

T. A. ZIMMERMAN.
CLOCK CONTROLLED SWITCH.
APPLICATION FILED MAY 25, 1912.

1,037,710.

Patented Sept. 3, 1912.

FIG. 1

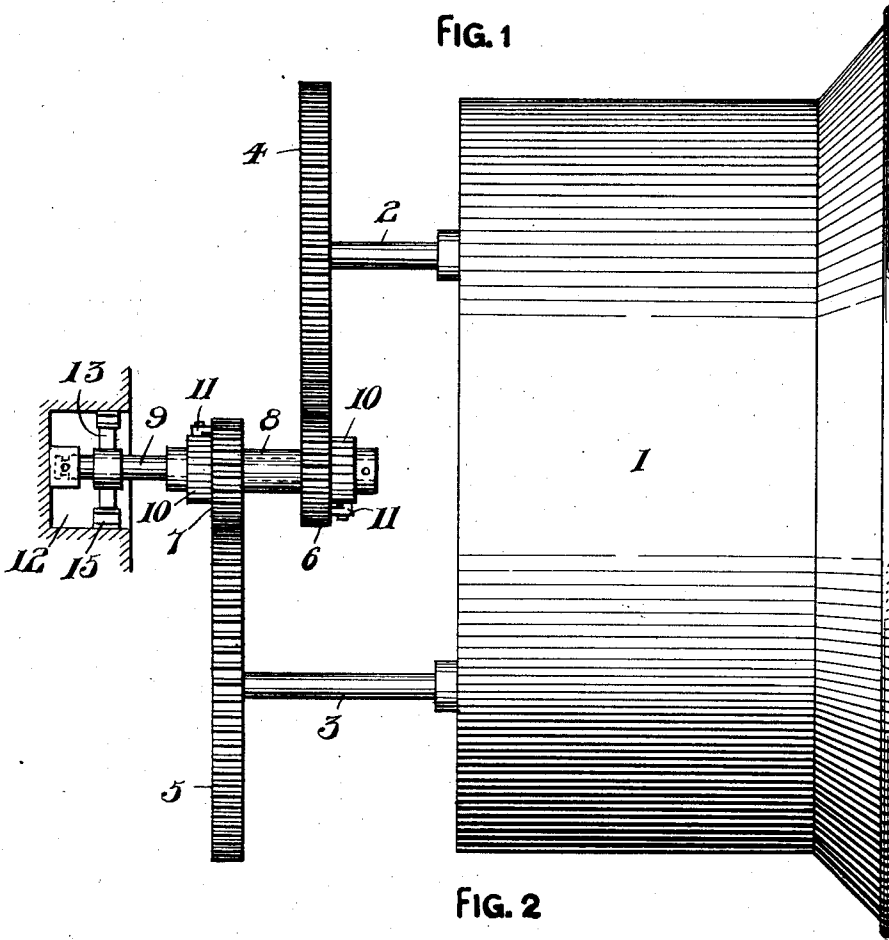
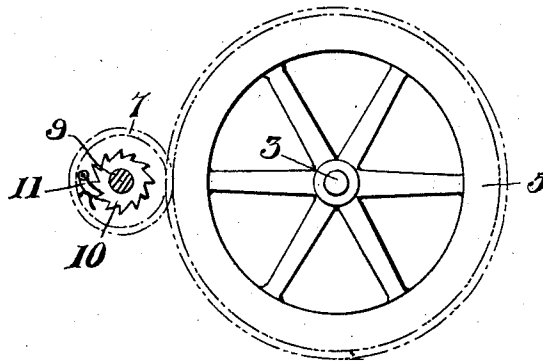


FIG. 2



WITNESSES

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THOMAS A. ZIMMERMAN, OF SWISSVALE, PENNSYLVANIA.

CLOCK-CONTROLLED SWITCH.

1,037,710.

Specification of Letters Patent.

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Application filed May 25, 1912. Serial No. 699,737.

To all whom it may concern:

Be it known that I, THOMAS A. ZIMMERMAN, a citizen of the United States of America, residing at Swissvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Clock-Controlled Switches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a clock controlled switch, and more particularly to the electric lighting of show windows and the lights.

The primary object of my invention is to provide a new and improved clock controlled switch designed for automatically turning on and off at predetermined time the electric lamps used in a show window or other place, for instance, turning the lamps on at the beginning of dusk and turning them off at midnight, or, if desired turning on a series of lamps at the beginning of dusk, turning off the lamps at midnight, and turning on a single lamp during the remainder of the night. For the purposes mentioned use is made of an alarm clock, the clock having a double alarm mechanism that can be set to actuate a switch arbor at a pre-determined time and the switch arbor can be provided with a plurality of contacts, whereby a plurality of the electric circuits can be opened and closed.

The invention will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:—

Figure 1 is a plan of the clock controlled switch, and Fig. 2 is an elevation of a portion of the same.

In describing my invention by aid of the drawing above referred to, I desire to point out that I intend said views as merely illustrative of an example whereby my invention may be applied in practice, and I do not limit my claims to the precise arrangements and construction of the parts indicated. The following description is therefore to be construed broadly, as including substitute arrangements and construction which are the obvious equivalent of those shown.

The drawing shows a clock 1 that is constructed upon the lines of an ordinary alarm

clock, with the exception that the clock has a double alarm mechanism and the shafts 2 and 3 of the alarm mechanism protrude from the rear face of the clock. The clock also includes the ordinary and well known winding mechanism whereby the alarm mechanism can be set to operate at a pre-determined time.

The rear ends of the shafts 2 and 3 are provided with large gear wheels 4 and 5 respectively and these gear wheels mesh with small gear wheels 6 and 7 mounted upon a sleeve 8 that is loosely mounted upon a switch arbor 9. The switch arbor 9 has ratchet wheels 10 and engaging said wheels are spring pressed pawls 11, carried by the sides of the gear wheels 6 and 7. The pawls are reversely arranged and one of said pawls recedes over said wheels while the other pawl causes the ratchet wheels to rotate in unison with said gear wheels.

The switch arbor 9 extends into a socket 12 and has blades 13 adapted to engage contacts 15 arranged within the socket. The blades 13 and the contact 15 are of such construction that positive and reliable connections can be made either for breaking or making a circuit.

In operation, the shaft 2 rotates at a pre-determined time to operate the switch arbor 9 and close a circuit that lights a lamp. When the shaft 2 is operated, the gear wheels 4 and 6 are revolved and the pawl 11 of the gear wheel 6 causes the ratchet wheel 10 to rotate in unison with the gear wheel 6. The switch arbor 9 is therefore rotated and during its operation the pawl 11 of the other gear wheel recedes over the other ratchet wheel. At a pre-determined time the shaft 3 is placed in operation and the switch arbor 9 is again moved whereby the electric circuit will be broken and the lamp turned out.

What I claim is:—

1. In a clock controlled switch, the combination with a switch arbor, of ratchet wheels carried thereby, a sleeve loosely mounted upon said switch arbor, gear wheels carried by said sleeve, pawls carried by said gear wheels and engaging said ratchet wheels, and gear wheels actuated by a clock mechanism for ultimately imparting movement to the first mentioned gear wheel and said switch arbor.

2. In a clock controlled switch, the combination with a switch arbor, of ratchet wheels mounted thereon, gear wheels loosely supported by said switch arbor, reversely
5 arranged pawls carried by said gear wheels and engaging said ratchet wheels, and means including a clock mechanism for imparting movement to said gear wheel

whereby said ratchet wheels will be ultimately revolved.

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

THOMAS A. ZIMMERMAN.

Witnesses:

S. C. TRUXAL,
GEORGE HAINE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."