W. E. SAWYER.

ELECTRIC-CANDLES.

No. 194,500. Patented Aug. 21, 1877.

Fig 1.

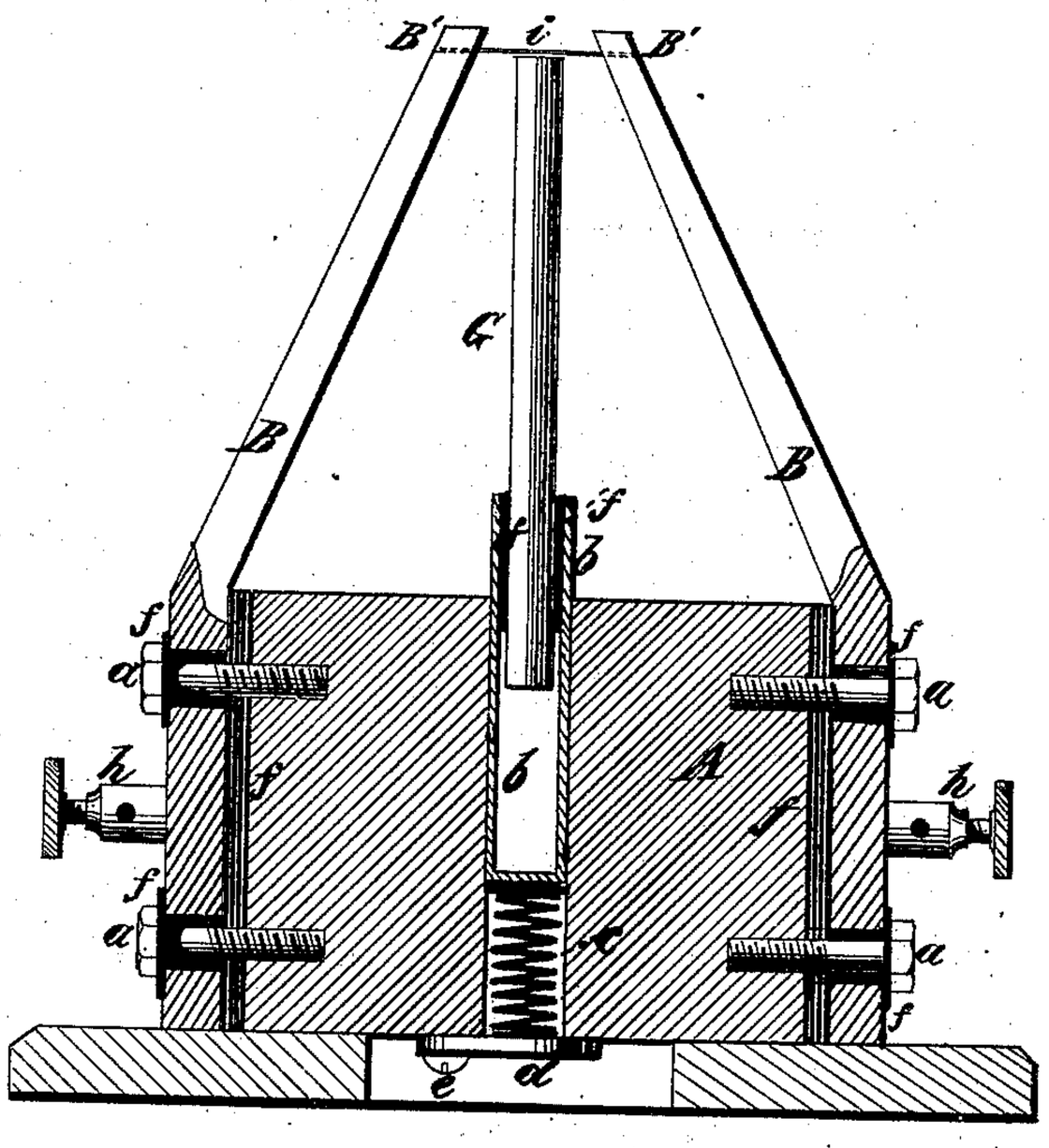
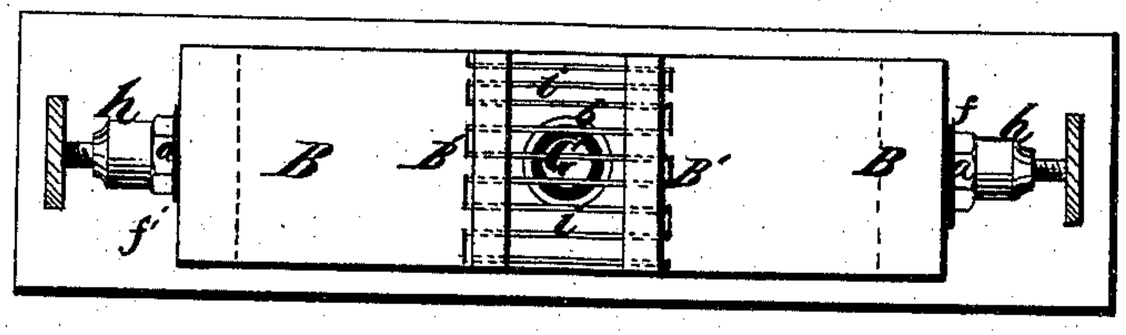


