

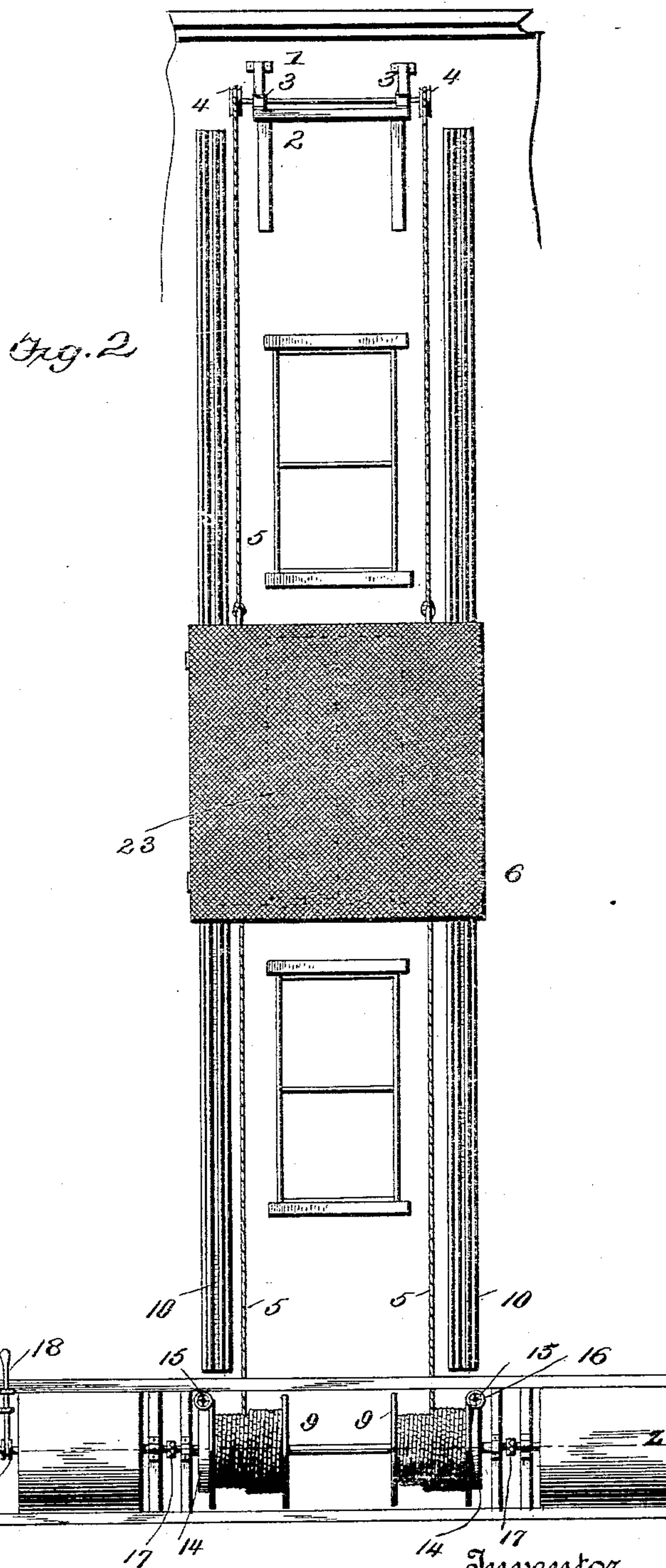
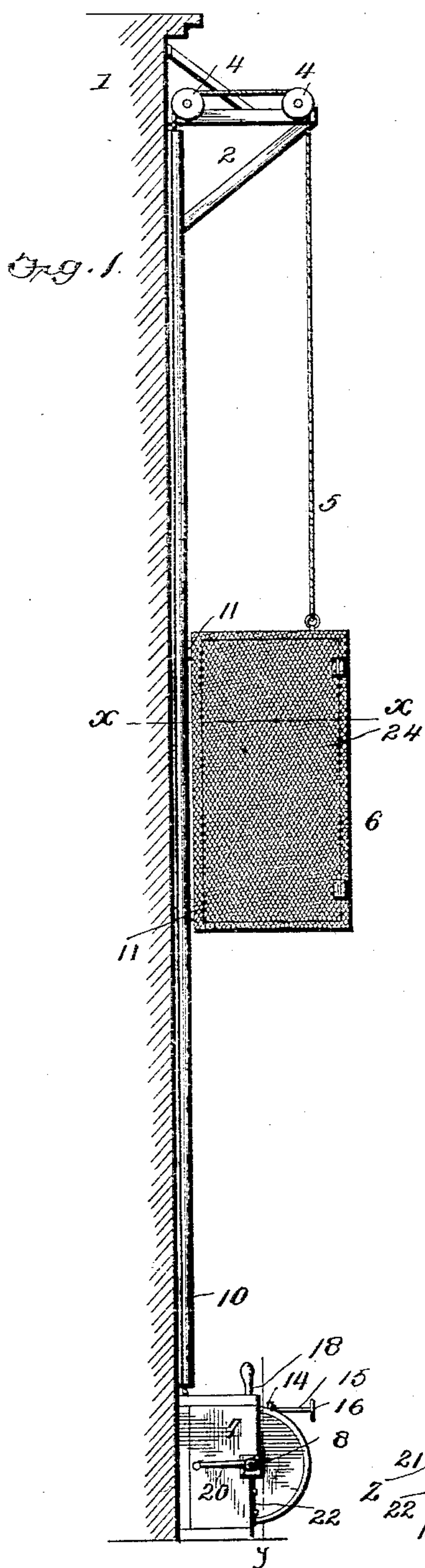
(No Model.)

