

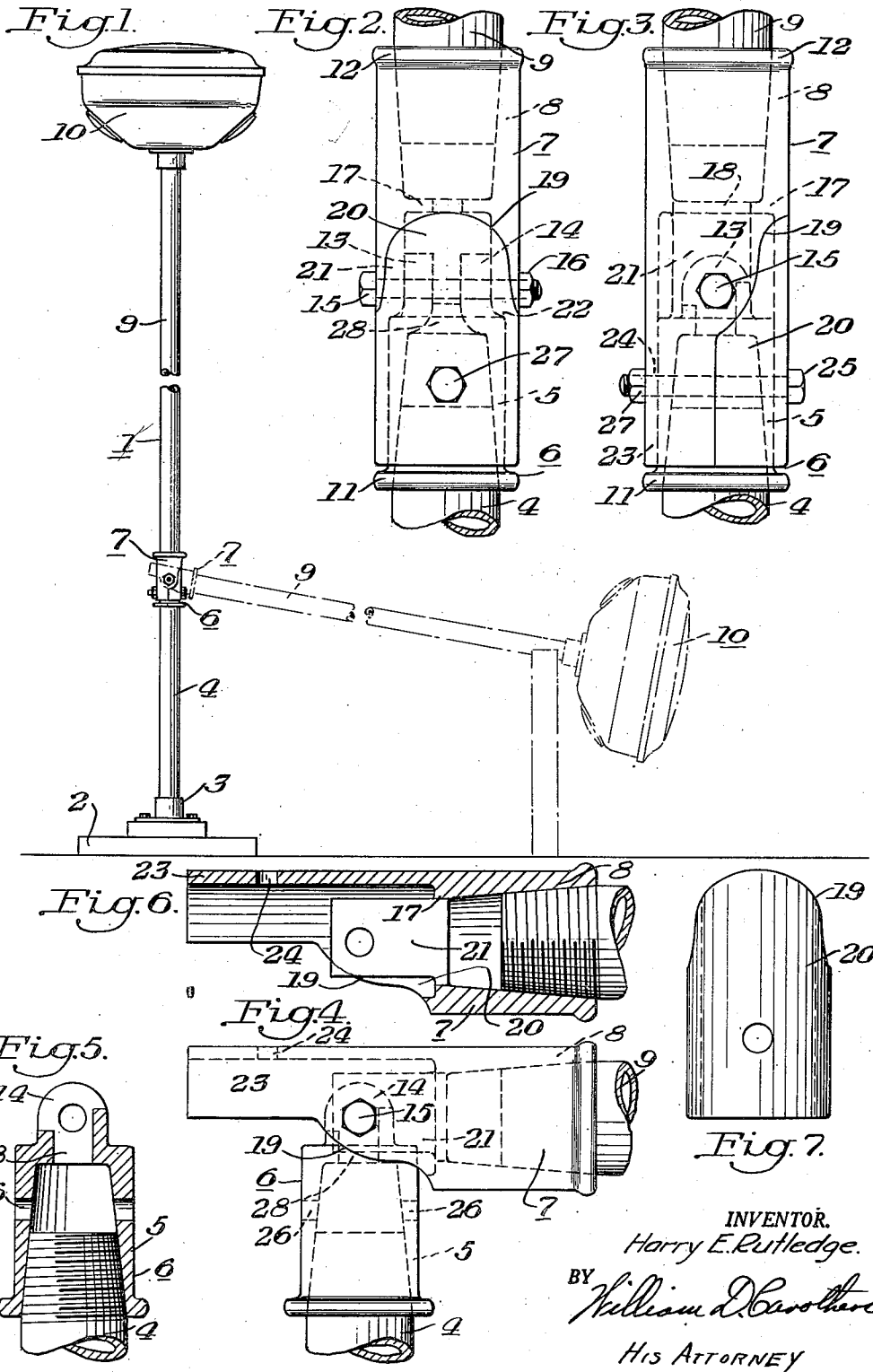
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POLE HINGE

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POLE HINGE

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This invention relates generally to pole hinges and more particularly to hinges for tubular poles that support lights such as used to illuminate gasoline filling stations.

