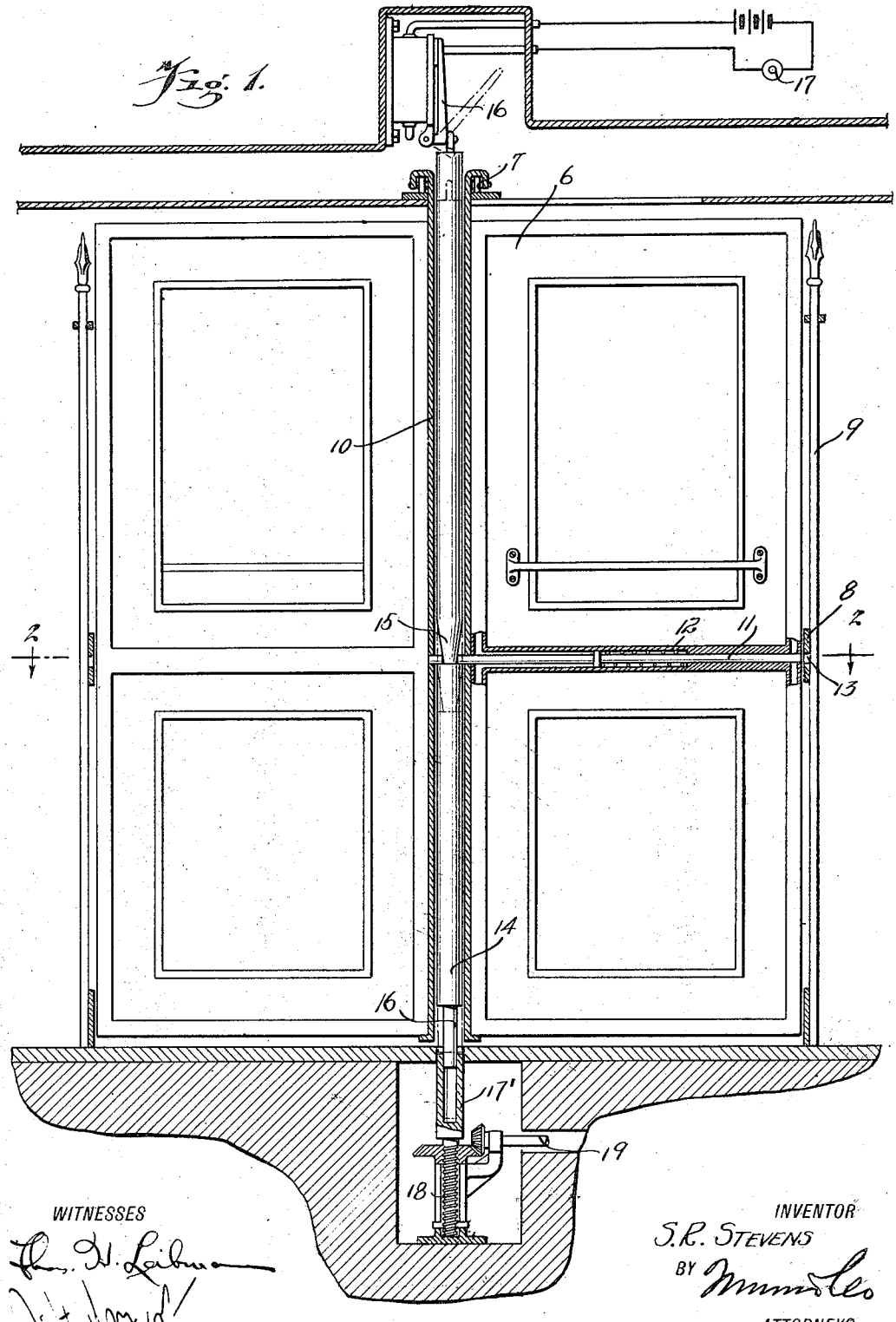
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S. R. STEVENS

DOOR LOCK

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Fig. 1.




WITNESSES

INVENTOR

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Fig. 2.

