

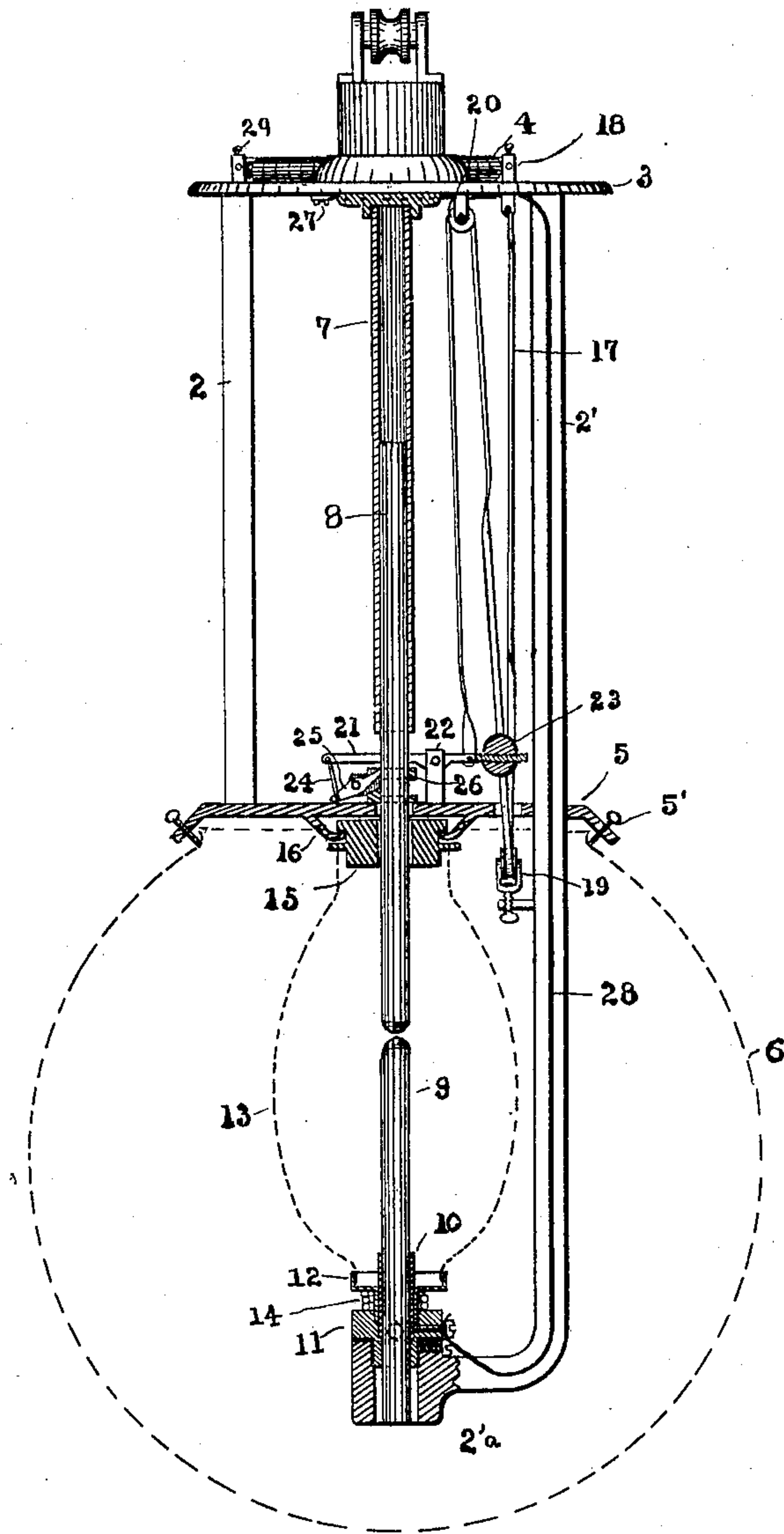
No. 654,679.

Patented July 31, 1900.

C. SCHUSTER.
ELECTRIC ARC LAMP.

(Application filed June 13, 1899.)

(No Model.)



WITNESSES:

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CARL SCHUSTER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO PITTSBURGH ELECTRICAL AND MACHINE WORKS, OF SAME PLACE.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 654,679, dated July 31, 1900.

Application filed June 13, 1899. Serial No. 720,391. (No model.)

To all whom it may concern:

Be it known that I, CARL SCHUSTER, a citizen of the United States of America, and a resident of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Arc-Lamps, of which the following is a specification.

