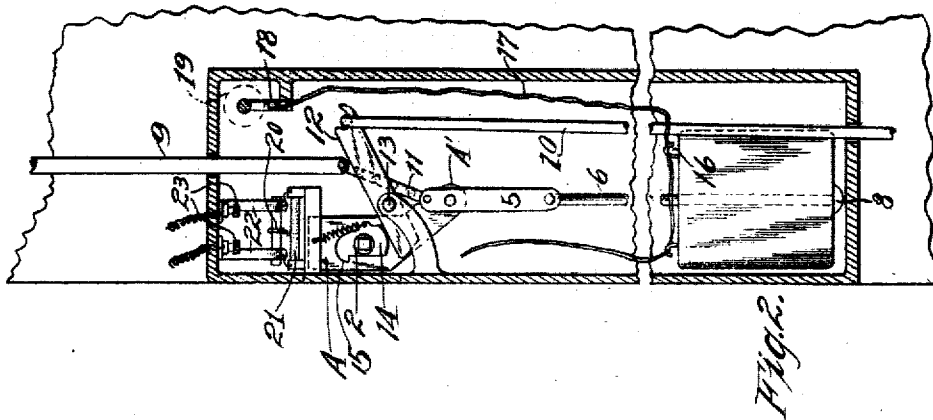
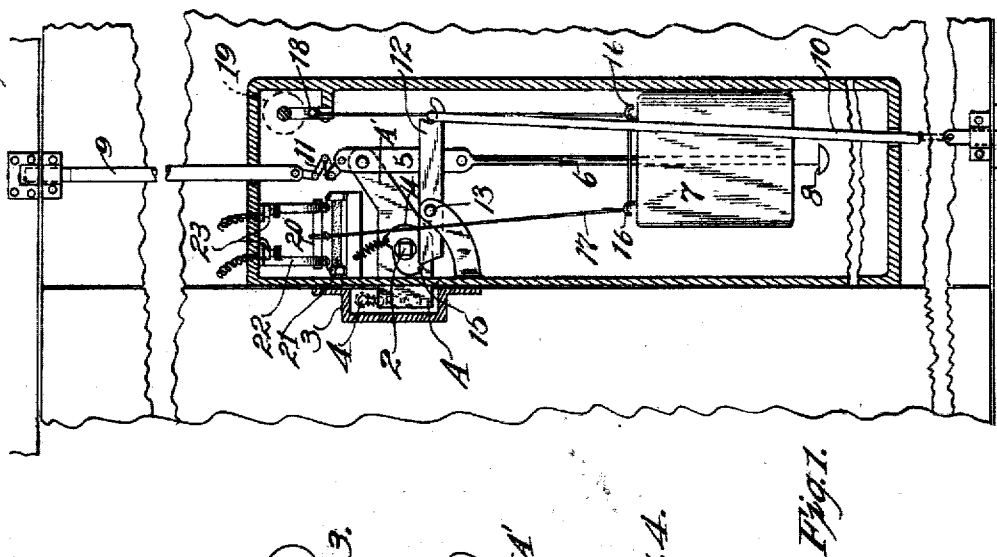
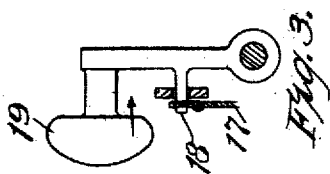
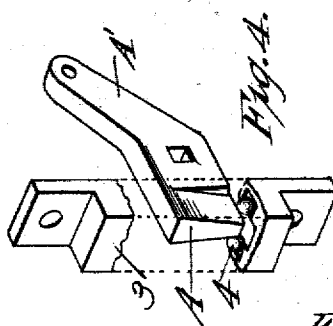


No. 853,588.

PATENTED MAY 14, 1907.

E. KAUNTZE,
DOOR RELEASING MECHANISM.
APPLICATION FILED JULY 11, 1906.



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EDWARD KAUNTZE, OF HANFORD, CALIFORNIA.

DOOR-RELEASING MECHANISM.

No. 853,588.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed July 11, 1906. Serial No. 325,652.

To all whom it may concern:

Be it known that I, EDWARD KAUNTZE, a citizen of the United States, residing at Hanford, in the county of Kings and State of California, have invented new and useful Improvements in Door-Releasing Mechanism, of which the following is a specification.

My invention relates to a device which is designed for the convenient and instantaneous releasing of doors.

It consists of a latching device, a normally suspended weight with means for releasing it at will, said weight acting to disengage the latch and holding devices to free the door, and a destructible support for the weight.

