

No. 771,715.

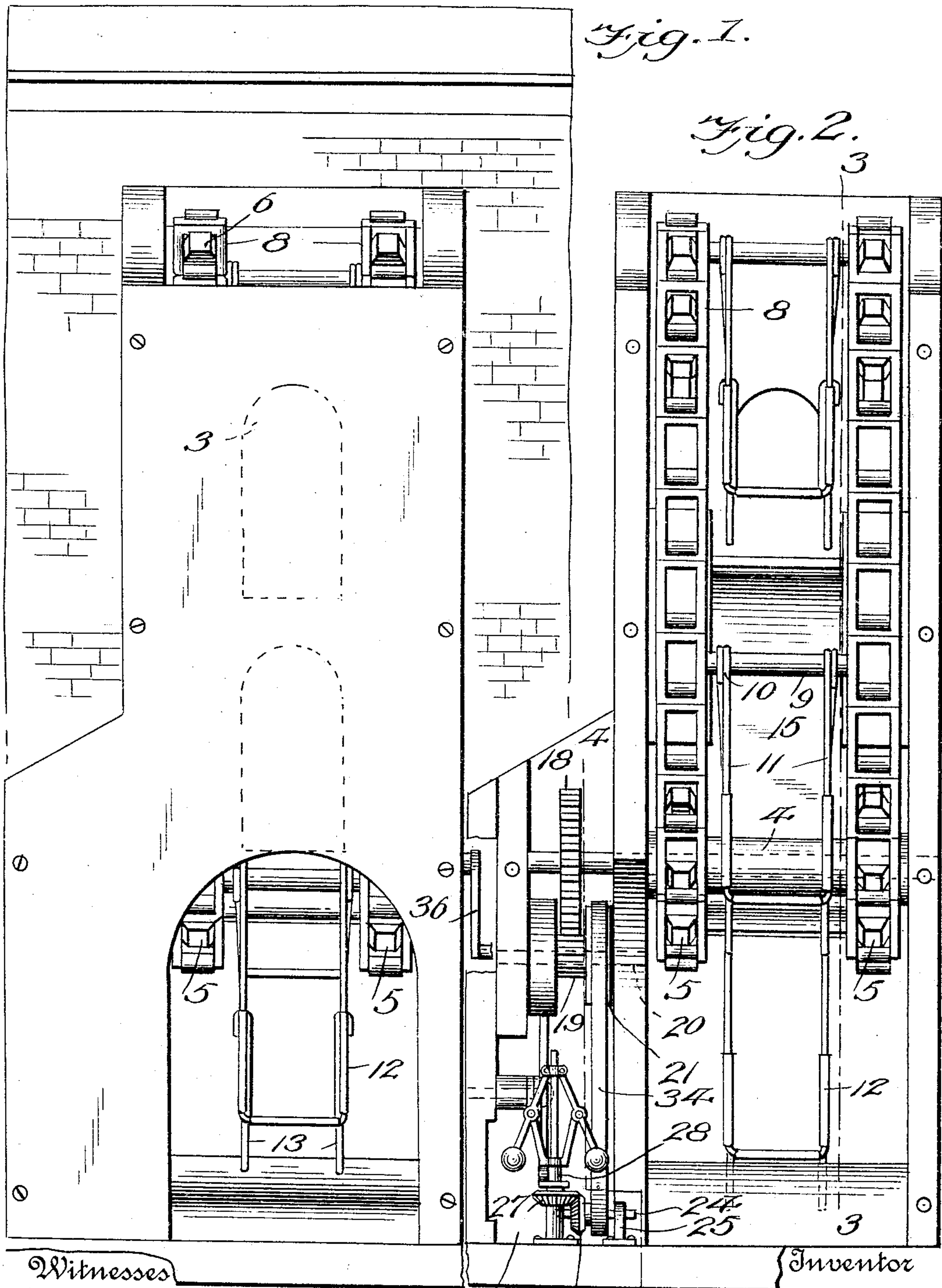
PATENTED OCT. 4, 1904.

