

(No Model.)

W. C. BARKER.

FIRE ESCAPE.

No. 376,505.

Patented Jan. 17, 1888.

Fig. 1.

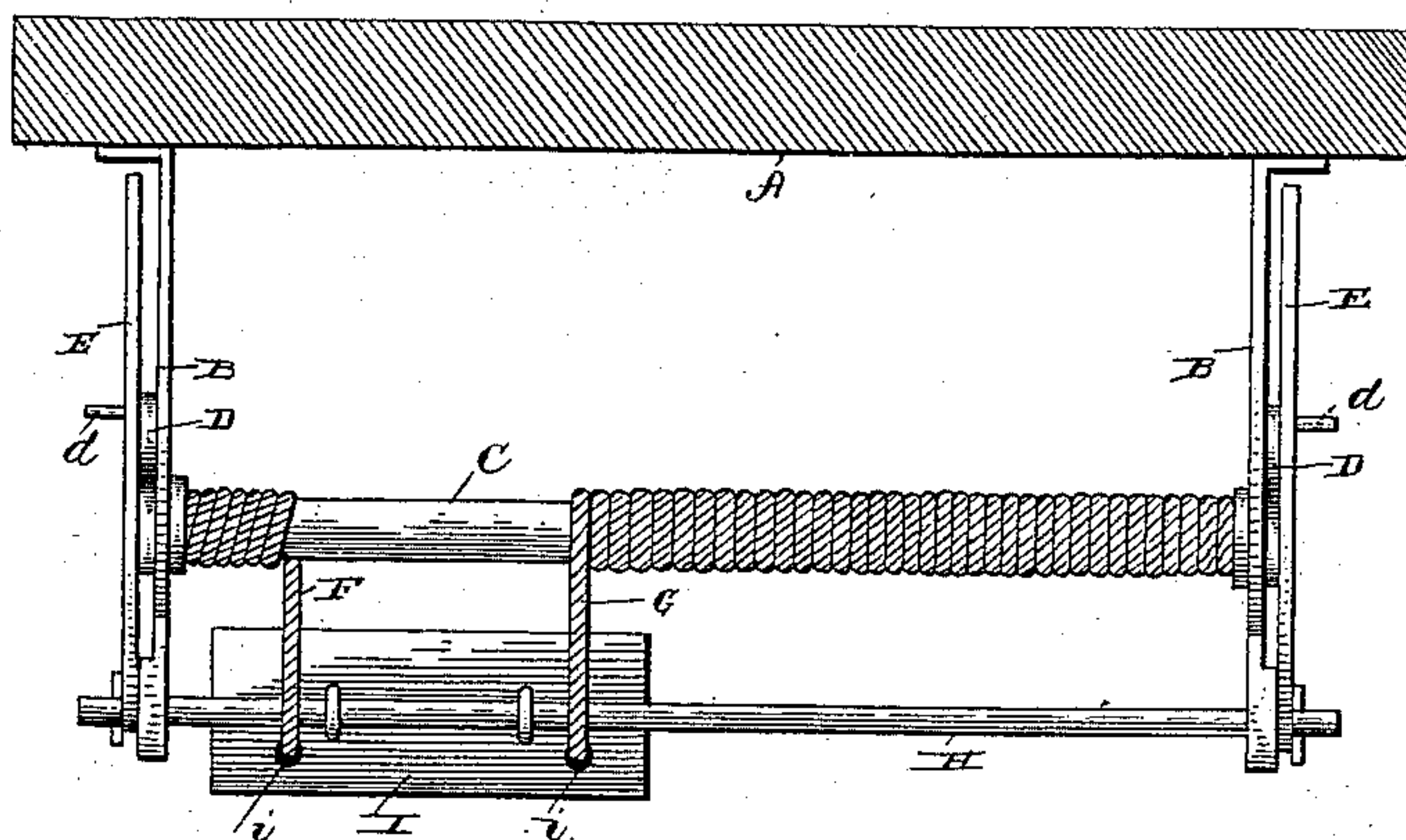


Fig. 2.

