

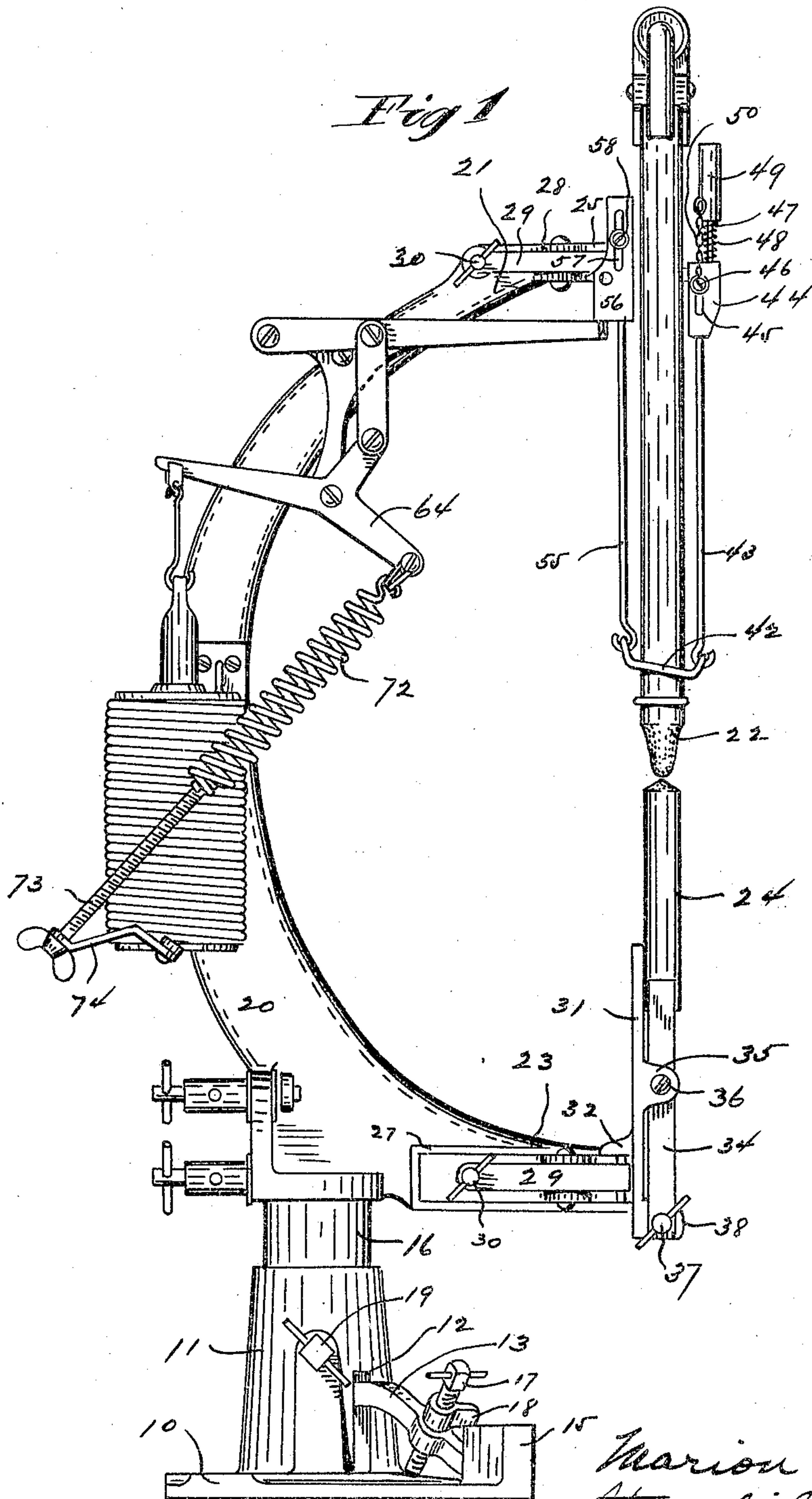
No. 794,565.

PATENTED JULY 11, 1905.

