

(No Model.)

S. W. BABCOCK.
RAILWAY SIGNAL.

No. 533,042.

Patented Jan. 29, 1895.

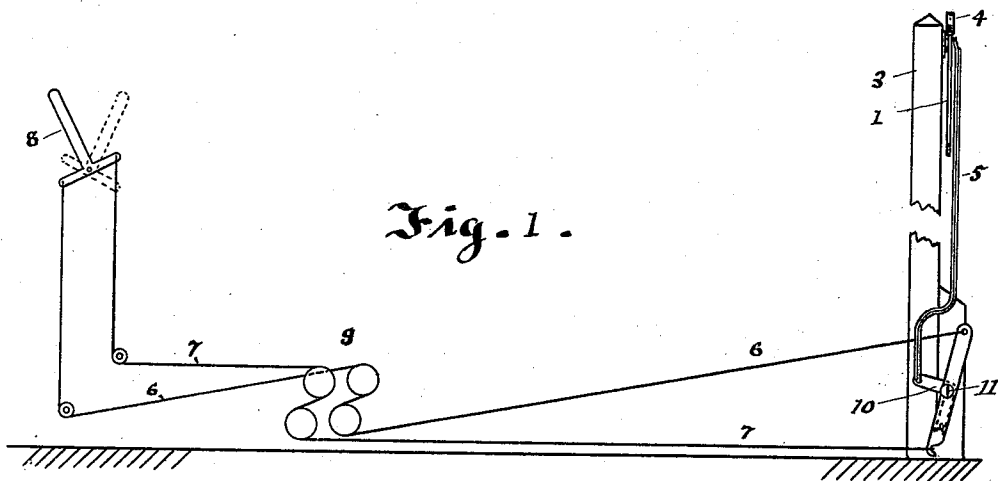


Fig. 1.

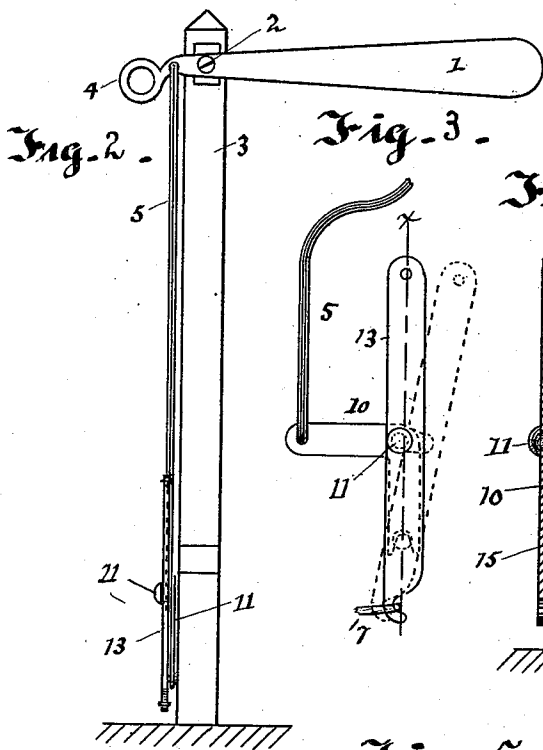


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 6.

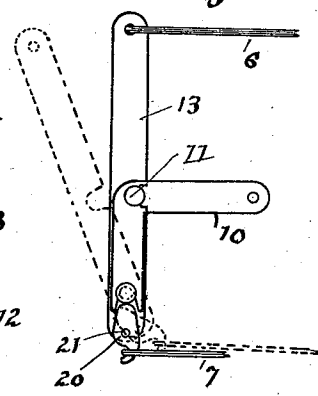
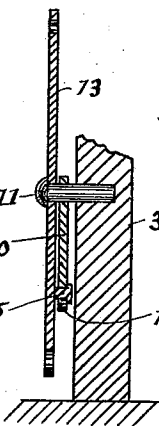
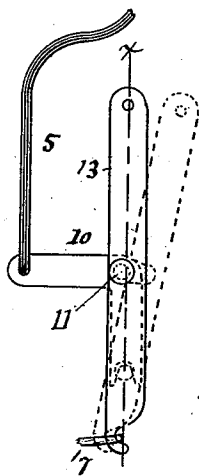
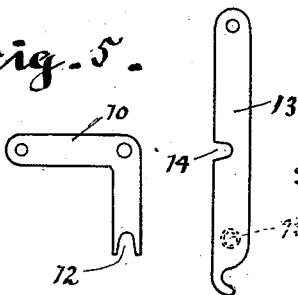


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL W. BABCOCK, OF AVON, NEW YORK, ASSIGNOR OF ONE-HALF TO
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RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 533,042, dated January 29, 1895.