S. M. COLE.
FIRE ESCAPE.

APPLICATION FILED JAN. 27, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

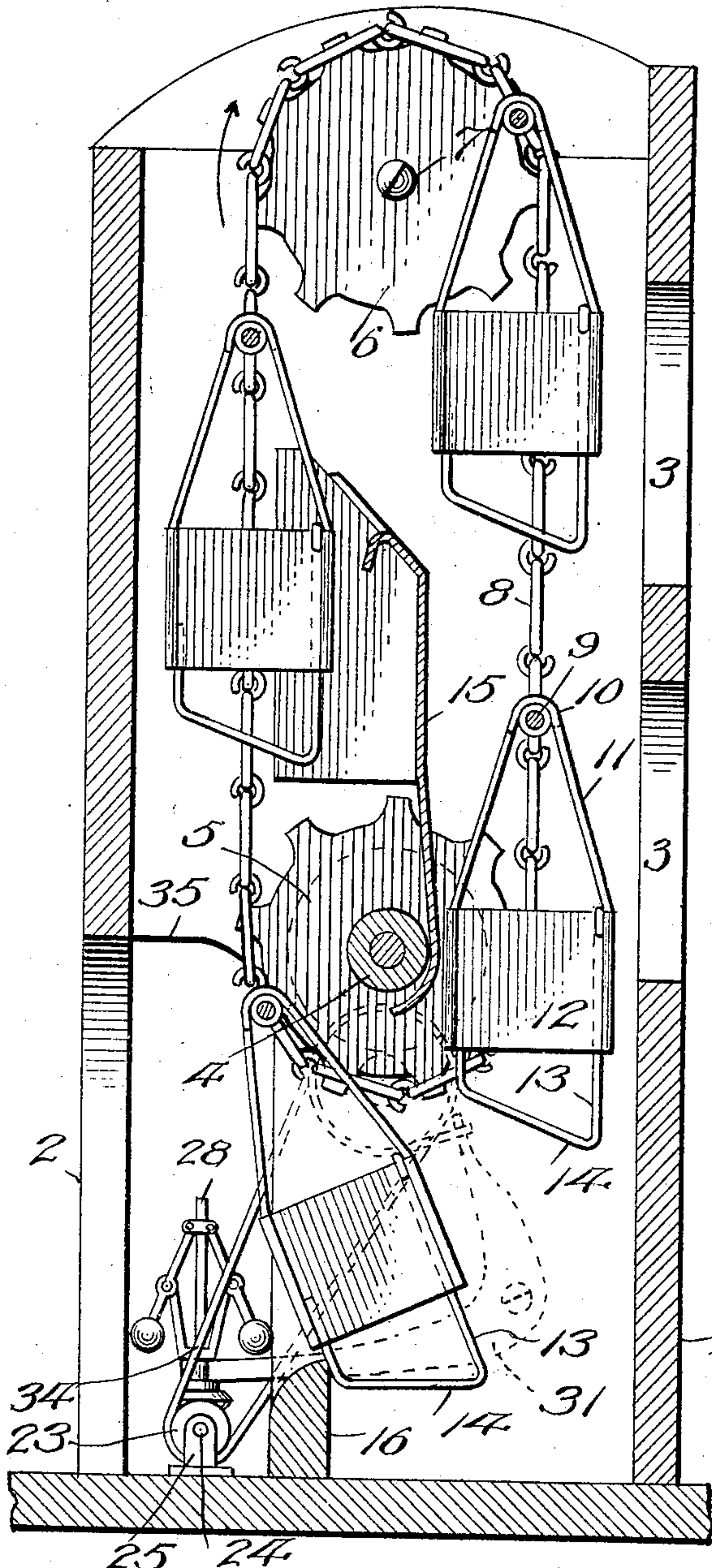


Fig. 4.

