Feb. 2, 1932. R. H. MANSON 1,843,454

MAST ARM SUPPORT

Filed March 1, 1930

Fig. 1.

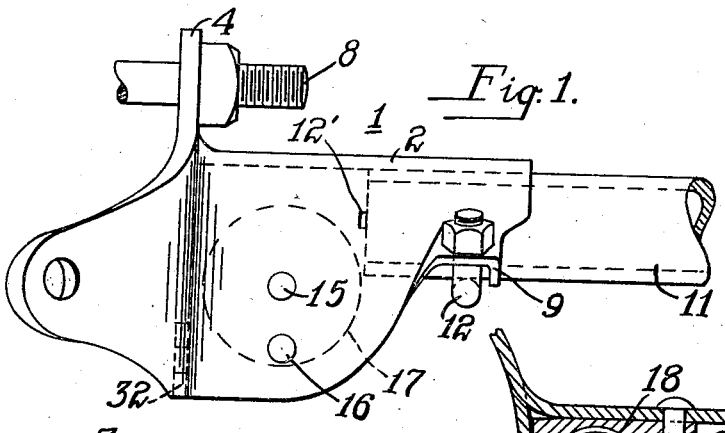


Fig. 2.

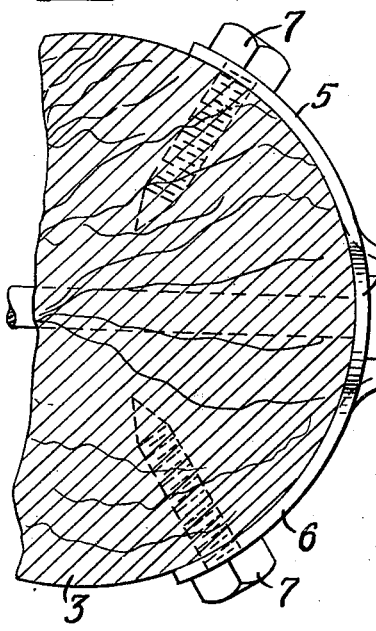
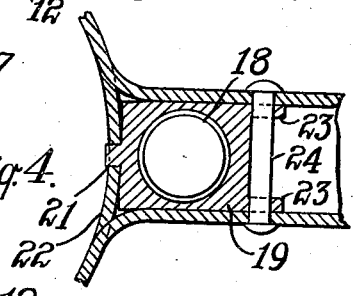


Fig. 4.



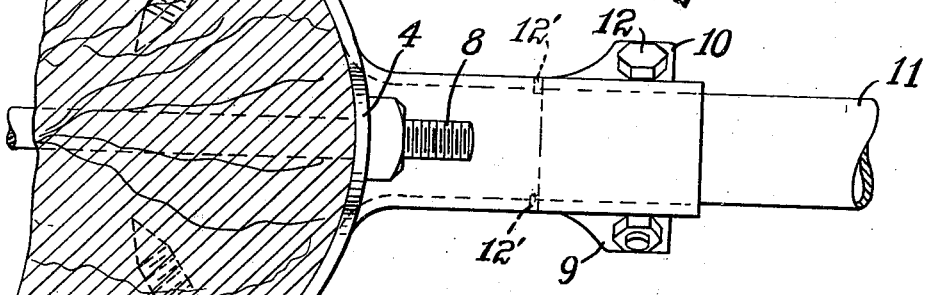


Fig. 3.

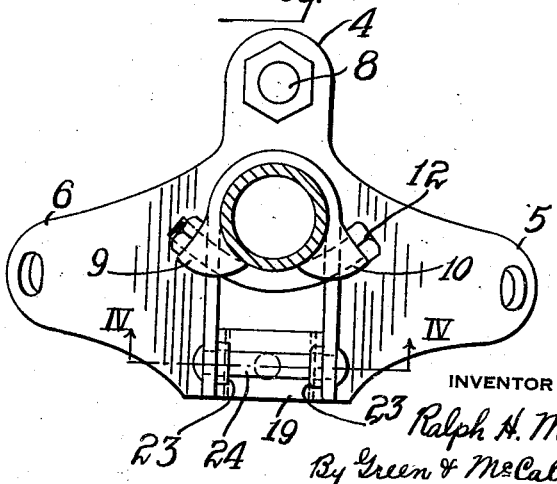
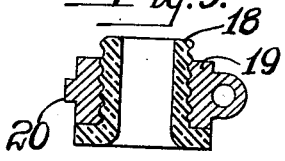


Fig. 5.



