P. E. PAOLI.

THEATRICAL DEVICE.

APPLICATION FILED JAN. 27, 1917.

1,273,111.

Patented July 16, 1918.

4 SHEETS—SHEET 1.

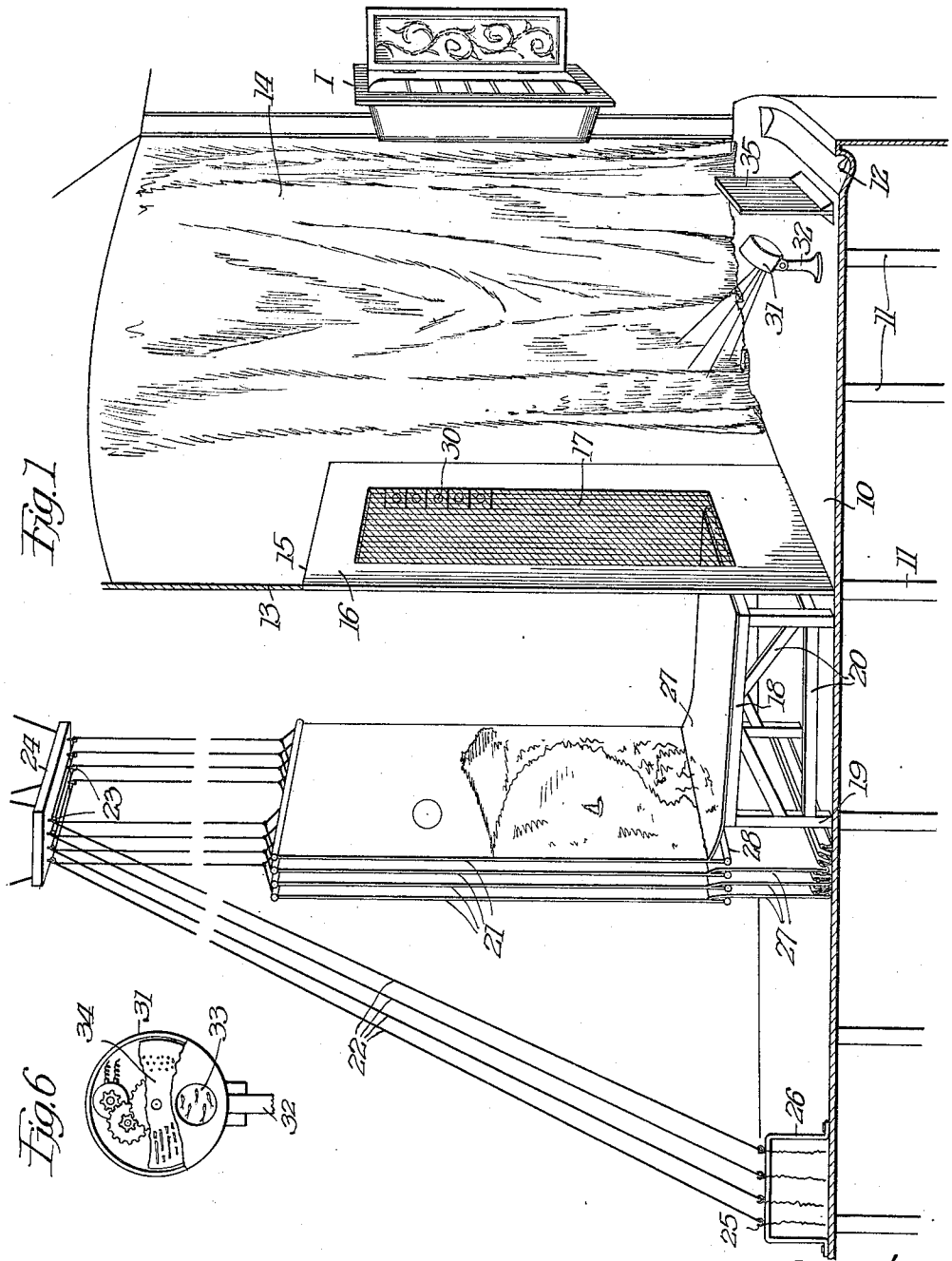


Fig. 1

Fig. 6

Inventor

Peter E. Paoli

