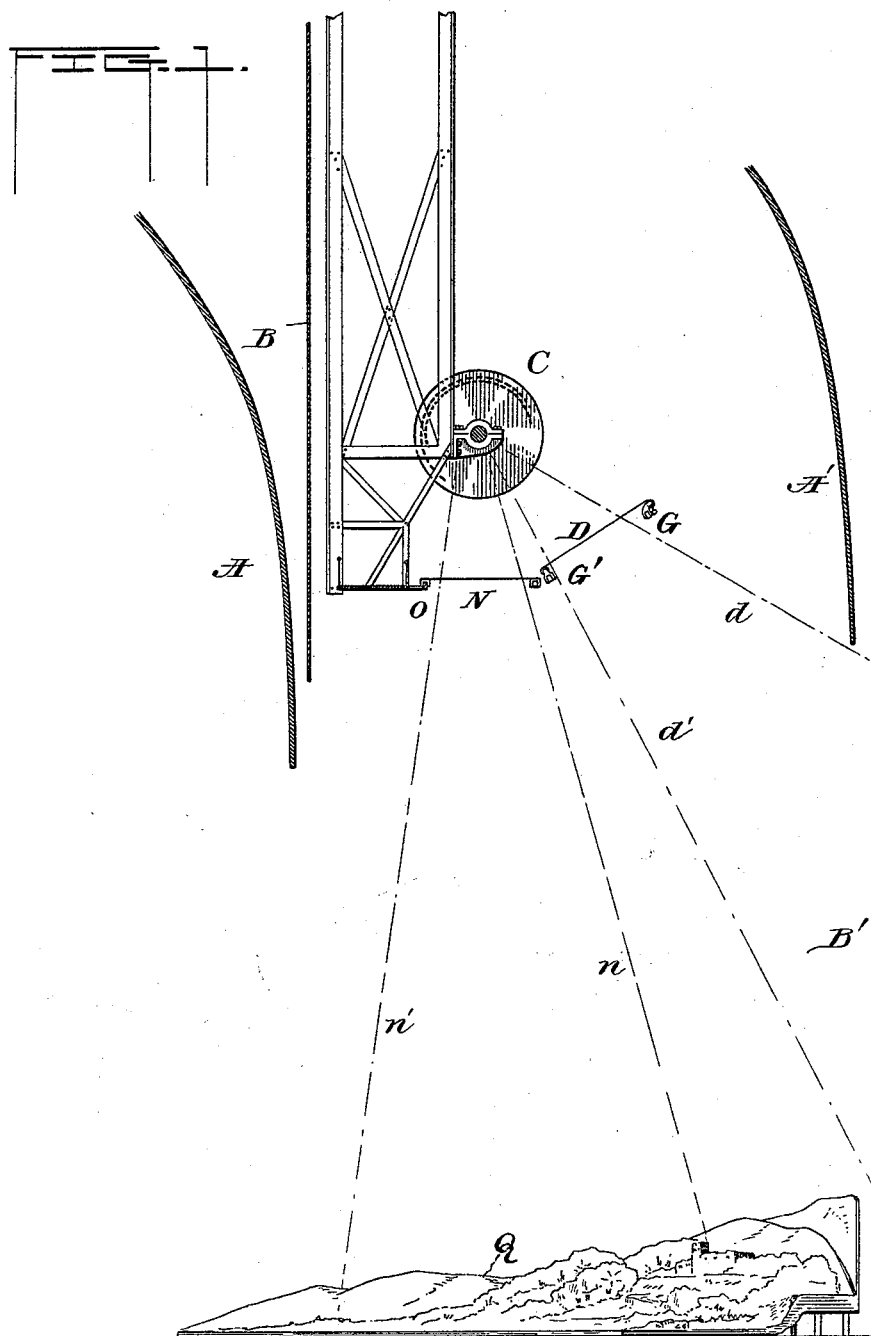


2 Sheets—Sheet 1.

No. 490,481.

Patented Jan. 24, 1893.



