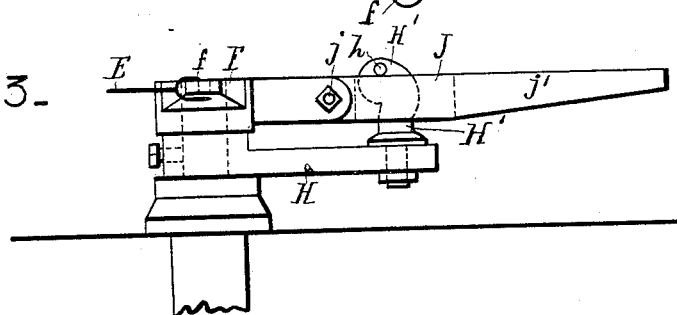
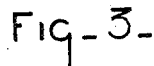
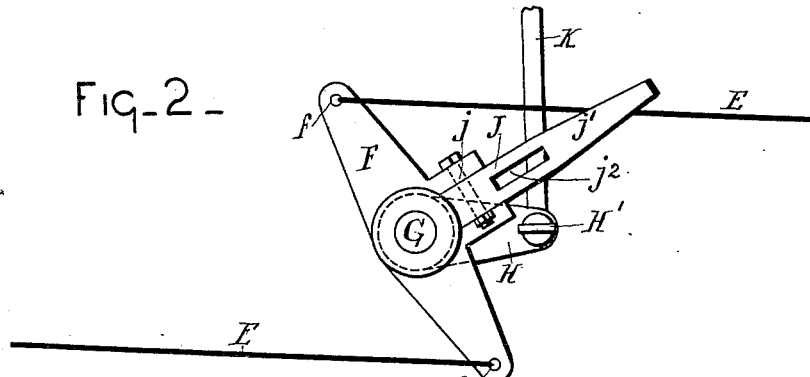
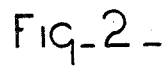
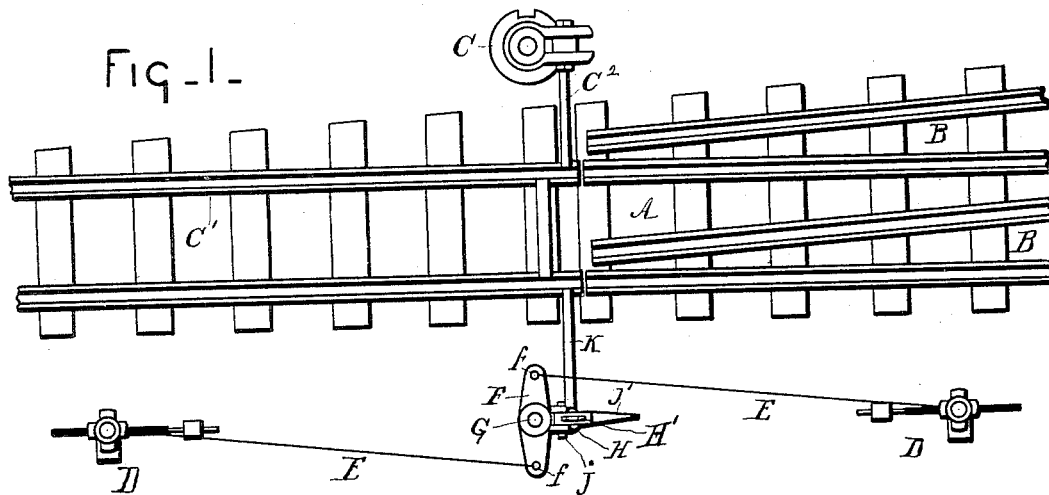


(No Model.)

SWITCH SIGNALING APPARATUS.

No. 419,135.

Patented Jan. 7, 1890.



WITNESSES

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UNITED STATES PATENT OFFICE.

AMOS BARNES, OF PONTIAC, MICHIGAN, ASSIGNOR OF THREE-FOURTHS TO
HENRY C. WARD AND ROBERT LE BARON, OF SAME PLACE.

