

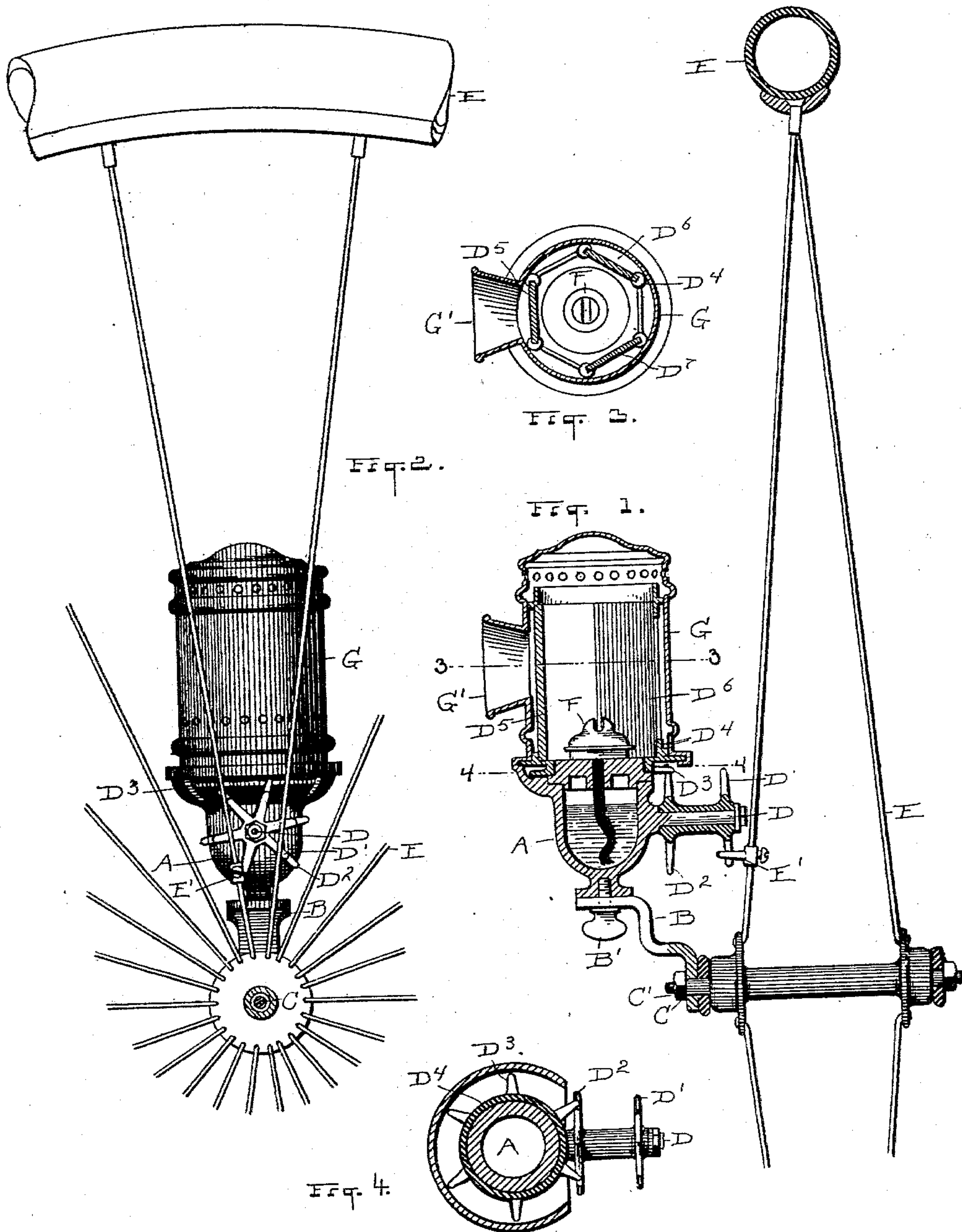
(No Model.)

2 Sheets—Sheet 1.

C. E. SMACK & W. BULKELEY.
VEHICLE LANTERN.

No. 596,949.

Patented Jan. 4, 1898.



