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BANK PROTECTIVE APPARATUS

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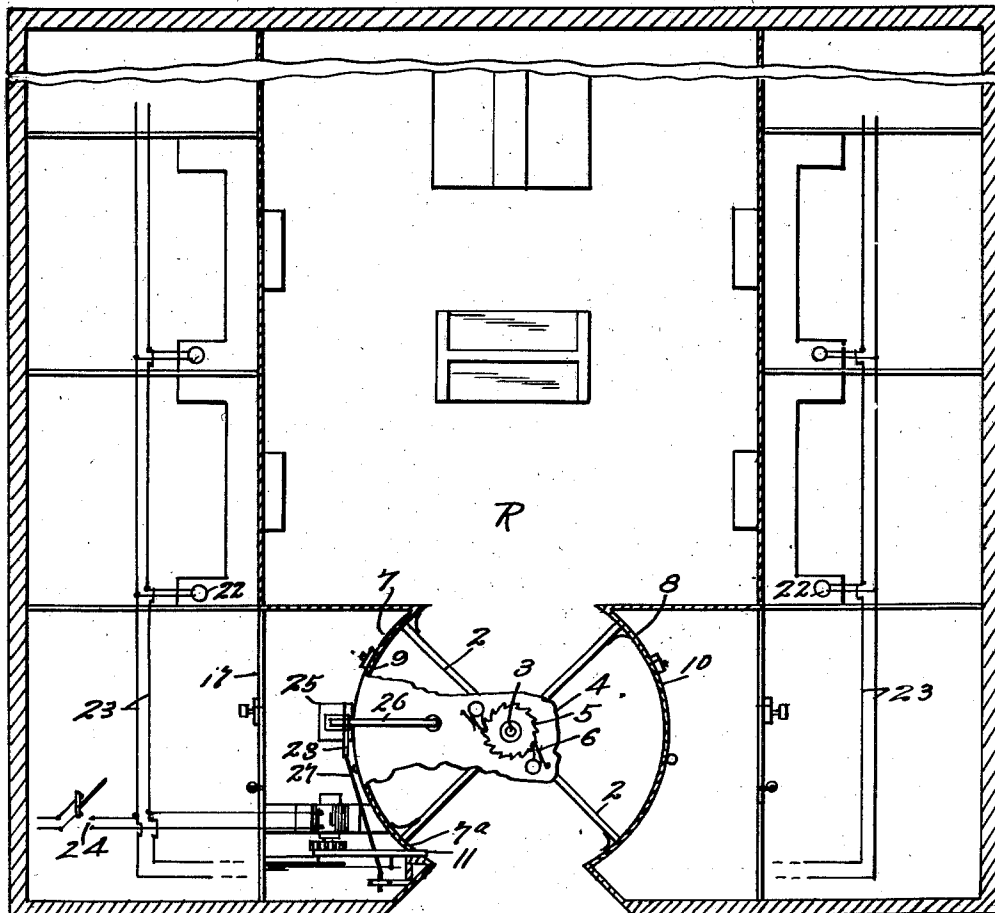


Fig. 1.

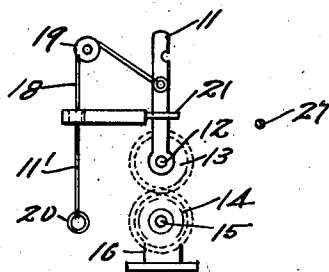


Fig. 2.

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BANK PROTECTIVE APPARATUS

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2 Claims. (Cl. 20—1.01)

This invention is protective apparatus of the class for incorporation in various institutions such as banks or other places having cashiers or other custodians of considerable sums of cash or other negotiable valuables.

It is an object of the present invention to provide a cashier's protective apparatus incorporating a multi-wing rotary door in which the wings are sufficiently spaced to permit occupation of the space between any pair of wings by an individual either entering or leaving the institution to be protected by the apparatus, means being provided with the rotary door to form, on the exit side of the path of movement of the door, a substantially closed cell or trapping compartment wherein a potential or actual burglar may be entrapped upon his exit from the banking or cashier's room of the protected premises.

Further an object is to provide means for the asphyxiation of the trapped individual so that he may be safely removed while in an unconscious condition.

Additionally it is an object to provide means, under manual control, to effect the locking of the door and the trapping of the individual and to utilize such means as an instrument for rendering effective the asphyxiating gas by liberating the same into the trapping cell.

Another object is to provide a safety means so as to enable the ready recovery of any individual who may happen to be entrapped in the doorway at the same time that the undesired or criminally inclined individual is being trapped.

A desideratum is to provide an electrical control system including means provided at as many cashiers' cages or other stations as may be wished so that any one of numerous employees or other interested persons may be able to effect instantaneous action of the apparatus.

