

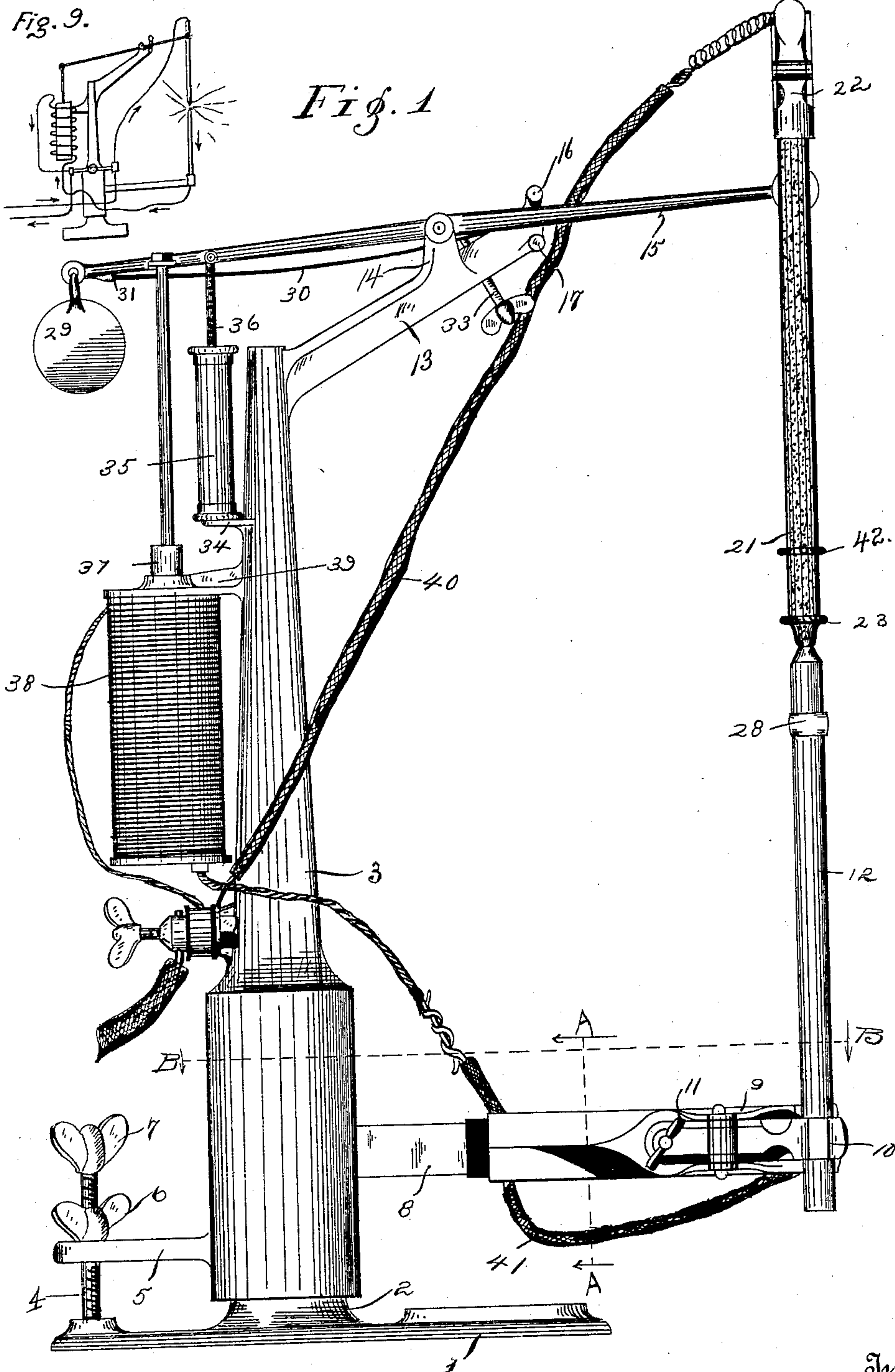
(No Model.)

2 Sheets—Sheet 1.

G. C. PYLE.
ELECTRIC ARC LAMP.

No. 556,898.

Patented Mar. 24, 1896.



