No. 734,601. PATENTED JULY 28, 1903.

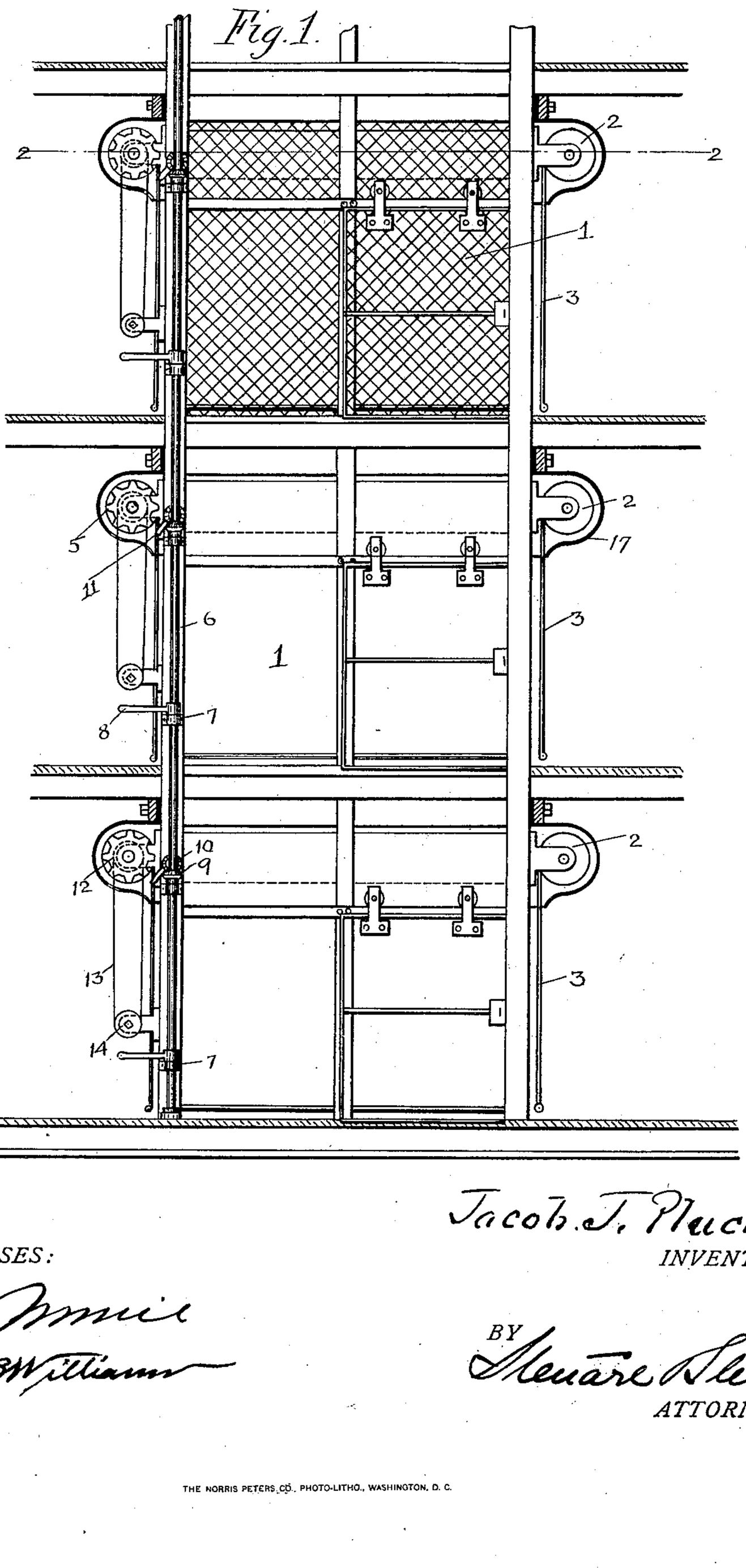
J. J. PLUCKER.

FIREPROOF CASING FOR ELEVATOR SHAFTS.