By Brown, Harrison & Boettcher

Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

P. E. PAOLI.

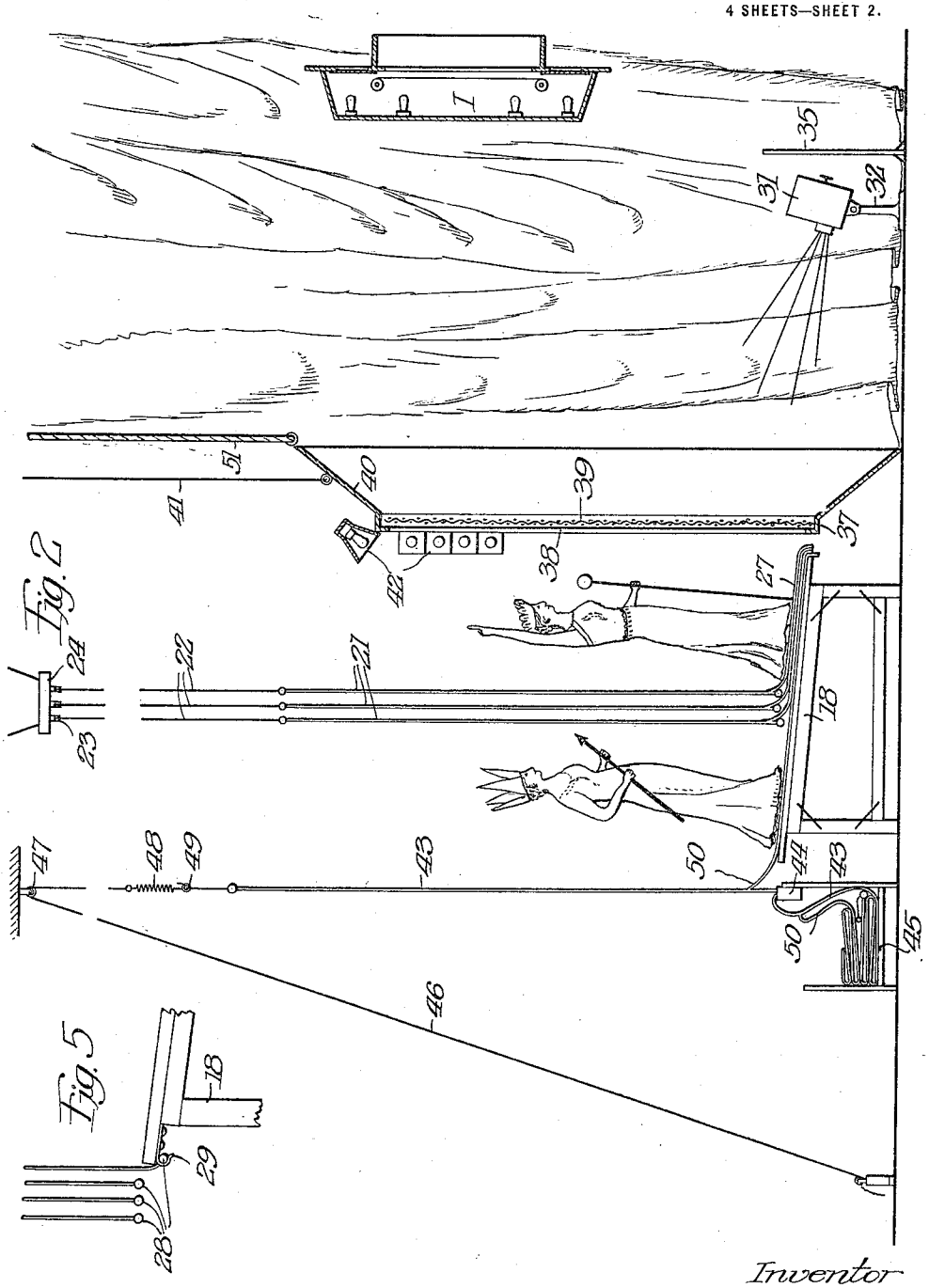
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4 SHEETS—SHEET 2.