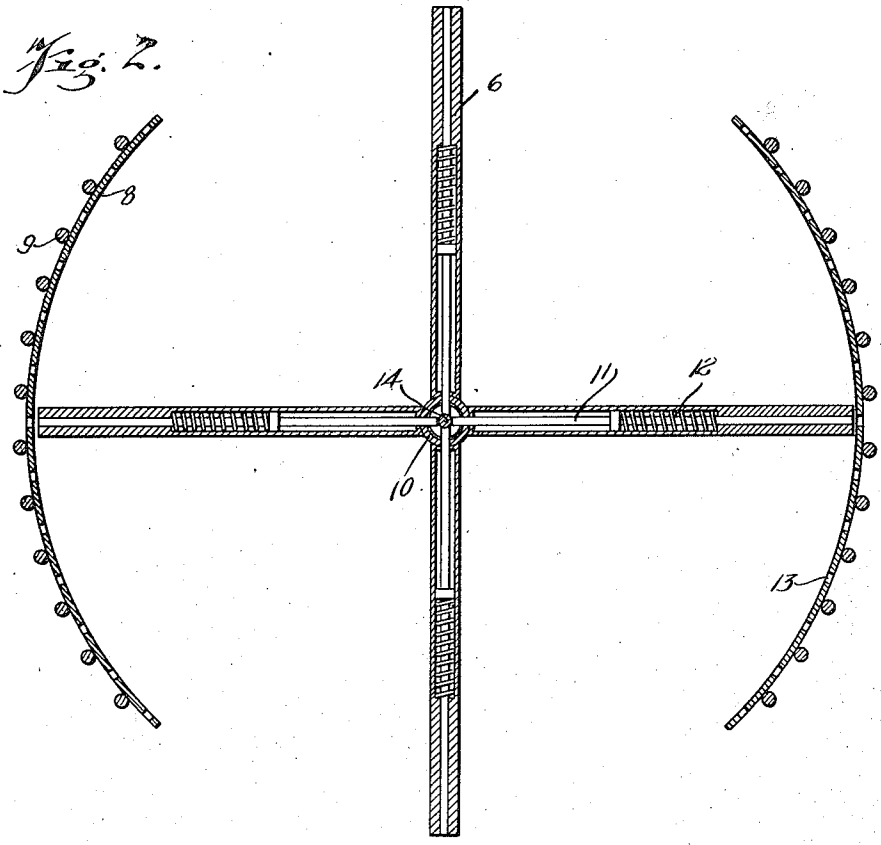



Fig. 3.

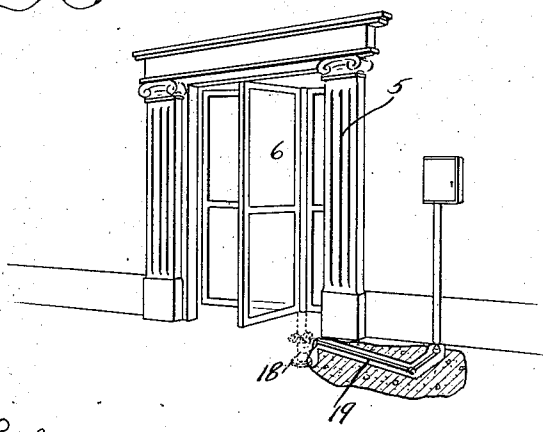
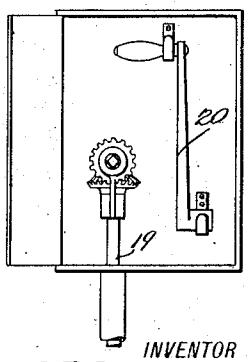



Fig. 4.




WITNESSES

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Patented May 15, 1923. 1,455,677

# UNITED STATES PATENT OFFICE.

SAMUEL ROSS STEVENS, OF NEW YORK, N. Y.

## DOOR LOCK.

Application filed November 2, 1921. Serial No. 512,307.

*To all whom it may concern:*

Be it known that I, SAMUEL R. STEVENS, a citizen of the United States, and resident of the city of New York, borough of Manhattan, county of New York and State of New York, have invented a new and Improved Door Lock, of which the following is a full, clear, and exact description.

My invention relates to a door lock of a semi-automatic nature, which is adapted for use in connection with all types of swinging doors, but is particularly intended to be used on what is commonly known as a revolving door, such as are employed in banks, hotels, etc.