APPLICATION FILED DEC. 5, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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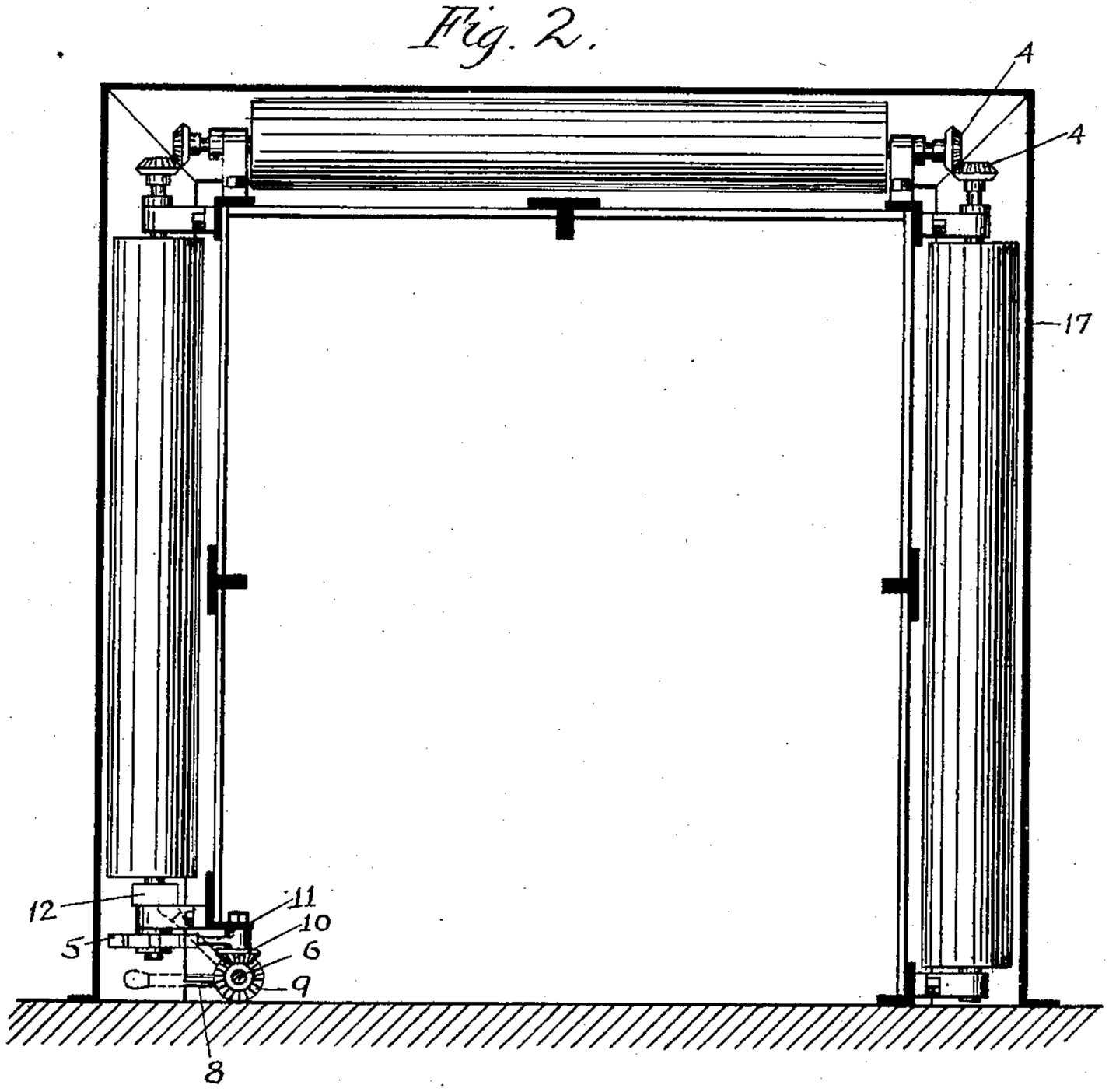
NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2.



