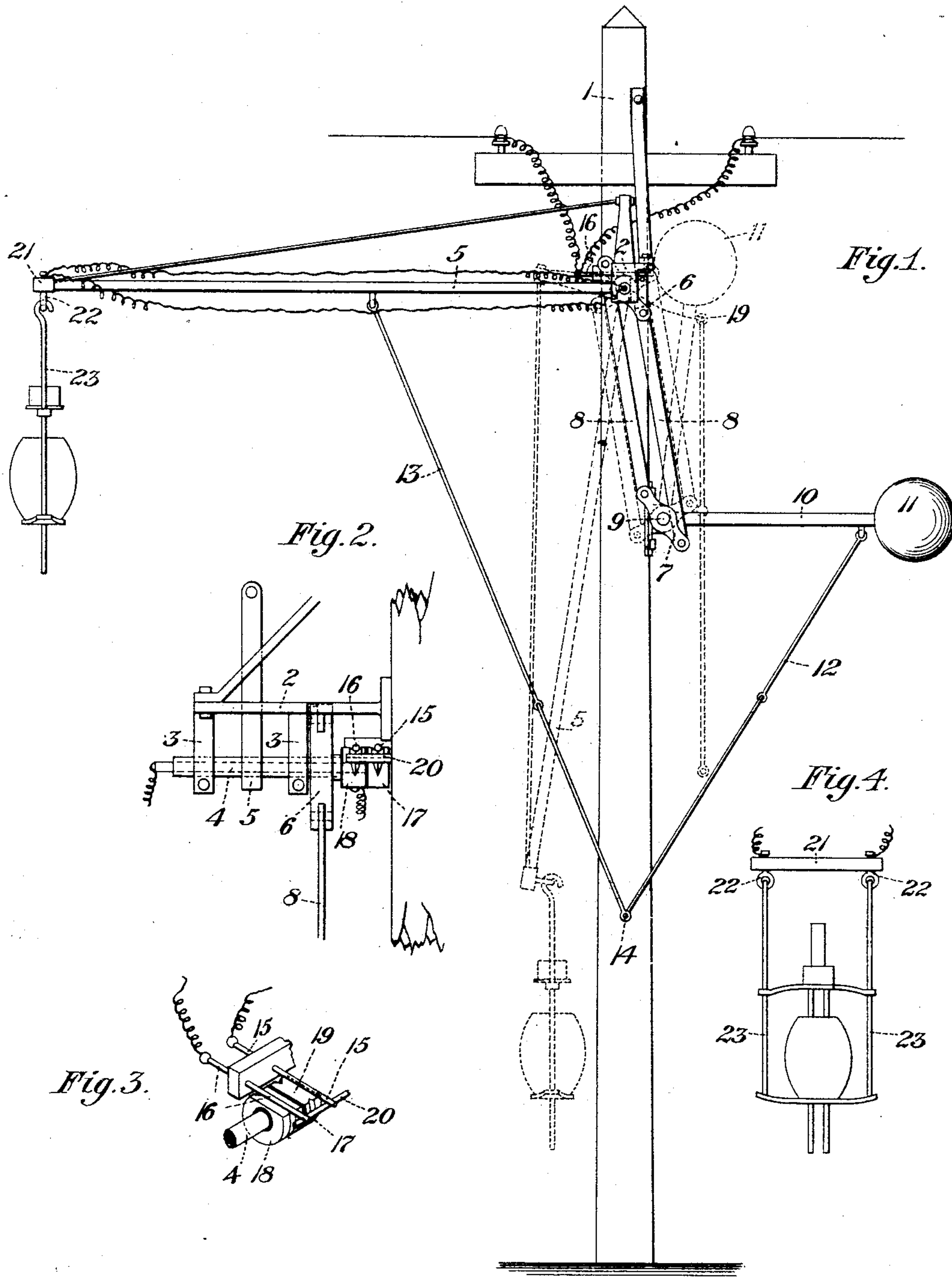


(No Model.)

G. FITCH.
MAST ARM FOR ELECTRIC LIGHTS.

No. 445,549.

