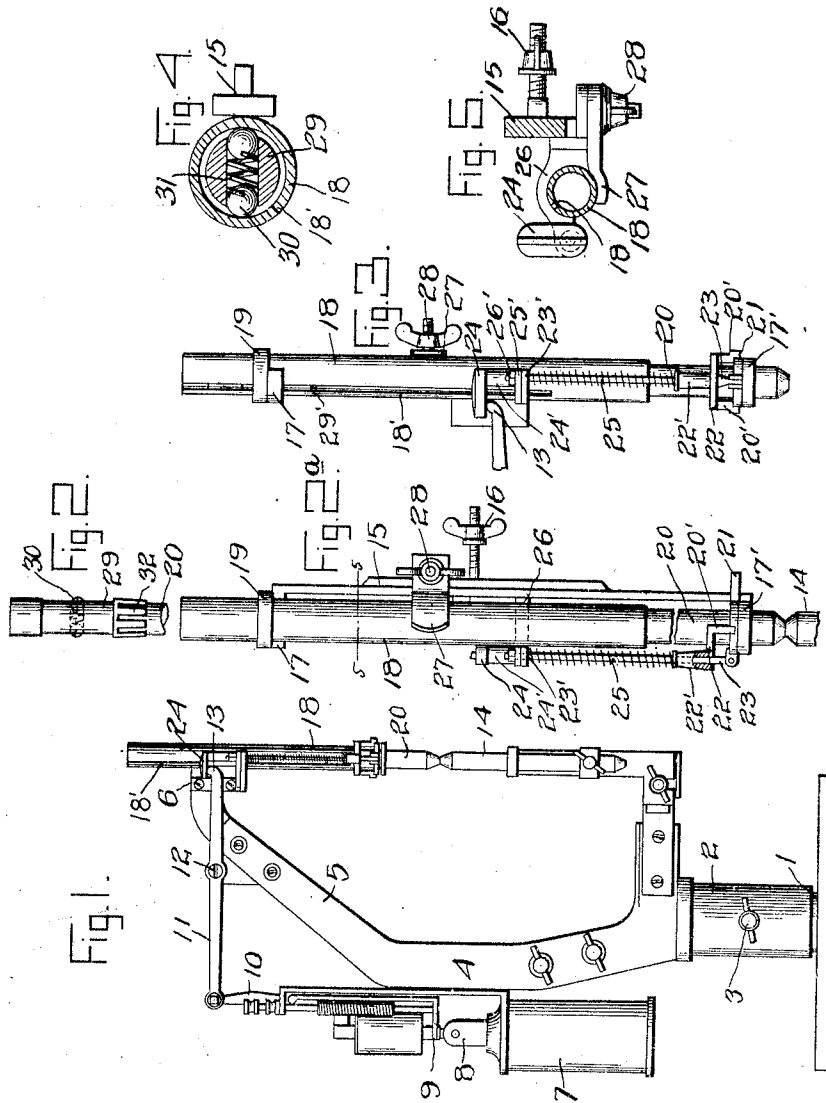


T. J. ANDERSON.
ARC LAMP.
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Patented June 28, 1910.



Witnesses

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ARC-LAMP.

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To all whom it may concern:

Be it known that I, THOMAS J. ANDERSON, a citizen of the United States, residing at Houston, in the county of Harris, State of Texas, have invented certain new and useful Improvements in Arc-Lamps, of which the following is a specification.

The present invention relates to arc lamps and has for its purpose to provide a device of that character wherein there is little or no sparking occasioned by the feeding of the electrode, to which end the invention comprises a carbon holder that is at all times in contact with its supporting member, thus permitting current to flow through the carbon holder while feeding.

A further purpose of the invention is to provide a carbon holder which will permit of the ready substitution of a new carbon, thus rendering the device particularly applicable for use in headlights for locomotives, automobiles, and the usual street arc lamps which are not in this respect readily accessible.

With the foregoing objects in view, my invention is shown in its preferred structure in the accompanying drawings wherein,

Figure 1 is an elevation of an arc lamp embodying my improved carbon holder, Fig. 2 is a detail view of the carbon holder proper, Fig. 2^a is a side elevation of the carbon holder supporting sleeve and its auxiliary parts, Fig. 3 is an elevation at right angles to Fig. 2^a, Fig. 4 is a sectional view of Fig. 3, and Fig. 5 is a sectional view on the line 5—5 of Fig. 2^a.

Referring to the several views more in detail, and with like characters designating corresponding parts in the different figures shown, the numeral 1 represents a post or projection from any suitable base, and 2 a socket loosely fitting thereon, which fitting is rendered adjustable by means of a set screw 3.

4 represents a standard or upright, the upper arm 5 of which is deflected and is adapted to be provided with a head 6.

7 designates a solenoid whose winding is in series with the lamp circuit and whose core or armature 8 is connected with the rod 9 which, by means of the link 10, is connected to the lever 11 that is in turn pivoted at 12 to the arm 5 of the standard 4. The free end of the lever 11 has an upturned and

rounded finger 13 adapted to effect movement of the carbon holder when the solenoid 7 becomes energized.

14 designates the lower electrode which is preferably of copper.

The parts thus far described form no part of the present invention and are not claimed therein inasmuch as they form the basis of a patent issued to Benjamin B Lacy No. 911,409, and dated February 2, 1909, which patent is now owned by the company to which the present invention is assigned.

