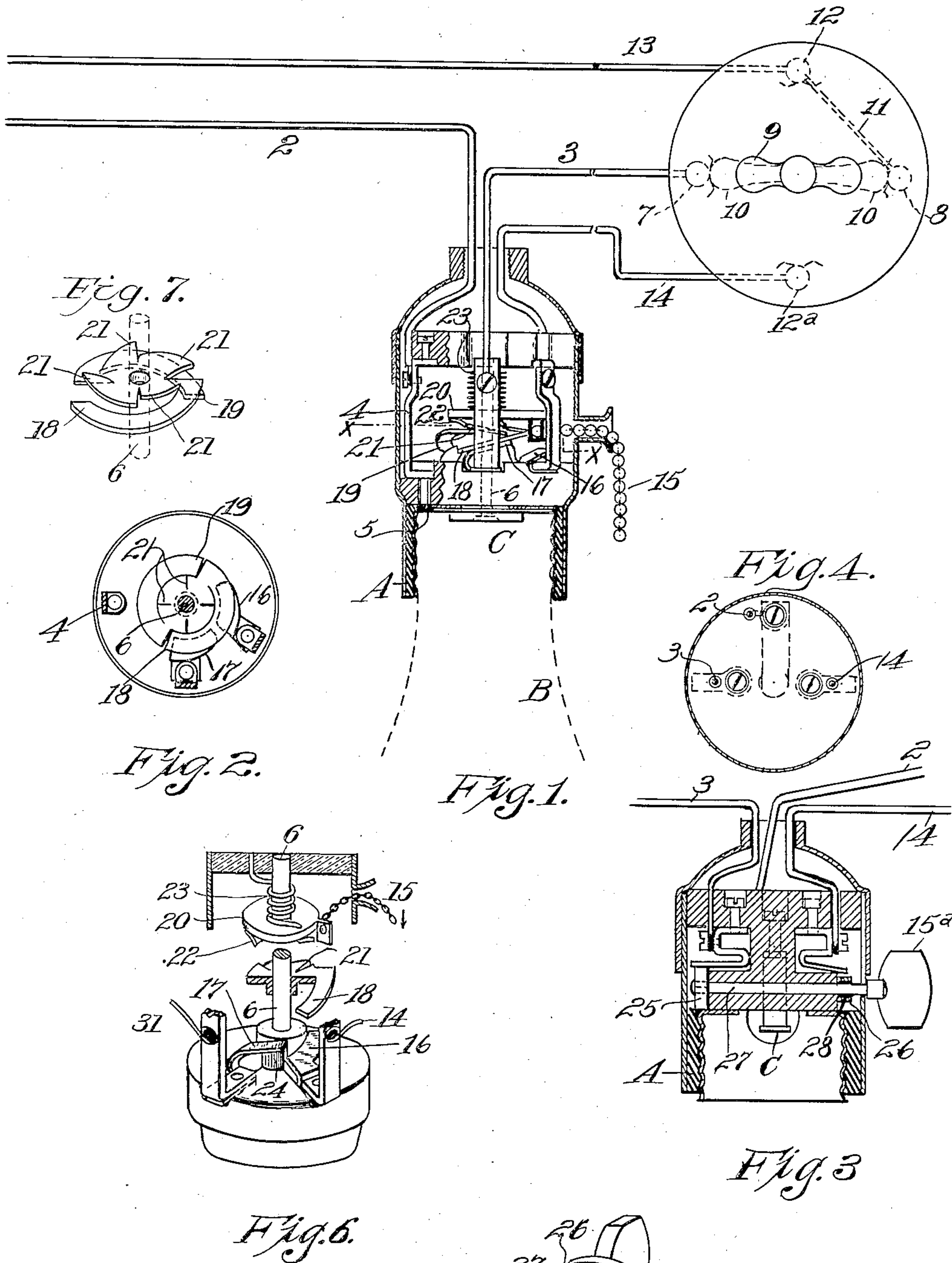


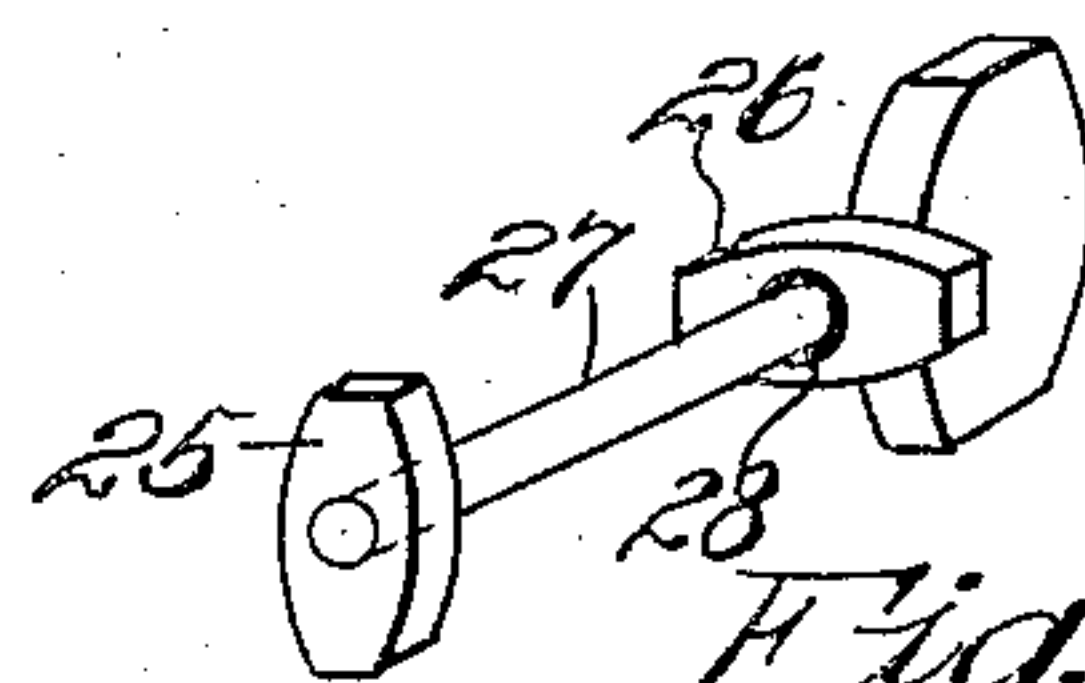
No. 879,555.

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R. E. KIMBALL.  
INCANDESCENT LAMP CONTROL.  
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Witnesses:  
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# UNITED STATES PATENT OFFICE.

ROY E. KIMBALL, OF FRUITVALE, CALIFORNIA.

## INCANDESCENT-LAMP CONTROL.

No. 879,555.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed March 30, 1906. Serial No. 308,830.

*To all whom it may concern:*

Be it known that I, ROY E. KIMBALL, citizen of United States, residing at Fruitvale, in the county of Alameda and State of California, have invented new and useful Improvements in Incandescent-Lamp Control, of which the following is a specification.

My invention relates to a controlling mechanism for incandescent lights and the like.

It consists in a combination of mechanism and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view of a lamp and wire and switch connections showing my invention. Fig. 2 is a section taken through  $x-x$  of Fig. 1. Fig. 3 is a section similar to Fig. 1 showing a modified form of the device. Fig. 4 is a horizontal section of Fig. 3. Fig. 5 is a perspective view of the key shown in Fig. 3. Fig. 6 is a perspective of the make and break elements of the lamp. Fig. 7 is a detail perspective view showing the cams 18 and 19 on their connecting plate.

It is the object of my invention to provide means whereby an incandescent or equivalent lamp, or a series of the same, may be lighted or extinguished, by means of a distant switch, and independent of the local switch whereby any lamp may be lighted or extinguished.