It is a well appreciated fact that any number of theft locks have been provided which are to be actuated by an official of a bank, or salesman of a store, but these devices have for the most part proven impractical for the reason that the instant the alarm was sounded the bandit immediately took alarm and left the premises, in most cases before he could be apprehended.

Thus it is an object of my invention to provide a lock of the nature specified which may be operated in an inconspicuous manner, and which, when once operated will effectively block any persons from leaving the building, so that they are trapped.

A further object of this invention is the construction of a door lock which, when once actuated, will have to be released by a person from the outside of the building, thus precluding the possibility of the bandit or intruder operating the same, or intimidating the occupants of the building so that they will release the lock.

Still further objects of this invention are the construction of a device of the character stated which shall be extremely simple and positive in actuation, and

Further objects of this invention will become apparent in the annexed specification taken in connection with the drawings which latter illustrate one practical embodiment thereof, and in which;

Figure 1 is a sectional side view of a door and lock embodying my improved construction.

Figure 2 is a sectional plan view taken along the line 2—2 and in the direction of the arrows illustrated in Figure 1.

Figure 3 is a perspective view taken from the exterior of the building and showing my invention as applied to the door of the same, and

Figure 4 is a detail view of the part of the releasing mechanism for the lock.

In the embodiment illustrated I have shown my invention as applied to a revolving door in connection with which it is primarily intended to be used, and it will be seen, reference being had to Figures 1 and 3 that the reference numeral 5 indicates the door-way within which the door, comprising a plurality of panels 6 is revolubly supported by any suitable means such as at 7, the said door operating in an area way 8 which latter is preferably carried by bars 9 for a purpose hereinafter set forth.

It will be noted that the panels 6 are preferably carried by a tube 10 which acts as a shaft, and that each of these panels house a radially extending rod 11, the inner ends of which extend through openings in the tube 10, the outer ends being normally substantially flush with the outer edges of the panels, the said rods being retained in this position preferably by means of springs 12.

Also, as has been clearly shown in Figures 1 and 2, the area way 8 is conveniently formed with a series of openings 13 disposed in line with the outer ends of the rods 11 and thus it will be obvious assuming that the latter are projected, that certain of the same will pass into certain of the openings 13, either immediately or when the panels are moved to a slight extent so that a further movement of the panels is barred.

To provide means which will serve to effect this projection of the rods 11 against the retractive tendency of the springs 12 it will be seen that post 14 is positioned within the tube 10, and this post has part of its length in the form of an inclined face 15, the most reduced portion of which normally aligns with the inner ends of the rods 11, this element being pressed into contact with the same by the action of the springs 12.

To normally retain the post in the position indicated in full lines in Figure 1, I preferably support the same by an electrically released trigger 16, the operation of which is controlled by any suitable type of circuit breaker 17, as has been diagrammatically illustrated in Figure 1. When the trigger 16 is released by the actuation of the circuit breaker 17, the post 14 is free to drop

to the position indicated in dotted lines in Figure 1, and it will be obvious that incident to this dropping action the rods 11 will be projected, due to the outward pressure exerted upon the same by the inclined face 15, and thus these rods will prevent a movement of the door panels in the manner aforedescribed, it being understood that the post 14 is preferably formed of solid steel or any other material of relatively great weight, so as to at all times insure a positive action, and preclude a possibility of the same becoming "frozen" within the tube 10.

Now with a view of effecting a retraction of the post 14 it will be seen in Figure 1 that the said post is formed with a reduced lower end portion 16 which when the post drops extends wholly within a socket member 17'. Any suitable mechanism for causing a movement in a vertical direction of this member is provided, such as a screw jack 18 which may support the same, this jack being operated preferably by means of a shafting 19 from a relatively remote point at which a handle 20 may be provided for affording the necessary leverage.

Thus it will be seen that the release may be actuated, and the post will drop causing as aforestated a projection of the rods 11 against the retractive tendency of the springs 12, and resulting in an interlocking of the panels carrying these rods, and the area way 8 and bars 9 of the door entrance. When the parts are in this position it will be seen, reference being had to Figure 3 that I preferably position the lock release, i. e. the actuating mechanism for the jack 18 at a point outside of the building, when, even although the occupants of the building should be intimidated they themselves will be unable to effect a release of the lock without some exterior agency beyond the walls of the building causing an actuation of the socket elevating member. It is to be understood in this connection that the socket 17' normally occupies the position illustrated in Figure 1, and that the same is of course returned to its position immediately after the lock has been re-set so that no danger exists of the lock refusing to function.