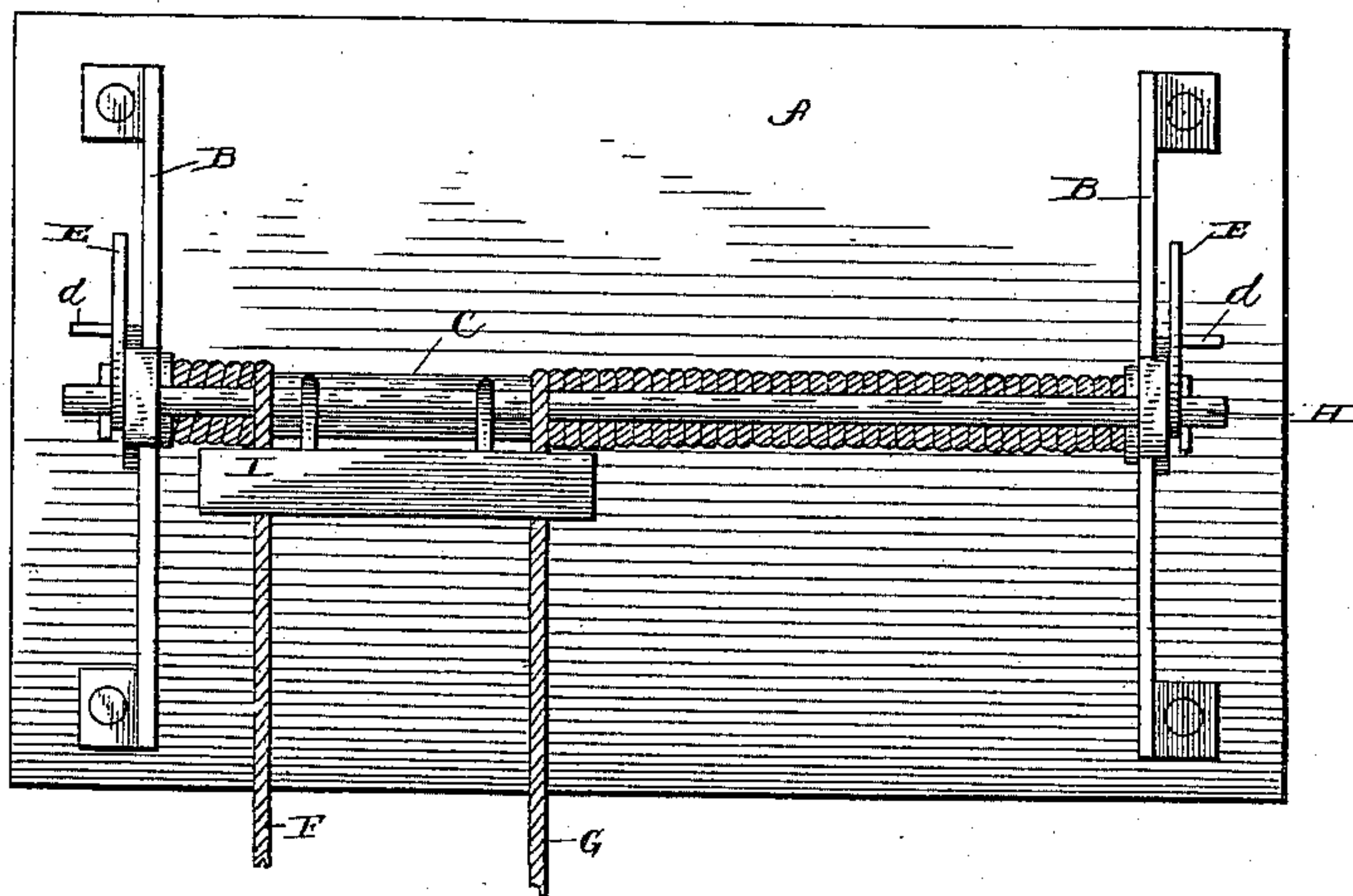
