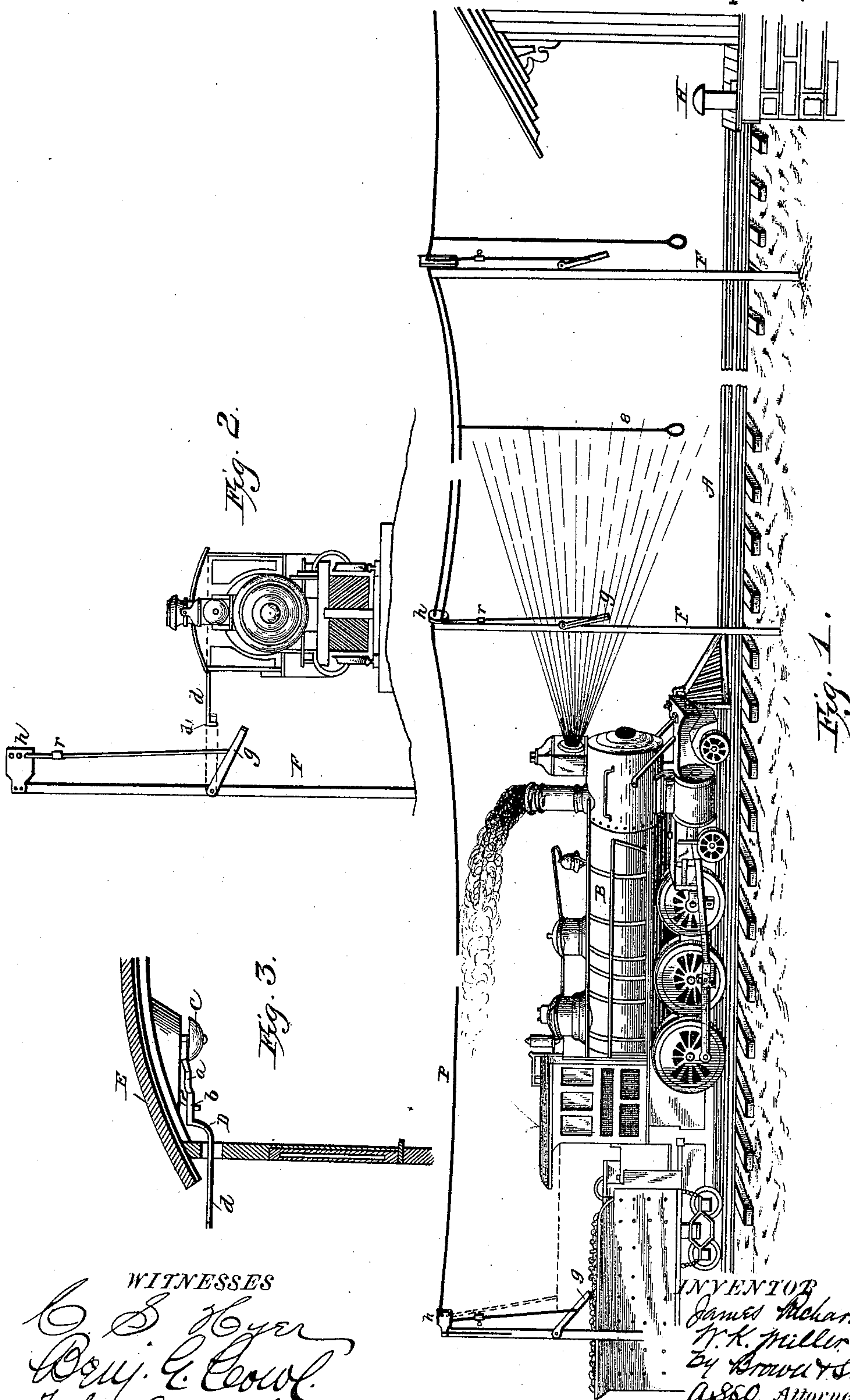


(No Model.)

J. RICHARDSON.
RAILWAY SIGNAL.

No. 436,191.

Patented Sept. 9, 1890.



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UNITED STATES PATENT OFFICE.

JAMES RICHARDSON, OF BAYARD, OHIO.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 436,191, dated September 9, 1890.

Application filed May 26, 1890. Serial No. 353,138. (No model.)

To all whom it may concern:

Be it known that I, JAMES RICHARDSON, a citizen of the United States, and a resident of Bayard, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Railway-Signals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to improvements in railway-signals, the object of which is to provide means by which communication may be had with persons on a running locomotive in the night in darkness of fog as well as in the day-time, to admonish them of danger in time to stop the engine and prevent the loss of life and destruction of property.

With these ends in view my invention relates to and consists of certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claim.

Figure 1 is a view in perspective of a portion of a railway and locomotive, showing one application of my invention. Fig. 2 is a view of cross-section of railway in front of locomotive and signal; and Fig. 3 is an elevation of a portion of a locomotive-cab, showing signal-gong and inner end portion of alarm-lever.

A represents a railway, and B a locomotive, in the cab of which is secured a gong C, having a striking mechanism of the usual form, which is operated by the movement of the inner end *a* of the arm D, said arm having a pivotal connection *b* with the cab-deck E. The outer end *d* of said arm is projected outwardly from the cab, and held in a horizontal position transverse to the course of the locomotive, the inner end *a* engaging the striking mechanism of the gong. As the arm D must necessarily be light, I have provided a vertical or bent-down portion *d'* of its outer end to assure engagement with the arm *g*.

Along and to one side of the railway is placed a series of poles F, to the upper portion of which are secured supports *h*, having perforations *k*, through which is passed the wire *p*.

At a point below the support *h*, and to correspond with the height of the arm D on the locomotive an arm *g*, is pivotally secured, as shown in Figs. 1 and 2. To this arm *g* one end of the wire *p* is secured.

To stop the arm *g* when raised to the line of the arm D on the locomotive, as shown by the dotted lines, a check-block *r* is provided, as shown in Fig. 2, which may be secured to the wire at such point as will stop the upward movement of the arm by coming in contact with the support *h*.

To operate the arms *g*, drops, as *s*, are placed between the poles A, by which the track-men may operate the arms *g* to sound the alarm, and for the convenience of such men and others, to be used for the purpose aforesaid, I place one or more wires in the support of different length with arms *g* at each end, that the gong may be sounded after passing the person operating the alarm, so that in case the locomotive has passed one point of signal it may be caught on the next.

On railways where telegraph-lines have been erected, the poles of such lines may be used to support the apparatus, thus greatly reducing the initial cost.

The utility of the apparatus will be apparent to all persons operating railways, as the engine-driver may be notified of danger by the sound of the gong at any point and by any person discovering such danger and operating the signal.

When preferred, the gong C may be placed so as to be sounded from either side, the arm D placed on either side of the locomotive or on both sides at the same time.

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

The combination, with a railway-locomotive, of the gong C, arm D projected therefrom, and a series of poles F, supports *h*, arms *g*, pivotally secured to said poles, said arms *g* secured together by a flexible connection, and a depending portion *s*, whereby said arms may be raised to engage the arms D to sound the gong, substantially as described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 16th day of May, A. D. 1890.

JAMES RICHARDSON.

Witnesses:

JOHN COOPER,
THOMAS EDWARDS.