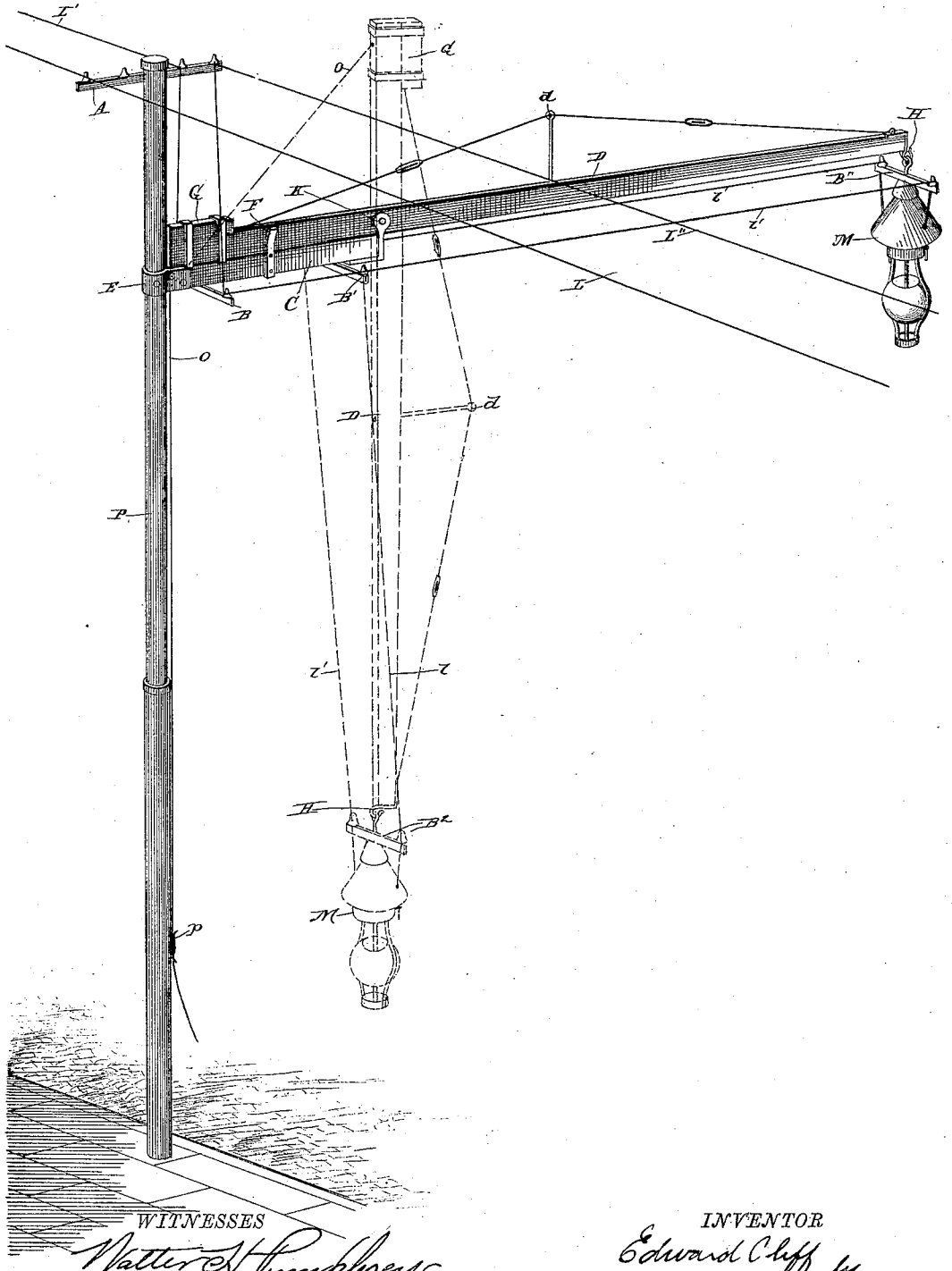
(No Model.)

E. CLIFF.

SWINGING OR DROP ARM FOR ELECTRIC LAMPS.

No. 444,273. Patented Jan. 6, 1891.



WITNESSES

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SWINGING OR DROP ARM FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 444,273, dated January 6, 1891.

