(No Model.)

C. A. YOUNGMAN.

FIRE ESCAPE.

No. 288,149. Patented Nov. 6, 1883.

Fig. 1.

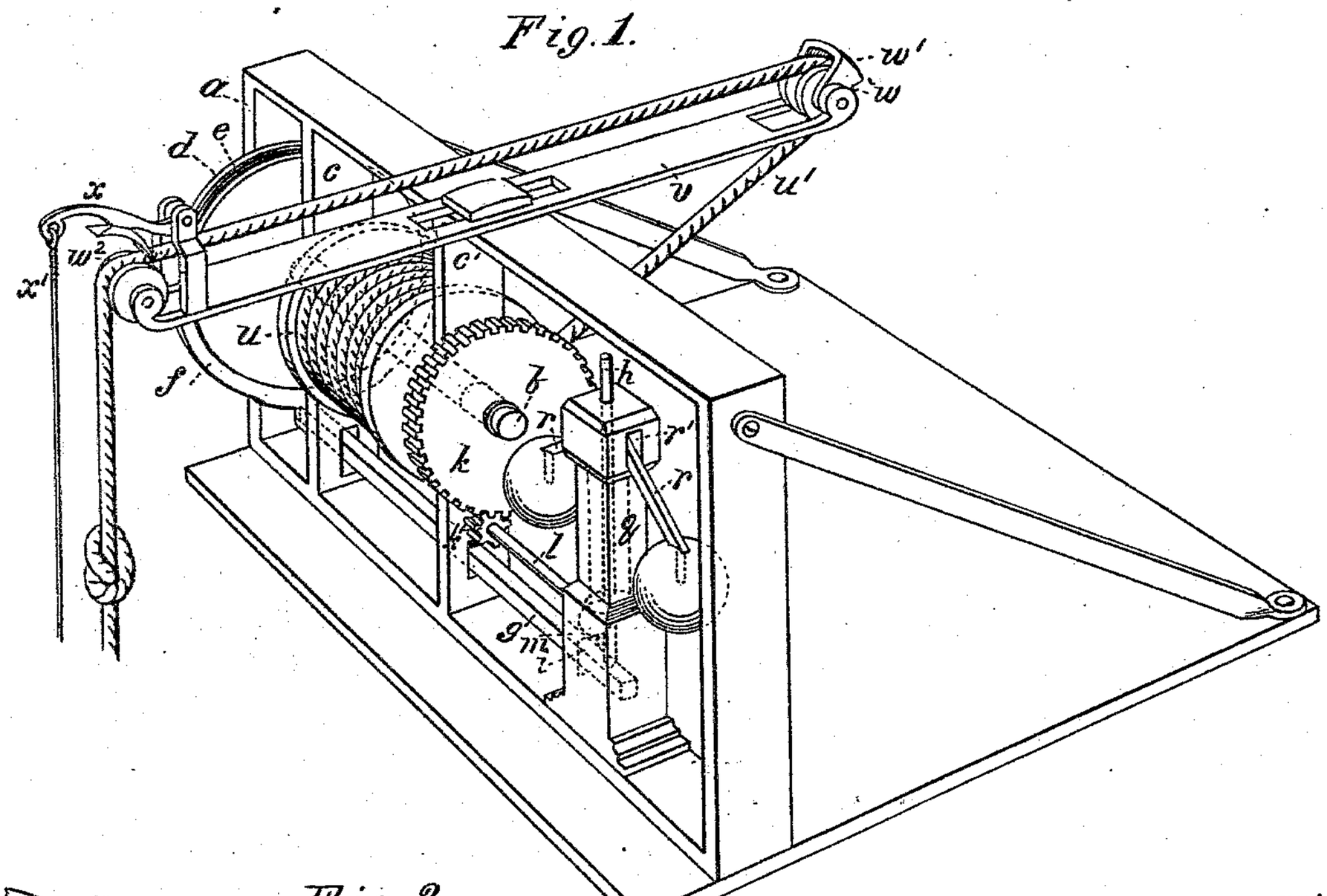
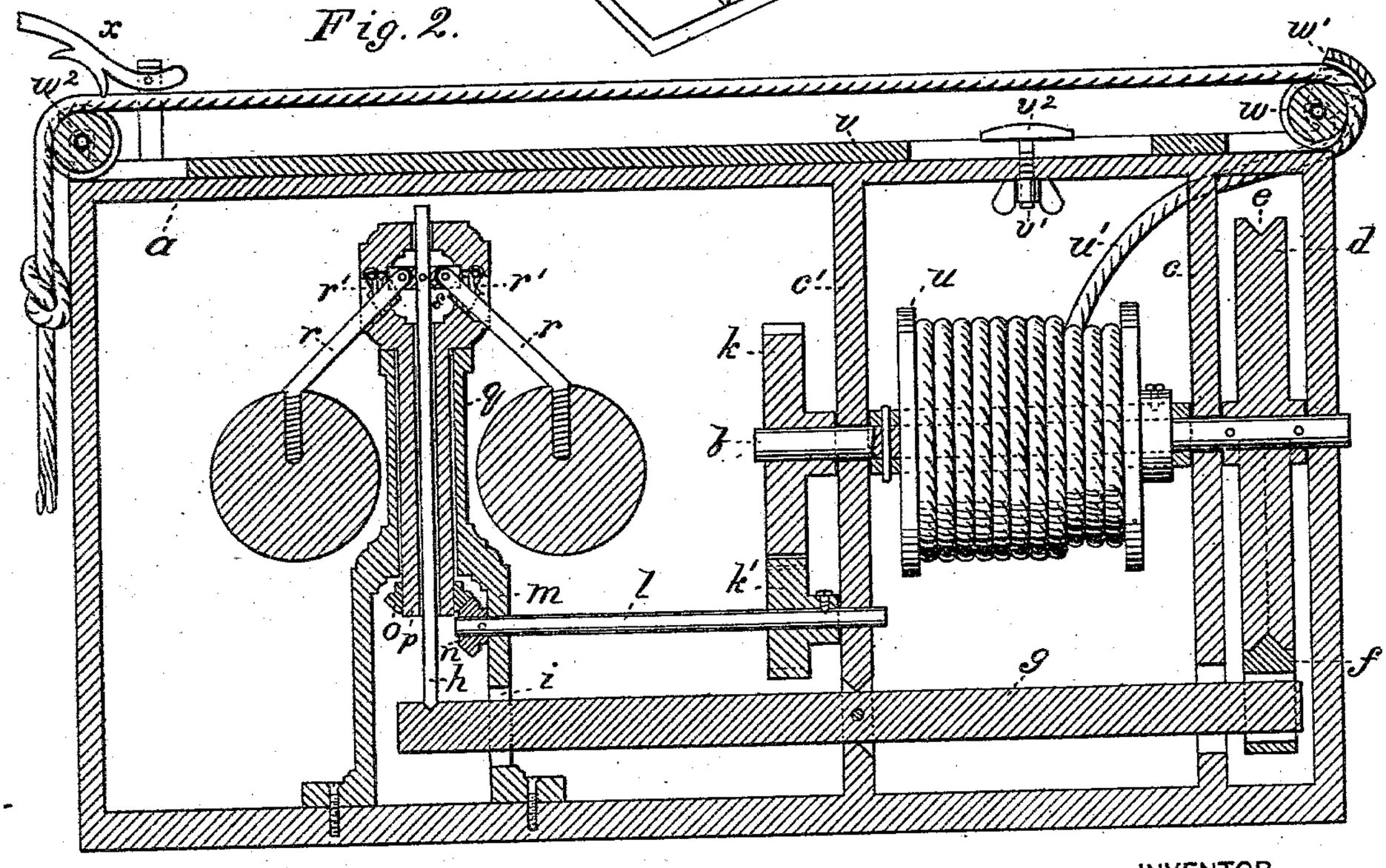


