

(No Model.)

E. N. GAILLARD.

ELECTRIC ILLUMINATING APPARATUS.

No. 333,742.

Patented Jan. 5, 1886.

Fig. 1.

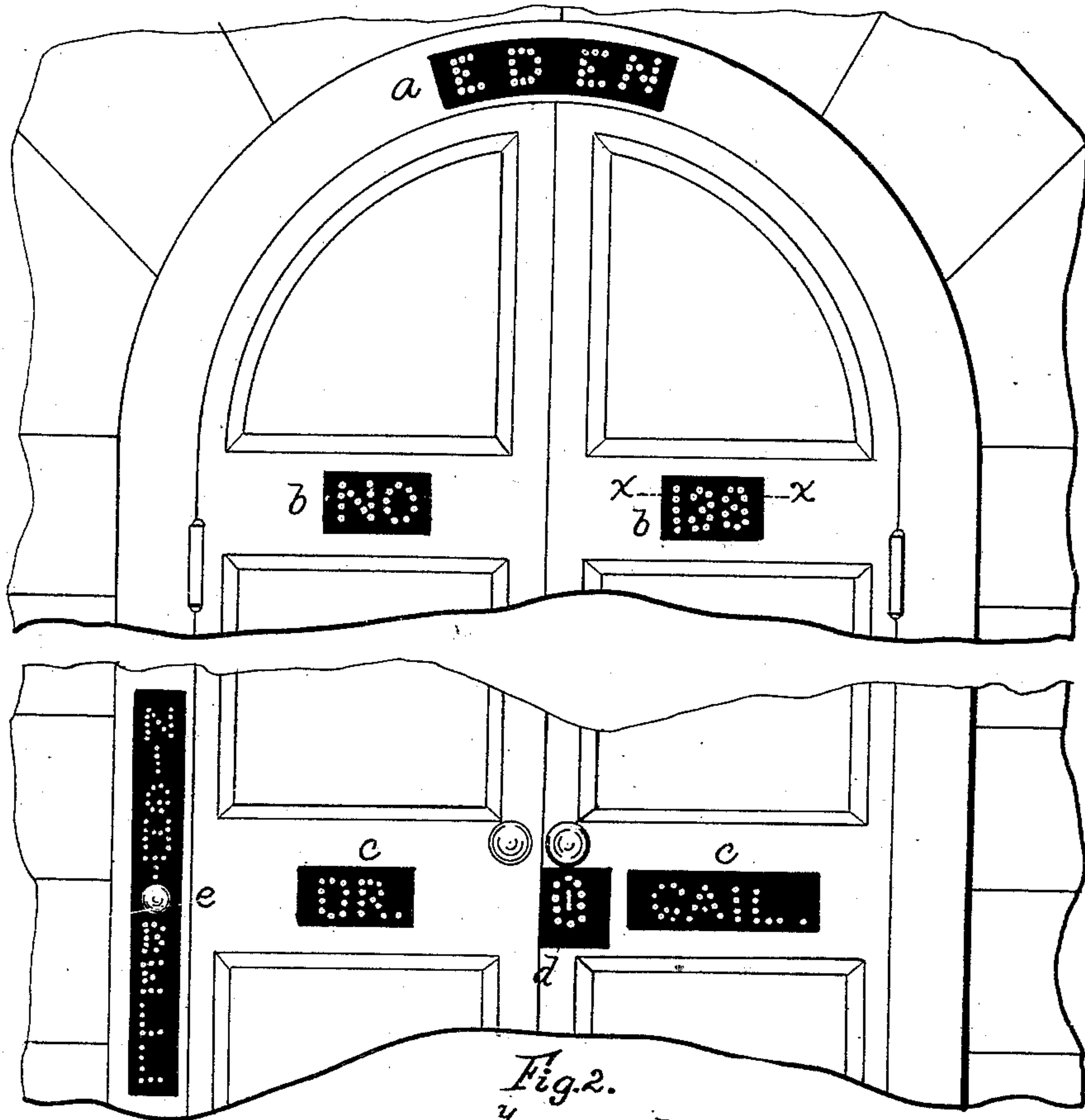


Fig. 2.

