

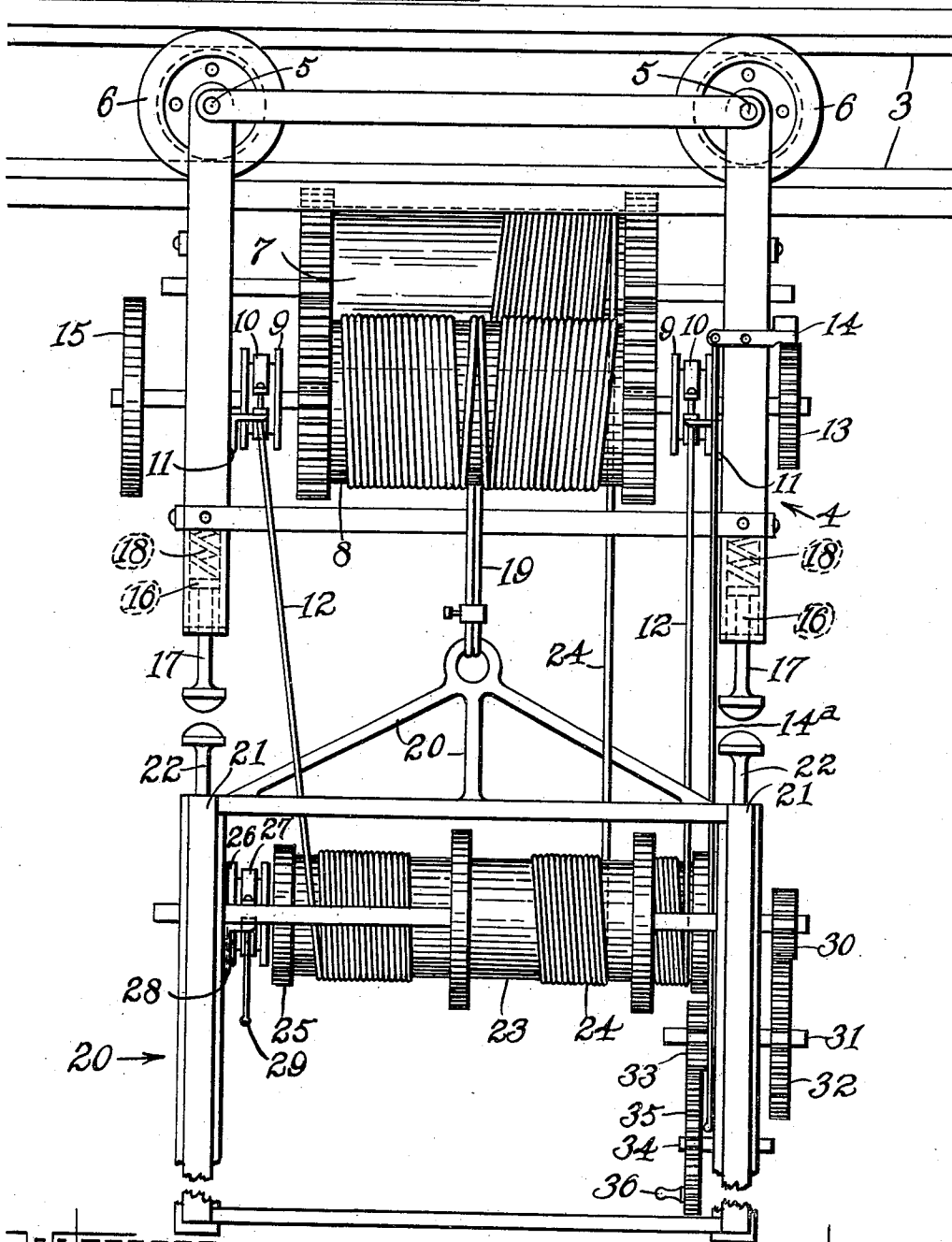
D. J. ROCHE.
FIRE ESCAPE.
APPLICATION FILED OCT. 1, 1910.

992,257.

Patented May 16, 1911.

