-Crossing.

No. 210,639.

Patented Dec. 10, 1878.

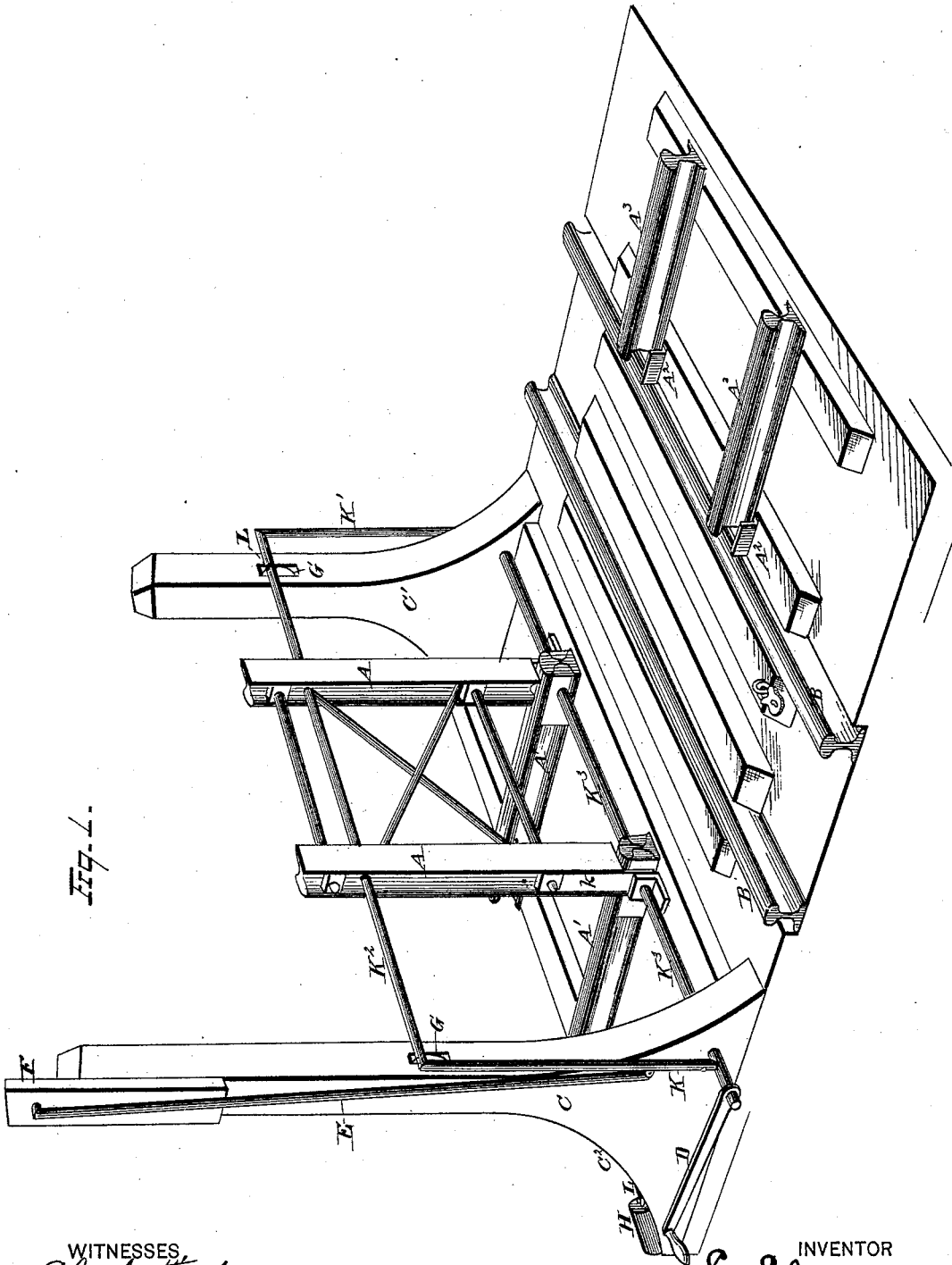


Fig. 1.

