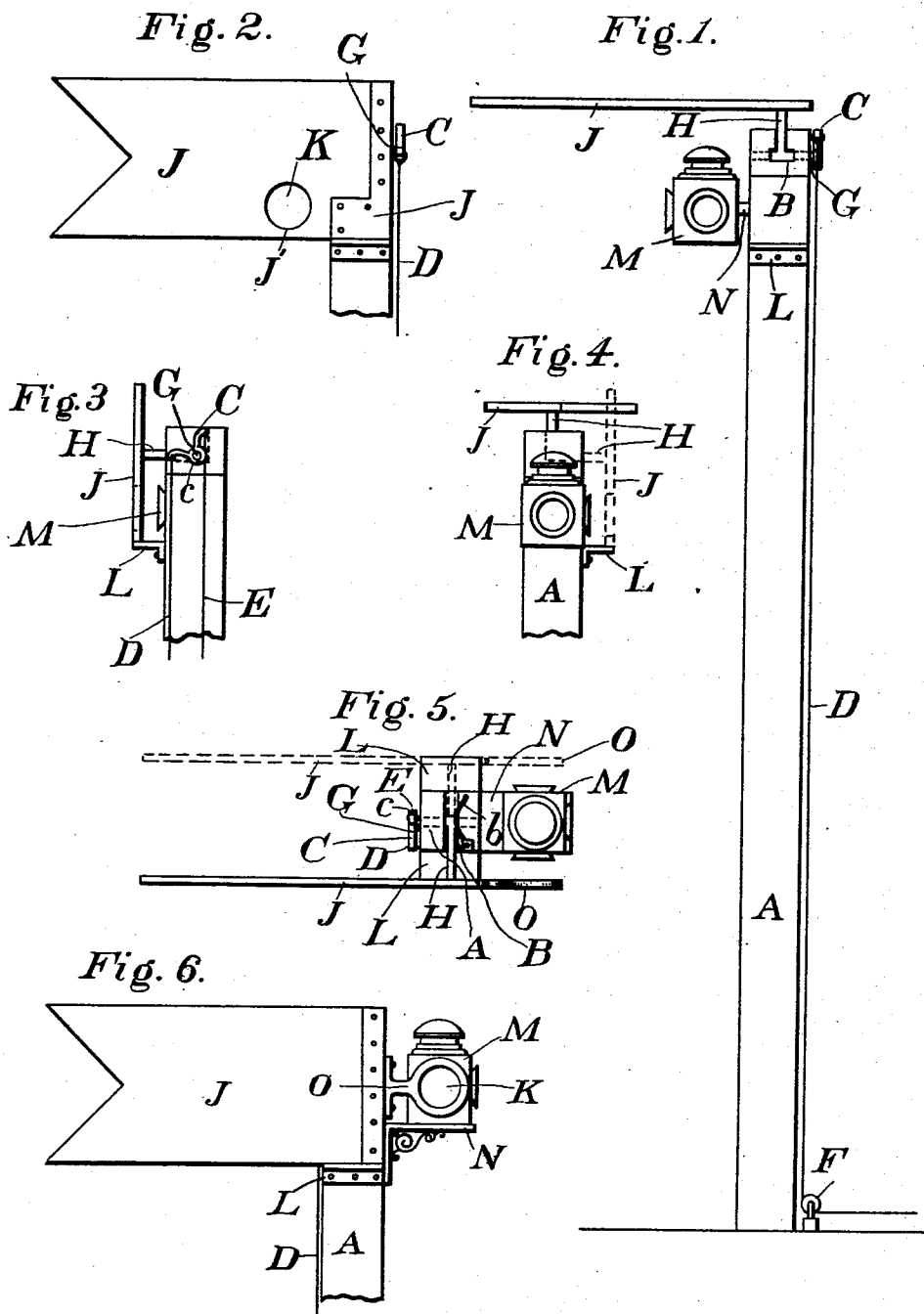


(No Model.)

A. BALSCHUN, Jr.
RAILWAY SIGNAL.

No. 570,837.

Patented Nov. 3, 1896.



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UNITED STATES PATENT OFFICE.

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RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 570,837, dated November 3, 1896.

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To all whom it may concern:

Be it known that I, ADOLPH BALSCHUN, JR., a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Railway-Signals; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to railway-signals, and has for its object the improvement of devices for the disclosure and withdrawal of a signal-plate visible during the day or the exhibition of a light at night the color of which may be changed in accordance with a pre-arranged code, the presence or absence of the plate or target in the daytime and the appearance of different-colored light after dark indicating certain conditions of the track or combinations of the rails.

The mechanism by which I effect the improvement set out above as the object of my invention consists of a post of ordinary form provided with a vertical recess in the top, a revoluble spindle arranged to cross the recess with means for turning the spindle, an arm fixed upon the spindle and placed to swing in a vertical arc within the recess, a signal plate or target attached to the end of the arm in a plane at right angles with it, the plate being pierced by an orifice in which may be fitted a lens or sheet of colored glass and a suitably-supported lantern. Each constituent element of my invention will be fully described in detail, and the mode of operation explained hereinbelow.

