(No Model.)

J. E. SMITH & F. A. BALLIN.

RAILWAY SIGNAL.

No. 344,207. Patented June 22, 1886.

Fig. 1.

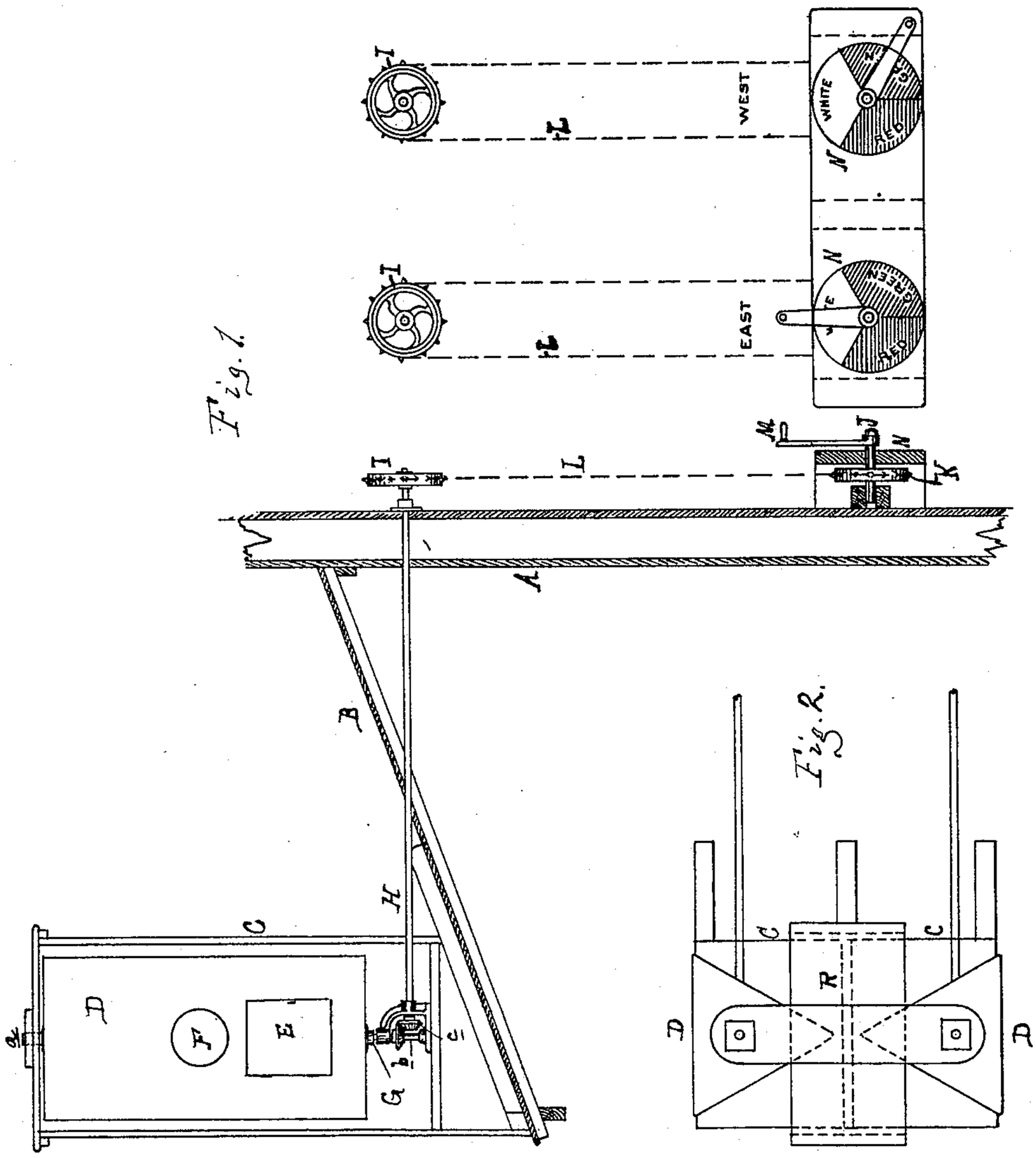

Fig. 2.

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UNITED STATES PATENT OFFICE.

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RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 344,207, dated June 22, 1886.

Application filed November 16, 1885. Serial No. 183,005. (No model.)

To all whom it may concern:

Be it known that we, JOHN E. SMITH and FRED. A. BALLIN, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Railway-Signals; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction and operation of railway night-signals.

