No. 717,164. Patented Dec. 30, 1902.

J. W. CASTLEMAN.

TRAP DOOR FOR BANKS, &c.

(Application filed Oct. 4, 1902.)

(No Model.)

Fig. 2.

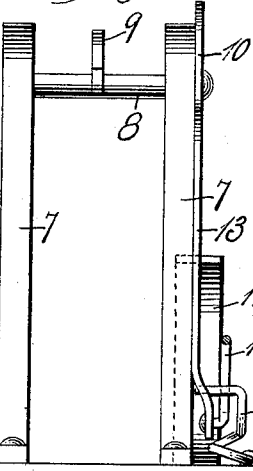


Fig. 3.

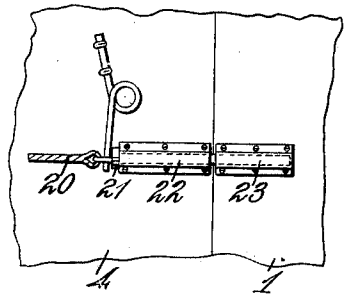


Fig. 1.

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UNITED STATES PATENT OFFICE.

JAMES WELLER CASTLEMAN, OF VINEGROVE, KENTUCKY.

TRAP-DOOR FOR BANKS, &c.

SPECIFICATION forming part of Letters Patent No. 717,164, dated December 30, 1902.

Application filed October 4, 1902. Serial No. 125,996. (No model.)

To all whom it may concern:

Be it known that I, JAMES WELLER CASTLEMAN, a citizen of the United States, residing at Vinegrove, in the county of Hardin and State of Kentucky, have invented a new and useful Trap-Door for Banks, &c., of which the following is a specification.

This invention relates to that class of devices which are used for precautionary purposes in places, such as banks, where large amounts of money are handled and which, especially when located in thinly-settled communities, are exposed to the rapacity of robbers and burglars.

My present invention includes a trap-door forming part of the flooring in front of the counter of the bank or other institution where the device is used; and it consists more especially in certain improved mechanism whereby the cashier or any other individual stationed behind the counter may instantly and at any time trip the bolts or triggers by means of which the trap-door is sustained in a level position, causing the said trap-door to swing upon its pivot and deposit the person or persons standing thereon in the cellar below.

The invention further consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation taken through the floor and cellar of a structure equipped with a trap-door and mechanism for operating the same constructed in accordance with the principles of my invention, said operating mechanism being shown in elevation. Fig. 2 is an end view, on a larger scale, of a part of the operating mechanism. Fig. 3 is an inverted bottom plan view showing a portion of the trap-door and the adjacent flooring with the spring-actuated lock-bolt.

Corresponding parts in the several figures are indicated by similar characters of reference.

The floor 1 is provided on its under side with boxes or bearings 2, in which are journaled the ends of a transverse shaft 3, supporting the trap-door 4. The latter is arranged directly in front of the counter 5, behind which the cashier or other individual is stationed during business hours.

In the cellar below, the floor of which is designated 6, is placed a frame, here indicated as composed of a pair of inverted-U-shaped standards 7, the upper ends of which afford bearings for a rock-shaft 8, having a radially-extended hooked arm 9. The rock-shaft 8 is preferably disposed in the same vertical plane as and centrally with relation to the supporting-shaft of the trap-door.

Suitably attached to one end of the rock-shaft 8 is a cam-lever 10, which is adapted to engage a stout spring 11, which may be secured to the cellar-floor, the tension of said spring being in an upward direction against the under side of the lever. The cam portion of the latter has a notch 12, adapted to be engaged by a trigger 13, which is pivoted at 14 to one of the frame-pieces 7 and the lower end of which engages a suitably-disposed spring 15, the tension of which holds the upper end of the trigger in engagement with the notch 12, thus retaining the long end of the cam-lever 10 depressed against the tension of the spring 11. From the lower end of the trigger 13 a rod 16, pivotally connected with said trigger, extends upwardly through the floor 1 behind the counter 5, where it is provided with a foot-piece or treadle 17.

Suitably mounted in hangers 18 upon the under side of the trap-door on opposite sides of the supporting-shaft 2 are pulleys 19, over which ropes or similar flexible connections 20 pass from the hooked arm 9 of the rock-shaft 8 to the spring-actuated slide-bolts 21, which are disposed in casings 22 upon the under side of the trap-door, near the edges of the latter, and which when the trap-door is closed engage the keepers 23 upon the under side of the flooring adjacent to the edges thereof.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. When the cashier or person behind the counter considers his life or property endangered by any individual standing upon the trap-door in front of the counter, he may even if ordered to throw up his hands by a simultaneous movement of his foot depress the treadle 17, thus causing the connecting-rod 16 to operate the trigger 13

against the tension of spring 15, thereby releasing the cam-head of the lever 10 from the trigger and causing said lever to be thrown forcibly in an upward direction by the spring 11, thus winding the flexible connections 17 upon the shaft 8 sufficiently to withdraw the spring-actuated bolts 21 from their keepers, and thus causing the party standing upon the trap-door to be transferred to the cellar, from which he may afterward be removed at leisure.

I desire it to be understood that while I have in the foregoing described a simple construction by which my invention may be carried out I do not limit myself as regards the details thereof, but reserve the right to any changes and modifications which may be resorted to within the spirit and scope of my invention and without detracting from the utility and practical efficiency of the same.

Having thus described my invention, what I claim as new is—

1. In a device of the class described, a trap-door, a shaft pivotally supporting the same, spring-actuated bolts connected with the under side of said trap to retain it normally in a closed position, pulleys supported upon the under side of the trap, a spring-actuated rock-shaft, a trigger disposed to retain said rock-shaft in position against the tension of its actuating-spring, means for tripping said trigger and flexible connections between said rock-shaft and the spring-actuated bolts, said flexible connection passing over the pulleys upon the under side of the trap-door.

2. In a device of the class described, a trap-door, a shaft pivotally supporting the same, spring-actuated bolts connected with the under side of said trap-door to retain it normally in a closed position, a spring-actuated rock-shaft, a spring-actuated trigger disposed to retain said rock-shaft in position against the tension of its actuating-spring, an operating-rod for said trigger, pivotally connected therewith and having a treadle at the opposite extremity thereof, flexible connections between the rock-shaft and the spring-actuated bolts, and guides for said flexible connections.

3. In a device of the class described, a trap-door, a shaft pivotally supporting the same, spring-actuated bolts connected to the under side of said trap-door to retain it normally in a closed position, a spring-actuated rock-shaft, a frame supporting said rock-shaft below the trap-door, a lever secured upon said rock-shaft and having a notched cam-shaped head, a spring engaging the under side of said lever, a spring-actuated trigger connected pivotally with the frame and adapted to engage the notched head of the lever, an operating-rod connected with said trigger and having a foot-piece at its opposite extremity, a hooked arm extending from the rock-shaft, flexible connections between said arm and the spring-actuated bolts, and guides for said flexible connections.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES WELLER CASTLEMAN.

Witnesses:
MARCUS HERMAN,
JOHN B. WARREN.