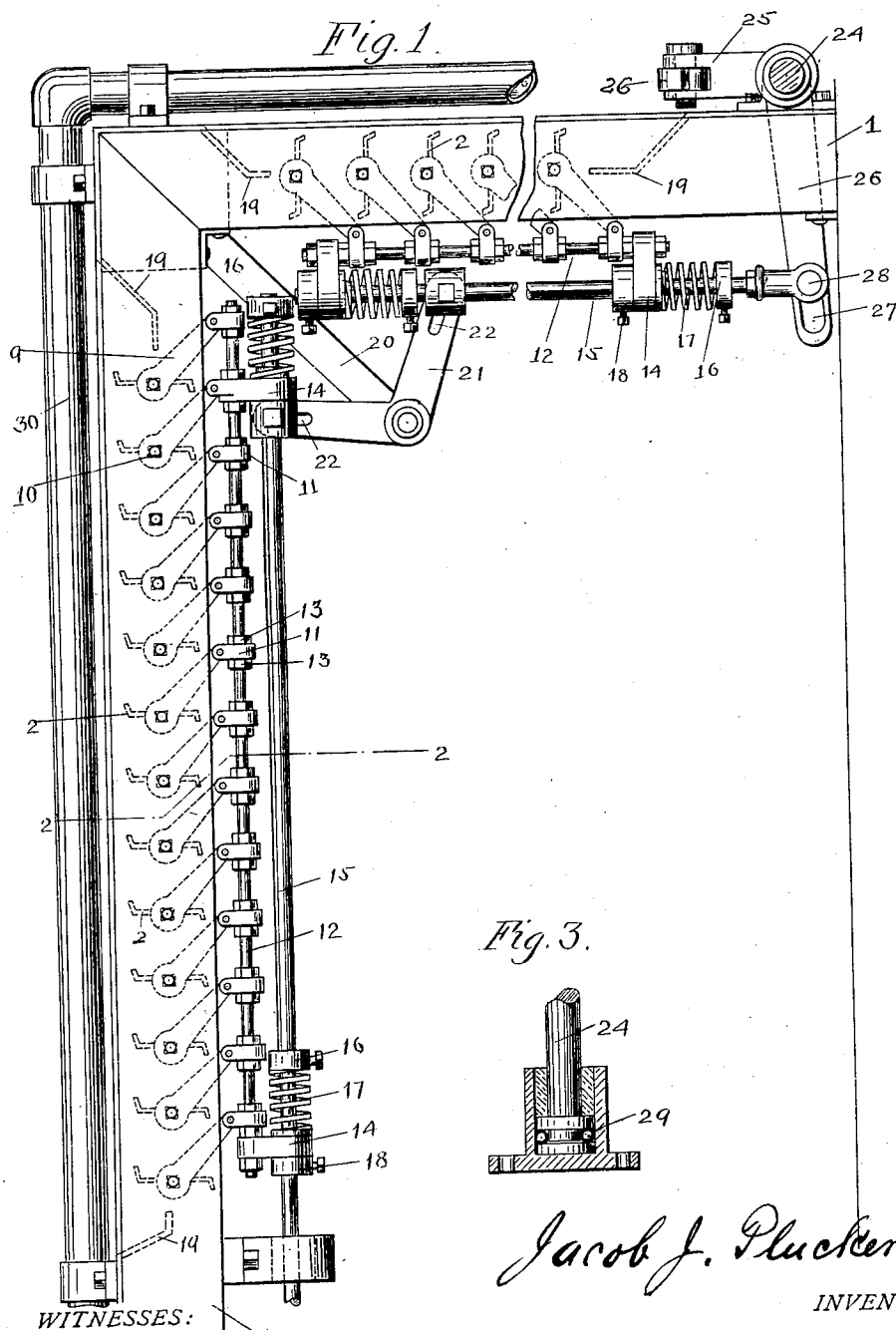


J. J. PLUCKER.
FIREPROOF CASING FOR ELEVATOR SHAFTS.

APPLICATION FILED DEC. 5, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



J. J. Plucker
A. D. Williams

Jacob J. Plucker
INVENTOR.

BY
Stewart Stewart
ATTORNEYS

No. 734,600.

PATENTED JULY 28, 1903.