M. A. STOGSDILL.
ELECTRIC ARC LAMP.

APPLICATION FILED OCT. 26, 1904.

2 SHEETS—SHEET 1.



Witness

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Inventor

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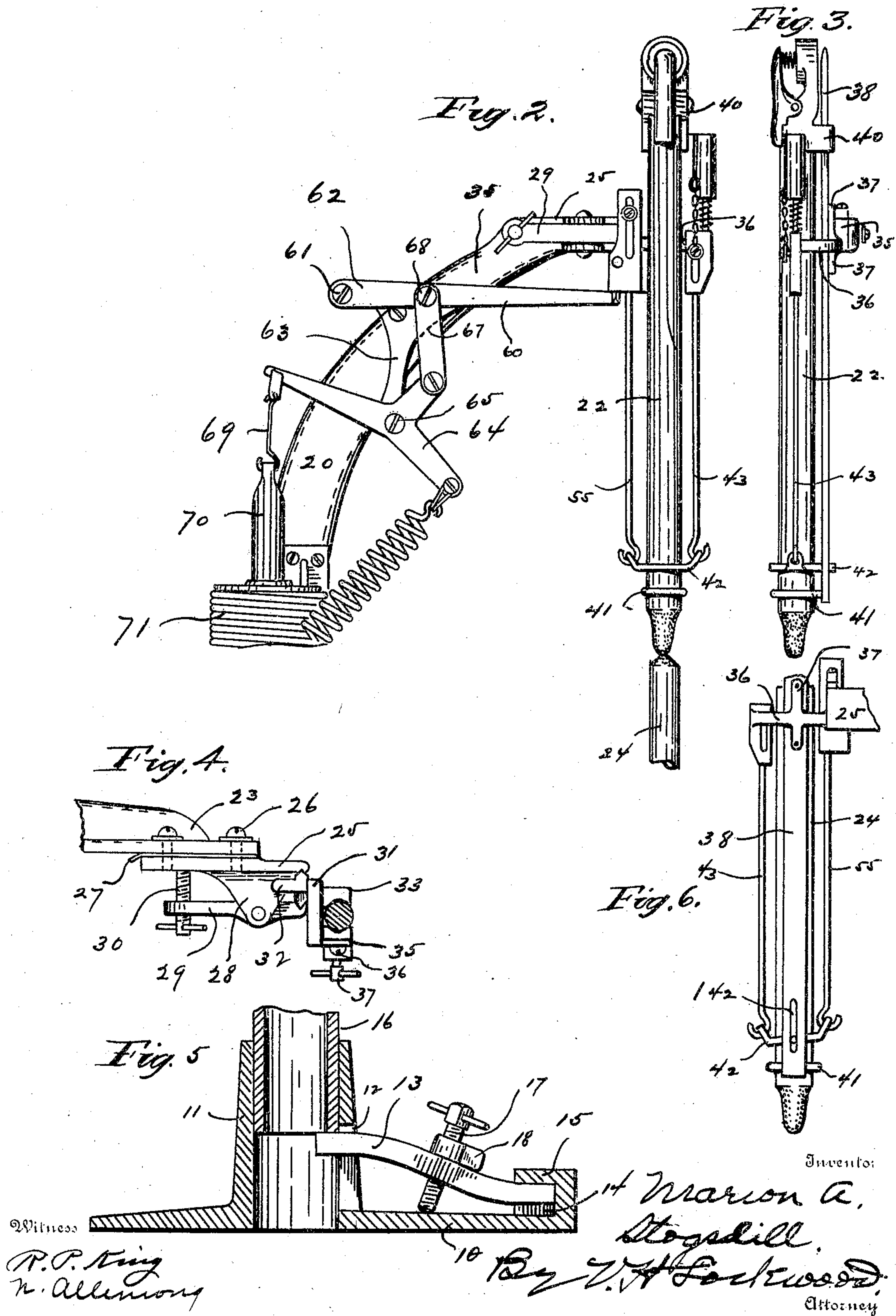
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

MARION A. STOGSDILL, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE
 PYLE ELECTRIC HEADLIGHT COMPANY, OF INDIANAPOLIS, INDIANA,
 A CORPORATION OF INDIANA.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 794,565, dated July 11, 1905.