ATTEST
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INVENTORS.
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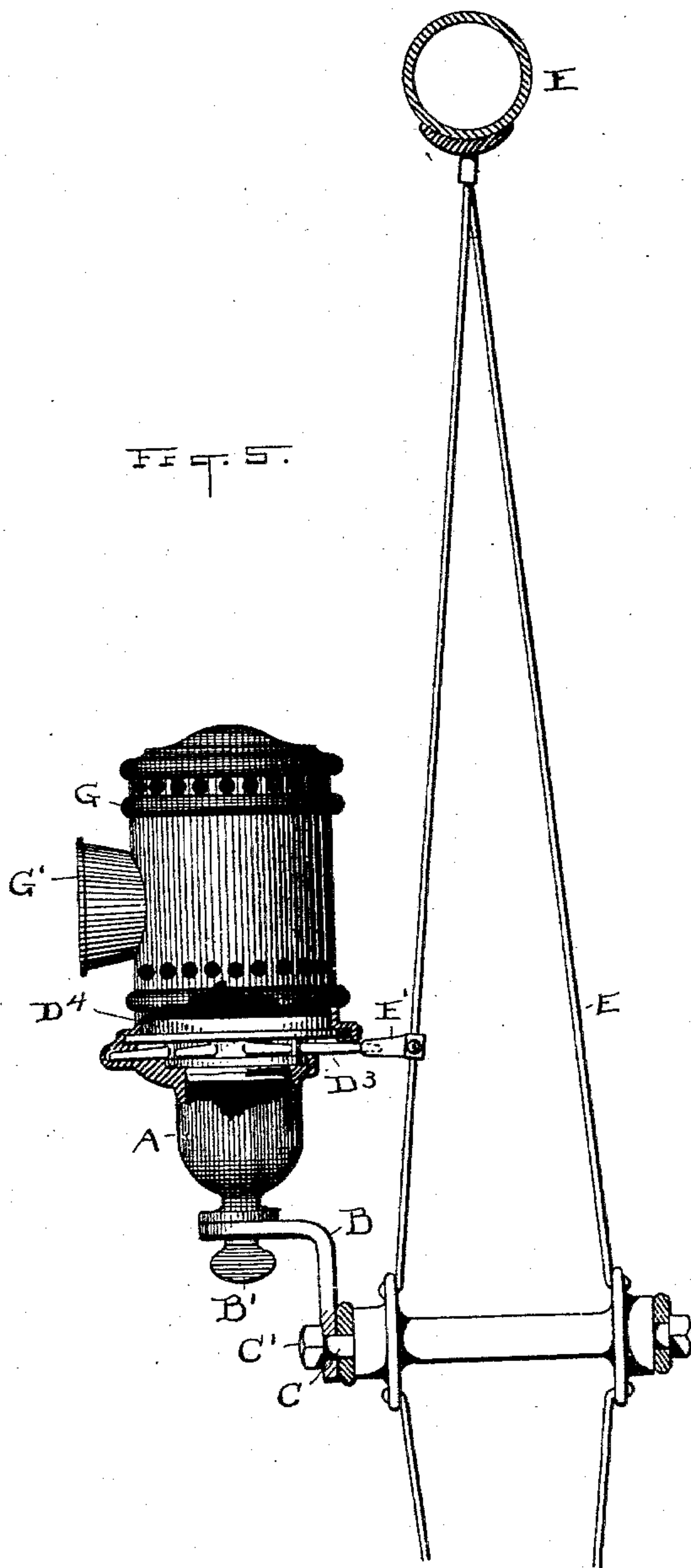
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ATTEST
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A. W. Mayers

INVENTORS
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UNITED STATES PATENT OFFICE.

CHARLES E. SMACK AND WORTHINGTON BULKELEY, OF CLEVELAND,
OHIO; SAID BULKELEY ASSIGNOR TO THOMAS E. WHITWORTH, OF
SAME PLACE.

VEHICLE-LANTERN.

SPECIFICATION forming part of Letters Patent No. 596,949, dated January 4, 1898.

Application filed March 7, 1896. Serial No. 582,249. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. SMACK and WORTHINGTON BULKELEY, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Vehicle-Lantern, of which the following is a specification.