2 Sheets—Sheet 1.

J. L. GREGORY.
FIRE ESCAPE.

No. 504,576.

Patented Sept. 5, 1893.



Witnesses
John Jamieson
Geo. J. Kincaid.

Inventor
James Lee Gregory
by John L. Bedderburn
his Attorney

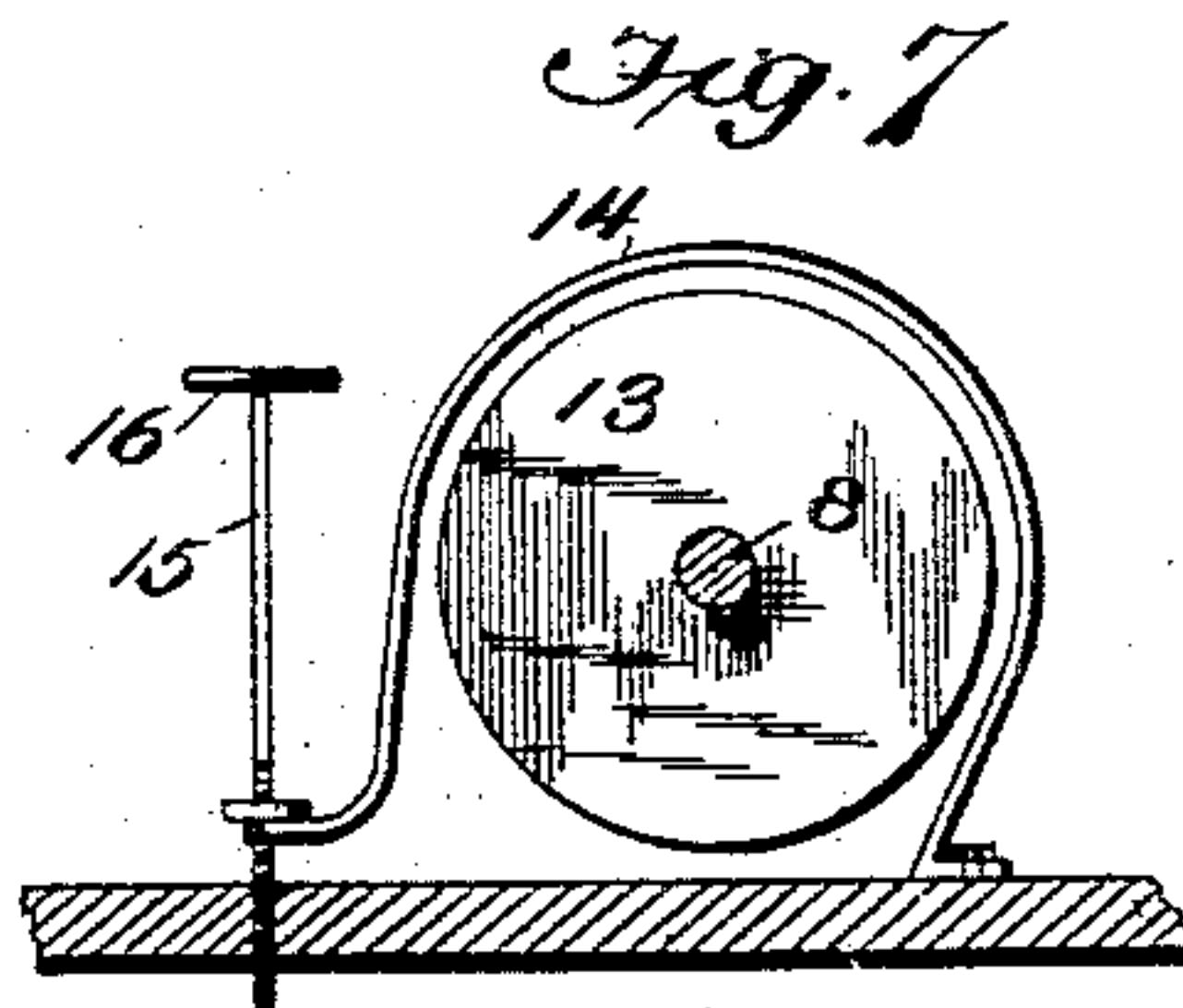
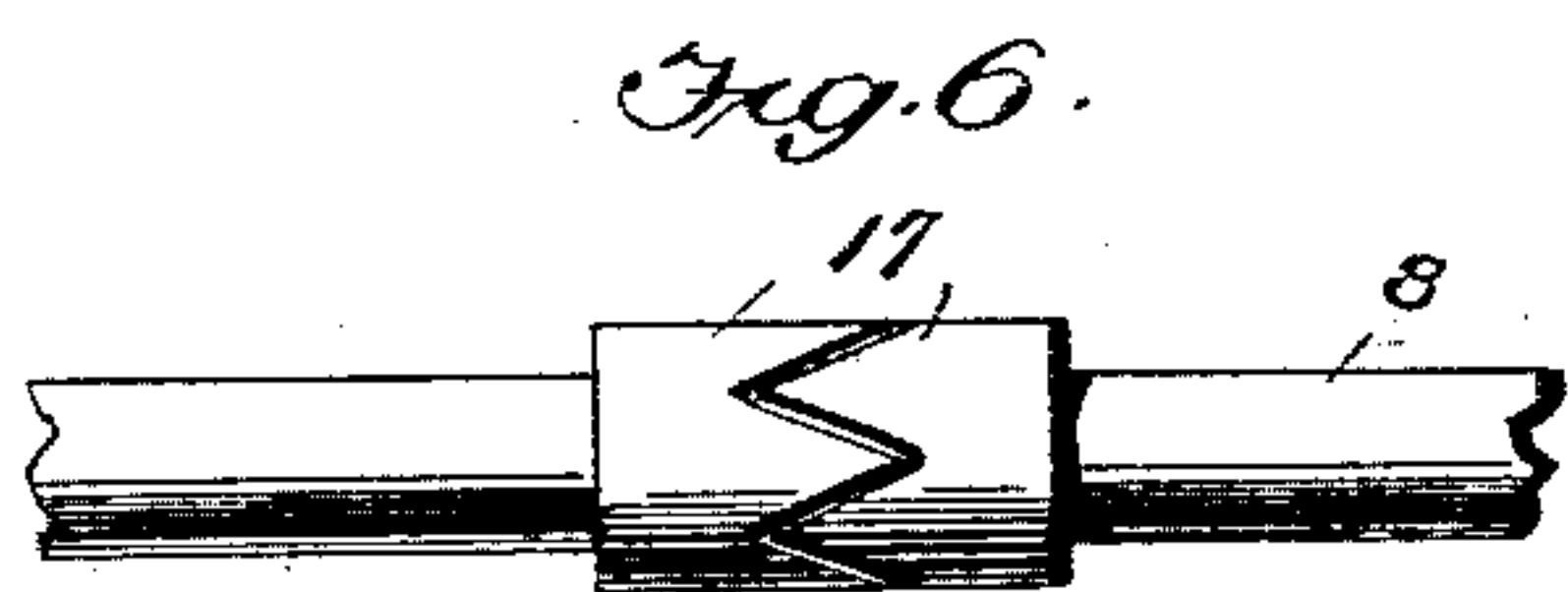
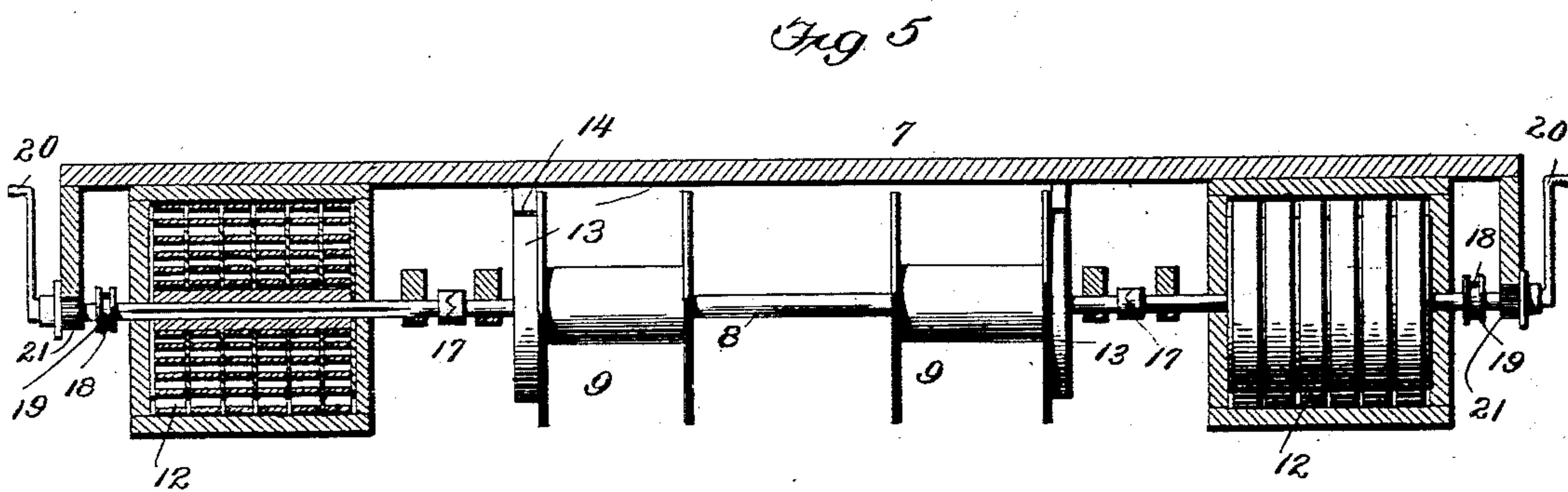
