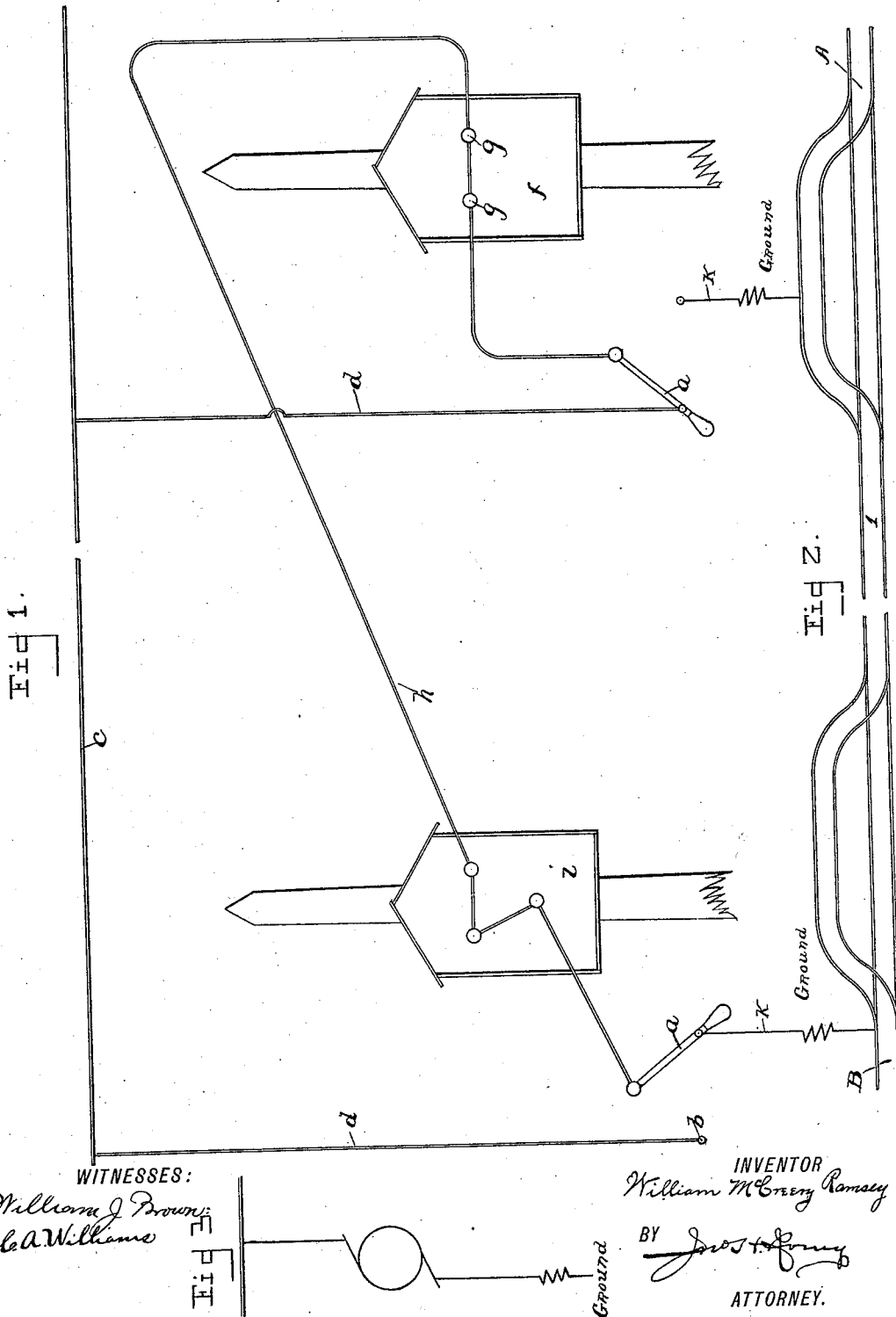


(No Model.)

W. McC. RAMSEY.
SYSTEM FOR ELECTRIC SIGNALING.

No. 575,733.

Patented Jan. 26, 1897.



UNITED STATES PATENT OFFICE.

