No. 695,827. Patented Mar. 18, 1902.

E. McMAHON.

RAILWAY SIGNAL.

(Application filed Oct. 22, 1901.)

(No Model.)

Fig. 1

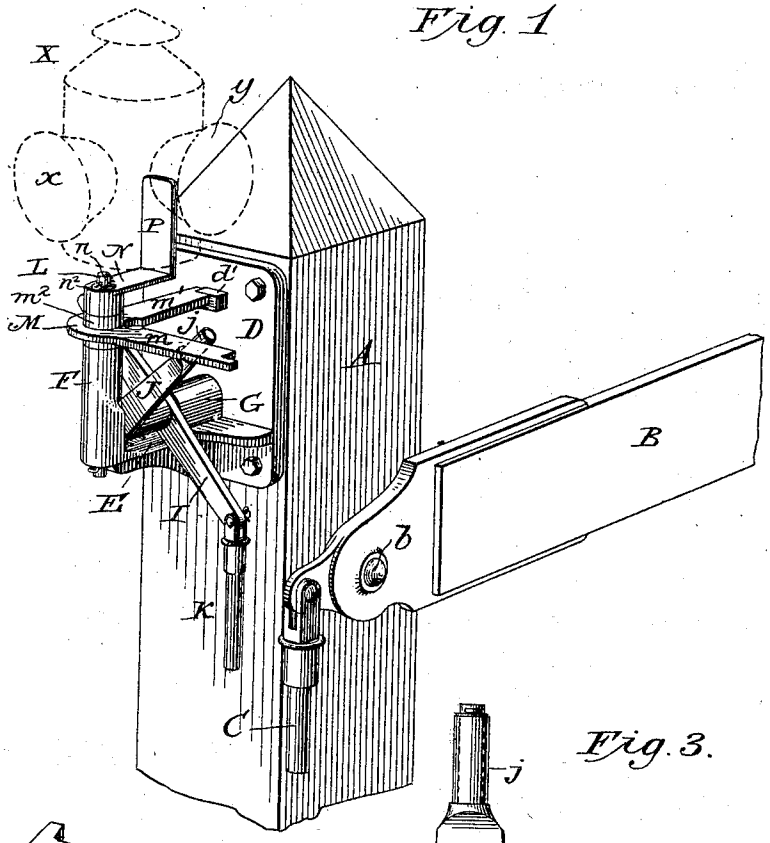


Fig. 2.

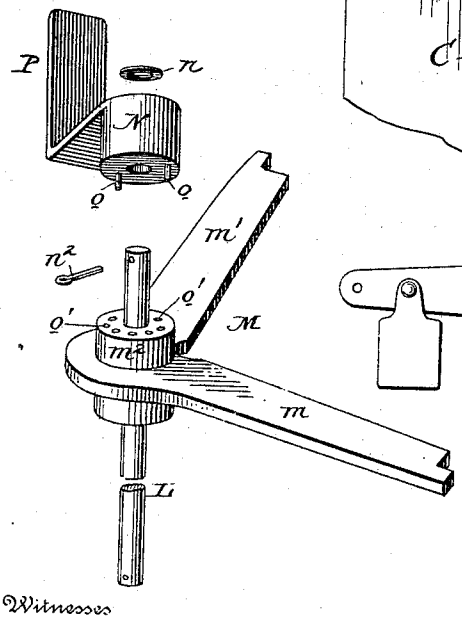
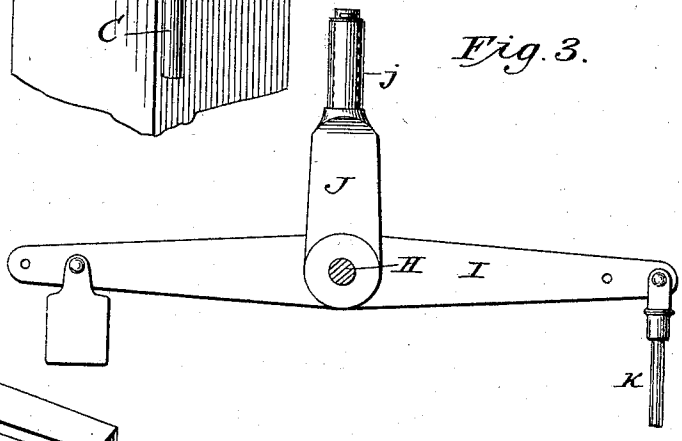


Fig. 3.