Outdoor flood and spotlights have to be cleaned frequently and the lamp bulbs have to be replaced when they burn out. When such lights require service and if the pole supporting the same cannot be lowered, it is necessary to use a ladder which often results in neglect of such service. Some floodlight pole sections in use are pivoted intermediate their ends requiring elaborate parts making them very expensive. Other pole hinges have been suggested in the art, but have never been adopted because of their design.

The principal object of this invention is to provide a novel pole hinge that is economical to manufacture, sturdy in construction, simple to mount and has a streamline appearance. The structure of this invention consists of a pair of hinged pipe threaded socket members adapted to receive the ends of adjacent pole sections. One socket member is provided with a projecting semi-cylindrical skirt shaped to fit over the other socket member. This skirt is bolted to the other socket member to maintain the hinge joint rigid. A closure plate having complementary edges which match the edges of the skirt is secured to the hinge joint with the skirt and they completely enclose the other socket member. This closure plate functions as a wedge or a brace to hold the upper section of the hinge from pivoting as well as to function as a closure. It also provides a pole hinge having the appearance of a streamline sleeve.

Other objects and advantages appear in the following description and claims.

The accompanying drawings show, for the purpose of exemplification without limiting the invention or claims thereto, certain practical embodiments of the invention wherein:

Fig. 1 is a view in side elevation of a floodlight and pole, the latter being provided with a hinge comprising this invention;

Fig. 2 is an enlarged view in front elevation of the pole hinge comprising this invention;

Fig. 3 is an enlarged view in side elevation of the structure shown in Fig. 2;

Fig. 4 is an enlarged view in side elevation illustrating the sockets hinged at an angle to one another;

Fig. 5 is a sectional view of the lower portion of the hinge member;

Fig. 6 is a sectional view of the upper portion of the hinge member; and

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Fig. 7 is a front view of the closure plate.

Referring principally to Fig. 1 of the drawings, the floodlight pole 1 is mounted on the foundation 2 and consists of the base 3 bolted to the foundation for supporting the lower pole section 4. This lower pole section is relatively short, being preferably approximately from two to two and one-half feet in length. The top of the lower section 4 is secured in the socket 5 of the lower hinge member 6. The upper hinge member 7 has the socket 8 for the purpose of receiving the upper pole section 9 which is materially longer than the lower pole section 4 and is arranged to carry the light member 10 at the top thereof. When the pole hinge is unlocked and pulled over as indicated by dotted lines in Fig. 1, the light member 10 may be cleaned and serviced. The hinge is designed to permit the top pole section to be lowered to the ground. In view of the fact that the lower section 4 of the pole is low, being materially below the reach of the ordinary individual, the upper section of the light pole may be readily lowered on the axis of the hinge and returned to its upright position without difficulty.

As shown in Figs. 2 to 6, the lower hinge section 6 is provided with an annular flange 11 which is substantially as large as the annular flange 12 of the upper member 7. To provide a streamline appearance the intermediate cylindrical portion of the upper member 7 is preferably slightly smaller in diameter than the flange as indicated in the drawing. As shown more in Figs. 2 and 5, the lower hinge section 6 is provided with a projection such as the pair of spaced ears 13 and 14 extending from the closed end thereof and having aligned holes or bearings therethrough to receive the hinge pin 15 that is preferably in the form of a bolt and is held in place by the nut 16. The ears 13 and 14 may be spaced from one another to enlarge the opening 28 through the closed end for the purpose of passing a cable or other electrical conductor strung through the joint from the lower pole section to the upper section. As shown, the sockets 5 and 8 of the lower and upper hinge members are preferably provided with a tapered internal pipe thread to receive the threaded ends of pipe sections making up the pole.

The upper hinge section 7 has a transverse partition wall 17 with an offset opening 18 substantially aligned with the opening 28 for the purpose of permitting the cable to pass through the hinged joint. The wall 17 strengthens the upper socket member 7 closely adjacent the cutaway 55 portion of the skirt as indicated by the curved line

19 which forms the line of the cutout that is filled by the cap or closure cover 20.