Inventor

Peter E. Paoli

By Brown, Hanson & Battelle

Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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4 SHEETS—SHEET 3.

Fig. 4

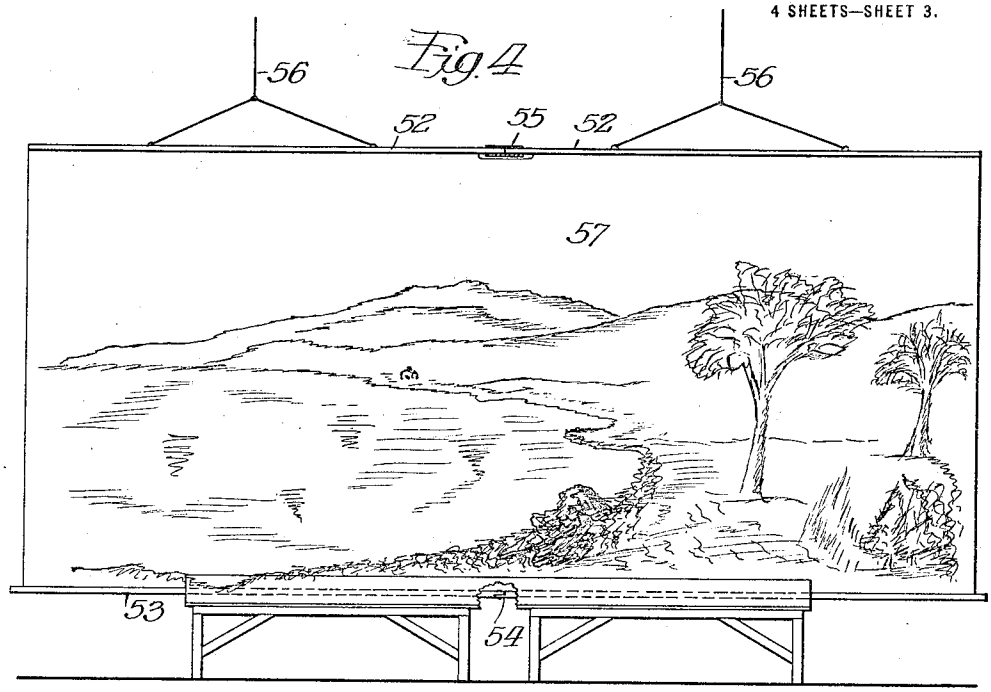
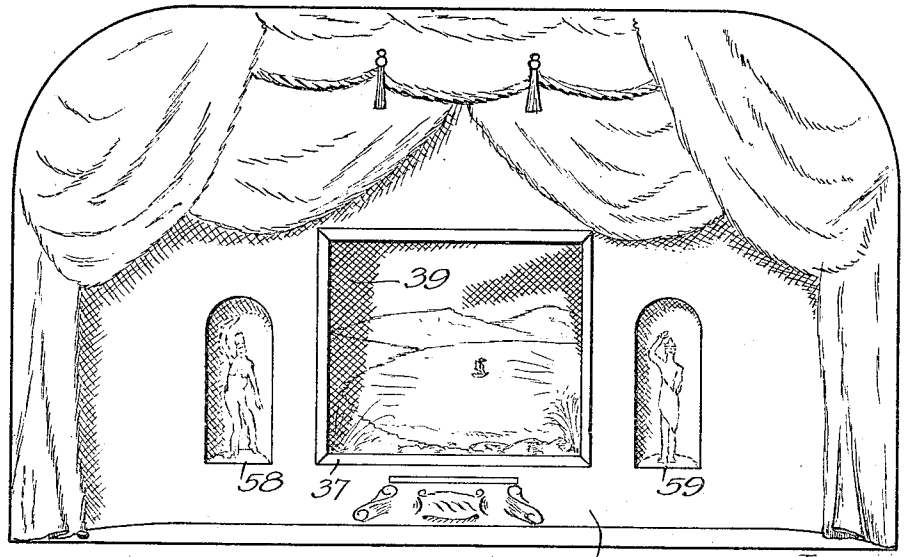


