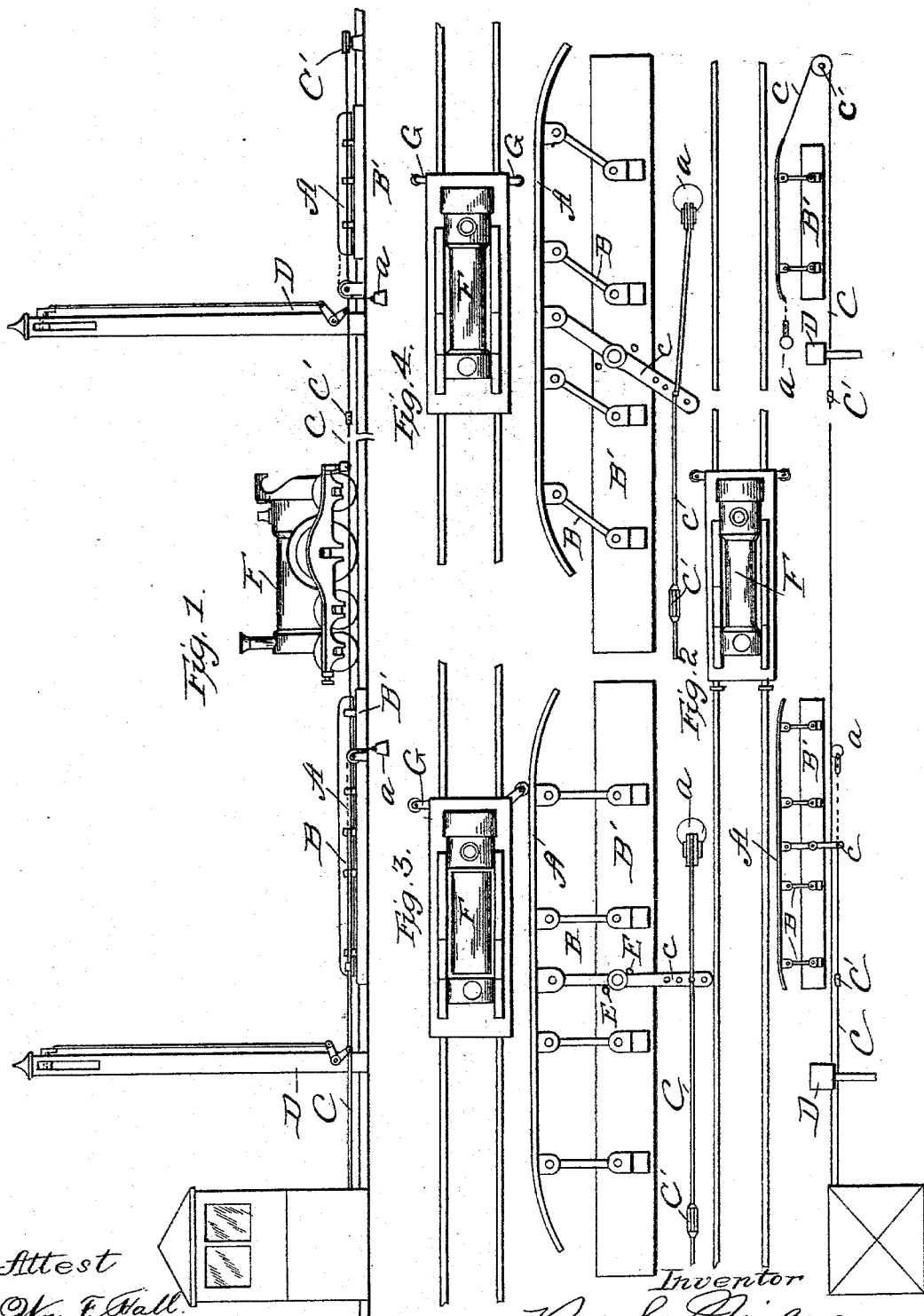


(No Model.)

R. S. WILES.
RAILWAY SIGNAL.

No. 515,808.

Patented Mar. 6, 1894.



Attest
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Attys

UNITED STATES PATENT OFFICE.

RICHARD STEPHEN WILES, OF READING, ENGLAND.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 515,808, dated March 6, 1894.

Application filed July 25, 1893. Serial No. 481,410. (No model.) Patented in England November 25, 1892, No. 21,560; in Belgium December 31, 1892, No. 102,485; in Canada February 13, 1893, No. 41,947, and in France February 25, 1893, No. 226,241.

