

Nov. 8, 1927.

1,648,748

E. TRAUB

TIME CONTROLLED DEVICE

Filed Dec. 16, 1925

2 Sheets-Sheet 1

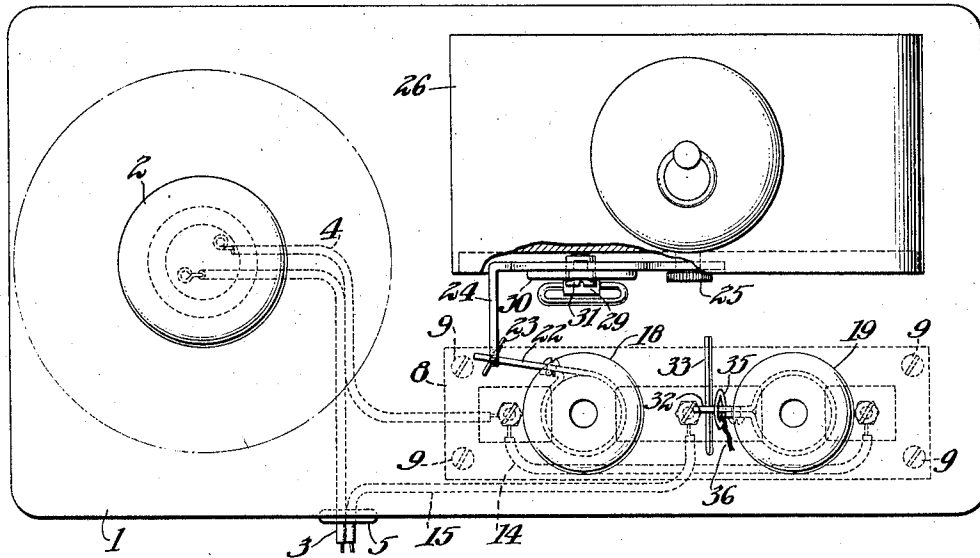
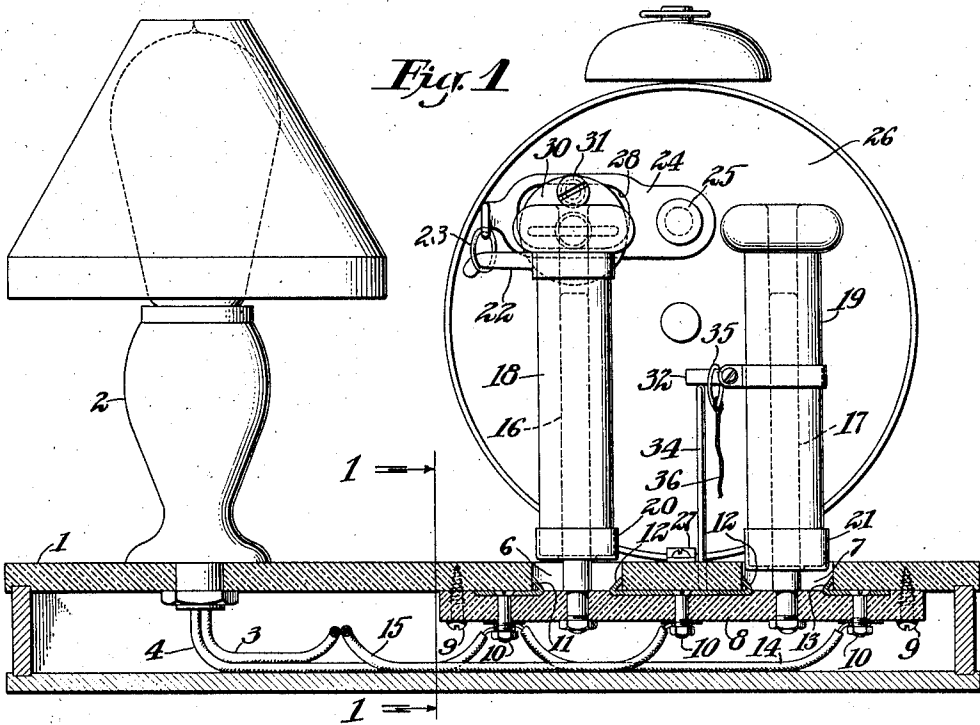


Fig. 2

Inventor

EMIL TRAUB

By

William D. Stewart

Attorney

Nov. 8, 1927.