Fig. 3



Inventor

Peter E. Paoli

By Brown, Harrison & Boettcher

Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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4 SHEETS—SHEET 4.

Fig. 8

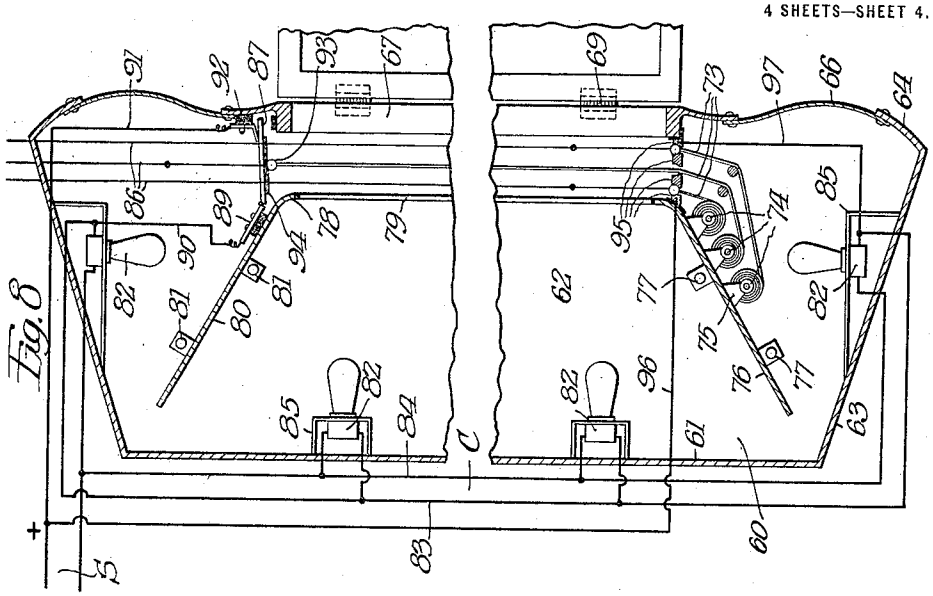
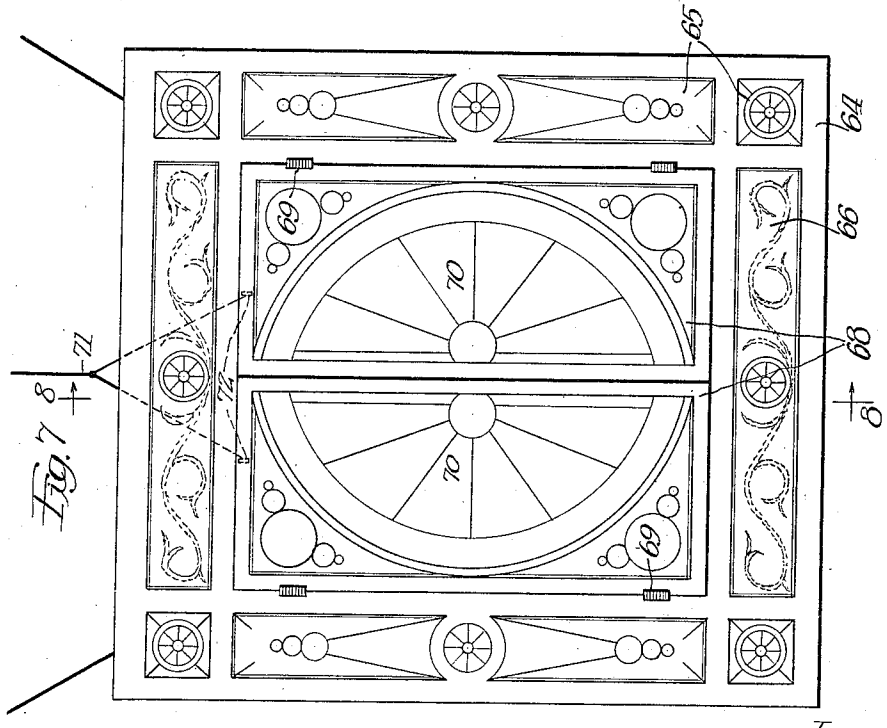


