

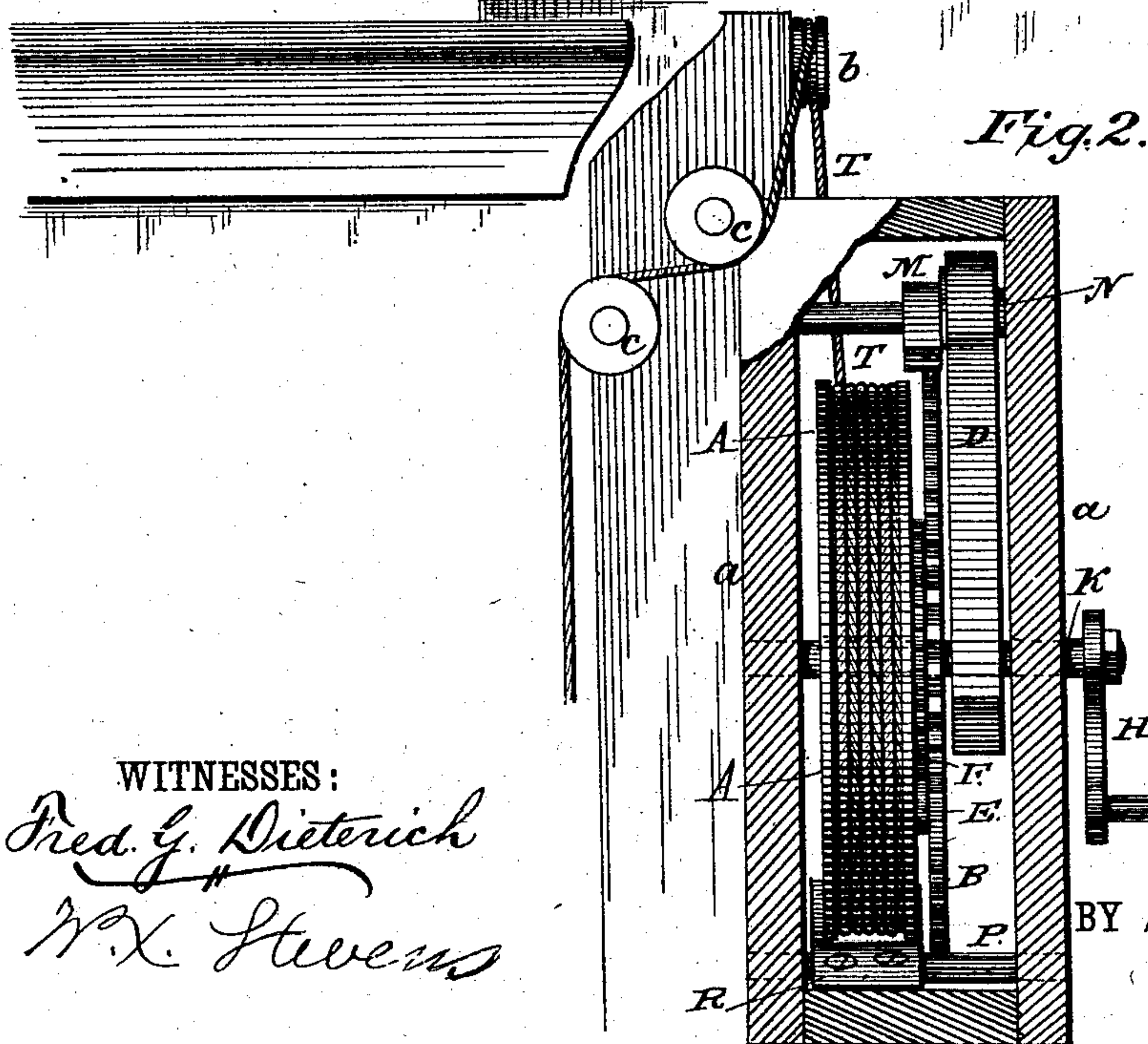