1,648,748

E. TRAUB

TIME CONTROLLED DEVICE

Filed Dec. 16, 1925

2 Sheets-Sheet 2

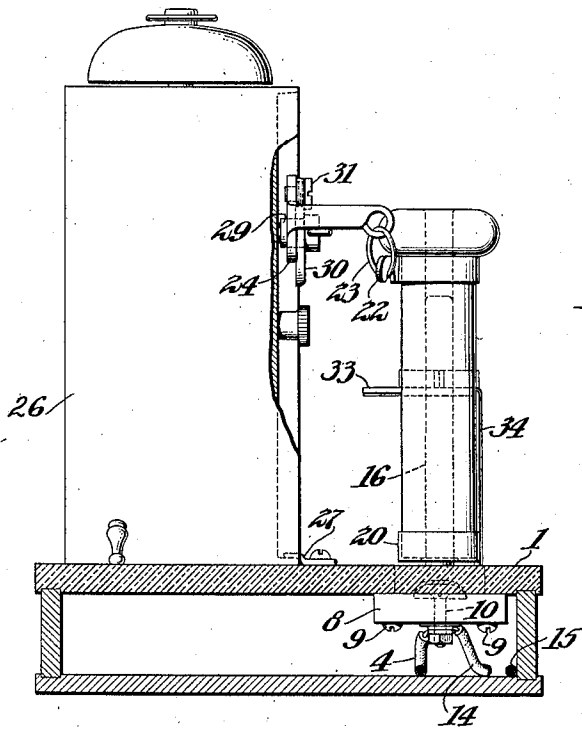


Fig. 3

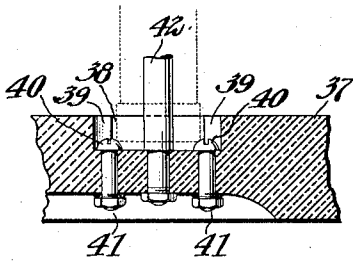


Fig. 4

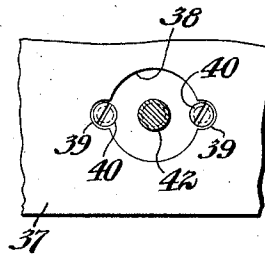


Fig. 5

Inventor

EMIL TRAUB

By

William T. Stewart

Attorney

UNITED STATES PATENT OFFICE.

EMIL TRAUB, OF NEWARK, NEW JERSEY.

TIME-CONTROLLED DEVICE.

Application filed December 16, 1925. Serial No. 75,801.

This invention relates to improvements in time-controlled devices for automatically closing and opening electric-circuits, and more particularly electric-circuits connected with electric-lamps.

The primary object of the present invention is to provide means brought into effective action at a predetermined time for actuating a main electric-circuit controlling switch to successively close and open an electric-circuit a plurality of times, said switch-actuating means finally becoming ineffective in a circuit-closing position of the switch.

A further object of the invention is to provide an auxiliary switch in said electric-circuit for opening and closing the circuit in an open position of the main-switch.

A still-further object of the invention is to provide an auxiliary switch of such a character as to permit of its actuation, either designedly or accidentally, to close the electric circuit from a point remote from the switch.

Other and more specific objects of the invention will be apparent from the following description and claims.

In a preferred embodiment of the present invention, an ordinary type of alarm-clock is employed to at a predetermined time actuate a switch to successively close and open an electric-lamp circuit whereby to first intermittently flash a light a plurality of times and thereafter provide a constant light.

The alarm-clock is preferably sustained by an insulated base provided with two pairs of spaced contact-members constituting the stationary elements of main and auxiliary electric-circuit controlling switches. Projecting upwardly above the base and disposed between each pair of the stationary contact-members is a guide-post for a vertically shiftable tube of some insulating material such as porcelain, each tube carrying at its lower end an electric-current conducting element adapted in the lowered position of the tube to bridge the stationary contact-members of a pair in any rotated position of the tube. One of the tubes is operatively connected with a lever adapted to be vibrated by the rotation at a predetermined time of the alarm-winding stem of the clock, whereby the tube is vertically reciprocated a plurality of times in succession to cause intermittent engagement between the stationary and shiftable contact members of one switch and finally comes to rest in its

lowered or circuit-closing position. The two pairs of stationary contact-members are so connected with an electric-lamp circuit that either switch may be employed to close the circuit in an open position of the other switch. Consequently the auxiliary switch may be employed to close the circuit to light the lamp while the clock alarm-stem is set to hold the main-switch open. The tube of the auxiliary switch carries a lateral arm which in an open position of said switch overlies an angular rest-rod projecting upwardly from the supporting-base. Surrounding said lateral arm is a ring connected to a cord which may obviously be manipulated from a point remote from the switch to close the circuit and light the lamp, said ring being free to slide off the lateral arm upon manipulation of the cord.

