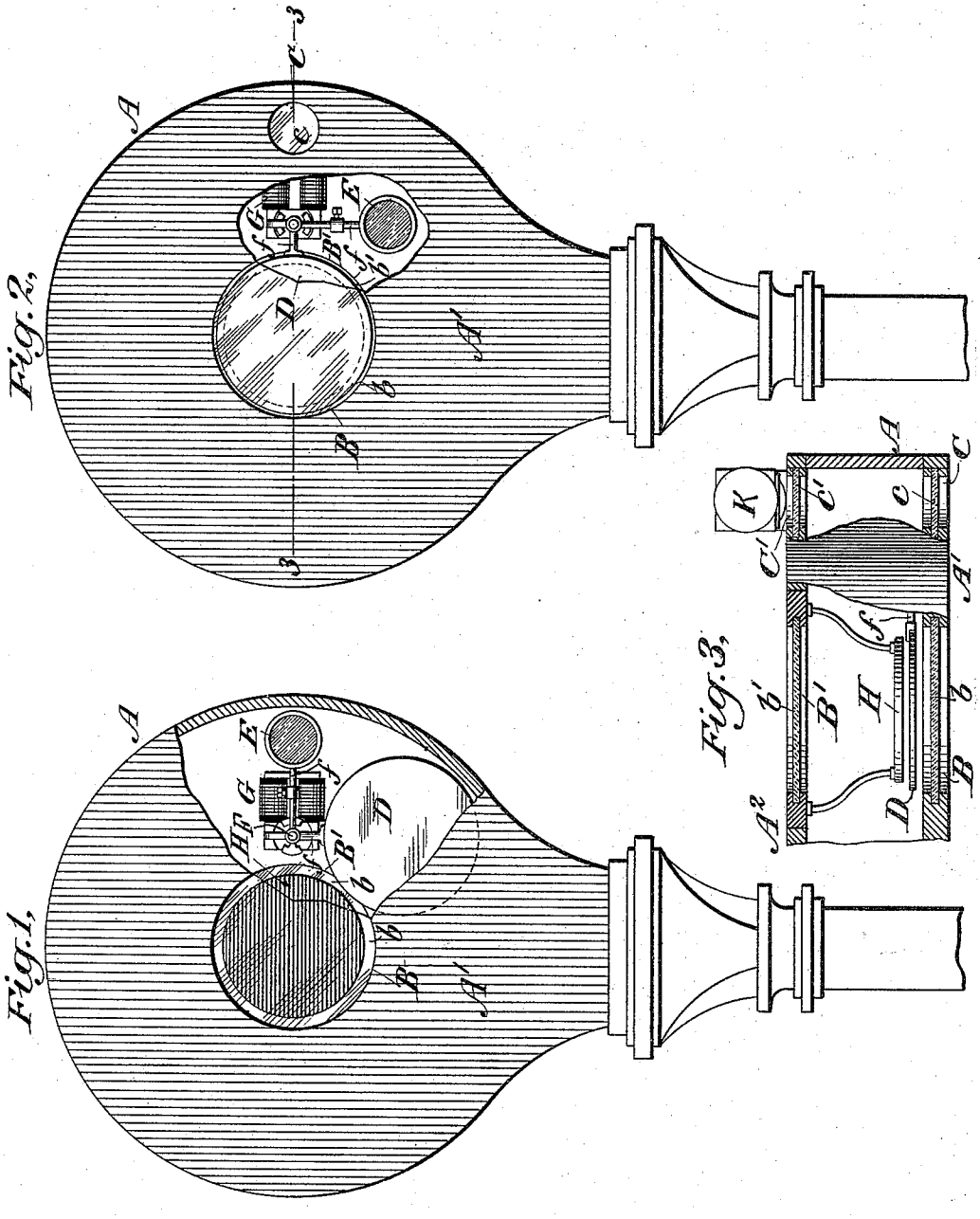
(No Model.)

W. P. HALL.

RAILWAY SIGNAL.

No. 535,103. Patented Mar. 5, 1895.



Witnesses:-
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UNITED STATES PATENT OFFICE.

WILLIAM P. HALL, OF GREENWICH, CONNECTICUT.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 535,103, dated March 5, 1895.

Application filed July 3, 1894. Serial No. 516,419. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. HALL, a citizen of the United States, residing at Greenwich, in the county of Fairfield, in the State of Connecticut, have invented a certain new and useful Improvement in Railway-Signals, of which the following is a specification.

My invention relates to railway visual signals and it has for its object to make the indication of the signal more distinctly visible.

The invention consists of the construction hereinafter set forth.

In the drawings, in which like letters designate corresponding parts in the several views, Figure 1 is a front elevation of a signal embodying my invention, the signal indicating danger. Fig. 2 is a similar view, the signal indicating safety. Fig. 3 is a sectional plan on the line 3—3, Fig. 2.

