

No. 607,326.

Patented July 12, 1898.

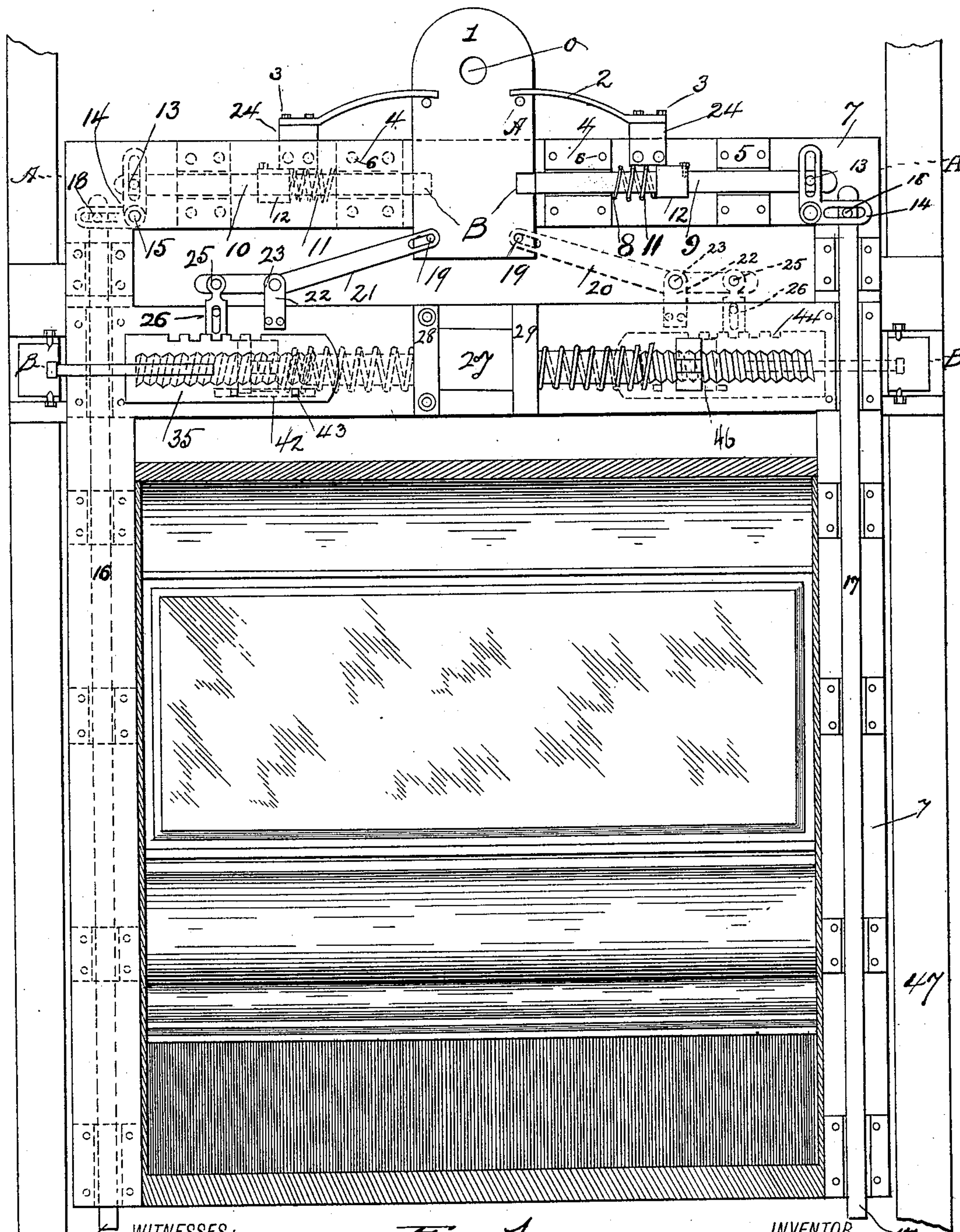
J. BARREAUX.

ELEVATOR.

(Application filed Mar. 13, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Fig. 1.  
Francis H. Anglin  
W. H. Immermann

INVENTOR

Jules Barreaux.

BY

Henry C. Evert

ATTORNEY.

No. 607,326.

