Sept. 13, 1932. D. F. MURPHY ET AL 1,877,017

ROTARY DOORLOCK

Filed Sept. 2, 1930

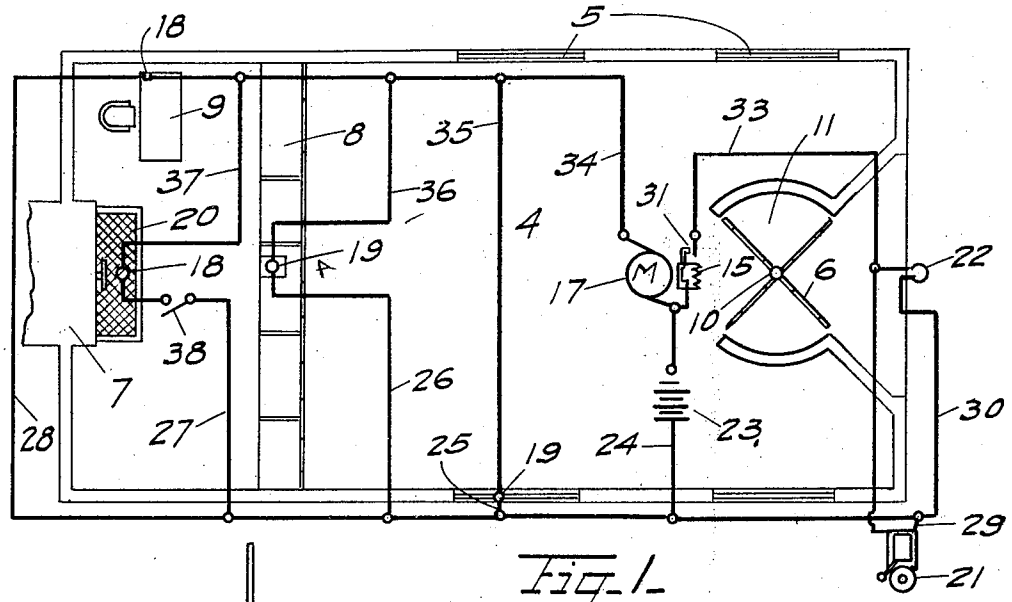


Fig. 1.

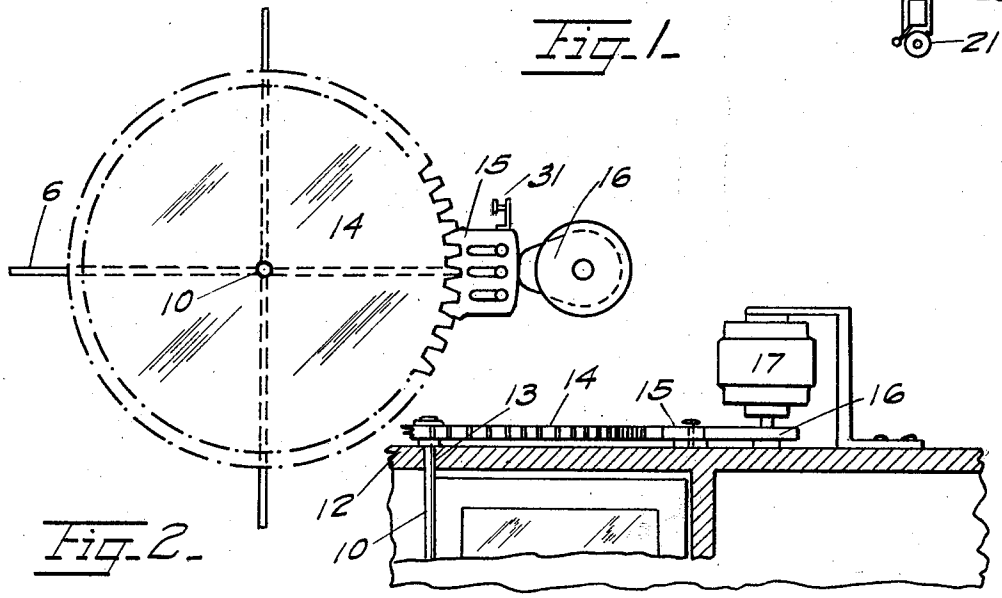


Fig. 2.

Fig. 3.

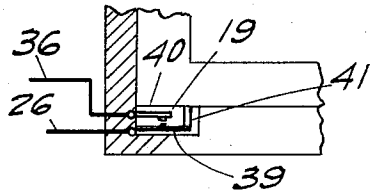


Fig. 4.

