

A. WEINBERG.
ELECTRIC TIME SWITCH.
APPLICATION FILED MAR. 25, 1908.

937,559.

Patented Oct. 19, 1909.

2 SHEETS—SHEET 1.

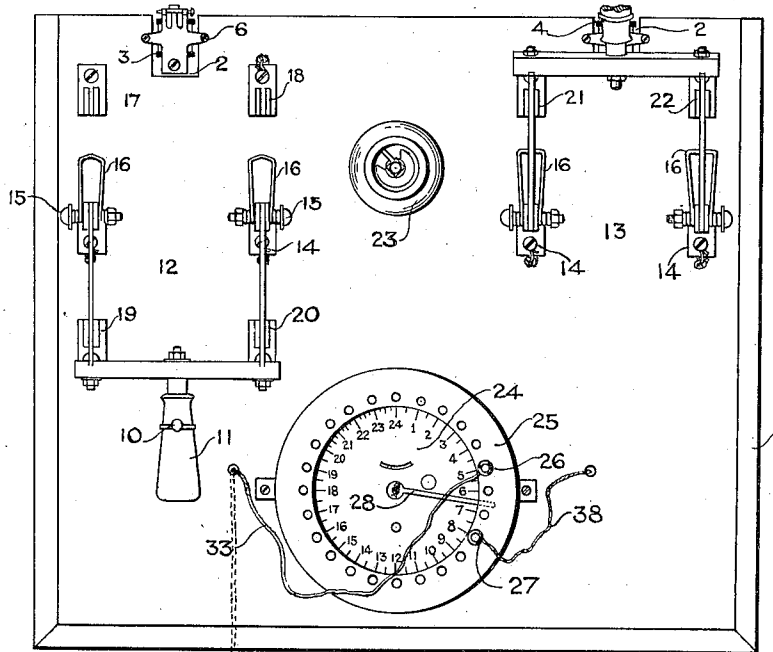


FIG. 1

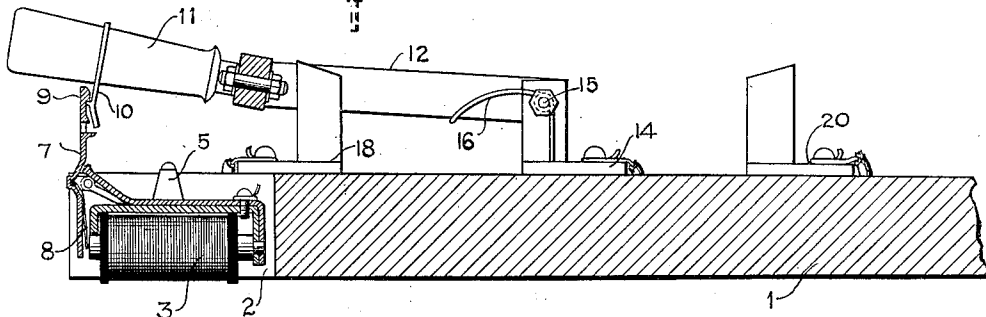


FIG. 2

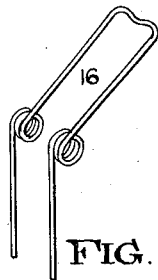


FIG. 3

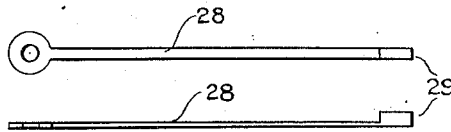


FIG. 4

Witnesses

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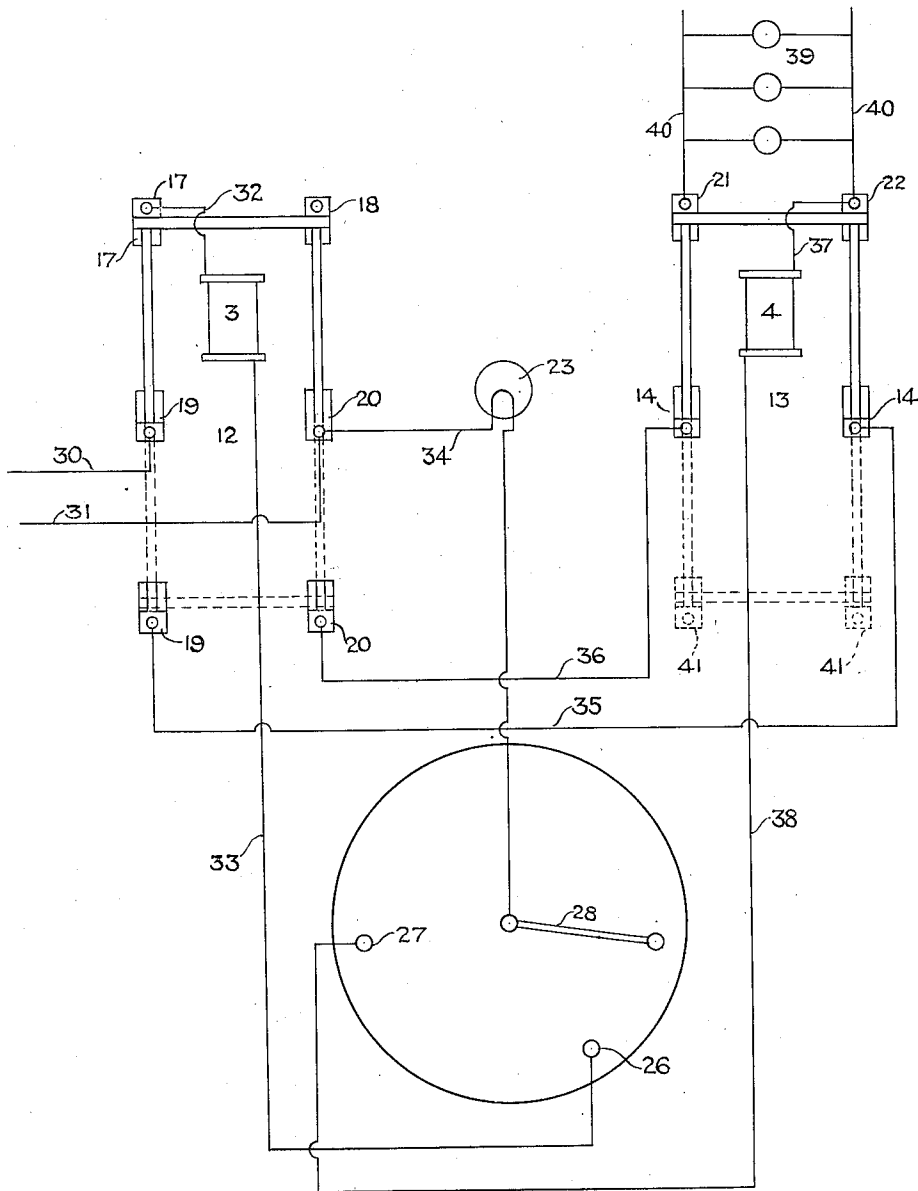


FIG. 5.

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UNITED STATES PATENT OFFICE.

ALEXANDER WEINBERG, OF PITTSBURG, PENNSYLVANIA.

ELECTRIC TIME-SWITCH.

937,559.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALEXANDER WEINBERG, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric Time-Switches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an electrical time switch, and the primary object of my invention is to provide a novel switch for automatically cutting in and cutting out the electric circuit of a plurality of electric lamps, such as are used in display windows and cases of large stores.

A further object of my invention is to provide a switch of the above type that will be simple, positive in operation and highly efficient for the purposes for which it is intended.

With the above and other objects in view, which will readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described and claimed.

In the drawings, Figure 1 is a plan of my switch. Fig. 2 is an enlarged longitudinal sectional view of a portion of the same. Fig. 3 is a perspective view of one of the springs used in connection with the switch. Fig. 4 is a view illustrating the clock arm or hand of my switch, and Fig. 5 is a diagrammatic view of the electrical connections or wiring of the switch, illustrating a slight addition or modification.

In the accompanying drawings, 1 designates a plate or support made of marble, glass, or a suitable material having insulating qualifications. The upper edge of the plate or support 1 is provided with a pair of slots 2, and in said slots are suspended electro-magnets 3 and 4 by brackets 5, said brackets being secured to the plate or support 1 by screws 6.