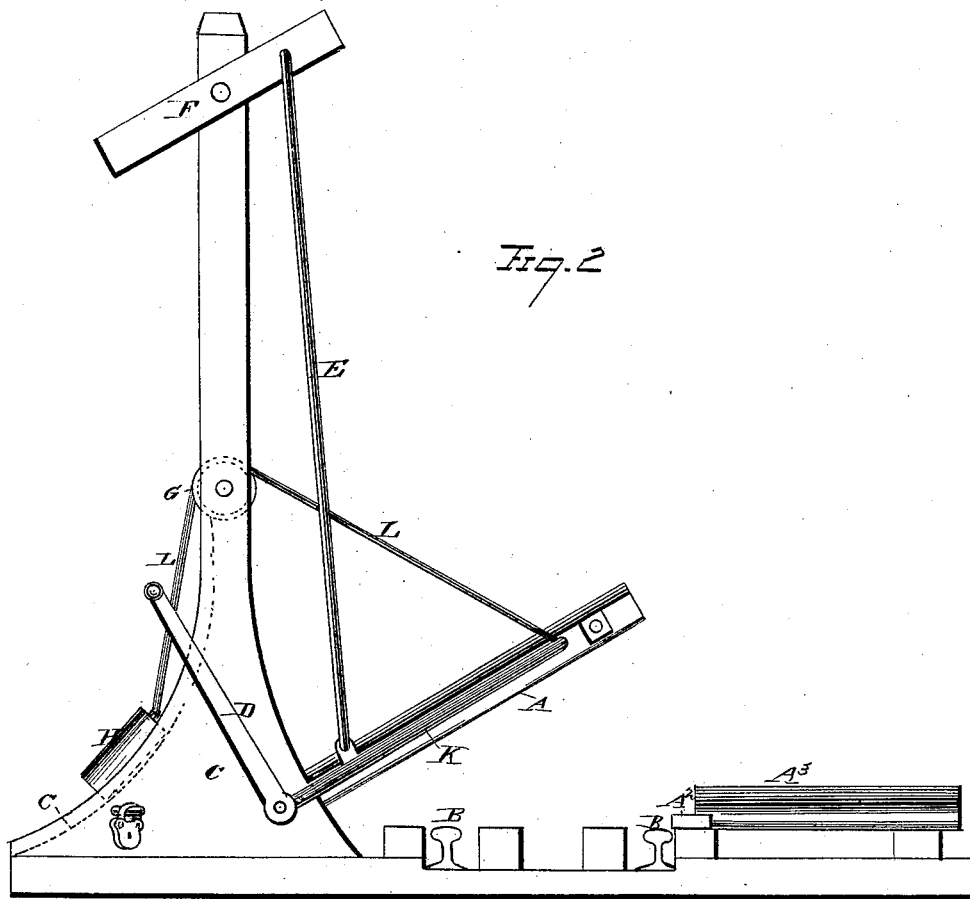
WITNESSES
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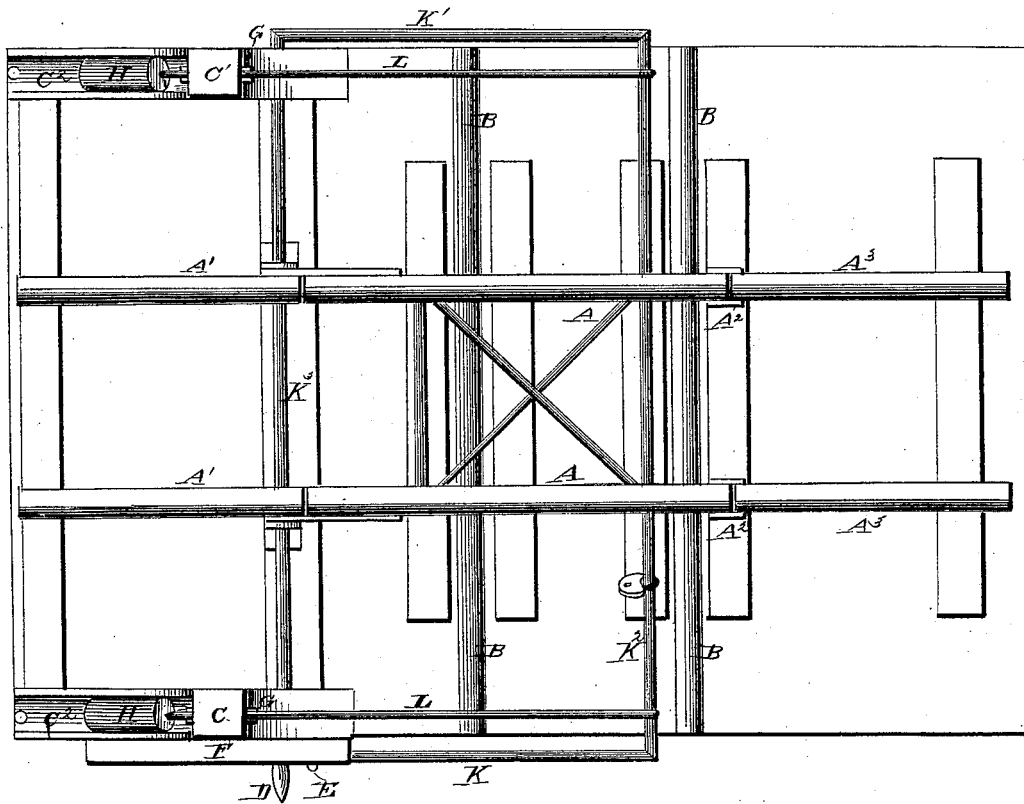
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Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

EZEKIEL SHELTON, OF ALLIANCE, OHIO.