In the drawing A represents a threaded lamp socket into which the transparent bulb B is secured, and C shows the contact through which the filament of the lamp is ordinarily made incandescent by the current passing through the wires 2 and 3.

In the drawing the wire 2 connects through the arm or bar 4, with one member 5 of the circuit, and the other member which is insulated therefrom connects through a rod or bar 6, and with the wire 3 which continues the circuit. The circuit through the wire 3 connects with the contacts 7 and 8 of a distant switch, and when the switch button 9 is turned so that the arms 10 are in contact with the points 7 and 8, connection will be made therethrough, thence through a connection 11 to a point 12, thence through the return wire 13. 14 is another connecting wire leading from the lamp socket A to a contact point 12<sup>a</sup>, and this contact point is diametrically opposed to the contact 12. Thus it will be seen that when the button 9 is turned at right angles to the position shown

in which the points 7 and 8 are connected, the arms 10 being turned with the button to the point at right angles, will connect the points 12—12<sup>a</sup>. Thus the circuit which normally passes through the lamp by means of the wires 2—3 and 13 will be caused to pass through by means of the wires 2—14—13; the turning of the switch button 9 just previously mentioned, causing this change in the line of the current.

In order to make the necessary connections within the lamp socket, I may use either a pull chain, as shown at 15, with suitable cam connections, or I may use the turnable button, as at 15<sup>a</sup> Fig. 3.

