

(No Model.)

R. M. GARDINER.  
GUARD FOR ELECTRIC LIGHT GLOBES.

No. 435,116.

Patented Aug. 26, 1890.

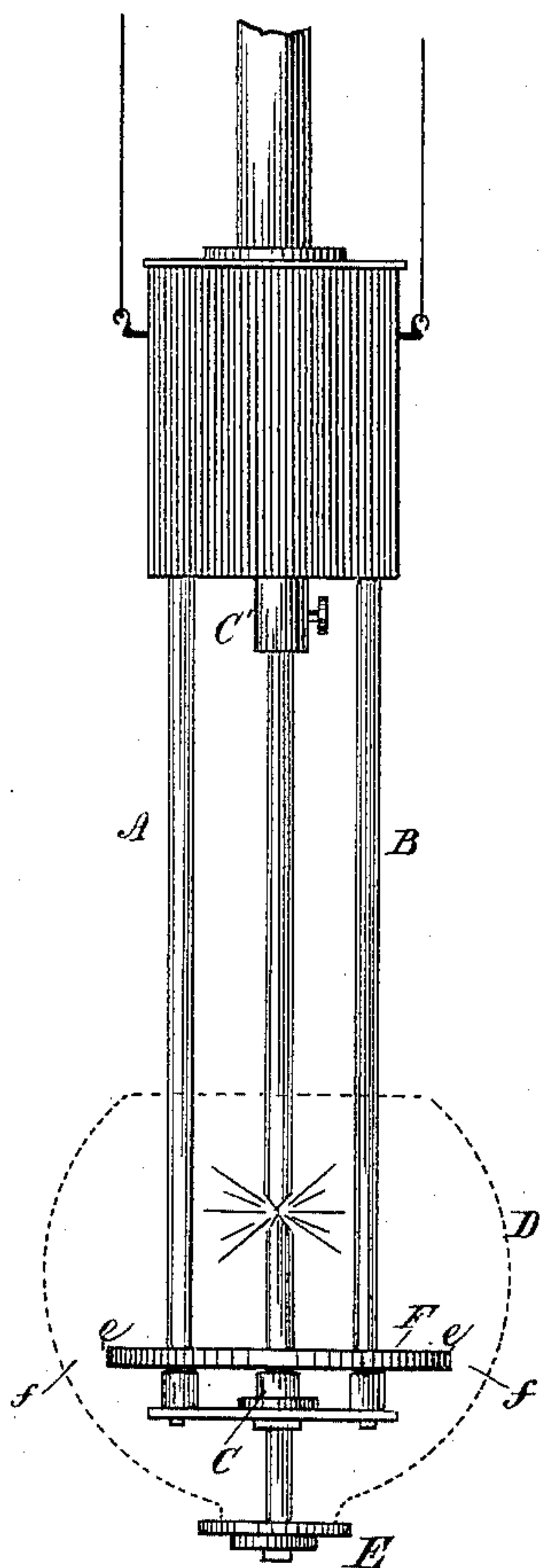


Fig. 1.

