(No Model.)

A. G. WATERHOUSE.

ELECTRIC LAMP.

No. 253,327. Patented Feb. 7, 1882.

Fig. 1.

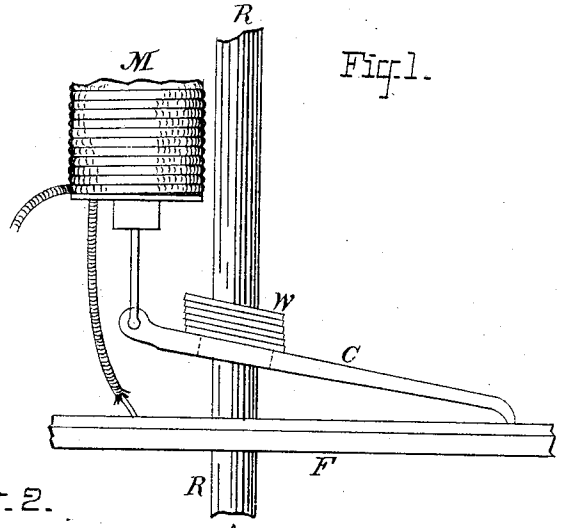
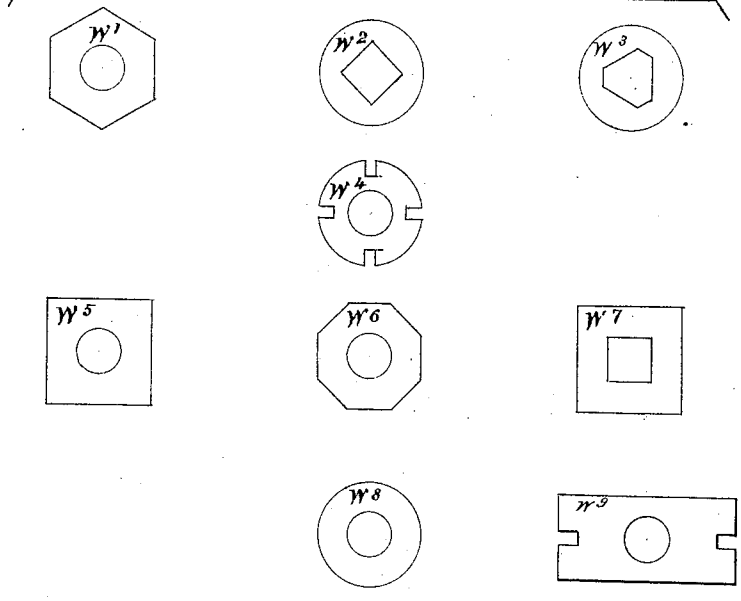


Fig. 2.



ATTEST:

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UNITED STATES PATENT OFFICE.

ADDISON G. WATERHOUSE, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES ELECTRIC LIGHTING COMPANY, OF SAME PLACE.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 253,327, dated February 7, 1882.

Application filed October 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, ADDISON G. WATERHOUSE, a citizen of the United States, and resident at New York, in the county and State of New York, have invented certain new and useful Improvements in Electric Lamps, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My present invention is applicable generally to electric lamps in which the feeding together and adjustment of the carbons are effected through the instrumentality of a griping device, usually styled a "clutch," which is controlled as to position by the attraction of one or more electro-magnets, and caused to bind or release a suitable rod or tube, constituting an electrode supporter or carrier. The successful and continuous operation of these lamps requires that the perforated plate ordinarily employed as the clutch should be capable, when tilted, of binding the carbon-holder with a firm hold, and for this reason the inner edges, or those around the perforation, should be sharp and even. From constant friction, however, and the occasional formation of a small arc between the clutch and the carbon-holder, the former is frequently rendered useless, requiring replacement—a matter which in the lamps now in use entails no little difficulty and expense. This it is the design of my invention to obviate by forming the clutch or clamp of a number of superposed annular or perforated plates loosely surrounding the carbon-carrier, and each capable, when tilted, of griping and raising it. The increased number of binding-surfaces thus presented to the rod reduces to a great extent the possibility of the clutch becoming worn out, either by friction or burning.

In the drawings hereto annexed I have illustrated a portion of an electric lamp embodying my invention in Figure 1, and the various shapes that may be given to the plates comprising my improved form of clutch in Fig. 2.

R designates an ordinary carbon-carrier, consisting of a smooth rod or tube of metal passing down through the upper part of the lamp-frame.

C is a plate or bar, through an opening in which the said rod R passes. One end of plate C rests upon the upper surface of the plate F, this being a portion of the upper yoke or cross-bar, and consequently a stationary portion of the lamp-frame. The other end of plate C is connected by a link to the core of a magnet, M. The letter W designates a number of plates provided with perforations of such diameter as to bind or clamp the rod R when the plates are tilted, but to permit it to drop through when they are brought in a position at right angles thereto. The plates W are swung on the rod R, and lie loosely upon the plate C and upon one another.

The operation of the lamp is substantially the same as that of the ordinary forms, with the exception that a greater number of binding-surfaces are brought into contact with the rod R, the delicacy of action not being affected. The number of plates composing the clutch is somewhat arbitrary. It will be advisable, however, to employ, under ordinary circumstances, at least four or five, and more may be used, if so desired.

The plates W may be of various shapes, a number of which are shown in Fig. 2 and lettered respectively W' W^2, &c. They may be left free to turn about the rod R, but are preferably prevented from so doing by arranging upright pins on the bar C and employing square or angular plates, or by cutting notches in any form of plate for the pins, as is shown at W^4 W^9. By these means the plates composing the clutch are allowed a sufficient motion for effecting the results desired, while at the same time they are precluded from turning about the rod.

It is evident from the nature of the above-described invention that it may be applied to a great variety of lamps with equally satisfactory results. I have not described the various applications, nor the specific character of the lamps with which it may be used, as a knowledge of the said lamps, with their principle of operation and construction, is presupposed.

Having thus described my invention, what I claim is—

1. In an electric lamp, a clamp or clutch com-

posed of two or more superposed perforated plates surrounding the carbon-carrier, and adapted to gripe and move the same, substantially as described.

2. The combination, in an electric lamp, with a rod or tube constituting the carbon-carrier, of a clutch composed of two or more superposed perforated plates surrounding the said rod, and mechanism for moving the plates, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 1st day of October, 1881.

ADDISON G. WATERHOUSE.

Witnesses:

PARKER W. PAGE,

W. FRISBY.