No. 645,891. Patented Mar. 20, 1900.

J. J. COOK.

ELEVATOR CONTROLLING APPARATUS.

(Application filed May 18, 1899.)

(No Model.) 2 Sheets—Sheet 1

Fig. 1.

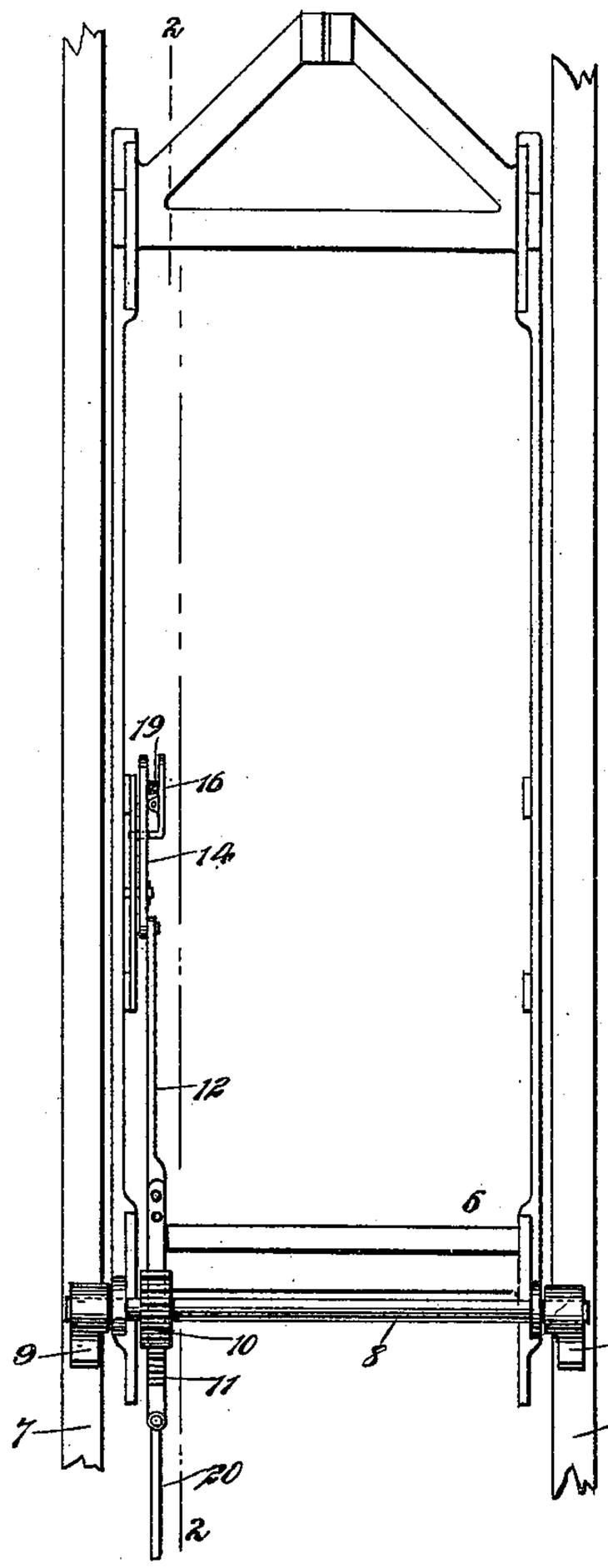


Fig. 2.

