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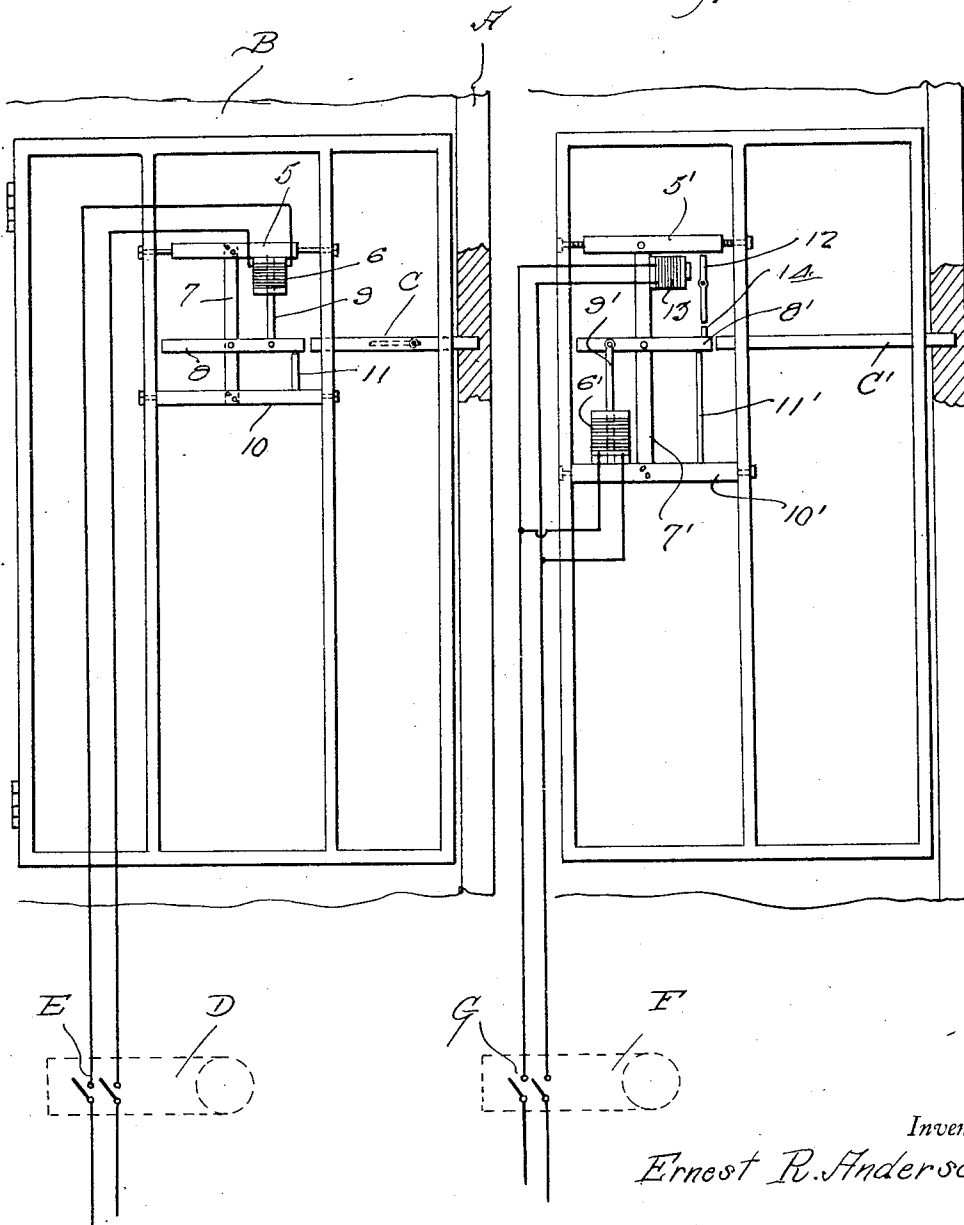
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TIME CONTROLLED SAFETY DEVICE FOR SAFE LOCKS

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Fig. 1.

Fig. 2.



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TIME-CONTROLLED SAFETY DEVICE FOR SAFE LOCKS.

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This invention relates generally to locking devices for safe doors, and has more particular reference to a safety attachment therefor, the invention aiming to provide a time controlled mechanism for preventing the manual releasing of the safe lock bolt within a predetermined time so that even though the combination of the safe may be known the bolt can nevertheless not be released.

In carrying out the present invention there is provided means operable by a conventional electrical time apparatus wherein the lock bolt is itself locked against movement during a predetermined time. Said structure is however operable for releasing the bolt at a predetermined time for which the time mechanism is set so that the bolt may be retracted by authorized parties.

One of the most important objects of the present invention is to provide an attachment of this character that may be installed within the doors of safes now in use, and this regardless of the character of lock mechanism as long as the same includes a master sliding bolt.

In the drawing wherein there is disclosed but two forms of the invention,

Figure 1 is a fragmentary inside elevation of a safe door equipped with any conventional character of manually controlled lock that includes a sliding bolt, said door being equipped with one form of the invention, and

Figure 2 is a similar view disclosing a slightly modified form of the invention.