Inventor

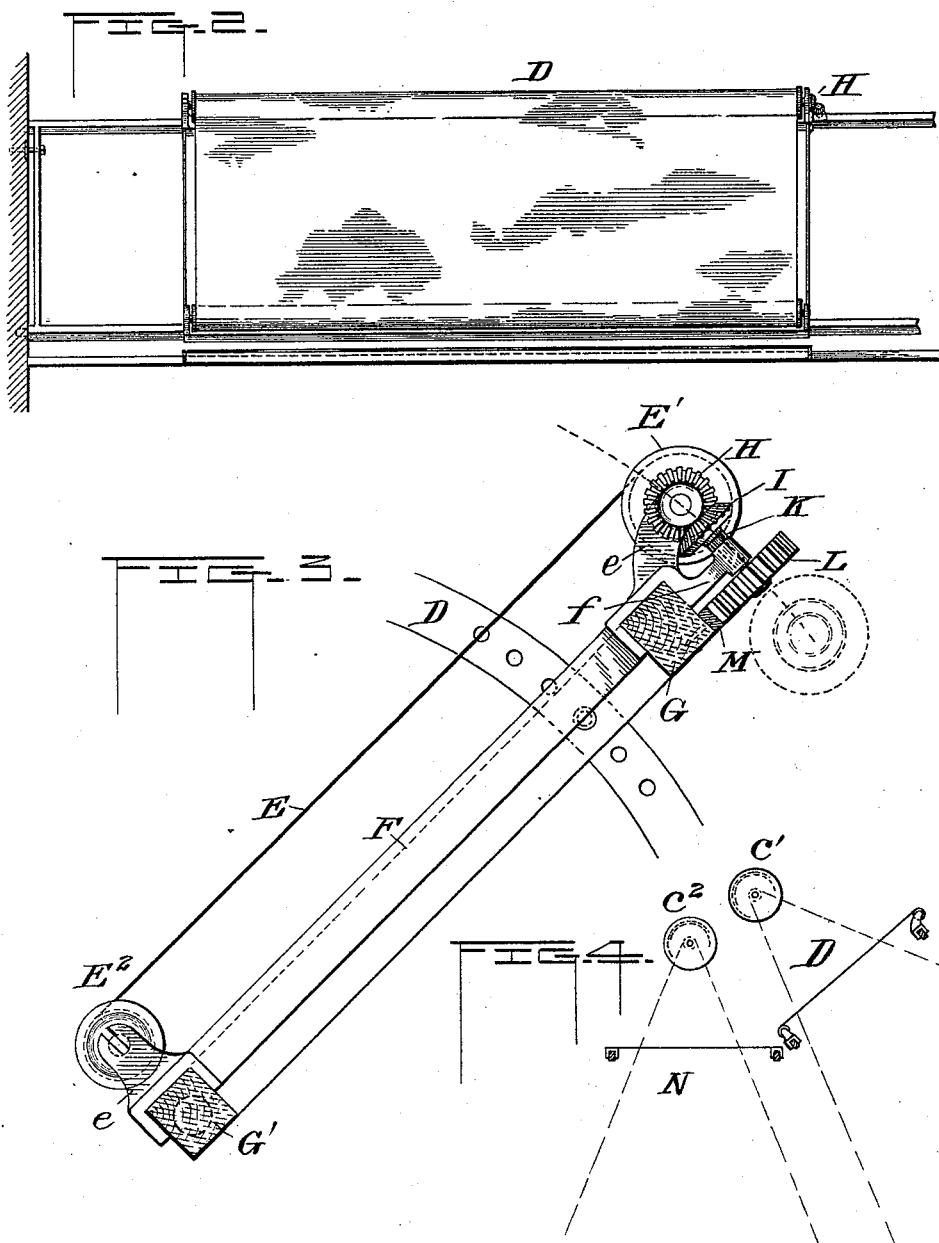
Witnesses  
L. A. Corner Jr  
Chas. E. Rindon.

By Stella M. Mochay  
Butterworth & Downer  
Attys

S. MACKAYE.  
CLOUD CREATOR OR NEBULATOR.

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Witnesses  
*L. H. Connor Jr.*  
*Chas. E. Rindoy.*

Inventor  
*Steele Mackaye*  
*By Bathworth & Dowell attys*

# UNITED STATES PATENT OFFICE.

STEELE MACKAYE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SPECTATORIA COMPANY, OF SAME PLACE.

## CLOUD-CREATOR OR NEBULATOR.

SPECIFICATION forming part of Letters Patent No. 490,481, dated January 24, 1893.

Application filed May 25, 1892. Serial No. 434,289. (No model.)

