No. 825,449. PATENTED JULY 10, 1906.

W. J. FLETCHER.

WELL DOOR FOR ELEVATORS.

APPLICATION FILED FEB. 12, 1906.

Fig. 1.

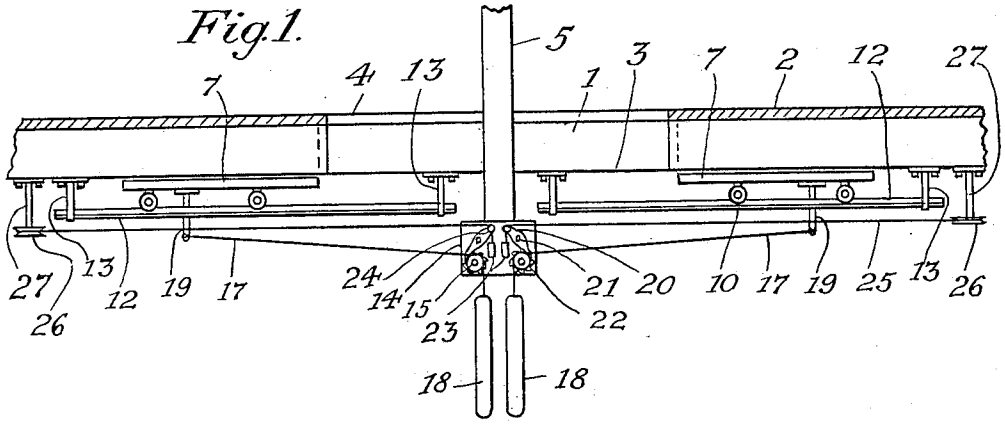
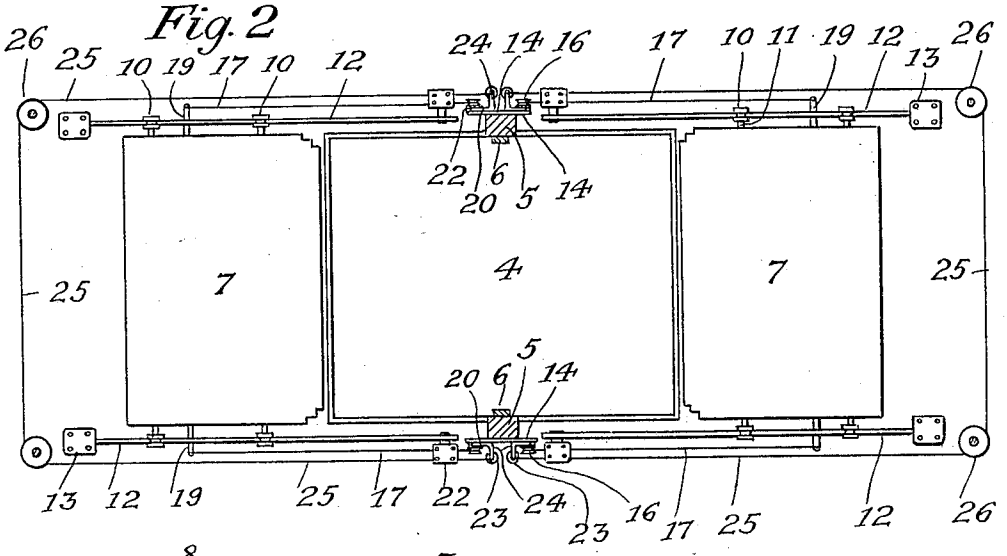


Fig. 2



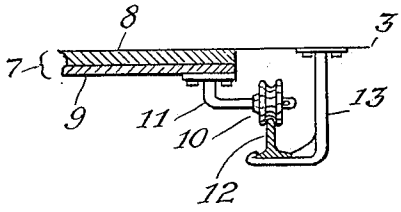


Fig 3.

Witnesses
Thos. Lagaard.
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Inventor;
William J. Fletcher.
By P. H. Gunckel
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THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM J. FLETCHER, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO BARNEY G. JOHNSON, OF MINNEAPOLIS, MINNESOTA.

WELL-DOOR FOR ELEVATORS.

No. 825,449. Specification of Letters Patent. Patented July 10, 1906.

Application filed February 12, 1906. Serial No. 300,749.

To all whom it may concern:

Be it known that I, WILLIAM J. FLETCHER, a citizen of the United States, residing at Minneapolis, county of Hennepin, and State of Minnesota, have invented certain new and useful Improvements in Well-Doors for Elevators, of which the following is a specification.