Now having particular reference to the drawing, A designates fragmentarily a safe equipped with a swinging door B, which door is in turn equipped with a conventional locking mechanism that includes a main sliding lock bolt C, the outer end of which is adapted for projection through the edge of the door and for engagement within a socket in the adjacent jamb of the safe door frame. My invention per se consists of a horizontal supporting member 5 arranged within the door frame above the bolt C and in back of the rear end thereof. Arranged upon one end of the member 5 and depending therefrom is an electro magnet 6, while depending from the member 5 intermediate the ends thereof is an arm 7 to which is pivotally secured adjacent the lower end a rocker arm 8. Pivoted to this rocker arm which is arranged on a horizontal plane with the lock bolt C and

extending upwardly therefrom is a pin 9 that acts as the core of the magnet 6.

Secured to the lower end of the arm 8 beneath the locking bolt C is a cross bar 10 that is equipped adjacent its forward end with a vertically extending pin 11 upon which the forward end of the rocker arm 8 will rest when the same is in substantially horizontal alinement with the lock bolt C to limit the downward swinging movement of the forward end of the arm. Obviously, by reason of the attachment of the solenoid core pin 9 to the rocker arm 8 the weight thereof will maintain the forward end of the arm in a downward position so as the same will be arranged directly in back of the inner end of the lock bolt C preventing the same from being retracted from the safe door jamb as disclosed in the drawing.

The electromagnet 6 is electrically connected with a source of electric energy through the medium of a conventional time controlled mechanism D that includes a manual switch E. Obviously by reason of the time controlled mechanism D the current to the magnet 6 is broken so that the rocker arm 8 will be in the horizontal position as disclosed.

Immediately upon the completion of the circuit by reason of the time controlled mechanism the magnet 6 will become energized, drawing upwardly upon the floor pin 9 and thus raising the end of the arm 8 adjacent the bolt C allowing the same to be retracted.

In the form of the invention disclosed in Figure 2 there is also provided a horizontal member 5' arranged above and in back of the lock bolt C'. Depending from this member 5' is an arm 7' to which is pivotally attached a rocker arm 8' at a point in alinement with the bolt C'. Secured to the lower end of the vertical arm 7' is a horizontal member 10', while arranged thereon and at the left of the vertical arm 7' is an electromagnet 6' equipped with an elongated pin core 9'. The upper end of this pin is pivotally connected to the adjacent end of the rocker arm 8', while adapted for supporting the end of the rocker arm 8' adjacent the lock bolt C' is a vertically extending pin 11' associated with the lower horizontal member 10'.

Pivoted within the door frame directly adjacent the forward end of the rocker arm 8' is a vertically extending rocking pin 12, the

upper end of which is directly in front of a horizontal magnet 13 arranged upon the vertical arm 7' directly beneath the horizontal member 5'. Beneath this rocking pin 12 the rocker arm 8' is equipped with a small pin 14 for engagement with the lower end of the rocking pin 12 to prevent the upward swinging movement of the outer end of said rocking arm 8'.

In this instance also the magnets 6' and 13 are electrically connected to a source of supply through the medium of a time controlled mechanism F including a switch G which when closed sets the mechanism in operation. The operation of the time controlled mechanism F during a predetermined time will maintain the circuit to the magnets 6' and 13 open so that the rocker arm 8' will be in horizontal position in back of the bolt C to prevent the same from being retracted. After the particular set time of the mechanism F the circuit to the magnet will be completed causing the energization of the same and the resultant swinging of the rocking pin 12 out of engagement with the pin 14 of the rocker arm 8' and the consequent raising of the end of the rocker arm adjacent the bolt C which will permit the same to be retracted.

It will thus be seen that I have provided a highly novel, simple and highly efficient safety device for safe locks that is well adapted for all the purposes heretofore designated, even though I have herein shown and described but two embodiments of the invention it is nevertheless to be understood that some changes may be made therein without affecting the spirit and scope of the appended claims.

Having thus described the invention, what I claim is:—

1. In a bolt releasing device for safe locks, in combination, a master bolt adapted for slidable movement within the spaced door, a vertically disposed bar mounted within the door, an arm pivotally supported by said vertical bar and adapted for normal disposition inwardly of and in alinement with the master bolt, and an electro-magnet including an armature, said armature being pivotally connected with the pivotal arm, a time controlled mechanism, and a current supply affected by the time mechanism for energizing the electro-magnet for moving the pivotal arm from obstructive positions in respect to the bolt.

2. In a bolt releasing device for safe locks, in combination, a master bolt adapted for slidable movement within the safe door, a pair of spaced horizontally disposed bars fixed within said door, a vertical cross bar connecting said bars together, an electro-magnet depending from the upper bar and including an armature, a pivotal arm on said cross bar adapted for disposition in alinement with the master bolt, a member on the lower bar for supporting the pivotal arm at one end and normally in alinement with the bolt, said armature being pivotally connected with the pivotal arm, a time controlled switch mechanism in circuit with the electro-magnet, and a current supply effective by the time mechanism switch for energizing the electro-magnet at a predetermined time for moving the pivotal arm from obstructive positions in respect to the bolt.

In testimony whereof I affix my signature.
ERNEST R. ANDERSON.