Application filed October 26, 1904. Serial No. 230,113.

to all whom it may concern:

Be it known that I, MARION A. STOGSDILL, 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 figures refer to like parts.

This invention relates to improvements in electric-arc lamps, and especially those intended to be used in connection with electric headlights.

The object of this invention is to improve the operation of the lamp and the matter of regularity of the feed of the upper electrode.

The nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a side elevation of a lamp in operation, the arc being established. Fig. 2 shows the same without any arc. Fig. 3 is a front elevation of the upper electrode and its holding means. Fig. 4 is a plan view of the upper end of the main supporting-arm and attached parts and the electrode in cross-section. Fig. 5 is a central vertical section of the base and supporting-sleeve, the latter being broken away. Fig. 6 is a front elevation of the lower portion of the upper electrodes and means for holding same in holding position.

In detail a base 10 is provided with an upwardly-extending tubular stand 11, that is slotted at 12 vertically to receive the bar 13, that extends loosely into the sleeve 11 through said slot 12, that at its upper end is fulcrumed or fits loosely within a recess 14 in the extension 15 from the base, as appears in Fig. 5.

The lamp is supported on the tubular stand 16, that rests upon the inner end of the bar 13. The vertical position of the lamp is established and adjusted by means of a screw-bolt 17, that extends through a threaded aperture in the bar or lever 13, the lower end of the bolt resting upon the base. The operation of the screw 17 will elevate the lower or inner end of the bar 13. A set-nut 18 locks

this adjusting means after the desired adjustment has been attained. Another set-screw 19 is provided for the purpose of holding the lamp-stand 16 from rotation, it extending through the upward tubular extension 11 from the base and impinging on the tubular side of the stand 16.

Upon the tubular stand 16 there is mounted a curved stand 20 in the form of a segment of a circle with one arm 21 extending upward for holding the upper electrode 22, the other arm 23 extending downward for holding the lower electrode 24.

To the lower arm 23 of the curved lamp-stand there is secured a bracket 25 by means of screws 26 with insulation 27, said bracket having two parallel ears 28, one above the other. In said ears there is pivoted a lever 29, that is operated and held at one end by a set-screw 30 and at the other end has a vertically-extending notch opposite a similar one in the bracket 25, as seen in Fig. 4, for receiving and clamping the lower part of the holder 31. Said carbon-holder has a stop 32, that limits the downward movement of the carbon-holder by coming into engagement with the upper ear 28. Said carbon-holder has a back piece 33 at its upper end, against which the carbon 24 is held by the upper end of a lever 34, that is fulcrumed in the laterally-extending arm 35 by the screw 36 and is actuated into a clamping position by a set-screw 37 in the lower end of the lever 34, that presses against a lateral extension 38 at the lower end of the bracket 31. On the arm 21 at the upper end of a curved stand 20, a similar construction is provided for supporting the upper electrode-holding means. Between the clamping-jaws of the bracket 25 and the lever 29 there is clamped a frame 35 with an outwardly-extending arm 36, curved at its outer end, as seen in Fig. 3. It has upward and downward extensions 37, that have secured to them a vertical bar 38. An upper electrode-holder 40 slides vertically on said bar, it being loosely mounted thereon, so it can have a sliding movement. At the lower end of the bar 38 there is a guide-ring

41, through which the electrode loosely moves. Said bar also has a slot 142 near its lower end, in which an electrode-clutch 42 may move vertically.

5 As seen in Fig. 1, one side of the clutch 42 is held down by a rod 43, that has on its upper end a plate 44, slidably mounted by means of a slot 45, through which a screw 46 extends from the outer curved end of the arm 36. Said plate 45 has a small rod 47
10 extending up from it, around which a spring 48 is placed, and a weight 49 with a central vertical opening is mounted loosely on said rod 47 and is supported by said spring 48. Said weight is limited in its upward move-
15 ment under the action of said spring by a chain 50, that is fastened at its upper end to the weight and at its lower end to the stationary screw 46. It is thus seen that the spring 48 tends to push downward the rod
20 43 and one side of the clutch 42 and hold the same downward, and such holding means is controlled by the action of gravity on the weight 49.

