June 24, 1924. 1,498,798

L. HOULE

MEANS TO CAPTURE BANDITS

Original Filed April 3, 1922 2 Sheets-Sheet 1

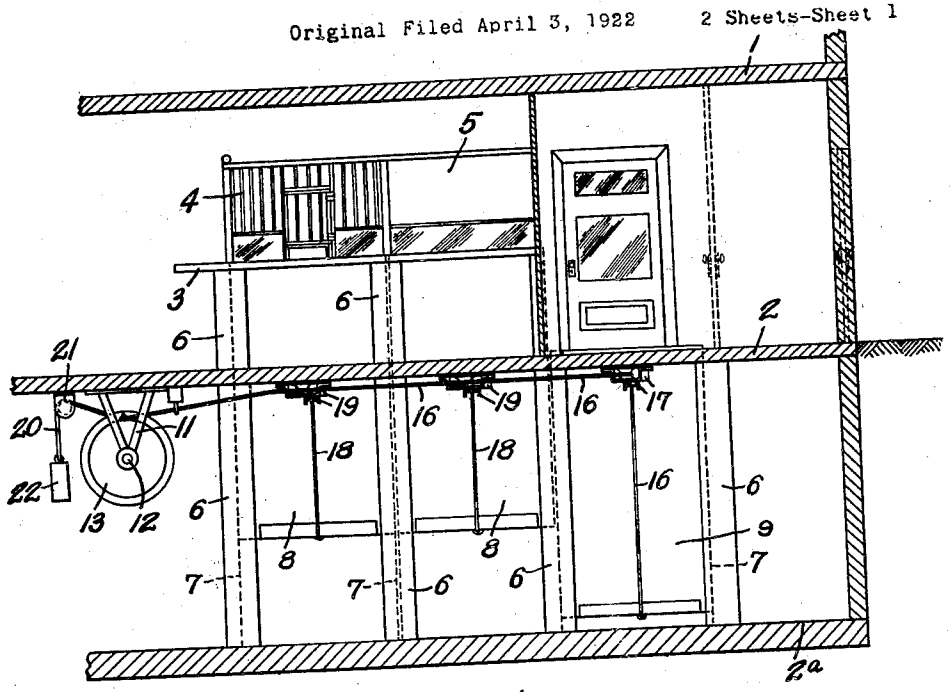


Fig. 1.

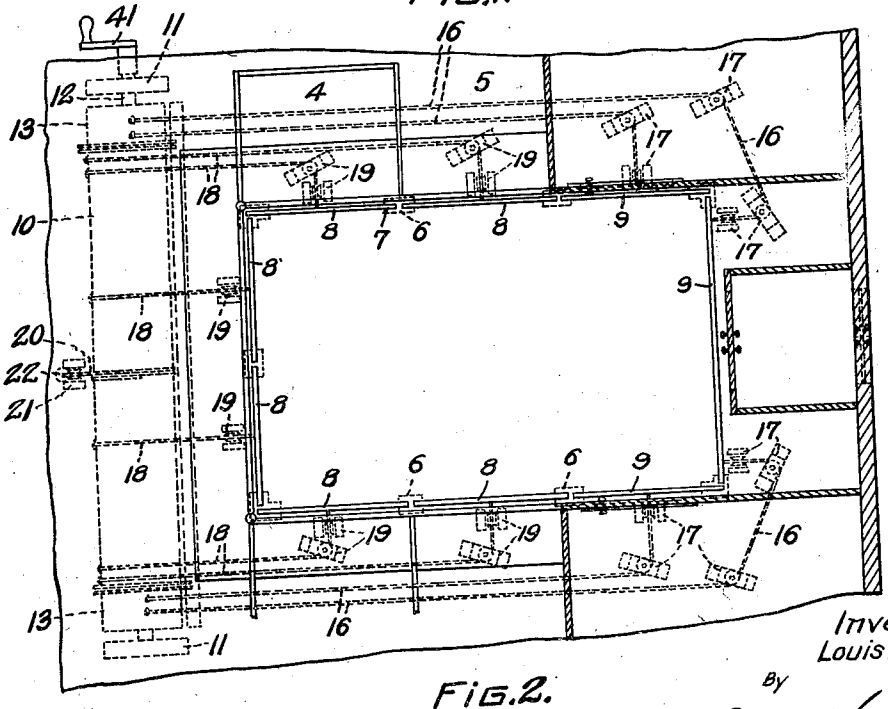


Fig. 2.

