(No Model.) 2 Sheets—Sheet 1.

J. LITTLE.

OPERATING RAILROAD GATES.

No. 296,761. Patented Apr. 15, 1884.

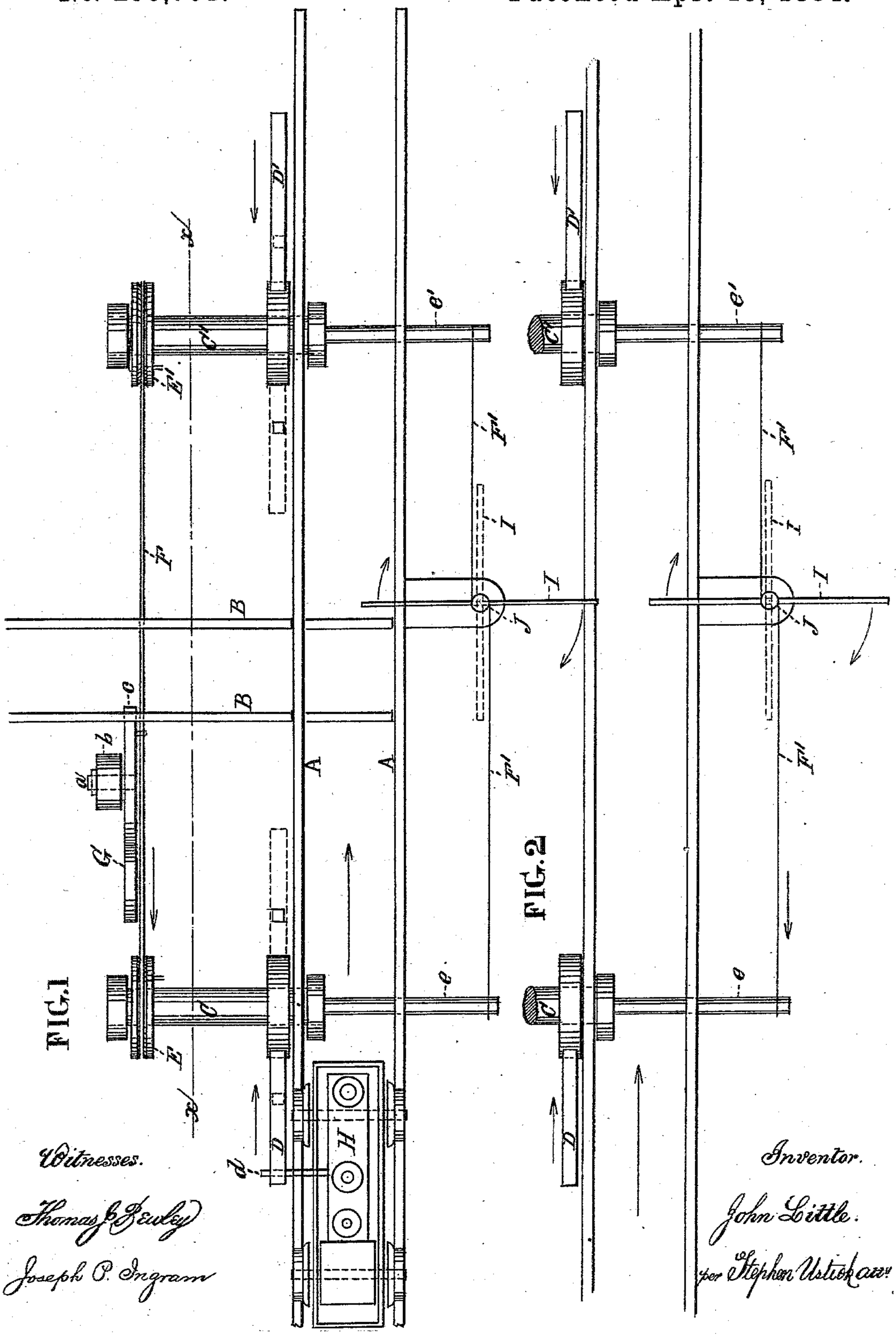

FIG. 1

FIG. 2

Witnesses.

