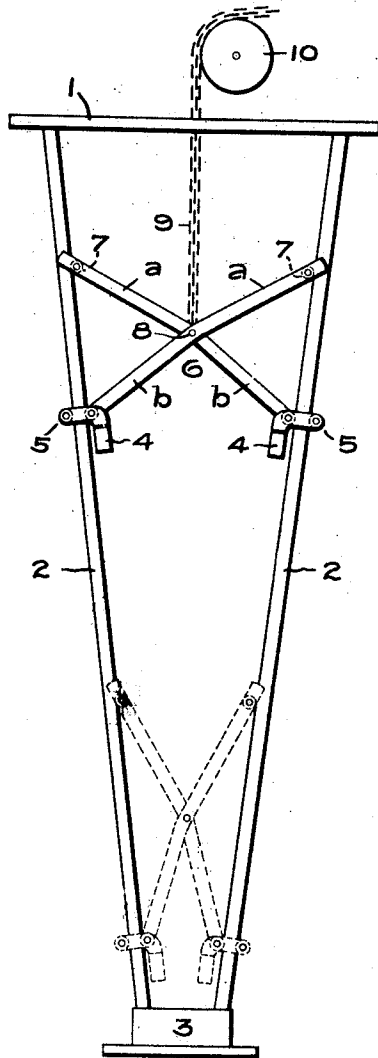


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ARC LAMP.
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1,023,293.

Patented Apr. 16, 1912.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAV BALDAUF, OF AUGSBURG, AND ERNST PRESSER, OF BERLIN, GERMANY, ASSIGNORS TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ARC-LAMP.

1,023,293.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed October 30, 1909. Serial No. 525,416.

To all whom it may concern:

Be it known that we, GUSTAV BALDAUF and ERNST PRESSER, subjects of the Emperor of Germany, residing at Augsburg and Berlin, Germany, respectively, have invented certain new and useful Improvements in Arc-Lamps, of which the following is a specification.

This invention relates to that type of electric arc lamps in which the electrodes converge, being carried in holders which slide on stationary converging rods forming a frame for the lamp. The two holders are usually supported on a horizontal rail, on which they can move inwardly toward each other during the downward movement of said rail toward the converging ends of the guide-rods. This rail requires a central vertical guide-rod, and in order to dispense with this and the rail as well and further simplify the construction, we have designed the present invention.

We attach the two holders to the respective ends of two bars each of which crosses over to the opposite side of the frame and there engages slidably by its upper end with the guide-rod on that side of the lamp. The two bars are pivoted together at their intersecting point and are suspended at that point by a cord or chain which is paid out by the regulating mechanism of the lamp in order to feed the electrodes downward. Owing to the convergence of the guide-rods, it is necessary to bend the cross-bars at their meeting point so that both arms of each bar may be of the same length and make equal angles with the guide-rods. This insures the proper engagement of the cross-bars with the guide-rods during the entire travel of the bars between said rods.

The accompanying drawing is a side elevation of a frame, sliding holders, and cross-bars embodying one form of our invention.

The platform 1 affords a support for the electromagnetic regulating mechanism, which is omitted from the drawing for the sake of simplicity. Attached to the under side of this platform are two rods 2 which converge downwardly to a base 3 which may serve as the economizer of the lamp. The two electrode-holders 4 are mounted to slide respectively on the rods 2, the electrodes passing down through openings in the economizer, as usual. The holders are preferably provided

with anti-friction rollers 5 on both sides of the rods. A bar 6 is pivoted to each holder and extends obliquely upward and across to the opposite guide-rod, on which it is constructed to slide, preferably with an anti-friction roller 7. At the point where the bars cross each other they are pivoted together by the pin 8. A chain or cord 9 may be attached at this point and run up over a pulley 10 to the regulating mechanism, if such is employed. The invention is not, however, limited to that class of lamps, but may be applied to those using supported electrodes or electrodes provided with a combustion edge.

In order to maintain guiding contact between the cross-bars and the guide-rods at all times, it is necessary that both arms *a*, *b* make equal angles with the rod; that is, that the two arms abutting against each rod form therewith an isosceles triangle. This requires both of said arms to be of the same length, and, inasmuch as the guide-rods converge downwardly, the arm *b* of each bar must make an obtuse angle with its arm *a*, said angle being the supplement of the angle at which the guide-rods would meet if extended. Thus, if this angle, as shown in the drawing, is about 15 degrees, then the angle between the two arms *a* and *b* of each cross-bar is about 165 degrees.

The carbon holders have sufficient play on the guide-rods to permit the tip of one electrode to be drawn laterally away from the other by the usual mechanism, in order to establish the arc. Or, if desired, the necessary separation of the electrodes may be effected by lifting both electrodes slightly.

In accordance with the provisions of the patent statutes, we have described the principle of operation of our invention, together with the apparatus which we now consider to represent the best embodiment thereof; but we desire to have it understood that the apparatus shown is only illustrative, and that the invention can be carried out by other means.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. In an arc lamp, the combination with converging guide-rods, of carbon holders sliding thereon, and cross-bars pivoted to said holders and to each other and guided at their ends on said rods.

2. In an arc lamp, the combination with converging guide-rods, of carbon holders sliding on said rods, and cross-bars pivoted to said holders and to each other at their point of intersection and guided at the ends opposite to the carbon holders on said guide rods, each of said cross-bars having two arms meeting at an obtuse angle.
3. In an arc lamp, the combination with converging guide-rods, of carbon holders sliding thereon, and cross-bars pivoted to said holders and to each other at their point of intersection, the opposite end of said cross-bars engaging the opposite guide rods, all of the angles between the various arms of said cross-bars and their guide rods being equal.
4. In an arc lamp, the combination with converging guide-rods, of carbon holders sliding thereon, and cross-bars pivoted to said holders and to each other and guided

on said rods, each bar comprising two arms meeting at an angle which is the supplement of that at which said rods would meet if extended.

5. In an arc lamp, the combination with converging guide-rods, of carbon holders sliding thereon, and cross-bars pivoted to said holders and to each other and guided on said rods, the arms of said bars abutting against each rod, making therewith an isosceles triangle at all points in the travel of said bars.

In witness whereof, we have hereunto set our hands this 17 day of September, 1909.

GUSTAV BALDAUF.
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