The invention consists in certain advancements in this art as set forth in the ensuing disclosure and having, with the above, additional objects and advantages as hereinafter developed, and whose construction, combination and details of means, and the manner of operation will be made manifest in the description of the herewith illustrative embodiment; it being understood that modifications, variations and adaptations may be resorted to within the scope, principle and spirit of the invention as it is more directly claimed hereinafter.

Figure 1 is a schematic plan of the apparatus as installed in the entrance to a bank room showing the bolt in effective (horizontal) position.

Figure 2 is an elevational detail of the door

bolting mechanism showing the bolt in retracted, upright position.

In its illustrated embodiment a rotary door is provided with a suitable number of wings 2 of which any desirable number may be employed but four is preferred as here shown. Preferably the door wings are provided with bullet-proof glass. The door wings are securely fixed to a central vertical shaft 3 appropriately mounted in bottom and top bearings and the wings of the door are covered by a stationary ceiling 4 contiguous to which is a strong ratchet wheel 5 fixed on the shaft 3. A suitable number of stop pawls 6 are provided to engage the ratchet wheel 5 and securely hold the door against reverse or, in this case, clockwise rotation.

On diametrically opposite sides of the door are provided cell walls 7 and 8 each provided with a door 9 and 10 for access to the cell space formed when any pair of the wings 2 is at one time bearing on the contiguous arcuate cell walls 7—8. The wall structure, including the respective parts 7 and 8, in which each door 9 and 10 is mounted is constructed and arranged to provide a passageway to and from the bank room R or such other space as there may be. For the purpose of forming a trap at the cell wall 7 this latter is provided at its front portion 7^a with a slot to receive a lever arm 11, hereinafter referred to as the bolt, which is secured on a short shaft 12 mounted in appropriate bearings and provided with a gear 13 in constant mesh with another subjacent coplanar gear 14 which is appropriately mounted on the shaft 15 of an electric motor 16 mounted in a compartment formed between the cell wall 7 and a partition 17.

The bolt 11 sweeps in a vertical plane and is normally in an upright position to which it is drawn by any suitable means such as a pull-cord 18 operating over a guide wheel 19 and having a hand grip 20 for convenience of operation. If desired a spring finger 21 may be provided to releasably hold the bolt 11 in its idle upright position, as in Fig. 2.

The motor is under instantaneous starting control by any one of a number of switches 22 of which a number are connected in a parallel wire circuit 23 served by mains 24. Thus if any one at whose station there is a circuit closing switch 22 observes a hold-up or an attempted hold-up in the premises he may close the adjacent switch and throw the motor into instant action just as the criminal reaches the doorway and starts to turn the rotary door in the exit direction. By the time the door, pushed by the criminal, has arrived

at the location of the bolt slot the bolt 11 will have been thrown down to the intercepting position and further movement of the door stopped. The hold-up man is therefore trapped by the action of the bolt in the cell between the cell wall 7 and the adjacent pair of door wings thereon, the stop ratchets 6 preventing a reverse turn of the door.

For the purpose of gassing the entrapped person a container 25 containing a suitable gaseous medium is arranged in the compartment next the wall 7 and has a discharge pipe 26 opening into the cell at the wall 7 for the discharge of gas to the cell. In order to secure the discharge of the gas at the instant that the bolt 11 is thrown the latter engages a device connected to the gas container so as to open a discharge valve thereof. The connection may consist of a link or cord 27 attached to a valve lever 28 of the gas container 25. Therefore as the bolt moves down to locking position the gas valve is opened and gas flows to the trapping cell.

The door 10 in the wall 8 provides for the ready removal of any innocent individual who may have happened to be passing into the bank and be caught between a pair of wings lapping on the doorway wall 8 at the instant that the bolt 11 may be thrown.

In apparatus of this class the vault of the bank room is provided with a bullet-proof window or door glass and in case the operatives are forced into the vault during a robbery, the imprisoned

operative could watch the passage of the robbers through the rotary door and set the bolt mechanism thereof in action as the robbers went through to exit.

What is claimed is:

1. The combination, in apparatus of the class described, of a rotary door having a system of radial, wall forming wings, a contiguous, arcuate cell wall which cooperates with a pair of the wings to form a cell which is closed on two sides by the adjacent pair of wings, means to lock the rotary door in said cell-forming position, and an access door in said arcuate wall which provides for entrance through the said wall to the cell formed by the rotary door wings and the said wall while the rotary door is locked in cell-forming position.

2. The combination, in a safety, protective doorway structure, of diametrically opposite walls spaced to form a passageway to and from a cashier's room, a winged, rotary door arranged in the space and cooperative with contiguous portions of the opposite walls to form respective cells, each of which is closed on two sides by adjacent wings of the rotary door, means to lock the rotary door in cell forming position as to said walls, and each of said walls having an access door which provides entrance to the respective cell while the rotary door is locked in cell-forming position.

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