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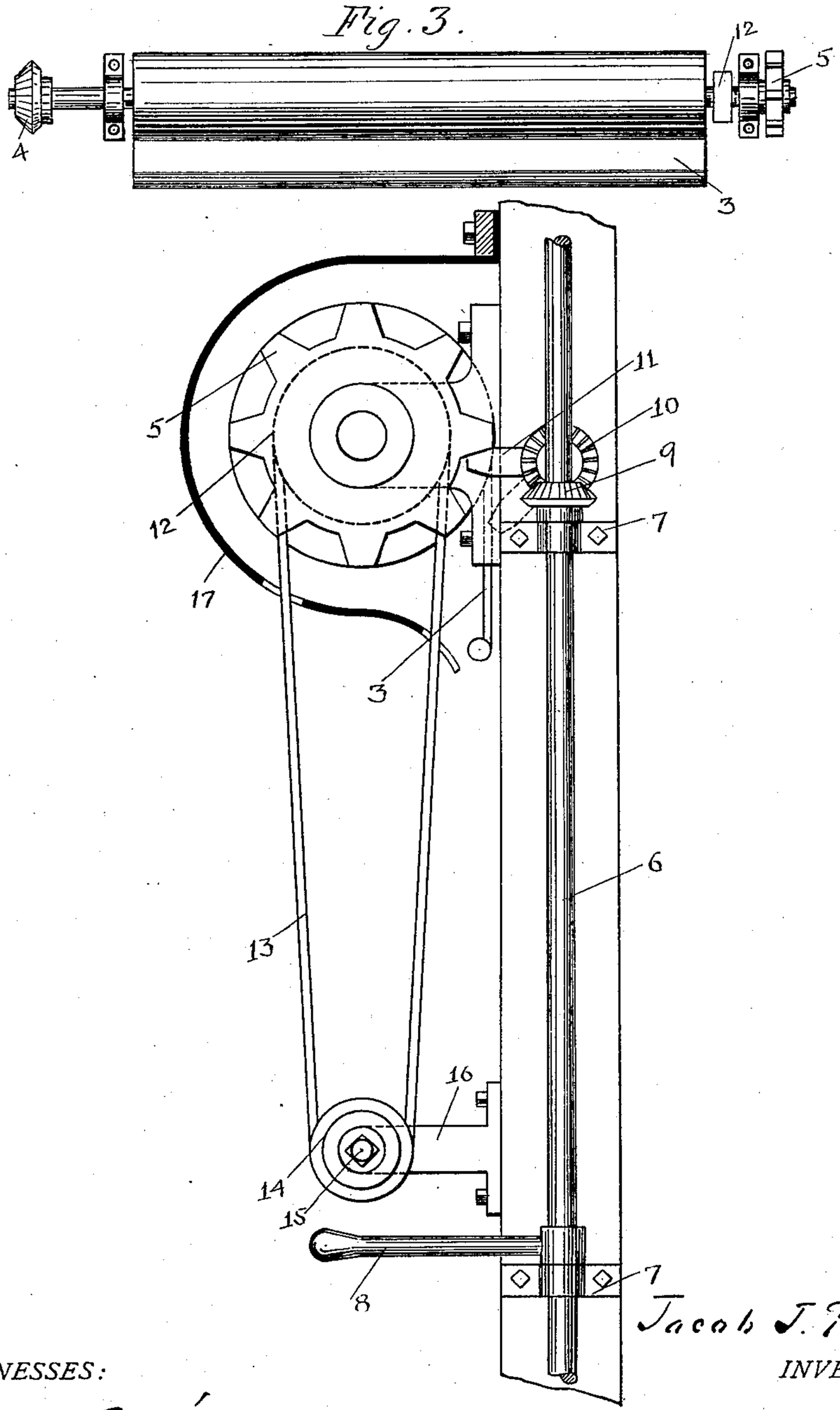
NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3.



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No. 734,601. Patented July 28, 1903.

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. 734,601, dated July 28, 1903.

Application filed December 5, 1902. Serial No. 134,033. (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 an improvement in the means for inclosing elevator-shafts to prevent a fire which may occur on one of the floors of the building from being communicated by the elevator-shaft to the other floors of the building; and the invention consists of a series of curtains secured around the elevator-shaft at each floor of the building, the curtains being made of asbestos or other fireproof material, and means whereby all the curtains on all the floors may be lowered simultaneously from any floor of the building to cut off communication between the building and the shaft.