25 The clutch is operated by and through a rod 55, connected with the clutch at the side opposite the connection of the rod 43. The rod 55 at its upper end is connected with a plate 56, having in it a vertical slot 57, through
30 which a screw 58 loosely extends from the upper end of the bracket 35. The clutch takes hold of the upper electrode when the plate 56 is elevated, as shown in Fig. 1, and releases it when said plate 56 is depressed,
35 as shown in Fig. 2.

Electrically-controlled means is provided for holding the plate 56, and therefore the clutch, in the upper position, consisting of a lever 60, fulcrumed to a bracket 35 at 61 by
40 means of an arm 62, extending to the left from said bracket. Said bracket has also an arm 63 extending downward from its lower end, in which a three-arm lever 64 is pivoted at 65. To the central arm of said lever a connecting-bar 67 is pivoted at its lower end,
45 and said connecting-bar at its upper end at 68 is pivoted to the lever 60 between its ends, as seen in Figs. 1 and 2. One arm of the lever 64 is connected by a link 69 with a core
50 70 of the solenoid 71, which is connected with the lamp-stand 20. Another arm of the lever 64 is drawn downward by a spring 72, that is connected at its lower end with a screw 73, mounted in the bracket 74. The spring 72
55 opposes the action of the solenoid.

The wiring is not herein shown, as that is familiar to all skilled in the art. It is understood by such persons the energization of the solenoid actuates the lever 64 by drawing
60 down the arm to which the core is attached and against the action of the spring 72, and that action of the lever 64 causes the connecting-bar 67 to push upward on the lever 60,

and thereby elevates the clutch 50 and the upper electrode to establish the arc.

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

1. In an arc-lamp, a clutch for holding the upper electrode, a rod connected with said clutch for operating it, a lever fulcrumed at one end to the frame and at its other end adapted to elevate said rod, a bell-crank pivoted to the frame, a solenoid for actuating said bell-crank, and a connecting-rod between said bell-crank and lever for transmitting power from the former to the latter.

2. In an arc-lamp, a clutch consisting of a ring of larger diameter than the electrode, means for holding one side of said clutch down, a rod connected with the other side, a vertically-slidable plate to which the upper end of said rod is connected, a lever fulcrumed to one end of the frame and at the other end extending under said plate, a bell-crank lever pivoted to the frame, a connecting-rod for transmitting power from the bell-crank to said lever, a solenoid for actuating said lever to elevate one side of the clutch, and a spring connected with the bell-crank for resisting the action of the solenoid.

3. In an arc-lamp, a curved stand with upper and lower outwardly-extending ends, means connected with the lower end for supporting the lower electrode, a bracket connected with the upper end of the standard, said bracket having a curved arm extending outwardly horizontally from it, a vertical guide-bar secured to said end, an upper electrode-holder vertically slidable on said guide-bar, a plate slidably mounted on the extreme end of said arm, a loose clutch engaging the upper electrode, a rod connected with one side of said clutch at the lower end and with said slidable plate at its upper end, a pin extending upward from said plate, a spiral spring surrounding said pin, a weight loosely movable on said pin, means for limiting the upward movement of said weight, a plate vertically movable on said bracket, a rod connected with said plate and extending down into engagement with said clutch, a lever pivoted at one end to said bracket and at the other end supporting said last-mentioned slidable plate, a bell-crank lever mounted on said bracket, a connecting-rod pivotally connecting said bell-crank and lever, a solenoid for actuating said bell-crank to elevate the clutch, and a spring for resisting the action of the solenoid.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

MARION A. STOGSDILL.

Witnesses:

NELLIE ALLEMONG,
V. H. LOCKWOOD.