Witnesses

C. B. Bull

L. E. Wilson.

Inventor

Edward McMahon,

By G. H. W. Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD McMAHON, OF ELMIRA, NEW YORK.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 695,827, dated March 18, 1902.

Application filed October 22, 1901. Serial No. 79,594. (No model.)

To all whom it may concern:

Be it known that I, EDWARD McMAHON, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Railway-Signals, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to railroad signaling devices of the semaphore type in which a pivoted arm by its position with relation to the supporting-post indicates by day and a colored lantern by night whether the switch or right of way controlled is opened or closed.

My invention more specifically has reference to means employed for rotating the lantern through a quarter-circle and bringing into view one or the other of the lenses, which are placed at an angle of ninety degrees to each other and consist of glasses of different colors.

Referring to the drawings, Figure 1 is a perspective view of the upper end of a signal-post with my lamp-operating device secured thereto. A portion of the signal-arm is also shown, together with rods for operating the arm and the lamp mechanism. Fig. 2 shows in perspective the lamp-supporting bracket and an elbow-lever for operating the same detached and separated. Fig. 3 represents a detail consisting of a rocking lever for operating the elbow-lever.

Similar letters of reference represent similar parts in the several figures.

A indicates a post adapted to be erected by the side of a railroad-track in any suitable position and rising to a convenient height, on which is pivoted a semaphore-arm B by means of a bolt *b*. A rod C, connected to the arm B behind the pivot, is employed for raising and lowering the arm in the usual manner.

D is a plate bolted to one side of the post A, as shown, and carrying a bracket E, which terminates in an upright tubular bearing F. Integral with the plate D and bracket E is a horizontal tubular bearing G, through which passes a shaft H, carrying the rocking lever I. This lever is preferably cast or formed with a hub at its center, through which the shaft H passes. An arm J extends upwardly from the opposite end of the hub at a right angle to the lever I and carries a roller *j*. The two ends of the rocking lever I are alike, which arrangement permits of the attachment of the operating-rod K to either end. If desired, a weight may be attached to the lever to counterbalance the rod, as shown in Fig. 3.

Within the vertical tubular bearing F is journaled a shaft L, to which is firmly attached an elbow-lever M, its arms *m m'* projecting in a horizontal plane and at an angle of ninety degrees to each other from a hub m^2. The shaft L extends through and beyond the hub m^2 sufficiently far to receive the lamp-support N, together with suitable securing devices, such as a washer *n* and a cotter-pin n^2. Projecting downwardly from the under side of the lamp-support N are two pins *o o*, adapted to enter two of a series of holes *o' o'*, formed in the upper face of the hub m^2. This provision admits of a nice adjustment of the lamp to the proper angle, whereby the light may be thrown a long distance up or down the track when the post is placed at a curve or in other position requiring the light to be projected at an angle.

P indicates a right-angled arm attached to the support N and forming the support proper for the lamp, it entering the socket and holding the lamp in position.

When a switch is to be thrown or the right of way opened, suitable well-known mechanism (not shown) is operated, to which is connected the rods C and K, which will raise said rods and cause the arm B to fall and the rocking lever I to turn on its shaft. The movement of the rocking lever I causes the arm J by its roller *j* to bear on the arm *m'* of the elbow-lever M, swinging it around on a vertical axis through an arc of ninety degrees or until the arm *m* has reached one side of the stop *d'*, this quarter-revolution causing the lens *x* of lantern X to be brought into view and the lens *y* to be carried out of sight. A reverse movement of the mechanism will restore the parts to the position illustrated, the arm *m'* striking against the opposite side of the stop *d'*, as seen in Fig. 1.

