April 21, 1936. C. E. LAYTON 2,038,117

LIGHT SIGNAL MOUNTING MEANS

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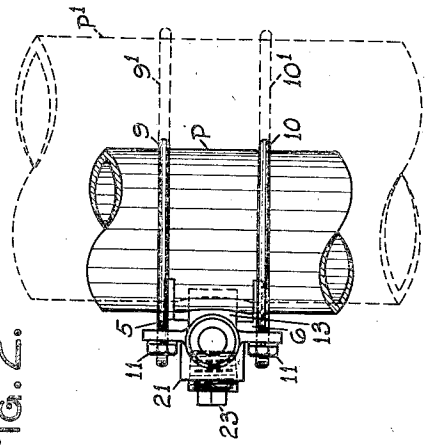


FIG. 2.

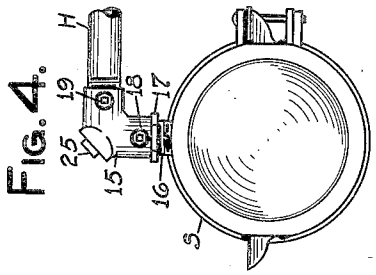


FIG. 4.

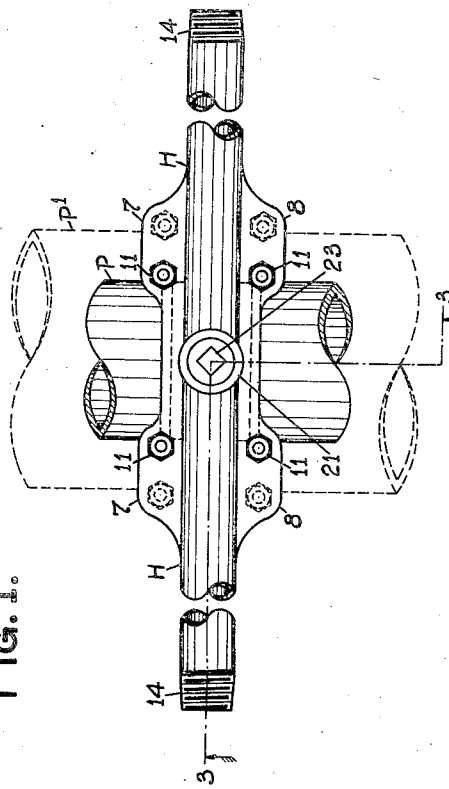


FIG. 1.

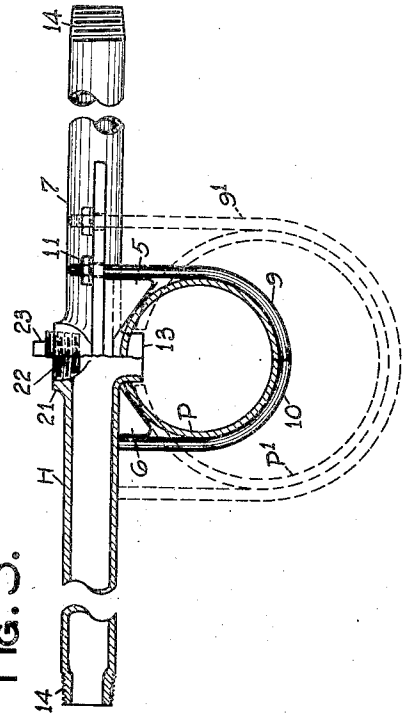


FIG. 3.

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LIGHT SIGNAL MOUNTING MEANS

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7 Claims. (Cl. 248—230)

This invention relates to signal mounting means and more particularly to an integral combined support and wire conduit for railway crossing signals.

It is proposed in accordance with the present invention to provide an improved support for horizontally spaced light signal units whereby such support may readily be mounted in a rigid manner on vertical poles of various diameters. It is further proposed to provide as a unit structure such a support wherein electrical conductors extending to the signal units supported thereon may be housed against deterioration and mechanical injury with provision for convenient installation of such electrical conductors.

Other objects, purposes and characteristic features of the invention will appear as the description thereof progresses, during which references will be made to the accompanying drawing, in which:—

Fig. 1 is a front elevational view of a combined light signal support and wire conduit constructed in accordance with the present invention and illustrated in its application to various sizes of mounting poles.

