

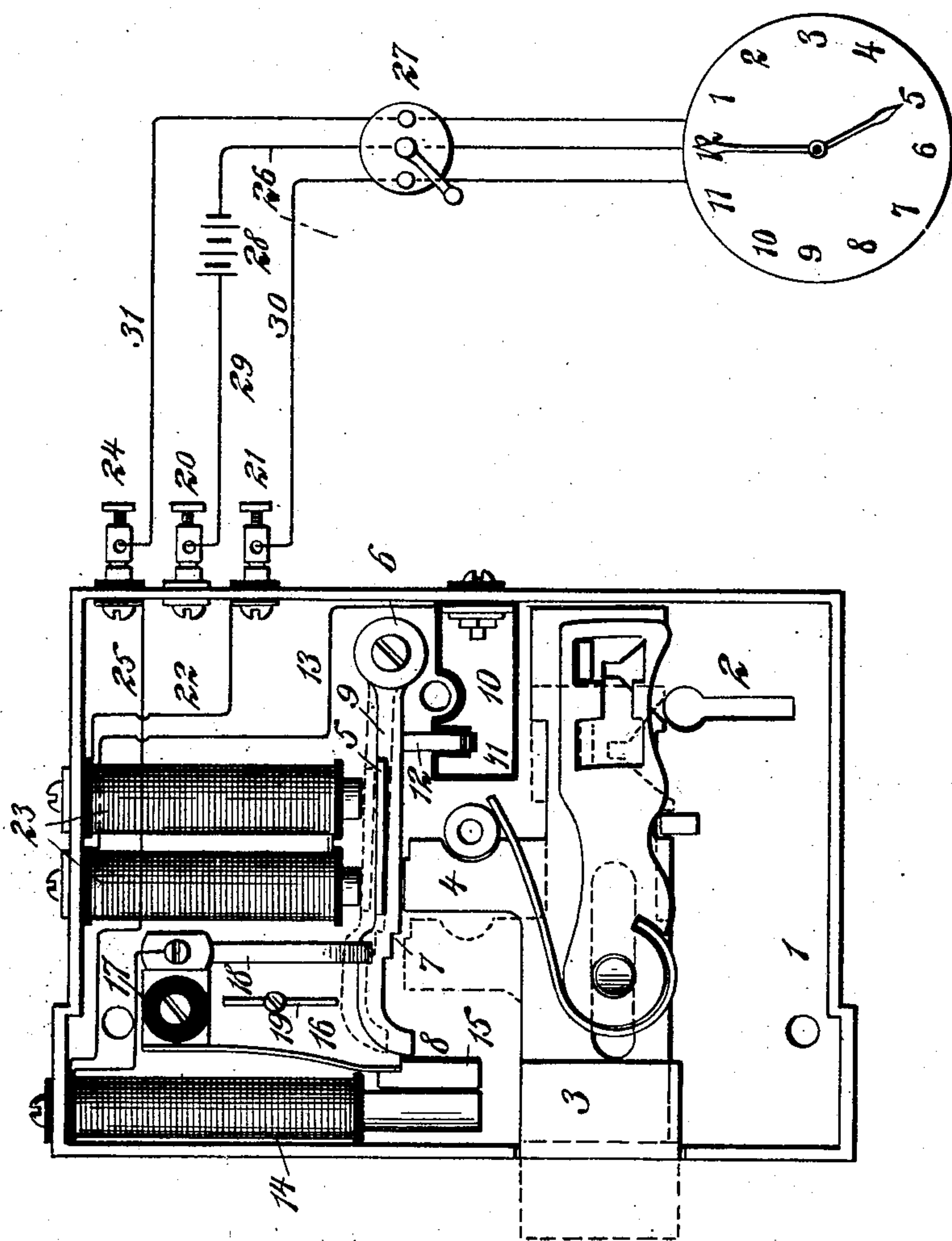
No. 755,897.

PATENTED MAR. 29, 1904.

F. LOMBARDI.  
ELECTRIC LOCK.

APPLICATION FILED DEC. 19, 1903.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FRANK LOMBARDI, OF BROOKLYN, NEW YORK.

