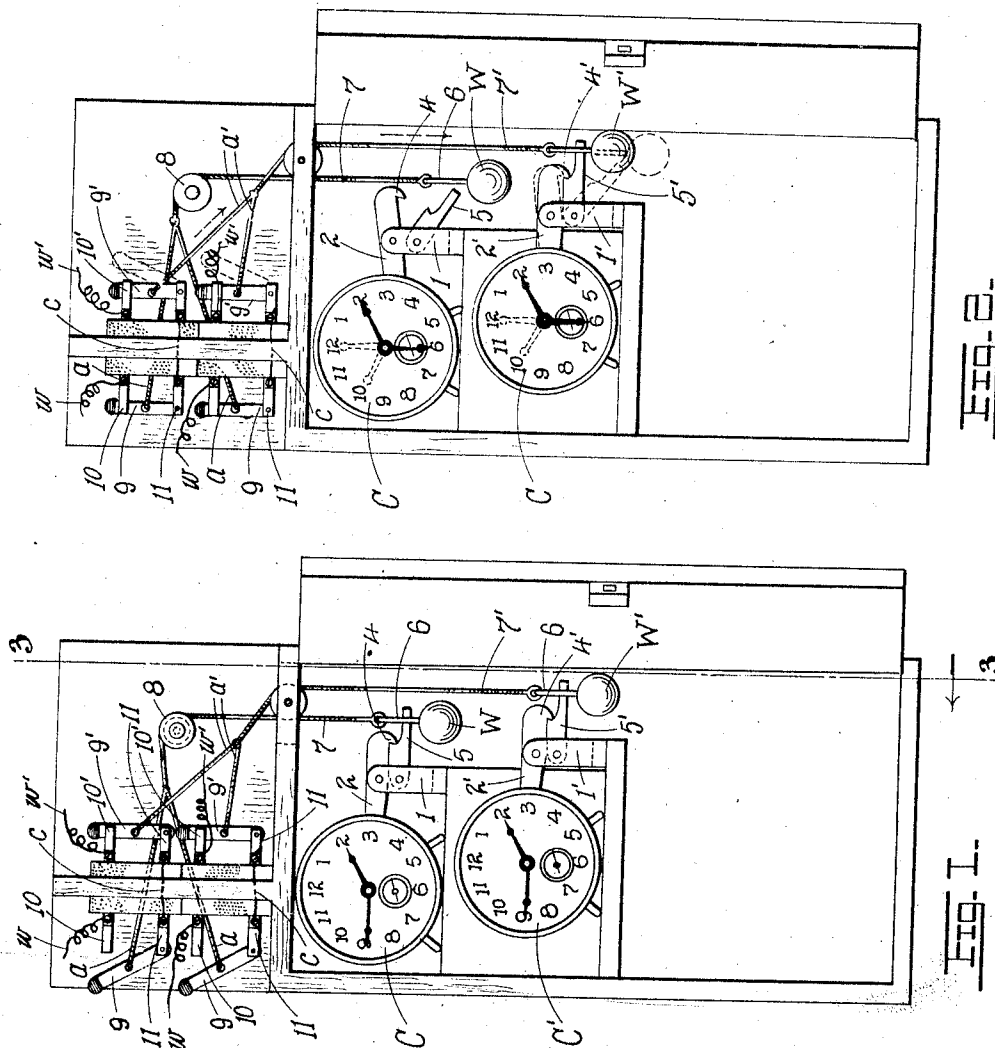


No. 876,293.

PATENTED JAN. 7, 1908.

F. W. BROCK.
ELECTRIC TIME SWITCH.
APPLICATION FILED MAR. 11, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

H. C. Kiehn
W. J. Mann

INVENTOR,
Frank W. Brock

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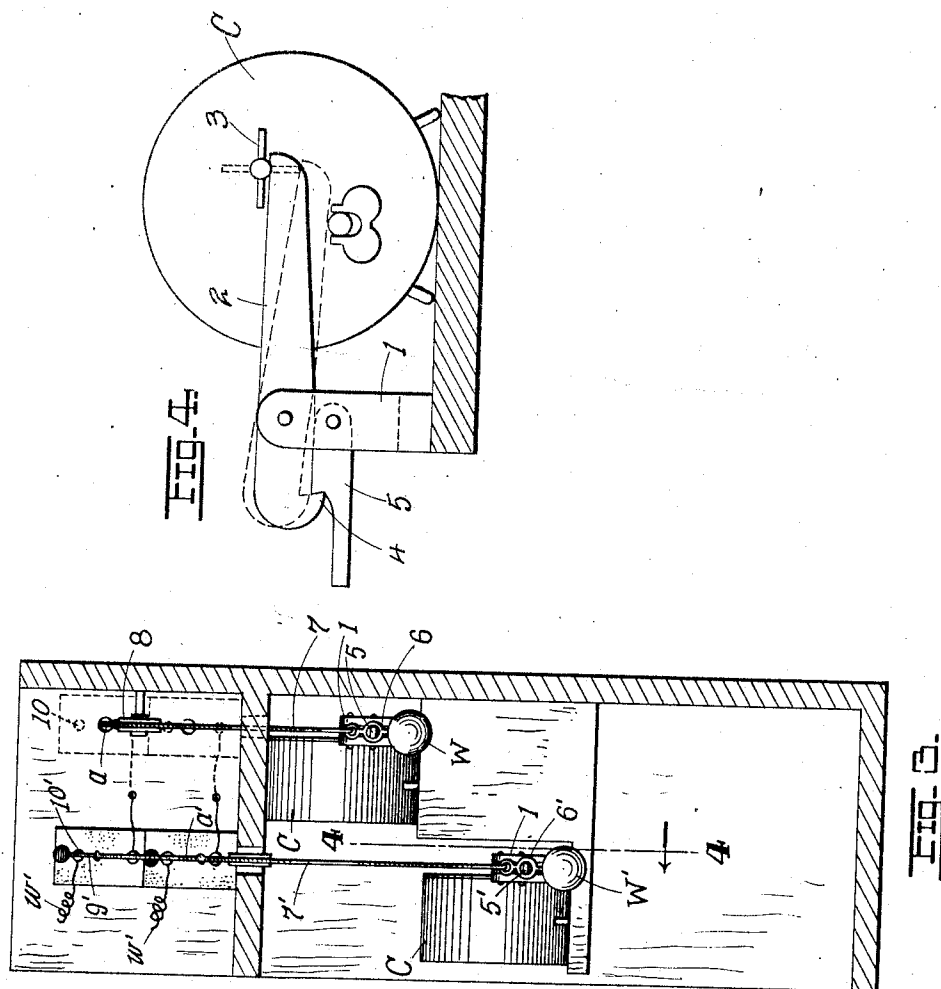
Emil Stora
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2 SHEETS—SHEET 2.