*To all whom it may concern:*

Be it known that I, STEELE MACKAYE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cloud-Creators or Nebulators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to apparatus for producing scenic effects, and the object of the invention is to provide improved means for creating clouds or cloud shadows so as to produce the effect of clouds or cloud shadows moving upon or over a landscape or sky foundation or other scenic arrangement, for the improvement of realism in land and water scenic effects.

The invention consists essentially of a cloud cloth having the cloud forms or shadows placed thereon and adapted to be moved in front of an illuminating lamp so as to cast the cloud shadows over the landscape or scenic arrangement or produce the effect of moving clouds upon a sky foundation or other surface. The cloud cloth may consist of any suitable material on which may be placed by painting or otherwise, various cloud effects or forms; the cloth being secured to a sliding frame or fitted over rollers so as to move in proximity to an illuminating coloring device from which light may pass through the transparent or semi-transparent material on which the cloud effects or shadows are placed, so as to cast the shadows upon the scenic arrangements or sky foundation, thereby imitating clouds moving through the sky or cloud shadows moving over land and water.

The invention also consists in certain details of construction and combinations of parts all as will be hereinafter described and particularly pointed out in the claims at the end of this specification.

Referring to the drawings, which form a part of this specification and in which similar letters of reference are used to denote similar parts in each of the several views, Figure 1 is a fragmentary end elevation of the illuminating or fly gallery of a theater or

other similar structure showing my improvements applied thereto. Fig. 2 is a plan of the cloud creator or "nebulator," and Fig. 3, is an end elevation of the same. Fig. 4 is a detail diagrammatical view illustrating the cloud and shadow makers supplied with separate illuminating lamps.

A, denotes a masking border or screen for concealing the machinery in the illuminating or fly gallery, and A', a similar screen in rear thereof.

B, denotes a sky or landscape drop which is suspended from the fly gallery in position to be lowered when desired.

B' denotes a sky foundation or drop lowered ready to receive the various cloud or other effects which may be thrown upon the surface thereof.

C, denotes an illuminating device and colorator which may consist of a rotary cylinder the periphery of which is made of any suitable transparent or semi-transparent material with the desired coloring effects painted upon or worked into the material in such manner as to blend the colors and secure the various tints and shades desired in any scene, together with a lamp and an adjustable reflector or illumiscope placed within the drum or cylinder so that the light may pass through the variously colored periphery of the drum and through the cloud effects or forms upon the cloud cloth for the purpose of producing the desired scenic effect upon the sky foundation. Said colorator and illumiscope form the subject matter of a separate application of even date herewith and as I do not desire to claim the same specifically in this case further description thereof herein is not deemed necessary. Moreover, while I preferably use such an illuminating and coloring apparatus in connection with my present invention, any illuminating lamp or other suitable source of light may be employed.

D denotes the cloud creator or nebulator which is supported in an oblique position with respect to the illuminating device C, so as to cause the rays of light to pass through the cloud forms and fall upon the sky foundation B' as indicated by the dotted lines *d, d'*, in Fig. 1; these latter lines indicating the scope of illumination of the nebulator. This

nebulator consists essentially of a cloud cloth or curtain E, having the desired cloud forms placed thereon, by painting or otherwise, and secured to a sliding frame, which may be supported upon guide rails and moved at any desired rate of speed in front of the lamp, but I preferably fix the cloth upon rollers E', E<sup>2</sup>, which are journaled in brackets e, e, fixed upon a sliding frame F. The frame F is supported upon guide rails G, G', which may extend partly or entirely across the fly gallery parallel with the illuminating device C, and in proximity thereto. The shaft of the upper roll E' is provided at one end with a bevel wheel H, which meshes with a similar bevel wheel I, fixed upon a stud or shaft K, journaled in a bracket f projecting from the frame F. The stud or shaft K is provided at its opposite end with a gear wheel L, which meshes with a rack M, fixed to the guide rail G. By this means when the frame F is slid back and forth upon the guide rails G, G', motion will be imparted to the gear wheel L, by contact with the rack M and thence to the roller E', by means of the intermediate bevel gearing, thus causing the cloud cloth E to be drawn over or wound upon the roller E' and unwound from the roller E<sup>2</sup> simultaneously with its horizontal movement caused by the longitudinal movement of the sliding frame. The frame which carries the cloud cloth is also adjustably supported so that it may be arranged at any desired angle to the illuminating lamp, reflector or other source of light, whereby, as the cloth is drawn or caused to move across the path of movement of the oblique sliding frame, the shade effect or cloud produced upon the sky foundation may be made to approach or recede from the light simultaneously with its two-fold movement through or across the sky in a descending or ascending course, thereby causing the cloud effect to increase or diminish in size as it rises or descends.