In the accompanying drawings, Fig. 1 is a rear elevation, with the supporting-base in longitudinal section, of the present improved light-controlling device. Fig. 2 is a top plan view of the same, with the alarm-clock casing partly in section. Fig. 3 is a sectional view substantially on the line 1-1 of Fig. 1. Fig. 4 is a detail sectional view of a modified supporting base and showing a different form of construction of stationary contact-members. Fig. 5 is a top plan view of the modification, showing the supporting-post in section.

Referring to the drawings, a supporting base 1 of some suitable insulating material constitutes the upper plate of a casing of any desired form or outline, being in the present instance shown as rectangular. Preferably rigidly secured upon the base 1 is an electric-lamp 2 having two current-lead connections, as 3 and 4, of which the current-lead 3 extends from a suitable current-supply source through a casing-bushing 5.

The supporting-base 1 is provided with spaced apertures, as 6 and 7, underlying which is a stationary contact-member carrying plate 8 of insulating material secured to the under side of the base 1 by screws as 9. Secured upon the upper face of the plate 8 by current-transmitting screw-bolts, as 10, are the shanks of stationary contact-members 11, 12 and 13 bent upwardly and partly backwardly to form spaced inclined projections within the apertures 6 and 7, the contact-member 12 being common to both apertures. The lamp current-lead 4 is connected to the bolt of contact-member 11 which is in

turn connected by means of a current-lead 14 to the bolt of contact-member 13. The contact-member 12 is similarly connected to a return lead 15 which passes through the bushing 5 to the supply source. It will be evident that the described connections permit a transmission of current to the lamp 2 when the spaced contact-members of either of the apertures 6 or 7 are bridged by the shiftable contact-members about to be described.

Suitably secured substantially centrally of the apertures 6 and 7 and upon the plate 8 are the reduced ends of vertical posts 16 and 17, slidingly and rotatively guiding the tubes 18 and 19 of porcelain or other suitable material, the lower ends of which tubes are provided with the shiftable contact-members 20 and 21. Adjustably clamped upon the tube 18 is a laterally extending arm 22 having a downwardly curved free end and which arm is connected by means of a ring 23 with the offset free end of a lever 24 pivotally supported upon the usual alarm-setting stem 25 provided on the rear face of an ordinary type of alarm-clock 26. The alarm-clock 26 is sustained by the base 1 and is preferably held clamped in operative position by means of a cleat 27 engaging the flanged rear end of the clock-casing.

The lever 24 is provided with a cam-slot 28 surrounding the alarm-winding stem 29 which rotates in a direction reversely of the winding direction upon being released at a predetermined time by the clock-mechanism. Secured upon said stem 29 for rotation therewith is a disk 30 carrying a radially offset stud-screw 31 comprising a crank-member adapted to engage the upper wall of the cam-slot 28. In operation, the clock-alarm is wound and set as usual, but the winding of the alarm is preferably terminated at a point wherein the screw 31 occupies its limit of upper movement, whereby the engagement of said screw with the lever 24 causes the shiftable contact-member 20 to be held in raised or switch-open position. At the predetermined time, the stem 29 commences to rotate causing the lever 24 to vibrate and permitting the tube 18 to gravitationally descend to close the electric-circuit connections with the lamp 2. In the continued rotation of the stem 29, the tube 18 is again lifted, which operation is repeated a plurality of times thereby causing the light to flash intermittently. The weight of the tube 18 is such that as the alarm-spring becomes unwound it is finally too weak to raise the tube whereupon the actuating mechanism comes to rest in switch-closed position.