2 SHEETS-SHEET 1.

Fig. 1-



Witnesses
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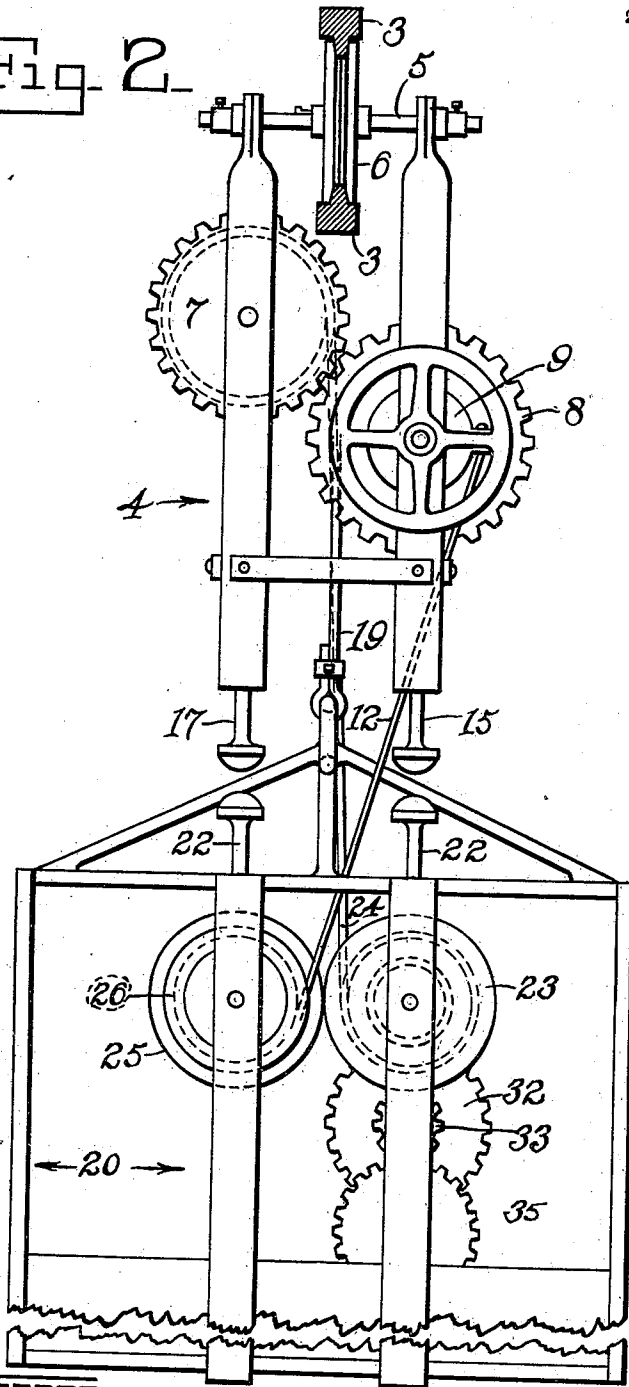
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2 SHEETS-SHEET 2.

Fig. 2.



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DAVID J. ROCHE, OF CHICAGO, ILLINOIS.

FIRE-ESCAPE.

992,257.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed October 1, 1910. Serial No. 584,916.

To all whom it may concern:

Be it known that I, DAVID J. ROCHE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Escapes, of which the following is a specification.

The object of my invention is to provide a traveling elevator outside a building adapted to be moved horizontally to any window on any floor, and be accessible to persons desiring to escape therefrom. A device which can be operated by persons from the windows, and inside the elevator.

The manner in which I accomplish my object is described in the following specifications and illustrated in the accompanying drawings in which:—

Figure 1 is a front elevation showing the cage at the highest position. Fig. 2 is a side elevation of the parts shown in Fig. 1.

In the drawings 3 indicates metal rails supported in the same vertical plane by any suitable means fixed to the roof or face of a building.

4 indicates a traveling frame. Rotatably supported in this frame are two parallel shafts 5 on which grooved wheels 6 are rotatably supported. These wheels are rotatably secured between the rails 3. Rotatably supported in the frame 4 below the wheels 6 are two geared cable drums 7 and 8. On the shaft of the drum 8 are two friction wheels 9. Each of these wheels are encircled by a brake band 10 supported by a bracket 11 fixed on the frame 4. Connected to each of these bands and extending downward through apertures in the brackets 11 is a cable 12. Secured on the outer end of the shaft of the drum 8 is a ratchet wheel 13. This wheel is engaged by a pawl 14 operated by a cable 14^a. On the opposite end of the same shaft is a hand wheel 15. The ends 16 of the vertical parts of the frame 4 are bored vertically. In these bores plungers 17 are supported in contact with coiled springs 18. Secured to the drum 8 are main cables 19. Attached to these cables is a cage 20. Forming part of the frame of this cage are vertical portions 21. These parts are bored at each end and plungers 22 are supported therein. These plungers are engaged by coiled springs inserted in the bores as already described and indicated by the numerals 17 and 18 in the frame 4. These portions and plungers 22 are so ar-