To all whom it may concern:

Be it known that I, RICHARD STEPHEN WILES, a subject of the Queen of Great Britain, residing at Reading, in the county of Berks, England, have invented certain new and useful Improvements in Railway Signaling, of which the following is a specification.

Said invention has been patented as follows: in Great Britain, No. 21,560, dated November 25, 1892; in France, No. 226,241, dated February 25, 1893; in Belgium, No. 102,485, dated December 31, 1892; and in Canada, No. 41,947, dated February 13, 1893.

This invention relates to improvements in railway signaling in which the signals are operated from the signal box and transmitted direct to the locomotive or guard van, the arrangement being especially adapted for fog signaling.

In carrying out my invention I employ a rail or bar at the side of the line and parallel to it, against which a lever on the engine or guard's van, carrying a friction roller at its end abuts when the train passes, when the rail is in its ordinary position, mechanism being attached which will give a signal and put on the brake, the rail being withdrawn when the signal is not required. The rail is mounted on a number of arms in such a manner that it is always moved parallel to itself, and arranged so that its face is perpendicular, the device on the engine projecting horizontally to meet it. A weight is provided which always brings the rail to the signaling position when released, the signalman pulling the lever to withdraw it. The wire rod or chain from the signal box is attached to a lever on the rail or to the end of the rail. The rail is preferably operated at the same time as the ordinary signals, the wire or rod being also attached to the lever on the signal post, but it may be employed in their place if desired.

The arrangement of the signals on the line is as follows:—At the distance signal is placed a short rail constructed as before described and actuated from the signal post levers. If this is at danger it will put on the brake and operate the signals on the engine, releasing them immediately the engine or car has passed, allowing the driver to turn them off when he desires. A warning is thus given to

the driver, who, as is the custom when the distance signal is at danger, proceeds to slacken speed until he reaches the home signal. Should this also be at danger when he arrives, the signals and brake are operated again and the rail in this case being of greater length, the train is automatically brought to a standstill before it passes the end of the rail. Should the train have passed the distance signal before it has been put at danger, and it is desired to stop the train by the home signal in the event of the train running at full speed up to the signal, it may not be stopped in the length of the rail, and in case of fog the signal to start must then be given by some separate arrangement, such as the means ordinarily employed.

In order that the invention may be more clearly understood, reference is had to the accompanying drawings, in which—

Figures 1, and 2 are respectively a side elevation and a plan showing the general arrangement of the signals. Figs. 3 and 4 are plans of one of the signaling rails with diagrammatic views of engine, showing the rail in on and off position.

A is the rail operating the device G on the engine or car F, and placed at the side of the line with its face toward the line. This rail is carried by a number of arms B of equal length pivoted to the support B' and arranged so that the rail will always move parallel to itself. A weight *a*, is attached to the rail which always brings it to signaling position when released, so that should any accident occur to the arrangement, such as breaking of the connecting wire, the signal will always stand at danger. The wire or chain C with coupling C' for tightening purposes passes from the signal box and is also connected to the lever on the signal post D, so that both signals are operated at the same time. The wire may be attached to the lever *c*, to operate the rail or may pass over the pulley *c'* and be connected to the end of the rail. Stops E are furnished which prevent the rail moving beyond its extended position, thus preventing any chance of its being pushed aside by the striking lever on the passage of the train.

Figs. 1 and 2, show the double arrangement of the signaling rails, one at the distance sig-

nal and the other, preferably of greater length, at the home signal, for the purposes before described.

What I claim is—

- 5 1. In a signaling device of the kind described, the combination with connections on the engine or guard's van, of a rail A at the side of the lines mounted on arms B, and furnished with weight *a*, withdrawn when de-
10 sired from operative position by a wire or chain proceeding from the signal box, substantially as described.
2. In a signaling device two rails A at the

side of the lines, mounted on arms B and furnished with weights *a*, withdrawn when de- 15
sired from operative position by connections *c* proceeding from the signal box, one rail being placed at the distance signal and one at the home signal and being of different lengths, substantially as described. 20

In witness whereof I have hereunto set my hand in presence of two witnesses.

RICHARD STEPHEN WILES.

Witnesses:

ALBERT EDWARD ELLEN,
MILLIE GERTRUDE SMITH.