Aug. 22, 1944. G. WEISS 2,356,191

DEVICE FOR LIGHT EFFECTS FOR IMITATING FALLING SNOW AND THE LIKE

Filed June 12, 1941 2 Sheets-Sheet 1

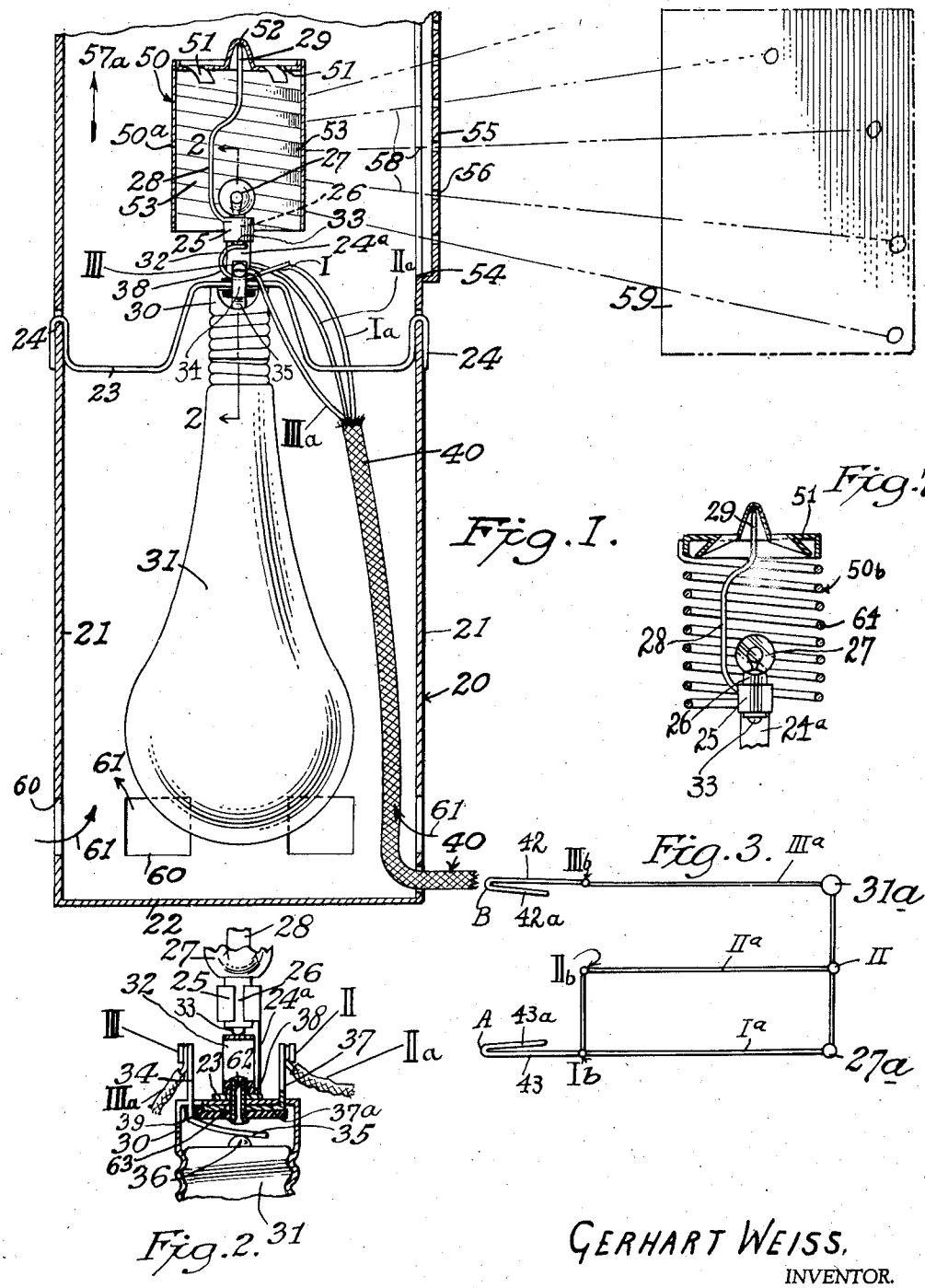


Fig. 1.

59

Fig. 7.

Fig. 3.

Fig. 2.

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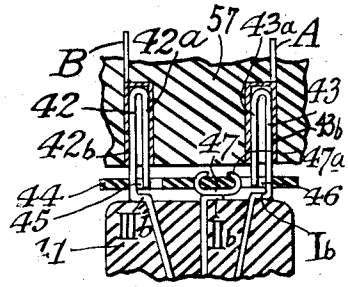


Fig. 5.