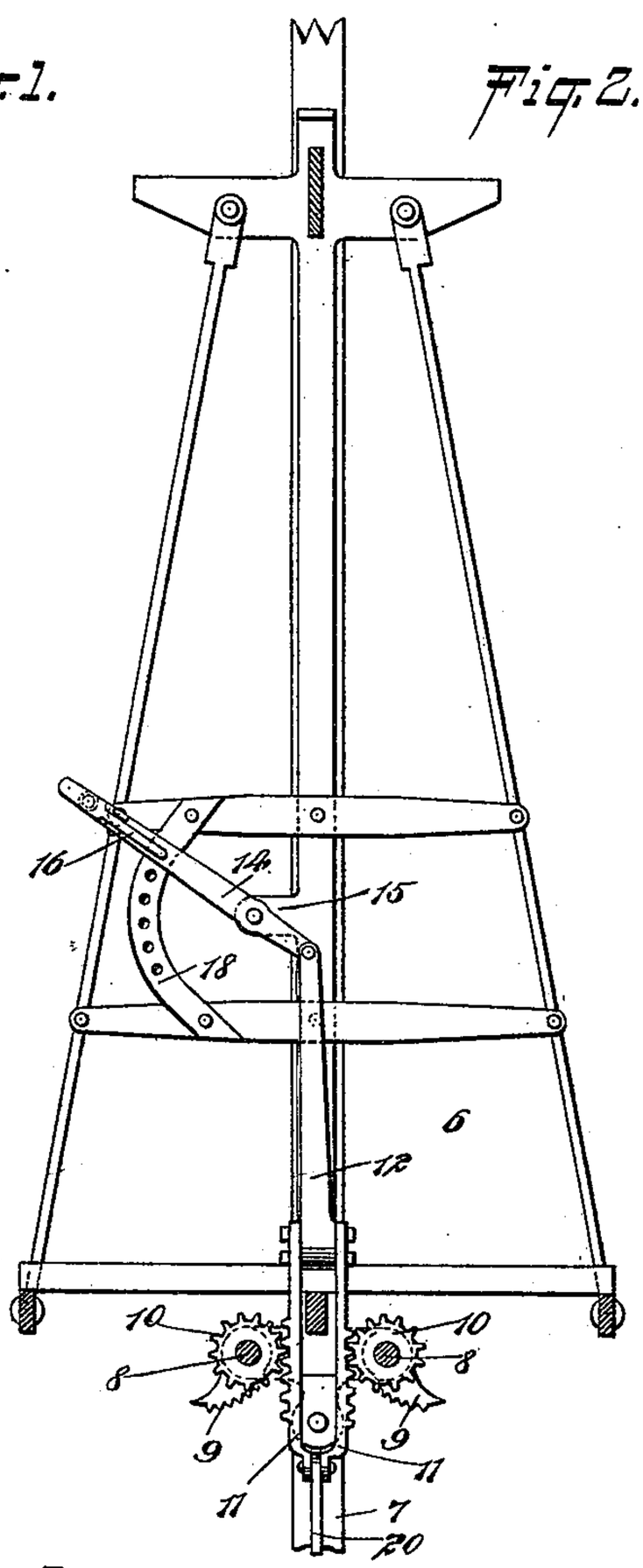


Fig. 3.

Fig. 4.

