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ARM MOUNTING CONSTRUCTION

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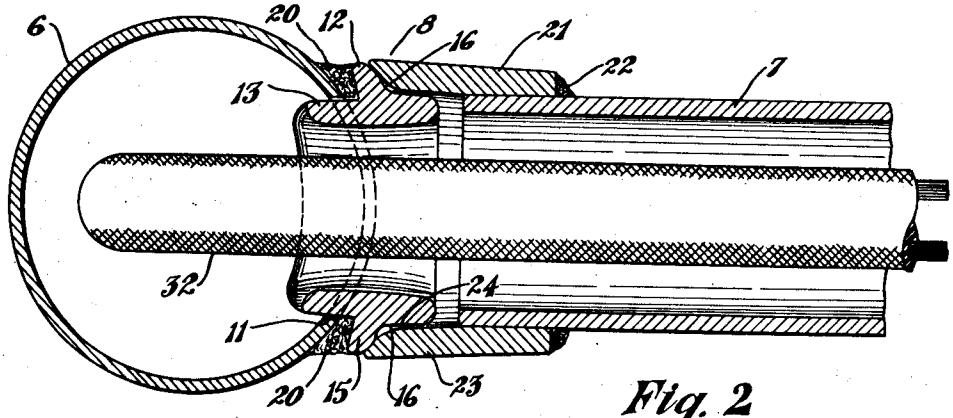


Fig. 2

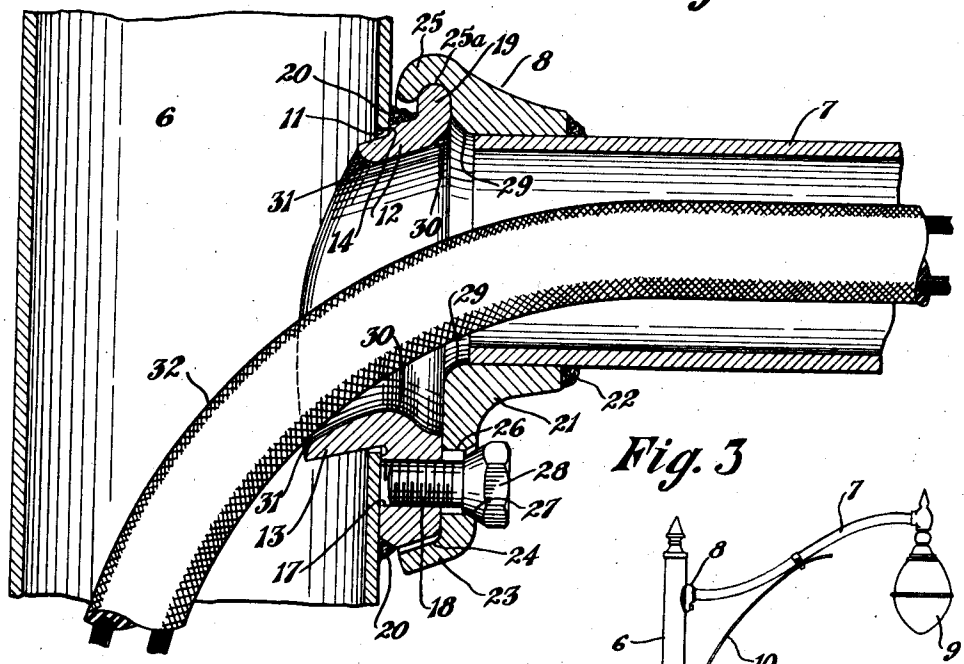


Fig. 3

Fig. 1

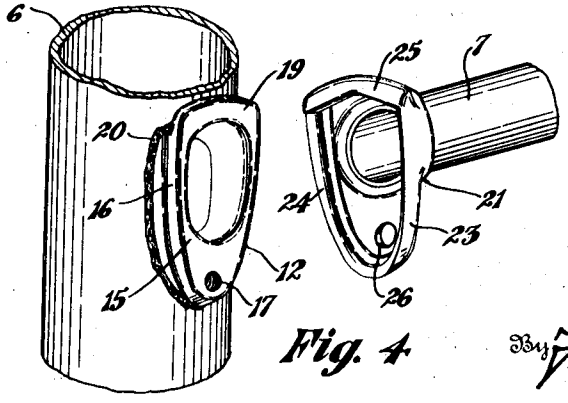


Fig. 4

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ARM MOUNTING CONSTRUCTION

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6 Claims. (Cl. 248—223)

The invention relates to means for connecting an arm or bracket to a support, and more particularly to a construction for detachably mounting the end of a laterally extending bracket arm on the side of a pole or standard.

