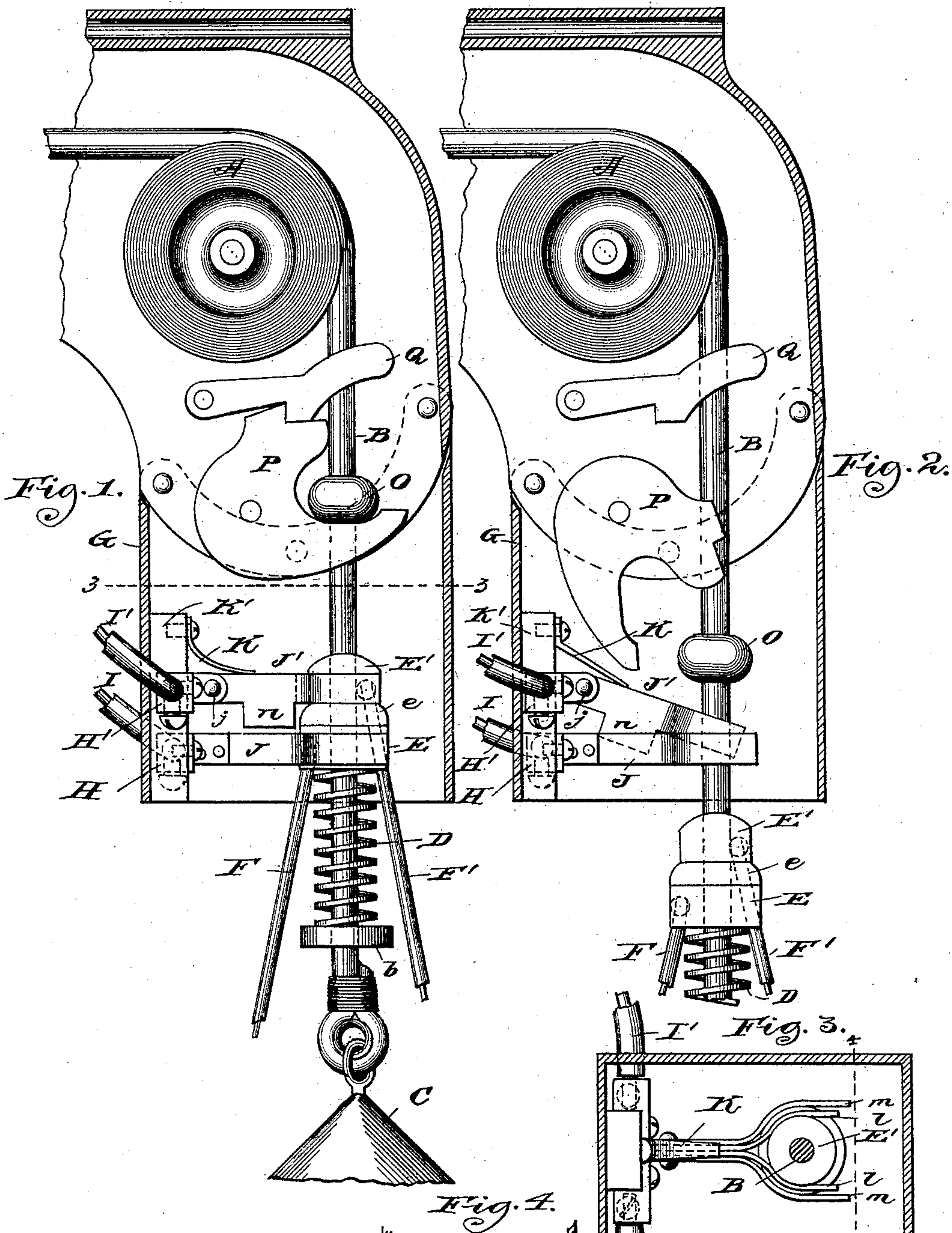


(No Model.)

J. A. LOUNSBURY.
HANGING DEVICE FOR ELECTRIC ARC LAMPS.

No. 442,127.

Patented Dec. 9, 1890.



Witnesses,
Frederick Goodwin
A. M. Bond.

Inventor,
James A. Lounsbury
By Alfred Towle
Atty.

UNITED STATES PATENT OFFICE.

JAMES A. LOUNSBURY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
G. A. EDWARD KOHLER, OF SAME PLACE.

HANGING DEVICE FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 442,127, dated December 9, 1890.

Application filed July 23, 1890. Serial No. 359,705. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. LOUNSBURY, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Automatic Cut-Outs for Electric Lamps, of which the following is a specification.

My invention relates to a cut-out device for electric lamps, whereby a suspended lamp may be lowered for trimming or for any other purpose desired, and by the action of lowering automatically cut out of the main circuit the break in said circuit being also closed automatically and simultaneously with the cutting out of the lamp, and thereby the burning of the remaining lamps on the circuit are not interfered with. The raising of the lamp to its normal position automatically establishes a circuit through it again.

