

No. 738,707.

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S. P. VAN NORT.  
COLORED LIGHT PROJECTOR.  
APPLICATION FILED NOV. 12, 1900.

NO MODEL.

Fig. 1.

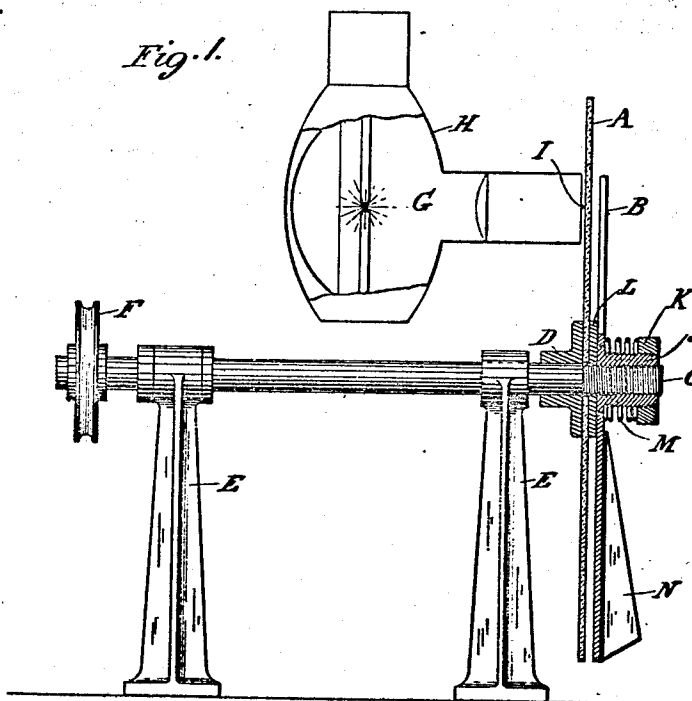
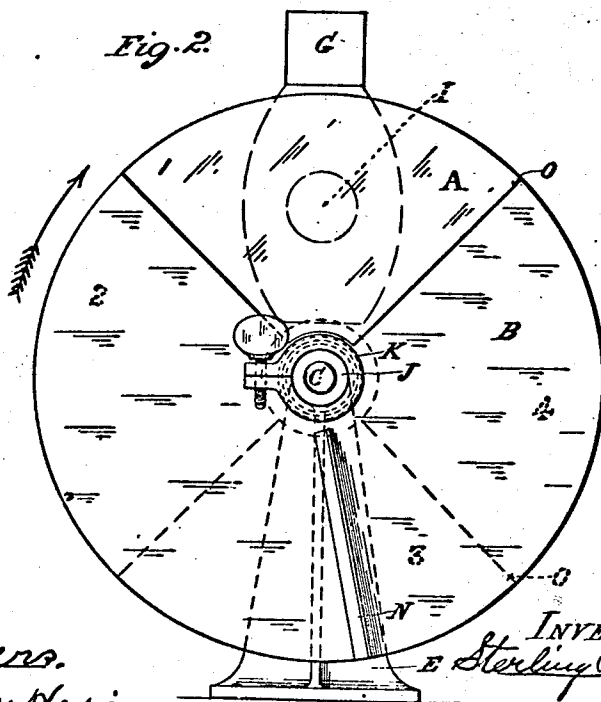


Fig. 2.



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STERLING PRICE VAN NORT, OF ST. LOUIS, MISSOURI.

## COLORED-LIGHT PROJECTOR.

SPECIFICATION forming part of Letters Patent No. 738,707, dated September 8, 1903.

Application filed November 12, 1900. Serial No. 38,312. (No model.)

*To all whom it may concern:*

Be it known that I, STERLING PRICE VAN NORT, of the city of St. Louis, State of Missouri, have invented a new and useful Colored-Light Projector, of which the following is a full and clear description.

The object of my invention is to provide a machine by the use of which an object—such as a fountain of water, a dancer, a scene on the stage or elsewhere, &c.—may be artificially illuminated with many different colors and tints one after another.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a side elevation of the machine with a section broken away, illustrating the general arrangement of all the parts. Fig. 2 is a face elevation of the end of the machine looking toward end of shaft C and source of light in projecting-lantern G.