Fig. 2 is a side elevational view of Fig. 1.

Fig. 3 is a plan view of Fig. 1 with a section taken on line 3—3 and viewed in the direction indicated by the arrows.

Fig. 4 is a rear elevational view of one end portion of the device of Fig. 1 showing a means for mounting a light signal thereon.

Referring to the accompanying drawing, the present device comprises a tubular horizontal member H having horizontal upper webs 5 and similar lower webs 6 projecting therefrom, which webs have inwardly slanting edges to form a V adapted to partially embrace a vertical tubular pole P. The two slanting inner edges of the upper and lower webs 5 and 6 may form an angle of approximately 90° whereby it is obvious that these edges will be tangent to the arc of the vertical mounting pole regardless of its diameter, which is illustrated by the larger diameter vertical pole P^1 shown in dotted lines in the accompanying drawing. Two U-bolts 9 and 10 are provided which embrace the rear of the pole P with the ends of one U-bolt 9 extending through holes in an upwardly extending integral vertical web 7 and the ends of the second U-bolt 10 extend through holes in a similar lower web 8. Nuts 11 are threaded on the projecting ends of the U-bolts 9 and 10 to thereby clamp the horizontal member H securely against the vertical pole P. It is obvious that the larger U-bolts 9^1 and 10^1 shown by dotted lines are required when employing the larger pole P^1.

A hollow boss 13 is provided in the mid-section of the horizontal member H and extends outwardly in the rear thereof to enter an aperture provided in the vertical pole P. The hollow of the boss 13 communicates with the hollow of the horizontal member H to thereby provide a passage or conduit for wires extending from within the tubular pole P outward through the hollow of the horizontal member H to signals which may be mounted on each extreme end of the horizontal support H as illustrated in Fig. 4. It is obvious that the boss 13 entering the aperture in the pole P also serves another important function of preventing any turning motion of the horizontal member H about the pole P.

Each extreme end of the horizontal member H is provided with a threaded portion 14 upon which may be turned an elbow, such as 15 shown in Fig. 4. This elbow 15 is hollow and positioned to extend downward with the lower end threaded to receive a nipple 16 which is locked in position by a nut 17. The lower end of the nipple 16 may be fixed to a light signal S, as in Fig. 4, which signal S may be of any suitable design. The horizontal alignment of this signal S is accomplished by turning the nipple 16 within the elbow 15 and when the proper horizontal adjustment has been made this position may be fixed by a set screw 18 threaded through the rear of the elbow 15 to engage the nipple 16. In a like manner, the signal S may be aligned vertically by turning the elbow 15 upon the threaded portion 14 of the horizontal member H and may be secured in its proper vertical alignment by a set screw 19 threaded through the elbow 15 to engage the threaded portion 14 of the horizontal member H.

In order to facilitate the installation of electrical conductors leading from the light signals S placed at each end of the horizontal member H to the inside of the pole P, a boss 21 is provided on the front of the horizontal member H in substantial alignment with the rearward extending boss 13. This boss 21 is provided with a concentric threaded hole 22 of substantially the same diameter as the hollow of the horizontal member H and communicating therewith. This hole 22 is closeable by a threaded plug 23. The hole 22 in the front of the horizontal member H obviously permits electrical conductors to be threaded therethrough and through the hollow of the boss 13 into the tubular pole P, after which the extending ends may be threaded through the hole

22 into the hollow of the horizontal member H on either side of the center boss 13.

The elbow 15 is likewise provided with an opening (not shown) which is closeable by a plug threaded therein, such as 25, and also permits the wires which are threaded from the opening 22 toward the extreme ends of the horizontal member H to extend through these openings 25 in the elbows 15, after which the ends of the conductors may be threaded downwardly through the nipple 16 into the light signal S. Both the plugs 25 and 23 normally close the conduit for the electrical conductors to prevent the entrance of moisture or dust and thereby provide adequate protection for the circuits controlling the signals S.