Referring to the accompanying drawings, wherein like letters designate like parts throughout the several views, Figure 1 represents a side elevation, the signal-plate being raised and the edge presented to the observer. Fig. 2 represents a side view of a portion of the post near the top, the signal-plate being presented broadside to the observer and showing the glass-covered orifice through the plate. Fig. 3 represents an end view from the right-hand side of Fig. 2. Fig.

4 represents an end view from the left-hand side of Fig. 1. Fig. 5 represents a top plan view of Fig. 6, which shows a modification of the construction presented in Figs. 1 and 2, the lantern being placed upon the opposite side of the post, the signal-plate constructed without the orifice mentioned, and the glass formerly carried by the signal-plate proper now being fixed in a suitable frame attached to the end of the plate.

Considering Fig. 1, A designates a post or convenient support of any kind for the signal mechanism; B, the recess in the top of the post, usually constructed in the shape of an inverted T. The extent of the recess is indicated by broken lines in Figs. 3 and 4.

C designates a bell-crank which possesses a circular body portion having a peripheral groove *c*, as customarily constructed, although the groove and the special formation described are not essential. Attached to the arms of the bell-crank are cords D and E, which may terminate in handles near the post, or they can be led by means of pulleys F to operating mechanism located at any distance from the post.

G marks the spindle journaled in the post across the recess, and to the outer end of which the bell-crank is fixed.

H marks the arm fixed upon the spindle and arranged to be turned in a vertical arc within the recess. The outer end of the arm is made fast to one flat side of a signal-plate J, and, as usually constructed, the plate is reinforced about its juncture with the arm by cross-pieces riveted in position, as shown in Fig. 2. At one corner *j*, or along one edge, the plate is weighted, overbalancing it for the purpose explained hereinbelow.

j marks the orifice through the plate, in which is set a colored disk or lens K.

L designates a bracket fixed upon the post to receive and support the plate when lowered to the position shown in Figs. 2 and 3, wherein its flat side may be seen from either direction along the track.

M is an ordinary lantern held by a bracket N, attached to the post.

The modification shown in Figs. 5 and 6 will be readily followed upon the drawings. The lantern and its supporting-bracket are placed upon the opposite side of the post.

The bell-crank C is, under the modified conditions, fixed to the other end of the spindle and its situation changed accordingly. If the plate is intended to be raised and lowered on one side of the post only, as is contemplated in the device shown in the first four views, the corner or edge of the plate may be weighted, as shown in Fig. 2. Should it be desired, however, to lower the plate upon either side of the post, in accordance with the construction shown in Fig. 5, the weighting can be omitted or applied to both edges of the plate. In the modified form of my invention two brackets L are provided, one on each side of the post to receive the edges of the plate.

The operation of my invention may be described as follows: It will be observed that the recess in the top of post A (see Figs. 3 and 4) extends but little beyond one-half the distance across, and, when the plate is raised with its flat sides horizontal, the inner boundary of the recess forms a stop for arm H, limiting the movement of the parts in that direction. It is also clear from an inspection of the drawings that bracket L performs an analogous office as a stop for the plate when the latter is lowered to the position wherein its flat sides are vertical. Between the two limits described the plate may be moved by operating the bell-crank through its cord connections. Broadside to the observer the plate is rendered visible at considerable distances up and down the track, while edgewise it is practically removed from sight.

An examination of the drawings will show that the position of the glass K is so arranged, both in the invention proper and in the modification, that upon lowering the plate it is brought directly before the eye of the lantern. Assuming the light of the lantern to be white and the glass K to be colored, the mode of exhibiting different signals at night will be at once understood. When the construction is adopted which permits the plate to be lowered on either side of the post, the former is held edgewise to the observer by the pressure

of arm H against a bow-spring *b* (see Fig. 5) or by fastening the ends of cords D and E in any convenient manner.

I am aware that numerous devices for changing signal plates and lights are in common use, but I do not know of one capable of being more cheaply built and simpler in operation than my invention.

What I claim is—

1. In a railway-signal, a support provided with a vertical recess, in combination with a spindle, a bell-crank adapted for attachment to said spindle, an arm adapted for attachment to said spindle and capable of being arranged to swing in a vertical arc within said recess, a plate constructed for attachment broadside to one end of said arm, means for limiting the movement of said arm, a disk or lens of transparent material, devices for attaching said lens to said plate, a suitably-supported lantern, and mechanism for operating said bell-crank, substantially as described.

2. In a railway-signal, a support provided with a vertical rectangular recess, in combination with a spindle, a bell-crank adapted for attachment to said spindle, an arm adapted for attachment to said spindle and capable of being arranged to swing in a vertical arc within said recess, one vertical wall of the recess arranged to limit the movement of said arm, a plate adapted for attachment broadside to one end of said arm, the said plate having an overbalancing-weight, a bracket adapted for attachment to said support and to limit the movement of said plate, a frame adapted for attachment to said plate, a disk or lens of transparent material constructed to fit said frame, a suitably-supported lantern, and means for operating said bell-crank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLPH BALSCHUN, JR.

Witnesses:

FREDERICK AGNEW,
F. B. TOMPSON.