(No Model.)

2 Sheets—Sheet 1.

J. GRAY.

AUTOMATIC RAILROAD SWITCH.

No. 267,308. Patented Nov. 7, 1882.

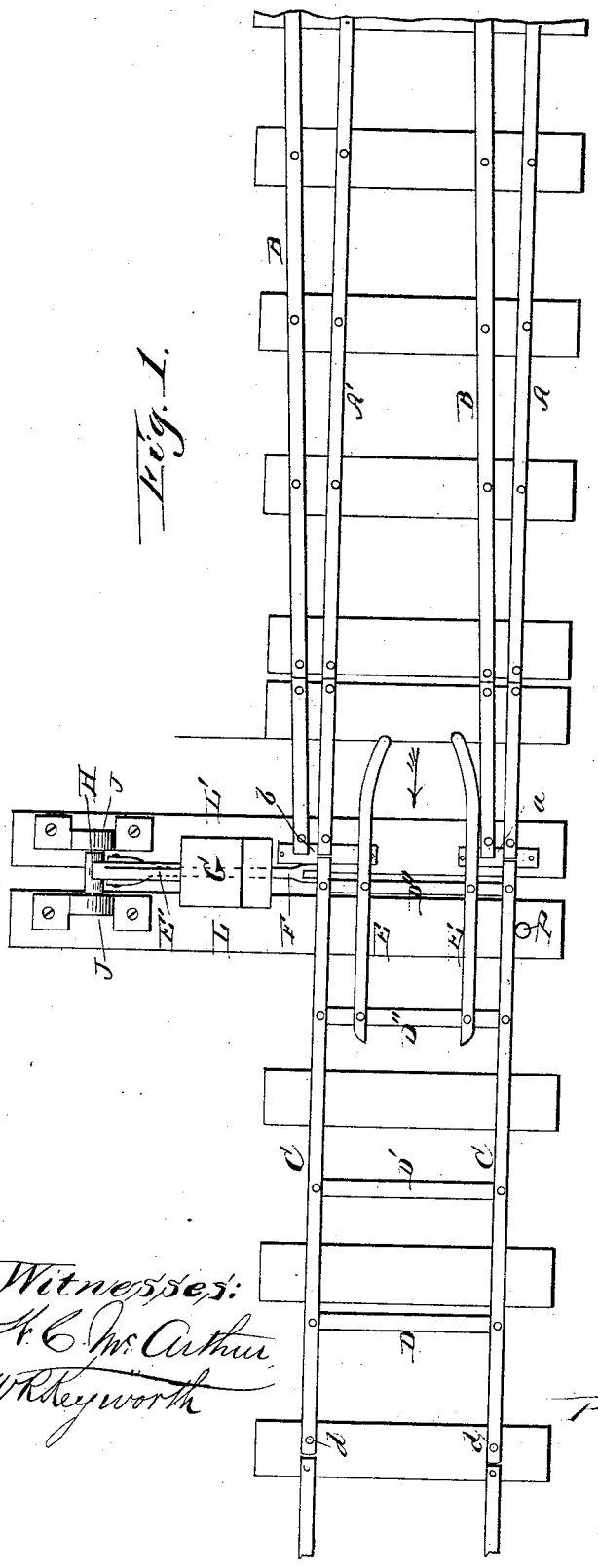

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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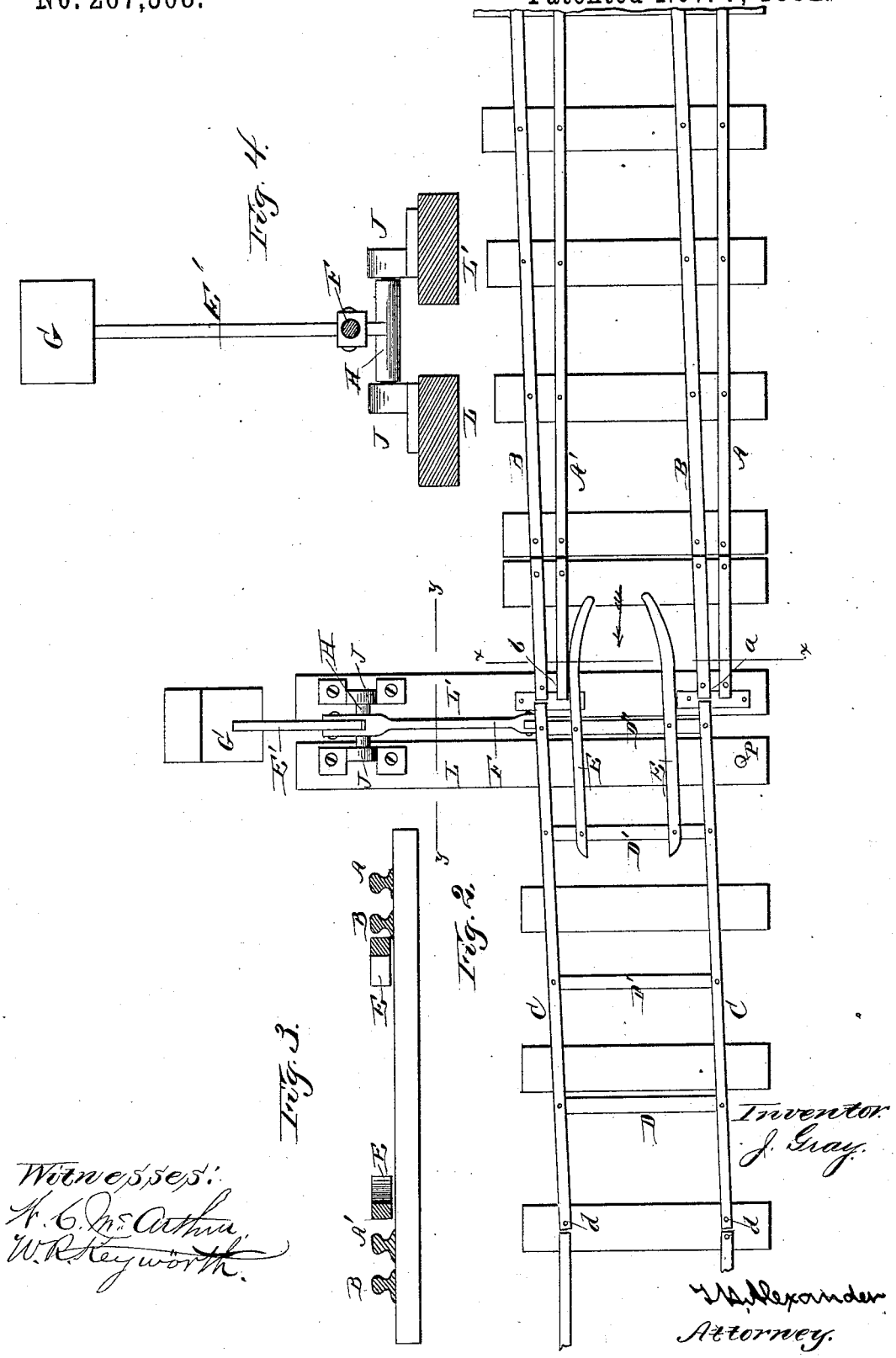