WILLIAM MCCREERY RAMSEY, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR
TO JAMES E. WILLIAMSON, OF SAME PLACE.

SYSTEM FOR ELECTRIC SIGNALING.

SPECIFICATION forming part of Letters Patent No. 575,733, dated January 26, 1897.

Application filed August 9, 1894. Serial No. 519,840+. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCCREERY RAMSEY, a citizen of the United States, residing at Allegheny city, in the county of Allegheny and State of Pennsylvania, have
5 invented certain new and useful Improvements in Systems for Electric Signaling; and I do hereby declare the following to be a full, clear, and exact description of the invention,
10 such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

15 Figure 1 is a diagrammatic view of my improved signaling apparatus. Fig. 2 is a diagram of a section of track. Fig. 3 is a similar view of a dynamo.

20 My invention relates to systems for throwing or showing signals at two or more points to indicate that a certain block or section of track is occupied by a train or car and that the train or car so signaled must wait until the signaling train or car passes such point.

25 I will now describe my invention, reference being had to the accompanying drawings, forming part hereof, in which like characters indicate like parts wherever they occur.

30 1 designates a section of single track, which is connected at its ends to the main line A B by suitable switches.

35 The main conductor of the electric circuit is designated by *c*, and is provided at points adjacent to the signal-stations *i*, situated at the ends of the section of single track, with branch conductors *d*. These branches terminate in contact *b*.

40 In each of the signal-boxes *i* are arranged a series of lamps *g*, which are connected by a conductor *h*. This conductor is electrically connected at all times with switch-arms *a*, which arms are adapted to move into contact with either the contacts *b* or with similar contacts arranged at the ends of branch conductors *K*, leading from the ground line or
45 side of the main circuit.

It will be seen that when the arms *a* are both in contact with the posts *b* or the branch conductors *K* no current will pass through the

signal-circuit, (the lamps and the conductor *h*,) but that when one arm is in contact with its coacting post *b* and the other is in contact with the branch conductor *K*, adjacent to it, the signal-circuit will be closed and the signals at both stations or boxes *i* will be displayed.

The manner of using my improvements may be described as follows: Suppose a single track connected the points A B, switches being provided at such points, and a car or train
60 arriving at A desiring to occupy said single track and to detain a car or train on the switch at B, the conductor by throwing the switch or contact-maker *a* adjacent to that end of the track into the position shown in
65 Fig. 1, or in contact with the binding-post *b*, current from the trolley-wire *c* is transmitted through the feeder *d*, thence through said contact-maker through suitable electric conductors located in the signal-box *f*, located at
70 point A, lighting the lamps *g*, secured therein, and passing through said lamps over the conductor *h*, which connects said signal-box *f* at point A with the signal-box *i*, notifying cars or trains arriving at such point B that
75 the track is then occupied. When the car or train from A arrives at B, the conductor throws the contact-maker out of contact with the ground-wire *k* and in contact with feeder *d* at the point B, opening the signal-circuit and
80 extinguishing the lamps at both points. It will thus be seen that it is possible from either end of the section of single track to instantly display "block" signals at the opposite end
85 of the section to notify the officials of any train approaching that point from the opposite direction that the section of track is occupied. At the same time signals are displayed at the station adjacent to that end of
90 the track which the train enters in order to notify those in charge of any following train of the fact that the train in advance has entered on the section of single track.

By reference to Fig. 1 of the drawings it will be seen that the signal-circuit is normally
95 open, and that by moving the switch-arm *a* adjacent to either end of the track-section such circuit will be closed, and by moving the

arm *a* at the other end of the track-section as the train passes therefrom the said circuit will be again opened.

Having described my invention, what I
5 claim, and desire to secure by Letters Patent,
is—

In a signal system for railways, a trolley or
feed wire having a branch at each station, a
line-wire having a signal and a terminal
10 switch at each station, and a return-circuit;

the switches coöperating with the return and
branch circuits alternately, substantially as
and for the purpose specified.

In testimony that I claim the foregoing I
hereunto affix my signature this 1st day of 15
August, A. D. 1894.

WM. MCCREERY RAMSEY. [L. S.]

In presence of—

ALBERT J. WALKER,
C. A. WILLIAMS.