

No. 718,217.

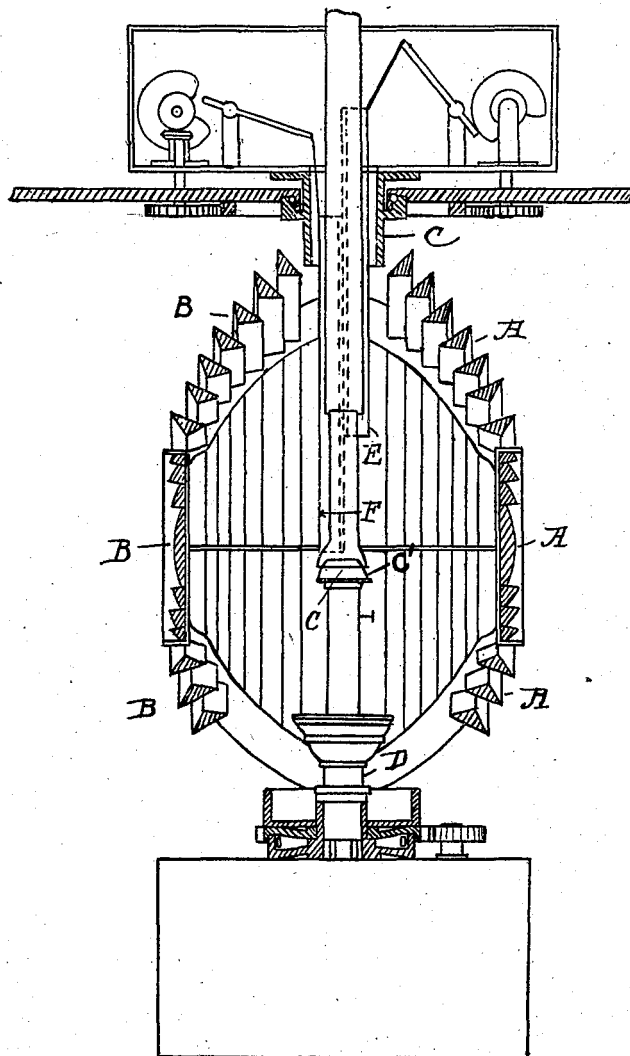
PATENTED JAN. 13, 1903.

J. A. & W. T. PURVES.
LIGHTHOUSE OR SIMILAR APPARATUS.

APPLICATION FILED APR. 16, 1900.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.
Henry S. Morton.
C. Benjamin.

Inventors
John Archibald Purves
and
William Thompson Purves
by *[Signature]*
Attorney.

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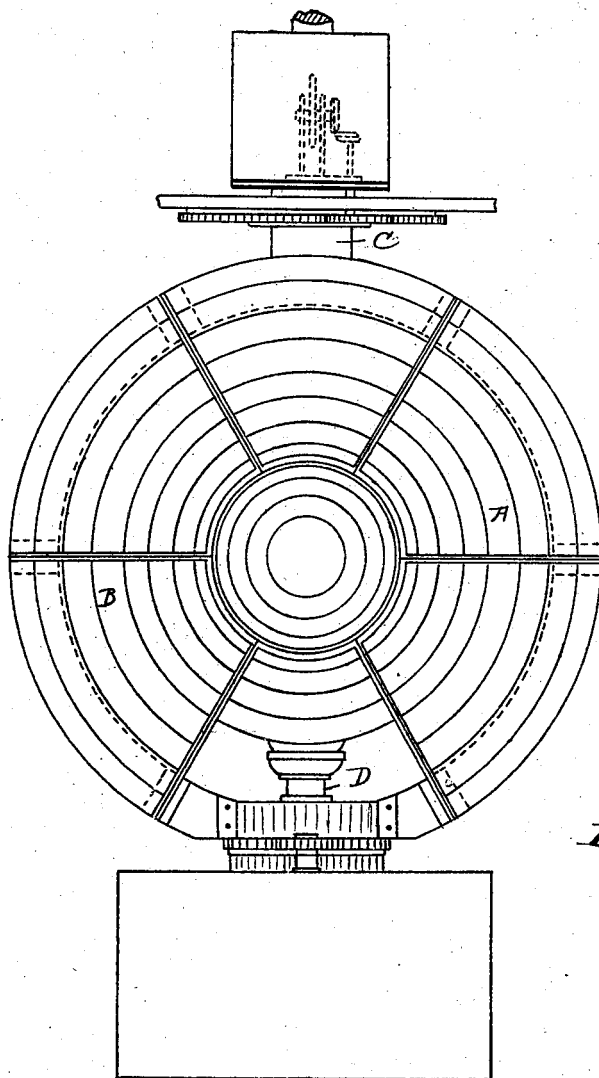


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN ARCHIBALD PURVES AND WILLIAM THOMPSON PURVES, OF EDINBURGH, SCOTLAND.

