

(No Model.)

A. D. BLODGETT & H. D. WINTON.

ELECTRIC SIGNAL.

No. 302,821.

Patented July 29, 1884.

Fig. 2.

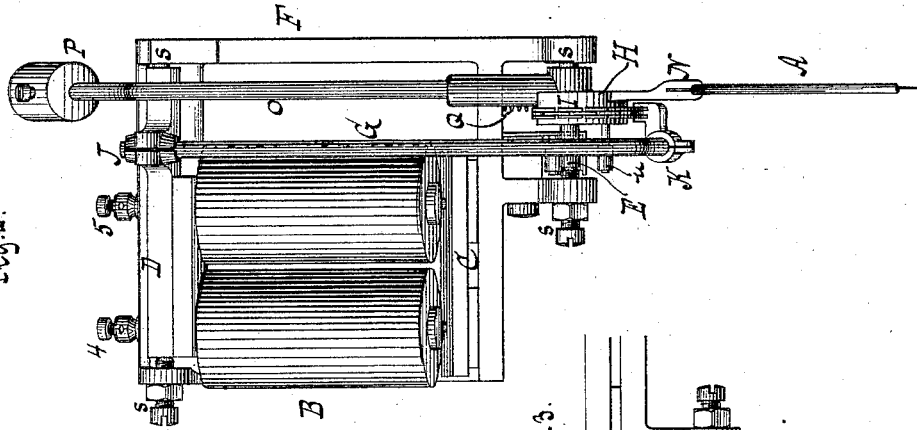


Fig. 3.

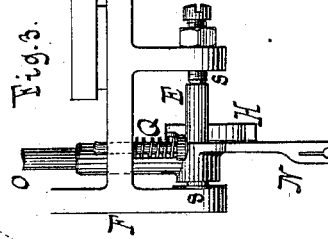
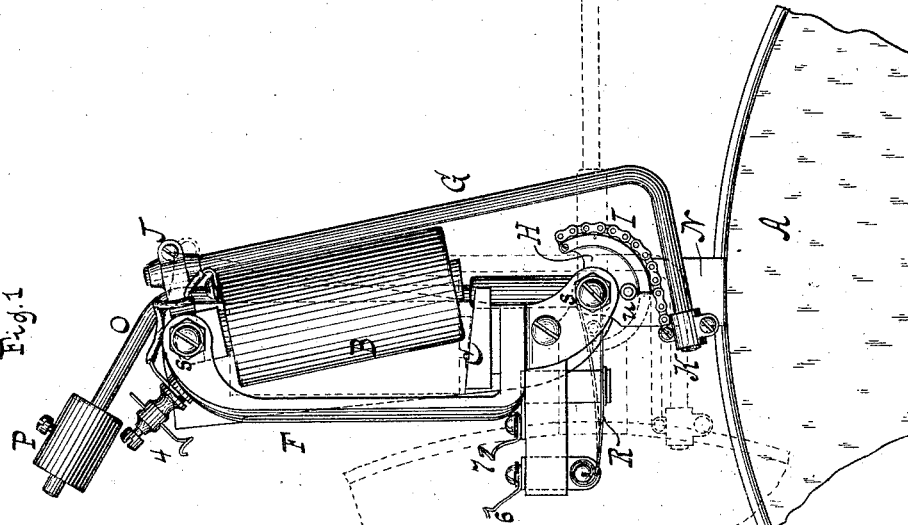


Fig. 1.



WITNESSES:

Otto Hupel
William Miller

INVENTORS
Aron D. Blodgett
Henry D. Winton
BY

Vani Santwood & Hauff
ATTORNEYS

UNITED STATES PATENT OFFICE.

AARON D. BLODGETT, OF BOSTON, AND HENRY D. WINTON, OF WELLESLEY HILLS, MASSACHUSETTS, ASSIGNORS TO THE HALL RAILWAY SIGNAL COMPANY, OF MERIDEN, CONNECTICUT.

ELECTRIC SIGNAL.

SPECIFICATION forming part of Letters Patent No. 302,821, dated July 29, 1884.

Application filed March 7, 1884. (No model.)

To all whom it may concern:

Be it known that we, AARON D. BLODGETT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, and HENRY D. WINTON, a citizen of the United States, residing at Wellesley Hills, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Electric Signals, of which the following is a specification.

Our invention is an improvement in electric railway-signals, and particularly that class thereof which are shown and described in Letters Patent of the United States No. 103,875, granted to Thomas S. Hall, June 7, 1870.

