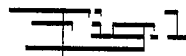


918,202.

2 SHEETS—SHEET 1.



WITNESSES
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 INCANDESCENT LAMP CLUSTER.
 APPLICATION FILED FEB. 26, 1908.

918,202.

Patented Apr. 13, 1909.
 2 SHEETS—SHEET 2.

Fig. 4

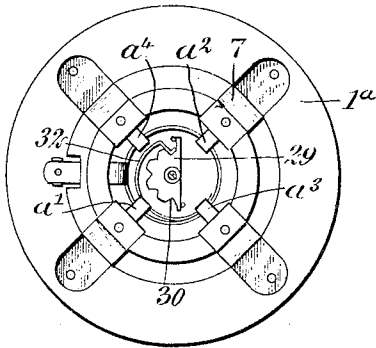


Fig. 5

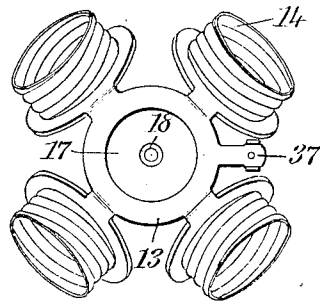


Fig. 6

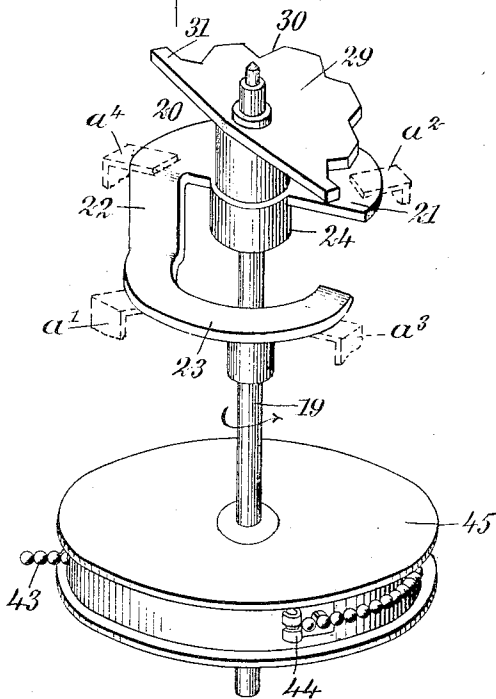


Fig. 7

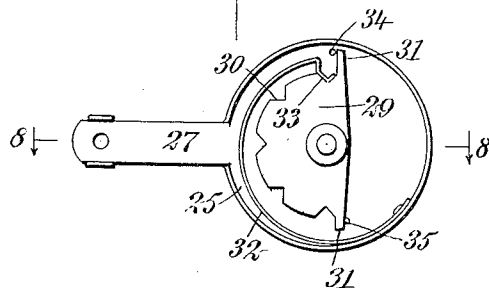
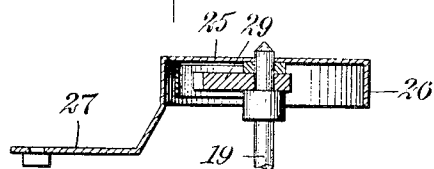


Fig. 8



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UNITED STATES PATENT OFFICE.

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INCANDESCENT-LAMP CLUSTER.

No. 918,202.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed February 26, 1908. Serial No. 417,907.

To all whom it may concern:

Be it known that we, FREDERICK SCHWARTZ, a citizen of the United States, and LEO KLEINMANN, a subject of the King of Hungary, and both residents of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Incandescent-Lamp Cluster, of which the following is a full, clear, and exact description.

This invention relates to electric lighting, and the object of the invention is to produce an electric light fixture having a cluster of lamps or lights constructed and arranged in such a way that the lights may be turned on in groups of one, two, three or four lights, etc.

While we have illustrated a cluster comprising four lamps, any number of such lamps may be provided, and one of the objects of the invention is to arrange for lighting the lamps symmetrically so far as possible. For instance, in the present embodiment of the invention, when two lights are lighted, these lights are disposed opposite to each other.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the fixture, showing the light cluster; Fig. 2 is a vertical section through the body of the fixture and passing in the plane of two oppositely disposed lights; this view especially illustrates the manner in which the circuit is made through the lamps individually; Fig. 3 is a vertical section through the body of the fixture and especially illustrating the manner of connecting the electric wires with the interior of the fixture; Fig. 4 is a bottom plan view of the block or inner portion of the fixture, and showing the arrangement of the lamp contacts and the means for holding the cut-out in different positions to light different groups; Fig. 5 is a bottom plan of the socket frame in which the lamps are attached; Fig. 6 is a perspective of the cut-out or key which, when turned, lights the lamps in different groups; Fig. 7 is a bottom plan view of a detent plate; and Fig. 8 is a

vertical section through the detent plate, taken on the line 8—8 of Fig. 7.