Pivotally mounted in the slots 2 are trip arms 7 having resilient armatures or contacts 8 and lugs 9 for engaging hook-shaped lower ends of the keepers 10, carried by the handles 11 of knife switches 12 and 13, these switches being pivotally mounted in bearings 14 secured to the plate or support 1. The pivot pins 15 of the bearings 14 are provided with springs 16 for automatically

throwing the switches 12 and 13, when released by the trip arm 7. Each spring is wound upon the pivot pin 15 and is formed with a yoke for engaging the blades of said switch, as illustrated in Figs. 1 and 2 of the drawings.

The knife switch 12 is located adjacent to the electro-magnet 3 and is adapted to engage contacts 17, 18, 19 and 20, while the switch 13 is located adjacent to the electro-magnet 4 and is adapted to engage contacts 21 and 23.

Upon the plate or support 1 is located an incandescent lamp 23 serving as a resistance, and a suitable clock mechanism for controlling the cutting in and cutting out of the electric circuit. This clock mechanism is of a conventional form, comprising a twenty-four hour dial 24, a pin dial 25 for pins 26 and 27, and a hand or arm 28 having a resilient contact 29 adapted to engage the pins 26 and 27 mounted in the pin dial 25.

Reference will now be had to Fig. 5 of the drawings, wherein 30 and 31 designate supply lines connecting with the bearings 19 and 20 of the switch 12. The electro-magnet 3 is connected by a wire 32 to the contact 17 and by a wire 33 to the pin 26. Contact 20 is connected by a wire 34 to the incandescent lamp 23 and to the arm or hand 28 of the clock mechanism. Contacts 19 and 20 are connected by wires 35 and 36 to the bearings 14 of the switch 13. The electro-magnet 4 is connected by a wire 37 to contact 22 and by a wire 38 to the pin 27. The lamps to be controlled by my switch are designated 39 and are located upon wires 40 connecting with the contacts 21 and 22. The electric circuits in connection with my switch are as follows: Assuming that the hand 28 contacts with the pin 26, a circuit through wires 33, electro-magnet 3, wire 32, switch 12, wires 30 and 31, wire 34, lamp 23, and arm 28 will immediately energize the electro-magnet 3, causing the same to attract a trip 7, release the switch 12 and permit of the spring 16 throwing the knife switch into engagement with contacts 19 and 20. Assuming that the pin 26 is located for 5 p. m. the circuit is cut in for illuminating the lamps 39. This circuit is as follows, wire 30, switch 12, wire 35, switch 13, wire 36 to wire 31. After the lamps 39 have been illuminated for a period of time, for instance until 8 p. m., the arm or hand 28 contacts with the pin 27, the circuit is immediately established through the elec-

tro-magnet 4 attracting the trip thereof and releasing the switch 13, which cuts out the circuit of the lamps 39. I have illustrated a slight addition or modification in the dotted lines of Fig. 5, wherein additional contacts 41 can be used in connection with another line of lamps, (not shown).

It is thought that my invention will be fully understood from the foregoing description and I reserve the right to make such structural changes as are permissible by the appended claim.

Having now described my invention what I claim as new, is:—

15 In an electric time switch, a support, knife switches pivoted upon said support and provided with normally locked handles, yoke-shaped springs having the arms thereof connected to the pivots of said switches and extending around and engaging the blades of the switches for automatically throwing the switches when the handles are released, said support provided at one end with slots, electro-magnets in circuit with the source of
20 electrical energy and said switches, brackets secured to the upper face of said supports and depending in said slots for suspending said magnets within the slots, keepers de-

pending from said handles and having hook-shaped lower ends, trip arms having the lower portions thereof constituting armatures, said arms pivoted upon said support and having the lower portions thereof arranged in operative relation with respect to said magnets and provided at their upper ends with lugs adapted to be engaged by the hook-shaped lower ends of said keepers whereby the handles are maintained in a locked position, a clock mechanism located upon said plate and in circuit with said electro-magnets, a pin dial carried by said clock mechanism, pins in circuit with said magnets and adapted to be inserted in said pin dial, and a resilient contact actuated by said clock mechanism for engaging said pins to close the circuits whereby the magnets are energized, the trip arms shifted and the handles released to allow of the switches being thrown by said spring.

In testimony whereof I affix my signature in the presence of two witnesses.

ALEXANDER WEINBERG.

Witnesses:

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MAX H. SROLOVITZ.