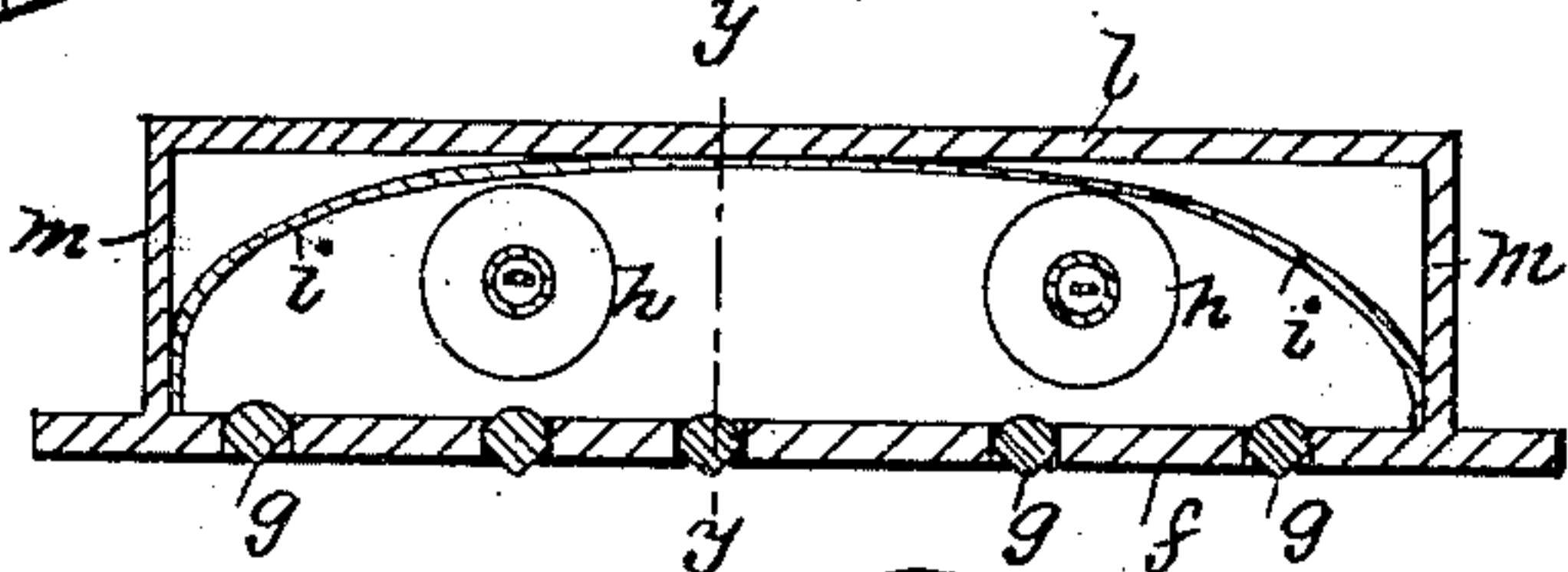


Fig. 3.