In the accompanying drawing, which makes part of this specification, the figure shows an arc-lamp partly in elevation and partly in section.

The purpose of my invention, generally stated, is to devise a shorter, more compact, simpler, and less expensive arc-lamp of the type wherein the feeding of the carbon is effected by means of an expansive strip.

The principle of operation of my lamp does not differ substantially from other electric lamps in the market.

In the drawing, 2 2' are the side bars of the lamp-frame.

3 is the top disk, upon which rests the usual rheostat 4.

5 is the lower disk, having a depending flange 5', to which the outer globe 6 is attached by means of set-screws.

7 is the holder for the upper carbon 8.

9 is the lower carbon, supported in holder 10, resting upon block 11.

12 is a cup-shaped socket in which rests the inner globe 13, held up by spring 14. The upper end of the inner globe 13 is closed by means of a cap 15, supported by flange 16 on the under side of disk 5.

The lower end of frame-piece 2' is provided with an opening 2^a for the insertion and removal of the carbons, as hereinafter described.

17 is an expansive strip running from binding-post 18 down and around a roller 19, supported on the frame-piece 2', thence back over roller 20, supported from the under side of the upper disk 3, and thence down to and connected with a lever 21, supported on post 22, set on disk 5, said lever 21 being provided at its right-hand end with a weight 23, adjustable in and out. The left-hand end of the lever 21 is connected by link 24 with a pivoted pawl which engages with a clutch on the upper carbon 8.

The course of the circuit is as follows: from binding-post 29 through rheostat 4,

binding-post 27, wire 28, lower carbon 9, upper carbon 8, pawl 25, link 24, lever 21, up expansive strip around roller 20, back around roller 19, up to binding-post 18 and out. The rollers 19 20, post 22, binding-posts 18, 27, and 29, and block 11 are insulated from the other parts of the lamp.

Assuming there are no carbons in the lamp, the lamp is trimmed in the following manner: The upper carbon is inserted through the opening 2^a and pushed up into its holder. The lower carbon is inserted through the same opening and clamped in suitable position. The weight 23 is adjusted to give the required tension to the expansive strip 17. The inner globe with its spring-socket is snapped in position. The outer globe 6 is secured in place. In operation, when the current passes through the expansive strip 17 it lengthens the same. The weight 23, being permitted to fall, will throw up the left-hand end of the lever 21, pressing pawl 26 against the upper carbon and pulling the same up. Vice versa when the strip contracts.

By actual experience I have found that the mechanism thus described proves very effective in feeding the upper carbon, while the construction is simple and inexpensive. By returning the expansive strip upon itself several times by means of different rollers I condense the length of the lamp. My means for supporting both the inner and outer globes are also novel and desirable. By the use of the expansive strip controlled by my weighted lever I secure a uniform, slow, continuous feeding of the upper carbon instead of a dropping feed. My arc therefore is steady instead of flickering and subject to rapid changes.

My lamp is adapted to use with either an alternating or direct current.

Having described my invention, I claim—

1. In arc-lamps, the combination of an expansive strip forming a part of the circuit and continuously receiving the full force of the current, said strip being returned upon itself; a roller supporting the bend of said strip; a pivoted lever connected to one end of said strip; a pawl connected to the other end of said lever and engaging with a clutch on the upper carbon; and a weight adjustable on said lever serving to regulate the ten-

sion of the strip and to assist in regulating the feed of the carbon.

2. In an arc-lamp, the combination of an expansive strip to control the feed of the carbon said strip forming a part of the circuit and continuously receiving the full force of the current; a roller upon which said strip is carried in plural folds; and an adjustable weight by which the tension of the strip is controlled and regulated.

3. In an arc-lamp, the combination of an expansive strip adapted to be contracted and expanded by the passage through it of an electric current; a pivoted lever connected to one end of said strip; a pawl connected to the other end of said lever and engaging with a clutch on the upper carbon; and a weight ad-

justable on said lever serving to regulate the tension of the strip and to assist in regulating the feed of the carbon.

4. In arc-lamps the combination of side bars; a disk supported by said side bars; a flange or catch on the under side of said disk; a cap for the inner globe supported by said flange or catch; said inner globe; a second flange on the periphery of said disk and an outer globe supported from said second flange.

Signed by me at Pittsburg, Pennsylvania, this 5th day of June, A. D. 1899.

CARL SCHUSTER.

Witnesses:

WM. L. PIERCE,
LUCY DORSEY IAMS.