

J. LAFITTE.
LONG DISTANCE LIGHTING.
APPLICATION FILED JULY 25, 1908.

968,774.

Patented Aug. 30, 1910.

FIG. 1.

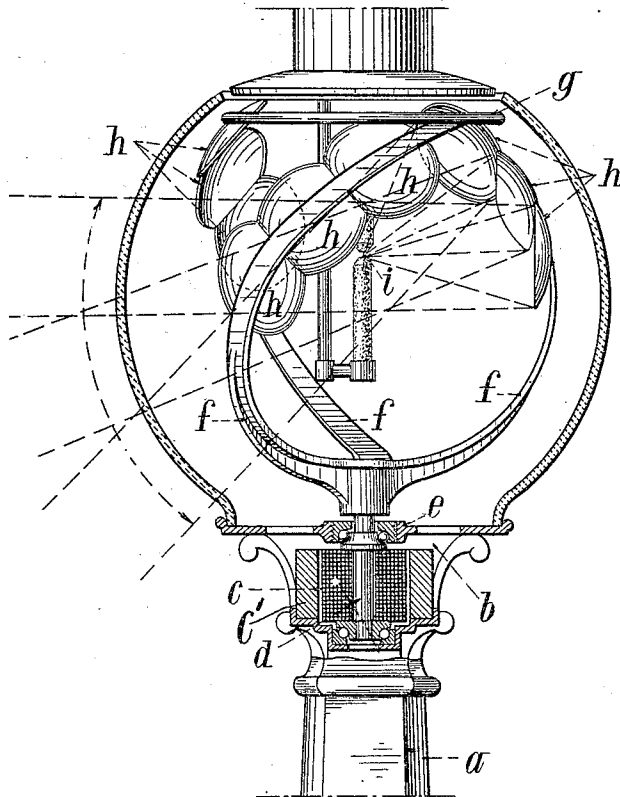
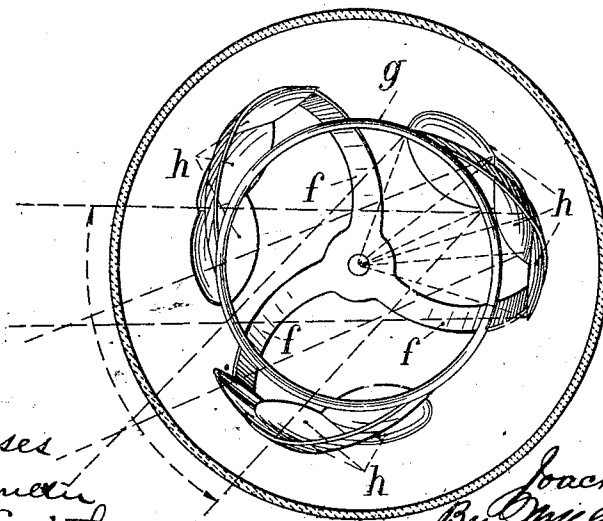


FIG. 2.



Witnesses
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JOACHIM LAFITTE, OF BIARRITZ, FRANCE.

LONG-DISTANCE LIGHTING.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOACHIM LAFITTE, a citizen of the French Republic, and residing at Biarritz, France, have invented certain new and useful Improvements in Long-Distance Lighting, of which the following is a specification.

This invention relates to a system of intense lighting at long range by circular dispersion of rays emanating from a luminous focus which, compared to well known systems in which one or two luminous pencils are given varied movements for the purpose of dispersing the rays on the surface to be lighted, consists chiefly in a certain number of projectors or reflectors helically arranged on a rotary support about one and the same focus, so as to afford free passage to the luminous pencils covering distinct zones, the shade intervals between these pencils being themselves covered by the dispersion of the rays brought into movement, a uniform and constant lighting of the surface covered by the apparatus being thus insured.

In the example illustrated, the invention is applied to a lamp post carrying an electric arc regulator, but it could also be applied in any case where any luminous focus, whether electric or of any other nature, is available.

In the accompanying drawing Figure 1 is a vertical elevation showing the chief arrangement of the system applied to a construction of a lamp part with several reflecting mirrors having an arc lamp for ordinary public lighting. Fig. 2 shows the same arrangement in plan.

On the top of the mast or pole *a* is arranged a recess *b* in which is mounted an electric motor *c'* of suitable power. The armature *c* of the said motor is mounted in such manner that its core *d* should be able to rotate vertically and be supported by a frame *e* through which it passes with or without ball bearings, the latter frame *e* being made in one piece with the machine or independent of the same.

In the construction illustrated, the end of the core *d* of the armature of the dynamo, projecting beyond the frame *e*, receives a bracket comprising a suitable number of helically curved branches *f* which start from the central core *d* and terminate with their upper ends at a preferably circular support *g*. The said branches could be constituted by ordinary curved or straight elements.

On the branches *f* are mounted a certain number of reflecting mirrors *h*, the reflecting faces of which are toward the light or the axis of revolution, the said mirrors being arranged side by side and placed at different levels relatively to each other and to the source of light, while their curvature and distance from the latter may differ according to the effect to be produced when distributing the light.

On electric current being supplied to the motor *c'*, the armature *cd* will rotate more or less quickly, carrying with it in that movement the reflectors which will then rotate about the focus in parallel planes.

When an electric motor is used in an apparatus using electricity for lighting, the motor might be in series with the apparatus, or supplied with electricity in any other manner.

The arrangement of reflectors on their branches is such that the rays of the luminous focus *i*, reflected by each of them, pass through the opposite corresponding interval comprised between two other reflectors, in the form of a cylindrical, or more or less conical, pencil in a special direction which may be different from that followed by the pencils of the other mirrors, or similar to it.

Taking into consideration: (1) the optical phenomena of the persistence of luminous influence on the eye which after having been subjected to the action of a direct or reflected light, retains the impression for 1/10 of a second even after the luminous emission is interrupted; (2) the result produced by each reflector in directing the pencil projected to a greater distance than that which would be reached by luminous rays without its use; (3) the movement of revolution given to all the reflectors about the luminous focus,—it will be sufficient, therefore, in order that the space and the objects situated in the said space in the neighborhood of the lighting apparatus should appear permanently lighted, that each reflector should make a fraction of a revolution corresponding at least to the number of branches, in less time than the phenomena of luminous persistence lasts on the retina after the interruption of the lighting.

In the arrangement illustrated by way of example, the branches which are supposed to be three in number, are helically arranged for the purpose of affording a more convenient passage to the rays reflected by each

reflector, the latter benefitting also by this arrangement which enables them to be made of a larger diameter. This helical arrangement, moreover, makes possible ventilation for avoiding, more particularly when the motor utilized (whether electric or any other) is mounted near the focus, a heating which is liable to damage the insulating or fusible parts.

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

1. In a long distance lighting device, means for supporting a source of light, several series of reflectors and a rotary carrier supporting said series of reflectors about said source of light and at the same focal distance therefrom for the purpose specified.

2. In a long distance lighting device, a standard having a source of light thereon, a rotary carrier, means upon said standard for rotating said carrier, arms upon said carrier extending helically about said source of light, a series of mirrors arranged upon each of said arms and at the same focal distance from the source of light, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOACHIM LAFITTE.

Witnesses:

E. BORDE,

ENG. HERASSARY.