In mounting bracket arms which carry electric fixtures on metal standards, it is frequently required that the end of the bracket arm be connected to the side of the standard below the top thereof. Moreover, the arm should be detachably mounted on the standard so that it can be attached after the standard is installed, because the electric conductor cables for supplying current to the electrical fixture must be passed upwardly through the standard and then bent sharply and passed through the tubular bracket arm.

Certain prior constructions have provided for extending a connector tube through the standard from one side to the other, securing said tube to the standard and then attaching the arm to the connector tube. This construction requires different sizes of connectors for different sizes of standards, and requires an opening extending entirely through the standard; and in addition, it is extremely difficult to avoid sharp edges tending to damage the cables at the places where the conductor cables pass into the connector tube and bracket arm.

Other prior constructions have provided connector clamping means engirdling the standard, but such means must be made adjustable or otherwise adapted for different sizes of standards, and the difficulty of avoiding sharp edges where the conductor cabies pass through the standard and clamping means and into the bracket arm is not obviated.

Furthermore, with all such prior constructions of which we are aware, the bracket arm is required to extend straight out from the standard substantially at right angles thereto, and it is often desirable to provide for mounting straight or curved bracket arms extending from the standard at various angles, to suit a variety of styles and types of arms.

It is therefore an object of the present invention to provide an improved construction for mounting a bracket arm on the side of a standard or support.

Another object is to provide an improved construction for detachably mounting a bracket arm on the side of a standard in such a way as to facilitate passing an electric conductor from the standard through the arm without damaging the conductor.

A further object is to provide an improved arm mounting construction which requires an opening in one side only of the standard.

A still further object is to provide an improved mounting construction adapted for mounting a variety of bracket arms on the side of a support and extending at various angles thereto.

The present improved construction shown and described herein accomplishes all these objects, and includes the additional advantageous features of being simple and inexpensive to make, and adapted for quickly and easily mounting a bracket arm on the side of a support.

These objects, together with others which will become apparent in connection with the detailed description herein, are attained by the improvements, combinations and arrangements comprising the present invention, which may be stated in general terms as including a mounting member secured on the wall of a support and having a portion projecting outwardly from the outer surface of the support, said projecting portion being adapted to fit into a tubular socket member secured on the end of a bracket arm, the mounting member having an exterior flange for being engaged by a lip on the socket member to support the same, and an adjustable screw for clamping the socket member and the mounting member together.

A preferred embodiment of the invention is shown by way of example in the drawing herein, various changes in construction and arrangement as well as in application or use being within the scope of the appended claims.

Figure 1 is a general view on a small scale showing a lamp bracket arm mounted on the side of a tubular standard by means of the improved mounting construction;

Fig. 2 is an enlarged fragmentary plan sectional view thereof, taken through the improved mounting means;

Fig. 3 is a vertical sectional view thereof; and

Fig. 4 is a fragmentary perspective view showing the parts of the improved mounting construction in detached position.

Similar numerals refer to similar parts throughout the several views of the drawing.

In the drawing a tubular metal pole or standard is indicated generally at 6, and a bracket arm 7 is supported on the side of said standard by means of the improved mounting construction indicated generally at 8.

The bracket arm may be curved as shown in Figure 1, or it may be a straight arm extending at right angles or at an acute angle from the standard, and an electrical fixture such as the

lamp 9 is supported on the outer end of the arm. Preferably the intermediate portion of the arm is connected to the standard at a location spaced from the inner end of the arm by suitable means such as the brace 10.

The improved arm mounting construction 8 is adapted for attaching the inner end of the arm 7 to the standard 6 at any desired location below the top of the standard. At the desired location, an opening 11 is provided in one side of the standard, no opening being required in the opposite side of the standard because no part of the improved mounting means extends entirely through the standard.