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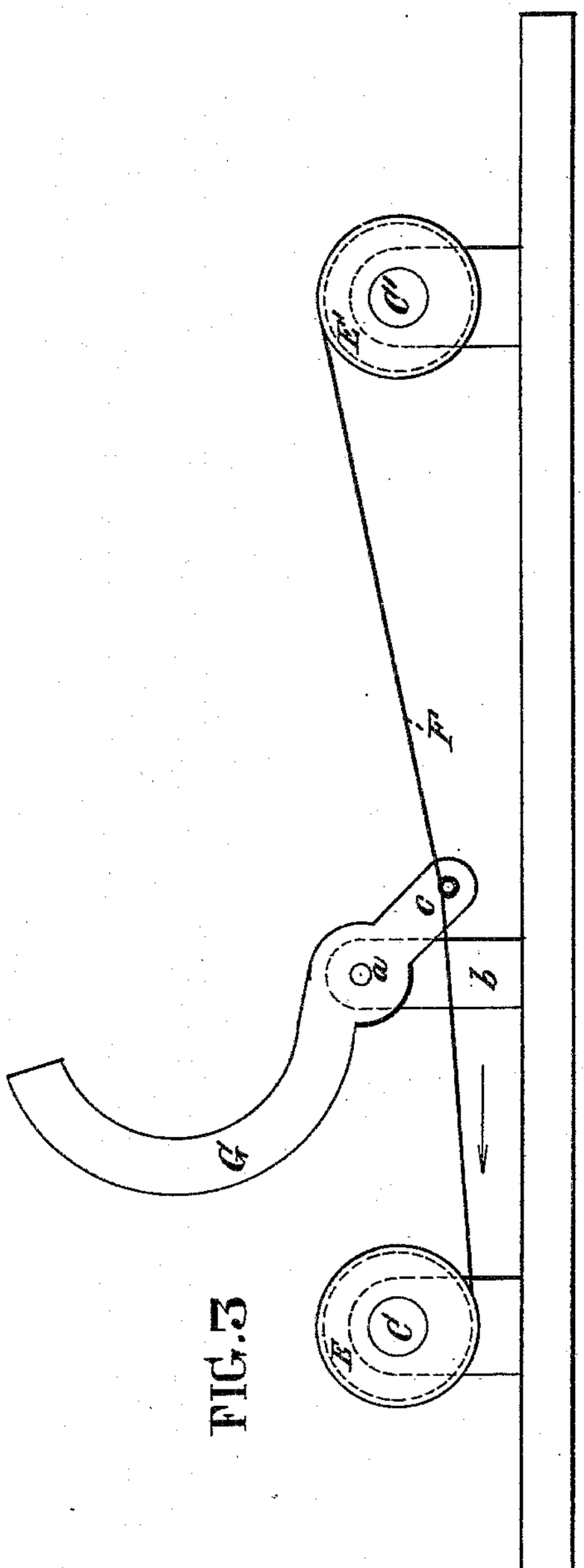

