

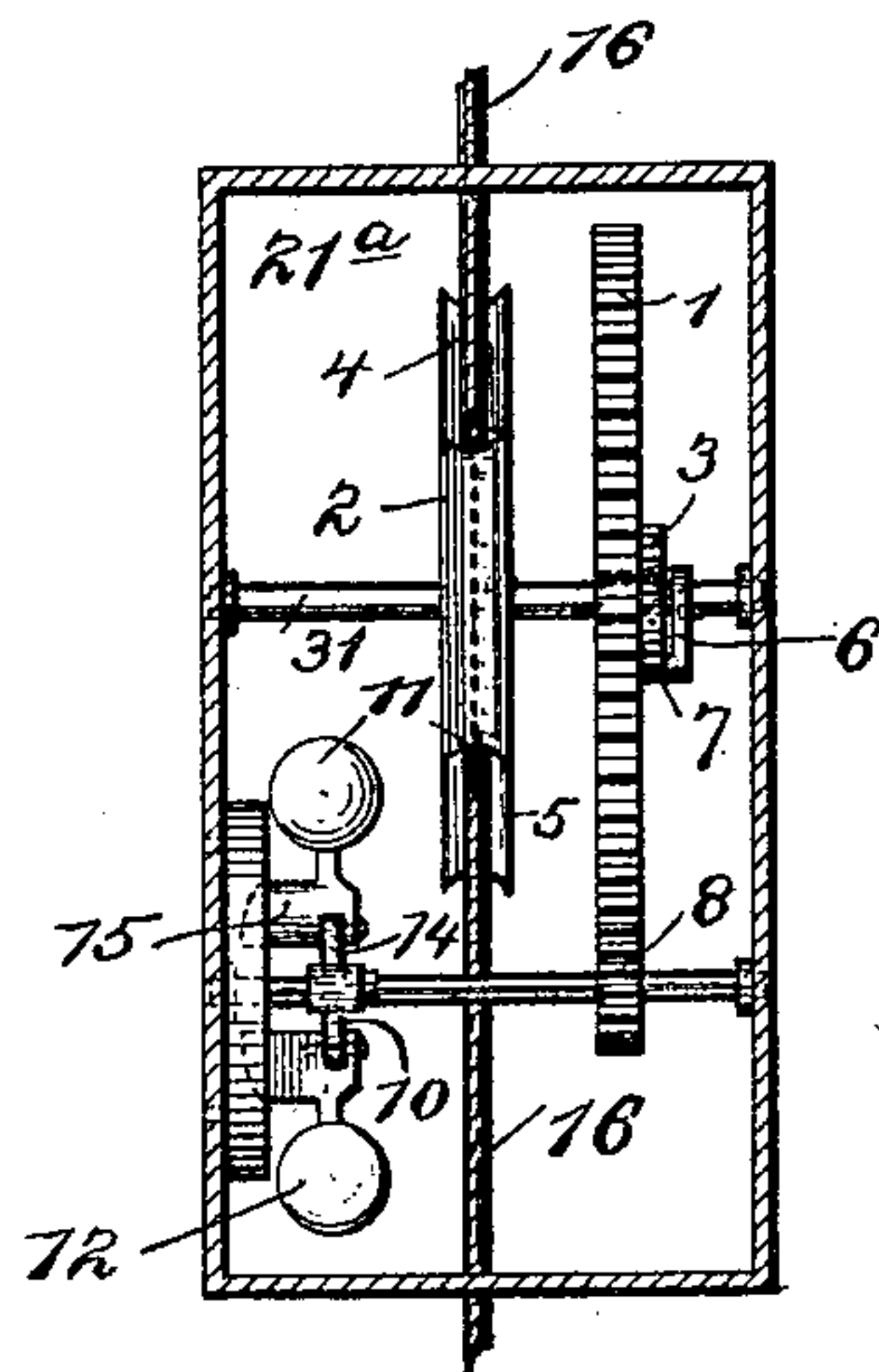