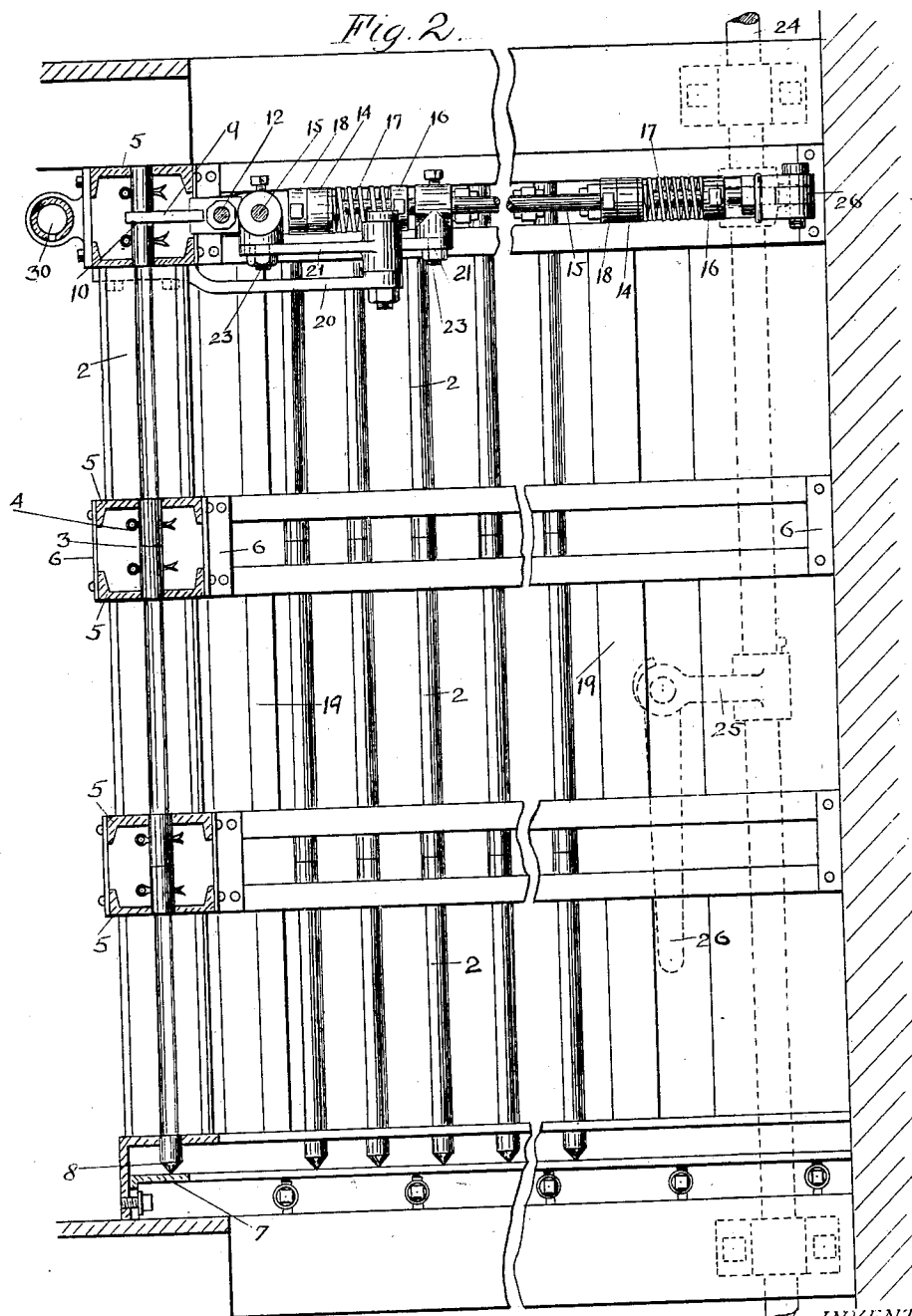
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NO MODEL.



WITNESSES:

J. J. Plucker
A. B. Williams

INVENTOR.
Jacob J. Plucker

BY
Henry H. H. H.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JACOB J. PLUCKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JAMES S. JOHNSON, OF PHILADELPHIA, PENNSYLVANIA.

FIREPROOF CASING FOR ELEVATOR-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 734,600, dated July 28, 1903.

