

W. J. KAMUF.
TIME CONTROLLED OPERATING MECHANISM.
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1,219,951.

Patented Mar. 20, 1917.

Fig 1.

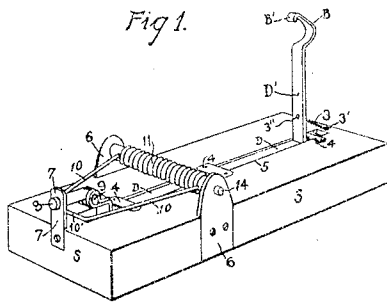


Fig 2.

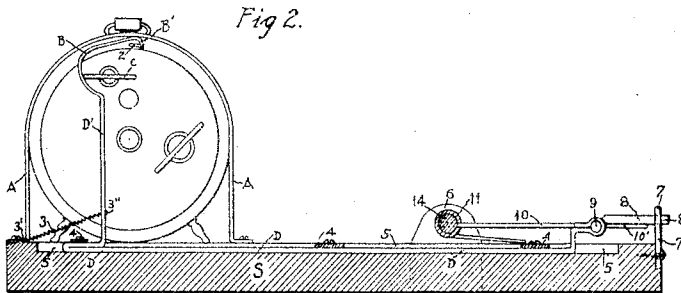
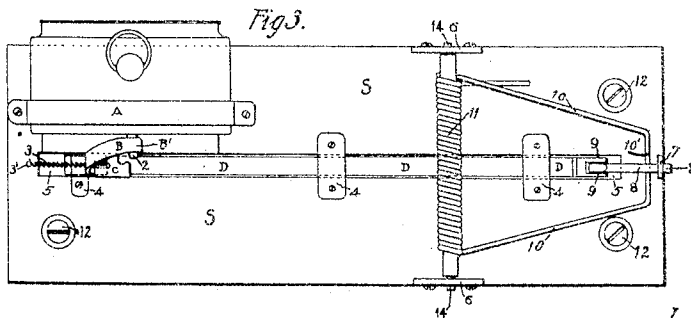


Fig 3.



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UNITED STATES PATENT OFFICE.

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TIME-CONTROLLED OPERATING MECHANISM.

1,219,951.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. KAMUF, a citizen of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Time-Controlled Operating Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention relates to means whereby an operating mechanism may be permitted or caused to function at a predetermined time, and it pertains particularly to a mechanism for causing an electric switch to be thrown at a certain time upon operation of the alarm mechanism or equivalent part of a time-piece. It particularly is adapted for use in breaking the electric-lighting circuit, and thus extinguishing the lights, of show-windows, stores, and other places where it is desired to discontinue illumination at night without the necessity of having manual access to the light-controlling part for that purpose.

It is an object of the invention so to arrange a time-piece in association with a switch-throwing or other operating mechanism that the latter will be permitted to operate upon movement of the alarm-winding, or equivalent operating, shaft of a time-piece, and another object of the invention is to provide means whereby action of such a shaft is discontinued immediately upon completion of the switch-throwing or other operation.

When read in connection with the description herein, the details of construction and arrangement of parts contemplated by the invention will be apparent from the accompanying drawing, forming part hereof, wherein an embodiment of the invention, as applied to an electric-switch-operating mechanism, is disclosed, for purposes of illustration.

While the disclosures herein now are considered to exemplify a preferable embodiment of the invention, it is to be understood that it is not the intention to be limited necessarily thereto in interpretation of the claim, as it is obvious that alterations and modifications within the limits of the claim can be made without departing from the nature and spirit of the invention.

Like reference-characters refer to corre-

sponding parts in the views of the drawing, 55 of which—

Figure 1 is a perspective view, the time-piece being omitted;

Fig. 2 is a longitudinal sectional view, looking from the rear; and

Fig. 3 is a plan view.

Having more particular reference to the drawing, S designates a base, in the upper portion of which is a slot 5, which accommodates a slidable member D held within 65 the slot by plates 4 secured to the base.