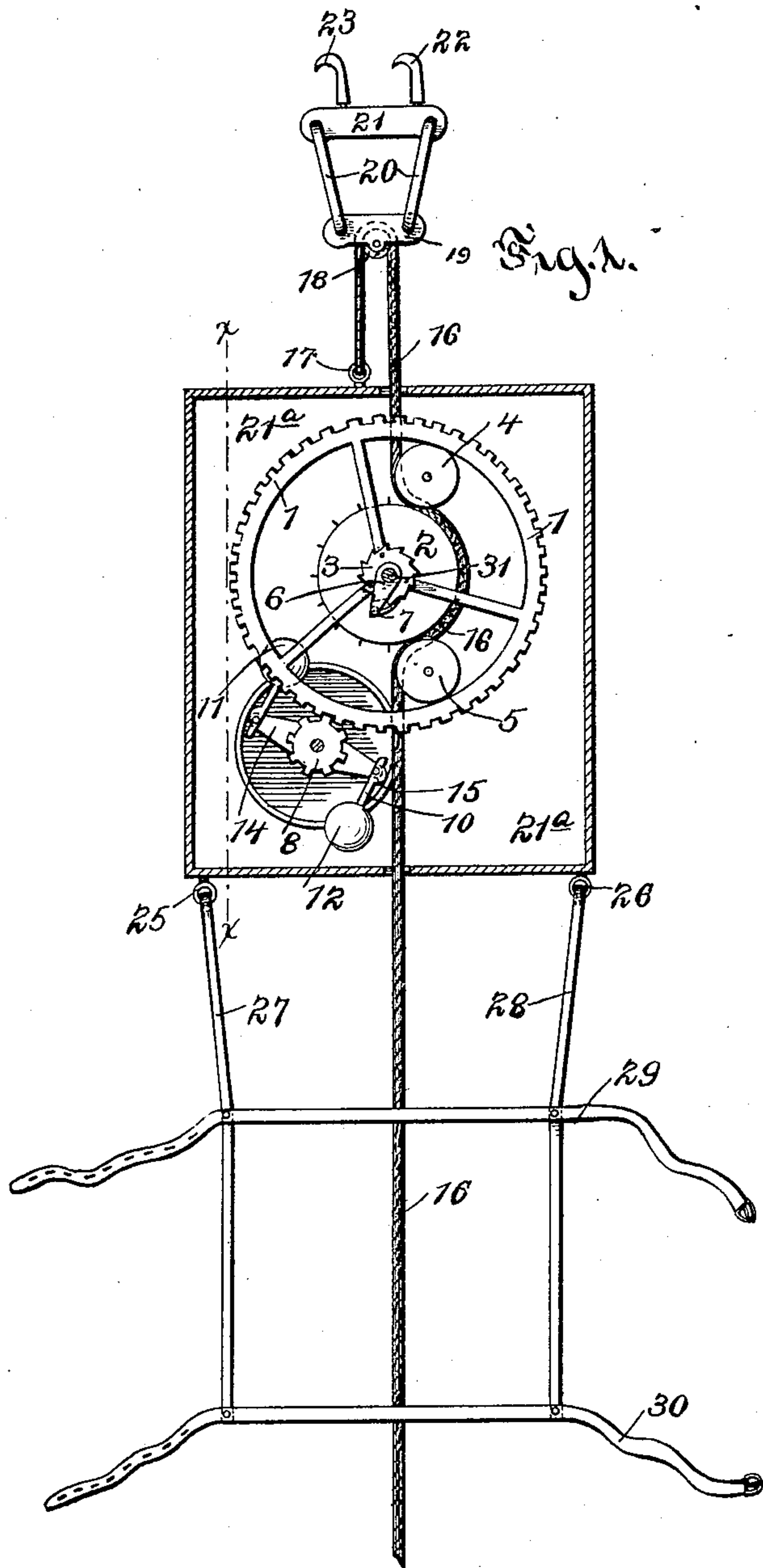
No. 631,968.

