

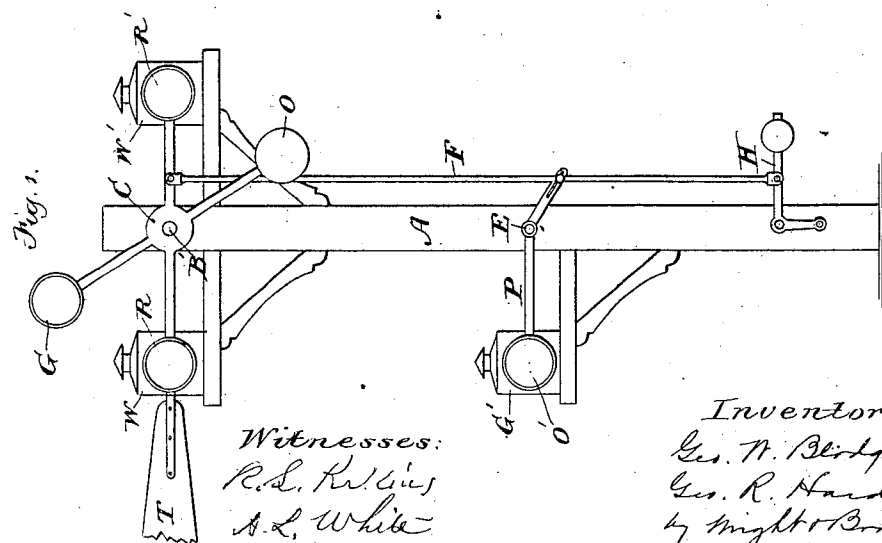
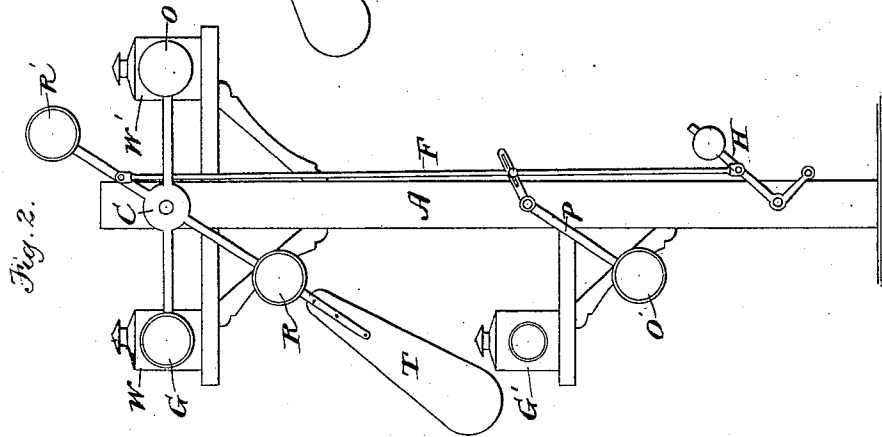
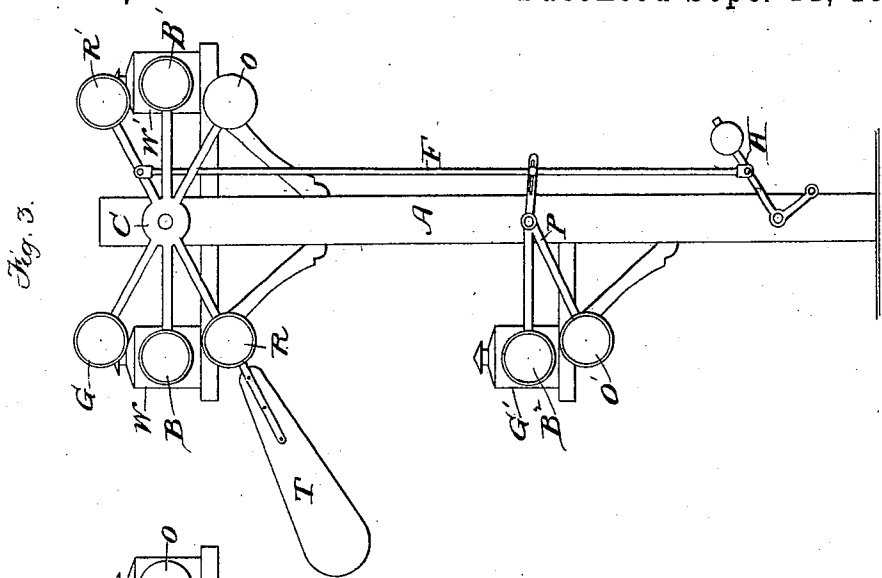
(No Model.)

G. W. BLODGETT & G. R. HARDY.

RAILROAD SIGNAL.

No. 284,716.

Patented Sept. 11, 1883.



Witnesses:
R. L. K. Gies
A. L. White

Inventors:
 Geo. W. Birdgett
 Geo. R. Hardy
 by Wright & Brown
 Attys.

UNITED STATES PATENT OFFICE.

GEORGE W. BLODGETT, OF BOSTON, AND GEORGE R. HARDY, OF NEWTON,
MASSACHUSETTS.

RAILROAD-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 284,716, dated September 11, 1883.

