

No. 689,703.

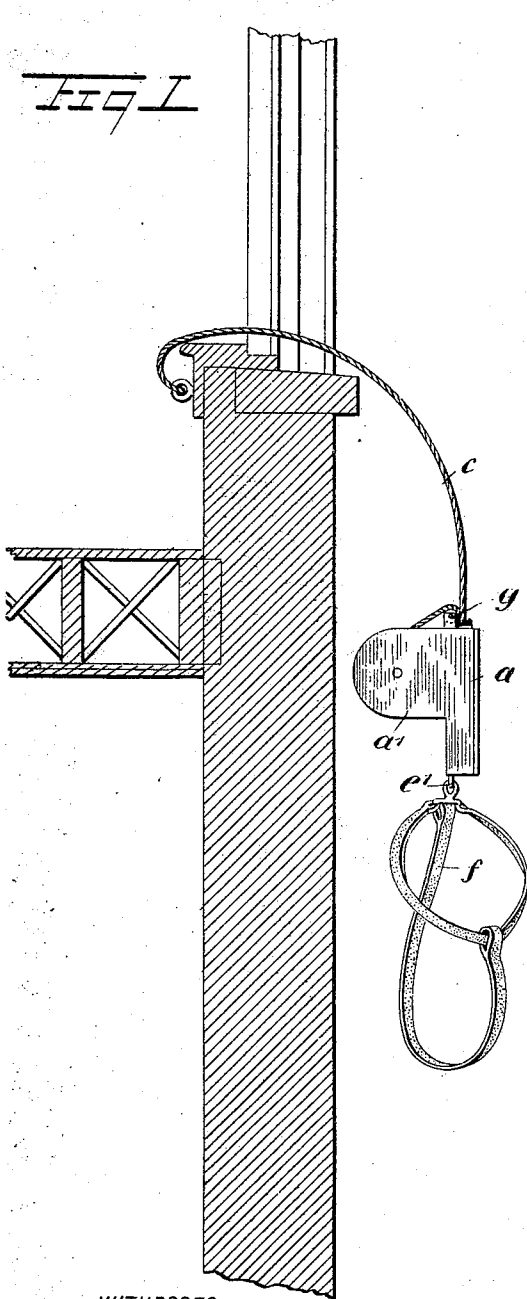
Patented Dec. 24, 1901.

T. T. BROWN.
FIRE ESCAPE.

(Application filed Apr. 3, 1901.)

(No Model.)

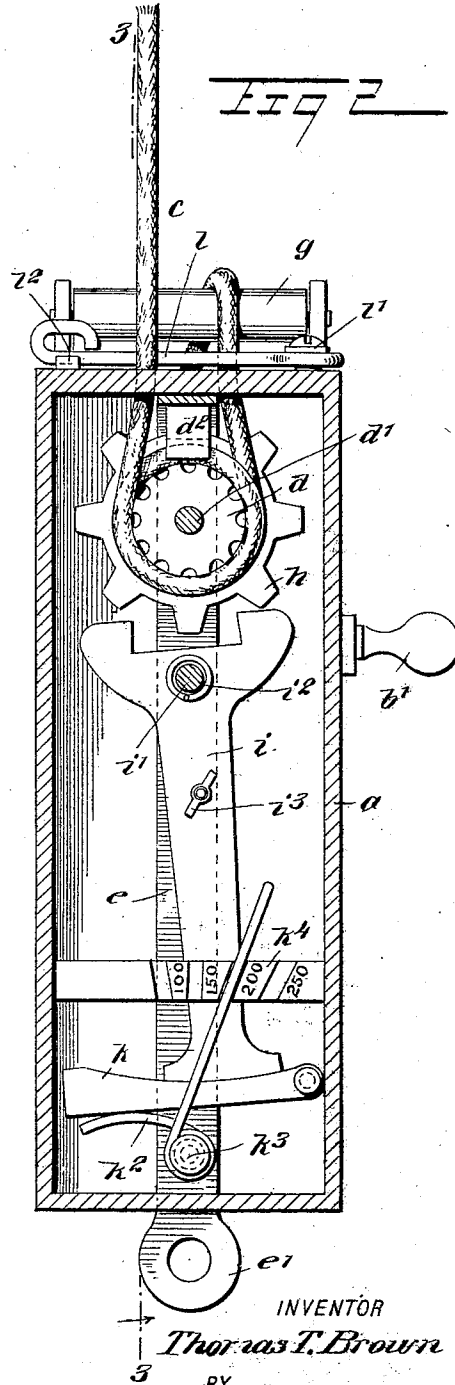
2 Sheets—Sheet 1.