WITNESSES:

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FRANK W. BROCK, OF CHATHAM, ILLINOIS.

ELECTRIC TIME-SWITCH.

No. 276,293.

Specification of Letters Patent.

Patented Jan. 7, 1908

Application filed March 11, 1907. Serial No. 361,764.

To all whom it may concern:

Be it known that I, FRANK W. BROCK, citizen of the United States, residing at Chatham, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Electric Time-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in electric time-switches; and it consists in the novel construction of switch more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a front elevation of my invention showing the electric circuits open; Fig. 2 is a similar view showing the circuits closed; Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 1; and Fig. 4 is an enlarged elevational detail of the latch and pawl for breaking or closing the circuit, showing the rear of the clock and alarm key thereof for tripping the latch.

The object of my invention is to provide a time-operated switch for turning store lights on and off at stated intervals; special attention being had for simplicity of operation and durability of the parts. In detail the invention may be described as follows:

Referring to the drawings, C, C', represent two clocks placed in contiguous relation to a corresponding number of latches which release the operating weights by which the switch-levers are operated. Adjacent to the clock C is a post 1 to which is pivoted near its center, a vertically oscillating latch 2 whose one end reaches to the head 3 of the winding key to the alarm mechanism of the clock, the opposite end terminating in a hook 4 which engages and locks in elevated or horizontal position a gravity pawl or arm 5 whose free end passes through a loop or ring 6 from which a weight W is suspended. To the weight is connected the lower end of a cord 7 which passes over a pulley 8, the cord terminating in two ends a, a which are coupled to the pivoted switch-levers 9, 9. The levers are adapted to make electric connection with the contact arms 10, 10, of two independent circuits to which lead the wires w, w, the opposite wire w', w' of each circuit connecting with a similar contact arm 10',

10', with which coöperates a similar switch lever 9', 9', each circuit comprising a wire w, arm 10, switch lever 9, a supporting arm 11 for the switch lever, a connecting wire section c a second supporting arm 11, a switch lever 9', a contact arm 10' and wire w'. In connection with the clock C' is a similar arrangement of latch 2', post 1', hook 4', pawl 5', and cord 7' with weight W', cord ends a' a', which are connected with the switch levers 9' 9'.

The operation is as follows: If a merchant wishes his lights turned on automatically at 6 p. m. he sets the alarm of the clock C to 6 o'clock. When that time arrives, the alarm key or arbor carrying the head 3 (Fig. 4) in its rotation trips the latch 2 so as to release the pawl 5 (Fig. 2) whereupon the weight W slips off the pawl and jerks on the cord ends a, a, throwing the switch levers 9, 9, to closed position, thus closing the circuits and automatically turning on the lights. The lights remain burning until such time as it may be necessary to extinguish them. To effect this automatically the merchant sets the clock C' to a definite hour, at which time the alarm goes off, the head of the alarm key tripping the latch 5', whereupon the release of the weight W' draws on the cord ends a' a' (dotted position Fig. 2), thereby oscillating the switch-levers 9' 9' to open position and breaking the circuits.

Of course the cords 7, 7' may have any number of cord ends a, a', to control any number of circuits, one clock being always set to turn on the lights by closing the circuits, and the other to extinguish the lights by breaking the circuits.

Having described my invention, what I claim is:

In combination with an electric circuit having two independent switch-levers for respectively closing and breaking the circuit, a clock, and an alarm key therefor, a pivoted latch having one end disposed in the path of rotation of the exposed head of said alarm key, a gravity pawl locked against movement by the latch, a weight coupled to a cord and suspended on the pawl, the opposite end of the cord being connected to one of the switch levers and temporarily free from the tension of the weight, the head of the key being adapted to trip the latch at the hour to which the alarm has been set

and release the weight whereby the latter
pulling on the cord oscillates the switch lever
to closed position, and a second clock co-
operating with a similar latch, pawl, weight
5 and cord secured to the second switch-lever,
whereby at a predetermined hour the re-
lease of the second weight is effected, and
the pulling on the cord thereof oscillates the

second switch-lever to open position and the
circuit is broken, substantially as set forth. 10
In testimony whereof I affix my signature,
in presence of two witnesses.

FRANK W. BROCK

Witnesses:

WILLIAM JORDON
FRANK CHOW.