Witnesses
A. S. Courtwright.
Nemina Pyle

Inventor
George C. Pyle
By Attorney W. H. Lockwood

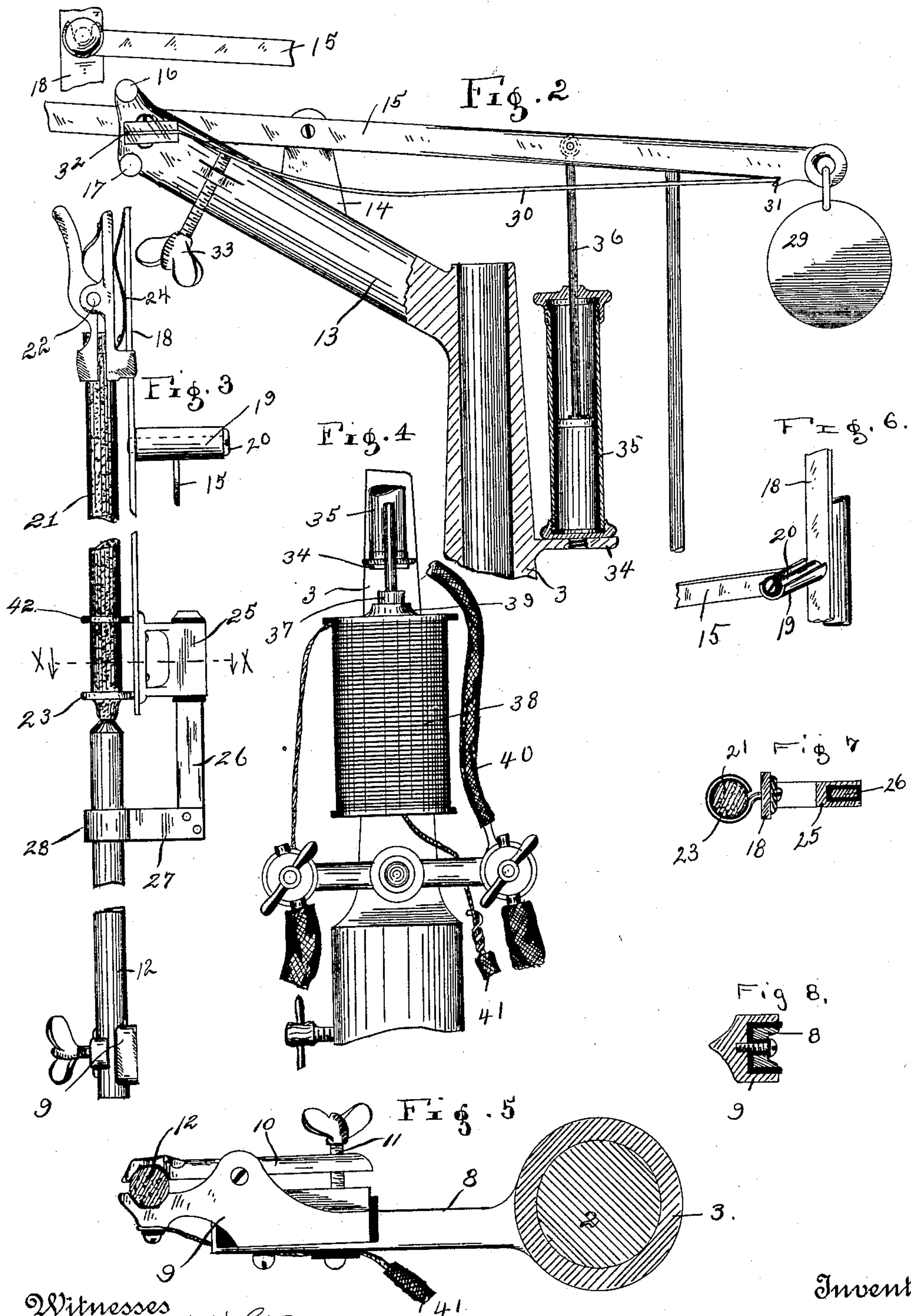
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UNITED STATES PATENT OFFICE.

GEORGE C. PYLE, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO
FRANK H. EWERS, OF SAME PLACE.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 556,898, dated March 24, 1896.

Application filed May 2, 1895. Serial No. 547,889. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. PYLE, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Arc Lamp; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

My invention relates to an arc lamp designed especially for electric headlights. For such purpose the lamp must be small, light, simple, powerful, and maintain the light at a certain point relative to the reflector.

