(No Model.)

C. T. SANDS, Jr.

Fire Escape.

No. 239,558. **Patented March 29, 1881.**

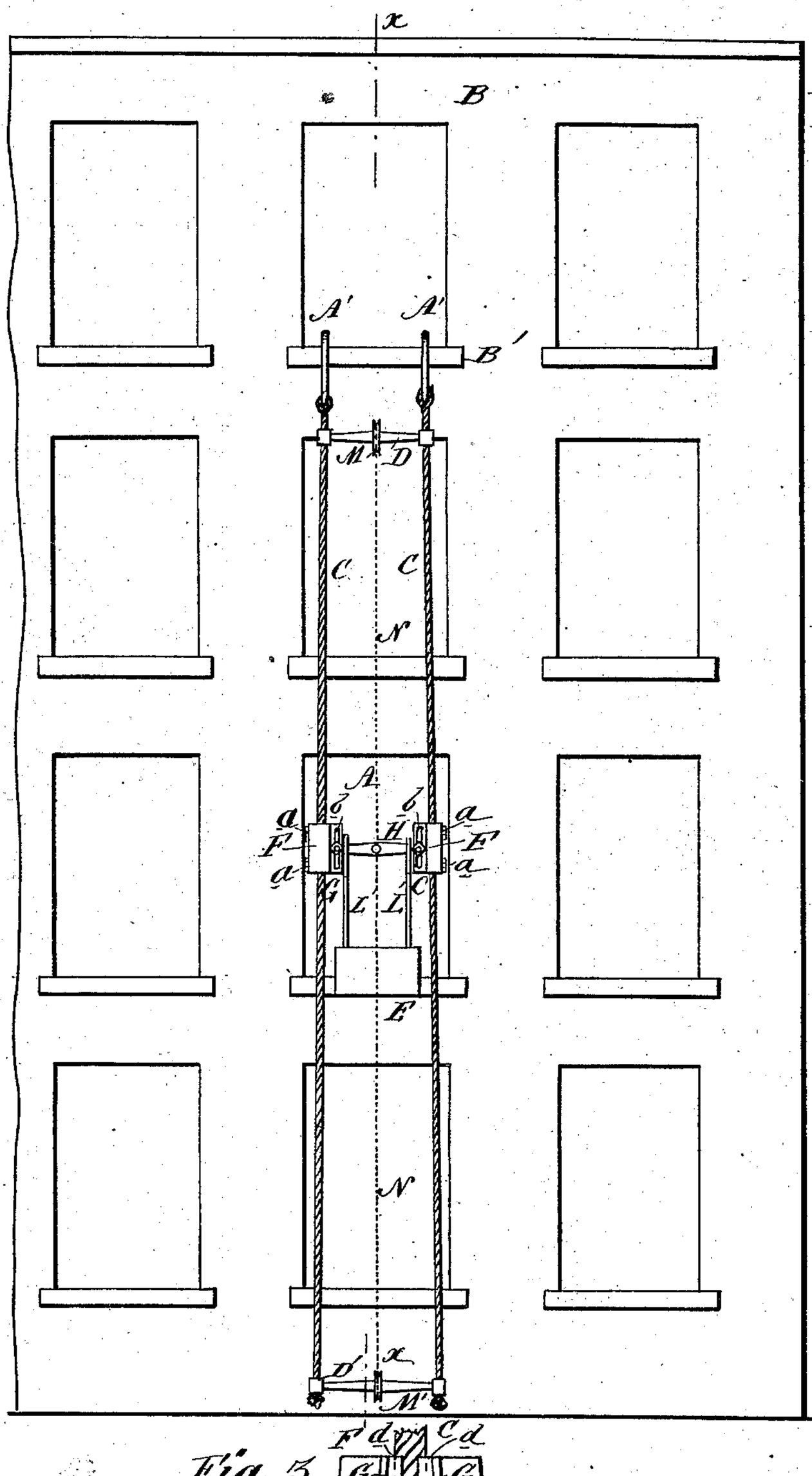


Fig. 1

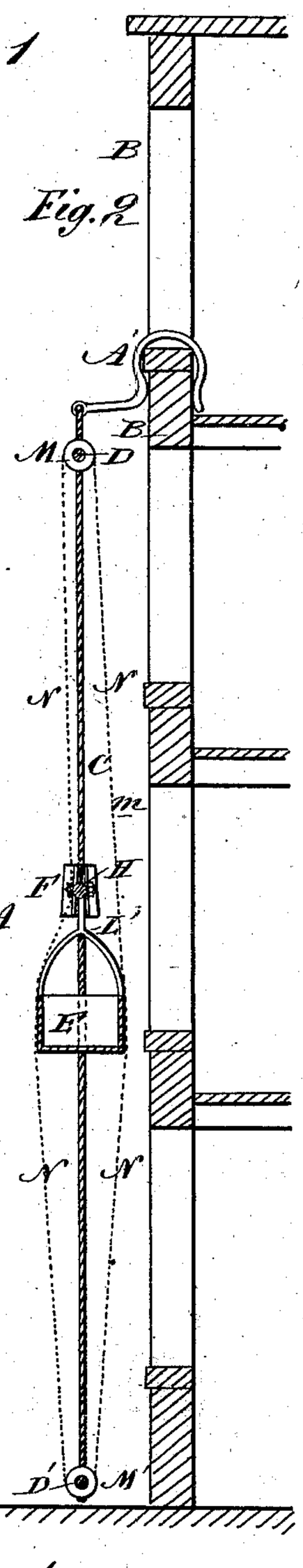


Fig. 2

Fig. 3

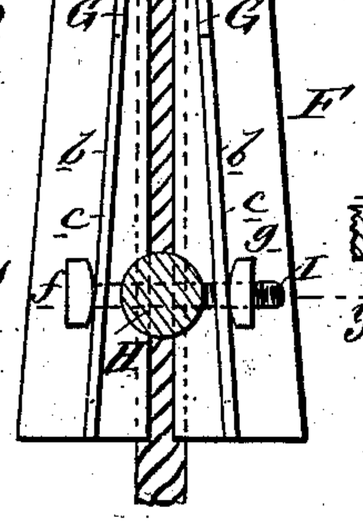
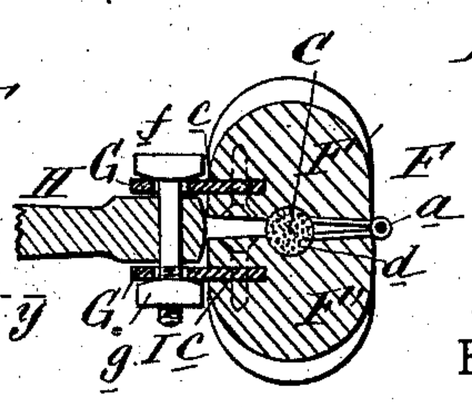


Fig. 4



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CHARLES T. SANDS, JR., OF NASSAU, NEW PROVIDENCE, WEST INDIES.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 239,558, dated March 29, 1881.

Application filed February 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SANDS, Jr., of Nassau, New Providence, West Indies, have invented a new and Improved Fire-Escape, of which the following is a specification.

The object of this invention is to provide a cheap, simple, and convenient device for enabling persons to escape with safety from burning buildings.

The invention consists, in combination with a fire-escape, of novel devices for arresting or regulating the descent of the basket or cage of the fire-escape, all of which will be hereinafter set forth.

Figure 1 is a front elevation of the improved fire-escape applied to a building. Fig. 2 is a side elevation of the same on line *x x*, Fig. 1. Fig. 3 is an enlarged front elevation of a compressible clamp used in the fire-escape. Fig. 4 is an enlarged transverse section of the same on line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the fire-escape, suspended, by hooks A′ or other convenient device, from a window-sill, B′, of a building, B.

C C represent the two ropes of the fire-escape A, that hang suspended from the hooks A′ to within reach of the ground, and far enough out from the side of the building B for the whole apparatus to clear said building in its ascent or descent. Said side ropes, C C, are held apart at their tops, near the hooks A′, by a cross-bar, D, and at their bottoms by a longer cross-bar, D′, which causes said ropes C C to spread apart more at the bottom than at the top, for the purpose of retarding in some degree the descent of the basket or cage E, which is designed to contain those persons who are escaping from the building.

F represents a clamp, consisting of a block, F′, in the shape of a frustrum of a cone, divided longitudinally into halves, that are hinged together along their rear edges, as shown at *a*.

G G are flat metal plates of equal length with the block F, and slotted, as shown at *b*, which plates G G are respectively secured in suitable vertical slots, *c*, in the respective halves of the block F′, so that the slotted edges of said plates G G project in front of said block F′, with their upper ends approaching and their lower ends receding from each other, each plate G being parallel with the outside of that half of the block F′ in which it is fixed.

