(No Model.)

H. F. GAINES.

FIRE ESCAPE.

No. 252,938. Patented Jan. 31, 1882.

Fig. 1.

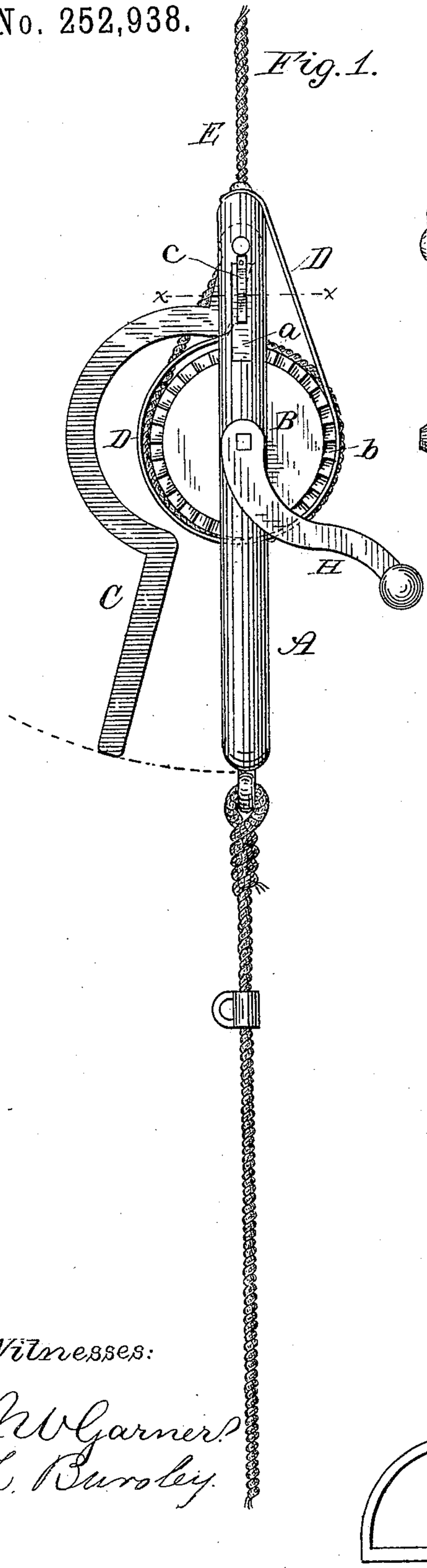

Fig. 2.