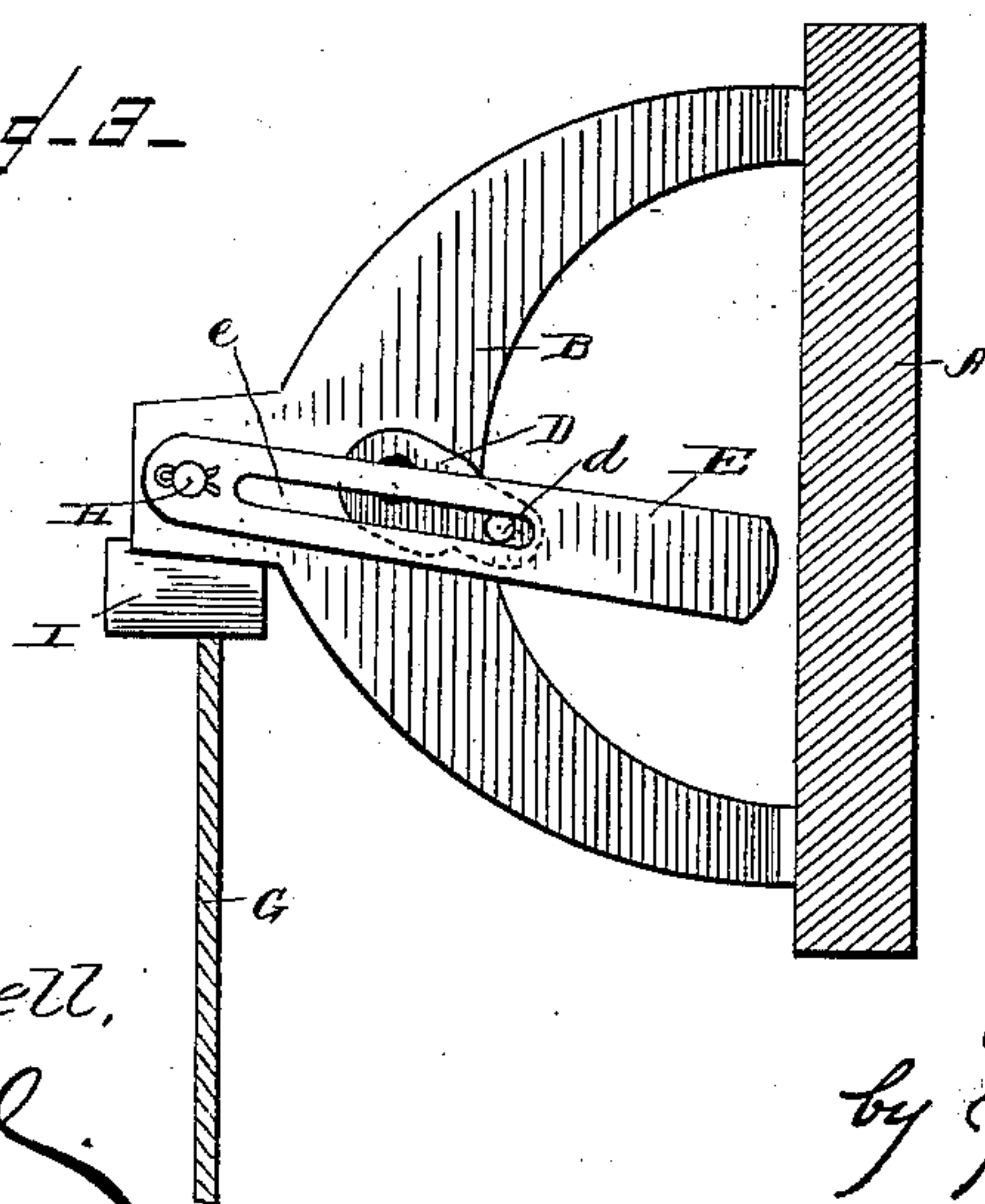