Each clamp F has a vertical central groove, *d*, for reception of the ropes C C. Two of these clamps F being placed in position on the opposite ropes, C C, as shown, a cross-bar, H, is held between them by bolts I, that pass through the slots *b* of the plates G G, and through the ends of said bar H, said bolts I having each a head, *f*, on one end, bearing against the outer face of a plate, G, and a nut, *g*, on the other end, bearing against the outer face of the opposite plate G of the same clamp F, which nut *g* can be adjusted to cause the clamps F to compress the ropes C C more or less rigidly. From this cross-bar H the basket or cage E is suspended by suitable chains, bars, cords, or ropes, L′. If said basket or cage E be descending empty or with a light load, it will move freely or the clamps F will move freely on the ropes C C, being retarded on the downward movement only by having to draw together or toward each other the outspread lower ends of the said ropes C C, which, it will be seen, oppose two oppositely-inclined planes to the descent of the said clamps F. If the weight in the basket E be greater, the effect thereof is to pull the bolts I down in the slots *b* of the plates G G, and thereby, by compressing said plates G G between the heads and nuts *f g* with a force corresponding to the weight in said basket E, to cause the clamps F to compress the ropes C C to such a degree as to suitably retard or to arrest, as the case may be, the downward motion of said basket E. But in order that at all times the descent of the basket or cage E may be regulated at will, sheaves M M′, respectively, are fixed on the cross-bars D D′, and a rope, N, having an end fastened to the center of the cross-bar H, is passed upward over the sheave M, thence down around the sheave M′, and thence up, to be secured to said cross-bar H, thereby making a continuous rope moving with the said basket or cage E. Should the weight of this basket or cage E cause the clamps F so to compress the ropes C C as to arrest the downward movement of the said basket E, a downward pull on the part *m* of the rope N

will relieve the downward pressure of the bolts I in the slots *b*, so that the clamps F shall slacken their hold on the ropes C C and move down thereon.

The device, it will be seen, is simple, easy to construct and apply, and entirely under the control of those using it.

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

1. A fire-escape constructed substantially as herein shown and described, consisting of ropes C C, held apart by suitable cross-bars, cross-bar H, supporting a cage or basket, E, compressing-clamps F, and bolts I, arranged and operated as set forth.

2. In a fire-escape, the combination, with the basket E and its supporting-clamps, bar, and bolts F H I, of the relieving-rope N, substantially as herein shown and described, whereby the compression of said clamps is regulated, as set forth.

3. In a fire-escape, as a means for suspending the basket or cage from the side ropes and regulating its descent, the conical longitudinally-divided hinged clamps F, provided with grooves *d* and slotted plates G G, substantially as herein shown and described.

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