Patented Feb. 3, 1891.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE FITCH, OF SHARPSBURG, PENNSYLVANIA.

MAST-ARM FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 445,549, dated February 3, 1891.

Application filed July 3, 1890. Serial No. 357,603. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FITCH, of Sharpsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Mast-Arms for Electric Lights; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like figures indicating like parts—

Figure 1 is a side elevation showing the lamp in position for use. Fig. 2 is an enlarged detail view at right angles to Fig. 1, showing the automatic cut-out and short-circuiting arrangement. Fig. 3 is a detail view in perspective further illustrating this feature of my invention. Fig. 4 is a face view of the lamp, showing manner of hanging from two supports.

My invention relates to that class of mast-arms in which the lamp is suspended at the end of an arm pivotally connected to the post and counterweighted at the other side; and it consists in the special construction of such counter-weight, an automatic cut-off, and in suspending the lamp from two depending points of support, as hereinafter described.

Mounted upon the post 1 is the bracket 2, provided with depending bearings 3 3, through which passes the shaft 4, which forms a pivotal bearing for the arm 5, which supports the lamp. Rigidly attached to the shaft 4 is the double-crank arm 6, connected to a similar crank-arm 7 by two connecting rods or links 8 8, and the crank-arm 7 is attached to the shaft 9, forming a bearing for the inner end of the counterweighted arm 10, considerably lower down. By this construction it will be readily seen that the counter-weight 11, acting through arm 10, crank-arm 7, links 8 8, and crank-arm 6, will act as a balance for the weight of the lamp and arm 5 in a similar manner to the ordinary continuous counter-weighted arm. A special advantage of this construction consists in the arrangement of the various parts when the lamp is in the lowered position for renewing the carbons. (Shown in dotted lines in Fig. 1.) It will be seen that the counter-weight, being pivoted at a point relatively lower than the bearing-point

of the lamp-arm, will assume the vertical position shown in dotted lines without interfering with any of the parts mounted to the post.

The various parts are firmly braced and held in position by the rods 12 13, removably attached to a pin 14, and these rods serve to raise and lower the arm into position. Mounted in a suitable bracket are the terminals 15 16, making electrical connection with the circular grooved disk-blocks 17 18, as shown in Fig. 2, when the lamp is raised. Circuit is made from disk-block 17 through hollow insulated shaft 4 to one pole of the lamp, and from disk-block 18 directly by wire to the other pole. The disk-blocks 17 18 are insulated from one another, and are provided with a flat or cut-away face 19, so that when the lamp is lowered the blocks 17 18 are released from contact and the terminals 15 16 will rest upon a short-circuiting wire 20, thus automatically cutting out the circuit from the lamp and avoiding all danger to the carbon-setter. Upon raising the lamp again into position the grooved periphery of the circular disk-blocks will again come into contact with the terminals, releasing them from short-circuiting wire and restoring the current to the lamp. Attached to the end of the arm 5 is a cross-bar 21, provided with two supporting-eyes 22 22, to which are secured the current-wires from disk-blocks 17 18.

I preferably construct the lamp of a framework provided with two side supporting-rods 23 23, depending from eyes 22 22 and forming electrical connection therewith, and it will be readily seen that the lamp will be thus rigidly secured against undue swaying or twisting.

Having described my invention, what I desire to claim, and secure by Letters Patent, is—

1. In a mast-arm, the combination of a main arm pivotally connected at the inner end, and a secondary counterweighted balancing-arm pivoted at a point below and connected to the main arm by equalizing links and levers, substantially as shown and described.

2. In a counterweighted mast-arm, the combination therewith of interposed equalizing-links for transmitting leverage, and means for operating and holding the parts in position, substantially as shown.

3. In a mast-arm, the combination of circuit-terminal points, a short-circuiting wire, and disk-blocks provided with flattened faces, whereby a circuit is automatically made and
5 broken by the movement of such disk-blocks operated by the mast-arm, substantially as shown.

In testimony whereof I have hereunto set my hand.

GEORGE FITCH.

Witnesses:

F. K. McCANCE,
JOHN E. POTTER.