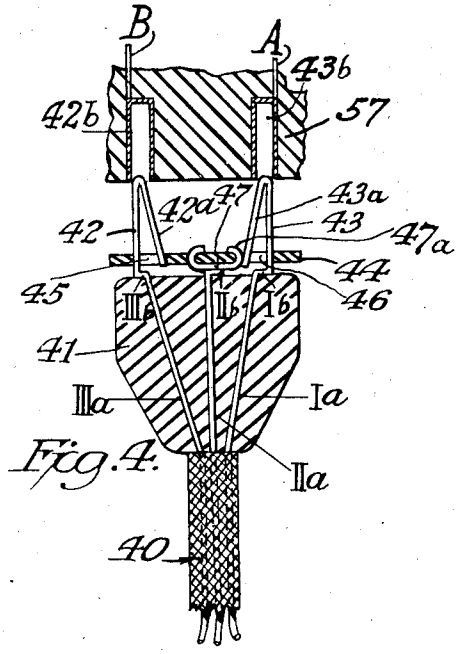


Fig. 4.

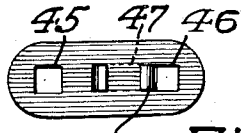


Fig. 6.

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2,356,191

DEVICE FOR LIGHT EFFECTS FOR IMITATING FALLING SNOW AND THE LIKE

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Application June 12, 1941, Serial No. 397,724

7 Claims. (Cl. 272—15)

This invention relates to devices for light effects and has for its main object to provide a device of this character which will imitate in its effect falling snow on an appropriate object, like a screen, a wall, a Christmas tree, etc.

Another object of my invention is to produce such desired light effects by successively starting, extinguishing, and generally changing the light rays and their fall on an object, causing the spots of light produced by the rays on the object, to appear as moving in a desired sequence and direction.

Other objects of my invention will be apparent as this specification proceeds, and among others, I may mention: to provide a device as characterized hereinbefore which will be simple in construction, inexpensive to manufacture, easy to set up, to operate, or to be put out of operation, and the effect of which will be easy to be produced on a desired receiving medium or object.

In the drawings forming a part of this specification and accompanying the same,

Fig. 1 is a diagrammatical elevational view of a preferred embodiment of my invention, portions of the same being shown in section and other portions having been removed;

Fig. 2 is a sectional detail on an enlarged scale showing the arrangement of the various electrical contacts in said prefererd embodiment, and the section being taken on the line 2—2 of Fig. 1;

Fig. 3 is a diagram of the electrical connection used in said preferred embodiment;

Fig. 4 is a sectional elevation of an electrical plug used with said preferred embodiment and being shown at the beginning of the plugging operation;

Fig. 5 is a sectional detail of said plug in the position after the plugging operation has been completed;

Fig. 6 is a plan view of an insulator strip or plate used in said plug;

Fig. 7 is an elevational view of a rotatable cylindrical body formed of helically wound wires to be used in said prefererd embodiment instead of the rotating transparent cylinder shown in Fig. 1.

Referring now to the drawings more in detail by characters of reference, the numeral **20** indicates a housing in general having the side walls **21** and a bottom **22**. A cross or bridge piece **23** is hooked into the walls crossing the widths of the housing between the side walls **21** at a desired distance above the bottom, said bridge piece being shaped as indicated in Fig. 1, hooked into appropriate holes in the side walls by its downwardly turned terminations **24**, preferably being of steel or other sheet metal and of a comparatively narrow width, as indicated in Fig. 2. All the important operating elements of my novel device are supported by or suspended on said bridge piece **23**.

The bridge piece **23** is preferably stamped out of a piece of sheet metal in the form of a long strip and bent to the shape shown in Fig. 1. When stamping it from the sheet metal it may have a lateral extension **24***a* which is bent upwardly and is continued in transverse wings bent into a substantially cylindrical formation, as indicated at **25** forming a receiver for the housing **26** of a small electrical bulb **27** of low voltage, let us say, 6–8 volts.

A further strip extension **28** is also branched out from the part **25** bent upwardy in the manner indicated in Fig. 1 and terminating in a pin **29**. To the lower side of the center of the bridge piece **23** is secured a screw socket or housing **30** of a large electrical bulb **31** of higher voltage, as for 110 volts, or more downwardly arranged in the housing **20**, as shown. A curved electrical contact strip **32** is arranged between the upper side of the central portion of the bridge piece **23** and the lower contact **33** of the small bulb **27**, being, however, electrically insulated from said bridge and the parts associated therewith, as will be explained presently.