WITNESSES:

B. Walker

J. B. Owens.



INVENTOR

Thomas T. Brown

BY

~~ATTORNEYS~~

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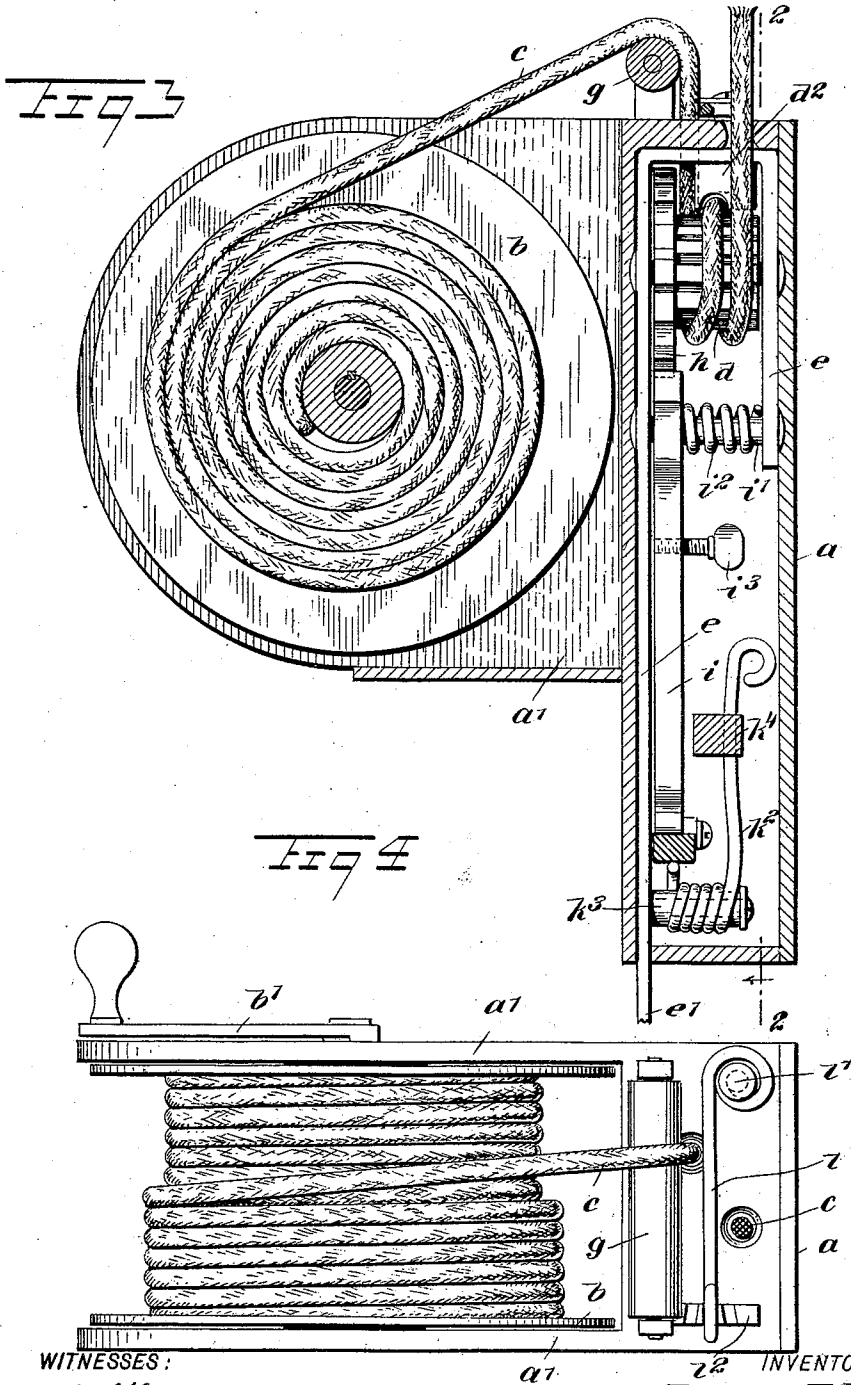
Patented Dec. 24, 1901.

T. T. BROWN.
FIRE ESCAPE.

(Application filed Apr. 8, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

THOMAS T. BROWN, OF ANGUS, MINNESOTA, ASSIGNOR OF FIFTY-ONE ONE-HUNDREDTHS TO JOHN F. MONTGOMERY, OF ANGUS, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 689,703, dated December 24, 1901.

Application filed April 3, 1901. Serial No. 54,134. (No model.)

To all whom it may concern:

Be it known that I, THOMAS T. BROWN, a citizen of the United States, and a resident of Angus, in the county of Polk and State of Minnesota, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to a fire-escape of that class in which a coil of rope is held in a suitable casing or other device and is associated with mechanism for causing the rope to run slowly out of the casing, so that by fastening the outer end of the rope a person may connect himself to the casing and gradually descend from the building.

The invention resides in certain novel features of construction, which will be fully described hereinafter.

This specification is a specific description of one form of the invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all of the views.

Figure 1 is a view showing the invention applied to a building. Fig. 2 is a sectional elevation on the line 2 2 of Fig. 3. Fig. 3 is a sectional elevation on the line 3 3 of Fig. 2, and Fig. 4 is a plan view of the device.

a represents the casing or framing of the device, which may be of any desired form and provided with a suitable door for permitting access to the interior of the casing.

a' represents a holder for the reel *b*, on which is wound the rope *c*, one end of the rope being fastened permanently to the reel, and the other end of the rope being adapted to be attached to a building, as indicated in Fig. 1.