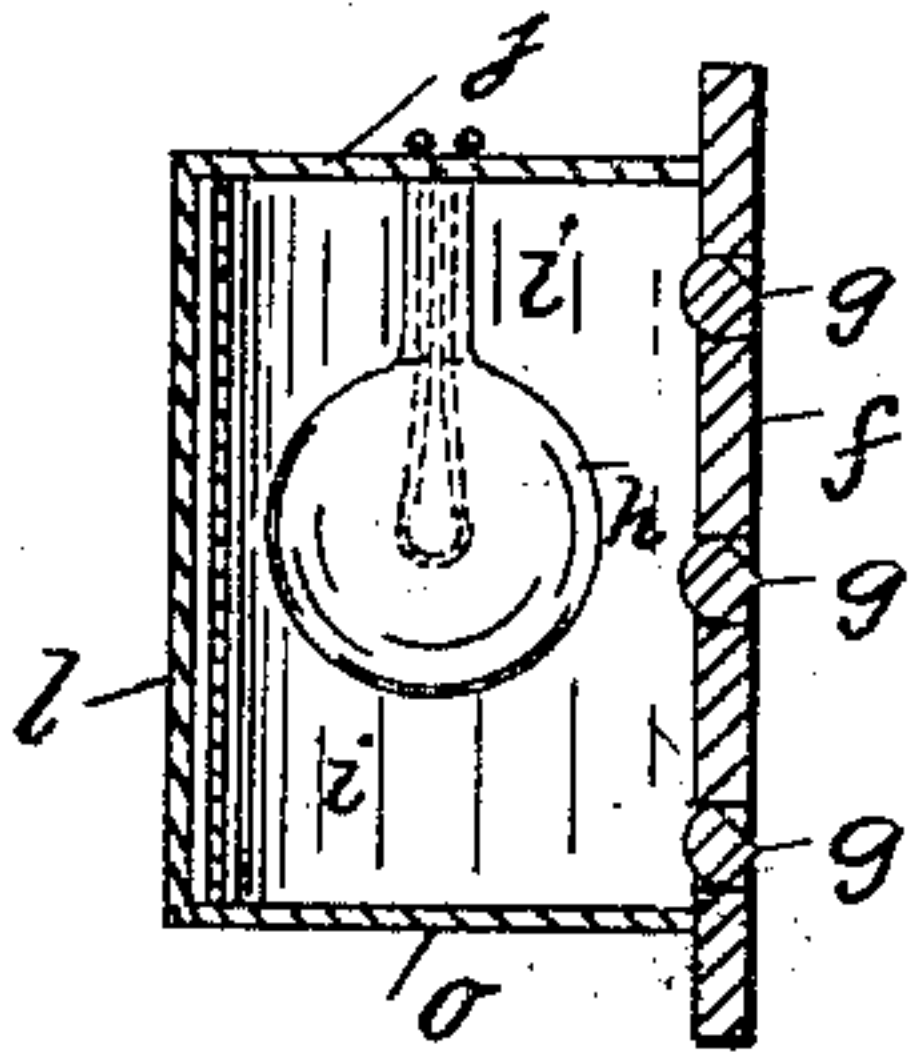


Fig. 4.