The socket of the upper section 7 is formed with a heavy wall which extends beyond the transverse wall 17 forming two oppositely disposed ears such as indicated at 21 and 22 and which become aligned with the hinge ears 13 and 14 of the lower section when the hinged sections are assembled. The ears 21 and 22 are provided with aligned holes or bearings for the purpose of receiving the pivot pin or bolt 15 to complete the hinge. The wall of the upper tubular member 7 extends beyond the ears to form a semicylindrical skirt 23 that snugly fits over the perimetral surface of the lower tubular section 6 when the hinge members are in alignment as illustrated in Figs. 2 and 3. A hole 24 is provided in the skirt 23 for the purpose of receiving the stem of the bolt 25 which also passes through the closure plate 20 and the aligned openings 26 in the lower section 6. The bolt 25 is provided with the nut 27 for securing the same in position. This nut draws the skirt and the closure plate 20 tightly against the tubular member 6 and thus locks the hinge joint with the pole sections in alignment.

The plate 20 not only functions as a closure member but provides a streamline appearance of the hinge piece as shown in Figs. 1, 2 and 3. This member also acts as a block wedge to prevent the joint from hinging. If the nut 27 and the bolt were loose or if the skirt were to break, the semicylindrical plate 20 would function as a wedge in the top of the cutaway portion 19 and prevent the upper pole section from hinging unless the plate 20 were entirely removed.

It is preferable to position the locking bolt 25 above the end of the lower pipe section 6 as shown in the drawing to avoid the necessity of drilling holes through this pipe section.

I claim:

1. A pole hinge consisting of a pair of members constructed to receive pole sections, an arcuate skirt on one member shaped to fit over the other member, aligned hinge bearings in said skirt and in said other member, a pin in said bearings to hinge said members together, and clamp means to hold said skirt to said other member and lock the pole hinge straight.

2. A pole hinge consisting of a pair of members constructed to receive pole sections, an arcuate skirt on one member shaped to fit over the other member, aligned hinge bearings in said skirt and in said other member, a pin in said bearings to hinge said members together, and a bolt through said skirt and said other member to lock said hinge straight.

3. A pole hinge consisting of a pair of mem-

bers constructed to receive pole sections, an arcuate skirt on one member shaped to fit over the other member, aligned hinge bearings in said skirt and in said other member, a pin in said bearings to hinge said members together, and a bolt through said skirt and said other member and disposed at right angles to said pin to lock the pole hinge straight.

4. A pole hinge consisting of a pair of members constructed to receive pole sections, an arcuate skirt on one member shaped to fit over the other member, aligned hinge bearings in said skirt and in said other member, a pin in said bearings to hinge said members together, a removable arcuate plate formed complementary to said arcuate skirt to completely encase said other member, and clamp means embracing said skirt and plate to lock the pole hinge straight.

5. A pole hinge consisting of a pair of tubular members, each constructed to receive a pole section, a semitubular skirt on one member shaped to fit over the other member and having spaced ears with aligned holes, a portion on said other member having a hole therethrough for alignment with the holes in said ears, a pin in said holes for hinging said members together, and clamp means to hold said skirt to said other member and lock the pole hinge straight.

6. A pole hinge consisting of a pair of tubular members, each having a partition wall to complete a socket in the end portions of the tubular members to receive a pole section, a semitubular skirt on one member beyond the partition wall and shaped to fit over the other member, said skirt having spaced ears with aligned holes, a projection on the partition wall of said other member having a hole therethrough for alignment with the holes in said ears, a pin in said holes for hinging said members together, means defining passageways through said partitions offset from said pin, and clamp means to hold said skirt to said other member and lock the pole hinge straight.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
454,690	Westaway	June 23, 1891
2,340,540	Lange	Feb. 1, 1944
2,390,920	Caron	Dec. 11, 1945

FOREIGN PATENTS

Number	Country	Date
658,182	France	Jan. 22, 1929