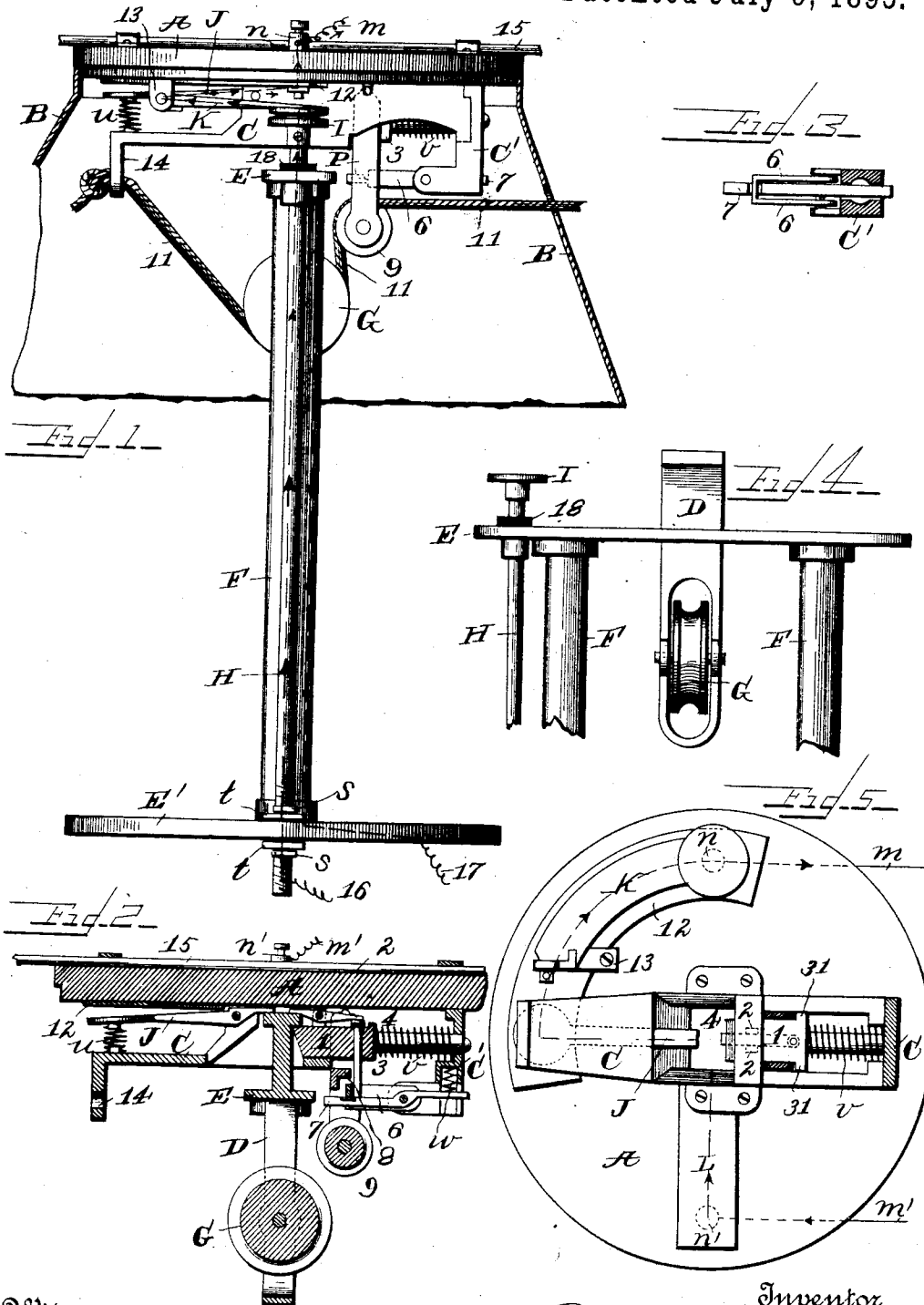


(No Model.)

B. PICKERING.
ARC LIGHT SUPPORT.

No. 542,279.

Patented July 9, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

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ARC-LIGHT SUPPORT.

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To all whom it may concern:

Be it known that I, BARTON PICKERING, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Arc-Light Supports; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form a part of this specification.