This device is simple, consisting of the smallest possible number of parts, and may be worked on either side of the pole by the proper adjustment of the rod K, in which event the

weight will of course be moved to the opposite end of the lever I. Important features of my invention are the adaptability of the lamp-bracket to be given necessary adjustment for curves or the like and the arrangement by which the means used for revolving the lamp have not an up-and-down movement, which, as known, is highly objectionable in a revolving lamp. The general construction and operation of the parts is such that they cannot be affected by snow, ice, or sleet, there being no surfaces in or upon which it can injuriously collect. In actuating the device but a small exertion of power is required, which advantage is important in the use of electric signals.

I do not restrict myself to the exact details of construction, combination, and arrangement herein described, it being obvious that minor and unimportant departures therefrom not involving the exercise of invention may be made by the skilled mechanic, and such departures from what is herein described and claimed not involving invention I consider as within the scope and terms of my claims.

Having thus described my invention, I claim—

1. In a railway-signal, the combination of a horizontally-journaled rocking lever, an elbow-lever for supporting a lantern or other signal and pivoted on a vertical axis, said elbow-lever being adapted to be turned through an arc of ninety degrees by the direct contact of one arm of said rocking lever with the arms of the said elbow-lever, substantially as set forth.

2. In a railway-signal, the combination of a horizontally-journaled rocking lever, a vertically-pivoted elbow-lever adapted to be vibrated and held in any position within its limit of movement by the engagement of the arm J of said rocking lever with the arm *m* or *m'* of said elbow-lever, a lantern-bracket or other signal-support adapted to be secured to the elbow-lever at varying horizontal angles, and a support for the said levers, substantially as set forth.

3. In a railway-signal, the combination of a horizontally-journaled rocking lever, a vertically-pivoted elbow-lever adapted to be vibrated by the rocking lever through an arc of ninety degrees, a stop for limiting the movement of the arms of the elbow-lever, a lantern-bracket adapted to be secured to the elbow-lever at varying horizontal angles, and a support for the said levers, substantially as set forth.

4. In a railway-signal, the combination of a rocking lever, an elbow-lever supporting a lantern and having its axis at a right angle to the rocking lever, and an arm extending from the rocking lever between the arms of the elbow-lever for moving said elbow-lever, substantially as set forth.

5. In a railway-signal, the combination of a rocking lever, an elbow-lever supporting a lantern and having its axis at a right angle to the rocking lever, a stop for limiting the movement of the arms of the elbow-lever, and an arm extending from the rocking lever between the arms of the elbow-lever for moving said elbow-lever, substantially as set forth.

6. In a railway-signal, the combination of an upright shaft, an elbow-lever attached thereto, a lantern-support adjustably secured to the elbow-lever, a rocking lever horizontally journaled, a rod attached to the rocking lever for imparting motion thereto, an arm extending from the rocking lever for turning it through an arc of ninety degrees, and a bracket for supporting the several parts, substantially as set forth.

7. In a railway-signal, the combination of an upright shaft, an elbow-lever attached thereto, a lantern-support adjustably secured to the elbow-lever, a rocking lever horizontally journaled, a rod attached to the rocking lever for imparting motion thereto, an arm extending from the rocking lever to the elbow-lever for turning it through an arc of ninety degrees, a stop for limiting the movement of the arms of the elbow-lever, and a bracket for supporting the several parts, substantially as set forth.

8. In a device for giving rotation to a lantern or other signal, the combination of a horizontally-journaled rocking lever, a vertically-journaled elbow-lever, the latter carrying a lantern or signal, and the former being attached to the source of power or moving element, and a stop for limiting the movement of the arms of the elbow-lever, substantially as set forth.

In testimony whereof I hereunto set my hand.

EDWARD McMAHON.

Witnesses:
FRANCIS X. DISNEY,
M. H. MURPHY.