FIG. 3

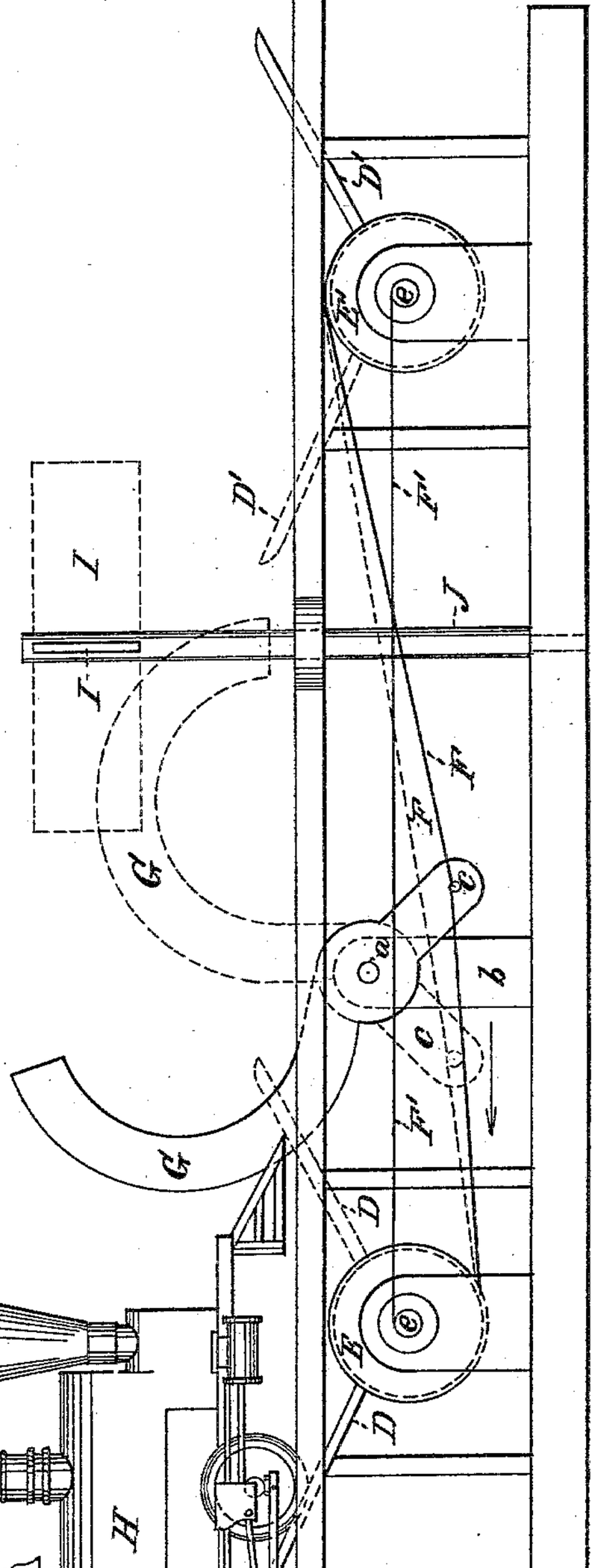

FIG. 4

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN LITTLE, OF PHILADELPHIA, PENNSYLVANIA.

OPERATING RAILROAD-GATES.

SPECIFICATION forming part of Letters Patent No. 296,761, dated April 15, 1884.

Application filed December 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN LITTLE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Operating Railroad Gates and Signals, of which the following is a specification.

The nature of my invention, in the first place, consists of two rocking shafts, each having a lever rigidly secured thereto at one end and a chain-wheel at their other ends, to which the ends of the chain are connected, in combination with a gate or pole at a crossing, the levers being so arranged that the one on the rocking shaft nearest an approaching train shall be in such inclined position that an arm of the locomotive striking its under side shall turn it over, and thereby draw the chain in one direction and lower the gate before the locomotive reaches the crossing, the other lever being at the same time brought into position to be operated upon in the same manner, to give a reverse movement to the chain after the train has passed the crossing, and thereby raise the gate. Where there are a number of crossings at short distances apart provided with gates, they may all be operated upon at the same time by having connecting-chains between the second shaft of each pair of shafts and the first shaft of the next succeeding one.

The invention consists, in the second place, of a danger-signal at a crossing on the upper end of a post adapted to turn around ninety degrees, and attaching the middle of a chain to the post at its lower end, and its ends to projecting ends of the lever-shafts above mentioned, so that the post will be turned partly around by the movement of the first shaft to present the broad side of the signal to view when the gate is lowered, and reversed to show only its edge when it is raised.