Patented Aug. 29, 1899.

D. B. REES.  
FIRE ESCAPE.

(Application filed Nov. 23, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

DANIEL B. REES, OF UNION, OREGON.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 631,968, dated August 29, 1899.

Application filed November 23, 1898. Serial No. 697,298. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL B. REES, a citizen of the United States, residing at Union, in the county of Union and State of Oregon, have invented a new and useful Fire-Escape, of which the following is a specification.

My invention relates to improvements in fire-escapes by means of which a person can escape from a burning building by letting himself down or being let down by another person from the windows or other openings of the building to the ground or place below, the object being to provide a small, portable, and safe means of escape from a burning building. I attain this and other objects by the construction, parts, arrangement and combination of parts hereinafter described, and particularly set forth in the claims.

In the accompanying drawings, wherein I have illustrated one form of my invention, Figure 1 is a vertical section showing parts in elevation, and Fig. 2 is a transverse vertical section on the line *xx* of Fig. 1.

Referring to the drawings, Number 1 is a large geared driving-wheel moving freely upon the shaft numbered 31, the cogs or teeth upon the outer edge of this wheel being used to drive the "governor" by means of the smaller toothed wheel numbered 8.

Number 2 is a grooved wheel over which the rope numbered 16 passes. In the groove of this wheel are placed a number of sharp pins pointing outward, which penetrate the rope as it passes around the wheel to prevent its slipping and to insure traction of the mechanism. This grooved wheel is permanently fixed to the shaft numbered 31, which is mounted in suitable bearings on the inclosing box or frame 21<sup>a</sup>.

Number 3 is a ratchet-wheel permanently fixed to the geared wheel numbered 1 and moving freely upon the shaft numbered 31.

Number 6 is a ratchet-lever permanently fixed to shaft 31.

Number 7 is a pawl fastened to the ratchet-lever numbered 6 and used to drive ratchet-wheel numbered 3.

Numbers 4 and 5 are identical, being small grooved guide-wheels used to guide the rope 16 in the groove of number 2.

Numbers 8, 9, 10, 11, 12, 13, and 14 consti-

tute parts of the governor by which the speed of the machine is regulated.

Number 8 is a small gear-wheel permanently fixed to the cross-arm numbered 14 and by means of which said cross-arm is made to revolve.

Numbers 9 and 10 are arms pivoted at one end to the outer ends of the cross-arms 14 and upon the other ends of which are fastened the balls of the governor.

Number 13 is a band in a circular form permanently fastened to the back side of the box inclosing the mechanism. On the outside and near the pivot of the bars 9 and 10 are brake-blocks which come in contact with the inside of the circular band 13 at the point indicated by number 15 in such a manner that when the governor revolves the centrifugal force of the balls of the governor force them against said band 13, causing friction and regulating the speed of the machine.

Number 16 is a rope which passes through the mechanism and over the pulley 18 and attached to the box inclosing the mechanism at 17, or it may be fastened directly to the piece numbered 19.

Number 19 is a bar containing the pulley 18, over which the rope 16 passes.

Numbers 20, 21, 22, and 23 are a contrivance by which the machine may be fastened to the window-casings or other places by means of the hooks 22 and 23. The bar 21 may or may not be used. 20 20 are flexible cords.

Numbers 27, 28, 29, and 30 are parts of a contrivance made of leather straps or other materials for attaching the machine to the person making his escape from the fire. These straps are attached to the box at 25 and 26 and fastened to the body of the person by passing the straps 29 and 30 around the body and fastening them by buckles or otherwise.

The ratchet-wheel 3, lever 6, and pawl 7 are used to admit of the apparatus when it has reached the ground of being again elevated to the top by means of a rope 16, thereby enabling the machine to be used repeatedly.

The whole apparatus may be so small as to admit of its being carried in a hand-grip or valise. A person uses this machine by first fastening the hooks in the inside of the win-



dow-casing or other place, so as to afford a permanent fastening, fastens the straps 29 and 30 around him, and then descends. His weight draws the mechanism downward, and  
 5 pulling the rope 16 through the machine operates the mechanism on the inside of the box. As the speed increases the friction of the governor-brakes increase, checking the speed and thereby preventing a too-rapid de-  
 10 scent.

By the term "rope" as used in the specification and claims it will be understood that I mean any flexible member, such as a rope proper, cable, chain, or other suitable member.

15 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a fire-escape, the combination of a frame, a support on a structure, a pulley rotatably mounted in said frame, a rope at-  
 20 tached to said frame passing over said support and down over said pulley and extending below the frame, a governor, and mechanism operated by said pulley for actuating said governor, substantially as described.

25 2. In a fire-escape, the combination of a frame, a support on a structure, a pulley rotatably mounted on the frame, a rope secured to said frame and passing over said support

and back over said pulley and extending be-  
 low the frame, mechanism adapted to be op- 30  
 erated by said pulley, and a governor actuated by said mechanism, said pulley adapted to turn in one direction without operating said mechanism, substantially as described.

3. In a fire-escape, the combination of a 35  
 frame, a support on a structure, a pulley rotatably mounted in said frame, a rope attached to said frame and passing over said support and back over said pulley, a gear operated by said pulley, and a governor operated by said 40  
 gear, substantially as described.

4. In a fire-escape, the combination of a 45  
 frame, a support on a structure, a pulley rotatably mounted on the frame, a rope attached to the frame and passing over the said support and back over said pulley, a rotatable 50  
 shaft on which said pulley is fixed, a gear loose on said shaft, a ratchet-wheel loose on said shaft, a pawl-lever fixed on said shaft, a pawl carried by said lever, and a governor 50  
 operated by said gear, substantially as described.

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