J. W. & K. S. BRENKERT.

LIGHT DISSOLVING DEVICE.

APPLICATION FILED JAN. 21, 1918.

1,282,743.

Patented Oct. 29, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

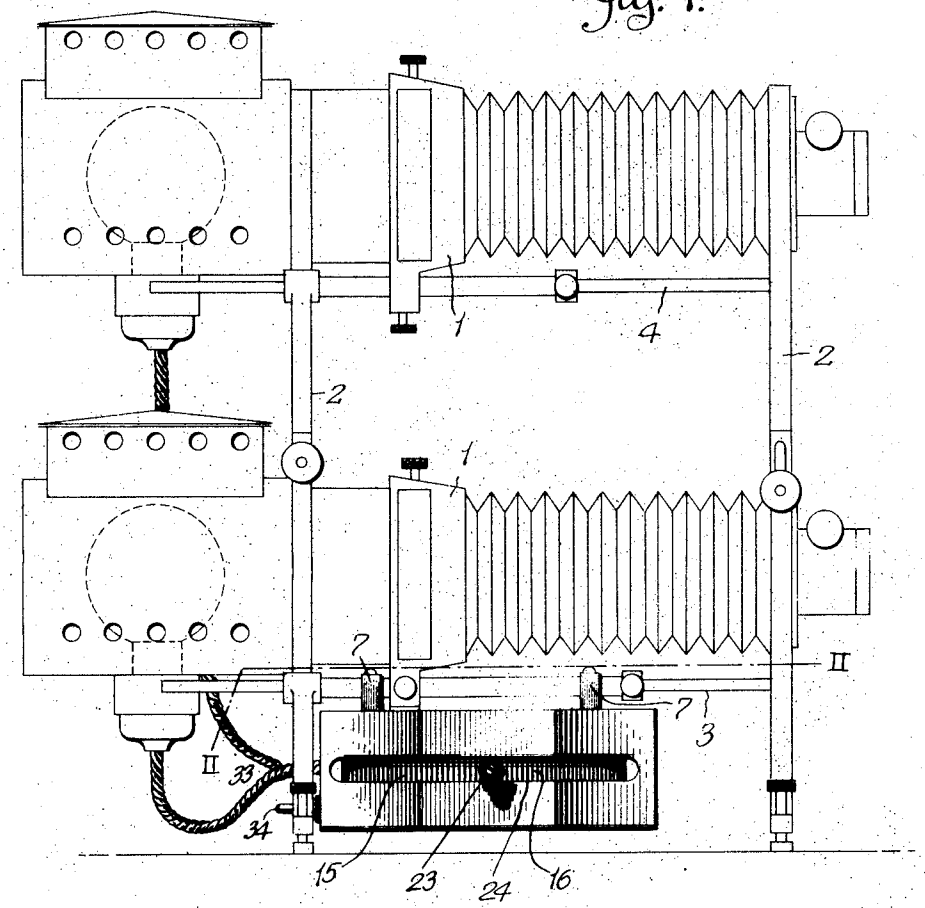
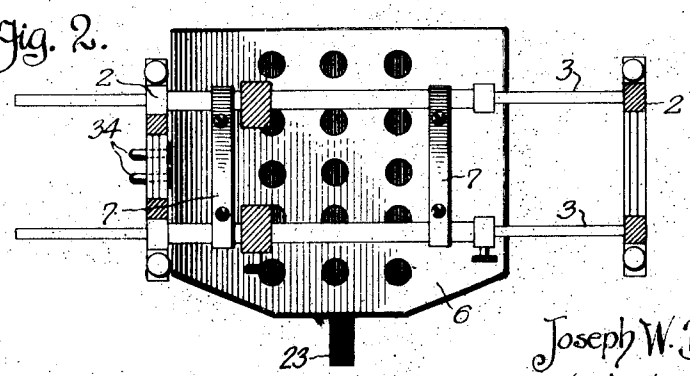


Fig. 2.



Witness

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2 SHEETS—SHEET 2.

Fig. 3.