A left-hand upstanding electrical contact strip **34** is arranged in the upper end of the socket **30** for the large bulb **31**, being, however, insulated from said socket or housing and contacting at its lower end **35** the contact **36** of the bulb **31**, but being otherwise electrically insulated from all the rest of the metal parts in the device.

Similarly, a right hand upstanding electrical contact strip **37** is arranged in the top portion of said socket **30** and being electrically connected with the same.

An insulator strip **38** is inserted between the curved metal strip **32** serving as a connector to the upper small bulb **27** and forming the electrical contact indicated as I in the drawings.

The metal of the bridge piece **23** and its branched up parts **24** and **25** forming the socket for the small bulb **27** are in electrical contact with the right hand upstanding contact piece **37**, as will be seen in Fig. 2 and at its upper termination said contact piece forms a second electrical contact for my device indicated in the drawings by II.

A heavy insulator plate or strip **39** is placed underneath the top of the socket **30** and the inwardly bent lower portion **37***a* of the contact strip **37**. The left hand contact strip **34** is secured in said insulator plate in a manner insulated from all the rest of the metal parts, as has been mentioned hereinbefore, and the upper termination thereof will form the third electrical contact for my device, indicated in the drawings by III.

Three electrical conductors indicated by the numerals I*a*, II*a* and III*a* are secured to the respective electrical contact points, I, II and III, and are united in a triple cable **40** for my device, said cable being terminated in a specific plug **41** not shown in Fig. 1 but its construction and operation being indicated in Figs. 4 and 5.

At the farther end of the cable **40** is my specific contact plug **41** having the two usual contact prongs **42** and **43** connected to the terminations III*b* and I*b* of the wires III*a* and I*a*, respectively. The prongs **42** and **43** have the usual folded resilient arms **42***a* and **43***a*, and an insulator strip or plate **44** is placed over the face of the plug **41** having apertures **45** and **46** adapted to receive the two branches of the prongs **42** and **43**, respectively. A small electro-conductive metal plate **47** is placed underneath the center of the insulator plate **44**, the right hand end **47***a* being bent upwardly around the left side of the aperture **46** and normally contacting the resilient arm **43***a* of the prong **43**. The termination II*b* of the cable II*a* is secured to the underside of the metal strip or plate **47**.

A light, thin transparent rotatable cylinder device generally indicated by the numeral **50** is suspended on the pin **29** and has the following construction:

The hollow cylinder proper **50***a* is made of thin transparent sheet material, like "Cellophane" or other cellulose product, and has an upper disc **51** having fins or propellers formed in its body, so that an air stream passed axially through the cylinder **50** will act on said propeller in such a manner as to cause the disc **51** and the cylinder **50** therewith to rotate, as it is well known in this art.

To the center of the upper disc **51** is secured a small inverted cup **52** made of hard material having a minimum of frictional resistance, like glass, and the whole device is suspended by said cup on the tip of pin **29**, so that the whole device **50** may easily rotate under the influence of an air stream mentioned hereinbefore.

A plurality of helical opaque strips **53** are painted or otherwise produced on the transparent hollow cylinder **50***a*.

The housing **20** of my device has an appropriate opening **54** and in front thereof is arranged a screen-like device **55** being formed of a sheet or plate having a plurality of holes or apertures **56** through its material.

The use and operation of my device is as follows:

When it is desired to produce the mentioned effect of imitating falling snowflakes, plug **41** will be plugged in an appropriate electrical outlet **57** of insulating material, having the metal lined sockets **42***b* and **43***b* for the prongs **42** and **43**, said sockets being connected to a circuit as at A and B, and as it is well known in this art.

The specific construction of my plug, described hereinbefore, is provided to protect the small bulb **27**.

My experience has been that if the small and large bulbs are at once connected into an electrical circuit in series by the usual plug, the sudden electrical impulse may be too strong for the small bulb **27** and the same may burn out, preventing an operation of my device.

With the plug construction described and shown in Fig. 4, for a very short time, so to say for a split second, while plugging in, at first the small bulb **27** will be shorted out, or by-passed by the current and the large bulb **31** will receive the full shock of the electrical current. When, however, the plug **41** is pushed in to its final position, then the two bulbs will be connected into said circuit in series, one after the other; and by that time the small bulb **27** will be ready to receive the electrical current without any danger.