## ELECTRIC LOCK.

SPECIFICATION forming part of Letters Patent No. 755,897, dated March 29, 1904.

Application filed December 19, 1903. Serial No. 185,775. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK LOMBARDI, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electrically-Controlled Locks, of which the following is a specification.

My invention relates especially to locks used upon doors or the equivalent of any description, and has for its object the provision of a lock wherein the bolt may be held against movement by the lock-key or released so that it may be moved by the key, such holding or releasing being accomplished by electromagnets the circuits whereof are controlled by hand or by an automatic time-switch.

To attain the desired end, my invention consists, essentially, in the combination, with the bolt of a lock, of electrical means for controlling the movements of said bolt, all of which will be hereinafter first fully described and then pointed out in the claims.

In the accompanying drawing, forming a part hereof, is shown a side elevation of a lock embodying my invention, the side of the lock-frame being removed.

1 is the lock frame or case. 2 is the key-hole therein.

3 is the lock-bolt provided with a projection 4.

5 is an iron catch, which also constitutes a magnet-armature, pivoted above the bolt at 6 and having a notch at 7 arranged to engage with the projection 4 upon the lock-bolt and a finger 8 at its free extremity. The catch-piece 5 is provided with a strip of conducting material 9, from which a finger 12 extends to an insulated conducting-plate 10, having a piece of insulating material 11 fixed therein.

14 is an electromagnet having an armature 15 mounted upon a conducting-strip 16, fixed to an insulating-post 17, and having connection with a conducting-strip 18 the free end whereof is turned upward and arranged to contact with the strip 9.

19 is a stop limiting the upward movement of the armature 5.

20 is a binding-post fixed in the lock-frame. 21 is an insulated binding-post fixed in

said frame and having a conductor 22 leading therefrom to an electromagnet 23.

13 is a conductor which leads from the plate 10 to the magnet 23.

24 is a second insulated binding-post fixed in the lock-frame and having a conductor 25, which leads to the magnet 14.

26 is a conductor from a switch 27 to a battery 28, and 29 is a conductor from said battery to the binding-post 20.

30 is a conductor from the switch 27 to the post 21, and 31 is a conductor from said switch to the post 24. This switch is designed for controlling the lock by hand; but where it is desired to automatically control the lock and release or retain the bolt thereof at a predetermined time clock mechanism may be employed in connection with the lock-circuits.

When constructed and arranged in accordance with the foregoing description, the operation of my invention is as follows: The bolt being in the position shown in full lines may be thrown by a key so as to take the position shown by the dotted lines, and as the catch-piece 5 rests upon the bolt projection 4 the notch 7 will engage with such projection, preventing the possible throwing back of the bolt by the lock-key. If now it is desired to raise the catch out of engagement with the projection upon the bolt, the switch 27 is operated to send the electric current through the magnet 23, attracting the armature 5, thus raising the catch from such engagement, the finger 8 at the free end of the catch falling into the notch at the top of the armature 15, retaining said catch from again dropping, thus permitting the free movement of the lock-bolt by the lock-key. This act of raising the catch cuts out the magnet 23, and if it is desired to release the catch the circuit through the magnet 14 is closed, attracting the armature 15, dropping the catch-piece back upon the projection 4 ready to engage therewith. This movement cuts out the magnet 14, establishing contact for the first-described magnet-circuit.

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



1. In a lock of the character herein specified, a bolt and a catch arranged to engage said bolt, in combination with an electromagnet adapted to actuate said catch and cause it  
5 to release the bolt, means for holding the catch out of engagement with the bolt, and electrical means for releasing the catch-holding means, substantially as shown and described.
- 10 2. In a lock, the combination with a bolt, of a catch arranged to engage said bolt and hold it in its locked position, electrical means for moving the catch out of engagement with  
the bolt, a spring-actuated part arranged to engage the catch for holding it out of engagement with the bolt, and independent electrical  
15 means for moving the said spring-actuated part to release the said catch, substantially as set forth.
- Signed at New York, in the county of New  
York and State of New York, this 17th day  
20 of November, A. D. 1903.
- FRANK LOMBARDI.
- Witnesses:  
LAWRENCE CARRIN,  
CHRISTIAN GROTH.