N denotes the shadow maker or "umbrator" which consists simply of a sliding frame and cloud cloth with cloud shadows or forms thereon similar to the cloud creator; the frame being fitted upon suitable guide rails O, O, and provided with a cloud cloth on which may be placed or painted any desired form of cloud shadow or like effect. The umbrator is preferably supported beneath the illuminating lamp so as to cast the shadows upon the landscape or other scenic arrangement indicated at Q in Fig. 1, these scenic arrangements being supported upon movable stages which will permit the desired combination to be made for the attainment of any desired scenic effect, or exhibition of any desired performance.

The dotted lines *n*, *n'*, indicate the scope of illumination of the umbrator. The umbrator and nebulator may be used singly or together, and may each have an illuminating lamp C', C<sup>2</sup>, as indicated in Fig. 4, if desired. By these means I am enabled to produce the ef-

fect of clouds or cloud shadows moving through the sky or over land and water, and to give the appearance of a cloud rising above the horizon or descending the sky, and passing in the desired direction at any desired rate of speed, while gradually increasing or diminishing in size as it rises or descends below the horizon. These various effects may also, when desirable be accompanied with the usual imitations of thunder and lightning; the lightning being produced by means of lights which are moved rapidly in a zig-zag or other course behind the drop or transparent surface B' on which the sky foundation is painted; and if desired a star-light night or similar effect may be given by perforating the drop B' and fixing suitable lights at the rear of the perforations therein. In this manner various effects may be produced of clouds or cloud shadows in imitation of a slightly cloudy sky, or a stormy, cloudy sky, or of light or heavy, swift or slowly moving clouds, and of an approaching, raging or receding storm.

It is obvious that other means may be provided for moving the cloud cloth in proximity to the illuminating device, and that either a lateral, vertical, or oblique movement may be given the cloth in respect to the light, by simply winding the cloth over fixed rollers or securing it to a sliding frame as in the case of the shadow maker or umbrator without necessarily providing for a two-fold or three-fold movement, and I do not desire to be limited to the exact construction and arrangement of parts herein shown and described. It should also be noted that the term cloud-cloth as employed herein denotes either the moving transparent or semi-transparent material with cloud forms or cloud shadows thereon, as described with reference to the nebulator and umbrator respectively; this term being used interchangeably in respect to the moving cloth into or upon which the desired forms may be worked or painted.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:—

1. An apparatus for producing moving cloud effects or cloud shadows, comprising a movable cloud cloth having the desired forms thereon, an illuminating device arranged in proximity to the cloud cloth, and means for moving the cloth in the desired direction for producing the moving clouds or shadows, substantially as described.

2. In apparatus for producing scenic effects, the combination with the cloud cloth having the desired forms thereon, the illuminating device, the sliding frame carrying said cloth and means for moving the cloth across the path of movement of the sliding frame, so as to produce a two-fold movement of the cloth and cloud effects, substantially as described.

3. In combination with the sliding frame, the rollers journaled therein, the cloud cloth

secured to said rollers and adapted to be wound thereon, and gearing for imparting motion to said rollers by the movement of the sliding frame, substantially as described.

5 4. In combination with the illuminating device, the obliquely arranged sliding frame, the cloud cloth supported thereon, and means for causing the cloud cloth to move across the path of movement of the sliding frame, substantially as described.

10 5. In combination with the illuminating lamp, the sliding frame supporting the cloud cloth thereon, mechanism for causing said cloth to move across the path of movement of the sliding frame, and means for adjusting and securing said frame at any desired angle in respect to the lamp, substantially as described.

15 6. An apparatus for producing scenic ef-

fects, comprising a movable cloud cloth and an illuminating and coloring device, substantially as described, whereby cloud effects or shadows may be thrown upon the scenic arrangements or sky foundation in variegated colors, substantially as described.

25 7. In combination with the illuminating devices, the nebulator, the umbrator, and means for actuating said devices so as to produce the effect of clouds and cloud shadows moving simultaneously over the landscape and sky foundation, or other scenic arrangements, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

STEELE MACKAYE.

Witnesses:

POWEL CROSLEY,  
SIDNEY C. WHITE, Jr.