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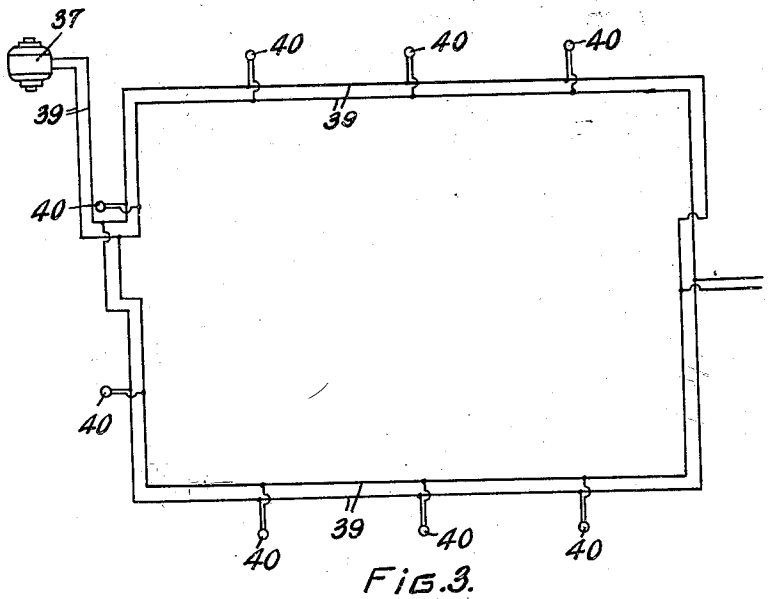


Fig.3.

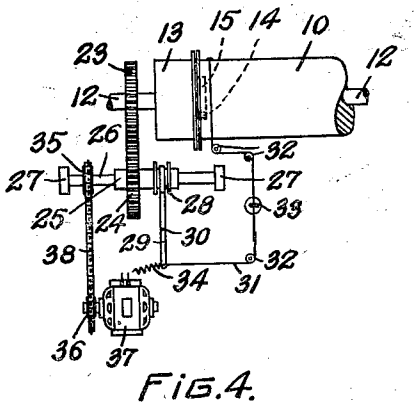


Fig.4.

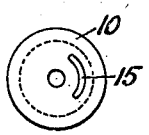


Fig.5.

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UNITED STATES PATENT OFFICE.

LOUIS HOULE, OF MONTREAL, QUEBEC, CANADA.

MEANS TO CAPTURE BANDITS.

Application filed April 3, 1922, Serial No. 549,180. Renewed May 19, 1924.

To all whom it may concern:

Be it known that I, LOUIS HOULE, a British subject, residing at 524 De St. Valier Street, in the city of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Means to Capture Bandits; and I do hereby declare that the following is a true, clear, and exact description of the same.

The present invention relates to improvements in an apparatus for capturing bandits, and is hereinafter fully described and illustrated in the accompanying drawings, in which:—

Figure 1 is a sectional view of a portion of a building, illustrating the interior of a bank provided with a device according to the invention.

Figure 2 is a plan view of a portion of the ground floor of the bank.

Figure 3 is a diagrammatic view of the electric conductors.

Figure 4 is a view of a portion of the operating mechanism.