At one end the member D extends upwardly from the slot and carries a pin 9 having a trigger 8 extending therefrom, the arrangement being such that the trigger is 70 pivotally mounted. A standard 7 mounted on the base has an aperture arranged to receive the free end portion of the trigger. Plates or the like 6 are secured to the sides of the base at opposite places intermediately 75 of the ends of the base and project above the upper plane of the base, and a shaft 14 is journaled in these plates. This shaft carries a coil-spring 11 having an end secured to the base and including side extensions 10 80 and a cross-piece 10' forming a loop extension of the spring. The cross piece 10' is arranged to be brought under the trigger, whereupon the latter is engaged with the aperture of the standard 7, and the tension 85 of the spring is such that it has a tendency, when released, to swing or snap the loop from the trigger and down against the base at the opposite side of the shaft 14. Thus, after the spring has been placed under re- 90 straint of the trigger, upon sliding movement of member D the trigger is released from member 7 and the loop swings or snaps over to the other side. During this movement it engages and moves any suitable elec- 95 tric switch, or other member that it is desired shall be operated, at a predetermined time.

In order to release the trigger and permit operation of the spring at the desired 100 time, a time-piece, such as an alarm-clock, is secured by a band A to the base at a place outside of the scope of operation of the spring. The clock has an alarm-winding shaft, which constitutes the operating- 105 shaft of the apparatus, and this shaft has a cross-piece C, of usual form, projecting laterally therefrom at its end, for use in

winding the alarm mechanism. The clock also has a lever 2, which is shiftable from one position to another to permit the alarm mechanism to operate or to keep it silent, the positions of the lever being indicated by the words "Silent" and "Alarm", as is common in such clocks. The winding-shaft rotates in a direction opposite to that of winding while the alarm mechanism is in alarming operation.

The slide member D has extending upwardly from its end portion opposite to the trigger an arm D' positioned to be engaged by the cross-piece or projection C of the winding and operating shaft and thereby to move the slide member and to release the trigger as that shaft rotates while the alarm mechanism is in operation. In order that, when the arm D' is moved and the trigger is released and the operating-spring is permitted to function, the alarm mechanism may be stopped and thus the necessity of entirely rewinding the mechanism for the next operation avoided, the arm D' has extending from its upper end a curved portion E lying outside of the line of rotation of the cross-piece C and terminating in a hook portion B' that engages the alarm-lever 2. The parts are so proportioned and arranged that, when they are in the positions they have when the trigger is set, the lever 2 may be moved to "Alarm". In order to permit that movement of the slide necessary to set the trigger, the cross-piece C should be set by turning the winding-shaft so that it is not in contact with the arm D'. When the alarm mechanism operates at the predetermined time for which it has been set, the cross-piece or projection C will push against the arm D' and thereby

move the slide D and release the trigger, and during this movement of the arm its hook portion B' will shift the lever 2 to "Silent" and stop operation of the alarm mechanism after the trigger is released.

In order to hold the arm D' away from the cross-piece or projection C of the winding and operating shaft while the alarm mechanism is being rewound and thus not interfere with that operation, a coil-spring 3 is attached to that arm and to the base. While the power of this spring is sufficient to hold the arm D' and slide D in retracted position when the trigger is not set, it is not sufficient to withdraw the trigger when it is holding the operating-spring, and, therefore, it is not liable to withdraw the trigger and release the operating spring at an undesired time.

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

The combination, with a time-piece having an alarm mechanism that includes a lever arranged to throw said mechanism into and out of a condition wherein it is susceptible of operation at a predetermined time, an operating-shaft, and a projection on said shaft, of an operating member, a trigger normally holding said member under restraint, a slidable member connected with and arranged to release said trigger, an arm extending from said slidable member and arranged to be connected and moved by the projection of said operating-shaft, and a hook portion on said arm arranged to shift said lever whereby operation of said alarm mechanism is stopped.

WM. J. KAMUF.