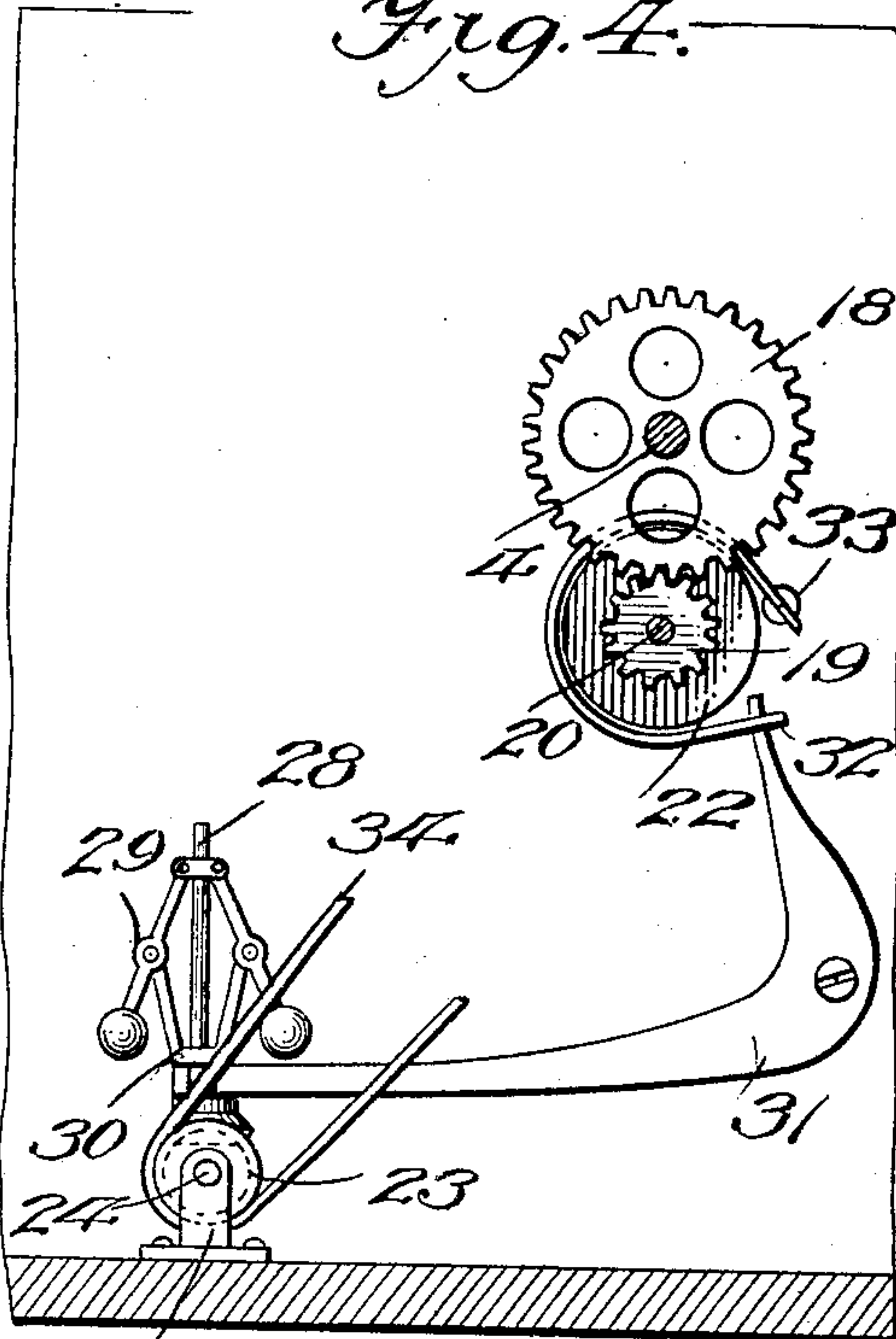
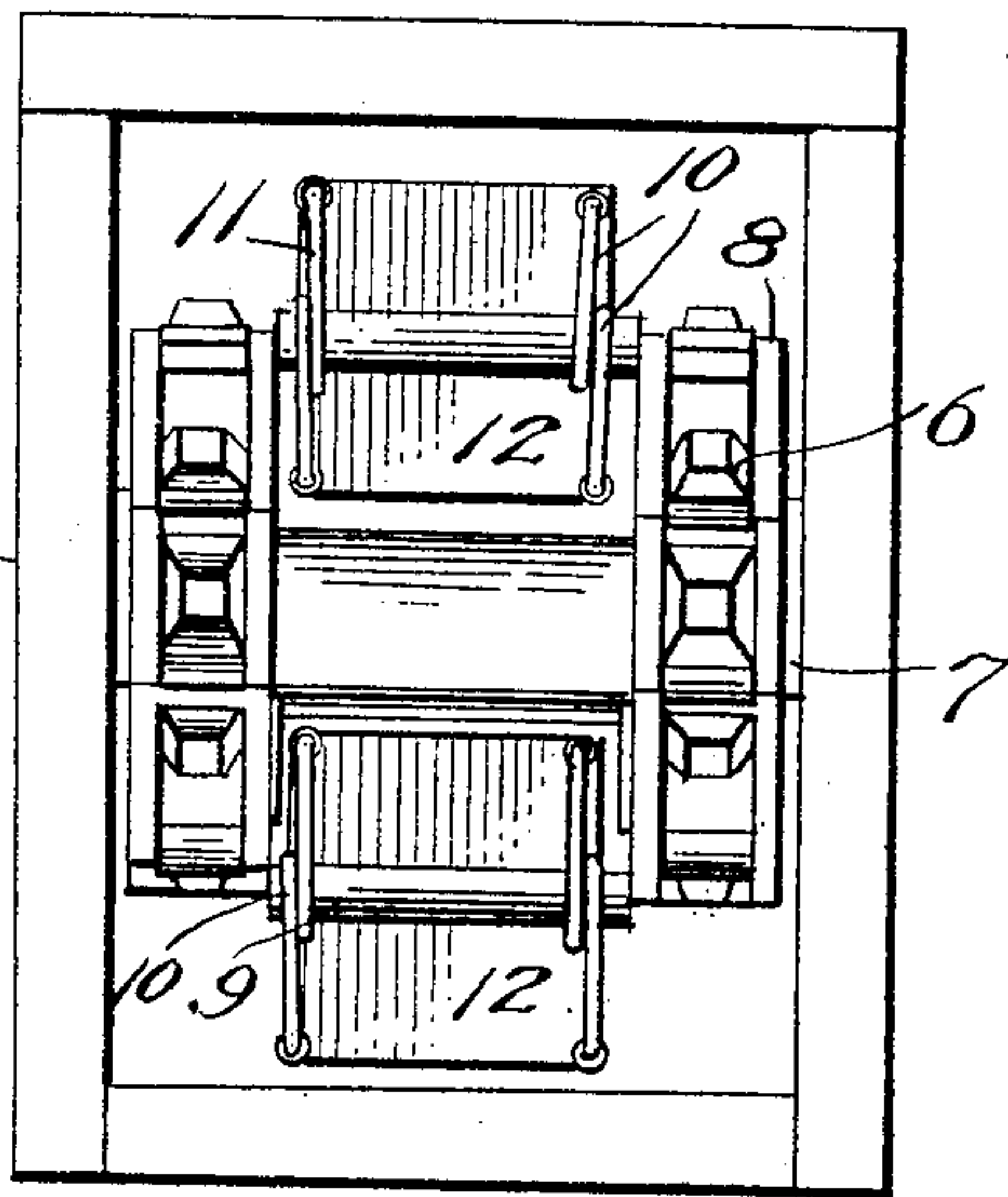


