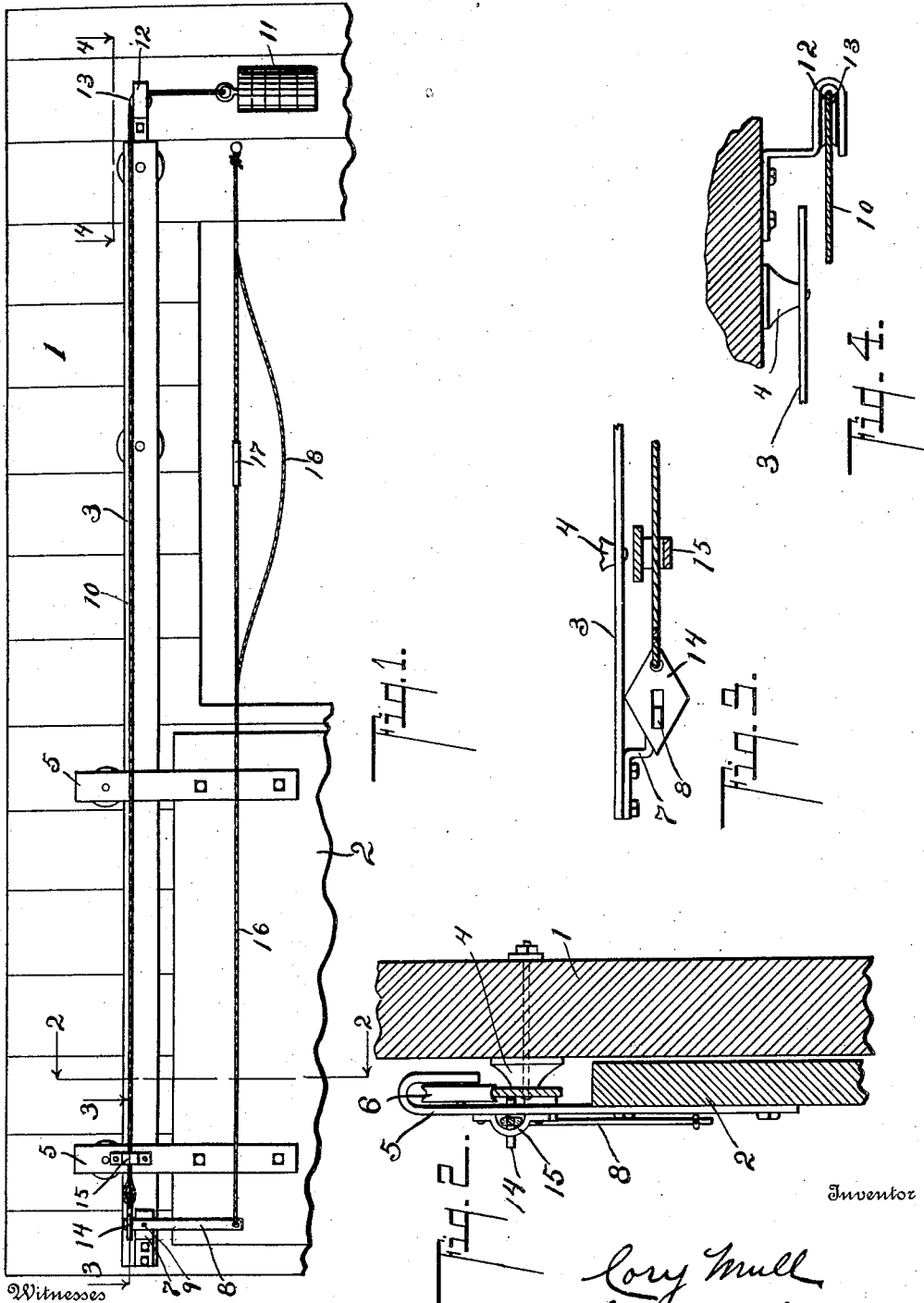


No. 879,883.

PATENTED FEB. 25, 1908.

C. MULL.
AUTOMATIC CLOSING DOOR.
APPLICATION FILED JUNE 6, 1907.



Witnesses

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AUTOMATIC-CLOSING DOOR.

No. 879,883.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed June 6, 1907. Serial No. 377,665.

To all whom it may concern:

Be it known that I, CORY MULL, a citizen of the United States, residing at the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Automatic-Closing Doors, of which the following is a specification.

This invention relates to improvements in automatic or self-closing doors.

The main object of this invention is to provide an improved automatic or self-closing door which is simple in construction and not likely to get out of repair when in use, and one which is normally operated entirely independent of the self-closing mechanism.

Further objects, and objects relating to details of construction, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a detail elevation of a structure embodying the features of my invention, the wall, door, track and hangers being illustrated in conventional form. Fig. 2 is an enlarged detail vertical section taken on a line corresponding to line 2—2 of Fig. 1, showing the details of the trip latch mechanism. Fig. 3 is an enlarged detail horizontal section taken on a line corresponding to line 3—3 of Fig. 1, showing details of latch mechanism and the connections for the cable 10 to the door. Fig. 4 is an enlarged horizontal section taken on a line corresponding to line 4—4 of Fig. 1, showing details of construction.