Fig. 3.



WITNESSES

Edwin L. Yewell,

A. E. Sowell.

INVENTOR

William C. Barker,
by T. H. Alexander
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM CULLEN BARKER, OF WATKINS, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 376,505, dated January 17, 1888.

Application filed August 2, 1887. Serial No. 245,956. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CULLEN BARKER, of Watkins, in the county of Schuyler and State of New York, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to improvements in fire-escapes, and its objects are to provide a self-governing device, or one in which the rapidity of descent of a person using the device will be automatically regulated.

Further objects of the invention, in which a revolving shaft and two ropes are employed, one of which ropes is wound while the other is unwound, is to provide a guide for said ropes, so that they will not become tangled upon the shaft while the device is in use.

To these ends the invention consists in the peculiar and novel construction and arrangement of parts, hereinafter specified, and particularly designated in the claims hereto appended.

In the drawings, Figure 1 is a plan view of the device attached in position for use. Fig. 2 is a front view of the same. Fig. 3 is an end view.

Referring to the accompanying drawings by letters, A designates the wall of the building or portion of the window sill to which the device is secured.

B B designate two outstanding brackets secured to wall A in proper manner, which brackets form the end pieces of the device. These brackets are provided near their outer ends with suitable journal-openings, in which are journaled the opposite ends of a drum or shaft, C, the brackets B B being arranged in proper relative position to cause said shaft C to lie horizontal.

The ends of shaft C are extended outside their journals in brackets B B, and each bears a crank or handle, D D, rigidly secured thereto, and each of these cranks D has at its outer end an upstanding wrist-pin, *d*, which engages with a slot, *e*, of a pivoted bar, E, one of which bars is arranged at each end of the frame. These bars E E are pivoted to brackets B outside the

journals of the shaft C, preferably on the ends of a rod, H, as shown, hereinafter described, and are provided with suitable washers underneath their pivots, or bent in such manner that their inner slotted ends will not interfere with the rotary movement of cranks D D, as shown. The cranks D D in their rotation will evidently reciprocate the bars E E, and these bars with the cranks form the automatic governing mechanism of the escape.

It will be observed that the bars E E act to prevent the one-half rotation of shaft C through cranks D, and the faster the rotation of said shaft the greater is the momentum imparted to the bars E, so that a greater strain is brought upon cranks D, and consequently upon shaft C, in order to overcome the momentum of bars E and lift the same, the said bars oscillating vertically on their pivots as the shaft C rotates, as is evident.

If desired, the free ends of bars E E may be provided with adjustable weights in any suitable manner, (not shown in the drawings;) but ordinarily the bars alone will be sufficient to regulate the device safely.

F G designate ropes or cords, which are wound upon shaft C alternately and in different directions, so that when one rope is being unwound the other is being wound, as is evident.

H designates a rod or bar parallel with and outside of shaft C and secured between the brackets B B. Over this rod the ropes F G pass.

I designates a traveling block hung upon rod H, and about one-third as long as said rod, and permitted free longitudinal play thereon. At the opposite ends of said block I are formed the guide-holes *i i*, through which are passed the ropes F G.

The manner of using the device and the function of block I are as follows: One rope being unwound, a person wishing to descend secures the end of the remaining rope to his body in any suitable manner and swings off. The weight on the rope causes the shaft C to revolve; but it is prevented from too rapid rotation by the bars E, as described. The rope attached to the person—say the rope F—is thus being unwound, while the other rope, G, is winding upon shaft C. Both of said ropes passing through opposite ends of block I, the block is moved in the direction of the coil of rope F on shaft

C as it unwinds, and the rope G is similarly and correspondingly moved in the same direction, winding upon said shaft. It is evident that the ropes F and G will be prevented by block I from winding upon each other, and still may be wound for two-thirds the length of the shaft C, as is evident, one rope being unwound with the same rapidity as the winding of the other, and alternately giving place to each other upon the shaft.

The device may be secured in any convenient position for use either inside the room or outside thereof, as is evident.

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

1. In a fire-escape, the combination of a rotary shaft having cranks on its ends provided with wrist-pins with pivoted oscillating bars provided with slots for engaging the wrist-pins of the cranks, all substantially as and for the purpose described.

2. The combination, with suitable supports, of the horizontal shaft and its ropes, the crank-arm and wrist-pin on the end of said shaft, and a pivoted oscillating bar having a longitudinal slot engaged by the wrist-pin of said crank, substantially as and for the purpose specified.

3. The combination of the rotary shaft and its oppositely-winding ropes and the support-

ing devices for said shaft with a rope-guide, I, adapted to regulate the winding of the ropes upon said shaft, substantially as and for the purpose described.

4. In a fire-escape, the combination of the supporting-brackets and the horizontal shaft journaled therein and having cranks on its extended ends provided with wrist-pins with the pivoted governor-bars EE, provided with slots e, engaging the wrist-pins of said cranks and adapted to be oscillated thereby upon the rotation of the shaft, substantially as and for the purpose described.

5. The herein-described fire-escape, consisting of the supporting-brackets B B, horizontal shaft C, its cranks D and their wrist-pins d, the pivoted oscillating slotted bars EE, engaging said cranks, the oppositely-winding ropes F G on shaft C, the rod H, outside of and parallel with shaft C, and the block I, provided with rope-guide openings i i and playing on said rod, all substantially in the manner and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM CULLEN BARKER.

Witnesses:

H. W. LEPRENO,

JNO. M. THOMPSON.