The object of our invention is to operate such signals by the action of an oscillating electro-magnet in distinction from an oscillating armature; and to this end it consists in the novel features of construction hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of our apparatus, showing the parts in a normal position. Fig. 2 is a side view thereof. Fig. 3 is a side view of parts looking in an opposite direction to Fig. 2.

Similar letters indicate corresponding parts.

The letter A designates a portion of a disk constituting the signal proper; B, the electro-magnet, and C the armature of the magnet, this armature being stationary. D E are shafts supporting the electro-magnet and signal, respectively, both of which shafts are mounted axially in a frame, F, as by means of pivots *s*, and one of which is connected with the other in such a manner that when in the alternating conditions of the electro-magnet it oscillates on the axis of its supporting-shaft, the signal shares the motion of the magnet, and is adjusted to an exposed or concealed position, as the case may be, when the magnet is vitalized.

In applying the signal to use the coils of the electro-magnet are connected to the proper wires through binding-posts 45 on the frame.

The means for connecting the shafts D E consist of an arm, G, on the magnet-supporting shaft, a segment, H, on the signal-supporting

shaft, and a chain, I, the ends of which are attached to the arm and segment, respectively, the operation of these devices being as follows: When the signal takes a lower or normal position, to which position it falls by gravity when the electro-magnet becomes inactive, the chain I is wound on the periphery of the segment H, and acts on the magnet-supporting shaft through the arm G to throw the electro-magnet into an inclined position, away from its armature, as shown in Fig. 1, while, when the electro-magnet is vitalized, so as to engage with its armature, the magnet acts on the signal-supporting shaft through the arm, the chain, and the segment to throw the signal to an upper position, as indicated by dotted lines in Fig. 1. Other means, which will readily suggest themselves to a skilled mechanic, may, however, be used for connecting the shafts D E in the required manner, and the magnet, moreover, may act directly on a suitable part of the signal, instead of through the shafts.

The arm G is fixed to the magnet-supporting shaft by means of a clasp, J, and a second clasp, K, serves to attach the chain I to the arm, while the segment H forms part of an arm, N, whereby the signal is fixed to its supporting-shaft.

To assist in lifting the signal an arm, O, carrying a weight, P, is fixed to the signal-supporting shaft to swing from a vertical to a horizontal position when the signal is raised, and to determine the upper position of the signal a stop, Q, is arranged in the path thereof on the frame, this stop consisting of spring arranged on a sliding pin, so that it is adapted to yield to the signal. When the signal is raised, it displaces a spring, R, by means of a stud, *u*, and thereby makes or breaks a supplemental circuit by wires 67, as through the electro-magnet of an alarm.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore described, of the stationary armature, the oscillating electro-magnet, the shaft supporting the electro-magnet, the oscillating signal, the shaft supporting the signal, and a means for connecting the signal-supporting

shaft with the magnet-supporting shaft, whereby the signal is adjusted to the desired position when the electro-magnet is vitalized.

2. The combination, substantially as herein-
5 before described, of the stationary armature, the oscillating electro-magnet, the oscillating signal, the shaft supporting the signal, the arm on the magnet-supporting shaft, the segment on the signal-supporting shaft, and the chain
10 having its ends attached to the arm and segment, respectively.

3. The combination, substantially as herein-
before described, of the stationary armature, the oscillating electro-magnet, the shaft sup-
15 porting the electro-magnet, the oscillating signal, the shaft supporting the signal, the weighted arm of the signal-supporting shaft, and a means for connecting the signal-supporting shaft with the magnet-supporting shaft.

20 4. The combination, substantially as herein-
before described, of the stationary armature,

the oscillating electro-magnet, the shaft supporting the electro-magnet, the oscillating signal, the shaft supporting the signal, the yielding stop arranged in the path of the signal, 25 and a means for connecting the signal-supporting shaft with the magnet-supporting shaft.

5. The combination of the oscillating magnet B, fixed armature C, arm G, attached to the 30 frame of the magnet, moving therewith and moving the signal A, the segment H, and chain I, connecting the arm and segment, substantially as described.

In testimony whereof we have hereunto set 35 our hands and seals in the presence of two subscribing witnesses.

AARON D. BLODGETT. [L. s.]

HENRY D. WINTON. [L. s.]

Witnesses:

C. F. BROWN,

A. L. WHITE.