Signal lanterns or lamps are usually constructed with four faces, the light inside, when in operation, being exhibited through green glass on two opposite faces and red glass upon the two remaining opposite faces, and it is usual to secure these lamps to the top of the revolving target. Now, if the operator desires to show a green light to a train approaching from one direction and arrest that train, in so doing the opposite face of the lamp is presented in the opposite direction, and would prevent a train coming from that direction. This frequently causes delays—as, for instance, supposing it is necessary to arrest a train from the east at a certain point to allow a train from the west to pass such train from the east at that point. Now, if the operator sets his green light to arrest the train from the east, the train from the west is also arrested, and both are detained until proper orders are delivered to them from the train-dispatcher.

The object of this invention is to prevent this unnecessary detention by supplying the operator with the means of signaling the one train with a green light in order to arrest it, and with a white light to signal at the same time the train from the opposite direction, that the engineer may know that he is not required to arrest his train.

The invention consists in the peculiar construction of the parts, their combination and operation, as more fully hereinafter described.

Figure 1 is a side elevation of our improvement. Fig. 2 is a plan of the same.

In the accompanying drawings, A represents the front wall of a station-house, and B the roof projecting therefrom over the ordinary platform by the side of the track. Supported at the outer extremity of the roof, or in such other position as to be readily seen from both directions on the track, is secured the framework or box C, open at both ends in the same direction in which the track runs.

D represents two triangular-shaped boxes, each of which is provided with a door, E, or other suitable means of furnishing access to the interior thereof, through which the inclosed lamp may receive the necessary attention.

In each vertical wall of the box D, at the proper point, there is a glass inserted, as shown at F. The glass in one face will be the ordinary uncolored, upon the next face the glass will be green, and upon the next it will be red. Each of these boxes D is centrally supported upon the target-shaft G, which is secured to the bottom of the frame C, and the upper ends of such boxes D are provided with pintles *a*, which furnish a suitable bearing for the revolution of the box D in the top of the frame C.

Upon the target-shaft G there is secured a bevel-gear, *b*, which engages with a similar gear, *c*, upon the horizontal shaft H, which passes to the interior of the station through the wall A, it being supported in suitable bearings for that purpose.

Upon the end of the shaft H there is secured a ratchet or sprocket wheel, I, and below the same, upon a suitable counter-shaft, J, properly supported, there is a similar wheel, K, and a suitable sprocket or other chain, L, passing over and around such two wheels I and K, enabling the operator, by means of the crank M, to rotate the box D, carrying the lamp, in order to present either face to the track which he may desire. The counter-shaft J is located in the rear of a dial, N, while the crank M is secured outside such dial to the overhanging end of such shaft, as shown in Fig. 1. There being two of these signal-boxes, they are both connected with the interior of the station by means already described, each, however, acting independently of the other. The dials are laid off as shown in Fig. 1, and the whole arrangement of the parts is such that when the crank is over the white part of the dial, or that part which is marked "White," the uncolored front of the box D is presented, the one looking up the track and the other down

the track. Now, if it is necessary to arrest one train—say from the east—the crank which operates the signal looking in that direction is turned, as shown in Fig. 1, over the green part of the dial, or that which is lettered "Green," when a green light is presented to the train coming from that direction, and if it is desired that a train coming from the west should pass such train from the east at that point, the other light, looking in the direction of the west, is presented uncolored; and in order that there may be no confusion of the lights, a division-wall, R, is located in the frame C and between the two signal-boxes, which prevents the engineer upon the eastern track from seeing the light presented to the western track.

What we claim as our invention is—

1. A pair of railway-signal lamps arranged in a frame common to both with relation to each other, and each triangular in form, operating independently of each other, divided from each other, and constructed substantially as described.

2. A pair of railway-signals, each triangular in form and rotating in a frame common to both, and which is provided with a central division-wall, by means of which each signal does not interfere with the operation of the other, substantially as specified.

3. A pair of railway-signals, triangular in form, located in a frame common to both, and rotated therein, each independently of the other, by suitable mechanisms, substantially as and for the purposes set forth.

4. A railway-signal consisting of a frame having a central division-wall, two triangular signal-boxes located in opposite ends of said frame and on either side of such division-wall, each of said boxes being provided with a target-shaft with bevel-gear thereon, two shafts carrying on one end like bevel-gear, and each communicating by means of sprocket-wheels and chains with cranks and dials, the parts being constructed, arranged, and operating substantially as and for the purposes described.

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