The head 6 of the arm 5 is adapted to support the carbon holding frame 15 for which purpose said frame is fitted with a clamping screw 16 as shown in Figs. 2^a and 5. The frame 15 is provided with an upper semi-circular supporting arm 17 and with a lower guiding ring 17', the purpose of which support and guide will be presently explained.

The numeral 18 designates the guiding tube for the carbon holder which tube is provided near its upper end with a stop 19 which is adapted to rest upon the upper arm 17 of the frame 15 and hold said guiding tube against downward movement. The guide tube 18 is held within the frame 15 by means of the fixed arm 26 that is formed integral with the frame 15, and with which coöperates the clamp 27. Said clamping member is adjustably secured to the frame 15 by means of a thumb screw 28.

The carbon holder proper comprises the member 29 provided near its upper end with a transverse opening into which two or more ball bearing contacts 30 are seated and which are held in their respective operative positions by means of a coil spring 31 interposed between said balls as shown in Figs. 2 and 4. The lower portion of the carbon holder 29 is slitted to provide a plurality of fingers 32 whose function is to hold the carbon electrode 20 within the guiding tube 18. It will therefore be clear that by reason of this particular type of carbon holder there is always contact between said carbon holder and its guiding tube 18, thus insuring a constant current through said carbon 20 irrespective of its feeding within the guiding tube. The carbon holder 29 is preferably provided with a screw or projecting pin 29' adapted to have movement in a vertical slot 18' which extends from the top of the tube 18 to a point sufficiently above the bottom

thereof to prevent the holder or thimble 29 coming in contact with the copper electrode when the carbon electrode is exhausted.

From the foregoing it will be seen that 5 the guiding tube 18 is supported in such manner that it may be readily removed in a lateral direction when it is necessary to insert a new carbon. And it will also be seen 10 by withdrawing the holder 29 through the medium of the pin 29'. In both of these instances, it will be clear that a new electrode may be replaced in total darkness and without the likelihood of the feeding electrode being out of line with the fixed electrode.

The means for automatically effecting the feeding of the carbon 20 through the action of the solenoid 7 comprises a clutch 21 pivotally mounted on the lower end of a vertically disposed rod 23, which rod at its upper end passes through a guiding plate 23' that is formed integral with the member 26. The rod 23 also passes through a movable 25 plate 25' and is provided with a securing nut 26' that binds against the upper face of said movable plate 25'. Said plate 25' has a shank 24' carrying an integrally formed head 24 which head is that member that is 30 engaged by the lever end 13 and effects the feeding of the carbon 20 through the action of the solenoid. The clutch 21 is assisted or rather positively actuated by means of the canting arm 22 movably mounted 35 through its sleeve 22' on the rod 23. The canting member 22 straddles the carbon 20, and by means of its depending portions 20' lies normally in contact with the clutch 21. The operation of this canting member is effected by the spring 25 that is carried by the 40 rod 23, and seats against the fixed member 23' and the sleeve 22. It will therefore be clear that when the lever 11 lifts the head 24, said head by reason of its connections 45 24' and 25' will lift the rod 23 against the action of the spring 25 and cause said spring to exert its tension upon the canting member 22. As the rod 23 is lifted, the canting member 22 will depress the clutch 21 and 50 cause the same to grip the carbon 20 at opposite points, and consequently lift the same as will be obvious.

Having thus described my invention, what I claim as new therein and desire to secure 55 by Letters Patent, is:—

1. A carbon holder comprising a guiding tube constructed to receive a carbon, means

supporting said guiding tube, said supporting means comprising a vertically disposed bar having at its upper end a shoulder 60 adapted to receive and support said guiding tube, an arm below said shoulder, and a clamp for holding said tube against the shoulder and arm; and a clutch adapted to be automatically operated carried by said 65 tube supporting means.

2. A carbon holder comprising a guiding tube constructed to receive a carbon, a frame supporting said guiding tube comprising a bar having at its upper end a shoulder 70 adapted to receive and support said tube, and having its lower end formed with a ring, an arm intermediate the ring and shoulder, and a clamp for holding the tube against said shoulder and arm; a rod depending 75 from the frame, a clutch adapted to be automatically operated and effect the feeding of the carbon, said clutch comprising a member pivotally mounted on said depending rod and normally supported by the ring of the 80 supporting frame, a canting member carried by said rod and adapted to depress said clutch member, and a spring carried by the rod adapted to actuate the canting member.

3. A carbon holder comprising a thimble 85 constructed to receive a carbon, a guiding tube for said thimble, means for effecting contact at all times between said thimble and tube, a frame supporting said guiding tube comprising a bar having at its upper 90 end a shoulder adapted to receive and support said tube, and having its lower end formed with a ring, an arm intermediate the ring and shoulder, and a clamp for holding the tube against the shoulder and arm, a 95 rod depending from the frame, a clutch adapted to be automatically operated and effect the feeding of the carbon, said clutch comprising a member pivotally mounted on the depending rod and normally supported 100 by the ring of the frame, a canting member adapted to depress said clutch, said canting member being mounted to slide on the depending rod and having legs straddling the carbon and contacting with opposite sides 105 of the pivoted member, and a spiral spring on the depending rod normally depressing said canting member.

The foregoing specification signed this 18th day of July, 1908.

THOMAS J. ANDERSON.

In presence of two witnesses:

CHAS. H. KOENIG,
J. C. WOODWORTH.