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Patented Feb. 2, 1932 1,843,454

UNITED STATES PATENT OFFICE

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MAST ARM SUPPORT

Application filed March 1, 1930. Serial No. 432,547.

This invention relates to mast arm supports or pole plates and more particularly to supports for mast arms that support street lights and the like from poles or similar objects.

An object of this invention is to provide a mast arm support or pole plate that may be made by a simple stamping or pressing operation.

Another object of the invention is to provide a mast arm support formed from a single blank of metal which when in place will prevent both vertical and sidewise movements of the mast arm.

And a still further object of this invention is to provide a mast arm support that may be manufactured as a single unitary structure, that shall be efficient in operation, rigid and simple in construction and easily manufactured and installed.

Other objects of the invention will in part be obvious and will in part be apparent to those skilled in the art from the following description taken in conjunction with the accompanying drawings, in which

Figure 1 is a view in side elevation of a mast arm support or pole plate and a mast arm, only a portion of which is shown, mounted in place thereon.

Fig. 2 is a top plan view of the device shown in Fig. 1 mounted in place on a pole or the like.

Fig. 3 is a front view in elevation of the device shown in Figs. 1 and 2, the device in Fig. 3 differing from the device shown in Figs. 1 and 2 in that a bushing is provided in place of a pulley for guiding conductors, not shown, to the mast arm.

Fig. 4 is a partial view in section taken on line 4—4 of Fig. 3; and

Fig. 5 is a view in transverse section of a casting and guide bushing embodied in the mast arm support, as illustrated in Fig. 3.

Throughout the specification and the drawings like reference characters indicate like parts.

In the drawings, a mast arm support or pole plate 1 is shown that comprises a housing 2 of inverted U-shape in transverse section (see Fig. 3). The housing 2, when the support is mounted in place on the pole 3 or other object, extends horizontally outward from the pole.

The inner end of the housing 2 which lies adjacent to the pole terminates in an upwardly extending flange 4 and two oppositely disposed laterally extending flanges 5 and 6, the flanges 5 and 6 being located below the upwardly extending flange 4, as shown more particularly in Figs. 1 and 3. The flanges 4, 5 and 6 are preferably shaped to conform to the contour of the pole 3, and in this case since the pole 3 is substantially circular in transverse section, the flanges are arcuate in shape. In case the mast arm 1 is to be supported or mounted on a wall or flat object it is to be understood that the flanges 4, 5 and 6 may be made flat so as to conform to the surface of the wall to which they are attached.

The flanges 4, 5 and 6 are provided with apertures or openings through which lag screws 7 may pass when driven or turned into the pole as shown in Fig. 2. The opening or aperture in the flange 4 is disposed to accommodate a through bolt 8 that extends diametrically through the pole from one side to the other in a manner well known in the art.

The outer end of the housing 2 is provided with bosses 9 and 10 that are substantially U-shape in section and which, form an arcuate bearing face for a mast arm 11. The bosses 9 and 10 are provided with openings through which a downwardly bowed bolt 12 may pass for the purpose of drawing the outer end of the housing 2 together so as to clamp the mast arm 11 firmly in place.

In order to limit the inward movement of the mast arm 11 into the housing 2, the oppo-

site sides of the housing are provided with tongues 12, which may be struck-out from the metal blank forming the housing and bent inwardly so as to provide stops to limit the inward movement of the mast arm.

Near the innermost end of the housing 2 and at points below the mast arm 11, openings or apertures 15 and 16 are provided to accommodate a stub shaft or pin upon which a pulley 17 located within the housing may be turnably mounted. The pulley 17, indicated in broken lines in Fig. 1, is employed for guiding chains, ropes and the like (not shown) that lead to the outer or free end of the mast arm. These chains, ropes and the like are employed for raising or lowering street lights suspended therefrom at the free or outer end of the mast arm.

