

No. 713,500.

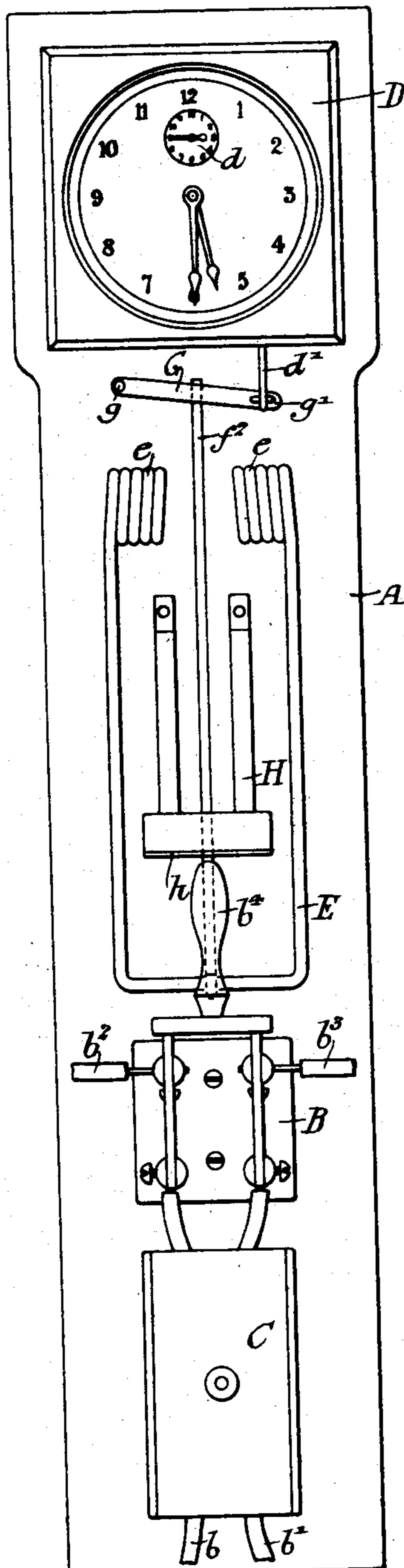
Patented Nov. 11, 1902.

M. RUSH.  
ELECTRIC TIME SWITCH.

(Application filed Apr. 17, 1902.)

(No Model.)

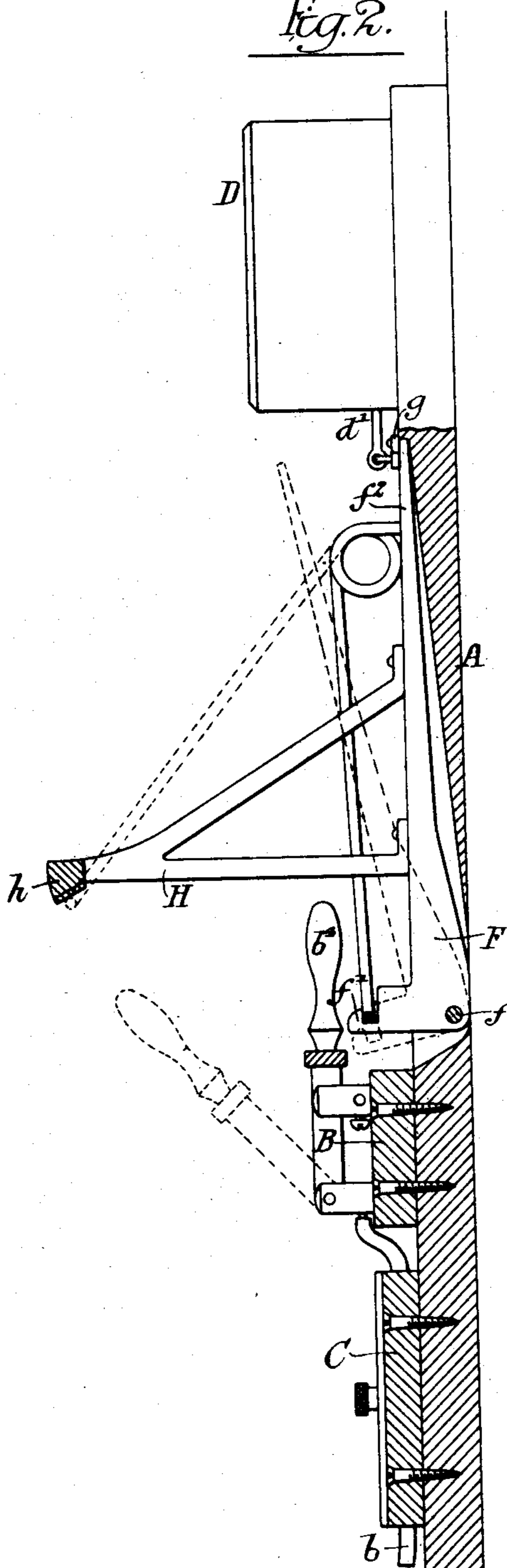
*Fig. 1.*



*Witnesses:*

*Chas. Wilson*  
*Herman E. Mettles.*

*Fig. 2.*



*Inventor*

*Madison Rush,*  
*by his Attorneys:*  
*Howson & Howson*

# UNITED STATES PATENT OFFICE.

MADISON RUSH, OF MEMPHIS, TENNESSEE.

## ELECTRIC TIME-SWITCH.

SPECIFICATION forming part of Letters Patent No. 713,500, dated November 11, 1902.

Application filed April 17, 1902. Serial No. 103,386. (No model.)

*To all whom it may concern:*

Be it known that I, MADISON RUSH, a citizen of the United States, and a resident of Memphis, Tennessee, have invented certain  
5 Improvements in Electric-Switch-Operating Devices, of which the following is a specification.

