

(No Model.)

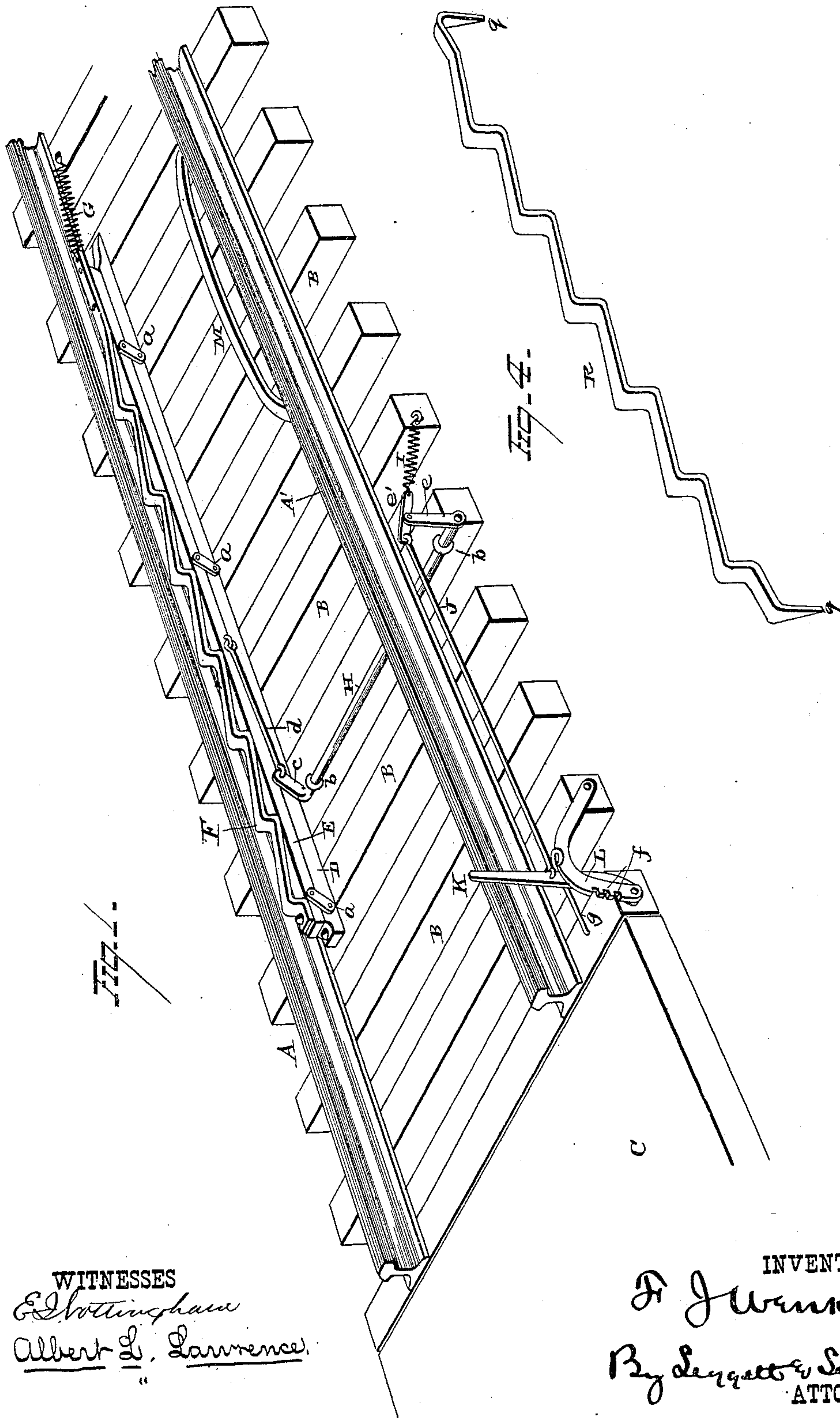
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F. J. WENKER.

Railway Signaling Apparatus.

No. 234,636.

Patented Nov. 16, 1880.