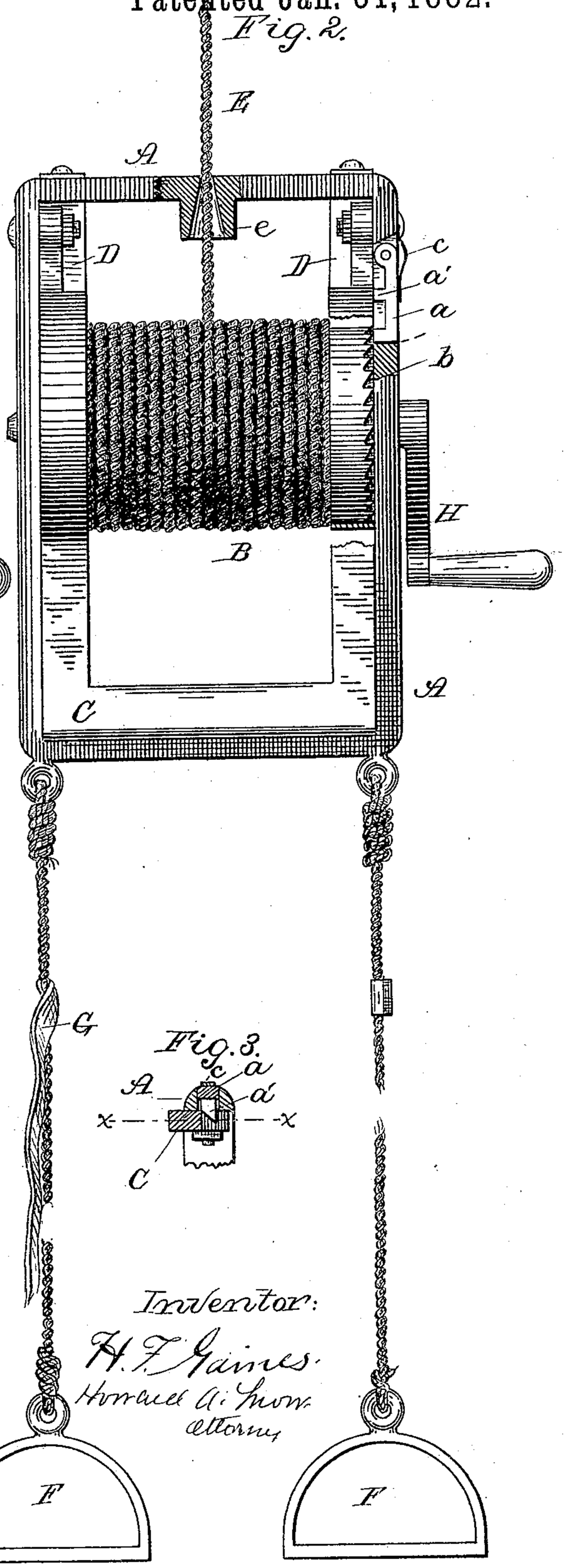

Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

HIRAM F. GAINES, OF ROUSE'S POINT, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 252,938, dated January 31, 1882.

Application filed August 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, HIRAM F. GAINES, a citizen of the United States of America, residing at Rouse's Point, in the county of Clinton and State of New York, 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to fire-escapes; and it consists in the construction and arrangement of its several parts, as will be hereinafter fully set forth.

In the accompanying drawings, which fully illustrate my invention, Figure 1 is a side elevation; Fig. 2, a front view; and Fig. 3, a cross-section upon the line *x x*, Fig. 1, detailing the stopping mechanism.

A is a rectangular iron frame, across which is pivoted the windlass B, as shown.

Pivoted to the inside of the frame, and above the pivotal points of the windlass, is the brake C. It is concaved, as shown, to correspond to the circumference of the windlass, which it embraces.

Secured to the top of the frame A are the brake-springs D. They extend around the ends of and are attached to the brake at a point above the windlass, as shown.

Upon the windlass is the wire rope E. Its free end passes through a beveled pipe, *e*, in the top of the frame, and has attached to it a hook for convenience in securing when in operation.

Let into the ends of the windlass are the ratchets *b*, engaging with the pawls *a*, which operate and are pivoted in slots in the side of the frame, as shown. The pawls have beveled lugs *a'* formed upon them, which are operated upon by the brake, and act to throw the pawls out of the ratchets when pressure upon the brake is made. The spring *c* presses upon the top of the pawls, causing them to engage with the teeth when pressure upon the lugs by the brake is relieved.

Attached to the bottom of the frame is the stirrup F, as shown.

This fire-escape is intended to be carried by travelers, and also to be placed in rooms and hallways in dwellings. In its operation the free end of the rope is attached to any convenient object in the room—as, for example, the bed-post, table, or chairs. The device is then carried out of the window, the feet are placed in the stirrups, and the brake is thrown off, allowing the pawls *a* to engage with the ratchets *b*, rendering it impossible for the machine to descend by its own weight. When the person is ready to descend, by simply increasing the pressure upon the brake the pawls will be forced out and the wire rope will commence to unwind. If at any time it is desired to stop, the brake can be raised, and the pawls, pressed inward by the spring *c*, will engage with the ratchets upon the windlass and stop the machine.

Attached to one end of the windlass is the crank H, by which the wire can be wound upon the windlass after the descent.

Secured to the stirrup is a strap, G, to be buckled around the body, affording additional security to person in the descent.

What I claim is—

1. In a fire-escape, the frame A, having pivoted in elongated slots in its sides the pawls *a*, provided with lugs *a'* and retained in position by the spring *c*, in combination with the cylinder B, having formed around its ends the ratchets *b*, and with the brake-handle C, substantially as set forth.

2. The brake-handle C, curved around the cylinder, as shown, and pivoted to the upper and inner sides of the frame A, operating in combination with the spring D, one end of which is secured to the brake-handle at a point between its pivotal attachment to the frame and the top of the cylinder, and having its other end carried around the cylinder and secured to the top of the frame, as shown.

3. In a fire-escape, the safety stopping device herein described, consisting of the pawls *a*, pivoted in slots in the sides of the frame A, and provided with beveled lugs *a'*, against which operates the brake-handle, as described, said pawls being retained in position by the spring *c* and engaging with suitable ratchets, *b*, formed in the ends of the cylinder B, substantially as set forth.

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

Witnesses: HIRAM F. GAINES.

W. J. OSGOOD,

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