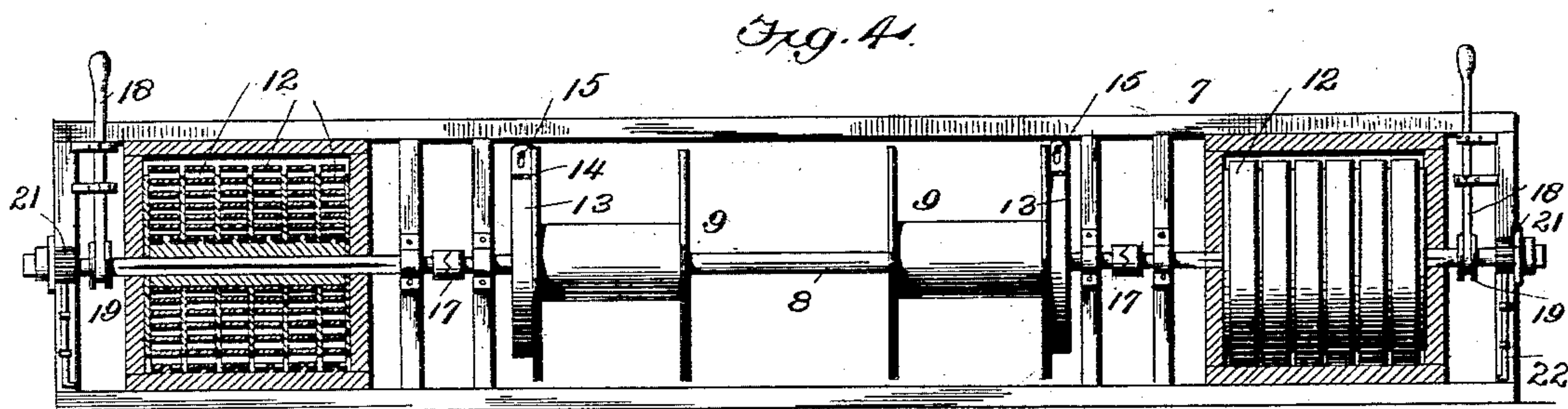
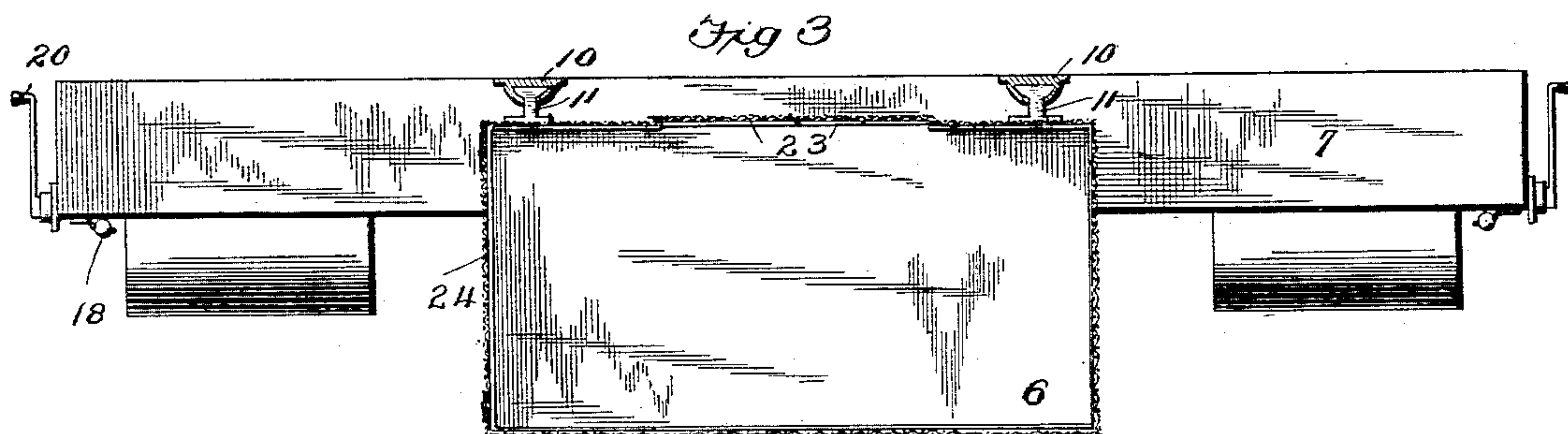
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2 Sheets—Sheet 2.