In Fig. 2, 16—17 are two fixed, inclined or cam-shaped surfaces, one of which forms a contact through 3, and the other through 14 as follows: Revolvable with relation to the inclined surfaces 16 and 17 are two spring-pressed cams 18 and 19 which are located beneath an insulating disk 20. This disk has a connection at one side for a pull-chain 15 which extends through an opening in the side of the socket as shown. A spiral and torsional spring 23 has its upper end fixed, and its lower end connecting with the insulating disk 20 so that when the chain is pulled the spring is twisted and a torsional strain brought upon it which, when the chain is released, returns the part to its normal position. Arms or cams 18 and 19 surround the stem 6 beneath the insulating disk 20, and pawls 22 carried by the disk engage the ratchet teeth 21 on the surface of the part which carries the cams 18—19. The spiral spring 23 also serves to press the part 20 down so that the pawl teeth 22 will be engaged with the ratchet teeth 21, and thus turn the arms 18—19 when the chain is pulled. Each pull of the chain produces a quarter revolution of the device, and the arms 18—19 will be alternately brought into contact with the inclined surfaces 16—17 as follows: Fig. 2 shows the relative position of the cams 16—17, their position being 90 degrees apart. Thus when the cam 18 is drawn by the first pull of the chain to contact with the incline 17, the incline 19 will be out of contact with either. The next pull will carry 18 around to a point where it will contact with 16. 19 will still be out of contact with either. When 18 has been again moved by another turn to clear 16, 19 will be in readiness to go into contact with 17, and thus a



continuation of pulls will cause these two cams to alternately contact with the inclined surfaces as described.

When the insulating disk 20 is turned by the pull upon the chain, the pawls 22 will engage the notched or ratchet disk 21, and will turn it and the cams 18—19. The cam 18 will then first contact with the plate 17, and a current will then be transmitted through the wire 2, arm 4, contact 5, lamp filament, plate C, rod 6 and cam 18 which surrounds the rod, thence through the plate 17, the wire 3, and the switch contacts 7—8—12 to the wire 13. The next turn disengages the cam 18 from the contact 17, thus extinguishing the light, and carrying the cam 18 into contact with the arm 16. This establishes a second circuit through the distant switch, so that when it is desired to light the lamp from that point it will only be necessary to turn the button 9 to bring the arms 10 into contact with the points 12—12<sup>a</sup> when the circuit will be established through the wire 2, arm 4, contact 5, filament and plate C, rod 6, cam 18 surrounding it, plate 16, thence through the wire 14, contact points 12<sup>a</sup>—12 and the wire 13; and in this condition the lamps may be lighted directly from the distant switch without reference to the fact that the lamp was extinguished and the circuit cut off at the lamp itself. It will now be obvious from the previous description that when by continued revolution, the cam 18 has been carried beyond the arm 16, that the cam 19 will be in readiness to take up the work, and will in like manner produce the afore described operations until it has passed the arms 17—16. When the device is turned further so as to disengage these plates, the lamp will be extinguished. The lamp will thus be lighted or extinguished by the pull upon the chain. When however by the pull upon the chain, the lamp has been extinguished, the circuit through the wire 3, the point 7—8—12 will be cut off, and a circuit may be established through the wire 14, the points 12—12<sup>a</sup>, so that when it is desired to again light the lamp it will only be necessary to turn the button 9 to bring the arms 10 into contact with the points 12—12<sup>a</sup> when the circuit will be established through the wire 2, arm 4, contact 16 and 18, wire 14, points 12<sup>a</sup>—12 and wire 13, and thus the lamps may be lighted directly from the distant switch without reference to

the fact that the lamp was extinguished, and the circuit cut off at the lamp itself

In the construction shown at Fig. 3, the circuits are completed and broken by the turning of the button 15<sup>a</sup> and the cams 25 and 26 which are mounted upon the shaft 27 so as to be turned by the button. The cam 25 is fixed to the shaft 27, transmits the current from the wire 3, and its post to the filament, thence through C and the wire 2 as previously described. By turning the button 15<sup>a</sup>, the cam 25 will be turned a quarter revolution, and disengage its contacts, and the cam 26 which stands at right angles with 25 will be turned into position to complete its circuit. This cam is insulated from the shaft 27, and when the circuit just traced has been broken, this cam 26 completes a circuit through the wire 14, cam 26 and filament, plate C and the wire 2. One of the cams, as 26, should be insulated from the shaft 27, as shown at 28.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In an apparatus of the character described, a lamp socket with a plurality of electrical circuits, fixed conducting plates with independent connections through said circuits, a post having connection with the main circuit, a ratchet disk having electrical connection with the post, and carrying arms adapted to make successive contact with the conducting plates, an insulating disk and pawls carried thereby, and means to engage the pawls and advance the ratchet disk.

2. In an apparatus of the character described, a lamp socket, a main circuit, local means to complete and interrupt the circuit, said means including a turnable ratchet disk with arms, fixed independently connected conducting surfaces with which said arms are caused to successively contact when turned, and connections between the main circuit through the lamp, and the conducting surfaces.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROY E. KIMBALL.

Witnesses:

S. H. NOURSE,  
HENRY P. TRICOU.