Our invention relates to lanterns in which the light is shown through changeable colors; and the object of our invention is to provide a lantern with colors which may be changed automatically in connection with a bicycle or other vehicle. We attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of an entire lantern in connection with a vehicle-wheel. Fig. 2 is a side view of same. Fig. 3 is a cross-section of the upper part of lantern, taken on line 3 3, Fig. 1. Fig. 4 is a cross-section of lower part, taken on line 4 4, Fig. 1. Fig. 5 shows a modification hereinafter described.

Similar letters refer to similar parts throughout the several views.

In Fig. 1 the bowl A is connected by bracket B with wheel-axle C by adjusting-screws B' C'. The bowl A supports a shaft D, carrying a revolving gear or star-wheel D' D², with which the operator E' engages at each revolution of the vehicle-wheel E, thereby causing the star-wheel D' D² to revolve, D² in turn engaging with the star-wheel or gear D³, which it revolves around the top of bowl A, and carries with it the sectional cylinder D⁴, which contains alternate sections of different-colored glass or other material D⁵ D⁶ D⁷, designed to change the color of the light coming from the burner F. Around the sectional cylinder D⁴ is the hood G, carrying the usual opening or lens G' and connecting with the bowl A, to which it is secured.

Fig. 2 shows the hood G resting on bowl A, connected by bracket B to axle C of vehicle-wheel E, carrying operator E', which engages with star-wheel D' D², revolving same on intermediate shaft D, and in turn the star-wheel D³, (better shown in cross-section, Fig. 4,) carrying with it the sectional cylinder D⁴, (Better shown in cross-section, Fig. 3.) It is evident that as the vehicle-wheel E revolves

the operator E' will come in contact once in each revolution with the star-wheel D', causing it to revolve a certain distance on the intermediate shaft D, and as the same hub supports the next star-wheel or gear D² it will in turn engage with the star-wheel or gear D³, causing it to also revolve and thereby automatically revolve the sectional cylinder D⁴, alternately bringing different colors D⁵ D⁶ D⁷ between the burner F and the opening or lens G' in hood G, thus changing the color of light shown.

We prefer to change the color of light shown in an intermittent manner, and to that end use one or more gears D' D² D³, especially adapted to an intermittent operator E', attached to vehicle-wheel E. If desired, one or both of the intermediate gears D' D² may be omitted and operator E' connect directly with gear D³ or D³; also, both the operator E' and one or more of the gears D' D² D³ may be modified to make them conform for the purpose of intermittently changing the colors about the light. Fig. 5 shows this modification, in which we omit the intermediate gears D' D² and connect the operator E' directly with the star-wheel or gear D³, the result being the same as before.

We do not limit ourselves to particular construction or manner of attaching to vehicle. The advantages of our invention are to present beautiful and changeable colors which shall act as a warning, as the rapidity of the changes will attract attention and also indicate to some extent the speed of the vehicle.

We are aware that changeable colors have been combined with lanterns in various ways for use on lighthouses, railways, and hand use, and we claim nothing therein shown; but

What we do claim as new, and desire to secure by Letters Patent, is—

1. The combination with a vehicle-wheel of a lantern carrying rotatable colored screens and means connected with said vehicle-wheel to intermittently rotate said screens when the vehicle is in motion substantially as described and for the purpose set forth.

2. The combination with a vehicle-wheel of a lantern casing carrying rotatable signal-

screens, and means connected with said wheel to intermittently rotate said screens when the vehicle is in motion, substantially as described and for the purpose set forth.

5 3. The combination with a vehicle-wheel of a lantern carrying an inner rotatable casing said casing provided with colored screens of mechanism connected with said wheel to intermittently rotate said inner casing when the
10 vehicle is in motion, substantially as described and for the purpose set forth.

4. The combination with a vehicle-wheel of a lantern carrying a rotatable support signal-screens on said support, and a star-wheel on
15 said support, means connected with the vehicle-wheel to intermittently rotate said sup-

port when the vehicle is in motion, substantially as shown and as herein set forth.

5. The combination with a vehicle-wheel of a lantern fixed to the axle of said wheel and
20 carrying a rotatable signal-screen-supporting casing, projections on said rotatable casing and means connected with said vehicle-wheel to intermittently rotate said casing when the
25 vehicle is in motion, substantially as shown and described and for the purpose set forth.

CHARLES E. SMACK.

WORTHINGTON BULKELEY.

Witnesses:

FREDERICK L. TAFT,

W. E. FEY.