Fig. 2.



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WILLIAM E. SAWYER, OF NEW YORK, N. Y.

IMPROVEMENT IN ELECTRIC CANDLES.

Specification forming part of Letters Patent No. **194,500**, dated August 21, 1877; application filed June 22, 1877.

To all whom it may concern:

Be it known that I, WILLIAM EDWARD SAWYER, of the city, county, and State of New York, have invented a certain new and useful Improvement in Electric Candles, of which the following is a full, clear, and exact description.

My invention consists in an arrangement and combination of parts whereby I am enabled to place a considerable number of electric candles in a single circuit, and to dispense with the use of the carbon points ordinarily employed in electric lights. I cause the electric current to heat to incandescence a platina wire or wires, by the bearing of which against, preferably, white refractory substances, such as clays, lime, &c., the heat is transferred to those substances, and a soft glowing light results. I do not, however, limit myself to the employment of platina wire, or to the heating of any particular substance.

In the drawings accompanying and forming a part of this specification, Figure 1 is a sectional view, and Fig. 2 a top view, of the candle.

A is a non-conducting, or preferably non-conducting, base, which may be constructed or attached to brackets, &c., of any ornamental form. The candle may be put up in the manner common to table-lamps, or attached to the walls of a room, or suspended from the ceiling, with the light downward, as desired. To the base A are fixed two conductors of electricity, B B, between which and the base are interposed non-conductors of heat *f f*. Around and under the heads of the screws *a*, by which the conductors B are fastened to the base, are also placed non-conductors of heat *f*. Across the ends of the conductors B B, at B′ B′, are stretched platina wires *i* of requisite fineness, preferably, as shown, in parallel lines, close together. To the pieces B B are fixed binding-posts *h h*, in which the battery-wires are held. Sliding in a hole through the base A is a tube, *b*, in which, protected by a non-conductor of heat, *f*, is held a stick of clay or lime, G, as hereinbefore mentioned, which, by the action of a spiral spring, *c*, is forced against the wires *i*. The button *d*, working on pivot *e*, keeps the spring in place, and, when thrown off, allows the spring, tube, and stick to be removed.

It is obvious from the foregoing that the electric current traversing the conductors B B and wires *i* heats the latter to a degree corresponding to the strength of current, and, as the stick of clay or lime is forced to a constant bearing upon the wires, light is produced corresponding in intensity to the strength of current.

By my invention the cost of illumination by electricity is reduced to a minimum, and almost any number of candles may be placed in the circuit either of a galvanic battery or a magneto electric generator.

It is clear that I may combine the candle of my invention with any of the well-known devices for securing reflection or diffusion of the light.

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

1. The method of obtaining an electric light, consisting in heating a refractory substance by bringing it in contact with a heated conductor of electricity.

2. An electric candle, in which a conductor of electricity, heated to any desired degree of intensity, renders luminous a non-conducting substance in contact therewith, as set forth.

3. An electric candle, in which the circuit producing the light is entirely metallic, in combination with a substance which is rendered luminous by heating.

4. An electric candle, in which the light is produced by the direct action of the electric current upon its conductor, in combination with a clay, lime, or other refractory substance, substantially as shown and described.

5. In an electric candle, the combination, with a refractory substance, rendered luminous by heat, of apparatus for forcing the same to a constant bearing against a heated conductor, substantially as shown and described.

WILLIAM EDWARD SAWYER.

Witnesses:

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