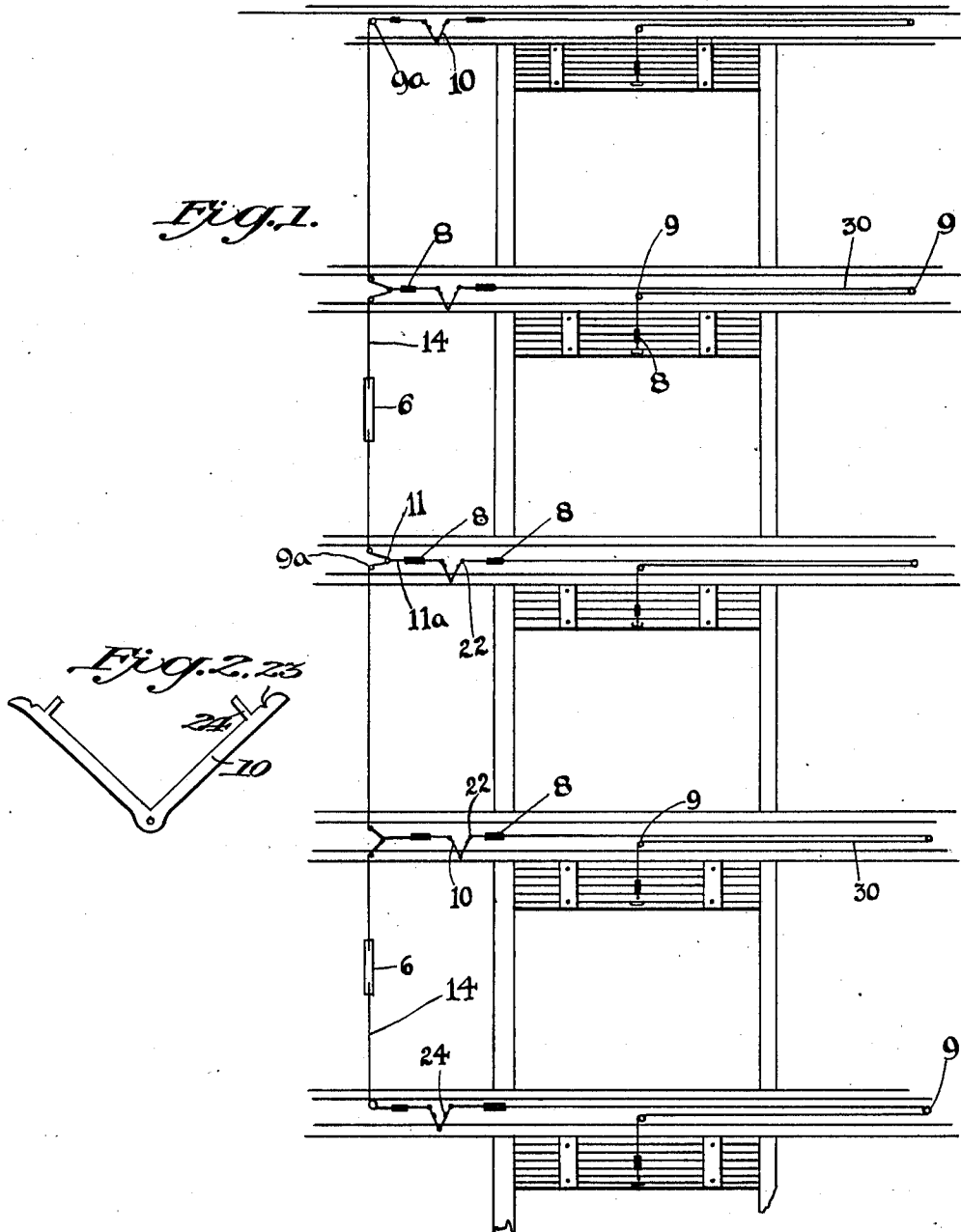


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FIRE DOORS FOR ELEVATOR SHAFTS.
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1,021,304.