Referring more particularly to the parts, and especially to Figs. 1 to 3, 1 represents the body of the fixture, which is attached at the lower end of a pipe 2 which carries the electric wires 3 and 4 to the fixture from the ceiling. The body of the fixture comprises a block 1^a of any suitable insulating material. This block is of substantially circular form, provided on its under side with a downwardly projecting cone 5. Within this conical portion 5 a circular contact chamber 6 is formed. To the lower edge of the cone 5 contact plates *a'*, *a*², *a*³ and *a*⁴ are attached, as shown. The arrangement of these contacts is illustrated in Fig. 4. The contact plate *a'* is diametrically opposite to the contact plate *a*², and the contact plate *a*³ is diametrically opposite to the contact plate *a*⁴. As viewed in plan, the contacts are disposed 90° apart. All of these contact plates have outwardly and upwardly projecting contact tips or ears 7 which are adapted to form contact with the electric light bulbs when screwed into the sockets in a manner which will be described hereinafter. The inner ends of the contact plates *a'* and *a*³ extend inwardly into the interior of the contact chamber 6, being slightly bent so as to give them resiliency, as shown in Fig. 2; their upper portions have flat horizontal contact tips 8, as illustrated. The contact plates *a*² and *a*⁴ have unusually long shanks 9, which extend to a considerable height within the contact chamber 6, and terminate above in horizontal extensions or contact tips 10. On account of the reduced dimension of the cone 5, an annular shoulder 11 is formed, extending continuously around the block 1^a. To this shoulder 11 there is attached a socket frame 12. This socket frame has an annular body 13 to which the sockets 14 are attached, disposed 90° apart, as illustrated in Fig. 5. The upper edge of each socket 14 is provided with an ear 15, and these ears enable the socket frame to be secured to the under side of the block by means of screws 16, as illustrated in Fig. 2. To the upper side of the annular body or ring 13, a disk 17 of rubber or similar material, is attached, and this disk is provided with a bush or bushing 18 on a stem 19 which passes upwardly through the interior

of the contact chamber. Within the contact chamber and between the contacts, the stem 19 is provided with a contact plate 20, the form of which is very clearly illustrated in Fig. 4. The upper portion of this plate is a lobe 21, of semi-circular form, and at its radial edge a bar 22 extends downwardly from this plate and connects the same integrally with the lower portion or arc 23 of the plate. This arc 23 and the semi-circular lobe 21 are both disposed in horizontal planes, as illustrated. The plate 20 is formed upon a hub 24, which is rigidly attached to the stem, as will be readily understood.

Before proceeding further with the description, it should be stated that the stem 19 with the plate 20 constitutes a cut-out by means of which the different lamps may be turned on. As the stem is rotated toward the right from the "off" position, the forward end of the arc 23 strikes the contact plate a' so as to light the lamp connected therewith. This contact is made by the arc 23 slipping over the upper side of the contact plate, as illustrated in Fig. 6. A continued rotation of the stem will next form a circuit through the contact 18 by the lobe 21 sliding under the horizontal tip 10. In this position of the cut-out two lamps will be lighted on opposite sides of the fixture. A continued rotation will bring the contact a^3 into circuit, which lights a third lamp, and in the last position of the key or cut-out, all four lamps will be lighted. In order to hold the key or cut-out in the different positions corresponding to the different groups of lights, that is, one light, two lights, three lights and four lights, we provide the detent mechanism. This mechanism comprises a detent plate 25 which is of circular form, as shown, and set in a recess in the upper portion of the chamber 6. At its edge this plate is formed with a downwardly projecting flange 26 as illustrated, and as shown in Fig. 3, it is provided with a laterally projecting contact tongue 27 to which one of the electric light wires is attached as indicated, the said electric light wire passing down through a suitable opening 28 cut in the block. Near the detent plate 25 the stem 19 is provided with a rigid segment 29, of substantially semi-circular form, and the periphery of this segment is provided with circumferentially disposed notches 30, which are preferably V-shaped as shown. On opposite sides the segment is provided with outwardly projecting fingers 31 which operate as stops to limit the movement of the segment, as will appear hereinafter. The upper end of the stem 19 is formed with a conical point which is passed through and centered in the plate 25 as illustrated in Fig. 2.

On the flange 26 at a suitable point, as illustrated in Fig. 7, a detent spring 32 is

attached. This spring is disposed in the form of an arc, lying near the periphery of the segment, and its extremity is bent downwardly to form a tooth 33 which is adapted to engage the notches 30. As shown also in Fig. 7, the detent plate 25 is provided with pins 34 and 35 which are adapted to be engaged by the fingers 31 so as to limit the rotation of the key to approximately 180° . In the present instance, we provide five of the notches 30; the first notch in which the tooth 33 is engaged, as illustrated in Fig. 7, corresponding to the "off" position for all the lights. If the key is rotated so that the tooth 33 engages the next notch, one light will be lighted. In the next notch, two lights will appear, and so on. It will therefore appear that in turning the lamps off, the direction of rotation of the key must be reversed.