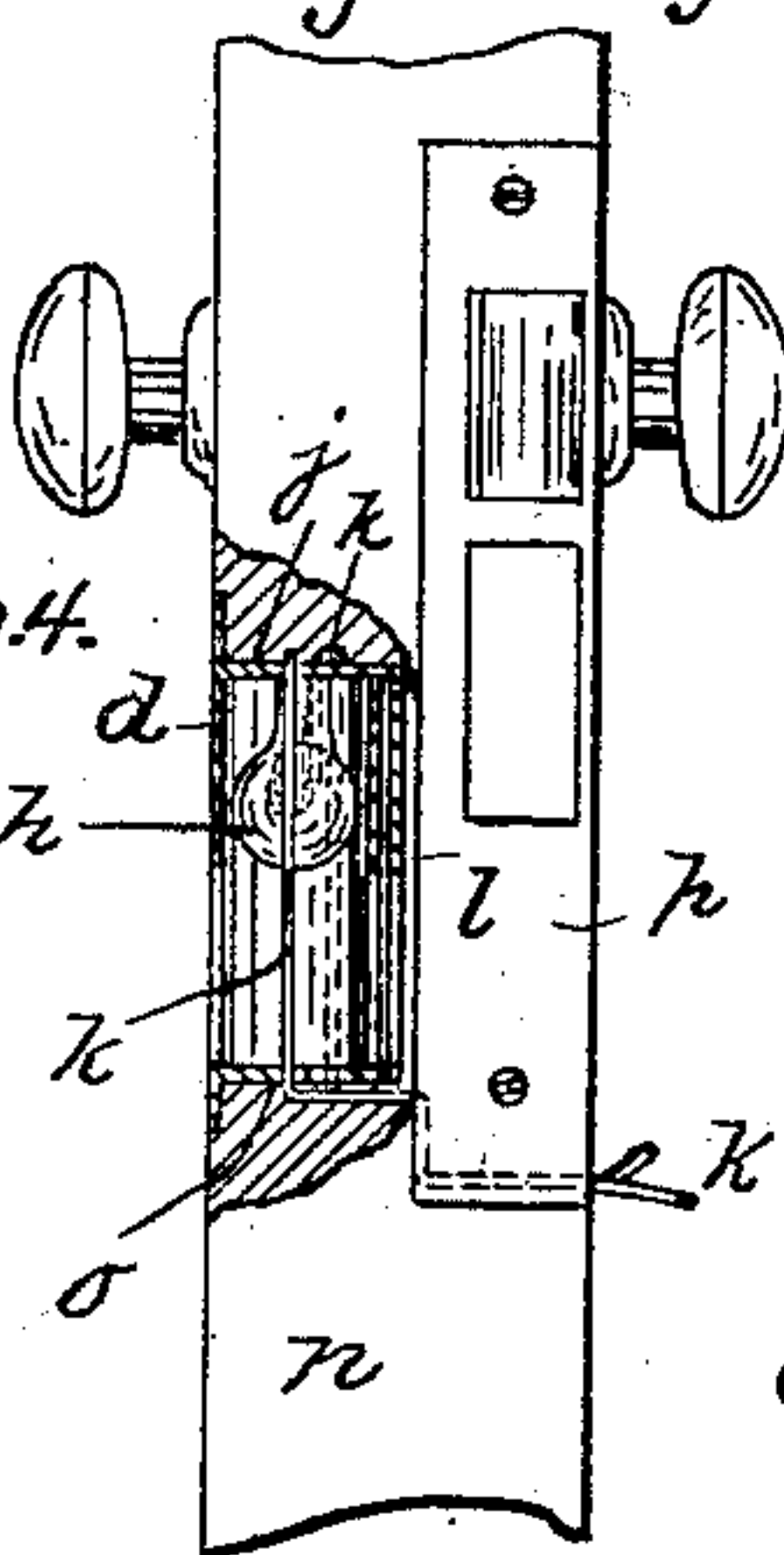


Fig. 5.

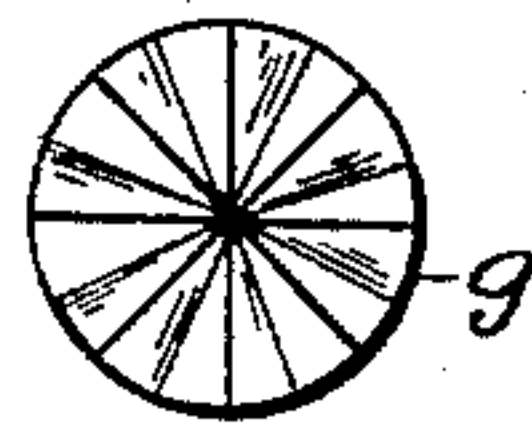
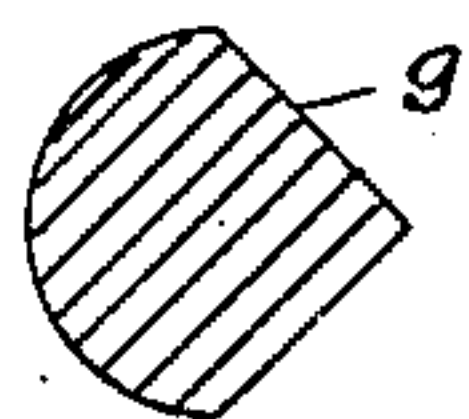


Fig. 6.



WITNESSES.

O. H. Morgan,
S. H. Morgan,

INVENTOR.

Ella N. Gaillard
By A. P. Thayer
att'y

UNITED STATES PATENT OFFICE.