The mentioned operation of the plug and interplay of the two bulbs will be obvious from the herein description of the electrical connections between the parts of the device and the portions of the plug. When the prongs **42** and **43** of the plug are beginning to be inserted into the sockets **42***b* and **43***b*, the resilient branch **43***a* of the prong **43** will be in contact with the central electrical conductor plate **47** at **47***a*, and one pole, indicated at A, of the electrical circuit will be connected to both terminations I*b* and II*b* in the plug, while the other pole B of the electrical circuit will be connected to the termination III*b* in the plug **41** and the lamp **31** only will be in the circuit through A—II*b*—IIA—II—**31**—III*a*—III—III*b*—B. Lamp **27** will be short circuited through A—I*b*—I—**27**—II—II*a*—II*b*—A.

When, however, the plug is pushed fully in, as indicated in Fig. 5, the resilient branch **43***a* will leave the contact **47***a* and will cut the electrical current from the central wire II*a*, thereby forcing the current to flow through the small bulb, then the large bulb, in series, as has been explained hereinbefore.

Upon due warming up of the large bulb **31** it will create a hot air current going upwardly in the container **20**, as indicated by the arrow **57***a*.

This air current will cause the cylindrical device **50***a* to rotate and thereby will cause the light rays **58** coming from the small lamp **27** to be alternated and influenced by the rotating opaque helical strips **53**. The light rays so influenced will, again, pass through the holes **56** in the screen **55** in certain succession and intervals, being extinguished and shown again at various positions and the light rays so manipulated will be thrown on a receiving object **59** which may be a screen, a wall, a Christmas tree, etc., and the appearance and disappearance of the light spots produced on the object **59** by the rays **58** will give a true imitation of falling snowflakes.

To aid in the forming of the air current **57***a* rising in the housing **20**, openings **60** may be provided near the bottom of the housing, and some appropriate opening at the top, so that the cold air may be drawn into the housing, as indicated at **61** and leave it at the top, as indicated at **57***a*.

As indicated in Fig. 2, one method of securing together the various electrical conductors, and insulators therebetween, in the center part of the device, would be to provide a rivet **62** passing through the various layers there arranged, as: first the electrical conductor strip **32** for the small bulb forming the contact I, then an insulator layer **38** thereunder, then the center part of the bridge strip **23**, then the top of the socket **30** for the large bulb **31**, then the inwardly turned branch **37***a* of the upstanding metal strip **37**

forming the termination or pole II, then the heavy insulator disc **39**, said securing rivet **62** having an insulator sleeve **63** therearound.

A modified form of the rotating helical strip device **50** is shown in Fig. 7, wherein a plurality of helically bent wires **64** are secured around the circumference of the upper disc **51** depending therefrom, so that when the modified cylindrical device **50***b* of Fig. 7 is caused to rotate, the wires **64** will play the role of the opaque strips in the embodiment described hereinbefore.

What I claim as new, is:

1. A device for light effects comprising a smaller lamp, a larger lamp thereunder, means to permit the air heated by said larger lamp to ascend around said smaller lamp, a hollow transparent cylindrical body around said small lamp, a propelling device on said cylindrical body adapted to rotate the same around said smaller lamp by the action of said ascending heated air, and an opaque helical strip on said cylindrical body.

2. In a device for light effects, two electric lamps placed one above the other, an element having transparent and opaque portions rotatingly arranged around the upper lamp, and means to rotate said element through the current of the ascending heated air produced by the said lamps.

3. In a device as set forth in claim 2, said upper lamp being small and said lower lamp much larger, the light effect being produced by the upper lamp.

4. In a device as set forth in claim 2, said upper lamp being directed upwardly and said lower lamp being directed downwardly and an interconnecting member to receive both.

5. In a device as set forth in claim 2, said upper lamp being directed upwardly and said lower lamp being directed downwardly and an interconnecting member to receive both, said member having sockets for both lamps and embodying predetermined electric connections between the sockets and a source of current, and of suitable insulation between said sockets and said conductors.

6. In a device as set forth in claim 2, a housing for the device, a bridge member, across said housing, an upwardly turned socket on said bridge member for said upper lamp and downward turned socket for said lower lamp, predetermined electric connections on said bridge member between said sockets and a source of electric current, and suitable insulations carried by said bridge member between said sockets and said conductors.

7. In a device as set forth in claim 2, a housing for the device, a bridge member, across said housing, an upwardly turned socket on said bridge member for said upper lamp and downward turned socket for said lower lamp, predetermined electric connections on said bridge member between said sockets and a source of electric current and suitable insulation carried by said bridge member between said sockets and said conductors, said bridge member being in the form of a strip of sheet material having branches to form said upper socket and a support for said rotating element.

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