Fig. 7



Inventor

Peter E. Paoli

By Brown, Hanson & Bostwick

Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PETER E. PAOLI, OF WILMETTE, ILLINOIS.

THEATRICAL DEVICE.

1,273,111. Specification of Letters Patent. Patented July 16, 1918.

Application filed January 27, 1917. Serial No. 144,974.

To all whom it may concern:

Be it known that I, PETER E. PAOLI, a citizen of the United States, residing at Wilmette, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Theatrical Devices, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The present invention relates to theater appliances and more particularly to novel and improved means for producing scenic effects in connection with the exhibition of various representations of artistic works for affording amusement and entertainment to an audience.

The primary object of my invention is to provide a device of the character described whereby marine effects and the like may be artistically and accurately produced on a stage or the like, the arrangement of the various "drops" being such that quick and convenient changes of the backgrounds may be had between exhibitions with a minimum delay in the course of the exhibition.

Another object of my invention is to provide means whereby in the production of a marine scene an illusion may be produced to give the effect of depth, whereby the figure of the person posing may be brought out and clearly shown.

A further object of my invention is to provide a novel and improved arrangement of backgrounds or drops whereby each change of scenery may be made without undue effort or loss of time.

A still further object of my invention is to provide a novel and improved annunciator or indicator for apprising the audience of the title of the successive exhibitions as each one is developed.

Other objects of my invention not hereinbefore set forth will appear from the following detail description and claims, taken with an inspection of the accompanying drawings, in which—

Figure 1 is a fragmental perspective view of a stage showing the device embodying the improvements of my invention assembled thereon;

Fig. 2 is a longitudinal sectional view of the same showing a modified arrangement of drops;

Fig. 3 is a front elevation of the stage set up with my improved exhibitor;

Fig. 4 is a front elevation of a modified form of drop;

Fig. 5 is an enlarged fragmental elevation of one means for fastening the lower end of one of the drops to the platform;

Fig. 6 is an elevational view of a shadow and light ray projector;

Fig. 7 is a side elevational view of the indicator; and

Fig. 8 is an enlarged fragmental sectional view of the same taken on the line 8—8 of Fig. 7.

Referring more particularly to the drawings, wherein the preferred embodiment of my invention is illustrated, and wherein similar characters of reference designate like and corresponding parts throughout the various views, 10 designates a stage floor or the like supported on the usual posts 11 and provided with the usual foot-lights 12. Any ordinary stage may be utilized for the purpose of which my invention is designed.

Referring to the form of my invention shown in Fig. 1, I provide a partition 13 disposed transversely of the stage 10 and about midway of the depth of said stage. Draperies 14 or other scenic decoration may be employed merely for ornamentation to hide the joining of the partitions with the wings of the stage. The partition 13 is provided with a rectangular opening 15 in which is disposed a rectangular frame 16 carrying a fine mesh screen 17 through which the image on exhibition is to be viewed in a manner which will hereinafter appear.

Back of the screen 17 is disposed a slightly inclined platform 18 mounted on suitable legs 19 strengthened by braces 20. The forward end of the platform is disposed adjacent to and practically in alinement with the lower edge of the screen 17.