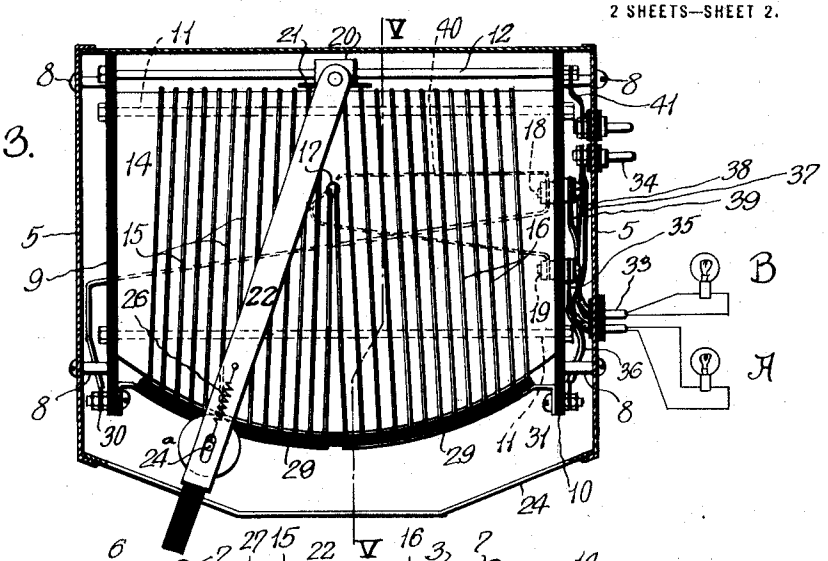


Fig. 4.

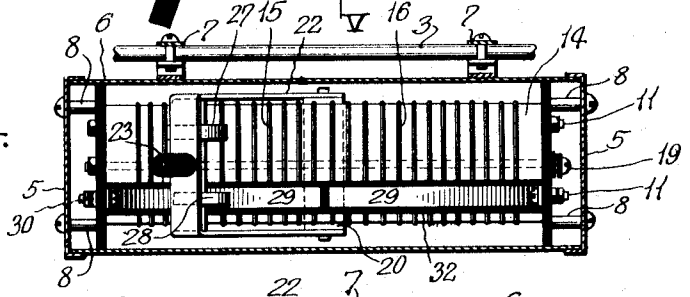


Fig. 5.

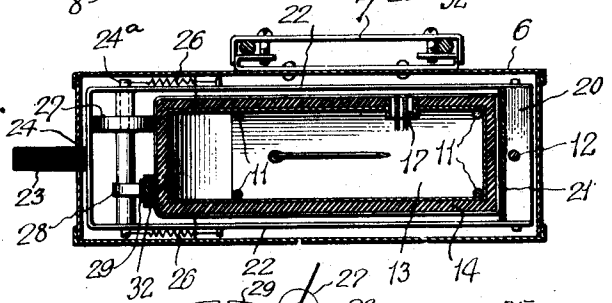
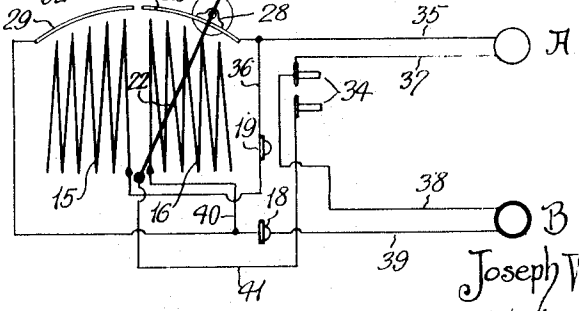


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH W. BRENKERT AND KARL S. BRENKERT, OF DETROIT, MICHIGAN.

LIGHT-DISSOLVING DEVICE.

1,282,743. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed January 21, 1918. Serial No. 212,990.

To all whom it may concern:

Be it known that we, JOSEPH W. BRENKERT and KARL S. BRENKERT, citizens of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Light-Dissolving Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an electric light dissolving device, and the primary object of our invention is to furnish a stereopticon or picture projecting machine with a permanent light dissolving device to which it is only necessary to connect ordinary electric plugs to place the device in operative condition thus obviating the necessity of carrying a separate device with the stereopticon and making proper electrical connections. By making the device a fixture there is no danger of improper electrical connections being made and the compactness of the device and its location permits of the stereopticon being easily handled and the light thereof dissolved as occasion requires.