In carrying out my invention I provide for a suspended electric lamp a casing or housing surrounding the suspending rope or cable and protecting the operative parts, and which casing is made to support binding-posts to which the main-circuit wires are connected. From these binding-posts are projected contact-arms, one of which is pivoted and normally depressed by a spring upon the other, which is fixed. Each of these contact-arms, in the preferred construction, comprises an arm having its end bifurcated and constructed from resilient material, and these divided arms are adapted to engage contact-blocks secured with the lamp and to which blocks the lamp-wires are connected. When the lamp is burning, the contact-blocks secured therewith are engaged by the contact-arms projected from the binding-posts, the circuit passing through the main-circuit wires, binding-posts, bifurcated arms, contact-blocks, and lamp-wires. When the lamp is lowered, the contact-blocks secured therewith move out of engagement with the bifurcated arms and the circuit through the lamp is broken. The pivoted arm being thus left free, its spring depresses it into engagement with the fixed arm connected with the other binding-post, and the break in the circuit made by lowering the lamp is thus closed. In raising the lamp to its normal position the movements above described are reversed, and thus

the breaking and establishing of the circuit are effected automatically.

The invention enables the trimming of the lamp without danger to the workmen, and dispenses with the necessity of using manually-operated cut-outs or switches at each lamp.

In the accompanying drawings I have shown a lamp suspended by means of a pulley-and-clutch mechanism which forms the subject-matter of my application for Letters Patent of the United States filed June 6, 1890, Serial No. 354,534, and which is now pending, such device being shown herein merely for the purpose of illustration; but my invention is applicable to other forms of suspending and releasing devices, and to various forms of lamps.

In the drawings, Figure 1 is a broken elevation of the suspending mechanism, showing the casing surrounding the lamp-cable and pulley-housing in vertical section, and the lamp in its normal position. Fig. 2 is a similar view showing the lamp lowered and cut out of circuit. Fig. 3 is a plan view below the line 3 3 of Fig. 1, and Fig. 4 is a front elevation of the contact mechanism and binding-posts, looking from line 4 4 of Fig. 3.

In the drawings, A represents a sheave or pulley over which the suspending-cable B is carried, said cable being connected to the lamp, the hood of which is indicated at C. The cable B has a stop *b* thereon, on which is seated a coil-spring D, sustaining the contact-block E, separated by an insulating medium *e* from a second contact E'. To the contacts E E' are connected the lamp-wires F F'. The contacts E E' may be in the form of annular disks apertured for the passage of the cable. The lower of these contacts lies in a vertical plane outside of the plane of the upper contact, as clearly shown in Figs. 1, 2, and 3.

G represents an inclosing-casing designed to protect the parts from the weather, and which may be secured with the pulley-housing. The casing G also affords means for securing the binding-posts H H', and to these binding-posts the circuit-wires I I' are secured. Projected from the binding-posts H H' are contact-arms J J', the former being rigidly

secured and the latter being pivoted at *j*, and a spring *K* has one end secured to the insulating medium *K'*, to which the binding-posts are also secured, and its free end adapted to bear upon the contact-arm *J'*. These contact-arms may be conveniently formed of two flat strips of resilient metal, whose ends are spread to form the bifurcations *l m*, which are adapted to embrace and engage, respectively, the contact-blocks *E E'*, thereby establishing an electric connection from the circuit-wires *I I'* to the lamps *F F'*. The arm *J* has by preference a lug *n* on its lower side, and the arm *J* has an aperture into which said lug passes when the arm *J'* is left free to be depressed by the spring *K*.

The feature of bifurcating the contact-arms to enable them to embrace the cable and the contacts thereon is important, because in use the lamp is likely to be swung by the wind, and thus the establishment of the circuit prevented. The bifurcated arms insure the making of contact when the lamp is raised, as they serve to steady and guide the cable and reduce its tendency to oscillation. The annular form of contact is important, because the lamp is quite likely to turn, thus twisting its cable, and hence the desirability of providing a form of contact which will be presented unfailingly to the impingement of the contact-arms.

Referring now to Fig. 1, the lamp is seen in the operative position, the knob *O* on the rope being engaged by a hook *P* eccentrically pivoted to the pulley-casing and secured by the latch *Q*.

In Fig. 2 the lamp is shown cut out of circuit, to accomplish which it is only necessary to pull on the rope or cable *D* until the knob *O* has lifted the latch *Q* from the hook *P*, thereby permitting the latter to rock on its pivot and release the knob, whereupon the lamp may descend, carrying its contacts *E E'* out of engagement with the bifurcations *l m*

of the contact-arms *J J'*. At the same time the spring *K* has depressed arm *J'*, so that it comes in contact with the arm *J*, thus bridging the gap in the main circuit. The reversal of these movements restores the lamp to the circuit after it has been trimmed, and the same operation causes the engagement of the knob *O* with the hook *P*, which in turn engages the latch *Q* until it has passed into locking engagement, these several operations being performed by the action of the parts above described and without action by the attendant other than the manipulating of the cable.

I do not limit my invention to the precise details of construction as herein above described, as the same may be varied within wide limits without departing from the spirit of my invention.

I claim—

1. The combination of an adjustably-suspended lamp having lamp-contacts of annular form carried thereby, and circuit-contacts comprising arms having bifurcated ends adapted to embrace the lamp-suspending medium and to engage the lamp-contacts carried thereby, substantially as described.

2. In combination with an adjustably-suspended lamp, a casing having binding-posts secured thereon, main-circuit wires connected with said binding-posts, contact-arms projected from the binding-posts and having bifurcated ends, one of said contact-arms being pivoted and having a lug thereon and the other having an aperture to receive the lug, and a spring adapted to depress the pivoted arm to cause its lug to enter the aperture, whereby to close the break in the main circuit, substantially as described.

JAMES A. LOUNSBURY.

Witnesses:

C. C. LINTHICUM,
N. M. BOND.