anged as to be in vertical line with the plungers 17. Supported by two of the parts 21 is a drum 23. This drum is connected by a cable 24 with the drum 7. Parallel with the drum 23 is a second drum 25 on which the cables 12 are adapted to be wound. The central projection of this drum is in contact with the rim of the drum 23 and by which the drum 25 is rotated. Fixed to the drum 25 is a friction wheel 26. Encircling the wheel 26 is a brake band 27 supported by a bracket 28 fixed to the frame of the cage. Attached to this band is a lever 29. Fixed on the end of the shaft of the drum 23 is a gear 30. Rotatably supported in the cage below the shaft of the drum 23 is a shaft 31; on the outside end of this shaft is a gear 32 enmesh with the gear 30. On the inside end of this shaft is a gear 33. Parallel with the shaft 31 is a stud 34. Rotatably supported on this stud is a gear 35 enmesh with the gear 33. Fixed on the gear 35 is a handle 36.

When my device is constructed as described and illustrated and hung in the rails attached to the building its operation is as follows:—By the operation of the hand wheel 15 by a person at a window, or by the rotation of the gears by the handle 36 by a person in the cage 20, the cage can be raised to the position desired, and held at any point by the pawl 14 and ratchet wheel 13. The movements of the parts operated to raise the cage by the wheel 15 is direct through the drum 8 and cables 19; the co-acting rotation of the drum 7 winds up the cable 24 which connect the drum 7 with the drum 23. When the movement is by the rotation of the gears supported in the cage, the operation is through the drum 23 on which the cable 24 is wound. The friction clutch cables 12 are also wound on the drum 25.

The frame of the cage can be inclosed and provided with doors or provided with open rails for the protection of persons therein hence no further mention will be made to that as an element in my device, the floor of the cage being sufficient to illustrate my purpose.

Persons entering the cage can first control its movement by the lever 29 by which the drum 25 cables 12 and brakes 11 prevent the descent of the cage, or it can be controlled by the handle 36. By either or both of these means the cage can be held stationary.

The pawl is then released from the ratchet 13 and the cage lowered by the manipulation of the lever 29 or the handle 36, or by both.

- 5 It is obvious that the device can be readily moved laterally to any part of the building to the limit of the rails fixed thereto.

What I claim and desire to secure by Letters Patent is:—

- 10 1. A pair of parallel rails adapted to be affixed on the exterior of a building, a plurality of wheels rotatably secured between said rails, a frame supported by said wheels and rails, a pair of cable drums rotatably
15 supported in said frame, parallel and geared together, means adapted to control and regulate the rotation of said drums, cables attached to said drums, a cage supported by one of said cables, a cable drum rotatably
20 supported in said cage connected by one of said cables with said drums in said cage, means rotatably supported in said cage adapted to be operated, and whereby the movement of said drums and cables can be
25 controlled and said cage raised and lowered, a second drum rotatably supported in said cage in friction contact with said cable drum whereby said drum is rotated, cables attached to said drum and connected with
30 said means in said frame whereby the rotation of said drums is controlled and regu-

lated, means connected with said drum adapted to control its rotation whereby the rotation of all of said drums and downward movement of the cage can be controlled and 35 regulated as described.

2. A device of the kind described consisting of parallel rails adapted to be fixed to a building, a plurality of wheels rotatably supported by said rails, a frame supported 40 by said wheels and rails, cable drums supported in said frame, friction means in said frame adapted to control the rotation of said drums, a cage, a cable connecting one of said drums and said cage, a drum rotatably 45 supported in said cage, means in said cage whereby the rotation of said drum can be controlled, a cable connecting said drum and one of said drums in said frame, a second drum in said cage engaged with and rota- 50 table by said first mentioned drum, means in said cage adapted to control the rotation of said second drum, cables connecting said second drum and said friction means in said frame whereby the movements of all of said 55 drums, cables and cage can be controlled as described.

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