A plurality of drops 21 are provided, said drops having pictorial representations of marine views, landscapes, or the like. The drops 21 are suspended by cables 22, or in any other desired and efficient manner. The cables 22 are trained over pulleys 23 carried by a board 24, the free ends of the cables being fastened in cleats 25 mounted on a suitable bracket 26 secured to the stage floor 10. It is, of course, understood that the board 24 is mounted in any suitable manner on the ceiling or cross beams of the theater structure.

Each of the drops 21 is provided with a

ground piece, such ground pieces being designated 27. Of course, the ground pieces may be omitted if desired, but are preferred in view of the fact that no line of demarcation is apparent when the ground pieces are used, as best shown in Fig. 1.

Assuming that the front drop of the set is in use, the ground piece of that drop will be placed upon the upper surface of the platform 18. Each of the drops is provided with a rod 28 on its lower end. The rods 28 serve as weights, and are adapted for engagement with hook members 29 carried by the platform 18 along the rear edges thereof, said hooks serving to maintain the lower end of a certain drop stationary while the same is drawn taut.

The objects placed on exhibition are mounted upon the ground piece 27 on the platform 18. The representations of works of art, sculpture or the like, or marine views, are preferably posed for by persons skilled in the art of posing, such person or persons standing upon the ground piece in front of the exposed drop behind the screen 17. The person thus posing is illumined by a bank or plurality of banks of lamps 30 which preferably concentrate their rays on the person posing and on the background or drop exposed.

The screen 17 is of such nature as to tend to hold the figure standing on the platform 18. In order to simulate depth in a marine or other representation, a shadow and light projecting mechanism is provided, best shown in Fig. 6. The projector preferably embodies the casing 31 mounted adjustably on a suitable standard 32. The front wall of the casing is provided with an opening 33 and a dial 34 revolubly mounted in said casing. The dial is provided with a plurality of openings of various contours which pass in front of a light projecting member not shown. An electric motor or clock work may be employed for rotating either slowly or rapidly the disk 34 so that the shadows or rays produced by the openings in the disk will be projected onto the screen 17. The projector is preferably mounted near the front of the stage behind a shield 35 hidden from the view of the audience. The rays of light striking the screen 17 and passing thereacross give those in the audience the impression that the person posing is submerged in water or the like. The openings cut in the disk 34 may be made to represent fish of various shapes and sizes so that the illusion of depth is imparted to the audience and the person posing appearing as an integral part of the scene depicted on the exposed drop.

In Fig. 2 a modified arrangement of the drop is shown, as well as a modified form of screen frame. In this instance, the drops 21, hereinbefore referred to, are moved slightly forwardly upon the platform 18 until disposed at a point substantially midway the length of the same. The ground pieces 27 are disposed upon the platform in the same manner in which they are disposed in Fig. 1.

In this form of the invention the screen frame is designated 37 and is provided with an opening 38 over which is disposed the screening 39. The frame is provided with a flaring marginal guard 40 to which is connected a cable 41 for hoisting the same into the fly of the stage when not in use.

Lamps 42 are provided along the side and top of the frame 37 for illuminating the object on exhibition.

In connection with the drops 21 I also provide a modified form of background in the form of curtains 43, of which there may be a plurality secured to a block 44. The block 44 is mounted on the upper margin of one of the walls of a receptacle 45, which receptacle is adapted to receive the curtains 43 when the same are not in use. The curtains 43 are raised into position for use instead of being lowered as are the drops 21. This raising of the curtains 43 is accomplished by means of a cable 46 trained over a pulley 47 mounted in the ceiling of the theater structure, the free end of the cable having a spring 48 or other flexible element associated therewith, the free end of the spring being connected as at 49 with the upper end of one of the curtains 43. The curtains 43 are provided with ground pieces 50 similar to the ground pieces 27 carried by the drops 21 and for a similar purpose. After using one of the curtains 43 the same is dropped down between the platform and the adjacent wall of the receptacle 45, and the next curtain is hoisted into position. Of course, when the curtains 43 are in use the drops 21 are hoisted into the fly out of sight. One of the usual curtains 51 may be employed to hide the cables 22, 41 and 46, said curtain being lowered to the top margin of the flange 40 formed on the frame 37.