Figure 5 is an end view of the main drum disclosed in Figure 4.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, and particularly to Figure 1, 1 is a ceiling of a ground-floor banking room, 2 the floor thereof, and 2^a the floor of the basement. The drawings preferably disclose the ground floor room as provided with the usual counter 3 and wickets 4 and 5. As usual the counter 3 is divided by a plurality of pillars 6, said pillars preferably extending into the basement and each being provided along its opposite sides with central longitudinal slots 7 in which slidably fit the adjacent edges of the panels 8 and 9. The panels 8 preferably project through the ground floor up to the counter, while the panels 9 when they are in their normal position come flush with the ground floor 2. These panels 8 and 9 may be of any suitable material, such as steel, etc. The counter 3 is provided with a plurality of slots (not disclosed in the drawings) through which the panels 8 may slide. The ground floor is also provided with a plurality of slots through which the said panels 8 and 9 will project. All of said panels 8 and 9 are preferably of the same length and of the height from the ground floor 2 to the ceiling 1, and they are adapted to slide upwardly to the ceiling by a mechanism which is hereinafter described. It will readily be seen that when the panels 8 and 9 slide upwardly, the space between the counter 3 and the ceiling 1 and the ground floor 2 will be closed off by said panels, said panels forming an impenetrable wall which will protect the employees behind the counter and prevent the escape of anyone within the space closed in by the panels.

The panels 8 and 9 are preferably operated by drum 10 suitably mounted in brackets 11, said drum 10 being located in any convenient place, here disclosed in the basement below the ground floor. The drum 10 is preferably loosely mounted on the shaft 12 which is journalled in the brackets 11, and at each end of said drum 10 are provided the smaller drums 13 which are rigidly mounted on said shaft 12, each of said drums 13 being provided with a lug 14 adapted to engage a slot 15 provided at each end of said drum 10, whereby when said drums 13 are actuated by the shaft 12 an interval will take place before the rotation of the drum 10 commences. This delayed rotation of the drum 10 is due to the fact that whereas the panels 8 which are operated by the drum 10 normally project to the level of the counter, as stated above, the panels 9 which are operated by the drums 13 only extend to the ground-floor level. Hence, in order that all of the panels may reach the ceiling simultaneously, it is essential that the drums 13 start rotating before the drum 10, since the panels 9 have a longer distance to travel than the panels 8. The cables 16 are secured at one end to the drums 13, pass over the pulleys 17 and are secured at the other end preferably to the lower ends of said panels 9. The cables 18 are secured at one end to the drum 10, pass over the pulleys 19 and are secured at the other end preferably to the lower ends of the panels 8. Around said drum 10 winds a cable 20 which passes over the pulley 21 and is provided with a weight 22 to counter balance the weight of the said panels 8 and 9.

The drums 10 and 13 are actuated by the gear 23 mounted on the shaft 12 which coacts with the gear 24 mounted on the collar 25, said collar being slidable on the stub shaft 26, which is suitably journalled in the brackets 27, said brackets being preferably secured to the ceiling of the basement or

in any other suitable place. On said collar 25 which is keyed to the shaft 26 is provided a circumferential recess 28 in which is adapted to engage the forked end of the lever 29 which is fulcrumed at 30, and has connected to its free end one end of the cable 31, the latter passing over the pulleys 32 and secured at its other end to the drum 10. Intermediate of said pulleys 32 is preferably provided a weight 33, and at the free end of said forked lever 29 is provided a spiral spring 34 adapted to carry said lever 29 to its normal position. On said shaft 26 is mounted the pinion 35 which is suitably connected to the driving gear 36 of the electric motor 37 by means of the driving chain 38. The electric motor 37 is started by means of the electric conductors 39 shown diagrammatically in Figure 3, said electric conductors 39 preferably passing adjacent the counter 3, and being provided at suitable intervals with the electric switches 40, said switches being placed where they can readily be reached by any of the employees of the bank. On turning said switches 40, which may be of any suitable type, the motor 37 is started and actuates the shaft 26, the gears 23 and 24, the shaft 12 and drums 10 and 13 mounted thereon. Immediately on rotating said drums 10 and 13 the cables 16 and 18 will wind respectively around said drums, thus lifting the panels 8 and 9 into operative position. When the panels have reached the ceiling 1 the pull of the cable 31 which winds around the drum 10 will obviously rock the lever 29 counterclockwise (Fig. 4), thus pushing the gear 24 out of contact with the gear 23 and automatically stopping the mechanism. To return the panels 8 and 9 to their normal position the motor 37 should be reversed thus revolving said drums 10 and 13 in the opposite direction. It is evident that without departing from the spirit of the invention, any other suitable mechanism could be used to operate said panels 8 and 9, and that the mechanism herein described could obviously be considerably modified or altered. In certain cases the said panels 8 and 9 could very well be actuated by means of heavy weights (not disclosed in the drawings) which would pull the said panels into their operative position. When said weights are released the said panels may be returned to their normal position by hand, by means of the handle 41, illustrated in Figure 2 of the drawings.