Application filed December 5, 1902. Serial No. 134,032. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. PLUCKER, a citizen of the United States of America, and a resident of 6820 Paschall avenue, Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Fireproof Casings for Elevator-Shafts, of which the following is a specification.

My invention relates to certain improvements in fireproof cases, and of the form shown in my application, Serial No. 134,031, filed December 5, 1902.

In the structure shown in the present application the shutters are shown as arranged vertically instead of horizontally, as in the prior application.

Referring to the drawings, wherein the same reference-numerals indicate the corresponding parts wherever they occur, Figure 1 is a top plan view of a portion of my improved form of casing, showing the shutters in their open position. Fig. 2 is a sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a detail sectional view of a form of bearing for the operating-rod.

In Fig. 1 I show two sides of an elevator-shaft provided with my improved casing, the view being taken just below the ceiling-line. Mounted in the supports 1 are the vertically-arranged shutters 2, these shutters being connected together by the dowels 3 and pins 4 in the manner described in my pending application above referred to. The supports 1 are formed of pairs of angle-irons 5 5, which are held apart by the plates 6 6, as best shown in Fig. 2. Preferably and as shown the operating mechanism is connected to the top of the set of shutters for a floor, the bottom of the shutters being supported by a plate 7, the shutters having a conical bearing-surface 8 resting on the plate.

9 represents links which engage the square central portion 10 of the dowels 3, and these links are connected by collars 11 to a rod 12, the collars being held in position on the rods by means of the lock-nuts 13 13.

14 14 are a pair of links secured near the ends of the rods 12, and loosely passing through these links are rods 15.

16 represents collars fast to the rods 15,

and interposed between these collars and the links 14 are the springs 17.

18 represents collars which limit the motion of the links 14 on the rods 15.

19 19 are plates secured at each end of each series of shutters to the supporting-casing, and against these plates the shutters at each end of each series are adapted to abut when they are closed. The parts are so constructed that the shutters close before the rod 15 has completed its motion, so that the further movement of the rod 15 places the springs 17 under tension, and consequently holds the shutters together under tension.

20 is a supporting-bar projecting inwardly at each corner of the casing, and pivoted thereon is a bell-crank lever 21. This bell-crank lever is provided at each end with a slot 22 and is adapted to loosely engage a pin 23, carried by the collars 18. By this means it will be seen that when any one of the rods 15 is operated all the rods on that floor will be operated.

24 is a vertical shaft extending the full height of the building and outside the casing, this shaft on each floor being provided with operating-levers 25 and preferably have pivoted thereto the operating-handles 26, which are normally drawn down in the position shown in Fig. 2, but which when it is desired to operate the shafts may be raised to give a greater leverage.

31 is an arm which is fast to the shaft 24 and projects inwardly, and on its inner end is provided with a slot 27, which loosely engages a pin 28, carried by one of the rods 15. By this construction it will be seen that when the shaft 24 is oscillated it will, through the arm 31, move the rods 15 and operate the shutters on all the floors of a building, it being of course understood that the shutters of each floor are provided with an operating mechanism which is a duplicate of the one described. Preferably the lower end of the shaft 24 is supported in a bearing of the character shown in Fig. 3 to lessen the friction, this bearing being provided with the balls 29 and constituting a ball-bearing of the ordinary form.

30 indicates a water-pipe of the character

described in my pending application above referred to, and the valve for admitting water to this pipe is controlled from the shaft 24 in any suitable manner.

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

10 1. In an elevator-shaft the combination with a framework of a series of vertical shutters supported therein, pivoted levers connecting these shutters to a system of rods arranged horizontally around the casing, and mechanism connected to the rods and adapted to be operated upon any floor of the building for the purpose of closing all the shutters
15 simultaneously.

2. In an elevator-shaft, the combination with a framework of movable shutters supported vertically in the framework, pivoted levers connecting the shutters to a system of rods arranged horizontally around the casing, a vertical shaft and connections between the system of rods and the vertical shaft whereby the shutters may be operated by oscillating the vertical shaft to close all the
20 shutters simultaneously.

Signed by me at Baltimore, Maryland, this 22d day of October, 1902.

JACOB J. PLUCKER.

Witnesses:

HOWARD D. ADAMS,
FRANCIS M. PHELPS.