Patented Mar. 26, 1912.



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UNITED STATES PATENT OFFICE.

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FIRE-DOORS FOR ELEVATOR-SHAFTS.

1,021,304.

Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed April 13, 1911. Serial No. 620,904.

To all whom it may concern:

Be it known that we, JOSEPH E. DONNELLY and THOMAS F. DONNELLY, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Fire-Doors for Elevator-Shafts, of which the following is a specification.

10 This invention relates to fire doors for elevator shafts, which will close automatically in the presence of fire or heat sufficient to melt fusible links which assist in holding the doors in open position.

15 The object of the invention is to provide an improved vertically slidable door made in sections, said doors being respectively placed at the various floors of a building, and connected together in such manner that 20 when one door closes the others will also be released and will close.

The operating devices include a trigger connected to each door and also connected to a main cable, by action of which all the doors 25 are released and allowed to drop to closed position.

The invention is illustrated in the accompanying drawings in which—

30 Figure 1 is an elevation of the doors and connections, the doors being in open position. Fig. 2 is a detail of a trigger.

As shown in Figs. 1 and 4, the doorway at each floor is provided with one of the doors hereinafter described. Each door 35 consists of a series of panels or sections of which five are shown, but which may be varied in number as desired, and which are indicated at B, C, D, E and F. These sections slide vertically in guides A at the door 40 jamb, said guides being conveniently made of T irons or the like, the respective tracks or guides varying in length according to the travel of the respective sections, and at the lower end of each guide is a stop 18 which 45 limits the drop of the section which slides therein. Each section is partly balanced by a sash weight 12, connected thereto by a cord 13^a passing over a pulley 13. The lowest section B has at its lower end an inwardly projecting arm 17, which projects 50 far enough to pick up all the other door sec-

tions as the lower section B is raised. The top section F is stationary. The lower section B of each door is connected to a cable 30, having one or more fusible links 8 therein, and said cable extends over guide pulleys 9 to connect with one arm of a trigger 10, which consists of a bent lever pivoted at its elbow to the wall or any suitable support. The connection is effected by means of a ring 60 22 which engages in a notch 23 in the arm, said arm also having a projection 24 to prevent the ring slipping down too far.

14 indicates a main line or tension cable, provided with a turn-buckle 6 for adjustment, and this cable extends through all the floors and is suitably fixed at its opposite ends. It passes over guide pulleys 9^a at each floor to form a bight which receives a running sheave 11 connected by a short piece 70 or cable 11^a, which may also contain a fusible link 8, to the other arm of the trigger 10, the connection being formed by a ring in a notch as above described. The panels will be made of suitable fire proof 75 material, such as corrugated metal 20 fastened to an angle iron frame 21, the outer flange of which may be provided with rollers 19 to travel in the tracks.

In the use of the device, the panels are 80 raised to open position as shown in Fig. 4, and the connections are made to the trigger 10 as above described. This holds the doors in open position, the cable 14 being taken up by the turn-buckle 6 if necessary, 85 to provide the needed tension to hold the triggers as set. In case of fire, one of the links 8 will be fused, thereby releasing the door at that floor, and the panels thereof will drop to closed position. This also will 90 release the tension on the line 14, permitting the triggers to tilt or tip and allowing the links 22 to slip out of the notches 23 and thus release all the triggers, and accordingly allowing all the doors to drop and close 95 almost simultaneously.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:—

The combination of a plurality of gravitating doors, a cable connected to each door 100 and adapted to support the same in open po-

sition and having a fusible link, a rocking trigger having a pair of notched arms to one of which said cable has a slip connection, a main cable under tension, and a cable
5 connected at one end to the main cable and having a slip connection at the other end to the other arm of the trigger.

In testimony whereof, we do affix our signatures in presence of two witnesses.

JOSEPH E. DONNELLY.
THOMAS F. DONNELLY.

Witnesses:

JOHN A. BOMMARDT,
STEDMAN J. ROCKWELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."