Another object of our invention, to which we attach considerable importance, is to provide an electric device for controlling the relative brilliancy of two or more electric incandescent lamps, by which the brilliancy of the one lamp or set of lamps may be gradually varied from invisible illumination, or vice versa, without affecting the full brilliancy of the other lamp or set of lamps. This operation being reversible on either lamp or set of lamps and a like result obtained according to the direction in which the lever, or cut-out arm, is moved. All this being accomplished by the movement of a single lever, or cut-out arm, which engages alternately two separately wound resistance members and two shunt members, said shunt members being placed in an alternate position from their relative resistance members.

A further object of our invention is to provide an electric light dissolving device wherein the parts are constructed with a view of reducing the cost of manufacture and at the same time retain those features by which safety, minimum heat, durability and ease of assembling are secured. With these ends in view our invention resides in the novel construction, combination and arrangement of parts, to be hereinafter specifically described and then claimed.

Reference will now be had to the accompanying drawings, wherein—

Figure 1 is a side elevation of the stereopticon provided with a light dissolving device in accordance with our invention;

Fig. 2 is a horizontal sectional view taken on the line II—II of Fig. 1, showing the device in plan;

Fig. 3 is an enlarged horizontal sectional view of the device;

Fig. 4 is a front elevation of the same, showing the casing in section;

Fig. 5 is a cross sectional view taken on the line V—V of Fig. 3, and

Fig. 6 is a diagrammatic view of the electrical connections of the device.

In describing our invention by aid of the views above referred to, we desire to point out that the same are intended as merely illustrative of the device as now constructed and in use, and we do not care to confine our invention to the precise construction and arrangement of parts shown. The following description is therefore to be broadly construed as including such substitute constructions and arrangement of parts which are the obvious equivalent of those to be hereinafter referred to.

In the drawings, the reference numeral 1 denotes superposed stereopticons or picture projecting machines supported by upright frames 2 connected by telescopic bellows adjusting rods 3 and 4, and it is on the stationary portions of the rods 3 that we suspend the light dissolving device making the same a fixture under the lower stereopticon.

The device comprises a metallic casing 5 that is substantially rectangular in plan and comparatively flat, said casing having the upper wall 6 thereof provided with clamping members 7 which may be tightened on the rods 3 of the lower stereopticon to hold the casing as a fixture relative to the stereopticon.

Projecting inwardly from the end walls of the casing 5 are studs 8 and the inner ends of these studs support parallel walls 9 and 10 of insulation material, as fiber. The walls 9 and 10 are connected by tie rods 11 and 12, the former extending through and supporting a hollow metallic core 13 inclosed by a cover 14 of insulation material, as an asbes-

tos composition. On the insulated hollow core 13 is wound two resistance coils 15 and 16, said coils diverging or having the windings thereof decreasing in size from the central portion of the hollow core toward the ends thereof. The central convolutions of the coils 15 and 16 enter the hollow core 13 through a conduit 17 provided therefor in the top of the core and said resistance coils are connected to binding posts 18 and 19, carried by the wall 10, as best shown in Fig. 3.

The connecting rod 12 is provided with an upright bearing 20 insulated, as at 21, from the resistance coils. The upper and lower ends of the bearing 20 pivotally supports the rear ends of a yoke switch arm 22 and said arm has a handle 23 of insulation extending through a slot 24 in the front wall of the casing 5, so that said switch arm may be swung in a horizontal plane relative to the resistance coils 15 and 16. To permit of such movement, the hollow core 13 has the front wall thereof curved so as to provide clearance for the switch arm.

At the outer end of the switch arm is a vertical sprindle 24^a having the ends thereof extending through slots 25 of the switch arm and connected thereto by coiled retractile springs 26. On the spindle 24^a is a rotatable contact member 27 adapted to engage convolutions of the resistance coils 15 and 16. The spindle 24^a also supports a shoe 28 and this shoe is adapted to normally engage and wipe shunt members 29 connected to the walls 9 and 10 by binding posts 30 and 31, and insulated from the resistance coils 15 and 16, as at 12.

The wall of the casing 5 adjacent the binding posts 18 and 19 is provided with conductors 33 and switch plugs or sockets 34, both of which are suitably insulated, and the latter is adapted to be connected to a suitable source of electrical energy.