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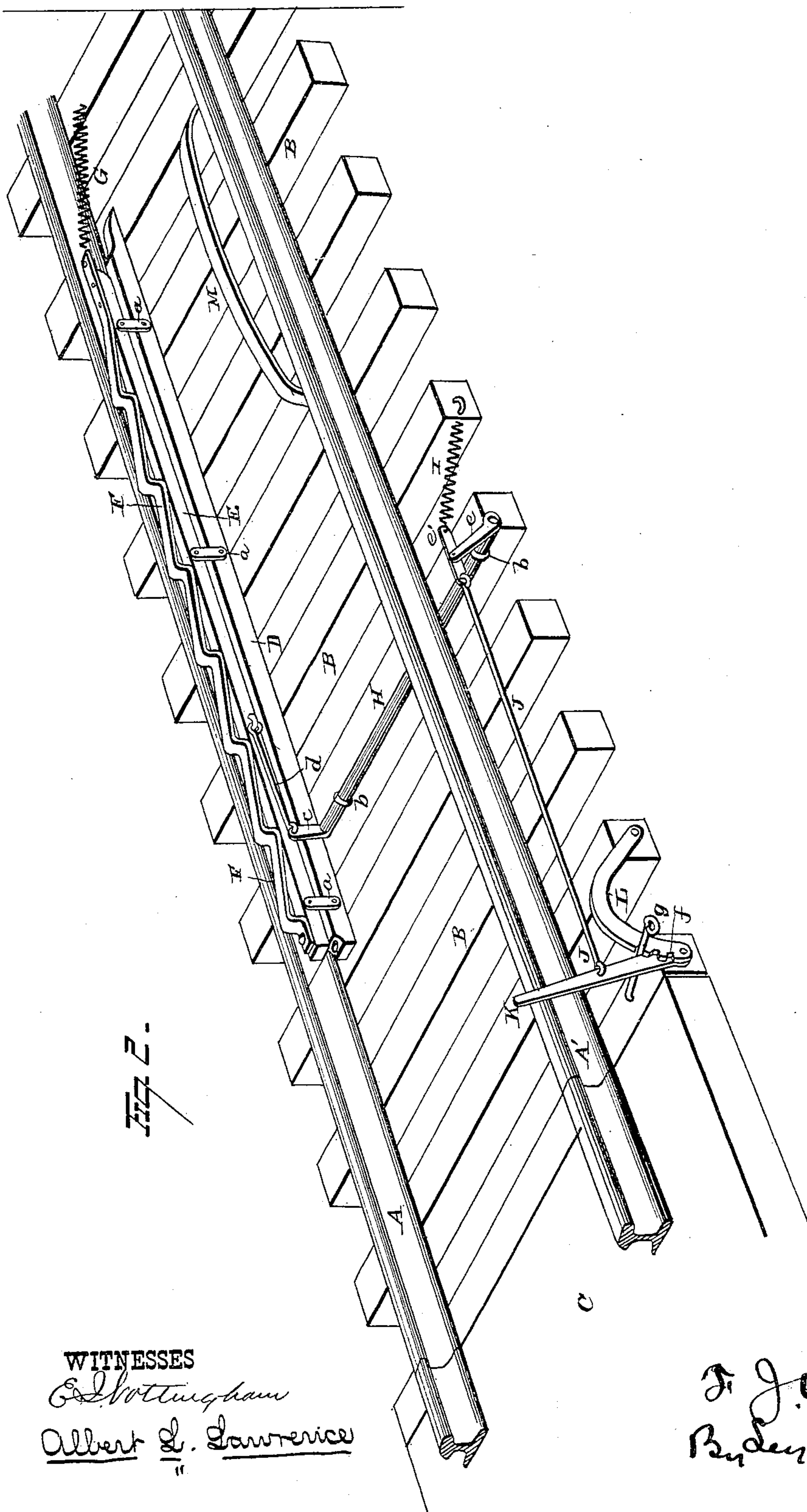
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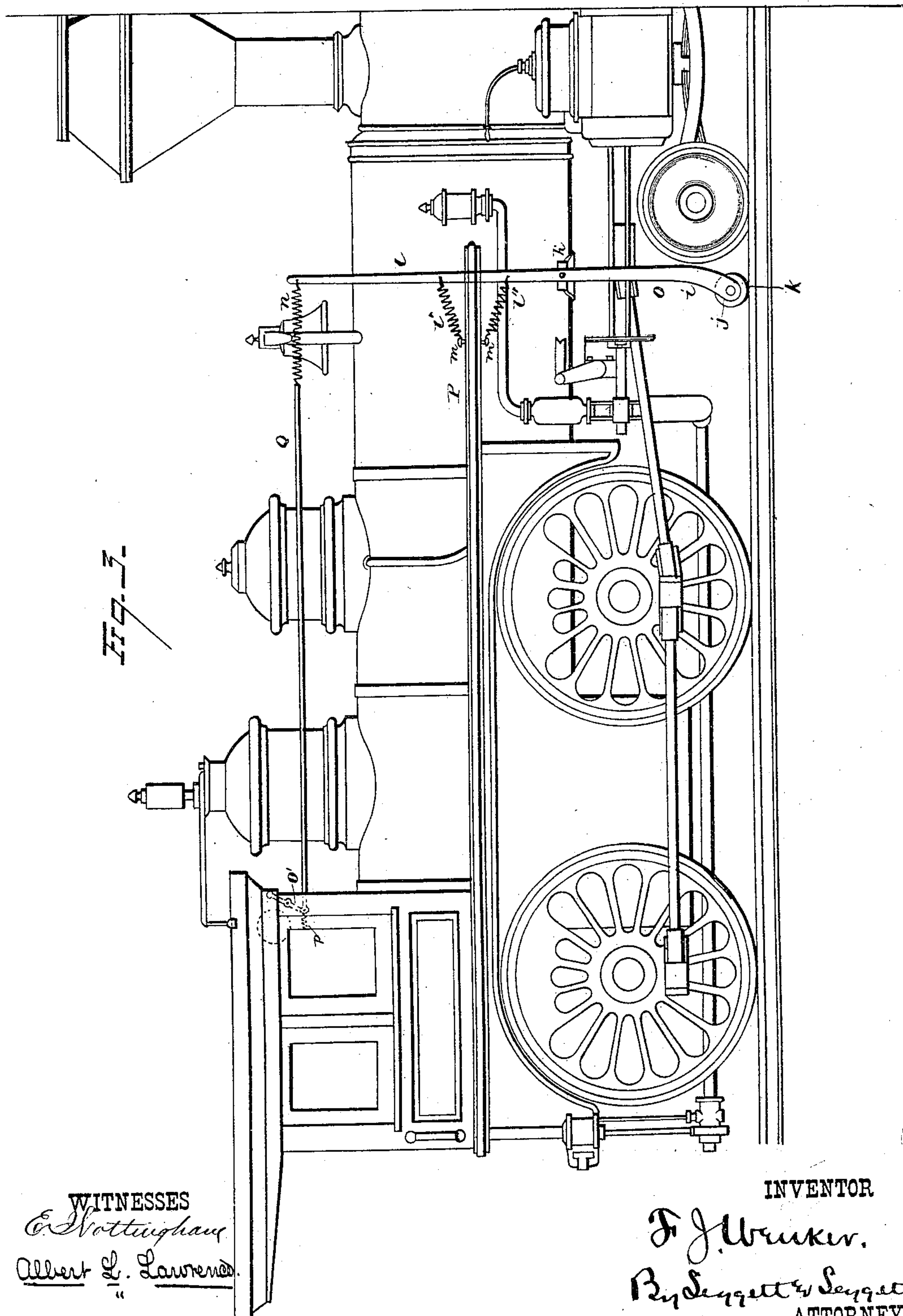
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UNITED STATES PATENT OFFICE.

