

(No Model.)

C. B. BOSWORTH & F. A. SWAN.

ARC LAMP CUT-OUT.

No. 278,679.

Patented June 5, 1883.

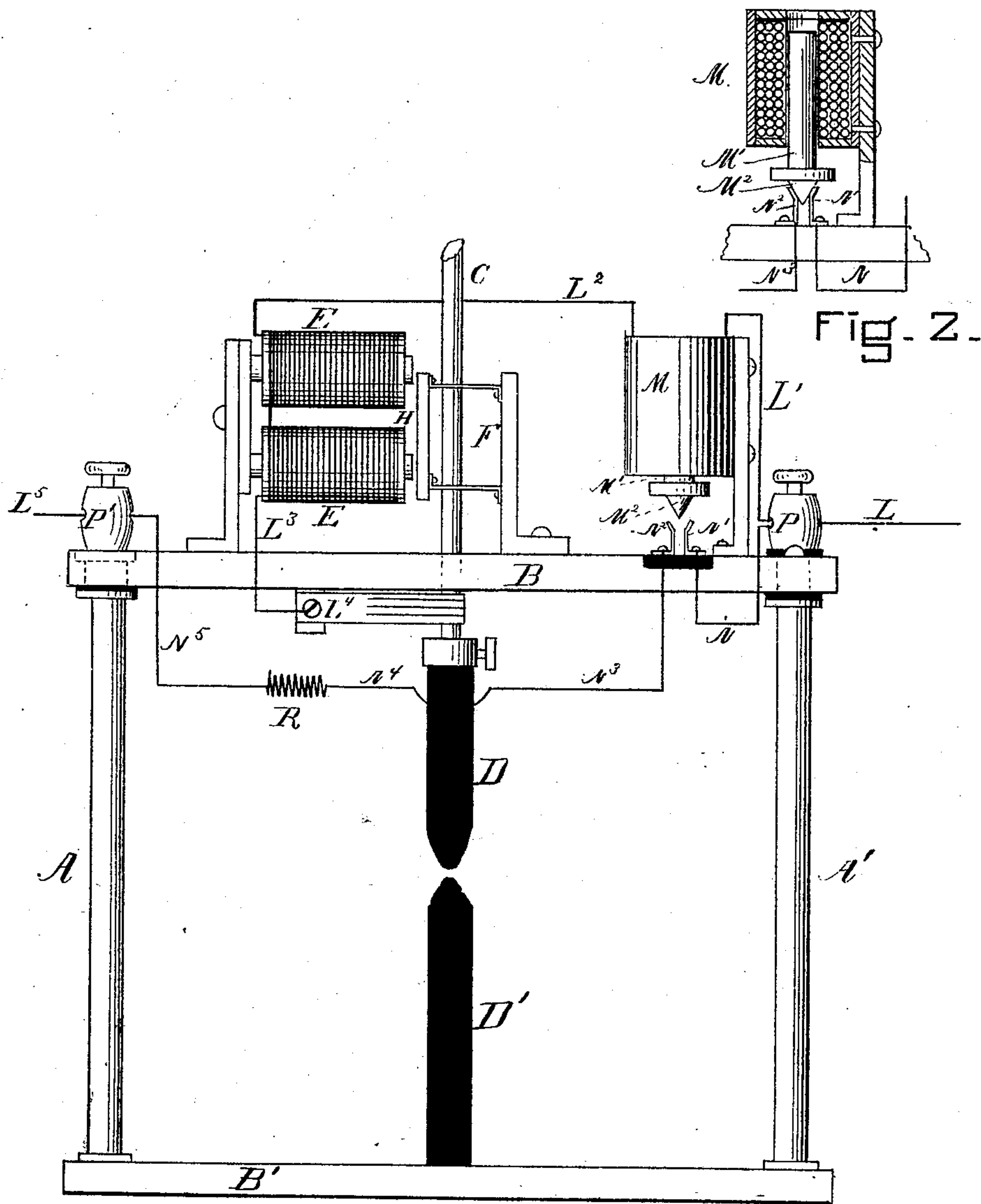


Fig-1.

WITNESSES

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CHARLES B. BOSWORTH AND FREDERICK A. SWAN, OF BOSTON, MASS.

ARC-LAMP CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 278,679, dated June 5, 1883.

Application filed August 31, 1882. (No model.)

To all whom it may concern:

Be it known that we, CHARLES B. BOSWORTH and FREDERICK A. SWAN, both of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Short-Circuit Bridges for Electric Lamps, &c., of which the following is a specification.

Our invention relates to a device to be used in connection with an electric lamp or other electro-receptive apparatus, for the purpose of automatically closing the line-circuit when from any cause the circuit is broken within the electro-receptive apparatus.

Our invention is illustrated in the following-described drawings, in which—

Figure 1 is an elevation showing our device attached to an electric lamp; and Fig. 2 shows details in vertical section, the short circuit being closed.

A A' B B' represent the frame to which the lamp and its adjuncts are attached; D D', the illuminating-electrodes; C, the rod which serves to hold the upper electrode, D; and F H E E parts of an ordinary device for controlling the motion of the electrode D. As the above-named parts are not new, and their functions so well known, we will not further describe them.

The ordinary circuit for working the lamp passes through the line L, post P, wire L¹, magnet M, wire L², magnets E E, wire L³, brush L⁴, rod C, illuminating-electrodes D D', cross-bar B', rod A, and post P' to line L⁵.

Our invention consists in inserting in the main line or circuit the electro-magnet M M' and its connecting devices and wires, which may be described as follows: The coil M of the electro-magnet M M' consists of a few convolutions of the main-circuit wire L' L², within the center of which the soft-iron core M', Figs.

1 and 2, is placed. At the lower end of the core M' we attach a plug, M², which should be of some good conducting metal. The bridge or short-circuit line starts from the post P, passes through the wire N to the plate N', thence (when the core M' is dropped, as shown in Fig. 2) through the plug M² to the plate N², wire N³ N⁴, resistance-coil R, wire N⁵, and post P' to line.

The operation of our invention is as follows: When the current is passing through the lamp in its normal course the coil M, which is in the main circuit, suspends the core M', and thus holds the plug M² away from contact with the bridge-plates N' N², as shown in Fig. 1; but if, from any cause whatever, the normal circuit is broken between the posts P and P', then the coil M ceases to act, and the core M', with the plug M², will fall to the position shown in Fig. 2, in which case the short circuit on the line N N' N² N³ N⁴ R N⁵ is completed, and the line-circuit restored outside of the lamp. The resistance-coil R is put in the bridge-line, so that in starting the current it may pass through the lamp-circuit, and in so doing excite the electro-magnet M M', and thus withdraw the plug M, which action at once cuts the short circuit N N', &c., out, and leaves the whole force of the current to act on the lamp.

We claim—

In an electric light apparatus, the combination of the coil M (inserted in the normal circuit,) the core M', provided with the wedge-shaped plug M², with the plates N' N², and the wires N N³, all operating together substantially as described, and for the purpose set forth.

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Witnesses:

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