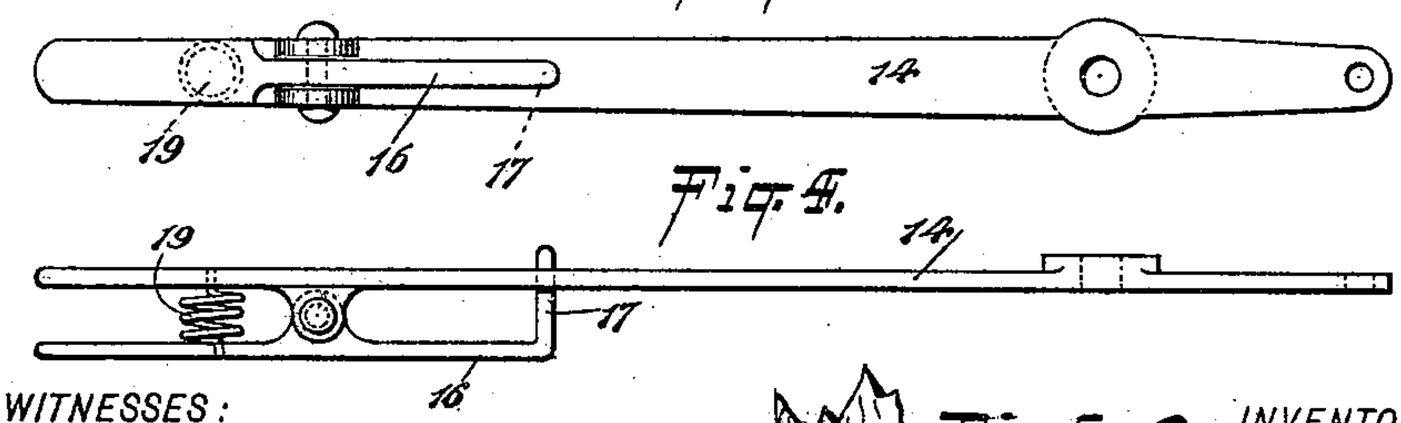
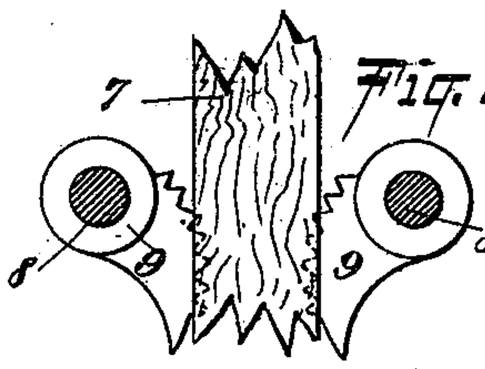


Fig. 5.



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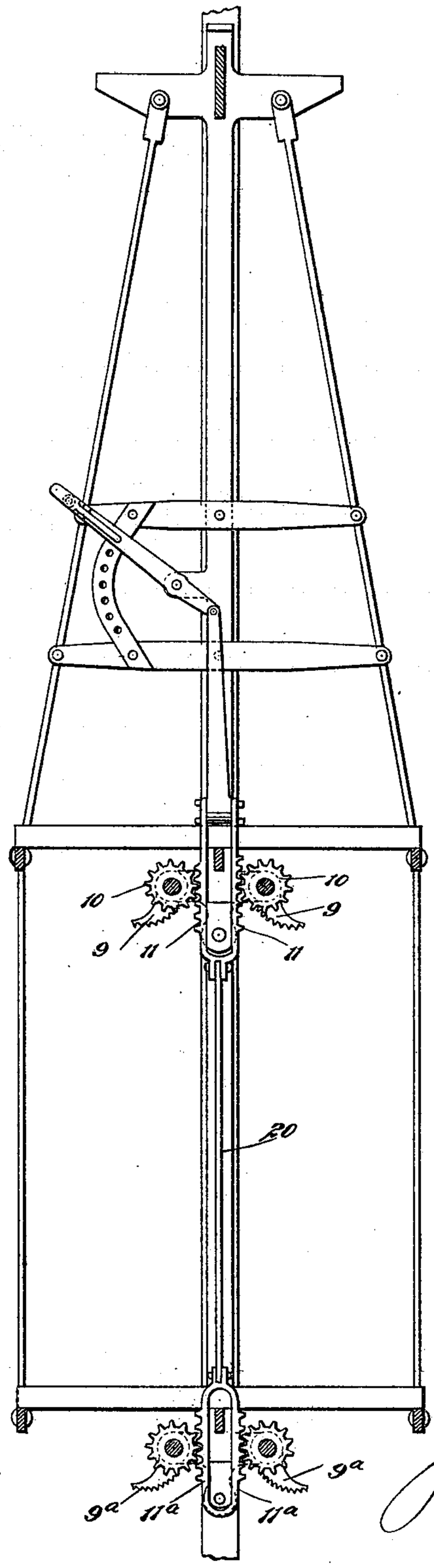
(No Model.) 2 Sheets—Sheet 2.

Fig. 6.



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ELEVATOR CONTROLLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 645,891, dated March 20, 1900.

Application filed May 18, 1899. Serial No. 717,285. (No model.)