A and B denote the lamps of the superposed stereopticons 1, and considering the electrical connections, reference will be had to Fig. 6. The lamp A is connected by a wire 35 to the binding post 31 and by a wire 36 to the binding post 19, to which the resistance coil 15 is connected. The lamp A is also connected by a wire 37 to one of the switch plugs 34 and the same switch plug by a wire 38 to the lamp B.

The lamp B is connected by a wire 39 to one of the shunt members 29 and said wire is connected by a wire 40 to the resistance coil 16.

The yoke 22 is connected by a wire 41 to the other of the switch plugs 34. From the wiring diagram Fig. 6, it will be observed that when the cut-out arm is in an extreme position the path of the current to lamp A is through its shunt member and lamp A thereby burns at full brilliancy, while the path of the current to lamp B is through its resistance member 16 and lamp B is thereby dimmed. As the cut-out arm is moved toward the center and resistance member 16 is shortened lamp B is gradually brought to full brilliancy while the brilliancy of lamp A has not been changed due to the connection which has been maintained through its shunt member. As the cut-out arm or lever is moved from this central position to the extreme left the opposite shunt member will maintain the full brilliancy of lamp B while the path of the current through the increasing resistance member 15 will gradually decrease the brilliancy of lamp A. This operation is reversible. We attach considerable importance to the use of the two shunt members used in conjunction with the two resistance members.

By using a hollow insulated core, there is sufficient structure for the windings or convolutions of the resistance coils besides the radiation of heat within the casing which is provided with a series of openings, as shown in Fig. 2.

What we claim is:—

1. In an electric light dissolving device, resistance coils, a shunt member adjacent to each coil adapted for circuits with lamps, and a switch arm common to said coils and shunt members in circuit with said lamps, adapted to be shifted relative to said coils and shunt members to bridge said shunt members, and adapted for a circuit including either resistance coil.

2. An electric light dissolving device comprising a casing adapted for attachment to a stereopticon, a hollow insulated core in said casing and insulated therefrom, resistance coils in conjunction with shunt members supported by said core and adapted for circuits with lamps, and a switch arm movable in front of said core adapted for bridging said shunt members and adapted for a circuit including both lamps and a circuit including either lamp and either resistance coil.

3. The combination with a stereopticon having lamps, of a casing attached to the stereopticon, an insulated hollow core in the casing, resistance coils in conjunction with shunt members on said core adapted for circuits with either lamp and a source of electrical energy, a yoke shaped switch arm in said casing having rotatable contact members adapted for engagement with either resistance coil and adapted to be in circuit with either lamp, and a shoe carried by said switch arm adapted to bridge said shunt members.

4. An electric light dissolving device comprising a casing, an insulated core therein, resistance coils in conjunction with shunt members on said core adapted for circuits

with lamps, a yoke shaped switch arm adapted for circuits with the lamps and adapted to swing in front of said core, a rotatable contact member carried by said switch arm adapted to engage either resistance coil, and a shoe carried by said switch arm adapted to bridge said shunt members.

5. The combination with lamps and a suitable source of electrical energy, shunt members in circuit with said lamps, a switch arm adapted to bridge said shunt members and maintain said lamps at full brilliancy, and resistance coils in circuit with said lamps and adapted to be independently engaged by said switch arm when the brilliancy of either lamp is to be dissolved.

6. The combination with lamps and a suitable source of electrical energy, of shunt members in circuit with said lamps and said source of electrical energy, a switch arm in circuit with said source of electrical energy and which in a central position bridges the shunt members to maintain said lamps at full brilliancy and resistance coils positioned so that movement of said arm in either direction will place either of said resistance coils in circuit with either of said lamps to dissolve the light thereof.

7. The combination of lamps and a suitable source of electrical energy, shunt members in circuit with said lamps, means movable relative to said shunt members adapted to maintain said lamps at full brilliancy, and resistance means adjacent each shunt member and in circuit with said lamps and adapted to be independently engaged by said movable means when the brilliancy of either lamp is to be dissolved.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH W. BRENKERT.
KARL S. BRENKERT.

Witnesses:
ANNA M. DORR,
KARL H. BUTLER.