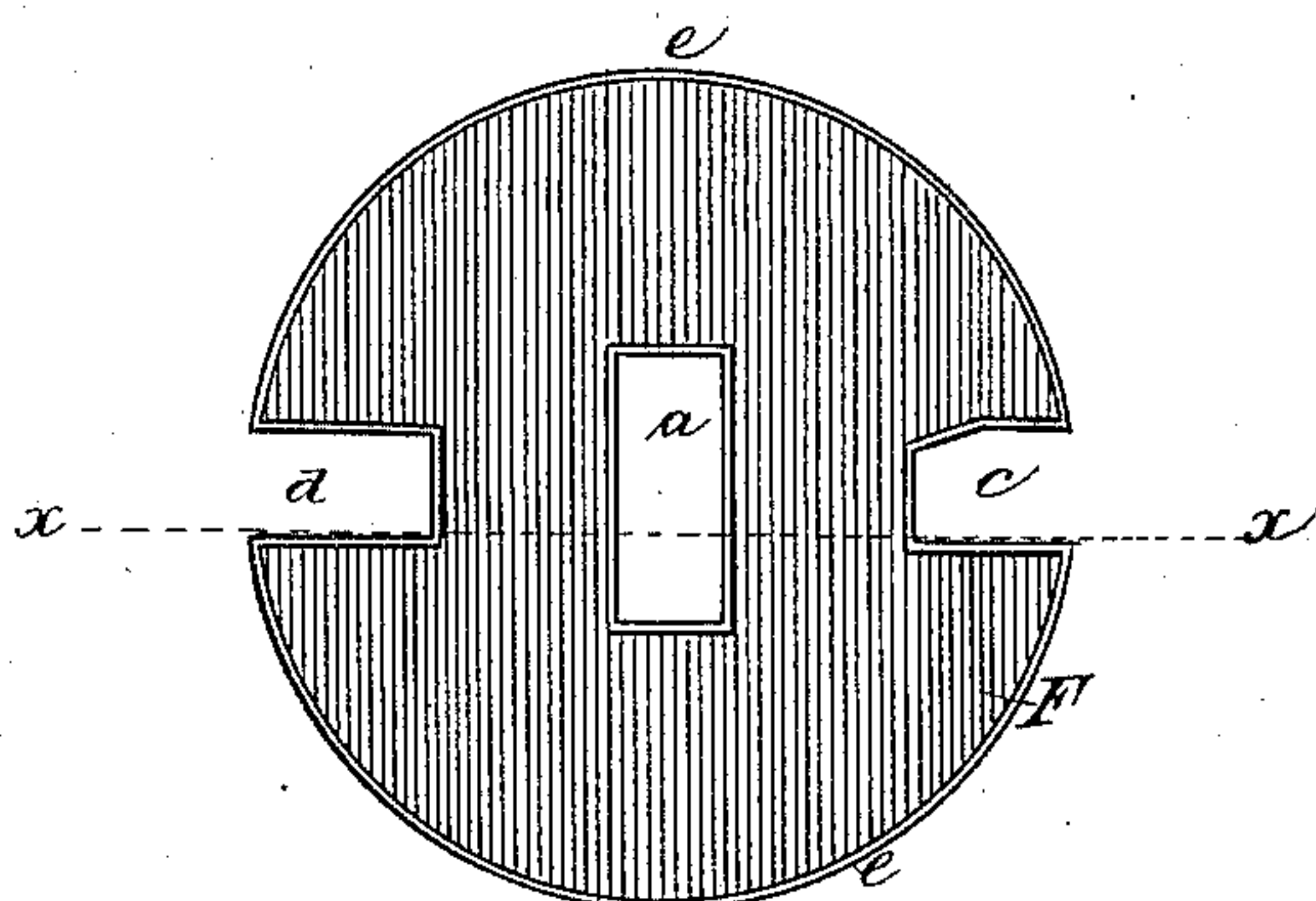


Fig. 2.



Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## GUARD FOR ELECTRIC-LIGHT GLOBES.

SPECIFICATION forming part of Letters Patent No. 435,116, dated August 26, 1890.

Application filed February 13, 1889. Serial No. 299,705. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT MARTIN GARDINER, electrician, of Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented a certain new and useful Inside Guard for Electric-Light Globes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The invention relates to a simple but very useful and convenient device, placed inside of an electric-light globe, near the bottom, for preventing the accumulation of dust on the lower portion of the globe, and more particularly the melted copper deposit which drops from the carbons during lighting hours.

The advantages arising from the device are as follows: The globe is not so liable to crack from the heat and melted copper deposit, while it is always kept clean, and easier to handle by the patrolmen when working on the lights when the current is on.

The device can be adapted to any kind of an arc lamp; and it consists in a circular-shaped disk of any desired substance—as sheet metal, glass, asbestos, wire-gauze, &c.—attached to the bottom carbon-holder of a single or double arc lamp, the peculiar fitting of the guard being adapted to any make of lamp.

By reference to the drawings forming part of this specification, it will be seen that Figure 1 represents a side elevation of an ordinary single electric arc lamp. Fig. 2 is a plan view of my guard detached from the globe. Fig. 3 is a cross-section through the line *x x*.

A B represent the frame of the lamp; C, the bottom carbon-holder; C', the top carbon-holder; D, the globe in dotted lines, which may represent any ordinary one, as opal or flint glass, &c.; E, the globe-rest. F, Fig. 2, shows the guard-plate detached, circular in form, and having a slot *a* cut out of its center, and an opening *c* cut out of the right margin, and a similar one *d* cut out on the opposite side. These said openings are for the purpose of allowing the said guard F to fit between the frame A B, while the lower carbon passes up through the center slot *a*, and the said frame-rods A B, through the openings *c d*, respectively. A raised rim *e* projects upward all around the outer edge of the guard and also around the openings *a d c*, to

keep the dust and copper deposit from falling off the guard when it is being removed for cleaning.

F, Fig. 1, shows the guard in horizontal position, resting on the lower carbon-holder C, leaving an annular space *f* between the outer rim of the guard F and the globe D. While there is a slight shadow thrown from the guard down under the lamp, this said space *f* admits the light reflected from the side of the globe above the guard to be diffused under the lamp, rendering the shadows less intense.

It will be seen that as the heat-rays in an electric lamp strike downward the bottom of the globe becomes very hot, while the other portions are comparatively cool, rendering the globe liable to fracture in a very short time after use, so that they have to be replaced by sound ones so frequently that it is quite a considerable item of expenditure in electric lighting. The constant dropping of melted copper from the carbons on the bottom of the globe is another serious cause of the breaking of globes, while the accumulation of dust in the bottom dims the light. My device is calculated to prevent this state of things by preventing the copper deposit on the globe from the carbons, and keeping the bottom of the globe cool, thus removing two of the greatest causes to the breaking of globes.

Fig. 2 shows the form of the guard with the openings made to fit a single lamp, as shown in Fig. 1. When other lamps are to be fitted with the device, the openings in the guard are altered accordingly to suit any form of single or double electric lamps.

Having thus described my device and its advantages, what I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with an electric lamp and globe, of a guard F, placed inside the globe and provided with openings *a d c* to fit the lamp, and a rim *e* on the outer edge and around the openings *a d c*, as shown, or otherwise, substantially as and for the purpose specified.

Dated at Hamilton, Ontario, this 26th day of January, 1889.

ROBERT MARTIN GARDINER.

In presence of—

CHAS. F. HUNT,

WM. BRUCE.