FRANKLIN J. WENKER, OF CLYMAN, WISCONSIN.

RAILWAY-SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 234,636, dated November 16, 1880.

Application filed July 22, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN J. WENKER, of Clyman, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Signaling Apparatus for Railway-Trains; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in signaling apparatus for railway-trains, the principal object of the invention being to provide mechanism for producing a rapid succession of alarms on a bell in an engine-cab as the train approaches an open draw-bridge, the mechanism to be so constructed and arranged that the signaling mechanism may be thrown out of operation when the draw is closed.

My invention consists in a signaling mechanism embodying certain details in construction and combinations of parts, as will hereinafter be described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view, in perspective, of a short section of trackway adjacent to a draw-bridge and my improved signal-actuating mechanism connected with the track, the mechanism being adjusted in its inoperative position. Fig. 2 is a similar view, showing the device in position for operation. Fig. 3 is a view, in side elevation, of a locomotive provided with a signaling device. Fig. 4 shows the portable signal-bar.

A A' represent the rails, and B the ties, of a railroad-track. C is a draw-bridge of any approved construction. Near the inner side of one of the rails is secured to the ties a sill, D, which may be of any desired size, form, and length, and may be made of iron or wood, as desired. Sill D is spiked or bolted at its ends to the ties, and it may also be secured to the ties at points between its ends, in order to prevent any lateral springing or displacement.

E is a vertically-adjustable bar located upon sill D, and connected therewith by the links a a, the latter being pivoted at opposite ends to the sill D and adjustable bar E.

To the upper surface of bar E is secured a stepped or corrugated metal bar or plate, F, to one end of which is attached a spring, G, the opposite of the latter being secured to one of the ties.