Application filed August 1, 1894. Serial No. 519,189. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. BABCOCK, of Avon, in the county of Livingston and State of New York, have invented certain new and useful Improvements in Railway-Signals; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to railway-signals and has for its objects to provide an improved disconnecter, whereby if either of the wires used for operating the signal should break, the signal would be entirely disconnected and would be operated to danger position and remain so until the damage is repaired, and it consists in certain improved constructions and combinations of parts, all as will be hereinafter fully described and the novel features pointed out in the claims at the end of this specification.

In the drawings:—Figure 1 is a side elevation of a signal provided with my improvements showing the operating parts; Fig. 2, a view of the post and signal; Fig. 3, a view of the disconnecting device; Fig. 4, a sectional view on the line $x-x$ of Fig. 3; Fig. 5, a view of the parts separated; Fig. 6, a view of a modification looking from the side of the post outward.

Similar reference numerals in the several figures indicate similar parts.

The preferred form of signal in connection with which my invention is employed is constructed as usual and consists of an arm 1 pivoted at 2 upon a post 3, and having a weight 4 at the rear end, which, when released, is adapted to maintain said arm elevated, or at a position of danger, as shown in Fig. 2, a rod or pitman 5 being connected to the weighted end of the arm for operating it to safety position.

6 and 7 indicate the usual operating wires, and 8 the operating lever, a suitable compensator or tension device being indicated at 9, which latter may be of any suitable construction, but preferably the one shown in my prior patent, No. 481,922, dated September 6, 1892, as this in practice I find to answer all requirements. The wire 6 is termed the

“back” wire, operating to move the signal arm to danger or normal position, and 7 the “pull” wire, operating when pulled to move the signal arm down to safety position.

Upon the signal post, or elsewhere if desired, is arranged a lever 10 shown herein as a bell-crank, pivoted upon a pin or stud 11, one end being connected to the pitman 5, and the other provided with a recess or slot 12 open toward the end.

The ends of the wire 6 and 7 are connected by hooks or otherwise, with the ends of a disconnecter bar or plate 13 having a recess 14 in one side at or near the center adapted to co-operate with the pivot-stud 11 on the post, and at a short distance therefrom with a pin or projection 15 adapted when the bar is in position on the signal to engage the slotted end of the lever 10. The pull wire 7 is connected to the end of the bar 13 on which the pin is located, preferably by a hook or separable connection, and the wire 6 to the opposite end.

The parts being in the position shown, it will be seen that the tension on the wires 6 and 7 caused by the compensator, keeps the bar 13 on the pivot 11 and in connection with the lever 10, and therefore the signal can be manipulated by operating the lever 8 in the usual manner, but should the back wire 6 break or the tension upon it be released from any cause, the strain on the wire 7, caused by the compensator, would pull the lower end of the bar 13 and the latter pivoting on the pin 15 would turn off, as in dotted lines Fig. 3, disconnecting the operating wires from the signal arm and allowing the weight on the latter to turn it up to danger position keeping the track blocked until the damage could be located and repaired. It will be noted that it is only necessary that a small amount of movement be permitted the bar 13 before its disconnection from the bell-crank lever on the signal post because just as soon as the recess 14, which is comparatively shallow, moves far enough to become disengaged from the pivot pin 11, the bar 13 can move and is pulled by the pull wire 7 longitudinally to disengage the stud 15 from the slotted end of the bell-crank, thereby disconnecting the bar entirely from the latter, so that even if the back

wire breaks at a great distance from the signal and the end attached to the signal after moving a short distance catches in the ties, nevertheless the signal will be released and returned to danger.

Of course, if the pull wire breaks, the signal will be moved to danger position by the tension on the back wire or the weight on the arm.

This device has been in practical operation for a considerable space of time and is found admirably adapted for the purpose.

It will of course be understood that the connections between the lever 10 and the signal can be modified to suit various conditions and by suitable obvious connections, the signal arranged on either side of the post or track and operated from either direction.

In Fig. 6 I have shown a modified form of device, and in this construction instead of connecting the wire 7 directly to said bar it is only necessary to pivot on the latter at 21 a short supplemental lever 20 having a hooked end for the engagement of the wire 7, the other end of said lever being adapted to project into the recess 12 in the end of the lever 10 beneath the pin 15, the movements of the parts being indicated in dotted lines in said

Fig. 6. This arrangement for the positive disconnection is not essential, as the simpler construction accomplishes the desired result, but may be used when the signal works hard.

I claim as my invention—

1. The combination with an automatic railway signal, of a pivoted lever for actuating it having the slotted end, the disconnector bar having the laterally extending slot engaging the lever at or near its pivot, and the pin engaging the slotted lever end, and signal-operating wires connected to opposite ends of said bar, substantially as described.

2. The combination with an automatic railway signal and the pivoted lever for actuating it having the slotted end, of the disconnector bar having the slot engaging the lever pivot, the pin engaging the slotted end of the lever, the supplemental lever pivoted on the bar engaging the first-mentioned lever, and the signal-operating wires, one connected directly to the bar and the other to the lever thereon, substantially as described.

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Witnesses:

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