It also comprises the combination of parts and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 shows the device in the locked position. Fig. 2 shows the released position. Fig. 3 is a detail of the cord release. Fig. 4 is a perspective view of the bolt and keeper.

My invention provides the fastening and holding devices by which doors are normally maintained in a closed and locked position, and in conjunction with these devices means by which the doors may be instantly unlocked and free to open; such devices being especially available for theaters and other buildings where large public gatherings occur, and in which by reason of fire or other accident, it is necessary to promptly open exits which are normally locked.

As shown in the accompanying drawings, A is the latching bolt of any suitable construction. This bolt is turnable upon a fulcrum pin 2 so that turning upon this pin, it may be moved into a transverse position in which the bolt will engage a keeper 3, or it may be tilted as hereinafter described to free it from the keeper and release the doors.

In the case of single doors, the locking bolt may be preferably journaled in the door casing and the keeper carried by the door; but when applied to double doors it will be necessary to carry one portion of the device upon one leaf of the door, and the other portion upon the other leaf.

As the door will be subjected to heavy pressure in the case of sudden rush, the keeper may have ball races upon each side of the slot, and the bolt may be beveled or wedge-shaped so that when turned into locking position, it will pass between the ver-

ically disposed rows of balls 4, and by reason of its wedge shape only the thicker portion will press upon the balls, thus causing it to move with great freedom. The bolt is here shown as having an extension A' at the inner or rearward end, this extension being bent upwardly at an obtuse angle with the main part of the bolt. The inner end of this extension is pivoted to a link 5, and the end of the link connects with a rod 6. This rod extends through a weight 7, and has an enlargement 8 upon the lower end.

The weight is freely slidable upon the rod, and when it is released from its suspension and allowed to fall it strikes the enlargement 8 thus pulling down upon the link 5 and the inner end of the arm A', and this movement acts to tilt the portion A of the latch upwardly and disengage it from the keeper.

This device is sufficient for ordinary single doors, but where double doors are employed, in addition to the latch which engages the two leaves of the double door, it is necessary or desirable to employ vertically movable bolts as at 9 and 10; one of these bolts being moved upwardly to lock into the top of the door casing, and the other downwardly to engage with a socket in the threshold or lower portion. These bolts are carried upon the leaf of the door to which the lock is fixed. In order to operate these bolts in unison with the movements of the latch, the upper end of the link 5, has a flexible chain or connection 11 uniting it with the lower end of the bolt 9 so that when the weight drops and pulls the link downward the flexible connection or chain 11 will be extended and will pull the bolt 9 from its socket.

In order to simultaneously disengage the bolt 10 from its socket I have shown an arm 12 pivoted at 13 to a suitable fixed support, so that one end projects along one side of the latch A—A'.

14 is a cam rigid with the latch and turnable upon the pivot pin 2 thereof and disposed in line with the outer end of the arm 12. This cam has a hook-shaped point 15 which, when the parts are in their normal position, extends over the beveled outer end of the arm 12, and the two are thus normally engaged.

When by reason of the dropping of the weight 7, as previously described, the link 5 is pulled downward to tilt the latch A—A' into a disengaged position, it will turn the

cam 14 upon the pivot pin 2, and the rear end of the cam acting upon the outer end of the lever 12, and beyond its fulcrum point, this lever will also be tilted. The outer end of the lever 12 has a notch or other suitable engagement for the lower locking bolt 10, and it will be seen that when this end is forcibly thrown upward, it will withdraw the bolt 10 at the same time that the bolt 9 is withdrawn, and the latch being also disengaged, the doors will be free to be opened.

In order to hold the weight out of action and to release it at any desired time, I have shown the weight provided with attachments as at 16 through which a light but sufficiently strong cord 17 passes. The two ends of the cord extend upwardly; one end is here shown as attached to a pin 18 which may be moved to release the cord by means of a press button 19, the button acting to withdraw the pin and allow the loop of the cord to slip off. This will drop the weight at any time. The other end of the cord 17 may be attached as shown at 20, and between this fixed point 20 and the weight is located an electrically resistant substance 21, over or in contact with which the cord passes so that when a current of electricity is passed through this resistance, the current will render it incandescent, and will thus destroy the cord so as to allow the weight to be dropped.

Any suitable connections may be made for energizing this device. I have here shown springs or plates 22 connecting with the resistance 21 at one end and having the other ends connected with binding posts as at 23 through which a current of electricity may pass from a source of supply. The current will pass from said source through one of the binding posts, thence through one of the spring plates 22, through the resistance 20, returning through the other spring 22 and the other binding post 23, and to a point which completes the circuit.