The invention, in the third place, consists in a like combination of devices, to give warning at sidings, as hereinafter fully described.

In the accompanying drawings, which make a part of this specification, Figure 1 is a plan view of a railroad-track, A, and a crossing, B, having my improvements, a locomotive, H, being on the track A, having an arm, *d*, for operating the levers D and D′. Fig. 2 is a section of road provided with shafts C and C′ and a danger-signal, I, in connection therewith, to give notice of a train approaching a siding. Fig. 3, Sheet No. 2, is a longitudinal section at the line *x x* of Fig. 1. Fig. 4 is a side elevation of the same.

Like letters of reference in all the figures indicate the same parts.

A represents a railroad-track constructed in the usual manner, and B a cross-track.

C and C′ are rocking shafts at right angles to the track A, and at suitable distance, respectively, from the cross-track B, for the lowering of the gate before the locomotive of an advancing train has reached it, and for the raising of the same after passing it. The shafts C and C′ are respectively provided with levers D and D′ at one end and chain-wheels E and E′ at their other end, to which wheels the ends of the chain F are connected. G is the gate at the crossing B. It is hung on the center-pin *a*, which projects from the post *b*, and is provided with an arm, *c*, to which the middle portion of the chain F is connected. When the lever D is in the inclined position shown by full lines in Figs. 1 and 4, and the lever D by dotted lines, the gate G is in its elevated position; and when the locomotive H approaches the lever D its arm *d*, as shown in said figures, by coming under the lever, turns it into the position shown by dotted lines; and by the action of the chain-wheel E the chain F is drawn in the direction of the arrow, whereby the gate is lowered; and the lever D′, being in the position shown also by full lines, is drawn from that position to the position shown by dotted lines, to be acted upon in the same manner as the lever D, when the locomotive has reached it, whereby the reverse movement is given to the chain F, and the gate thereby brought to its elevated position, to open the cross-track B or a cross-road, as the case may be. The gates at a number of crossings at short distances apart may be lowered and raised simultaneously by having the shaft C of each succeeding pair connected by means of a chain with the shaft C′ of the preceding one.

I is a danger-signal on the upper end of the post J, which is adapted to be turned around ninety degrees from the position shown in the drawings, by the movement of the shaft C, and the reverse movement given to it by the action of the shaft C′, acting upon the chain F′, one

end of which is attached to the extension *e* of the shaft C, and the other end to the extension *e'* of the shaft C', and the middle part attached to said post J. A lantern is attached to the gate and one to the signal.

As frequent accidents occur at sidings through the lack of sufficient warnings of approaching trains, I provide against them by having a danger-signal connected with shafts C and C', having levers D and D', respectively, as seen in Fig. 2, and in like manner, as shown in Figs. 1 and 4, the shafts being respectively at suitable distance from the siding, whereby to give warning to the station-agent, and advancing train running in the opposite direction, and to the train-hands in time to remove any obstructions which may be on the track.

I claim as my invention—

1. The combination of the rocking shafts C and C', having levers D and D', arranged at opposite angles, as described, rigidly secured thereon, and chain-wheels E and E' and chain F, with the gate G, and locomotive H, having an arm, *d*, whereby the gate is brought to its lowest position before the locomotive reaches the cross-track B, and is reversed to its elevated position after the train has passed said track B, substantially as described.

2. The combination of the chain F' with the rock-shafts C and C', having levers D and D', rigidly secured thereon, and chain-wheels E and E', connected together by means of the chain F, and with the post J, provided with a danger-signal, I, arranged at a crossing, B, substantially as described.

3. The combination of the chain F' with the shafts C and C', having levers D and D', rigidly secured thereon, and chain-wheels E and E', connected together by means of the chain F, and with the post J, having a danger-signal, I, at a siding, substantially as and for the purpose set forth.

JOHN LITTLE.

Witnesses:
STEPHEN USTICK,
J. R. MASSEY.