If these operating chains, ropes and the like are arranged to pass through the interior of the mast arm 11, the pulley 17 is mounted on a stub shaft journalled in the openings 15 formed in the sides of the housing. Where these operating chains, ropes and the like are disposed to pass along the outside of the mast arm 11, the pulley 17 is moved downwardly and mounted on a stub shaft or pin journalled in the openings 16.

In applications where it is required that the electrical conductors be passed through the interior of the mast arm 11 out to the free end thereof from which a street light, (not shown) is suspended, a hollow bushing 18 of refractory insulating material is provided through which the conductors pass and are guided into the mast arm. This bushing has screw thread engagement with a casting or block 19 and is supported in place thereby.

As shown in Fig. 5, the block or casting 19 is provided with a lug or boss 20 which, when the block is mounted in place, extends through an opening or aperture 21 in a plate 22 (see Fig. 4). The plate 22 is integrally joined by welding to the sides of the housing at the point where it merges into the oppositely disposed flanges 5 and 6. Plate 22 is preferably shaped to conform to the contour of the pole and forms a bearing for the support 1 at the lowermost point of the housing 2, to take the compression component of the load imposed by a street light or similar object mounted on the free end of the mast arm 11. The outer end of the block 19 is provided with lugs 23 at opposite sides thereof through which a rivet 24 passes, the rivet being employed to secure the block or casting 19 in place as indicated more particularly in Figs. 3 and 4 of the drawings.

From an inspection of Figs. 1, 2 and 3, it will be apparent that the oppositely disposed laterally extending flanges 5 and 6 are effective to prevent sidewise movement of the mast arm 11 and that the vertically disposed flange 4 prevents the mast arm from drooping downwardly at its free end. Flange 4 takes the tension component imposed by the bending moment of the load at the free end of the mast arm 11.

It will be observed also that the openings in the flanges 4, 5 and 6 through which the through bolt 8 and the lag screws 7 pass, form, when joined by straight lines, an isosceles triangle. The mast arm support 1, therefore, provides a three-point suspension for the mast arm, the points of suspension lying at the corners of an isosceles triangle. This type of support, therefore, prevents sidewise movement of the mast arm as well as vertical movement. The mast arm will, therefore, be rigidly and positively held in place on the pole.

The mast arm support 1 illustrated in the drawings may be made from a blank of sheet steel or metal of the necessary thickness by a simple stamping operation and since this is the case the support admits of quantity production which is a vital factor in low cost to the consumer. The support 1 may be utilized in connection with wood poles as well as steel poles, although the pole 3 illustrated in the drawings is of wood.

While various modifications and changes may be made in the mast arm support herein shown and described without departing from the spirit and scope of the invention, it is to be understood that only such limitations shall be placed on the invention as are imposed by the prior art and the appended claims.

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

1. A unitary mast arm support comprising an inverted U-shaped housing having the arms at one end thereof flanged outwardly for forming a base shaped to conform to the contour of a pole and having outwardly extending substantially U-shaped bosses provided with bowed inner surfaces on the opposite end thereof for receiving a mast arm, a clamping member extending through openings in said bosses for securing said mast arm in said housing, a pulley in said housing at the inner end thereof, and means for mounting said pulley at different positions within said housing.

2. A unitary mast arm support comprising an inverted U-shaped housing, the inner end of said housing having flanges extending outwardly from the arms thereof and a flange extending vertically from the base thereof, said flanges forming a base plate for said support, means extending through openings in said flanges for securing said support to a pole or the like, said means being located at the corners of an isosceles triangle, the outer end of said housing having a plurality of substantially U-shaped bosses extending outwardly from the arms thereof, arcuate guides on the inner surface of said bosses for receiving a hollow

mast arm, means extending through apertures in said bosses for clamping the housing securely around said mast arm, a pulley, and means for mounting said pulley in different positions in said housing whereby rope chains and the like may be passed either through the inside or along the outside of said mast arm.

In testimony whereof, I have hereunto subscribed my name this 27th day of February, 1930.

RALPH H. MANSON.