(No Model.)

R. R. BOWKER.

ARC LAMP POST.

No. 524,305. Patented Aug. 14, 1894.

Fig. 1.

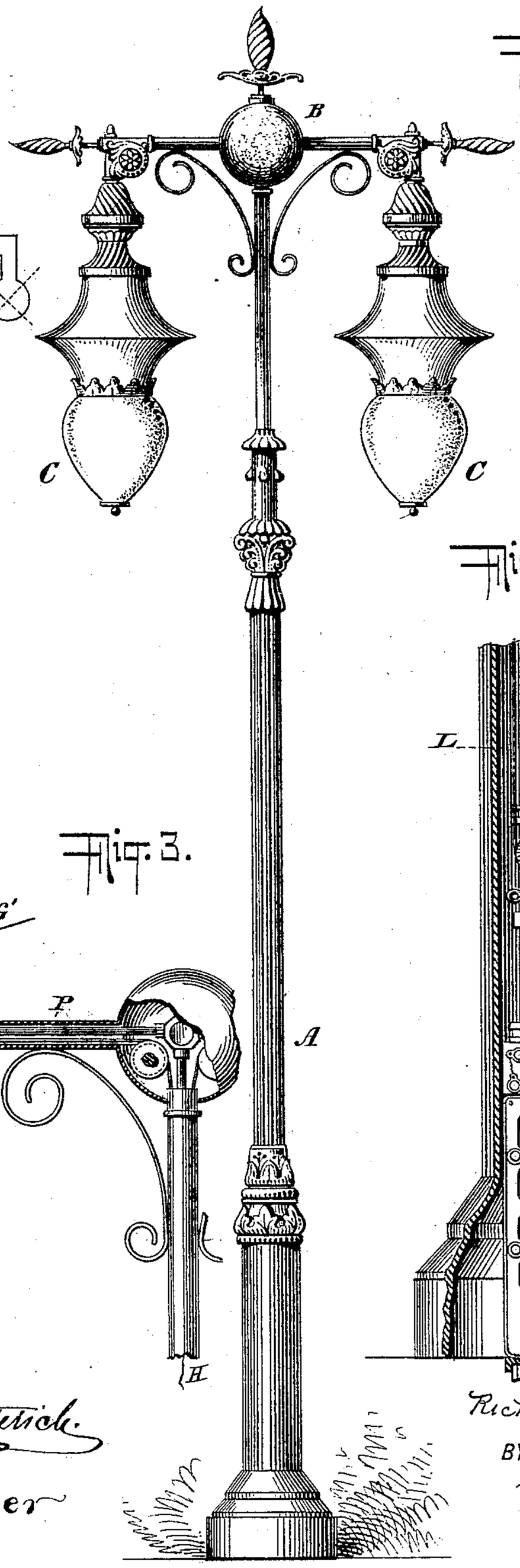


Fig. 4.