Fig. 5.



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UNITED STATES PATENT OFFICE.

SHERMAN M. COLE, OF ANAMOSA, IOWA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 771,715, dated October 4, 1904.

Application filed January 27, 1904. Serial No. 190,875. (No model.)

To all whom it may concern:

Be it known that I, SHERMAN M. COLE, a citizen of the United States, residing at Anamosa, in the county of Jones and State of Iowa, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to new and useful improvements in fire-escapes; and its object is to provide an endless carrier which is arranged within a tower communicating with the several floors of a structure, and suspended from this carrier at desired intervals are cars which are adapted to be brought successively into position at each of the openings communicating with the interior of the structure.

A further object is to provide means whereby the cars will be automatically tilted upon reaching the base of the tower, so as to compel the occupants to leave the same.

Another object is to employ a governor of novel form by means of which the speed of the descending cars may be automatically regulated, no matter what weight may be carried thereby.

With the above and other objects in view the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, in which—

Figure 1 is a front elevation of a tower having my improved fire-escape arranged therein. Fig. 2 is a vertical transverse section thereof. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is a section on line 4 4, Fig. 1; and Fig. 5 is a plan view of the tower and the mechanism contained therein.

Referring to the figures by numerals of reference, 1 is a tower of any suitable construction having an outlet 2 at the bottom thereof and apertures 3 arranged at suitable intervals in its inner wall and communicating with the several floors of the structure against which the tower is located. Within the lower end of the tower is journaled a shaft 4, and at the ends thereof are secured sprockets 5. Sprockets 6 are also journaled upon the inner faces of the sides of the tower, at the upper

end thereof, the same being mounted upon short shafts 7, extending from said sides. Upon the sprockets 5 and 6 are mounted endless chains 8, which are connected at intervals by cross-rods 9. On each of these cross-rods are loosely arranged loops 10, integral with depending rods 11, which serve as supports for a car 12, formed of any suitable material, such as sheet metal. Projecting downward from the bottom of the car are hangers 13, connected by means of an inclined cross-strip 14. A partition 15 is arranged longitudinally within the center of the tower, and the upper end thereof is beveled, so as to automatically direct the cars from the front to the rear of the tower during the operation of the fire-escape. Upon the base of the tower, directly in rear of the outlet 2, is a cross-strip 16, which extends into the path of the hangers 13 of the cars when the same are brought into their lowest positions. This cross-strip is for the purpose hereinafter more fully set forth.