Application filed January 15, 1883. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. BLODGETT, of Boston, in the county of Suffolk and State of Massachusetts, and GEORGE R. HARDY, of Newton, in the State of Massachusetts, have invented certain Improvements in Railroad-Signals, of which the following is a specification.

This invention relates to visible signals for night use on railroads; and it consists in an apparatus composed of a series of fixed lamps and a series of adjustable screens, some of which are opaque and the others of colored glass or equivalent material, adapted to move simultaneously in front of said lamps, the opaque screens concealing one or more of the lamps in either position to which the screens may be adjusted, and thereby leaving either a horizontal or a vertical series of lamps in sight, the visible lamps of the horizontal series being colored red by a part of the transparent screens, and one or more of the visible lamps of the vertical series being colored green by one or more of the transparent screens, as we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figures 1 and 2 represent front elevations of a signal apparatus embodying our invention. Fig. 3 represents a modification.

The same letters of reference indicate the same parts in all the figures.

In carrying out our invention we provide a suitable standard or post, A, with supports for lamps or lanterns W, W', and G'. The lanterns W W', which give a white or colorless light, are arranged on the same level, and constitute what may be called a "horizontal series." The lantern G', which is adapted to emit a green light, is arranged under the lantern W, said lanterns G' and W forming a vertical series.

To the post A is pivoted, at B', a hub or plate, C, to which are rigidly attached four radiating arms, bearing, respectively, screens or disks O, R', G, and R.

O' represents a screen on a lever, P, which is pivoted at E to the post A, and is connected by a rod, F, with one of the radiating arms on the plate C, so that the screen O' will move in unison with the other screens when the same

are rotated on the pivot of the plate C. The screens are normally held in the positions shown in Fig. 1 by a weighted bell-crank lever, H, or other suitable device, which is connected by a wire rope with an operating-lever at any desired point. In this position the screens R R', which are composed of red glass or other equivalent transparent or translucent material, are directly in front of the lamps W W', and impart a red color to the light therefrom, and the screen O', which is a disk of opaque material, is in front of the green lamp G. The two red lights at the same level are thus displayed, said lights indicating "danger." A partial rotation of the plate C on its pivot, caused by raising the rod F by the operating appliances, will bring the screens O and G in front of the lamps W W' and remove the screens R', R, and O' from said lamps. The screen O is opaque, and therefore conceals the lamp W', and the screen G is composed of green glass or its equivalent, so that only the lamps W G' are visible, said lamps forming a vertical series, and each emitting a green light, and thus both by their color and position indicating a safe condition of the track.

It will be observed that provision is thus made for simultaneously displaying two lamps of the same color, indicating both by their position and color the condition of the track.

It will also be seen that in case one lamp of either series is accidentally extinguished the other will afford the desired information. The possibility of accident resulting from failure to understand the signals is thus greatly reduced.

It is obvious that the lower lamp, G', may emit a white instead of a green light, and may be made to emit a green light by a glass screen supported by the lever P and brought before the lamp G when said lever is in the position shown in Fig. 2.

A modification is shown in Fig. 3, in which two additional glass screens, B B', having a different color from the screens R, R', and G, are supported by the pivoted plate C'. The screens B B' are adapted to simultaneously cover the lamps W W', and thus increase the capacity of the signal code by giving a different color to the light from said lamps. If desired, the lever P may have an additional

screen, B², which may be colored or opaque, and is brought into use simultaneously with the screens B B'.

For day use, a target, T, is employed on one of the arms of the plate C.

We claim—

1. In a visible signal, the combination of a series of fixed lamps and devices, substantially as described, whereby certain of said lamps are displayed in either of two series, each series indicating, both by the color and position of the lamps comprising it, the condition of the track, as set forth.

2. A visible-signal apparatus composed of a series of fixed lamps and a series of adjustable screens, some of which are opaque and the others of colored translucent or transparent material adapted to move simultaneously in front of said lamps, the opaque screens concealing one or more of the lamps in either position to which the screens may be adjusted, and thereby leaving either a horizontal or vertical series of lamps in sight, the visible lamps, or a part of them, being colored by the transparent screens, as set forth.

3. A visible-signal apparatus comprising a number of lamps arranged in two series, one substantially horizontal and the other substantially vertical, and a series of connected and simultaneously-moving screens, some of which

are of colored translucent or transparent material and the rest opaque, as set forth.

4. In a visible signal, a series of lamps arranged to present two in a horizontal and two in a vertical series, combined with a series of movable screens, operating simultaneously in front of said lamps to conceal one lamp of the horizontal series and impart a distinctive color to the other when the signal is set to indicate "safety," and to conceal one lamp of the vertical series and impart a different color to both lamps of the horizontal series when the signal is set to indicate "danger," as set forth.

5. The combination of the lamps W W', arranged horizontally, the colored lamp G', arranged vertically with relation to the lamp W, the screens R, R', G, and O, adapted to oscillate together before the lamps W W', and the screen O', adapted to oscillate with the other screens, so as to move in unison therewith, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses, this 16th day of December, A. D. 1882.

GEO. W. BLODGETT.
GEORGE R. HARDY.

Witnesses:

C. F. BROWN,
WALTER SHEPARD.