The mounting construction 8 preferably includes a tubular mounting member 12 having an inner reduced portion or neck 13 projecting through the opening 11 into the interior of standard 6, and functioning as a guide for electric conductor cables passing therethrough. Preferably a shoulder 14 is provided at the upper surface of the neck 13 for abutting the exterior of the standard at the edge of opening 11.

The mounting member is provided exteriorly of the standard with an enlarged non-circular seating portion 15 which overlaps the opening 11 and has a tapered peripheral seating surface 16. The depending lower part of the seating portion 15 overlaps and abuts the exterior of the standard adjacent the opening 11 therein, and is provided with a threaded hole 17 for receiving a clamping screw 18.

A supporting flange 19 projects angularly upward from the seating portion 15, and the upper end of said flange is rounded longitudinally and transversely, for a purpose to be described. The mounting member 12 is secured in the opening 11 preferably by welding the seating portion 15 behind its seating surface 16 to the outer surface of the pole around substantially the entire periphery of said seating portion, as indicated at 20 in the drawing. Obviously, the mounting member could be secured to the side of a solid support by facing off the rearwardly projecting portion of the neck 13.

The mounting construction 8 further includes a tubular socket member 21 secured on the inner end of the arm 7 in a suitable manner, as by welding as indicated at 22. The open end of the socket is preferably enlarged and provided with a peripheral flange 23 having an inner tapered surface 24 for telescoping over and engaging or abutting the seating surface 16 on the mounting member 12.

The upper end of said socket member 21 is provided with a downwardly curved lip 25 which seats over and engages behind the supporting flange 19, as shown in Fig. 3. The inner groove 25a formed by the curved lip 25 conforms to the longitudinally and transversely curved upper end of flange 19, so that the bracket arm 7 is oscillatably supported on the flange 19 for permitting a slight tilting movement of the arm in order to facilitate mounting the arm on the standard.

The depending portion of the socket member 21 is provided with a screw-receiving aperture 26 preferably located so as to be centered slightly above the threaded hole 17 in the mounting member 12 by an amount of $\frac{1}{32}$'' for example, when the socket member 21 is telescoped over the seating portion 15 with the lip 25 engaged over the supporting flange 19, before the members are clamped together. The aperture 26 is preferably somewhat larger than the hole 17 and is chamfered to conform to the tapered surface 27 of the screw head 28 for wedge-fitting the same.

When the screw 18 is drawn up the off center positions of apertures 26 and 17 cause the screw head 27 to engage the chamfered surface of aperture 26 so as to pull the lip 25 down tightly over the flange 19 and clamp the members rigidly and non-rotatably together as shown in Fig. 3, regardless of inaccuracies in the shape and dimensions of the members.

In mounting the arm on the standard, the outer end of the arm 7 is tilted upwardly by an amount sufficient to engage the lip 25 over and behind the flange 19 of the mounting member. The transversely curved upper surface of flange 19, as shown in Fig. 3, provides a pivotal support about which the arm may be oscillated or swung downwardly toward the standard to telescope the socket over the seating surface 16, for preventing lateral movement of the arm relative to the standard. The slight curve of the flange 19 longitudinally, or along its length, as shown in Fig. 4, permits a sufficient amount of rocking or axial rotation of the socket member 21 thereon to facilitate telescoping the socket over the seating portion. After the socket is telescoped over the seating portion, the arm is temporarily held in place by the interengaged lip 25 and flange 19, and the screw 18 may be drawn up to tightly and rigidly clamp the arm in position, when desired.

The inner bore of the socket member 21 has rounded edges indicated at 29, and the inner bore of the mounting member 12 is likewise provided with rounded edges 30 and 31, so that a conductor cable 32 may be passed from the standard 6 into and through the mounting means and arm 7 without damaging the cable in any way. Also, the rearwardly projecting portion of the neck 13 covers all sharp edges on the standard around the opening 11.

Moreover, the cable can be bent as shown in a relatively gradual curve at the arm mounting means, so as to facilitate passing it through the arm without damaging the cable, because the area of the standard at the turn or bend has not been materially reduced by the arm mounting means projecting into the standard. The construction is therefore particularly advantageous where cables of large diameter with heavy insulation are required.