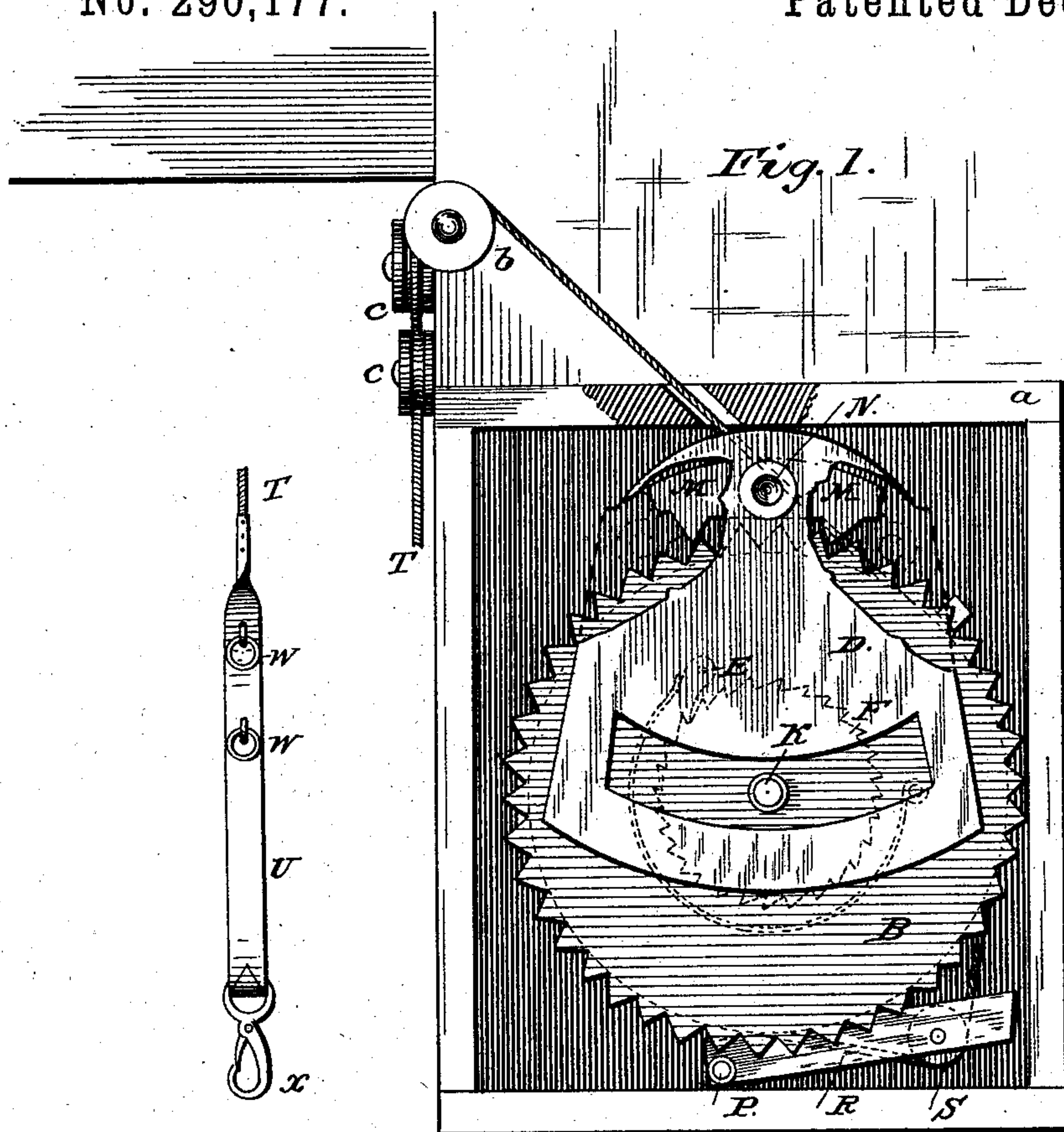
(No Model.)