To all whom it may concern:

Be it known that I, JOHN JOSEPH COOK, of Butte, in the county of Silver Bow and State of Montana, have invented a new and Improved Elevator Controlling Apparatus, of which the following is a full, clear, and exact description.

This invention relates to devices for stopping the movements of elevator-cars, the invention being particularly adapted to mine-elevators and being so constructed as to provide an absolutely sure and effective means of holding the elevator, such means being continually under the control of the operator.

This specification is the disclosure of one form of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the apparatus with parts in section. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is an enlarged plan of the hand-lever. Fig. 4 is an enlarged edge view thereof. Fig. 5 is an enlarged view showing the action of the dogs, and Fig. 6 is a view showing a double-deck car fitted for my improvement.

The car 6, which is, as shown in Figs. 1 and 2, of the single-deck class, is mounted to move between the guide-rails 7, which are fixed in the elevator-shaft. The drawings simply show the upper portion of the car with the upper deck thereof, it being understood that the lower portion and lower deck of the car are omitted. The invention may, however, be adapted to a car with a single deck, as will be understood.

Mounted in the framing of the car, below the deck or platform thereof, are two shafts 8, to the ends of which are fixed the dogs 9, which have toothed cam-surfaces adapted to bear against the respective rails 7, so as to grip with the same and stop the car. To each shaft 8, adjacent to one end thereof and opposite to each other, is fixed a pinion 10. These pinions mesh, respectively, with racks 11, which extend vertically between the pinions and which are fastened at their upper ends to a link 12. By the movement of the racks 11, through the medium of the link 12 and mechanism hereinafter to be described, the pinions 10 and shafts 8 may be turned and the dogs 9 thrown into and out of engagement with the rails 7.

The upper end of the link 12 is pivotally joined to a lever 14, fulcrumed on a stud 15, projecting from the framing of the elevator-car. This lever 14 has a hand-latch 16 pivoted thereon and provided with a pin 17 at one end, such pin coacting with an orificed quadrant 18, fastened to the elevator-car, by means of which arrangement the lever 14 may be held in any desired position. A spring 19 is mounted between the lever 14 and the latch 16 to throw the pin 17 normally into engagement with the quadrant 18. By this arrangement the person controlling the car and standing on the platform or deck thereof may throw the lever 14 to any desired position, thus engaging or disengaging the dogs 9 and the rails 7 and thoroughly controlling the car.

Should the invention be applied to a double-decked car, as shown in Fig. 6, the racks 11 should be fastened at their lower ends to a link 20, which passes downward to and connects with racks 11^a, similar to the racks 11, at the bottom deck or platform of the car, so that dogs 9^a, similar to the dogs 9, may be thrown into and out of action simultaneously with said dogs 9.

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

1. The combination with an elevator-car and with a guide-rail past which the car moves, of shafts mounted on the car, a dog attached to each shaft and working with the guide-rail, a gear attached to each shaft, racks rigidly connected with each other and respectively meshed with the gears, a link to which the racks are fastened, a lever mounted on the car and pivoted to the link, a hand-latch mounted on the lever, and a quadrant mounted on the rack and coacting with the hand-latch to hold the lever in the desired position.

2. The combination, with an elevator-car and with a member stationary with respect thereto, of a shaft mounted to turn on the car, a dog carried by the shaft, the dog working with the stationary member to hold the car,

a gear fixed to the shaft, a rack meshed with the gear to drive the same, a link connected with the rack, and a hand-lever having connection with the link to impart movement thereto.

3. The combination with an elevator-car and with á vertically-disposed member stationary with respect thereto, of rock-shafts mounted on the car respectively on opposite sides of said stationary member, dogs carried by the rock-shafts and serving to engage said stationary member at opposite sides thereof, gears fast to the shafts, two racks situate between the rock-shafts and fastened rigidly with each other and sliding in unison, the racks respectively engaging the gears, and means for throwing the racks.

JOHN JOSEPH COOK.

Witnesses:
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JOHN J. MCHATTON.