The closing of the circuit may be controlled from a distant point so that upon any alarm being given, the resistance coil may be energized by completing the circuit in any suitable or desired manner.

In order to allow the doors to be opened without interfering with the electrical and disengaging apparatus heretofore described, the bolt or pin 2 upon which the latch is turnable, may have its outer end made polygonal or otherwise constructed to receive a key by which it may be turned, and the latch disengaged, and a spring may be so disposed as to return the shaft after it is released.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A door releasing device, said device consisting of a pivoted latch turnable upon one member of a door structure, a vertically slot-

ted keeper upon the other member, bolts by which the door leaves are independently secured, and connections between the pivoted latch and said bolts whereby the latch and bolts are movable in unison, a destructible cord associated with said connections, and a means contiguous to said cord adapted to be heated sufficiently to destroy the cord and release said connections.

2. In a door releasing device, a pivoted vertically turnable latch carried upon one leaf of the door, a keeper upon the other leaf in which the latch engages, bolts by which the leaves of the door are independently locked when closed, connections between said bolts and the latch whereby the unlocking movement of the latch is transmitted to simultaneously disengage the bolts, a destructible cord associated with said connections, and a heating medium contiguous to said cord adapted to destroy the same and release the connections.

3. In a door-releasing device, a pivoted latch carried upon one leaf of the door, and a vertically slotted keeper upon the other leaf, said latch having a rearward extension, a link pivoted to said extension having a rod with a stop upon the lower end, a weight slidable upon the rod acting when released to disengage the latch, a vertically movable locking bolt carried upon the door and adapted to engage the door casing, a flexible connection by which the weight is normally suspended, and a heating medium proximate to said flexible connection adapted to destroy the latter and release the weight.

4. In a door locking and releasing device, a pivoted latch upon one leaf of the door and a keeper therefor upon the other leaf, a link with which the inner end of the latch connects, a rod connected with the link having a stop at its lower end, a normally suspended weight slidable upon the rod, and arrested by the stop at the lower end whereby the link may be pulled down and the latch turned and disengaged, bolts extending upwardly and downward upon the door leaf to engage with the top and bottom of the casing connections between the said bolts and the link and latch, whereby the bolts are disengaged in unison with the latch, a cord by which the weight is suspended, and a heating medium proximate to the cord adapted to destroy the same and release the weight.

5. In a door releasing device, a pivoted latch and keeper located respectively upon the contiguous edges of the door leaves, a slidable weight-actuated link, an upwardly extending bolt connected therewith and normally locking one leaf of the door, an inwardly extending pivoted arm in engagement with the latch, a bolt connected with the inner end of said arm and normally engaging the bottom of the door casing, a cam connected with the latch and adapted to en-

gage with the pivoted arm when the latch is turned to disengage it, whereby the locking bolts are withdrawn, a cord by which the weight is normally suspended, and a heating medium proximate to the cord and adapted to destroy the same and release the weight.

5 6. A door locking and releasing device including a latch pivoted to one leaf, and a keeper upon the other leaf, bolts slidable upwardly and downwardly upon the first leaf to engage with the top and bottom of the door casing respectively, connections by which the latch and bolts are simultaneously disengaged, said connections including a slidable link connected with the rear of the latch, a rod having a stop at its lower end, a weight slidable upon said rod and acting to move the rod and link downward when it contacts with the stop, a flexible connection between 20 the link and the upwardly extending bolt, an arm pivoted contiguous to the latch having its inner end connected with the downwardly extending bolt, a cam carried by the latch acting to tilt said arm and withdraw the bolt in unison with the disengaging of the latch 25 and the upper bolt, and a heating medium

proximate to the cord and adapted to destroy the same and release the weight.

7. In a door releasing device, a pivoted latch carried upon one leaf of the door, and a keeper upon the other leaf, a link with which the inner end of the latch is connected, a rod connected with the link having a stop upon its lower end, a weight slidable upon the rod, vertically movable bolts by which the top and bottom of the door are locked, connections between said bolts and the latch whereby they are disengaged in unison therewith, a destructible cord by which the weight is normally suspended an electrically heated part with which the cord is maintained in contact, and means for completing an electric circuit whereby the heating of said part destroys the cord and releases the weight.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD KAUNTZE.

Witnesses:

C. A. HOY,

D. M. DAVIES.