J. M. CUNNINGHAM.

## FIRE ESCAPE.

No. 290,177.

Patented Dec. 11, 1883.



**WITNESSES :**

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Fred. G. Dieterich  
W. L. Stevens

**INVENTOR:**

BY *J. M. Cunningham*  
*Wm. F. C.*

**ATTORNEYS.**



# UNITED STATES PATENT OFFICE.

JOHN MINER CUNNINGHAM, OF FLORA, ILLINOIS, ASSIGNOR OF ONE-THIRD  
TO THOMAS BLANCHARD, OF SAME PLACE.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 290,177, dated December 11, 1883.

Application filed March 29, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MINER CUNNINGHAM, a citizen of the United States, residing at Flora, in the county of Clay and State of Illinois, have invented a new and Improved Fire-Escape, of which the following is a specification.

My invention relates to that class of fire-escapes which are attached to or permanently secured in the upper portion of houses to lower persons or merchandise from the windows thereof to the ground outside the house; and it has for its object to provide means whereby the descent of the person will be automatically governed to a safe speed, and whereby the device may be repeatedly used.

To this end the invention consists in the construction and combination of parts, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of my invention attached to a window-casing, the front plate being removed and other parts broken away to show the interior. Fig. 2 is a side elevation of the same.

*a* represents the frame of my fire-escape, which is to be secured to the inside wall of a building, near a window and about three feet from the floor. A frame about two feet square and seven inches thick would answer, and such will be taken as the proportions of the machine here described.

*A* represents a double-flanged wheel or drum about eighteen inches in diameter, having a rope, *T*, wound thereon by means of a crank, *H*, and a shaft, *K*, on which said drum is secured. One end of rope *T* is secured to the drum, and the other end, passing over pulleys *b* and *c* out of the window, is provided with any suitable appliances to hold persons or merchandise.

The device I prefer for this purpose is a girth or belt, *U*, secured at one end to the rope *T*, and having a snap-hook, *X*, at its other end, and two or more rings, *W*, secured to said belt at different distances from the hook. The person wishing to descend will pass the belt *U* around his body close under his arms,

and hook the hook *X* into the ring *W*, suiting his size, with the rope *T* in front of him. He will then climb out of the window backward and descend by his own weight, having his hands and feet free to push himself away from any projections on the house.

To regulate the speed of descent, I have devised mechanism to check the drum *A* from revolving too rapidly. To this end *B* is a toothed wheel turning freely on shaft *K*, and having a pawl, *E*, which engages the teeth of a ratchet-wheel, *F*, which is secured to the drum *A*.

*D* is a heavy strong pendulum, pivoted to swing at *N*, and provided with leaves *M*, engaging alternately the teeth of wheel *B*, forming an anchor-escapement.

To economize space, and at the same time to furnish room for a very broad heavy pendulum, I slot the pendulum *D*, to swing freely over the main shaft *K*. When but light weight is attached to rope *T*, this escapement is sufficient to control the speed of descent, and it may be used alone for that purpose; but I prefer to use in connection therewith a brake, *R*, on drum *A*. This brake is pivoted at *P* to swing against and bear upon the flanges of drum *A*. *S* is a roller journaled in the brake. Over this roller the rope *T* passes on its way around the drum, and any strain on the rope transmits a proportional pressure to the flanges of the drum through the brake *R*. The rope is brought in contact with the drum again after passing under roller *S*, in order that the first tendency of a weight on the rope may be to rotate the drum rather than to apply the brake, as would be the case if the rope hung directly from the brake. By this means a heavy person or other weight, while depending upon rope *T*, will so balance itself as to start to descend at a safe speed; but as gravity is constantly acting, an increased speed would be acquired in descending from a great height that would be dangerous. I have therefore combined the timing escapement with the self-acting brake as most suitable for all occasions.

One person at the crank *H* may wind up the rope *T* any number of times after others have

descended, and he may finally descend when it is no longer safe to stay.

The machine requires no attention while a descent is being made, it being in that respect  
5 automatic in its action.

I am aware that fire-escapes similar to mine have been patented, and I do not claim the same, broadly.

What I claim as my invention is—

10 The combination, with the drum A, having flanged edges, the rope T, adapted to be wound

thereon between said flanges, and the crank H, of a brake, R, bearing on the flanges of drum A, the pulley S, mounted in said brake, said rope T passing around the drum, thence 15 under pulley S, thence back onto the drum, thence over pulleys out of a window, as shown and described.

JOHN MINER CUNNINGHAM.

Witnesses:

GEORGE McENDREE,  
THOS. BLANCHARD.