Referring again to Fig. 3, it will be observed that an opening 36 is formed through the block, through which one of the wires may pass downwardly in order to enable it to be attached by means of an ear 37, to the socket frame. It should be noted that by reason of the disk 17, the socket frame is effectively insulated from the stem.

The parts of the lamp described above are incased in a substantially hemispherical shell 38, of sheet metal or similar material, and the upper side of the block is covered by a suitable cover 39, of similar material. The shell 38 is provided with rings or collars 40 which receive the sockets 14, as illustrated. These collars are received loosely in openings 41 formed in the shell to receive them, and are threaded internally so that they may be screwed upon the exterior of the threaded sockets 14. At opposite points the lower portion of the shell 38 is provided with openings having guide rings 42 through which the ends of a pendent chain 43 pass. The ends of this chain are adapted to be attached in hook plates 44, as illustrated in Fig. 6, which hook plates are attached to the periphery of a wheel 45 or pulley, which is rigid on the stem 19. Evidently, by pulling one side of the chain the stem will be rotated in one direction, and by pulling the other side of the chain, it will be rotated in the opposite direction. The stem 19 extends through the lower portion of the shell, and is provided with a thumb-head 46, which also enables it to be rotated if the fixture is low enough to be within reach.

When the lamps are attached as indicated at the left in Fig. 2, the button 47 comes against the contact plate. To this button one of the leading-in wires 48 is connected, while the other wire 49 is connected in the usual manner to the plug 50 of the lamp. In this way each lamp closes a circuit between the socket frame and the lamp contact with which that lamp connects.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In a lamp cluster, in combination, a block, means for mounting a plurality of lamps thereupon, a rotatable stem, a plurality of contact plates, lamps connected with said contact plate respectively, said contact plates being disposed in different planes, and a contact plate attached to said stem and having parts disposed in different planes adapted to engage said first contact plates successively as said stem is rotated.

2. In a lamp cluster, in combination, a block, means for mounting a plurality of lamps thereupon, a rotatable stem, a plurality of contact plates, lamps connected with said contact plates respectively, said contact plates being disposed in different planes, a contact plate attached to said stem and having parts disposed in different planes adapted to engage said first contact plates successively as said stem is rotated, and means for holding said stem in a plurality of positions.

3. In a lamp cluster, in combination, a block, means for mounting a plurality of lamps thereupon, a rotatable stem, a plurality of contacts, a portion of said contacts being disposed in one plane and a portion of said contacts being disposed in another plane, a contact plate carried by said stem having a lobe adapted to engage the contacts in one plane and having an extension offset from said lobe adapted to engage the contacts of another plane, and lamps connected with said contacts.

4. In a lamp cluster, in combination, a block, means for mounting a plurality of lamps thereupon, a rotatable stem, a pair of contacts disposed in substantially the same plane, a second pair of contacts disposed in another plane, a contact plate attached to said stem having a lobe adapted to engage said first pair of contacts and having an extension from said lobe adapted to engage the other pair of said contacts, means for holding said stem in a plurality of positions in which said contacts are brought successively into contact with said contact plate, and lamps connected with said contacts.

5. In a lamp cluster, in combination, a

block, a socket frame, a rotatable key, a segment on said key having a plurality of notches therein, a detent engaging said notches and affording means for holding said key in a plurality of positions, a plurality of lamps, a contact for said key leading current through one only of said lamps in one position of said key, and other contacts leading current through the remainder of said lamps, in other portions of said key.

6. In a lamp cluster, in combination, a block having a central contact chamber, a detent plate mounted in the upper portion of said chamber, a socket frame attached to said block on the under side thereof, and having a plurality of sockets, a key having a stem passing into said contact chamber and pivoted in said detent plate, a plurality of contacts adapted to carry current to the lamps mounted in said sockets and projecting into said contact chamber, means for attaching an electric conductor to said socket frame, means for attaching an electric conductor to said detent plate, a segment carried by said stem near said detent plate and having notches in the periphery thereof, and a spring attached to said detent plate, engaging said notches and affording means for holding said key in a plurality of different positions forming different circuits through said contacts.

7. In combination, a block, a socket frame attached thereto having a plurality of sockets for lamps, a key mounted in said block and having a stem passing downwardly, a shell inclosing the lower portion of said block, a wheel attached to said stem, contacts mounted on said block for carrying current to the lamps, means for detaining said key in a plurality of different positions forming different circuits through said lamps, said shell having a portion of the under side thereof removed, and chains attached to said wheel and hanging down through said shell.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK SCHWARTZ.
LEO KLEINMANN.

Witnesses:

F. D. AMMEN

EVERARD B. MARSHALL.