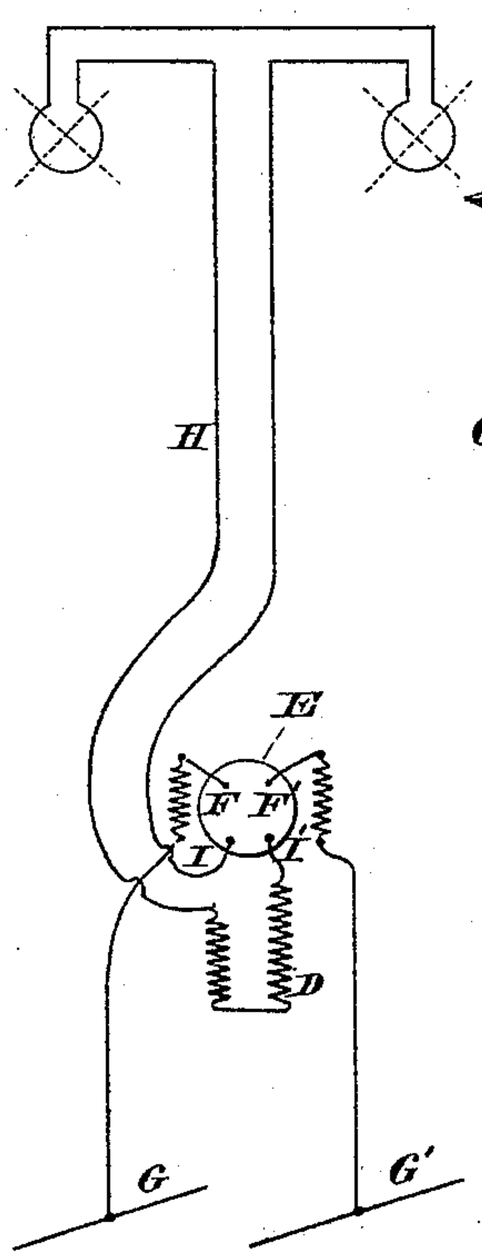
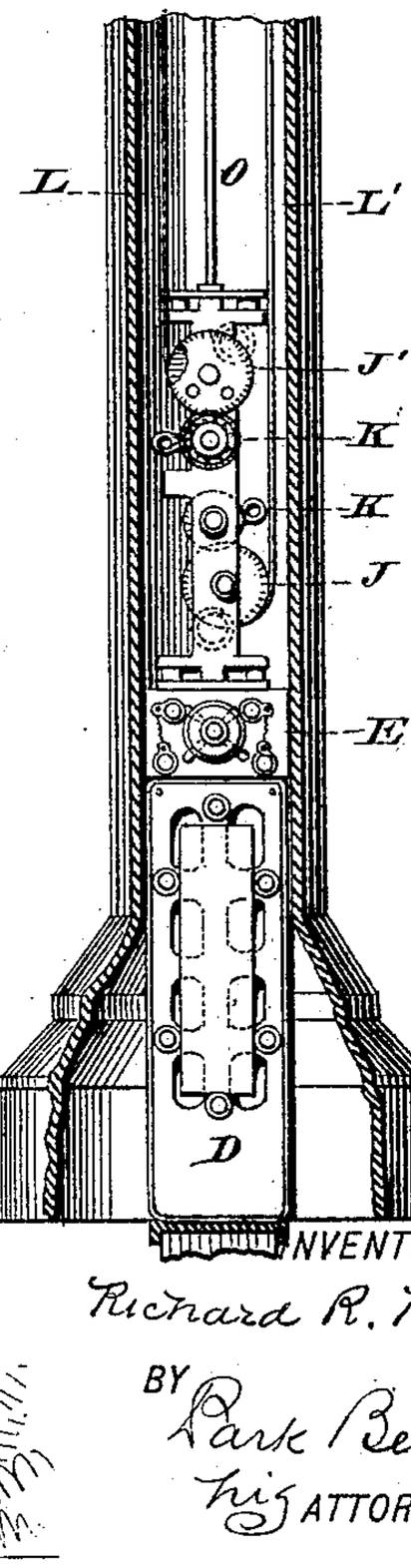


Fig. 3.

Fig. 2.



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ARC-LAMP POST.

SPECIFICATION forming part of Letters Patent No. 524,305, dated August 14, 1894.

Application filed June 22, 1894. Serial No. 515,351. (No model.)

To all whom it may concern:

Be it known that I, RICHARD R. BOWKER, of the city, county, and State of New York, have invented a new and useful Improvement in Arc-Lamp Posts for City Lighting, of which the following is a specification.

The object of my invention is to provide a novel and convenient disposition of arc lamps for city lighting, which may be employed in connection with the ordinary incandescent lamp mains and which require no special wire between the supports, either overhead or underground.

The invention relates to the combination with the circuit mains and a generator maintaining a known electromotive force at its terminals of a post or support carrying two or more arc lamps each requiring the same electromotive force and a resistance in shunt circuit with said mains, the said lamps and the said resistance being relatively constructed and proportioned so that the drop of potential at the resistance shall equal or approximately equal that at the generator terminals minus that at the lamps.

The invention consists more especially in the construction of the hollow post and supporting arms for the lamps at the upper part thereof and the resistance located at the base; the said resistance and the conductors leading therefrom to the lamps being wholly inclosed within the post: and also in the details hereinafter more particularly pointed out and claimed.

In the accompanying drawings Figure 1 is a side elevation of the post and lamps. Fig. 2 is a detailed view of one form of the resistance, switch and hoisting mechanism disposed in the base of the post. Fig. 3 is a detailed view showing the arrangement of one hollow supporting arm and the fixed pulleys for the hoisting gear therein, and Fig. 4 is a skeleton diagram showing the arrangement of the circuit.