My invention consists in an improved automatic switch-operating mechanism, having  
10 for its object the provision of a device for use in connection with a clock, and an electric switch which shall be caused by said clock to operate at a predetermined time, and thereby open the switch. This object I attain as hereinafter set forth, reference being  
15 had to the accompanying drawings, in which—

Figure 1 is a front elevation of an electric switch, showing my improved operating device connected thereto; and Fig. 2 is a side  
20 elevation, partly in section, showing the detail construction of the apparatus illustrated in Fig. 1.

In the above drawings, A is a backing or support of wood or any other suitable material,  
25 upon which is mounted a double-pole electric switch B of any suitable construction, two of its terminals being connected to positive and negative feed-wires  $b$  and  $b'$  through a fuse-box C, and the other two having distributing-  
30 wires  $b^2$  and  $b^3$ , connected to any desired form of current-receiving device.

D represents a clock mechanism of any of the well-known forms, provided with a small dial  $d$ , whereby the time of operation of the  
35 mechanism, to be described hereinafter, may be regulated and having projecting from it a bar  $d'$ . As in many well-known forms of alarm apparatus, the clock is provided with a device constructed to operate at the time to  
40 which the hand on the small dial  $d$  is set to move any form of alarm-releasing apparatus, and in the present case this device operates in the well-known manner to move the bar  $d'$  longitudinally. A U-shaped spring-piece E  
45 is provided at each of its ends with a coiled section  $e$ , fastened in any desired manner to the support A and so constructed that it always tends to assume a position perpendicular to said support. There is, however, a  
50 bell-crank lever F pivoted to the support A by means of a pin  $f$  and having a hooked end  $f'$  so placed as to engage the forward end of

the U-shaped spring when this latter has been depressed into a position substantially parallel with the surface of the backing or support A. It is, however, to be noted that  
55 the bell-crank lever will only maintain the spring E in the above-mentioned position when said lever is held in the position indicated in full lines in Fig. 2, there being a  
60 pivoted lever or bar G held to the support A by a pin  $g$  and placed so as to normally retain the bell-crank lever F in the above-noted position. It will be seen that the bar  $d'$  engages  
65 a staple or other projection  $g'$  on the lever G, and consequently turns this on its pivot  $g$ , when the clock mechanism causes said bar to move laterally. A standard H, firmly fastened to the support A, projects at right angles  
70 to this latter from between the side members of the spring E, being provided with a pad  $h$  upon its head-section, so placed as to receive the spring E when this latter attempts to assume a position at right angles to the back A.  
75

In order to operate my device, I set the pointer on the small dial at the hour at which I desire the switch to be opened, and after turning the spring E into a position parallel to the back retain it in said position by means  
80 of the bell-crank lever F, the latter in turn being retained in position by drawing the pivoted bar G over its end  $f^2$ . I then close the switch B, thus supplying current to lights, motors, or other current-receiving devices, it  
85 being noted that its handle  $b^4$  when in the closed position is directly over the spring E.

The various parts of the apparatus remain in their respective positions until the time when the operating mechanism in the clock  
90 is actuated by reason of the arrangement of parts incident to the setting of the hand on the small dial  $d$ , and when such operation occurs the bar  $d'$  is drawn upward, thus turning the lever G on its pivot  $g$  and releasing  
95 the end  $f^2$  of the bell-crank lever F. This latter is immediately turned on its pivot  $f$  by the upward pressure of the spring E, and consequently releases said spring, which in attempting the position against the pad on the stand-  
100 ard H, as shown in dotted lines in Fig. 2, comes into relatively violent contact with the handle  $d$  of the switch D, turning its movable blades upon their pivots and breaking the contact

between said blades and the jaws of the switch, so as to cut off the supply of the current to the lights and the other receiving devices.

While I have illustrated the preferred form and arrangement of parts of my invention, it will be understood that the mechanical construction, as well as said arrangement, may be varied without departing from my invention, which contemplates the use of any suitable device connecting a clock and electric switch, whereby the latter may be operated at any predetermined time.

I claim as my invention—

1. The combination with an electric switch of a clock, a mechanical device having means for automatically opening the switch, a pivoted lever having one arm in engagement with the said device for retaining it in a set position and a bar operated by the clock and in engagement with the second arm of the lever whereby the mechanical device is normally prevented from acting upon the switch, substantially as described.

2. The combination of an electric switch, a clock including a movable bar and mechanism for moving the same at a predetermined time, a bell-crank lever having one arm extending under the switch and the other in engagement with said bar, a spring also extending under the switch and normally held out of engagement with the same by said lever, substantially as described.

3. The combination of a supporting-base, a clock, a U-shaped spring and a switch, a

bell-crank lever having an arm placed to retain the spring in a flexed condition under the forward portion of the closed switch, a movable bar attached to the clock and placed to engage the second arm of the lever and prevent motion thereof until said bar is moved by the clock, substantially as described.

4. The combination of an electric switch, a clock provided with a movable bar and mechanism for operating said bar at predetermined times, a spring, a bell-crank lever constructed to engage said spring and retain it in a set position from which it may operate upon the switch to open the same, said bell-crank lever being retained in engagement with said spring by means of said movable bar, together with means for limiting the movement of said spring after the same has operated upon the switch, substantially as described.

5. The combination of a supporting-base, a clock, a switch and a spring for operating said switch, a lever placed to engage the spring, a bar operated by the clock for holding said lever so that it prevents motion of the spring and a buffer for limiting the motion of the spring after it has been released by said lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MADISON RUSH.

Witnesses:

PAUL S. WEEVER,  
EDWARD G. RIGG.