Fig. 2.



WITNESSES

Villette Anderson.
John T. Morton

INVENTOR

Charles A. Youngman
by Anderson & Smith
his ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES A. YOUNGMAN, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF TO JOSEPH W. FOWLER, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 288,149, dated November 6, 1883.

Application filed August 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, C. A. YOUNGMAN, a citizen of the United States of America, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Fire-Escapes; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and is a perspective view. Fig. 2 is a longitudinal section.

This invention has relation to fire-escapes; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claim appended.

The object of the invention is to lower any desired weight within the capacity of the fire-escape at an almost uniform rate of speed, to be known before the descent is attempted, so that a person or persons may be lowered from the window of a burning building in perfect safety.

Referring by letter to the accompanying drawings, *a* designates the frame of the machine, which is rectangular in form, from two to two and one-half feet in length by one to one and a half feet in height, and six to nine inches in width. *b* designates a shaft provided with bearings in one end of the frame *a*, and also in the uprights *c c'*, as shown. This shaft *b* is provided at one end with the brake-wheel *d*, which has a double-inclined groove, *e*, in its periphery, into which a brake-shoe, *f*, fits, having a face to fit the groove *e*, thereby giving a broad bearing-surface for the brake-shoe *f*, which is secured on the upper face of a brake-lever, *g*, at one end. The brake-lever *g* is fulcrumed in a slot in the upright *c'*, and its power end engages the shaft *h* of the governor after passing through a slot, *i*, in the governor-frame.

The inner end of the shaft *b* is provided with a gear-wheel, *k*, which meshes with a pinion, *k'*, upon a horizontal shaft, *l*, having its bearings in the upright *c'*, and in the inner wall, *m*, of the governor-frame. The shaft *l* carries at its inner end a miter gear-wheel, *n*, which engages a miter gear-wheel, *o*, on the lower end of the hollow shaft *p*, which works in the sleeve *q* on the governor-frame.

The governor-arms *r* pass through slots *r'* at opposite sides in the governor-head, and are pivoted to the ends of a cross-arm, *s*, in the head of the sleeve *q*, and rigidly secured to the vertical shaft or spindle *h*, so that when the governor is operated the governor-balls will raise the arms and depress the shaft *h*, which, bearing on the brake-lever, will cause the brake-shoe to bear against the brake-wheel.

u designates a spool on the shaft *b*, upon which the rope *w'* is wound, and passes under and over a pulley, *w*, having a guard, *w'*, at one end of the slotted bar *v*, which is secured to the frame by a bolt and thumb-nut, *v' v²*, so that it can be turned at right angles to the frame and secured in place thereon when the descent is to be made. The end of this slotted bar *v* that is to be turned out of the window is also provided with a pulley, *w²*, over which the rope runs.

A choke-brake, *x*, having a cord, *x'*, by which to apply the brake at any time during the descent of the person or persons at the end of the rope, is provided at the projecting end of the bar *v*, so that the descent may be stopped entirely by the occupant of the receptacle that may be used at the end of the rope, if it is deemed necessary. After the parts have been adjusted so that the maximum speed desired is known, this speed cannot be noticeably increased or diminished during the descent unless by applying the choke-brake, even if the weight be increased or diminished, as the greater the weight the more power will be applied through the governor to the brake, so that the weight and power applied will be equalized.

The machines may be made either stationary or portable, and are cheap, simple, and safe.

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

In a fire-escape, the combination, with the frame *a* and shaft *b*, having the brake-wheel

d, with double-inclined peripheral groove *e*, the spool *u*, and the gear-wheel *k*, of the horizontal shaft *l*, having the pinion *k'* and miter gear-wheel *n*, the hollow shaft *p*, having the miter-gear *o* at its lower end, and the slotted governor-head above the governor-arms *r*, working in the slots in the governor-head, and pivoted to the cross-arm *s* of the shaft *h*, the lower end of which engages the brake-lever *g*, carrying the brake-shoe *f*, and the rope *u'*, running over the pulley *w* and w^2 on the slotted bar *v*, secured to the frame *a*, and having the choke-brake *x* and operating-cord *x'*, substantially as specified.

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

CHARLES A. YOUNGMAN.

Witnesses:

F. V. SIMMS,

WARREN MITCHELL.