SWITCH-SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 419,135, dated January 7, 1890.

Application filed November 2, 1889. Serial No. 329,031. (No model.)

To all whom it may concern:

Be it known that I, AMOS BARNES, a citizen of the United States, residing at Pontiac, county of Oakland, State of Michigan, have
5 invented a certain new and useful Improvement in Switch-Signaling Apparatus; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it
10 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to that class of switch-signaling apparatus in which the switch is by
15 suitable mechanism connected with a semaphore, whereby a throw of the switch is utilized to operate the semaphore; and it consists, essentially, of mechanism whereby the semaphore may at any time be thrown out of
20 connection with the switch, thus indicating to the approaching engineer the danger-signal, irrespective of the position of the switch. This is very often desirable where the switch has to be thrown frequently, as is the case
25 when an engine is switching back and forth from the main track onto a side track in switching cars.

In the drawings, Figure 1 is a plan view of a track, switch mechanism, and semaphore,
30 illustrating the position of the mechanism when the semaphores are in connection with the switch. Fig. 2 is a plan view of the same with the semaphore thrown out of connection with the switch. Fig. 3 is a detail view of
35 the mechanism embodying my improvement.

In carrying out my invention, A represents the main track; B, the side track; C, the switch-stand; C', the movable portion of the track or switch, and C² the rods connecting
40 the switch with the switch-stand.

D are the semaphores placed at any desired distance from the switch and having attached thereto the cables E, which lead to the switch.

45 F is a suitable lever adapted on each end to receive the ends of the cable E. This lever is pivoted on a vertical pivot G, and is adapted to revolve independently of the pivot.

50 H is a suitable arm rigidly keyed to the pivot G and extending out underneath and adjacent to the lever F. On its outer end it is

provided with a suitable upward projection H'.

J is a suitable lever pivoted at *j* to the lever F and provided on its outer end with a suitable handle *j'*. It will be observed that the lever or handle J is provided with a slot
55 *j''*, through which the projection H' passes.

K is a rod, one end of which is pivoted to the arm H and the other end engaged to the
60 switch.

The operation of my device is as follows: When the switch is not being thrown frequently, as is the case when not a great deal of switching is done, the lever F is engaged
65 with the pivot G by the lever J engaging with the projection H' on the arm H. Thus when the switch is thrown the arm H causes the pivot G to revolve, carrying the lever F with it, and this lever operates the semaphore
70 through the medium of the cable. Now, suppose it is desired to use the switch for switching cars, by throwing up the lever J and disengaging it from the projection H', the lever F will move freely on the pivot G. By giving
75 it a quarter-turn the semaphore may be operated independently of the switch and set to indicate "danger." The switch can then be used continuously without disturbing the semaphore, which shows the danger-signal,
80 and consequently warns approaching engineers. Thus the danger from incoming trains colliding with trains which are switching back and forth is obviated, since the disengagement of the semaphore from the switch
85 operates to set the semaphore to indicate "danger," and the approaching engineer is thus warned. By extending the projection H' above the lever J and providing it with an eye *h* it may be locked by a suitable padlock,
90 and thus prevent it from being disconnected except by the proper person.

What I claim is—

1. In a switch-signaling apparatus, the combination, with the switch, one or more semaphores placed at the desired distances, and
95 suitable cables for connecting them with the switch, of intermediate connecting mechanism, consisting of a pivoted crank, to which the switch is engaged, a suitable lever, to
100 which the said semaphore-cable is attached, said lever pivoted on said crank-pivot, and

means for engaging said lever with or disengaging said lever from said crank, substantially as described.

2. In a switch-signaling apparatus, the combination, with the switch, suitable semaphores placed at the desired distance, and suitable cables for connecting the same with the switch, of intermediate connecting mechanism, consisting of the pivot G, having the crank
10 H, lever F, to which the semaphore-cables are

connected, and suitable means, consisting of the pivoted lever J, for engaging said lever F with said crank, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

AMOS BARNES.

Witnesses:

W. H. CHAMBERLIN,
L. A. DOELTZ.