Within the casing *a* is arranged a corrugated roller *d*, which turns around a pin *d'*. This pin is held in a frame-bar *e*, fastened within the casing and having one end projected downward beyond the same, such end terminating in an eye *e'*, to which is adapted to be secured a suitable harness *f* (see Fig. 1) for sustaining a person. The rope *c* passes off of the reel *b* and over a guide-roller *g*, mounted outside of the casing, at the top thereof. The rope then passes down into the cas-

ing and around the roller *d*, from which the rope passes back out of the casing, so that it may be adapted to be played. Held by the frame-bar *e* at a point above the roller *d* is a block *d²*, which serves to guide the rope in passing around the roller.

Attached to and turning with the roller *d* is a spur-gear *h*, and this spur-gear works with an escapement-bar *i*, fulcrumed on a pin *i'*, held in the frame-bar *e* and pressed toward the frame-bar by an expansive spring *i²*, which surrounds the pin *i'* and bears against the escapement-bar *i* and the short leg of the frame-bar *e*. The movement of the rope through the casing causes the roller *d* to turn, and this drives the spur-gear *h*. The movement of the escapement spur-gear *h* causes the escapement-bar *i* to rock, and the action of the escapement-bar insures a uniformly slow rotation of the roller *d*, and consequently a slow movement of the rope through the casing. If desired, a set-screw *i³* may be attached to the escapement-bar *i*, and by engaging this screw with the frame-bar *e* the movement of the escapement-bar may be retarded. I also provide a brake *k* for retarding the movement of the escapement-bar. This brake is pivotally mounted in the lower portion of the casing *a* and bears on the lower end of the escapement-bar. For pressing the brake against the escapement-bar a spring *k²* is provided. This spring is coiled around a pin *k³* on the frame-bar *e* and has one end engaged with the brake. The other end is adapted to engage with a notched or ratchet bar *k⁴*, held in the casing. By adjusting the position of the said other or second-named end of the spring on the bar *k⁴* the tension of the spring may be regulated, and the force with which the brake-shoe engages the escapement-bar may be increased or diminished at will. Preferably the notches in the bar *k⁴* are numbered, (see Fig. 2,) so as to show the various adjustments of the spring. In the drawings these notches are numbered "100," "150," "200," "250," and in practice I would arrange the parts so that by placing the end of the spring in the "100" notch the apparatus would be adjusted for the descent of a person weighing one hundred pounds. By

placing the spring in the "200" notch a two-hundred-pound person could descend, and so on according to the same principle.

In the use of the invention the rope is wound 5 around the reel *b*, and the casing *a*, with the attached parts, is thrown out of the window. A person seated in the harness *f* will cause the casing to move down, and the rope will run off of the reel and around the roller *d*, the 10 escapement device and its adjuncts limiting the speed of the rope, so that the person gradually descends. When the person has descended and the casing lies on or near the ground, it may be again hauled up to the 15 building by a person above and the rope wound onto the reel, whereupon the fire-escape may again be used. For facilitating winding the rope on the reel *b* I provide a handle *b'*, as shown. For further regulating 20 the frictional resistance offered to the passage of the rope through the casing I provide a spring-brake *l*. This brake is in the form of a spring-bar attached to the top of the casing by a pin *l'* and the free end of the brake being held adjustably in a notched bar *l''*. This 25 brake serves to guide the rope as it passes over the roller *g*, and by regulating the position of the spring additional friction may be caused, thus to retard the movement of 30 the rope, and, if desired, the spring may be entirely disengaged from the rope, whereupon it will have no effect thereon.

Various changes in the form, proportions, and minor details of my invention may be 35 sorted to without departing from the spirit and scope of my invention. Hence I consider myself entitled to all such variations as may lie within the scope of my claims.

Having thus described my invention, I claim as new and desire to secure by Letters 40 Patent—

1. A fire-escape having a casing, a member revolubly mounted therein and adapted to have a rope engaged therewith, an escape- 45 ment spur-gear moving in time with said revoluble member, an escapement-bar meshed with the escapement spur-gear, and a brake-shoe pressed against the escapement-bar to retard the movement thereof.

2. A fire-escape having a casing, a member 50 revolubly mounted therein and adapted to have a rope engaged therewith, an escapement spur-gear moving in time with said revoluble member, an escapement-bar meshed with the escapement spur-gear, a brake-shoe 55 bearing against the escapement-bar to retard the movement thereof, and an adjustable spring engaging the brake-shoe, to press it against the escapement-bar.

3. A fire-escape, comprising a frame or cas- 60 ing, a member mounted to revolve therein and adapted to have a rope engaged therewith, an escapement spur-gear moving in time with the member, an escapement-bar meshed with the escapement spur-gear, and a rela- 65 tively stationary means frictionally engaged directly with the escapement-bar to retard the movement thereof.

In testimony whereof I have signed my name to this specification in the presence of 70 two subscribing witnesses.

THOMAS T. BROWN.

Witnesses:

J. E. CARPENTER,
DAVID HUGGARD.