The nature of my improvement will appear from the drawings and description following.

In the drawings, Figure 1 is a side elevation of my lamp. Fig. 2 is an enlarged detail of the upper portion of the lamp-post, portions being in section. Fig. 3 is an elevation of the electrodes and their supports. Fig. 4 is an elevation of the central portion of the lamp-post. Fig. 5 is a section on the line B B of Fig. 1, giving a plan view of the support of the lower electrode. Fig. 6 is a detail of means for supporting the holding-bar for the upper electrode. Fig. 7 is a section on the line X X of Fig. 3. Fig. 8 is a section on the line A A of Fig. 1. Fig. 9 is a diagram of the circuit.

On a suitable base 1, having a base-post 2, I mount the lamp-post 3 by hollowing its lower end and fitting it over the base-post. Thus the lamp-post is vertically movable and is adjusted and held by the screw-bolt 4, that extends through the arm 5, which is rotatably secured at its lower end in the base and has the nuts 6 and 7.

Extending from the lower portion of the lamp-post there is an arm 8, having the clutch or clamping device 9 mounted thereon. This clamp device is insulated from the arm, and consists of a main portion and a small clamping-lever 10, operated by the screw-bolt 11, whereby the lower electrode 12 is firmly supported. The upper portion of the lamp-post is also provided with an arm 13, having the fulcrum 14, to which the lever 15 is centrally pivoted. On the outer end of the arm 13 there are two stops 16 and 17 to limit the move-

ment of the lever. One end of the lever carries or supports the holding-bar 18 by means of the trough-shaped bracket 19, in which fits the pin 20 from the holding-bar. The holding-bar 18 is held parallel and close to the upper electrode 21. At the upper end of the holding-bar is the clutch or clamp mechanism 22 for holding the upper end of the upper electrode. At the lower end of the holding-bar a ring 23 is secured for supporting the upper electrode at its lower tapering end. The diameter of the ring is slightly less than the diameter of the main body of the electrode, so the latter cannot slip through the ring. The ring 42 holds the upper electrode from being shaken out of place. As the upper electrode is consumed, it by gravity drops down on the ring, always presenting a conical point below the ring to the lower electrode. Between the clutch mechanism 22 and the holding-bar I place a spring-contact piece 24. At the lower end of the holding-bar I secure a bracket 25, to which is secured the rod 26 with insulation between them. An arm 27 is fastened at the lower end of the rod and carries a ring 28, that loosely encircles the portion of the lower electrode and holds it in place. From this construction it is seen that the means for holding the upper electrode may be readily removed by merely lifting it out of its support, the bracket 19.

In this lamp the lower electrode is preferably made of metal and the upper one of carbon, and the arc is regulated through the upper one. To this end I suspend from the rear end of the lever 15 the weight 29. A flat spring 30 is held at its ends at 31 and 32 and rendered adjustable by the screw 33, so that it tends to support the weighted end of the lever. These two means, the weight and the spring, co-operate to counterbalance the weight of the upper electrode and holding mechanism on the other end of the lever.

On a bracket 34 I mount a dash-pot 35 with its piston 36 connected to the lever 15. This dash-pot checks the sudden movement of the lever 15. The lever is regulated in its action by the core 37 in the solenoid 38, that is secured to the bracket 39.

The main wire 40 is connected up with the

clutch mechanism 22 at the upper end of the upper electrode. The wire 41 extends from the clutch mechanism 9 at the lower end of the lower electrode to the solenoid.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an arc lamp, a bar mounted parallel with the upper electrode, a clutch mechanism at its upper end to hold the upper end of such
10 electrode, a ring extended from the lower end to support such electrode at its lower tapering end, and an extension down from such holding-bar insulated from it and provided with means for holding the upper end of the

lower electrode in place, substantially as set forth. 15

2. In an arc lamp, a lamp-post, a lever supported by such post and having on it a trough-shaped bracket, and a holding-bar for the upper electrode having a pin thereon that fits
20 in the bracket on the lever, substantially as set forth.

In witness whereof I have hereunto set my hand this 27th day of April, 1895.

GEORGE C. PYLE.

Witnesses:

V. H. LOCKWOOD,
VIENNA PURDY.