A combined support for horizontally spaced light signals and conduit for electrical conductors has thus been provided which is adaptable to be mounted upon various diameters of vertical supporting poles, and in which provisions have been made against the turning of such horizontal support about the vertical pole and incidentally serving to protect electrical conductors passing from the vertical pole to the horizontal support against mechanical injury. Other features of the present invention include the provision of adequate means for conveniently installing the electrical conductors within the horizontal support and the provision of a very simple means for adjusting the alignment of the light signals mounted on the ends of the horizontal support in both a horizontal and vertical plane.

The above rather specific description of one form of the present invention is given solely by way of example, and is not intended, in any manner whatsoever, in a limiting sense. It is also to be understood that various modifications, adaptations and alterations may be applied to meet the requirements of practice, without in any manner departing from the spirit or scope of the present invention, except as limited by the appended claims.

Having thus described my invention, what I claim is:

1. In a light signal support, a hollow cross member open at each extreme end, webs integral with the cross member having angularly disposed inner edges adapted to partially embrace a tubular vertical support, U-bolts embracing a portion of the vertical support not embraced by said webs, clamping means holding the U-bolts to the cross member, an integral boss on the cross member positioned between said webs and entering an opening in the side of the tubular vertical support, and a passage-way through the boss connecting the hollow of the cross members with the interior of the tubular vertical support.

2. In a light signal support, a hollow cross member open at each extreme end, webs integral with the cross member having angularly disposed inner edges adapted to partially embrace a tubular vertical support, U-bolts embracing the portion of the vertical support not embraced by said webs, clamping means holding the U-bolts to the cross member, and an integral hollow boss on the cross member positioned between said webs and entering an opening in tubular vertical support, to thereby form a passage-way from the interior of the tubular vertical support through the hollow of the boss to the hollow of the cross member.

3. A bracket for horizontally spaced light signals comprising, a hollow horizontal member open at each end, a hollow boss forming an outlet for the hollow of the horizontal member, separate means for clamping the horizontal member to the side of a verticular tubular pole whereby the hollow boss enters an opening in the side of the vertical pole to provide a passage-way from the interior of the tubular vertical pole through the hollow of the boss to the hollow of the horizontal member.

4. A bracket for horizontally spaced light signals comprising, a hollow horizontal member open at each end, a hollow boss forming an outlet for the hollow of the horizontal member, separate means for clamping the horizontal member to the side of a verticular tubular pole whereby the hollow boss enters an opening in vertical pole to communicate the interior of the tubular pole with the hollow of the horizontal member and to prevent rotation in one plane of the horizontal member about the vertical pole and means on the longitudinal member for preventing rotation of the member about the pole in a plane substantially at right angles to the said plane.

5. A railway signal supporting means having in combination, a hollow cross member for supporting signals at each end and for housing electrical conductors associated with the signals, integral webs on the cross member having angularly disposed inner edges adapted to partially embrace a tubular vertical support, clamping means for the cross member carried by the cross member and embracing a portion of the vertical support not embraced by said webs, an integral outlet projecting from the cross member at the point of contact with the vertical support and adapted to enter an opening in the vertical support, and a closeable outlet in the cross member positioned to facilitate the installation of electrical conductors from the interior of the vertical support through the outlet and interior of the cross member.

6. A railway signal supporting means having in combination, a hollow cross member for supporting signals at each end and for housing electrical conductors associated with the signals, means for adjustably mounting signals at each end of the cross member, integral webs on the cross member having angularly disposed inner edges adapted to partially embrace a tubular vertical support, clamping means carried by the cross member and embracing the portion of the vertical support not embraced by said webs, an integral outlet projecting from the cross member at the point of contact with the vertical support and adapted to enter an opening in the vertical support, and a closeable outlet in the cross member positioned to facilitate the installation of electrical conductors from the interior of the vertical support through the outlet and interior of the cross member.

7. In combination, a hollow cross member forming a support for electrically operated devices and a conduit for electrical conductors operating the devices, separate means for clamping the cross member to the side of a vertical support, a projecting outlet integral with the cross member for conducting said electrical conductors from the interior of the cross member to the vertical support and for supplementing said clamping means, and means in the cross member for facilitating the installation of said electrical conductors.

CHARLES E. LAYTON.