ELLA N. GAILLARD, OF NEW YORK, N. Y.

ELECTRIC ILLUMINATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 333,742, dated January 5, 1886.

Application filed April 11, 1884. Serial No. 127,489. (No model.)

To all whom it may concern:

Be it known that I, ELLA N. GAILLARD, a citizen of the United States, residing at New York city, in the county and State of New York, have invented new and useful Improvements in Electric Illuminating Apparatus, of which the following is a specification.

My invention consists of new and useful improvements in apparatus for the electric illumination of signs, street-numbers, door-key holes, name-plates, names of vessels, and other word or figure signs which it is desirable to be able to see readily at night, and also for the illumination of ornamental devices—as artificial-flower pieces and the like—the said improved electric illuminating apparatus being contrived with special reference to simplicity of construction and arrangement for adaptation to different forms and kinds of objects to be illuminated, also for cheapness in first cost and for economy in consumption of electric power, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a front elevation of the front door of a house having signs, street-number, name-plate, and the lock-key-hole plate contrived for being illuminated in accordance with my invention. Fig. 2 is a horizontal section of one of the illuminated devices of the door on the line *x x* of Fig. 1. Fig. 3 is a transverse section of Fig. 2 on the line *y y*. Fig. 4 is an edge view of a portion of a door with a part broken out, showing a contrivance for illuminating the key-hole of the lock, to facilitate the inserting of the key at night. Fig. 5 is a front elevation, and Fig. 6 a section, of glass panes such as I use for glazing the signs, names, numbers, and other objects to be illuminated.

I am aware that illuminated signs and other devices of like character for attracting attention at night in the way of advertising agents are not new; but as heretofore arranged the means of illumination have been such as to preclude the possibility of using them in many localities, and for many objects such as I seek to provide practicable means for, and the apparatus is too expensive to be employed, except for business purposes that will bear considerable expense for a few hours in the night, so that at the present time there is no practi-

cable and economical available means for illuminating street-numbers, key-hole plates, name-plates, and other like small objects throughout the whole night at a cost commensurate with the value of such service; but while my improved apparatus is thus adapted for small objects and to be fitted in places such as no other illuminating devices now in use are adapted for, I desire it to be understood that my said apparatus is also adapted for use on a large scale as well, and with corresponding economy, as I will now to proceed to show, as follows:

In Fig. 1, *a* represents a sign; *b*, a street-number; *c*, a name-plate; *d*, a key-hole plate, and *e* a door-bell knob contrived for being illuminated as I propose for enabling them to be readily distinguished in the night.

The contrivance consists of the letters, figures, and other characters or devices to be illuminated, glazed in a supporting frame or plate, *f*, with glass or other transparent panes, *g*, suitably set in the frame or plate to form the letters or other characters, or to surround the object to be rendered conspicuous by lines of alternating transparent panes and opaque parting ribs or bars of the frame or plate; or, if preferred, the transparent letters, numbers, and other devices to be illuminated may be wholly made of the transparent material without the opaque elements, except in the surrounding borders and in the partings between the letters and other objects. However it may be preferred to construct the letters and other transparent objects, I arrange them in the front plate or frame, *f*, combined with one or more small incandescent electric lights, *h*, and a reflector, *i*, in close proximity to the plate, and in some way connected to and supported by the plate, so that said plate being placed over a recess in the door *n* or other object (see Fig. 4) where the device to be illuminated is to be located, and secured thereto by screws or otherwise, the illuminating devices may be very quickly, cheaply, and substantially applied.