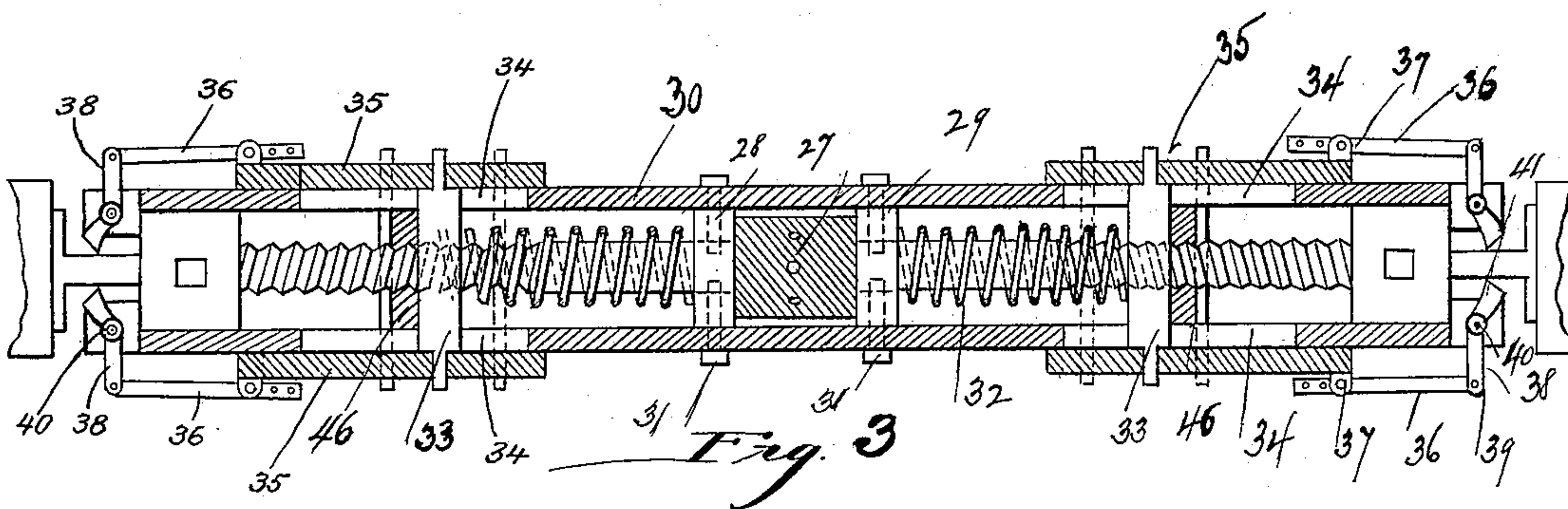
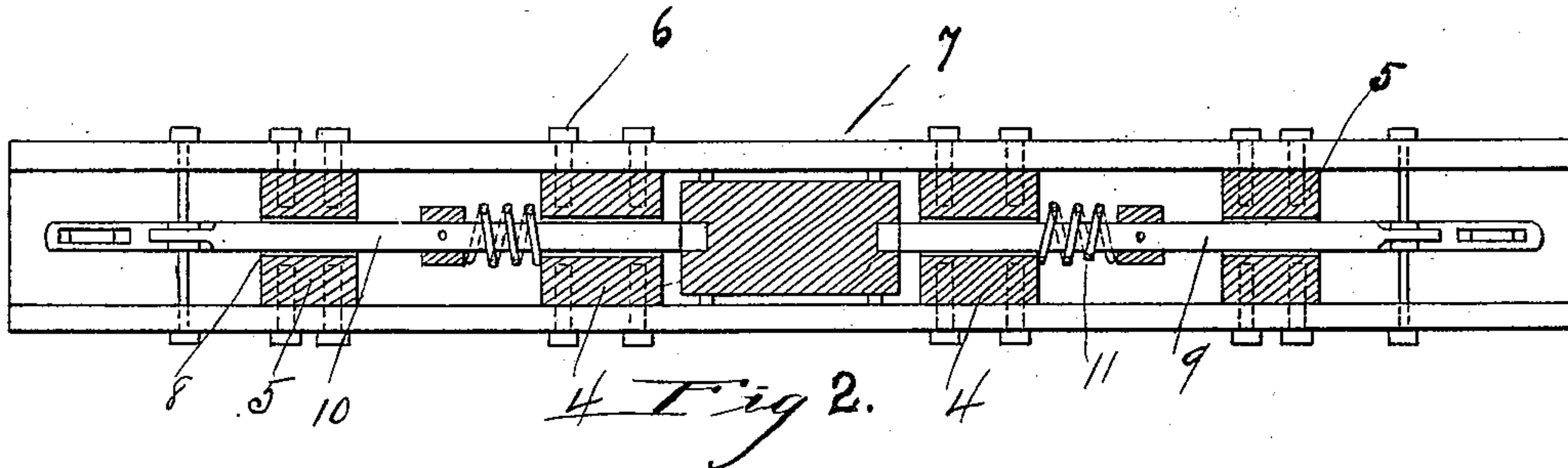
Patented July 12, 1898.