In the drawing the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar reference characters refer to similar parts throughout the several views.

Referring to the drawing, 1 represents the wall and 2 the door. The door is suspended from the track 3 by suitable hangers 5 having rollers 6 adapted to travel on the track. The track is spaced from the wall by suitable spools 4. These parts are illustrated in conventional form.

The lever-like trip latch 8 is mounted upon

the bracket 7 by means of a suitable pivot as 9. The bracket 7 is preferably secured to the track at its rear end. The weight 11 is connected to the upper end of this latch by means of the cable 10, by which it is suspended. The cable 10 is arranged through an eye 15 on the rear door-hanger 5, so that the eye slides thereon as the door is opened or closed under normal conditions. The latch 8 is held in position by the trip cord 16 having a fusible link 17 therein. The trip cord 16 extends across the top of the door opening, the link 17 being preferably located centrally thereof.

In case of fire, the link 17 is fused and this releases the latch 8, allowing the button 14 on the cable 10 to slip from the upper end thereof, thereby releasing the weight. The button 14 is adapted to engage the eye 15 on the door, thereby connecting the weight to the door for closing the same. The guide pulley 13 for the cable is mounted upon a suitable bracket 12, the pulley being located so that the cable, when in its normal condition, is in a horizontal position so that the eye 15 moves freely thereon without binding.

I preferably provide the trip cord 16 with a stop cord 18 which is connected thereto at each side of the fusible link 17 and is of sufficient length to allow the trip latch to release the weight suspending cable and at the same time holds the trip cord so that its severed ends cannot possibly interfere with the perfect closing of the door.

My improved automatic closing door is very simple in construction and at the same time the parts are so arranged that the liability of disarrangement of the parts is reduced to a minimum. The structure is extremely simple and at the same time thoroughly effective.

I have illustrated and described the same in detail in the form preferred by me on account of structural simplicity, although I am aware that it is capable of considerable variation in structural details without departing from my invention.

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

1. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a bracket mounted on said track at the rear end thereof; a lever-like trip latch pivoted on said bracket; a weight adapted to close

said door when connected thereto; a suspending cable therefor engaging one end of said trip latch; a guide pulley for said cable arranged at the front end of said track; an eye on said door through which said cable is arranged; a button on said cable adapted to engage said eye for connecting said cable to said door when said cable is released; a trip cord for said trip latch; a fusible link in said trip cord; and a stop cord connected to said trip cord at each side of said fusible link, said stop being of such length as to permit the operation of the trip on the fusing of the link, for the purpose specified.

2. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a bracket mounted on said track at the rear end thereof; a lever-like trip latch pivoted on said bracket; a weight adapted to close said door when connected thereto; a suspending cable therefor engaging one end of said trip latch; a guide pulley for said cable arranged at the front end of said track; an eye on said door through which said cable is arranged; a button on said cable adapted to engage said trip lever and to engage said eye for connecting said cable to said door when said cable is released; a trip cord for said trip latch; and a fusible link in said trip cord, for the purpose specified.

3. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a trip latch; a weight adapted to close said door when connected thereto; a suspending cable therefor detachably connected to said trip latch; a guide pulley for said cable; an eye on said door through which said cable is arranged; a button on said cable adapted to engage said eye for connecting said cable to said door when said cable is released; a trip cord for said trip latch; a fusible link in said trip cord; and a stop cord connected to said trip cord at each side of said fusible link, said stop cord being of such length as to permit the operation of the trip on the fusing of the link, for the purpose specified.

4. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a trip latch; a weight adapted to close said door when connected thereto; a suspending cable therefor detachably connected to said trip latch; a guide pulley for said cable; an eye on said door through which said cable is arranged; a button on

said cable adapted to engage said eye for connecting said cable to said door when said cable is released; a trip cord for said trip latch; and a fusible link in said trip cord, for the purpose specified.

5. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a lever-like pivoted trip latch; a weight adapted to close said door when connected thereto; a suspending cable therefor engaging one end of said trip latch; means for automatically connecting said cable to said door when the same is released by said trip latch; a trip cord for said trip latch; a fusible link on said trip cord; and a stop cord connected to said trip cord at each side of said fusible link, said stop cord being of such length as to permit the operation of the trip on the fusing of the link, for the purpose specified.

6. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a trip latch; a weight adapted to close said door when connected thereto; a suspending cable therefor detachably connected to said trip latch; means for automatically connecting said cable to said door when the same is released by said trip latch; a trip cord for said trip latch; a fusible link on said trip cord; and a stop cord connected to said trip cord at each side of said fusible link, said stop cord being of such length as to permit the operation of the trip on the fusing of the link, for the purpose specified.

7. The combination of a door; a horizontally-arranged track therefor; hangers for said door; a trip latch; a weight adapted to close said door when connected thereto; a suspending cable therefor detachably connected to said trip latch; means for automatically connecting said cable to said door when the same is released by said trip latch; a trip cord for said trip latch arranged so that the door normally operates independently of the weight-suspending cable; and a fusible link on said trip cord, for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

CORY MULL. [L. s.]

Witnesses:

T. S. McMURRAY, Jr.,
HENRY COE.