A is a casing of which A′ is the front plate and A^2 is the back plate. The casing is provided in front and rear with large registering apertures B and B′, covered with plates of glass *b* and *b′* respectively, and it is also provided in front and rear with smaller registering apertures C and C′, covered with plates of glass *c* and *c′* respectively. Within the casing are signal disks D and E mounted upon an angle arm *f*, fixed to the axis F and controlled by the electric motor G, the armature of which is fixed to the arm F. The disk D is the day signal disk and moves in and out of register with the apertures B and B′, and the disk E is the night signal disk and moves in and out of register with the apertures C and C′. The disk D is a safety indicating disk, and for this purpose is preferably made of a white opaque material so as to reflect light, but the night disk E is a danger indicating disk and is preferably made of a translucent colored material so as to transmit light from the lantern K as hereinafter explained. Within the casing is mounted a stationary danger signal disk H, in line with the apertures B and B′, and standing close up to the front aperture B, but behind the plane of movement of the disk D. The disk H is made to strongly contrast in color with the disk D, and by arranging it as herein described and shown it receives and reflects the full strength of the beam of light passing into the casing through the aperture B when the latter is not covered by the disk D. It has been found that on cloudy days and at twilight, when the sunlight is not strong, inclosed signals of the movable disk type do not always receive enough light within the casing to make the indication of the signal sufficiently distinct at long distance when the movable day signal disk is out of register with its aperture. This defect, however, is entirely overcome by the arrangement herein shown and described. The disk D is preferably made larger than the disk H, so that the front of the latter shall be completely covered by the disk D when in register with its apertures and so that the disk D may be visible from the rear of the signal as a white rim around the edge of the colored disk H.

I might of course provide the stationary disk H with an aperture through which the movable disk might be visible, but this would tend to detract from the distinctness of the danger indication.

Behind the night aperture C is located a lantern K, preferably mounted upon the back of the signal case A, and behind both the apertures C and C′, so that it may illuminate the aperture C, the character of the illumination changing according to the position of the night signal disk with respect to the aperture C.

The movable disks D and E are preferably so arranged with respect to their apertures that when the safety disk is visible at its apertures to indicate safety, the disk E will be out of register with its aperture so as to permit the lantern K to illuminate the aperture C with white light for the night signaling; and when the disk D is out of register with its aperture B, so as to permit the stationary disk H to indicate danger, the disk E will be in register with its apertures to color the light from the lantern and indicate danger at night.

Various changes might be made by any one skilled in the art without departing from the spirit of my invention. For example the disk E might be opaque to darken the aperture C and thus indicate danger.

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

1. In a railway signal, the combination of a casing, a safety day signal disk of opaque material and a separate night danger signal

disk mounted to move upon a common axis in the casing, the casing being provided with two apertures in its front, one for the day signal and one for the night signal, a stationary danger signal disk mounted in the casing in line with the day signal aperture, and a lantern mounted on the casing in line with and behind the night signal aperture, so arranged that when the safety day signal moves in register with its aperture it covers the front of the stationary danger signal disk and when it moves out of register with its aperture the stationary danger disk is uncovered and whereby at night the appearance of the lantern is altered in accordance with the position of the night signal disk, substantially as set forth.

2. In a railway signal, the combination of a casing, a safety day signal disk of opaque material and a separate night danger signal disk mounted to move upon a common axis in said casing, the casing being provided with registering apertures in front and back for the day signal, and a separate aperture in front for the night signal, a stationary danger signal disk mounted in the casing in line with the day signal apertures and of less area than the safety day disk, all so arranged that when the safety day disk moves in register with its aperture it covers the front of the stationary danger disk and is itself obscured by the stationary disk through its rear aperture except a small portion, and when the safety day disk moves out of register the stationary disk only is visible through its front and rear apertures, substantially as set forth.

3. In a railway signal, the combination of a casing, a safety day signal disk of opaque material and a separate night danger signal disk of translucent material mounted to move upon a common axis in the casing, the casing being provided with registering apertures in front and back for the day signal and separate registering apertures in front and back for the night signal, a stationary danger signal disk mounted in the casing in line with the day signal apertures, and a lantern mounted on the casing in line with the night signal apertures, all so arranged that when the safety day disk is in register with its apertures it covers the front of the danger day disk through its front aperture and the night danger disk is at the same time out of register with its apertures; and when the safety day disk is out of register with its apertures the stationary danger disk is uncovered and the danger night disk is at the same time in register with its apertures and visible, substantially as set forth.

4. In a railway signal, the combination of a casing, a safety day signal disk of opaque material and a separate danger night signal disk of translucent material mounted to move upon a common axis within the casing, the casing being provided with registering apertures in front and rear for the day signal and with registering apertures in front and rear for the night signal, a stationary danger disk mounted in the casing in register with the day signal apertures and of less area than the safety day disk, a lantern mounted behind the casing in register with the night signal apertures, the movable signal disks adapted to move in and out of register with their apertures, the arrangement being such that when one movable disk is in register with its apertures the other disk is out of register with its apertures, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM P. HALL.

Witnesses:
DANIEL A. WARREN,
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