J. BARREAUX.  
ELEVATOR.

(Application filed Mar. 13, 1897.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

*Francis H. Anglin*  
*N. J. Tommerman*

INVENTOR

*Jules Barreux.*

BY

*Henry C. Covert*

ATTORNEY.



# UNITED STATES PATENT OFFICE.

JULES BARREAUX, OF PITTSBURG, PENNSYLVANIA.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 607,326, dated July 12, 1898.

Application filed March 13, 1897. Serial No. 627,389. (No model.)

*To all whom it may concern:*

Be it known that I, JULES BARREAUX, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Elevators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in safety attachments for elevators which will be efficient and quick-acting, and has for its object to prevent the dropping of an elevator when the suspending means fail to operate.

The invention aims to construct a safety device of the above-referred-to class which will be efficient in its operation, quick in acting, and to preserve more power than is needed to prevent the dropping of the elevator in case of accident; furthermore, to provide a simple and efficient means to hold the elevator in an inoperative position while being repaired or inspected.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

Describing the invention in detail, reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters and figures of reference indicate similar parts throughout the several views, in which—

Figure 1 is a view of the suspension device and the elevator-car, showing one of the springs with the frame broken away. Fig. 2 is a longitudinal sectional view on the line A A, Fig. 1, of the top part of the suspending device and operating mechanism. Fig. 3 is a longitudinal sectional view on the line B B, Fig. 1, of the frame 30, showing a part of the operating mechanism.

Like letters and figures of reference denote corresponding parts throughout the description.

1 designates an oblong suspension-block provided with an aperture to receive the suspension-rope. (Not shown.)

2 designates springs engaging pins A, carried by the block 1. Springs 2 are held in position by bolts 3, secured to blocks 24.

4 and 5 are blocks which are secured to the frame 7 by bolts 6. Blocks 4 are spaced apart to form a vertical opening to receive the block 1, and blocks 4 and 5 are each provided with a longitudinal opening 8, through which the rods 9 and 10 pass to engage the slots B in the oblong block 1. Rods 9 and 10 are each provided with springs 11, which abut against the blocks 4 and are held in position by the adjustable sliding sleeves 12. Rods 9 and 10 are also provided at one end with a pin or stud 13, which moves freely in a lever 14, said lever being pivoted by a pin 15 to the frame 7 and connected to rods 16 and 17 by a pin or stud 18. Said rods 16 and 17 reach below the bottom of the elevator-car C.

Pivoted to the lower end of the oblong block 1 by pins or studs 19 are two elbow-levers, consisting of arms 20 and 21, which are longitudinally slotted at one end to receive said pins or studs 19. Arms 20 and 21 are pivoted to supports 22 by pins or studs 23 and connected at their opposite ends by pins or studs 25 to locking-pins 26.

27 designates a double screw-threaded bolt having a head located intermediate its ends, said head being provided with holes to be operated by a rod or the like, and held in position by braces 28 and 29, which are fastened to the frame 30 by bolts 31. The screw-threaded bolt 27 is provided with springs 32, which engage the braces 28 and 29 and the presser-bars 33, which are adapted to slide in slots 34.

35 are sliding plates carried by the frame 30, having longitudinal slots 42, which engage pins 43, carried by the frame 30.

44 are notches or slots on the sliding plates to engage the heads of the locking-pins 26.

36 designates rods pivotally connected to bearing-posts 37 and provided with holes or apertures at predetermined intervals.

38 are arms which are attached to the rods 36 at one end by pins or studs 39 and pivoted at their opposite ends 40 and carrying gripping-heads 41, which are adapted to engage the vertical rod 45 when the spring 32 is released.

Mounted on the double screw-threaded bolt 27 is a nut 46, operating against the presser-bar 33.

47 is a guide-rail.