A single size and shape of the mounting member or support 12 of the improved mounting means may be used for various sizes and types of standards, or other suitable supports. The socket member 21 may have its inner bore varied to fit different sizes and styles of arms, and the bore may also be varied to change the angular direction of the arm secured therein, while still maintaining the same size and shape of socket for telescoping over the seating surface 16 of the uniform mounting member. Thus the socket member 21 may be adapted for fitting a wide variety of sizes and shapes of bracket arms; all adapted to be detachably mounted on mounting members 12 of uniform size and shape.

When the bracket arm is mounted on the standard 6, as shown in Figs. 2 and 3, with the screw 18 tightly clamping the lower portion of the socket member onto the seating portion 15 of the mounting member 12, the lip 25 is tightly engaged over and behind flange 19 for rigidly supporting the arm against downward movement, and the peripheral flange 23 of the socket member 21 is in telescoped engagement with the ta-

pered seating surface 16 for preventing lateral movement of the arm.

If it is desired to provide a slight amount of lateral adjustment of the arm 7 with respect to the pole 6, the same can be accomplished by forming opposite side flanges or the like at the open end of socket member 21, and by providing said side flanges with adjusting studs screwed therein bearing on the mounting member 12.

The improved mounting construction is simple and inexpensive to manufacture, and provides means for quickly and easily detachably mounting a bracket arm on the side of a standard or similar support.

We claim:

1. Mounting construction for attaching a bracket arm to a support, including a mounting member secured to the support and having an exterior tapered non-circular seating portion, a supporting flange extending angularly from said seating portion, a tubular socket member secured to the end of said bracket arm and in telescoped engagement with said seating portion, and a lip on said socket member engaging over and behind said supporting flange.

2. Mounting construction for attaching a bracket arm to a tubular standard having an opening in one side, including a tubular mounting member secured in said opening and having an exterior non-circular seating portion, a flange extending angularly from said seating portion, a tubular socket secured to the end of said bracket arm having a peripheral flange fitting over and in engagement with said seating portion, and a lip on said tubular socket engaging over and behind the angular flange on the seating portion.

3. Mounting construction for attaching a bracket arm to a tubular standard having an opening in one side, including a tubular mounting member secured in said opening and having an exterior seating portion, a flange extending angularly from said seating portion, a tubular socket secured to the end of said bracket arm having a peripheral flange fitting over and engaged with said seating portion, a lip on said tubular socket engaging over and behind the angular flange on the seating portion, and means detachably and non-rotatably securing the seating portion and tubular socket together.

4. Mounting construction for attaching a bracket arm to a tubular standard having an opening in one side, including a tubular support projecting through and secured in said opening, said support having a tapered peripheral seating surface, a supporting flange extending upwardly from said seating surface and having a rounded upper end, a tubular socket on said arm having a peripheral flange telescoped over and abutting said seating surface, a downwardly curved lip on the upper part of said tubular socket fitting over the rounded upper end of said upwardly extending supporting flange for oscillatably mounting said arm on said standard, and means including interengaging tapered surfaces detachably and non-rotatably securing the lower portions of the tubular support and socket together.

5. Mounting construction for attaching a bracket arm to a standard having a side opening therein, including a supporting member secured in said opening and having a tubular neck projecting into said standard, said supporting member having an exterior non-circular seating portion and a supporting flange extending upwardly therefrom, a tubular socket on said arm telescoped over said seating portion, a lip on said socket engaging over said supporting flange, and clamping means for pulling said lip downwardly against said supporting flange and clamping the socket and supporting member together.

6. Mounting construction for attaching a bracket arm to a standard having a side opening therein, including a supporting member secured in said opening and having a tubular neck projecting into said standard, said supporting member having an exterior non-circular seating portion and a supporting flange extending upwardly therefrom, a tubular socket on said arm telescoped over said seating portion, a lip on said socket engaging over said supporting flange, a screw threaded in the lower portion of said supporting member and extending through a chamfered hole provided in the lower portion of the socket, a tapered head on said screw for wedge-fitting said socket hole, and said socket hole being slightly offset upwardly relative to the screw, whereby tightening said screw pulls said lip downwardly against said supporting flange for clamping the socket and supporting member together.

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