In the figures, C represents a shaft upon which is fastened tight a pulley F and a flanged hub D, the whole being placed in the bearings or supports E E, so that it may be caused to rotate by means of a belt or other motive power well understood by a machinist.

A is a disk or color-support of glass or other transparent material, upon which is stained, painted, or fastened the colors which are intended to be thrown on the object to be illuminated. This color-support has a hole in its center and is clamped immovably on the shaft C, against the hub D, by means of the washer L and nut J, which latter is screwed onto the thread cut in the shaft C.

B represents an opaque screen which has a section or sections cut out of it to correspond to the arrangement of the colors on the color-support A. The nut J has a thread cut on its outside surface for part of its length, the other part being left blank to form a bearing for the opaque screen B. The opaque screen B has a hole in its center of proper size to make an easy fit on the blank part of the nut J. The screen is pressed into its place against washer L by means of the spiral spring M and lock-nut K. The opaque screen B has a small wing N attached to its surface. This wing is preferably made of some thin soft metal, so

that it may be bent to any angle desired relative to the surface of the opaque screen B, so that it will catch more or less air when the screen B rotates, thus having a more or less retarding effect on the speed of the screen B. This retardation may be also increased or diminished by altering the pressure on the spiral spring M by means of the lock-nut K.

G represents a projecting-lantern surrounded by the opaque shell H, containing a powerful electric, calcium, or other source of artificial light, so arranged to throw strong parallel beams of light through the transparent color-support at 1. The whole machine is placed in such a position that the resultant light is directed toward the object to be illuminated.

In Fig. 2 the transparent color-support A is represented by the lines O O as divided into four equal sections. To each of these sections a different color is applied. They are marked in the figures 1, 2, 3, and 4 and are in this instance supposed to be red, blue, orange, and white. In the position shown in Fig. 2 the light passes through the number 1 section of the transparent color-support A continuously if the latter was standing still and intermittently if it was rotating. By rotating the shaft C at high speed as long as the screen B and the color-support rotate at the same speed and retain the same relative position the resultant light will be red; but as the screen B is not perfectly tight on the shaft the action of the wing N will be to cause the screen B to fall behind the speed of the shaft C and color-support A. By adjusting the wing N and the compression of the spring M the retardation of the screen may be regulated so that a gradual change from one color or colors to another color or colors may be thrown, and this change will include all of the different shades or tints produced by a blending of the colors under change in any proportion, according to the relative position of A and B and the amount of surface of each color exposed. For instance, let the color at first be red. If the shaft is rotating, as shown by arrow, and the screen B falls behind a little in speed, it will expose a small part of the blue section and cover an equal part of the red. This small space of blue will be blended into the red which

is left exposed, and the resultant color will be a shade or tint which will correspond to the amount of surface of each color blended together. As the screen B falls more and more 5 behind its first position more blue and less red will be blended into the resultant color thrown on the object to be illuminated until only blue is shown. Thus a beautiful and almost endless number of colors and tints may 10 successively be thrown on the object.

It is obvious that the position of the colors and number of colors or tints may be varied or the color-machine can be varied or modified and obtain practically the same object or 15 result, and the right is hereby claimed to so modify the whole or part of the machine to suit conditions, colors wanted, &c.

I claim—

1. In a color-projecting lantern, a disk- 20 shaped opaque screen placed between the source of light and the object to be illuminated having a center adapted to form a free bearing on a cylindrical axis, said screen having transparent sections in its periphery and an 25 air-wing fastened and set at an angle to the

face of the screen, intended to have a retarding effect when the screen is rotated.

2. In a color-projecting lantern, a disk-shaped color-support or screen placed between the source of light and the object to be illuminated, carrying a plurality of the primary 30 colors respectively, mounted on an axis with suitable bearings and means for rotating the disk continuously in combination with an opaque sectional screen, mounted loosely on 35 the same axis, against the face of the color-support, being held in place by a compression-spring and an adjusting-nut, the opaque screen being adapted to be rotated by friction of the driven parts, an air-wing fastened, and 40 set at an angle to the face of the opaque screen for the purpose of retarding the speed of the opaque screen and thereby changing automatically the relative position of the color-support to the opaque screen, as described. 45

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