In Fig. 4 a modified form of drop is illustrated. In this instance the top and bottom bars 52 and 53 are divided, the bottom bars being hingedly connected at 54. The top bars 52 are detachably connected by sleeves 55, and the hoisting power is applied to both top rods by means of the cables 56. The body of the drop is designated 57. It will be apparent that in this form of the device a double scene may be had, that is, a scene twice the size or greater than that shown in Figs. 1 and 2. In the event that the double scene is provided, two additional openings 58 and 59 are formed in the partition 13, hereinbefore referred to, this being best shown in Fig. 3.

In Figs. 7 and 8 I have illustrated an act or exhibition indicator which preferably

comprises a housing 60 having a fixed rear wall 61 and integrally formed by the top walls 62 and 63. The front wall is designated 64 and is provided with exterior decorations 65 and artistic transparencies 66. A relatively large rectangular opening is formed in the front wall 64, a flange 67 being arranged marginally of the opening. A pair of swinging doors 68 are hingedly connected to the flange 67, spring hinges 69 normally tending to open said doors. Said doors are provided with openings in which transparencies 70 are arranged, said transparencies preferably being formed of that material known as new art glass. A cable 71 connected at the point 72 to the doors 68 is provided for moving said doors to closed position.

The indicating means is preferably in the form of a plurality of webs 73 adapted to be wound on spring rollers 74 carried in brackets 75 mounted on a frame 76. The frame is secured at 77 to the side walls of the housing. The frame 76 is also extended upwardly as at 78 and provided with an opening 79 disposed back of the webs when the latter are in raised position. The frame 76 is further extended as at 80 and connected at 81 to the side walls of the housing. The inner and outer surfaces of the portions 76 and 80 serve as light shields for the lamps 82. The lamps 82 are preferably incandescent and connected in parallel across the conductors 83 and 84 of a distributing circuit *c*. The lamps are mounted in suitable brackets 85, the structure of which is not the essence of the invention. The webs 73 are maintained in the lowermost position by means of the spring rollers and are raised to exposed position by means of the cables 86.

It is desired that when the webs are in the raised or lowered positions, the lamps 82 be lighted, but when the webs are in course of movement the lamps be extinguished. To accomplish this result, I provide a pivoted circuit closing arm 87 mounted at 89 on the portion 80 of the frame 76. A conductor 90 forms electrical communication between the conductor 83 of the circuit *c* and the arm 87. A conductor 91 leads from one side of the supply circuit S to a terminal 92 disposed above the arm 87. The free ends of the webs are provided each with a metallic member 93 which may be a ball or a transverse rod, as desired. The arm 87 is disposed whereby when a web is raised to the exposed position, the free end thereof will engage and raise said arm into contact with the terminal 92. Insulation 94 is placed on the under surface of the arm to prevent contact thereof with the metallic members 93.

On the bottom end of travel of the webs I provide a circuit terminal composed of a plurality of spaced blocks 95 disposed alternately to the web, said webs passing therebetween. However, the space between the members 95 is such that when the webs move to the lowermost position, the metallic members 93 carried thereon will bridge the distances between the blocks 95 forming a complete metallic circuit. A conductor 96 leads from the conductor 91 to one of the endmost of the blocks 95 and a conductor 97 leads from the other endmost block to the conductor 83 of the circuit *c*. Thus, it will be seen that when one of the webs is in course of movement from upper to lower position, or vice versa, both of the switches 87 and 95 will be open extinguishing the lamps. However, as soon as the web is raised, as shown in Fig. 8, the free end thereof engages and raises the arm 87 into contact with the terminal 92. Current now flows through the conductor 91 to the conductor 90 and thence to the conductor 83 through the lamps, returning through the conductor 84 to the other side of the supply circuit S. The lamps are thus lighted and the rays thereof are projected through the web indicating by letter or name the act due. When the web is permitted to fall, the lamps are extinguished during downward movement, but as soon as the web reaches the lowermost position, the metallic member 93 completes the circuit between the conductors 96 and 97 again permitting current to flow from the supply circuit to the conductor 83 of the circuit *c* and thence to the lamps returning to the supply circuit. During the raising or lowering movement of the webs, the doors are closed and as soon as the web is in position to be exposed these doors are permitted to open. It will be apparent that the indicator may be mounted permanently to one side of the stage, or may be suspended in the center of the stage during a change of scene and withdrawn upwardly out of the way during a period of exhibition.