Operation: When the elevator-car is al-

55

60

65

70

75

80

85

90

95

100

105



lowed to rest upon the floor of the shaft, the rods 16 and 17 are formed in an upward direction as well as one arm of the lever 14. The other arm of said lever is forced in a lateral direction, communicating the motion to rods 9 and 10, the ends of which are forced into the slots B of the suspension-block 1, the safety devices being thus prevented from being thrown into action as long as the car rests on the floor of the shaft. The bolt 27 is turned, which causes the nuts 46 to travel in the direction of the bolt-head, and through the medium of the presser-bars 33 contracts the springs 32, when the locking-pin 26 engages the notches 44 of the sliding plates 35 and holds the gripping-heads 41 out of engagement with the guide-rail 47. When power is applied to the rope attached to the suspension-block through the medium of the elbow-levers, the locking-catch is held firmly in engagement with the sliding plate 35 to prevent the springs 32 from expanding. When the hoisting-rope breaks, the springs 2 force the suspension-block down, depressing one end of the elbow-levers and raising the opposite ends, retracting the locking-pins from the sliding plates 35, thus releasing the tension of the springs 32, which forces the sliding plates in opposite directions, and through the medium of the arms 36 and 38 forces the gripping-heads into engagement with the guide-rails and prevents the elevator from falling.

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

1. In an elevator, the combination with the elevator-guides, of a gripping mechanism adapted to grip said guides, a suspension-block slidably mounted on the elevator-car and to which the hoisting-rope is secured, a spring engaging said suspension-block, elbow-levers having slotted ends and fulcrumed intermediate the ends, one end of said elbow-levers pivotally engaging said suspension-block, a locking-catch pivoted to the opposite end of each lever and adapted to lock said gripping mechanism out of engagement with said guides, and means for bringing said gripping mechanism into engagement with the guides when released from the locking-catch, substantially as herein shown and described.

2. In an elevator, the combination with the elevator-guides of gripping mechanism therefor, two pairs of slidable plates on the elevator-car adjustably connected with said gripping mechanism, a screw-threaded bolt provided with an adjusting-head intermediate its ends, presser-bars on said bolt connected with said sliding plates, springs on said bolt tending to throw said gripping mechanism into engagement with said guides, nuts on said bolt for adjusting said springs, and means for holding said gripping mechanism normally out of action, substantially as herein shown and described.

3. In an elevator, the combination with the elevator-guides of gripping mechanism therefor, a pair of slidable plates on the elevator-car, connections between said gripping mechanism and said slidable plates, a screw-threaded bolt, a presser-bar on said bolt, connected with said slidable plates, a spring on said bolt tending to throw said gripping mechanism into engagement with said guides, a nut for adjusting said spring, a locking-catch for holding said gripping mechanism normally out of action, a suspension-block connected with the hoisting-rope, springs bearing on said suspension-block and elbow-levers pivotally connected with said suspension-block and with said locking-catch, substantially as herein shown and described.

4. In an elevator, a spring-actuated suspension-head, spring-actuated safety-rods engaging openings in said head, levers 14, rods 16 and 17, one end of said levers being pivotally connected to said safety-rods and the opposite end to the rods 16 and 17, pins carried by said head near the lower end thereof, slotted elbow-levers fulcrumed to the frame, one end of said elbow-levers engaging the pins carried by said head, locking-pins pivotally secured to the opposite end of said elbow-levers, a screw-threaded bolt provided with a head intermediate the ends, adjusting-nuts carried by said bolt, presser-bars, said adjusting-nuts operating said presser-bars, spring-operated sliding plates, gripping devices, levers connecting said sliding plates and said gripping devices, means for releasing said sliding plates, and spring-actuated mechanism for throwing the gripping devices into engagement with the guideways, substantially as herein shown and described.

5. In an elevator, a frame, a spring-actuated suspension-head, pins carried by the lower end of said suspension-head, elbow-levers pivotally mounted on the frame, one end of said elbow-levers engaging the pins carried by the suspension-head, locking-pins pivotally secured to the opposite ends of said elbow-levers in combination with a safety device provided with gripping means, a screw-threaded bolt having a head intermediate the ends, nuts carried by said bolt, adjustable presser-bars operated by said nuts, spring-actuated sliding plates secured to the frame having notches formed in their upper ends, gripping devices provided at one end with serrated heads and pivoted intermediate their ends, adjusting-bars connected to the gripping devices and sliding plates, spring-actuated mechanisms adapted to operate the gripping devices when the sliding plate is released, substantially as herein shown.

In testimony whereof I affix my signature in presence of two witnesses.

JULES BARREAUX.

Witnesses:

H. E. SEIBERT,  
JOHN NOLAND.