No. 791,325. PATENTED MAY 30, 1905.

G. CUTTER.

SUPPORTING MECHANISM.

APPLICATION FILED MAY 13, 1903.

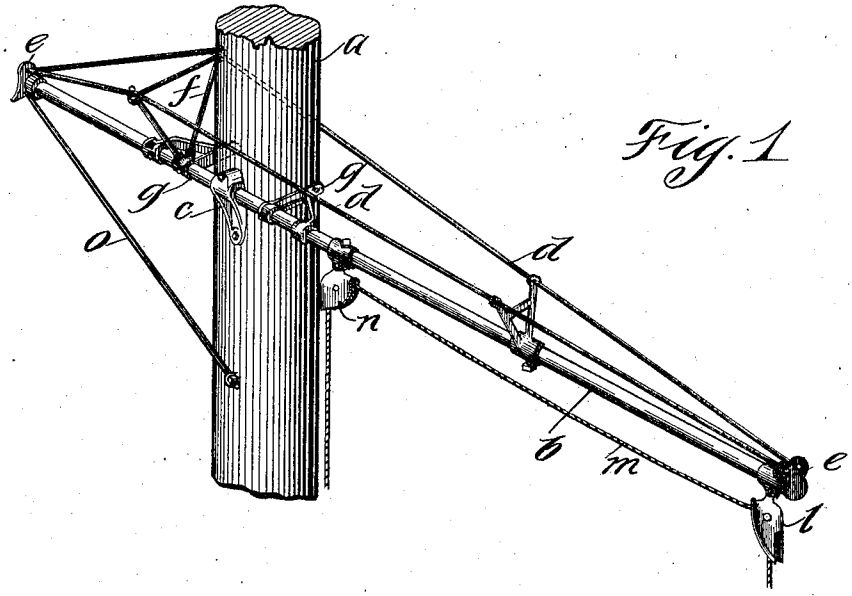


Fig. 1

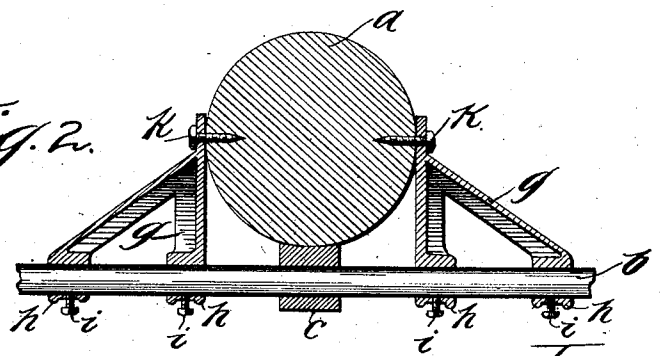


Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE CUTTER, OF WINNETKA, ILLINOIS, ASSIGNOR TO GEORGE CUTTER COMPANY, OF CHICAGO, ILLINOIS.

SUPPORTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 791,325, dated May 30, 1905.

Application filed May 13, 1903. Serial No. 156,933.

To all whom it may concern:

Be it known that I, GEORGE CUTTER, a citizen of the United States, residing at Winnetka, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Supporting Mechanism, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to mast-arms—such, for example, as are frequently found in service for suspending arc-lamps over streets. These mast-arms are desirably composite in structure, preferably being in the form of a truss having a compression member or rod that is desirably a wrought-iron pipe and which usually carries the suspended object, a tension member united with the ends of the compression-rod, and a strut intervening between an intermediate portion of the compression member and an intermediate portion of the tension member. I do not wish to be limited to the employment of a truss as a mast-arm or a truss formation of the character described, nor to the part of the truss that directly carries the lamp or other suspended object.

The mast-arm is frequently provided with an anchoring-plate located upon the side of the mast or pole. By reason of the wide range of diameters found in the poles it is impracticable to make the anchoring-plate of a width that will be applicable to the different poles and sufficient to properly counteract the lateral strains that wind-pressure on the outer end of the mast-arm imposes upon the anchoring-plate. The anchoring-plate being thus narrow, there is a tendency for the mast-arm to rock the same upon the pole, thus swaying the lamp supported by it and causing moving shadows, which interfere with the effectiveness of the street-lighting.

It is the object of my invention to provide an anchoring device for the mast-arm whereby this rotative tendency is overcome. The anchoring device I prefer to employ is a plate or block, though I do not wish to be limited thereto. Where anchoring-plates are employed, those are used that may be of uniform width and preferably sufficiently narrow to properly engage poles of the smallest diameters encountered. Each anchoring-plate is caused to resist turning effort by means of bracing mechanism that engages a side portion of the pole laterally displaced from the portion engaged by the plate. In order that the bracing mechanism and its associated anchoring-plate may be adaptable to poles of differing diameters, said plate and mechanism are made relatively adjustable. In order that the cost of construction may be reduced to a minimum, the adjustable brace is preferably secured to the anchoring-plate by being attached to the portion of the mast-arm that is directly secured to the anchoring-plate. The anchoring plate or device and the brace are preferably both movable longitudinally of the portion of the mast-arm engaging the same and transversely of the pole; but I do not wish to be limited to this structural characteristic, as other means may be employed for securing relative adjustment between the anchoring plate or device and the auxiliary transversely of the pole.