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UNITED STATES PATENT OFFICE

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ROTARY DOORLOCK

Application filed September 2, 1930. Serial No. 479,289.

This invention relates to burglar proof banks, and has for its main object the provision of means whereby the burglarizing of banks may be prevented by means of alarms, signals and the locking of doors.

The invention consists primarily of a system of signals, alarms and automatic locking of doors whereby a burglar or burglars may be trapped by either employes of the bank or by their own moves or acts, and consists of an alarm external of the bank, and a revolving door fitted with bullet proof glass and having means for automatically locking said door when a switch is closed or a button pressed.

The invention is adequately illustrated in the accompanying drawing in which

Fig. 1 is a floor plan of a bank interior, indicating the invention as applied thereto, the wiring diagram being indicated thereon;

Fig. 2 is a plan view of the revolving door locking means; and

Fig. 3 is a fragmentary elevation of the door locking means;

Fig. 4 is a detail view of a normally closed switch.

Similar reference characters are used to designate similar parts throughout the several views.

A bank 4 is provided with the usual windows 5 glazed with bullet proof glass, a revolving door 6 also glazed with bullet proof glass, a vault or safe 7, counter 8, and desks 9.

The revolving door consists of the usual four wing type centrally pivoted at 10 at top and bottom, and operating in the arcuately formed chamber 11. The central pivot 10 extends through the ceiling 12 as at 13, the upper end thereof having fixedly mounted thereon a gear 14. A pawl 15 is slidably mounted in such relation as to normally clear the teeth on gear 14, but adapted to engage the gear teeth when moved toward the central pivot 10 by means of a cam 16, mounted directly on the shaft of a motor 17.

Push buttons are located at various points within easy reach of various employes as at 18 on the desk 9.

Normally closed contacts are mounted to cooperate with the windows, whereby, the raising of a window will close a contact and spread an alarm.

A similar normally closed contact 19 is mounted on the counter and is normally kept open by the weight of the money receptacle or till placed thereon.

A contact mat or resiliently mounted contact platform 20 is incorporated in the floor in front of the vault or safe 7.

Audible signals 21 and visible signals 22 are placed exteriorly of the building and some signal placed at the police station.

The wiring diagram is superposed on Fig. 1, to more clearly illustrate the principle. A battery or other source of current 23 has one terminal connected to all contacts, buttons and signals by means of conductors 24 to 30 inclusive, the opposite terminal being connected to one terminal of a motor and to a switch actuated by means of the pawl 15, and indicated at 31, by means of conductor 32, the opposite pole of switch 31 being connected to the external signals 22 and 21 by means of a conductor 33. The opposite terminal of motor 17 is connected with opposite terminals of the various push buttons and contacts by means of conductors 34 to 37 inclusive.

The operation of the system is as follows. The pawl 15 is normally out of contact with the gear 14, and switch 31 is open, permitting entrance and exit through the door 11. All other push buttons and contacts are also open, leaving all circuits open. In the event of some one attempting to stage a holdup, should the attempt be detected before entrance, making a circuit through any of the push buttons or contacts would instantly lock the door 11 by closing the circuit to the motor, causing the cam 16 on motor 17 to force the pawl 15 in engagement with gear 14, and coincidently close the circuit to the external signals 21 and 22 which would continue to operate until the pawl 15 was manually removed from mesh with the gear 14. It will be noted that a monetary impulse is all that is required to lock the door and start operation of the various alarms. A switch is incorporated in the circuit to the vault mat contactor 18 as at 38 to permit

use of the vault except after closing hours, when the switch 38 is to be closed. Stepping on this mat, or removing the money box or till from contactor 19 or opening a window causes the same results as those previously described. The contactor 19 may readily be made as indicated in Fig. 4 in which a spring contactor 39 normally makes contact with a stationary contact 40 and the contact of which is broken by means of downward pressure on the spring member 39 applied through an insulated member 41.

It will be noted that variations in construction and arrangement of parts which are consistent with the appended claim may be resorted to without departing from the spirit or scope of the invention or sacrificing any of its advantages.

What we claim is:

In combination with a revolving door having a central pivot shaft, a spur gear secured on the end of said shaft, a sector gear having a plurality of teeth formed on a radius from the center of said shaft and radially slidable, and a cam adapted by rotation thereof to engage said sector gear with said spur gear, said sector gear being releasable from said spur gear only by independent retraction thereof.

In testimony whereof we have affixed our signatures.

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SIMON SCHNEIDER.