H is a rock-shaft journaled in bearings b b, secured to one of the ties. One end of the rock-shaft is provided with an arm, c, to which is connected one end of a link, d, the opposite end being attached to the bar E. The opposite end of rock-shaft has an arm, e, attached thereto, to the outer end of which is pivoted a bar, e'.

A spring, I, is secured at one end to one of the ties, and at its opposite end to one end of the bar e'. The opposite end of bar e' has connected thereto a rod or wire, J, which extends to and is connected with a hand-lever, K, located near the draw-bridge.

L is a sector-bar, provided with teeth f, with which may engage the free end of a pawl pivoted to lever K, or the pin g, as shown in the drawings, may be employed, for the purpose of retaining the latter in proper adjustment to hold the bar D in its raised position for operating a signal, as will hereinafter be described. By releasing the pawl g the springs S and I serve partly to rotate the rock-shaft and lower the bar D, and retain the latter in its non-operative position.

On the opposite side of the track, and in close proximity to the inner side of the opposite rail, is secured a curved bar, M, the surface of which extends above the tread of the rail. Bar M is a regular signal-bar or abutment for sounding the signal for crossing when the train is moving in the opposite direction from the draw-bridge.

The bar M is made plain on its upper surface for sounding a single signal instead of a series of signals, thereby enabling the engineer to readily distinguish between the two signals.

Bars M are located at proper distance from ordinary crossings, while the improved signaling device is only placed at dangerous points on the road.

In Fig. 3 are represented the construction and arrangement of the locomotive signal attachment. O is a lever, pivoted in rear of the forward truck-wheels to the bar h. The lower arm, i, of the lever is curved rearwardly, and

is provided with a bifurcated lower end, *j*, in which is journaled a roller, *k*. The upper and long arm, *l*, of lever *O* extends through a slot in the foot-board *P*. Springs *l'* *l''*, located
 5 respectively above and below the foot-board, are attached at one end to a bolt, *m*, and at their opposite ends to the lever *O*. To the top of lever *O* is attached a spring, *n*, to which is secured one end of a signal cord or wire, *Q*,
 10 the opposite end being secured to a bell-tongue lever, *O'*, with which is connected a spring, *p*.

When the draw is open the attendant depresses the hand-lever and raises the bar *D*, so that its stepped or corrugated metal facing
 15 plate or bar will be located above the tread of the rails. As the train approaches the open draw the roller on the lower end of lever *O* on the locomotive will strike the corrugated surface of bar or plate *F* and impart a number of quickly-succeeding strokes to the bell
 20 in the cab, thus giving timely warning to the engineer to stop the train.

When the draw is closed the bar or plate *F* will be in its lowest position, and hence will
 25 not be struck by the roller or lever *O*.

In Fig. 4 is shown a corrugated signal-bar, *R*, having prongs *q* on opposite ends thereof, to enable it to be quickly secured to the ties by driving the prongs into the ties. This
 30 bar is made comparatively light in weight, and is intended to be carried on the train, so that in case of a collision or other accident causing a blockade on the road the bar may be taken any desired distance from the place
 35 of accident and secured to the track and serve as a signal of danger for the next approaching train.

While I have represented the signal-bar with devices for operating it by a hand-lever,
 40 it may be automatically raised or lowered by the opening and closing of the bridge.

The lever on the locomotive will also serve to sound the regular signals at crossings and stations by its engaging with the curved bars
 45 or abutments *M*, which latter are located at

any desired distance from a crossing or station. If it is desired to raise the signal-bar quite a little distance above the tread of the rail, the pilot may be provided with a groove to allow of the safe operation of the signaling
 50 devices without striking the pilot.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a sill or bar secured
 55 to the ties, of a vertically-adjustable bar provided with a series of steps or corrugations arranged to operate signal mechanism, substantially as set forth.

2. The combination, with a vertically-adjust-
 60 able signal-bar provided with a series of steps or corrugations, of a rock-shaft, hand-lever, and connecting devices for operating said signal-bar from a distance, substantially as set forth.
 65

3. The combination, with a bar or sill secured to the ties, of a vertically-adjustable signal-bar provided with a series of steps or corrugations and links pivoted at opposite ends to the sill and signal-bar, substantially as set
 70 forth.

4. The combination, with a vertically-adjustable signal-bar provided with a series of steps or corrugations, of a lever attached to a locomotive and having a roller journaled in its
 75 lower end, and devices connecting the upper end of said lever with a signaling device, substantially as set forth.

5. A portable signal-bar constructed with stepped or corrugated upper surface and provided with pronged ends, substantially as set
 80 forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of June, 1880.

FRANKLIN J. WENKER.

Witnesses:

F. AHRENS,

ALBERT STOLL.