My invention relates to improvements in arc-light supports, the features of which will be fully hereinafter described and claimed.

The principal object of my invention is the suspension of arc lamps by means of a detachable catch, and thereunto are electrical attachments by which a circuit is formed and broken, the device being operated by a single rope in raising and lowering said lamp and opening a circuit to the same. The detachable catch alone is adapted to a variety of uses and may be used to suspend anything desirable. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device. Fig. 2 is a fragmentary view of the same, but chiefly a central longitudinal section thereof. Fig. 3 is a horizontal section of a part on line *a*, Fig. 2. Fig. 4 is a view of the hanger with contiguous parts at a right angle to Fig. 1. Fig. 5 is an under view or plan of the device.

Like letters and numerals designate like parts throughout the several views.

The circular block of wood A forms the base for the attachment of the several parts of the device. At the lower edge is a recess, to which is attached the covering or hood B. (Shown only in section.) This block is fixedly attached to the cable 15, to an arm or other device, and to the ceiling of a room.

The case comprises two parts, that of C and C'. The former has the downwardly-projecting lug 14, into which the rope 11 is tied. To the left of the center are ears, to which is pivoted the connecting-arm J. At the center is an orifice with an incline to the left and a

square at the top to receive the head of the hanger D. In an orifice to the right of the center is held the head of the catch I, the rear end of which is held in a round orifice of part C', which is attached to the end of part C, and semicircular notches are provided in the top of the sides to receive the pivots of the operating-arm P. On the top of the catch are the ears 2, within which is pivoted the dog 4, the use of which being, when said catch is drawn back, to drop behind the head of the hanger and thereby release the same. Immediately beneath the rear end of said dog is drilled a hole, and into which is placed the pintle 3, whose lower end bears against the lever 7. The spiral spring *v* carries the catch forward and holds the same against the lugs in front of the ears.

On the catch are lateral lugs 31, which engage the operating-arm P, and by which means the catch is carried back to release the hanger. The two parts of the operating-arm are connected by the cross-piece 8. (See Fig. 2.) In the normal condition the vertical part of this engages the end of the dog 6, and thereby prevents the operating-arm being carried to the rear. The grooved pulley 9 is pivoted to this arm and over this is passed the rope, as shown at Fig. 1. In the lower part of C', on a common pivot, are held the dog 6 and the lever 7, whose outer end is pressed downwardly by the spiral spring W. The front end of this dog rests in a notch of said lever. The head of the hanger D fills an oblong square space within the casing, and is recessed, so that the catch may engage the same. Beneath is the plate or part E, to which are attached the guides F F of the candle-rods, and supports the top end of the electrical connecting-rod H, and beneath said part is supported the pulley G.

If used for other purposes than that of supporting an arc lamp, to the frame beneath is attached an eye or hook on which to suspend any object. The rope 11 is attached to the case and passes under pulley G, over pulley 9, and over a pulley at the side, so that the tension is on a horizontal plane. The guides F F connect the part E of the hanger with the top plate E' of an arc lamp. The conducting-rod H likewise is attached to these parts, and is

insulated from the former by the insulator 18, and at the latter the insulation is effected by the disks *tt*, held by the nuts *ss* within an orifice of said plate. The terminal wires 16 and 17 of the lamp-helices are connected, the former to the conductor-rod and the latter directly to the lamp-plate, and the guides and hanger form a part of the electric circuit. Binding-posts *n* and *n'* are attached to the block, and to the former is attached the line-wire *m*, and to the latter the line-wire *m'*. The former is connected with the plate 12, which extends over a quarter of a circle and is in position to have connection with the connecting-arm J when the same is in its normal position, the contact being effected by the resiliency of the spiral spring *u*. The plate L connects the post *n'* and the case C and forms a part of the circuits through the hanger and the lamp.

To the plate 12 is attached the support 13, to which the connecting-arm K is pivoted, and the end of the same is held in position to engage the cap I of the conductor-rod H when the lamp is elevated and locked or suspended in the case.