The way I prefer to connect the lights to the plate *f* consists of suspending them from a flange, *j*, of the front plate, extending backward from the upper edge, or thereabout, as said lights are ordinarily suspended from any support, with the conducting-wires *k* extend-

ing backward, sidewise, or downward therefrom in any approved direction suitably for being at the same time inserted through any suitable hole from the recess for the lights to the inside of the door or other object to which the apparatus is attached for making the desired connections in the electric circuit. The reflector *i* may bow or curve around the lights in any approved way to connect with said front plate at the ends; or it may be attached in any approved way—as, for instance, to the back plate, *l*, or end plates, *m*, of an inclosing-case, which I prefer to form on or attach to the back of the front plate, *f*, together with a bottom plate, *o*, for a means of protecting the lights. When desired, the cover of this case or the back, or both, may be adapted to open or be removed readily when it may be required to renew the carbon threads, suitable access being provided for reaching said case from the inside of the door or other part of the building to which the lights are attached, or the case can be readily taken out of the front side of the door by removing the screws of the front plate and disconnecting the conducting-wires inside. This will probably be the most preferable way in the case of small objects, as street-numbers, name-plates, key-hole plates, and the like; but for larger apparatus the arrangement may be different, according to the circumstances of the case.

When the form of the object to be illuminated consists of letters and numbers separated by considerable spaces of opaque material, the reflector may consist of a series of prisms arranged to reflect the light-rays wholly on the spaces containing the transparent medium. I prefer to employ glass panes of oval form on the inside and having a fluted conical exterior form, the oval inside form being favorable for concentrating the light-rays from different directions, and the fluted conical exterior form being adapted to the best diffusion of the light by reason of the various different planes and larger area of surface it affords, and of the various angles of refraction in which it sends the rays; but I do not limit myself to this form of panes.

The transparencies may be colored, or other means of coloring the light may be employed, as preferred.

With this improved apparatus it will be seen that effective illumination for street-numbers, name-plates, key-holes, and the like devices with a light of about one candle-power to each, that may be supplied by a battery of one or two cells without frequent renewals of the generating elements, may be afforded with but very little cost, and larger objects—such as street-signs, names of vessels, and the like—may be served with corresponding economy.

Besides the especial merit of such economical cost of original outlay and running expenses, the contrivance of the lights and reflector together with the plate containing names, numbers, signs, or other objects to be illuminated, so that the whole can be put in

position merely by fitting the plate to its place, inserting the conducting-wires in the holes or other openings or passages prepared for them, and attaching said plate, is calculated to render the invention practically successful for uses for which it is more especially intended.

The contrivance for illuminating key-hole plates is adapted for being placed in a recess such as will be afforded in the thickness of an ordinary door at the front of the lock *p*, enabling the illuminator to be attached suitably for illuminating the key-hole of an ordinary lock without any alteration of the lock, the light being placed in the recess so that the key may pass through the key-hole without interfering with the light—that is to say, will pass by the side of the light or under it.

The wires may pass through eye-screws in any approved arrangement at the joint where the door is hung to allow the door to swing freely without affecting the wires.

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

1. The combination, with an illuminated name, number, or key-hole plate, of an incandescent electric illuminator and reflector located in an inclosed recess of the door covered by said plate, and suitable wires connecting the illuminator in an electric circuit, substantially as described.

2. The combination of an incandescent electric light and suitable wires for connecting in an electric circuit with a glazed sign or other glazed plate having a flange, *j*, adapted for attaching the light to the glazed plate, to enable the light and the plate to be mounted by attaching the glazed plate to the door or other object on which it is to be mounted, substantially as described.

3. The combination of an incandescent electric light, suitable connecting-wires, and a reflector with a glazed name-plate, said light and reflector being attached to the said glazed plate, to be mounted together with the glazed plate by attaching the latter to the door or other object on which it is to be mounted, substantially as described.

4. The combination, with a door-lock, of a glazed key-hole plate to be illuminated, having a case at the back containing one or more incandescent electric lights, suitable connecting-wires, and a reflector or reflectors mounted therein and supported by said glazed plate suitably to be mounted by the mounting of said glazed plate, substantially as described.

5. A sign, name, number, key-hole, or other plate to be illuminated, glazed with panes *g*, of transparent material, having a conical fluted exterior face, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses: ELLA N. GAILLARD.
W. J. MORGAN,
B. B. LEMAN.