A compartment 17 is formed at one side of the tower, and the shaft 4 extends thereinto and is provided with a gear 18. This gear meshes with a smaller gear 19, secured to shaft 20, which is journaled in the sides of the compartment and has disks 21 and 22 keyed or otherwise secured thereto. A small pulley 23 is secured to a shaft 24, mounted in standards 25 upon the base of compartment 17, and this shaft has a beveled gear 26 thereon, which meshes with a second gear, 27, arranged on a vertical shaft 28, upon which is located a centrifugal governor 29 of ordinary construction. This governor serves to impart vertical movement to a grooved collar 30 connected thereto, and loosely arranged within this grooved collar is one end of a bell-crank lever 31, which is pivoted to one side of the compartment. The other end of this lever projects into one end of a metal band 32, which extends around the periphery of disk 22 and is secured at its other end, as shown at 33. A belt 34 is arranged on the pulley 23 and the disk 21, and by means thereof motion is transmitted from the shaft 20 to the centrifugal governor.

When a person desires to descend by means of this fire-escape, it is merely necessary to step into the adjacent car 12 and the weight

of the person will cause the car to move downward, thereby raising the cars at the other side of the partition 15. The downward movement of the car will cause the shaft 4 to rotate, 5 and motion will thus be transmitted, through gears 18 and 19, to shaft 20 and thence through belt 34 to the beveled gears 26 and 27 and the centrifugal governor 29. The rotation of the governor will, as is obvious, cause vertical 10 movement to be imparted to the collar 30, and bell-crank lever 31 will thus be moved upon its fulcrum and will tighten the band 32 upon disk 22 and retard the rotation thereof in proportion to the rapidity with which the governor 29 rotates. When the car reaches the bottom 15 of the tower, the forward portion thereof will contact with the cross-strip 16, and the car will therefore be tilted and the occupant compelled to jump into the outlet 2. Should 20 the movement of the fire-escape continue by reason of other persons getting into one or more of the remaining cars, the hangers 13 will ride upward upon the cross-strip 16 and the inclined cross-strips 14 will prevent the car from 25 swinging outward into the outlet 2, but will cause it to slowly assume an upright position prior to its upward movement.

If desired, a door 35 may be provided to permit access to be had to the interior of the 30 compartment 17 from the lower end of the tower 1. The shaft 20 extends through the outer wall of compartment 17 and is preferably provided with a crank 36, by means of which the fire-escape may be operated manually, if desired. 35

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that 40 modifications may be made therein without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

Having thus described the invention, what 45 is claimed as new is—

1. In a fire-escape, the combination with a tower having sprockets journaled in the upper and lower ends thereof, and endless chains mounted upon the sprockets; of cross-rods 50 connecting the chains, cars suspended from the rods, hangers depending from the bottoms thereof, inclined cross-strips connecting the hangers, and a cross-strip upon the base of the tower and in the path of the hangers.

2. In a fire-escape, the combination with a 55 tower having sprockets journaled in the upper and lower ends thereof, and endless chains mounted upon the sprockets; of cross-rods connecting the chains, cars suspended from the rods, hangers depending from the bottoms 60 thereof, inclined cross-strips connecting the hangers, a cross-strip in the path of the hangers for automatically tilting the cars, and means for automatically controlling the speed of the cars. 65

3. In a fire-escape, the combination with a tower having sprockets journaled in the upper and lower ends thereof, and endless chains mounted upon the sprockets; of cross-rods 70 connecting the chains, cars suspended from the rods, hangers depending from the bottoms thereof, inclined cross-strips connecting the hangers, a cross-strip in the path of the hangers for automatically tilting the cars, a gear adapted to be operated by the fire-escape, a 75 second gear meshing therewith, disks revolvable with said second gear, a band inclosing one of the disks, a shaft, a pulley thereon, means for transmitting motion from one of the disks to said pulley, a centrifugal governor, means for transmitting motion there- 80 to from the pulley, and a bell-crank lever connected at opposite ends to the governor and the band, respectively.

In testimony whereof I affix my signature in 85 presence of two witnesses.

SHERMAN M. COLE.

Witnesses:

JOHN H. PECK,
E. T. LEETE.