My invention relates to horizontal doors for closing elevator-wells, hatchways, and the like; and its object is to provide doors that will be moved automatically in case of fire in the well to close the well-opening at or about the floor-level, and thereby prevent the flames and smoke from ascending. This object I accomplish by providing horizontally-slidable fireproof doors arranged to be moved by weights to close the well or hatch opening and controlling the operation of the weight devices by means of an inflammable cord disposed at the sides of or within the well-opening.

The devices of my improvement are illustrated in the accompanying drawings, in which—

Figure 1 shows in side elevation portions of a floor and elevator shaft or well and the devices of my improvement. Fig. 2 is a plan view showing my improvements, and Fig. 3 shows some of the parts in detail.

In the drawings, 1 designates a joist, 2 the floor-line, and 3 the ceiling-line, of a building, and 4 the well or opening for an elevator; 5, the upright posts, and 6 the guides thereon for the elevator-car.

The doors 7 for closing the opening are preferably constructed of a steel plate 8, having its under surface covered with a coating 9 of asbestos. The upper or metal surfaces of the doors are arranged close to or in sliding contact with the ceiling at opposite sides of the well. Each door is provided near its ends with pairs of grooved wheels 10, which are carried by outwardly and downwardly extending supports 11. The wheels rest on inverted-**T**-shaped rails 12, that are supported from the ceiling by hangers 13 and arranged to permit the doors to be moved to contact with each other in the well-opening.

The devices for holding the doors away from the opening and for moving them to contact therein are the following: To a plate 14 on the back of each post 5 are secured the axles 15 of grooved wheels 16 or drums or like devices, on or around which are arranged cables 17, preferably made of wire. The cables have their ends adjacent to the wheels 16 attached to weights 18 and their outer ends secured to downward studs 19, attached to the doors. For restraining the operation of the weights holding-dogs 20 are connected to pivots 21, supported by the plates 14, and engage ratchet-teeth 22, formed on the sides of the cable-wheels 16 or on separate wheels on the same axes, and for releasing the dogs to permit the cable-wheels to turn weights 23 are connected to pins 24 on the outer arms of the dogs. The dogs are held in engagement with the ratchets by means of cords 25, the ends of which are attached to the pins 24. These cords are saturated or coated with any suitable substance that will ignite at a desired and relatively low degree of heat, and thus cause them to be quickly burned in case a fire occurs in the room. The cords extend around and are supported by pairs of grooved pulleys 26, suspended from the ceiling by brackets 27. As shown, a cord is employed for each door and extends from the dogs along and around the sides and ends of the door; but a single cord may be employed for both doors, and the disposition of the cord or cords may be varied without changing the plan of operation.

In use the doors are held normally in the positions indicated in the drawings by reason of the engagement of the holding-dogs with the ratchets, and if then the controlling-cord is severed by burning or otherwise the counterweights of the dogs release them from engagement, and the weights 18 thereupon descend and pull the doors inward to close the well-opening. The advantages of such automatic closing of the shaft or well in case of fire are believed to be obvious and need not be pointed out.

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

1. The combination with an elevator-well or the like, of a horizontal track adjacent thereto, doors movably supported thereon,

weights and cables for moving them into the well, ratchets and gravitating dogs for restraining the operation of the weights, and an inflammable cord for holding the dogs in engagement, substantially as set forth.

2. The combination with horizontal well-doors, of a track therefor, weights and cables for moving them, ratchets and gravitating dogs for restraining the operation of the weights, and an inflammable cord for holding the dogs in engagement, substantially as set forth.

3. The combination with an elevator-well or the like, of horizontal tracks at opposite sides thereof, a pair of doors, grooved wheels for movably supporting them on the tracks and weights and cables for moving them inward to close the well, a ratchet-wheel and dog for restraining the operation of the weights, and an inflammable cord for holding the dog in engagement, substantially as set forth.

4. The combination with an elevator-well or the like, of a horizontal track adjacent thereto, doors movably supported thereon, weighted cables for moving them into the well, drums at opposite sides of the well for the cables, ratchet-wheels on the drum-axes, dogs engaging the ratchets, and an inflammable cord for holding the dogs in engagement, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 3d day of February, 1906.

WILLIAM J. FLETCHER.

Witnesses:
BARNEY G. JOHNSON,
P. H. GUNCKEL.