J. L. GREGORY.
FIRE ESCAPE.

No. 504,576.

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Witnesses
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UNITED STATES PATENT OFFICE.

JAMES LEE GREGORY, OF WASHOE CITY, NEVADA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 504,576, dated September 5, 1893.

Application filed November 26, 1892. Serial No. 453,216. (No model.)

To all whom it may concern:

Be it known that I, JAMES LEE GREGORY, of Washoe City, in the county of Washoe and State of Nevada, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in fire escapes designed for greater simplicity of construction and certainty of operation and by the use of which persons on any floor of a burning building can be easily rescued by the help of those on the street.

A further object of my invention is that it can be instantly adjusted, and by its manner of construction, it is impossible for accidents to occur while the occupants of the building are being rescued.

Other objects and advantages of the invention will appear in the following description in which I have set forth fully the details of construction and the essential features thereof and illustrated them in the accompanying drawings in which similar letters of reference designate corresponding parts.

Figure 1 is a side elevation of my invention attached to a building. Fig. 2 is a front elevation of the same. Fig. 3 is a section through the line xx Fig. 1. Fig. 4 is a section through the line yy Fig. 1. Fig. 5 is a section through the line zz Fig. 2, and Figs. 6 and 7 are details.

Secured to the upper part of the building 1 by suitable secure means is the projecting frame work 2 which is intended to support the bearings 3 for the rollers 4 over the latter of which pass the ascending and descending cables 5 which support the cage 6.

Just above the side-walk and secured to the building in a position directly beneath the frame-work 2 is the casing 7 through the center of which passes the shaft 8 to the middle of which is secured the drums 9 about which the ends of the cables 5 are wound.

To prevent the cage 6 from swinging outward from the building I have supplied the guides or tracks 10 which extend the whole height of the building, and which are adapted

to receive the guides 11 which are in turn secured to the cage 6.

At both sides of the central drums 9 and about the shaft 8 are situated a series of spiral springs 12 one end of each of which is secured to the shaft while the other end is secured to a stationary part of the outer casing 7. The cables 5 are wound about the central drums 9 in such a manner that when the cage 6 descends the spiral springs 12 are wound up and consequently when the cage ascends the springs are unwound. It will be readily seen that after the cage has descended with several occupants, the power accumulated in the springs will be amply sufficient to raise the empty cage to the required height.

I do not desire to confine myself to any particular number of springs encircling the shaft 8 as the number is regulated by the weight of the cage and when it is desired that a person should ascend to a particular story, the number of springs desired to raise this added weight will be necessarily increased.