A represents the supporting post, which is of metal and is hollow. At its upper portion are projecting arms, B, which arms are also hollow, and each one supports an arc lamp, C. At the base of the post and resting upon a suitable independent foundation is a resistance, D, represented symbolically in Fig. 4, which may be of any suitable construction. Above the resistance and supported thereon is located a switch, E. The two terminals, F F′, of the switch E connect respectively with the mains, G G′, of an incandescent lighting circuit on which there may be, to illustrate, an electromotive force of one hundred and twenty volts. The lamps C are connected by a circuit wire, H, in series relation with the resistance D and the other two terminals, I I′, of the switch E. Above the block on which is the switch E is a metal frame which carries two windlass barrels, J and J′, which are provided with gears in which engage pinions, K and K′. On each windlass barrel is a cord, L or L′, which cords pass up through the hollow post and thence over pulleys, as M N, and are fastened to the lamps; so that, by rotating the windlasses J and J′ through the agency of crank handles applied to the pinions K and K′, the lamps may be raised or lowered by means of the cords.

The conducting wires H are led upward through a tube, O, the upper portion of which is shown in Fig. 3—the covering parts being broken away for that purpose. They then pass through a tube, P, in the cross-arm B at right angles to the tube O, and thence through a short downwardly-projecting tube, Q, whence they are led into connection with the lamp in any suitable way. The mode of connecting the circuit wires with the lamp is not material here, but it is preferably one that is easily detachable, so that the lamps can be disconnected from circuit as they are lowered by the cords.

It will be observed that, inasmuch as the switch terminals F F′ connect directly with the mains G G′, which, in a city street, are normally underground, there is no special conductor passing between the several lamp-posts. In practice, with an electromotive force of one hundred and twenty volts on the circuit, the lamps may each require a drop in potential of fifty volts; and in such case the resistance D would be once for all adjusted to compensate for the difference between the drop in the lamps and the drop on the circuit—or, in other words, would be arranged for twenty volts. It will also be apparent that by this construction not only can I connect the arc lamps directly to the mains of the incandescent circuit, but I arrange all parts

of the lamp circuit in the most compact and convenient manner within the post, whereby they are completely protected as well as kept out of sight. A suitable door may be provided in the lamp-post to allow of access to the hoisting gear and to the switch E, by means of which last circuit to the lamps is made or broken, as desired.

I claim—

1. In combination with circuit mains and a generator maintaining a known electromotive force at its terminals, a hollow post or standard, two arc lamps supported at the upper part of said post, and a resistance at the base part of said post, the said lamps and said resistance being connected in shunt circuit with said mains and relatively proportioned as set forth to the electromotive force on said mains, substantially as described.

2. The combination in an arc lamp support of a hollow post or standard, two arc lamps supported at the upper part and a resistance at the base thereof; the said lamps and resistance being connected in series and the said resistance and circuit conductors being wholly inclosed within said post, substantially as described.

3. The combination in an arc lamp support of a hollow post or standard having hollow cross-arms at its upper portion, an arc lamp suspended from each cross-arm and a resistance; the said lamps and resistance being connected in series, the said resistance being wholly inclosed within the base of said post and the circuit conductors between lamp and resistance being within the said post and cross-arms, substantially as described.

4. The combination, in an arc lamp support, of a hollow post or standard, two arc lamps supported at the upper part thereof, a resistance and mechanism for raising and lowering said lamps; the said lamps and resistance being connected in series, and the said resistance and circuit conductors being inclosed within said post, substantially as described.

5. The combination with an arc lamp support having a hollow post or standard, and two arc lamps supported at the upper part thereof, of a resistance within the base of said post and resting on a foundation independent of said post, and underground circuit mains; the said lamps and resistance being connected in series by conductors inclosed within said post, and in shunt with said mains, substantially as described.

6. The combination with an arc lamp support having a hollow post or standard, hollow projecting arms at its upper portion and arc lamps suspended from said arms, of a resistance box within the base of said post and resting on a foundation independent of said post, a hoisting mechanism supported upon said resistance box and suspension cords leading from said hoisting mechanism to said lamps; the said lamps and resistance being connected in series and the conductors between lamps and resistance being inclosed within said hollow post and arms, substantially as described.

7. The combination of the hollow post A having hollow projecting arms B, two arc lamps, C, suspended therefrom, resistance D located within the base of said post, switch E, circuit conductors H and circuit mains G G′; the said lamps, switch and resistance being connected in series with one another and in shunt with said mains, substantially as described.

8. The combination of the hollow post A having hollow projecting arms B, two arc lamps, C, suspended therefrom, resistance D located within the base of said post, tubes, O, P, extending through said post and arms and circuit conductor H passing through said tubes and connecting said resistance D and lamps C in series, substantially as described.

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Witnesses:

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