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UNITED STATES PATENT OFFICE.

JOSIAH GRAY, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND WESTLEY HOLLENBECH, CONRAD B. SHEFLER, AND JACOB R. REED, ALL OF SAME PLACE.

AUTOMATIC RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 267,308, dated November 7, 1882.

Application filed May 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH GRAY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 represents a plan view of the track at the switch, showing the switch-rails adjusted for the main-track rails to allow cars to pass back and forth over these rails without interference. Fig. 2 is a similar view of the same parts, showing the switch adjusted for the siding. Fig. 3 is a vertical section taken transversely through the track in the plane indicated by dotted line *x x*, Figs. 1 and 2. Fig. 4 is a vertical section taken across the outer extensions of the cross-ties indicated by dotted line *y y*, Fig. 2.

This invention relates to railroad-switches wherein a loaded vibrating ball-lever is used, and pivoted switch-rails are combined therewith in such manner that an engineer can move his train from a siding onto the main track without stopping and without manipulating the switch-lever, and have the switch set for the siding, or vice versa. The switch being set for the siding, an engineer can pass similarly on the main track, leaving the switch set for main track; and the nature of my invention and improvement consists mainly in the combination of curved switch-horns and guides with the switch-rails and with a vibrating loaded lever, arranged and applied substantially in the manner as will be fully understood from the following description when taken in connection with the annexed drawings.

A A′ designate the stationary main-track rails, which are spiked to the cross-ties in the usual well-known manner, and B B are the stationary rails of a siding or turn-out, which closely approach the main-track rails at the point *a b*.

C C are the switch-rails, which are pivoted at *d d* to the cross-ties, and whose free ends are adapted to register with either the main-track rails or the siding-rails, according to the position of a loaded switch-lever, which I shall hereinafter explain. These laterally-movable switch-rails are connected together by tie-rods D D′ D^2, so that they will preserve their parallelism.

Upon the two tie-rods D′ D^2 are suitably secured switch-horns E E, which move with the free ends of the switch-rails C C, and which can be adjusted with these rails either for the main track or the siding. The two switch-horns E E serve as levers, so that when either one or the other impinges on the siding or main rail a flange of a car-wheel will effect a change of the switch by simply passing into the crotch formed by the inturned end of the horn E and the rail against which such horn impinges.

The tie-rod D^2 has pivoted to one end a pitman or connecting-bar, F, which is bifurcated at its outer end and pivoted to a lever, E′. This lever is heavily loaded at its upper end by a weight, G—say about one hundred pounds. The lower end of this lever has a rock-shaft, H, formed on or secured to it at right angles to it, and which is provided with journals at each end, having their bearings in blocks J J, rigidly secured to the extensions of two cross-ties, L L′, to one of which are firmly spiked the ends of the main-track rails and the siding-rails. The throw of the loaded lever E′ is determined by setting this lever in a position perpendicular to the cross-ties L L′ and keeping the sections E in the center of or equidistant between the two rails A B, and then spiking or otherwise securing the blocks J J to the cross-ties.

Now, it will be seen that trains passing in the direction indicated by the arrow marked on Figs. 2 and 3 will always keep on the main track and automatically operate the switch, if it be adjusted for the siding. If a train be moving in the opposite direction and the switch be misplaced or adjusted for the siding, the engineer must stop the train and have the switch properly adjusted for the main track. If a train on the siding be moving in the direction indicated by the said arrow, and the engineer desires to pass the switch and travel on the

main-track rails, the sections E E are always in position for this purpose, and herein lies an important feature of my invention. When the "ball-lever" E′ is in the position shown in Fig. 1 the free ends of the switch-rails C will be brought home against a stop, P, in which position of the parts the rails C will be in line with the main track.

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

1. The combination of the main-track rails and siding-rails rigidly secured to the cross-ties, the laterally-movable switch-rails connected by tie-rods, the switch-horns mounted upon the tie-rods of the movable rails, and a loaded gravitating lever, all arranged and adapted to operate substantially in the manner and for the purposes described.

2. In a railroad-switch, the laterally-movable switch-rails having rigidly secured to their tie-rods two switch-horns, in combination with the stationary main-track and siding or turn-out rails, substantially in the manner and for the purpose described.

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

JOSIAH GRAY.

Witnesses:
T. H. ALEXANDER,
WM. R. KEYWORTH.