To regulate the rapidity of descent of the cage and to stop the cage at any desired story of the building, I have constructed two secondary drums 13 one on either side of the central drums 9, and over which pass the steel bands 14, shown in Fig. 7, one end of each of which is secured to the casing 7, while through the other end passes the binding screw 15, the threaded end of which passes through the casing 7 while its other end terminates in the wheel 16. It will be readily seen that when the end of the band 14 is forced toward the casing 7, thereby increasing the friction between the band and drum the rapidity of descent of the cage is decreased.

As will be seen from the accompanying drawings, I have constructed the shaft 8 in three sections, united by means of the serrated sleeves 17 which are secured to the ends of the sections. At the ends of the casing 7 are pivoted levers 18 one end of which terminates in a fork one prong of which passes over while the other passes under a flanged sleeve 19 secured to the shaft 8.

When it is desired to disengage from the central drums the power of the springs on

either or both sides, the levers at the end of the casing are moved toward each other, thereby disengaging from each other the serrated sleeves 17, and allowing the drums 9 to
5 revolve independent of the springs 12.

In order to impart to the springs the necessary tension or coil I have supplied the crank 20 which is adapted to engage with the projecting end of the shaft 8, which is locked
10 in the required position and thereby prevented from revolving by means of the cog wheel 21 and sliding locks 22 which are situated in suitable supports at the end of the casing 7.

15 The cage 6 which is constructed of a net work of wire or other suitable material is lined with a non-combustible material such as mica, and to prevent the flames issuing from the windows of the building, from entering the cage I have supplied the doors 23
20 and 24 shown in Fig. 6.

The construction and arrangement of the several parts of my fire escape being thus made known, the operation and advantages
25 of the same will it is thought be readily understood.

I am aware that changes in the form and proportion of parts of the devices herein shown and described as an embodiment of my invention can be made without departing from
30 the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

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

1. A fire escape consisting of a cage, one or more cables secured to said cage and passing
40 over suitable pulleys or rollers situated in a suitable support secured to a building at a point above the top window thereof, the other ends of said cables being wound about one or more drums secured to a sectional shaft having bearings in a frame work secured to said
45 building near the base thereof, said shaft being encircled by one or more spiral springs substantially as and for the purpose set forth.

2. A fire escape consisting of a cage, one or
50 more cables secured to said cage and passing over pulleys or rollers situated in a suitable support secured to a building at a point near the top thereof, the other ends of said cables being wound about one or more drums secured to a sectional shaft having bearings in
55 a frame work secured to said building near the base thereof, said shaft being connected to one or more spiral springs which encircle it, and means for regulating the speed of revolution of said shaft, said means consisting of one or more bands of metal passing partly
60 around one or more drums secured to said

shaft and means for regulating the amount of friction between said bands and said drums substantially as and for the purpose set forth. 65

3. A fire escape consisting of a cage, one or more cables secured to said cage and passing over pulleys or rollers situated in a suitable support near the top of a building, the other ends of said cables being wound about one or
70 more drums secured to a shaft having bearings in a frame work secured to said building near the base thereof and directly beneath the support for said pulleys, said shaft being formed in sections and having means
75 for moving the end sections connected to one or more spiral springs which encircle it, parallel guides secured to said building and extending upward from said frame work to said support and projections on said cage adapted
80 to slide in said guides substantially as and for the purpose set forth.

4. A fire escape consisting of a cage lined with a non-combustible material, one or more cables secured to said cage and passing over
85 pulleys situated in a suitable support near the top of a building, the other ends of said cables being wound about one or more drums secured to a shaft having bearings in a frame work secured to said building near the base
90 thereof, said shaft being connected to one or more spiral springs which encircle it, said shaft being formed in three sections, a serrated sleeve secured to each end of said sections and means for causing the end sections
95 to move toward or from said central section substantially as and for the purpose set forth.

5. A fire escape consisting of a fire proof cage, one or more cables secured to said cage and passing over pulleys having bearings in
100 a suitable support near the top of a building, the other ends of said cables being wound about one or more drums secured to a shaft having bearings in a frame work secured to said building near the base thereof, said shaft
105 being composed of three sections the central section bearing said drums and the end sections being secured to and encircled by one or more springs and means for connecting and disconnecting said end sections with and
110 from said central section, a locking wheel secured to one end of one of said end sections and a lock adapted to engage with the teeth of said locking wheel, and a crank adapted to fit on a projecting end of one of said end
115 sections substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES LEE GREGORY.

Witnesses:

T. N. MARKER,
F. M. LEE.