Application filed March 21, 1890. Serial No. 344,793. (No model.)

To all whom it may concern.

Be it known that I, EDWARD CLIFF, a citizen of the United States, residing at Castleton, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Swinging or Drop Arms for Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in the improved form of swinging or drop arm mainly intended for use with electric lamps.

In the drawings the figure is a perspective view of the drop-arm, shown in full lines in its elevated position and in dotted lines in its lowered or dropped position.

In the lighting of streets by electric-arc lights it is desirable to have the lights in the center of the street, and the poles must not be placed beyond the line of the curb. To accomplish this, the lamp is swung usually from the end of a twenty-foot boom, and as it is impossible for the lamp-cleaner to get at the lamp while it is in this position, various constructions have been designed whereby the lamp may be lowered for repairs and the replacement of carbons.

In mounting the supporting-boom upon a hinge, in order to permit it to swing down, (which is the common construction,) the rigidity of the boom against the lateral pressure of the wind is very materially affected, and the effort to overcome this by lateral guys and braces renders the construction awkward and heavy.

To obtain a drop-light arm which shall be simple in its construction, shall not interfere with the line-wires when dropped, and shall be as rigid as a permanent arm when raised, I have designed the construction illustrated, and hereinafter to be described, in which—

P is the ordinary post or pole, set at the curb of the street. Upon the upper end of this pole is the usual cross-arm A, supporting insulators, to which the wires L L′ L″ of the main circuit are attached. The swinging boom D is hinged to a horizontal rigid bracket C, which is attached to the pole P at a point such that the elevation of the inner end of the boom will not cause it to interfere with the line-wire above it. The bracket C is attached to the iron pole by any suitable strap—such as E, or an equivalent construction—and has at its outer end the hinge-piece K, in the jaws of which the swinging boom may be pivoted, as shown. The boom may be braced by any proper form of truss *d*, as shown, and has upon its inner end the counter-weight G and upon its outer end a hook H, from which the lamp M is hung.

In order to give the boom when in its elevated position all the rigidity of a permanent arm, I provide one or more sets of guides F on the bracket C, down into which the inner end of the boom fits. When, therefore, by means of the cord O the inner end of the boom is drawn down snugly against the bracket C, as shown in full lines, and is held in that position by fastening the cord O to the cleat *p*, or in any other suitable manner, the boom is confined within the guides F and is practically rigid with the bracket C.

The lead-wires *l l′*, extending from the main-circuit wires to the lamp, are supported upon any suitably-arranged sets of insulators B B′ B″, one of which sets of insulators, as B′, must be at or near the hinge between the boom and the bracket C, in order that the lead-wires *l l′* may be preserved taut at all positions of the swinging boom.

The operation of my invention is evident from the construction. The operator releases the cord O from the cleat *p*, and the weight of the lamp M, being slightly in excess of that of the counter-weight G, swings the boom down into the position shown in dotted lines. This brings the lamp within the reach of the operator on the street below, or at least within the reach of a man in a wagon, and the necessary cleaning and removal and replacing of carbons can be conveniently effected. Then by pulling the rope O down the boom is swung back into position, and by fastening the rope to the cleat *p* the lamp is held suspended over the middle of the street at the necessary height.

The advantages of the construction lie in its simplicity and in its great strength, its form being such that (as above explained) when the boom is raised to an elevated posi-

tion it is rigidly bound to the bracket C, and presents, therefore, the greatest possible security against displacement by lateral or vertical wind-pressure. At the same time ample space at the top of the pole is left for the support of any number of circuit-wires, which in no way will interfere with the free working of the drop-arm.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

A drop-light arm which consists of the rigid horizontal bracket, the swinging boom pivoted at the end of said bracket, the guide on said bracket for said swinging boom, the cord for operating the swinging boom and holding the same closely to the bracket, the counter-weight on the inner end of the boom, and the lamp hooked to the outer end of said boom, together with the pole which projects above the bracket and has suitable insulators thereon for the line-wires, and other insulators on the bracket and boom for the lead-wires, certain of said insulators being placed at the hinge between bracket and boom, whereby the tautness of the lead-wires is preserved at all positions of the boom, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD CLIFF.

Witnesses:
JOHN SWANN,
WILLIAM CLEARY.