Any number of panels 8 and 9 could be used and the said panels could be disposed in many different ways according to the construction of the counters or division of the building. In some cases it may not be desirable to have the panels 8 project above the wickets provided in the counter 3 and the panels 9 could be used to close the apertures such as windows and doors of a building, thus locking in said building any person therein.

The main object of the present invention is to prevent anyone in the building, or in any part of that building, from escaping therefrom.

What I claim as my invention is:

1. In a closure-operating system for buildings, the combination of a vertical guideway; a closure member slidable therein; a power drive for the closure member, comprising a winding drum, a cable connection between the drum and said member, and driving means for the drum; a device for interrupting the operation of the drum-driving means; and a connection between said device and said drum for automatically operating the former from the latter when the closure member reaches a predetermined point in its movement.

2. In a closure-operating system for buildings, the combination of a vertical guideway; a closure member slidable therein; a power drive for the closure member, comprising a winding drum, a cable connection between the drum and said member, and driving means for the drum; a device for interrupting the operation of the drum-driving means; and a cable leading from said drum to said device to automatically actuate the latter when the closure member reaches a predetermined point in its movement.

3. In a closure-operating system for buildings, the combination of a plurality of vertical guideways of equal height; a closure member slidable in each guideway, certain of said members having longer distances to travel in their respective guideways than others; operating mechanism for said members to raise them in their guideways; and means for retarding the movement of those members having the shorter distance to travel, thereby to cause all of said members to reach the tops of their guideways at the same time.

4. In a closure operating system for buildings, the combination of a plurality of vertical guideways of equal height; a closure member slidable in each guideway, certain of said members having longer distances to travel in their respective guideways than others; driving mechanism for the members having the longer distance to travel; separate driving mechanism for the members having the shorter distance to travel; and a lost-motion transmission between the two driving mechanisms to start the second-named mechanism after the first-named mechanism has commenced to operate, thereby to cause all of said members to reach the tops of their guideways at the same time.

5. In a closure-operating system for

buildings, the combination of a vertical guideway; a closure member slidable therein; a power drive for the closure member comprising a winding drum, a cable connection between the drum and the closure member, and driving means for said drum; and connecting means leading from the drum to the driving means and positively operated by said drum during its rotation, for automatically interrupting the operation of said driving means when the closure member reaches a predetermined point in its movement.

6. In a closure-operating system for buildings, the combination of a vertical guideway; a closure member slidable therein; a power drive for the closure member comprising a winding drum, a cable connection between the drum and the closure member, and driving means for said drum including a pair of intermeshing gears; and connecting means leading from the drum to one of said gears and positively operated by said drum during its rotation, for automatically unmeshing that gear from the other gear when the closure member reaches a predetermined point in its movement.

7. In a closure-operating system for buildings, the combination of a vertical guideway; a closure member slidable therein; a power drive for the closure member comprising a winding drum, a cable connection between the drum and the closure member, and driving means for said drum including a pair of intermeshing gears; a shifting fork associated with one gear to unmesh it from the other gear; and a connection leading from the drum to the shifting fork and positively operated by the former during its rotation, for automatically actuating said fork when the closure member reaches a predetermined point in its movement.

Signed at Montreal, Quebec, Canada, this 6th day of March, 1922.

LOUIS HOULE.

Witnesses:
C. PATENAUDE,
G. BEAUDOIN.