I will explain my invention more fully by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of one embodiment of my invention. Fig. 2 is a horizontal sectional view in a plane containing the axis of the rod supported by the anchoring-plate.

Like parts are indicated by similar characters of reference in both views.

In the embodiment of the invention illustrated a pole *a*, usually but not necessarily of wood, is provided. A truss for supporting the lamps or other device to be supported is anchored to the pole, the element *b* for the purpose being desirably secured to the anchoring-plate or other anchoring device *c*. Said plate *c* is desirably vertically disposed upon the side of the pole and may be secured there by bolts placed at the bottom and top of the plate. The element *b* is desirably a wrought-iron pipe and constitutes a compression member of the truss, the tension member *d d*

whereof is desirably formed in duplicated parts or rods that are separated to permit of the location of the pole between them. The rods *d d* are secured to the plates *e e* upon the end of the compression member, the said rods converging at their adjacent ends and diverging where the strut *f* is located, said strut being located between the compression and tension members.

Bracing mechanism is associated with the anchoring device *c*, being mechanically connected therewith in the embodiment of the invention shown by being engaged with the pipe *b*. This bracing mechanism is preferably formed in duplicate braces, each having a pair of sleeves or sockets *h h*, through which the rod *b* passes and with which said rod has clamping engagement desirably through the agency of clamping or set bolts *i i* passing transversely through said sleeves into engagement with said rod.

Each brace *g* has a single fastening bolt or pin *k* for directly securing it to the side of the pole or mast. One anchoring-bolt for each brace *g* is sufficient where the rod *b* is held in engagement with pole by means of the plate *c* in the manner disclosed. Two braces *g g* are not absolutely necessary where device *c* is employed to engage the rod *b* with the pole, and the manner of engaging said rod with the pole is not so important where two braces are employed, even though a single pin *k* is used with each brace. It is desirable, however, to add a fastening plate or element *c*, that may be rigidly attached to the pole, so as to provide a seat for the rod *b* to prevent said rod from having a rotative tendency upon the braces.

The suspended device is supported from the pulley *l* at the forward end of the mast-arm, while the vertical position of the suspended device is governed by the cable *m* passing over the guiding-pulley *n*, both pulleys being desirably though not necessarily attached to the same rod *b*. A guy-rod *o* unites the rear end of the mast-arm with the pole to counteract the weight imposed upon the front end of the truss.

As the drawings clearly indicate, the preferred construction is one wherein the braces are connected with the opposite side portions of the pole and are directly engaged with points upon or parts of the mast-arm that are longitudinally separated, the point or place of engagement of the mast-arm with the pole being between the points of engagement of the mast-arm with the braces that are thus laterally displaced from the point of engagement of the mast-arm with the pole.

It will be observed that I have provided a most simple and effective means for compensating for the small bearing afforded by the anchorage of the mast-arm upon the pole whereby the tendency of said arm to rotate horizontally, occasioned by the wind striking the pulley and lamp at the outer end of the arm, is overcome. The guy-wires, that have so frequently been run between the outer ends of the mast-arms and neighboring trees or the like, are rendered unnecessary by reason of my invention.

It will be seen that I have provided a mast-arm engaging the front of a pole, two braces having sleeves to slip over the mast-arm, a truss rising from one of said braces, and tension-rods running from end to end of the mast-arm over this truss, said braces being independently adjustable lengthwise of the mast-arm and adapted to engage opposing sides of the pole.

It is obvious that changes may readily be made from the embodiment of the invention herein shown without departing from the spirit of the invention. I therefore do not wish to be limited to the precise embodiment of the invention herein shown. For example, I do not wish to be limited to a locking engagement effected between the truss-arm and the pole by means of the screws *i i* locking the braces *g g* to the mast-arm.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

The combination with a pole or mast, of a mast-arm engaging the front of a pole, two braces having sleeves to slip over the mast-arm, a truss rising from one of said braces and tension-rods running from end to end of the mast-arm over this truss, said braces being independently adjustable lengthwise of the mast-arm and adapted to engage opposite sides of the pole, substantially as described.

In witness whereof I hereunto subscribe my name this 8th day of May, A. D. 1903.

GEORGE CUTTER.

Witnesses:

ALBERT SCHEIBLE,

ANNA A. GOODWIN.