The tube 19 and its contact-member 21 comprise a shiftable switch-member auxiliary to the main switch 20 and has for its prime function to provide for closing the

lamp-circuit in the open position of the switch 20, so that the light of the lamp 2 may be employed to set the device for operating the switch-element 20. The tube 19 adjustably carries a lateral arm 32 which in the raised or switch-open position of said tube may be caused to overlie the horizontal portion 33 of a bent rest-rod 34 suitably secured upon the base 1. In order to provide for releasing the arm 32 from the rod 34 from a point remote from the device, the arm 32 is loosely surrounded by a ring 35 connected to a cord 36. The cord 36 may also, if desired, be so positioned as to cause detection of an unauthorized intrusion upon the premises, as will be self-evident.

In Figs. 4 and 5 is shown a modified form of construction for the stationary contact-members. A supporting base 37 is dished on its under surface and is provided on its upper side with a circular recess 38 which at diametrically opposite points merges into small segmental recesses, as 39, in each of which is disposed a portion of a rounded head 40 of a bolt 41 suitably secured upon the base 37 to connect current leads therewith. The bolt-heads 40 in this instance constitute a pair of spaced stationary contact-members adapted to be bridged by a movable contact-member guided by a post 42 also secured upon the base 37 medially of said bolt-heads.

Having thus set forth the nature of the invention, what I claim herein is:—

1. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch interposed in said circuit, an alarm-clock having an alarm-winding stem, a crank-pin secured upon said stem to rotate therewith, a lever adapted to be vibrated by said crank-pin upon rotation of said stem, and an operative connection between the lever and said switch whereby the electric-lamp circuit is successively closed and opened a plurality of times upon release at a predetermined time of the alarm-stem by the clock-mechanism.

2. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch interposed in said circuit, an alarm-clock having an alarm-winding stem, a crank-member secured upon said stem for rotation therewith, and an operative connection between the crank-member and said switch for repeatedly actuating the latter to successively close and open said electric-lamp circuit upon rotation of said stem at a predetermined time.

3. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch

interposed in said circuit, an alarm-clock having an alarm-winding stem, a crank-pin secured upon said stem for rotation therewith, a lever pivotally mounted upon said clock and provided with a cam-slot adapted to be engaged by said crank-pin to intermittently vibrate the lever upon rotation of the stem at a predetermined time, and an operative connection between the lever and said switch to successively close and open said electric-lamp circuit.

4. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch interposed in said circuit consisting of spaced stationary contact-members, a shiftable contact-member adapted to bridge said stationary contact-members, an arm carried by the shiftable contact-member, an alarm-clock provided with an alarm-winding stem, a crank-pin secured upon said stem for rotation therewith, a lever pivotally supported upon said clock and positioned to be vibrated by said crank-pin upon rotation of said stem, and an operative connection between said lever and the arm of the shiftable contact-member to successively close and open the electric-lamp circuit a plurality of times.

5. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch interposed in said circuit consisting of spaced stationary contact-members, a shiftable contact-member adapted to bridge said stationary contact-members, an arm carried by the shiftable contact-member, an alarm-clock provided with an alarm-winding stem, a crank-pin secured upon said stem for rotation therewith, a lever pivotally supported upon said clock and positioned to be vibrated by said crank-pin upon rotation of said stem, and an operative connection between said

lever and the arm of the shiftable contact-member to successively close and open the electric-lamp circuit a plurality of times, said shiftable contact-member finally coming to rest in circuit closing position.

6. A device for automatically controlling the lighting of an electric-lamp comprising electric-circuit connections between said lamp and a suitable power source, a switch interposed in said circuit consisting of spaced stationary contact-members, a shiftable contact-member adapted to bridge said stationary contact-members, an arm carried by the shiftable contact-member, an alarm-clock provided with an alarm-winding stem, a crank-pin secured upon said stem for rotation therewith, a lever pivotally supported upon said clock and positioned to be vibrated by said crank-pin upon rotation of said stem, an operative connection between said lever and the arm of the shiftable contact-member to successively close and open the electric-lamp circuit a plurality of times, and an additional switch for at will closing said lamp-circuit in an open position of said first-named switch.

7. A device for automatically controlling the lighting of an electric-lamp comprising a supporting-base provided with an aperture, an electric-lamp sustained by said base, spaced contact-members sustained by said base to project within said aperture, electric-current leads connecting said contact-members with the electric-lamp and a power-source, a guide-post disposed between said contact-members, a movable contact-member carrying tube slidingly disposed upon said guide-post, and time-controlled means for at a predetermined time relatively shifting said stationary and movable contact-members.

In testimony whereof, I have signed my name to this specification.

EMIL TRAUB.