LIGHTHOUSE OR SIMILAR APPARATUS.

SPECIFICATION forming part of Letters Patent No. 718,217, dated January 13, 1903.

Application filed April 16, 1900. Serial No. 13,037. (No model.)

To all whom it may concern:

Be it known that we, JOHN ARCHIBALD PURVES and WILLIAM THOMPSON PURVES, subjects of the Queen of Great Britain, residing at 53 York Place, Edinburgh, in the county of Mid-Lothian, Scotland, have invented Improvements in Lighthouse or Similar Apparatus, of which the following is a specification.

Our invention relates to improvements in lighthouse and similar apparatus whereby certain advantages are obtained.

In order to render our description clearer, we have appended two sheets of drawings illustrative of one form of our invention, in which—

Figure 1 is a vertical section, while Fig. 2 is a front elevation.

In the drawings like reference-letters designate like parts.

The object of our invention is to produce from a simple form of dioptric or other light-directing apparatus any group-flashing characteristic that may be desired. In order to accomplish this end, we employ two panels A and B of lenses of approximately one hundred and eighty degrees amplitude both horizontally and vertically or other light-directing agents, in the joint focus of which is a luminary C'. These panels are supported upon spindles C and D at top and bottom, the upper spindle being made hollow to allow of the lamp-chimney and other mechanism passing therethrough. It is of course possible instead of employing spindles to use any of the well-known forms of mercury-float, roller, or ball-bearing mechanism previously employed for revolving apparatus. In conjunction with this two-panel revolving apparatus we make use of an eclipsing device, whereby the light from the luminary can be eclipsed. In the drawings the vertical up-and-down form of eclipser is shown; but it is equally possible to employ a horizontal-action eclipser instead of a vertical. Both horizontal and vertical eclipsers are well known in the art; but ours differs from others in this respect that the eclipser is made in two halves E and F, each half of which when closed completely shuts out the light of the lamp from the particular panel on which it

would otherwise shine. When both halves have been closed, the apparatus revolves without any light being seen. In the drawings, E and F represent the respective halves of the eclipser, which are actuated by the revolution of the apparatus itself through the rods, levers, and cams shown above the apparatus.

The particular form of actuating mechanism does not form a part of our invention.

The action of our apparatus is as follows: The apparatus is caused to revolve by a machine in the usual well-known manner, and the panels as they revolve cause two beams of light to travel around the horizon. Now it is clear that if no eclipser be used this apparatus would give two flashes for every revolution it made. If, however, an eclipser such as we have described be used, formed in two halves operated separately, we can by its means produce from this simple form of apparatus any group-flashing characteristic we please. For example, suppose that we desire a double group-flashing light. This is effected by causing the apparatus to revolve so that an observer will see first the flash from panel A and then that from panel B. Now as the flash from the panel B passes over the eye of the observer the one half of the eclipser E is closed, so that when the panel A has revolved so as to face the observer no light is seen, and as soon as it occupies this position the panel B, which is now diametrically away from the observer, has its eclipser F closed, so that upon the apparatus still further revolving no light whatsoever is seen, and the time of total eclipse thus obtained is so arranged as to give the required "long dark" between the group of two flashes. In order to give the next group of flashes, the respective eclipsers are raised one after the other, as in the case of closing.

It is clear that such an apparatus consisting of two panels can by means of our arrangement be made to give any number of flashes, as this simply depends upon the number of times that the apparatus is revolved with the eclipsers open, while the long dark can be made of any duration that is desired by keeping both eclipsers closed for as long as it is desired.

The advantage of our arrangement is that we can employ the largest size of single panels to give group-flashing lights instead of having to break these up into sections, which
5 has had to be done in the past when group-flashing lights were required.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

10 In combination with a source of light and with a system of lenses for projecting one or more rays, means for revolving said system

to produce flashes and intervals of darkness at given points of observation, and means for screening the ray or rays at intervals to 15 modify the series of flashes, substantially for the purposes described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

JOHN ARCHIBALD PURVES.

WILLIAM THOMPSON PURVES.

Witnesses:

JOHN MILL,

IAN MACDONALD.