IMPROVEMENT IN RAILWAY-CROSSINGS.

Specification forming part of Letters Patent No. **210,639**, dated December 10, 1878; application filed May 10, 1878.

To all whom it may concern:

Be it known that I, EZEKIEL SHELTON, of the city of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Railroad-Crossings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a device which I call a "vertical draw-bridge," by means of which railroads may cross each other at any grade, and when crossing at the same grade be able to do so without the use of frogs.

It is a well-known fact that heretofore it has been necessary, where one railroad crosses another, to either bring the two roads to the same grade and cross by means of frogs, or to raise one road or lower the other sufficiently to permit the passage of the trains of one road beneath the track of the other. Either course has been attended with large expense. By the use of my device the second road can approach the first at any grade, and cross at the grade it happens to strike the first road, be it anywhere from six inches to twenty feet above or below the first track.

In the drawings, Figure 1 is a perspective view of my device as applied to roads of about the same grade at point of crossing, with the bridge raised. Fig. 2 is a side elevation of the same with the bridge partially raised. Fig. 3 is a plan view of the same with the bridge in position for trains to pass over it.

A represents the vertical draw, which consists of two rails placed at the desired gage, and thoroughly braced and united and hinged to the stationary rails A¹.

B represents the rails of a second road, which, in the drawings, is represented as crossing the first at right angles.

C and C' are suitable posts or uprights to support the operating parts of my device.

D is a lever, to which the power may be applied for raising the draw or vertical throw-bridge with the rails A.

E is a connecting-rod, connecting the lever

K with the signal apparatus F, by means of which a signal can be given to approaching trains on either track, informing them of the exact position of the draw.

G G are pulleys attached to the uprights C and C', over which the cords L L pass, the cords L L connecting the cross-bar K² with the weights H H. The weights H H should be of sufficient weight to nearly balance the draw, and are made to slide in the grooved curved inclines C².

K and K¹ are rods connecting the cross-bar K² with the cross-bar K³. Cross-bar K² passes through the rails A, or is firmly secured to them, at or near their ends, and the same is raised, carrying the rails A with it, by means of the lever D, assisted by the weights H H. Cross-bar K³ passes through the ends of the stationary rails A¹ and the plates or similar devices k, which latter are secured to the contiguous ends of the rails A. It therefore serves as a pivotal attachment for the draw-section to the stationary section of the track. Its extremities connect with rods k k', which latter thus join it with cross-bar K². To one of the extremities of the cross-bar K³ the lever D is rigidly fastened, and by means of the same the draw is operated.

A² represents any suitable chair that will prevent the ends of the rails A from lateral displacement when lowered in position for the passage of trains.

Having thus described the construction, the operation of my device is as follows: If a train is approaching on the track A³ when the draw is in position, as shown in Fig. 1, the watchman will lower the track to its position by raising the lever D, and the ends of the rail A will fall into the chair A², and the train is permitted to pass unobstructed. If, now, a train approaches on the track B, the watchman can easily raise the draw to a vertical position, as shown in Fig. 1, by means of the lever D, assisted by the weights H, and the track B is clear for the passage of trains. In each operation the position of the draw is indicated by the signal apparatus F.

Having thus described the construction and operation of my device, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vertical draw-bridge, the combination of the rails A, the cross-bar K², the connecting-rods K and K', and the lever D, substantially as described and shown.

2. In a vertical draw-bridge for railroad-crossings, the combination of the rails A, the connecting-rods E and K, and the signal apparatus F, substantially as described and shown.

3. The combination of a hinged section of a railway-track with a suspending-cord, a raised pulley at rear of section, and a counterbalance-weight, substantially as set forth.

4. In a vertical draw-bridge, the combination of the rails A, hinged with the stationary rails A', the uprights C and C', the weights H H, cords L, and pulleys G, substantially as described and shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EZEKIEL SHELTON.

Witnesses:

H. LAUGHLIN,

ALFRED WRIGHT.