To all whom it may concern:

Be it known that I, ALLEN L. WOOD, a citizen of the United States, residing at Grayville, in the county of White and State of Illinois, have invented certain new and useful Improvements in Train-Signal-Operating Devices; 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.

This invention relates to a train signal operating device.

The object of the invention is to provide means for operating a lantern from the inside of a caboose or coach to expose a light of the desired color to indicate to the engineer of a following train the position which the train carrying the signal occupies, and to means for locking said lantern with the desired light exposed so that it cannot be changed or tampered with except by the person having the key.

In the accompanying drawings, Figure 1 represents a top plan view of this improved operating device; Fig. 2 represents a bottom plan view thereof; Fig. 3 represents a vertical section of a coach top with a frame in which this improved operating mechanism is mounted, shown in perspective therein; a lamp or lantern being shown in connection therewith with its hood removed; Fig. 4 represents a perspective view on the hood for the lamp; Fig. 5 represents a vertical section through the operating mechanism; Fig. 6 represents a perspective view of a lantern supporting plate taken from the bottom; and Fig. 7 represents a side elevation of the yoke for supporting the operating mechanism.

In the embodiment illustrated, this improved signal operating device is shown mounted in a substantially rectangular frame 1 on a cross-bar 2 arranged at one end thereof. This operating mechanism comprises a rotatable lantern supporting plate 10 disposed on the bar 2 and having an opening 11 in the center thereof. This plate 10 has a depending collar 17 with a cylindrical outer face which fits and turns in a round opening in the cross-bar 2. This collar 17 has an angular opening or socket 12 extending therethrough and through the center of the plate 10. Extending through this socket 12 is an angular head 13 of a shaft 14 which projects above the top of the plate for about two inches to fit in a socket 41 in the bottom of the lantern 40. The body portion of this shaft below the collar 11 is shown as round, but it may be made in any other desired shape and has its lower end reduced at 14' and made in angular form to prevent its turning in the block with its terminal screw-threaded at 15 and provided with a nut 16. On this reduced end 14 is mounted a block 17 disposed between the shoulder 18 formed at the junction of the body portion with the reduced end and the nut 16 and is held against rotation by means of its angular form. Extending from this block at diametrically opposite points are four rods or arms 20, 21, 22 and 23 provided at their free ends with eyes as 20', 21', 22' and 23', for a purpose hereinafter described, the ends thereof which engage the block being square or of other angular shape to prevent the turning thereof in the block. These rods are painted respectively green, red, white, and red and white, which colors are those known by railroad men to indicate certain positions of the train by which the signal is carried, for instance, a red and white light exposed on the train carrying the signal indicates to the engineer of a following train that the train ahead is in motion, a red light shows that the train is standing still, a white light indicates that the train is backing, and a green shows that it is on the siding. Color plates as 19 are secured to the block adjacent these rods to enable the operator to more readily see the color.

Secured to the under side of the cross-bar 2 is a bracket 25, preferably in the form of a U-shaped yoke through the cross-bar 26 of which the shaft 14 loosely passes and is adapted to rotate therein. To the outer face of this yoke 25 at its lower end are secured two hinged members as 27 each having an eye bolt 28 projecting outward therefrom, the lower members or leaves of these hinges having longitudinal slots as 27 therein which are adapted to fit over one of the colored rods when in lowered position and over the eye-bolt as 28 when raised, in which positions they may be locked by a padlock 30 or other suitable device through the eye of the rod or bolt with which the slotted hinged member is engaged. These colored rods 20, 21, 22 and 23 are colored to correspond with the eyes as 42 of the lantern 40, the red rod being arranged on the same side as the red lens or eye of the lantern, and so on.

A hood 35 is adapted to fit over the lantern and to be bolted to the frame 1. This hood has arranged in the front and rear sides thereof oppositely-disposed eyes or lenses as 36 which are made about twice the size of the eyes in the lantern and are of plain glass of double thickness. These eyes 36 are so disposed as to be ex. actly opposite two of the eyes of the lantern and are designed to expose the signal lights of the lantern to the engineer of the train carrying the signal and to the engineer of the following train.

In the use of this invention, the frame 1 is disposed lengthwise across the top of the coach or caboose as shown in Fig. 3 with the yoke and operating mechanism projecting into the caboose or coach a sufficient distance to be within easy reach of the operator. To the signal, one of the colored rods is grasped and turned to the rear side of the yoke and the slotted hinged member is turned down thereafter and locked. When it is wished to expose a red light at the rear, the red rod is placed in the slotted hinged member and so on, whatever light it is wished to expose. One hinge only is used at a time and the other may be locked in raised position out of the way.
The colors are so arranged on the eyes of the lantern that when a red and white light is exposed at the rear for the benefit of the trainman of the following train, a green light is exposed on the front of the hood to the

engineer on the train carrying the signal; and when a red light is exposed at the rear, a white light is shown in front and the engineer of the train carrying the signal being well acquainted with the arrangement of the various colors and their meaning knows, that when a white light is exposed to him a red light is exposed at the rear and so on.

I claim as my invention:—

1. A train signal operating device comprising a supporting frame, a revoluble lantern supporting plate mounted thereon and having an angular opening therein, a rod having an angular head projecting through said opening and secured therein, a yoke depending from said frame through which the lower end of said rod extends, a block secured to the lower end of said rod and having arms extending therefrom at diametrically opposite points, and a member hinged to said yoke and provided with means for engaging one of said arms to hold the lantern in adjusted position.

2. A train signal operating device comprising a supporting frame, a revoluble lantern supporting plate mounted thereon and having a depending collar with an angular socket extending therethrough, a rod having an angular head projecting through said socket and secured therein, a yoke depending from said frame through which the lower end of said rod extends, a block secured to the lower end of said rod and having arms extending therefrom and a member hinged to said yoke and provided with means for engaging one of said arms to hold the lantern in adjusted position.

3. A train signal operating device comprising a supporting frame, a revoluble lantern supporting plate mounted thereon and having an angular opening therein, a rod having an angular head projecting through said opening and secured therein, a yoke depending from said frame through which the lower end of said rod extends, a block secured to the lower end of said rod and having arms extending therefrom at diametrically opposite points and each being colored to correspond with an eye of the lantern to be supported on said plate, and means for locking said arms in adjusted position.

4. A train signal operating device comprising a supporting frame, a revoluble lantern supporting plate mounted thereon and having an angular opening therein, a rod having an angular head projecting through said opening and secured therein, a yoke depending from said frame through which the lower end of said rod extends, a block secured to the lower end of said rod and having arms extending therefrom at diametrically opposite points, and a member hinged to said yoke and provided with a slot to fit over one of said arms for locking it in adjusted position.

5. A train signal operating device comprising a supporting frame, a revoluble signal supporting member mounted thereon and having a depending operating member, laterally extending arms connected with said operating member, a bracket suspended from said frame, a member hinged to said bracket and provided with a slot to fit over one of said arms for locking the operating member in adjusted position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALLEN L. WOOD.

Witnesses:

MALCOLM BARTWOOD,
G. M. RICHMAN.