The illustrations show the lamp as suspended, and the operation of detaching the same is thus: Pull the rope. The catch is carried back until the dog falls behind the head of the hanger, and by gradually releasing the rope the lamp is lowered to the ground. When the tension on the rope is released, the spring throws up the arm, and the dog 6 thereby engages the cross-bar of the operating-arm, and the pull on the rope in elevating the lamp cannot act upon the catch, and the catch is operated solely by the head of the hanger pressing the same back, and which suddenly returns as soon as the shoulder is passed, and the lamp is thereby suspended. The head of the hanger carries up the dog 4, and this, through the pintle, carries down the lever, and after the tension on the rope ceases the dog 6 falls down and the operating-lever can again carry back the catch to release the lamp, the cross-bar passing over said dog.

The electric circuit, when the lamp is not suspended, is from one pole of the dynamo through line *m*, post *n*, plate 12, pivotal connection-bar J, case C, plate L, post *n'*, line *m'*, back to said dynamo. When the arc lamp is suspended, the electric circuit is from the dynamo through line *m*, post *n*, plate 12, pivotal arm K, conductor-rod H, the helices of said lamp, plate E', guides F F, plate E, hanger D, case C, plate L, post *n'*, line *m'* to said dynamo. As the arc lamp is being raised the hanger-head depresses the connecting-bar J after the conductor-rod H has made connection with the pivotal bar K, and this changes the short circuit to that through the lamp. The short circuit is resumed immediately the lamp is lowered from contact with the detachable catch. The two electric circuits are indicated by dotted lines, Figs. 1 and 5.

To attach and detach light weights it is not necessary to use the arm 7 and dog 6; but with heavy weights these parts are indispensable. The hanger may be varied in form to suit different styles of arc lamps, and in addition to the shouldered head the pulley, lamp attachment, and the conductor-rod are essential features. A piece of folded spring-brass may be readily substituted for the pivotal connection-arm K and fastened to plate 12 and engage the conductor-rod H in the same manner.

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

1. In an arclight support the combination of the case with spring actuated catch 1, held therein, having ears 2 on the top and lugs 31 on the sides at the bottom, the gravitative dog 4 pivoted in said ears, to hold said catch out of contact with the hanger, the pintle 3, spring actuated lever 7, the locking dog 6 pivoted to the case at one end and the other resting on said lever, the operating arm P pivoted to said case and engaging said lugs of the catch, the shouldered hanger D provided with plate E which supports an arc-lamp, the conductor rod H held in said plate and the pulley G; the rope 11 to raise and lower said lamp, the electrical circuit plate 12, pivotal arm K to engage said conductor rod, pivotal arm J with spiral spring to hold the same in contact with said plate, when said lamp is out of circuit, the plate L, with time connections, substantially as shown and described.

2. In combination with the spring-actuated catch having an inclosing case, the shouldered hanger head to engage said catch, the gravitative dog held in the ears of said catch to hold said head out of engagement with said catch when by bearing against the face of the same, the same is withdrawn from contact with said hanger, substantially as described.

3. The combination of the case, the operating arm P with cross-bar, and pulley 9 pivoted therein, the spring-actuated catch with lateral lugs to engage said arm, the spring-actuated lever and dog held on said lever and the two pivoted to said case, as a means to hold said operating arm from being carried back and thereby preventing the carrying back said catch, substantially as set forth.

4. The combination of the case provided with a lug for the attachment of a rope, the spring-actuated catch having a gravitative dog pivoted at its front end, lugs on its sides and carrying a pintle in a vertical orifice, the operating-arm provided with a cross-bar and pulley for a rope, hanger D provided with a lever 7 with spring, and engaging dog 6, to lock said operating arm, that the hanger-head may be attached when the same is drawn up, and to carry back said catch and thereby release said hanger, substantially as set forth.

5. In an arclamp suspension catch the combination of the long and short electric circuits; the former comprising plate 12 con-

nected with line wire, arm K, insulated connecting rod H, helices, hanger D, case and plate L with line; the latter comprising plate 12, pivotal connection arm J, case and plate
5 L to line, substantially as set forth.

6. In an arclamp suspension catch the insulated conductor rod H supported in lamp and hanger, the hanger head to which said lamp is suspended, arms J and K, to form
10 distinct electrical circuits, as said lamp is at-

tached and detached, to and from said suspending catch, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

BARTON PICKERING.

Witnesses:

J. W. WEIDNER,
CHARLES W. DALE.