It will be readily apparent that the two forms of drops employed are interchangeable, that is, the drops 21 may be employed in conjunction with the curtains 43, or may be employed independently as shown in Fig. 1. The indicators are shown in Figs. 1 and 2 in general arrangement, the same being designated I in their entireties.

It will be apparent that other means than the projector 31 may be employed for producing the results produced by such projector and I therefore do not limit myself to use of such a projector. It will also be apparent that other means of supporting the screens 17, drops 21, and curtains 43 may be provided. In other words, the drops 21 may be slid laterally into position for exposure or moved from beneath the stage upwardly. The curtains and drops need not of necessity be flexible but may be made

of a light weight rigid material, if desired. However, it is preferred that the same be made of flexible material in view of the fact that they may be more readily packed for shipment.

From the above description taken in connection with the accompanying drawing, it is thought that a clear and comprehensive understanding of the construction, operation and advantages of my invention may be had, and while I have shown and described the same as embodying a specific structure, it is desired that it be understood that such changes may be made in said structure as will not depart from the spirit and scope of the invention as claimed.

I claim:

1. The method of producing scenic effects on a stage or the like, which consists in exposing an object or set piece before an opaque drop having a scenic representation thereon, then placing a screen between the audience and the set piece, then subjecting the set piece to illumination from a fixed source located behind said screen, and then playing the rays of light from a varying source on said screen to produce the effect of depth.

2. The combination of a platform to receive an object to be exhibited and a plurality of drops, ground pieces carried by the drops and disposed on the platform, means to raise the drops into exposed positions successively, a semi-transparent screen in front of the platform, a plurality of light sources behind the screen to illuminate the object and a varying light source in front of the screen to produce the effect of depth.

3. In a device of the class described, the combination of a platform to receive a set piece or the like, a light gathering semi-transparent screen in front of said set piece, an opaque drop behind said set piece, a fixed light source behind said screen to illumine said set piece and a varying source of light directed on said screen.

4. In a device of the class described, the combination of a platform to receive a set piece, an opaque drop behind said set piece, a semi-transparent light gathering screen in front of said set piece, a source of flickering light projected onto said screen, and a source of unflickering light to illuminate said set piece.

5. In a device for producing submarine effects, the combination of a platform to receive a set piece or object to be exhibited, a semi-transparent screen in front of said platform, a plurality of interchangeable drops behind the set piece, a stationary source of light to illuminate the set piece, and a varying light source for application to said screen.

6. In a device for producing scenic effects, an opaque drop, a semi-transparent screen in front of said drop, an object to be exhibited located between said screen and said drop, a steady source of light to illuminate the object and a flickering source of light in front of said screen to produce the effect of depth.

7. In combination, a platform to receive one or a plurality of objects, a screen in front of the platform, a plurality of sets of drops behind each of the objects on the platform, whereby when the first drops are raised, the other drops will be exposed in connection with all of the objects on the platform, a steady source of light behind the screen to illuminate the objects, and a flickering source of light in front of the screen to produce a submarine effect thereon.

8. In combination, a platform having objects thereon to be exhibited, means to illuminate the objects, a plurality of drops behind the platform, ground pieces carried by the drops to cover the platform, and means to independently dispose said drops singly at the rear of the objects to be exhibited.

In witness whereof, I hereunto subscribe my name this 19th day of January, A. D. 1917.

PETER E. PAOLI.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."