Referring to the drawings, wherein the same reference-numerals indicate the same part wherever it occurs, Figure 1 is a sectional view taken through a building, showing a front elevation of an elevator-shaft provided with my improvements. Fig. 2 is a transverse sectional view of the shaft, taken substantially on line 2 2 of Fig. 1. Fig. 3 is an elevation showing in detail the mechanism for operating the curtains.

The elevator-shaft is preferably provided with any ordinary form of grille 1, and just beneath the ceiling on each floor are supported the rolls 2, carrying the curtains 3.

In the form of construction shown in the drawings the shaft is built up against a back wall of the building, so that the curtains are shown as being provided on but three sides of the shaft. It is evident, however, that should the shaft run through the middle of the building the curtains would be provided for the four sides. The curtain-rolls are connected together by means of the beveled gears 4, so that all the rolls on each floor must operate together. Secured on one end of one of the shafts of one of the curtain-rolls is a toothed wheel 5.

6 indicates a shaft supported in bearings 7, carried by one of the longitudinal columns of the casing, and this shaft is provided at each floor with operating-handles 8, by means of which it may be oscillated.

9 indicates beveled gears carried by the shaft 6 and meshing with the beveled gears 10, the beveled gears 10 being supported by stub-shafts projecting out from one of the casing-uprights. Fast to the hub of the beveled gears 10 are the dogs 11, which are in position to engage with the teeth of the toothed wheel 5 when the dogs are swung to the horizontal position shown in Fig. 3.

12 indicates pulleys fast on the shafts of the curtain-rollers adjacent to the toothed wheels 5, and 13 indicates belts passing over the pulleys 12 and down to pulley 14, supported on square-ended shafts 15, carried by suitable brackets 16, extending out from one of the uprights of the casing.

17 is a covering which is located over the curtains and rollers to protect the same from dust and dirt when not in use.

With the parts in the position shown in Fig. 3 it will be seen that by operating the lever 8 the shaft 6 will be oscillated, which will swing the dog 11 from the position shown in full lines to the position shown in dotted lines and release the curtain-rollers. As soon as these rollers have been released the curtains will fall to the position shown in Fig. 1 by their own weight and completely inclose the shaft. When it is desired to wind up the curtains, it is done on each floor by placing a handle on the square end of the shaft 15, when by turning the same the curtains on that floor will be wound up and may then be held in position to be again dropped by the dog 11.

It is to be noticed that the vertical shaft 6 runs the entire height of the building and has a handle-lever at each floor, so that all the curtains may be dropped simultaneously from any floor of the building by merely operating one of the handles 8.

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

1. The combination with the framework of an elevator-shaft, of a series of fireproof cur-

tains for each floor of the building in which the shaft is located surrounding the same; rollers supporting the curtains; mechanism for holding the rollers with the curtains wound thereon and means for releasing all the rollers from any floor of the building so that all the curtains may be operated simultaneously.

2. The combination with the framework of an elevator-shaft of a series of fireproof curtains for each floor of the building in which the shaft is located; rollers for supporting said curtains; beveled gears connecting the rollers of each floor; a toothed wheel carried by one of the rollers of each floor; dogs adapted to engage the toothed wheels; a vertical shaft; and gearing connecting the dogs with the vertical shaft, whereby when said shaft is oscillated said dogs will be moved out of engagement with said toothed wheel and release all of the curtains simultaneously.

3. The combination with the framework of an elevator-shaft of a series of fireproof curtains for each floor of the building in which the shaft is located; rollers for supporting said curtains; beveled gears connecting the rollers of each floor; a toothed wheel carried by one of the rollers of each floor; dogs adapted to engage the toothed wheels; a vertical shaft; gearing connecting the dogs with the vertical shaft, thereby when said shaft is oscillated said dogs will all be moved out of engagement with said toothed wheels and release all of the curtains simultaneously; and means for rewinding the curtains.

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

JACOB J. PLUCKER.

Witnesses:
HOWARD D. ADAMS,
FRANCIS M. PHELPS.