All of the objects set forth in the statement of the invention of this specification have been accomplished, and it will be further understood that numerous modifications of structure might readily be resorted to without in the least departing from the scope of my claims; which are:

1. A door lock including in combination with a revolving door comprising a plurality of rotatably carried panels, and means providing an area way, the side walls of which extend adjacent the outer edges of said panels, rods carried by said panels and means for projecting said rods for causing the outer edges of the same to extend beyond the outer edges of said panels, and pass through openings formed in the side walls of said area way.

2. A door lock including in combination a tube, panels connected to said tube, rods carried by said panels and having their inner ends extending into said tube their outer ends terminating at a point adjacent the outer edges of said panels, and means within said tube for effecting a projection of said rods and means adapted to be engaged by the outer ends of said rods to prevent a movement of said panels.

3. A door lock including a tube, panels connected to said tube, rods carried by each of said panels, springs for normally retaining said rods in retracted position, the inner ends of said rods, when in retracted position extending into said tube, the outer ends of said rods terminating substantially adjacent the outer edges of said panels, and means within said tube for causing a projection of said rods whereby to permit of the same engaging portions of the fixed member to prevent a movement of said panels.

4. A door lock including a tube, panels carried by the said tube, rods slidably carried by said panels, and means for simultaneously projecting all of said rods.

5. A door lock including a tube, panels carried by the said tube, rods slidably carried by said panels, means providing an area way for said door, said means presenting openings in line with the outer ends of said rods, and means for projecting said rods to cause the same to extend into certain of said openings.

6. A door lock including in combination a door comprising a plurality of movable panels, a series of spaced bars arranged adjacent said door, and normally retracting means carried by each of said panels, and means for projecting said first named means into the spaces between said bars whereby to prevent a movement of the door panels with respect to the same.

7. A door lock including a tube, a post slidably mounted within said tube, panels carried by said tube, rods carried by said panels and normally retracted within the same, fixed means capable of being engaged by the outer ends of said rods when the latter are projected, means for permitting a movement of said post within said tube, and means associated with said post for engaging the inner ends of said rods to project the same.

8. A door lock including a tube, a post slidably mounted within said tube, panels carried by said tube, rods carried by said panels and normally retracted within the same, fixed means capable of being engaged by the outer ends of said rods when the latter are projected, said post having a part

of its body formed with an inclined face the inner ends of said rods being adapted to bear against said face, and releasing means for normally retaining said post in elevated position.

9. A door lock including a tube, a post slidably mounted within said tube, panels carried by said tube, rods carried by said panels and normally retracted within the same, fixed means capable of being engaged by the outer ends of said rods when the latter are projected, said post having a part of its body formed with an inclined face the inner ends of said rods being adapted to bear against said face, and an electrically operated trigger normally supporting said post and retaining the same in elevated position.

10. A door lock including a rotatable tube, panels carried by said tube, rods slidably carried by said panels, a post normally retained in elevated position within said tube, means forming a part of said post adapted to move said rods outwardly when said post is permitted to drop, means adapted to be engaged by the outer ends of said rods for preventing a movement of said panels when said post is dropped, and means permitting of said post being subsequently elevated to its normal position.

11. A door lock including a rotatable tube, panels carried by said tube, rods slidably carried by said panels, a post normally retained in elevated position within said tube, means forming a part of said post adapted to move said rods outwardly when said post is permitted to drop, means adapted to be engaged by the outer ends of said rods for preventing a movement of said panels when said post is dropped, and a socket member adapted to receive the lower end of said post when the latter is dropped, and means for elevating said socket member to return said post to its normal position.

12. A door lock including a rotatable tube, panels carried by said tube, rods slidably carried by said panels, a post normally retained in elevated position within said tube, means forming a part of said post adapted to move said rods outwardly when said post is permitted to drop, means adapted to be engaged by the outer ends of said rods for preventing a movement of said panels when said post is dropped, and a socket member adapted to receive the lower end of said post when the latter is dropped, and a screw jack adapted to elevate said socket member to return said post to its normal position.

SAMUEL ROSS STEVENS.