W. WALLACE.
Electric-Light.

No. 198,436. Patented Dec. 18, 1877.

Fig. 1.

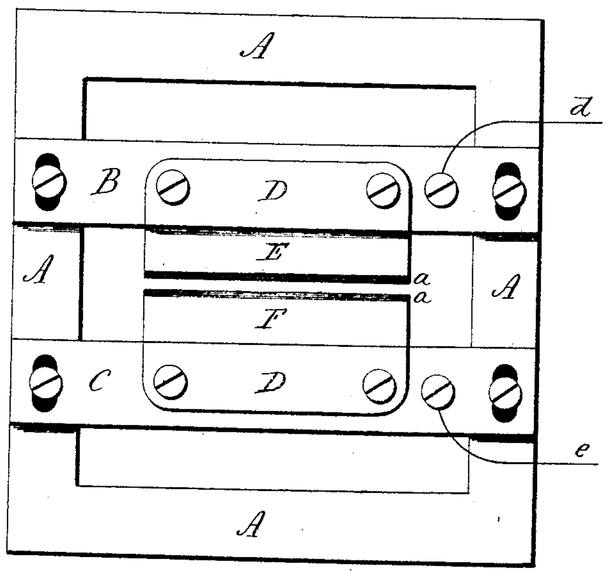
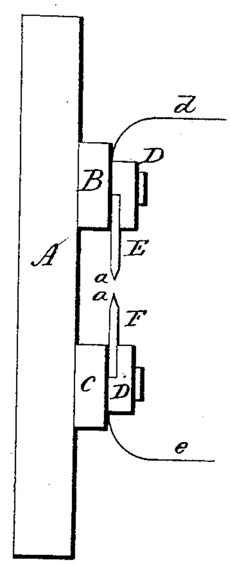


Fig. 2



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE, OF ANSONIA, CONNECTICUT.

IMPROVEMENT IN ELECTRIC LIGHTS.

Specification forming part of Letters Patent No. **198,436,** dated December 18, 1877; application filed November 14, 1877.

To all whom it may concern:

Be it known that I, WILLIAM WALLACE, of Ansonia, in the county of New Haven and State of Connecticut, have invented a new Improvement in Electric Lamp; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, front view; Fig. 2, side view.

This invention relates to an improvement in electric lighting apparatus, and particularly to a device which may be arranged at any desirable point, and which employs two pieces of carbon, nearly approaching each other, and between which the electric arc is formed, and where the carbons are consumed.

In the usual construction these carbons have been in pencil shape, square, or polygonal, and arranged so that they come in the axial line of each other, and so that the point of one is presented to the point of the other. In such a lamp the carbon will only burn while the points of the two are within a certain distance of each other. So soon as that distance is exceeded the current is broken and the light is extinguished.

Various devices have been resorted to to cause the carbons to automatically approach each other as they are consumed, and so as to hold them always in the proper relative position to each other; but these devices are necessarily complicated and expensive, rendering such a lamp impracticable for general use.

The object of this invention is to overcome the necessity of this constant readjustment of the carbons; and it consists in a pair of carbons having an extended working edge, arranged so as to bring their edges substantially parallel to each other and to the said carbons, each held in a suitable support, and each connected to its respective pole of the electric power, and so that the circuit may be made at any point in the said extended or parallel edges of said carbons, as more fully hereinafter described.

In illustration, the simplest arrangement is shown, in which A represents a frame, of wood or other suitable material, in dimensions according to the purpose for which the lamp is intended. Across this frame are two metallic bars, B C, on each of which a suitable clamp or holder, D, is arranged to receive the respective carbons E F. These carbons are made in the form of thin plates, and so as to present the two edges *a* parallel to each other, or nearly so.

From one pole of the electric power a wire, *d*, is brought to the bar B, or to the support for the carbon E, and to the other bar, C, or support for the carbon F, a wire, *e*, is brought from the other pole; hence, when the electricity is applied, the space between the two carbons E F forms the arc in which the circuit is made.

To make the circuit and start the light, the electricity is applied, and with any suitable device the circuit is made at any point between the two edges of the carbon, preferably beginning at one end. The flame will burn at the point at which it is ignited until the carbon is consumed at that point; then it will attack the nearest point, working back and forth on the edge, generally for a short distance, until so much of the carbon over that portion is consumed as to nearly break the circuit. This will force the current to an adjacent point, where a less arc is found, and will so continue back and forth until the entire edges of the carbons are consumed to such an extent that the circuit can no longer be maintained between the two edges; but the time which is necessary to so far consume these extended edges is so great that light, after such a time, would not usually be desired; and in consequence of such extended edges, and continued burning along those edges, the constant readjustment of the carbons and the mechanism necessary to render such adjustment are avoided, and a lamp produced having equal brilliancy to any electric light, thoroughly practicable in its operation, and so cheap in its construction as to render it practicable for general purposes.

In practice, the frame is suspended at the point from which it is desired that the light shall proceed, or may be arranged upon a supporting-stand, or an entirely different construction for supporting the carbon-holders may be employed without departing from this

invention, it only being essential that there shall be two carbons, each with extended edge, and parallel to each other, and each connected with its respective pole. When so much of the carbon is consumed they may be replaced or may be readjusted.

I claim—

The herein-described electric lamp, consisting of a pair of carbons, each presenting an extended edge parallel to each other, combined with means for holding said carbon, and connection with the respective poles, substantially as described.

WM. WALLACE.

Witnesses:
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