

(No Model.)

W. HOUGHTON & A. BROWN.
PORTABLE FIRE ESCAPE.

No. 459,963.

Patented Sept. 22, 1891.

FIG. 3.

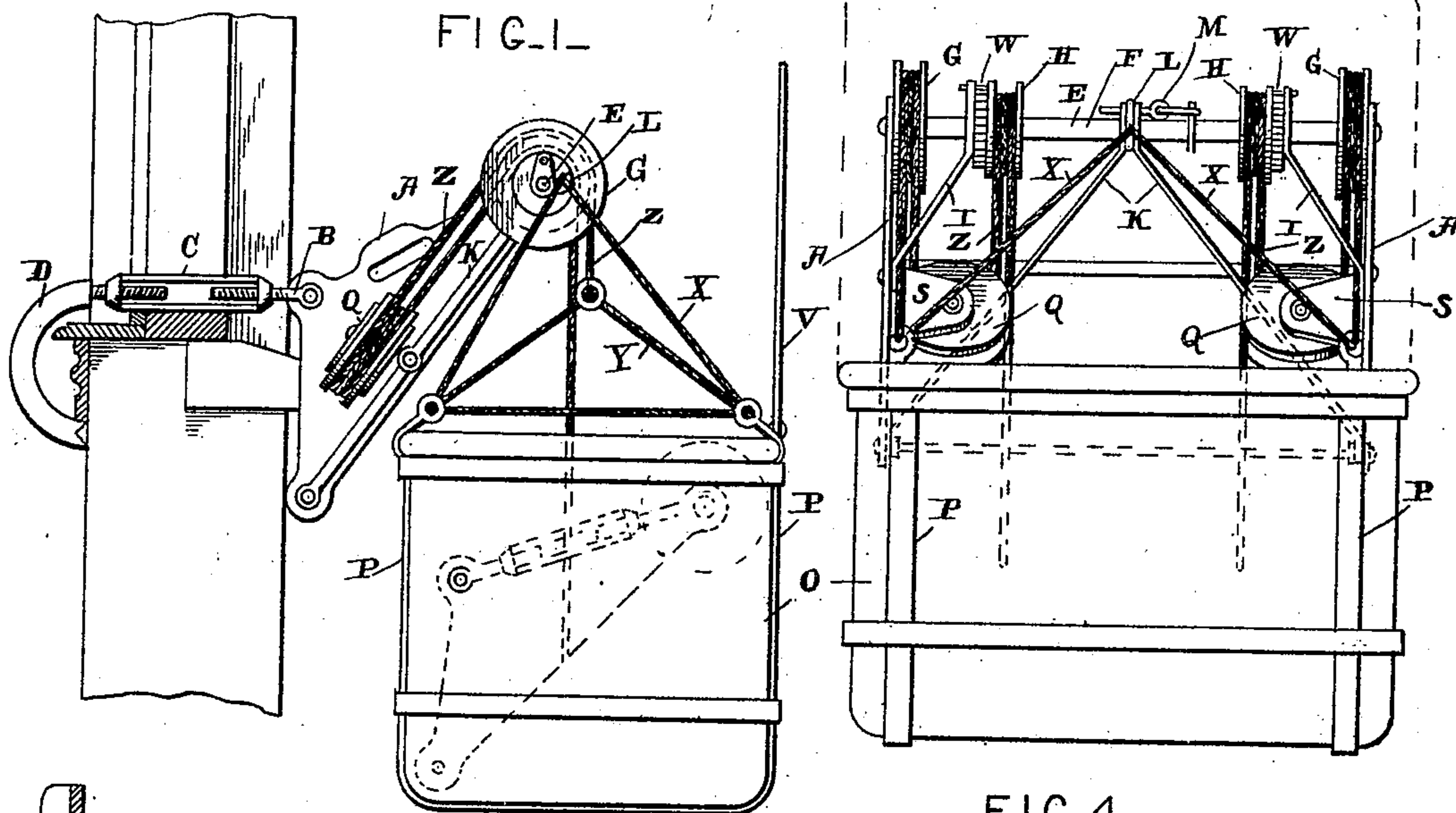


FIG. 4.

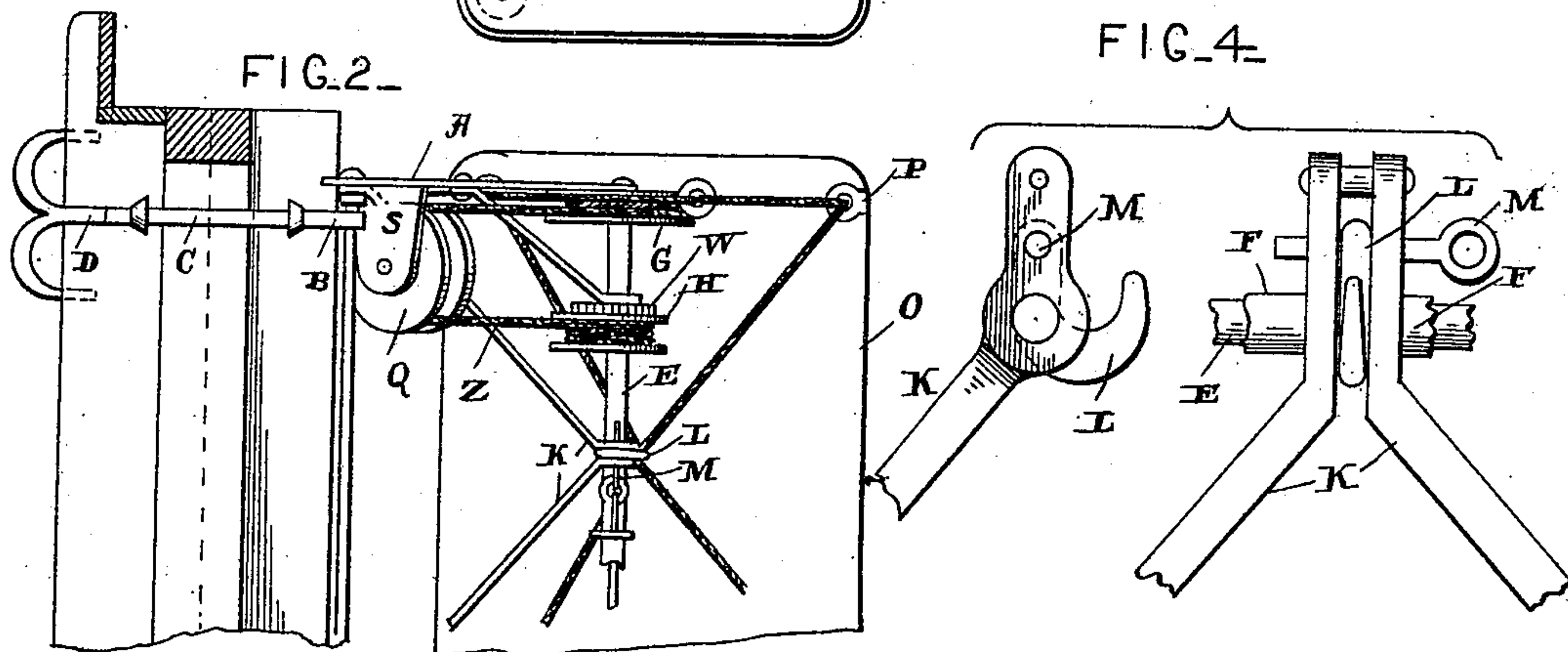
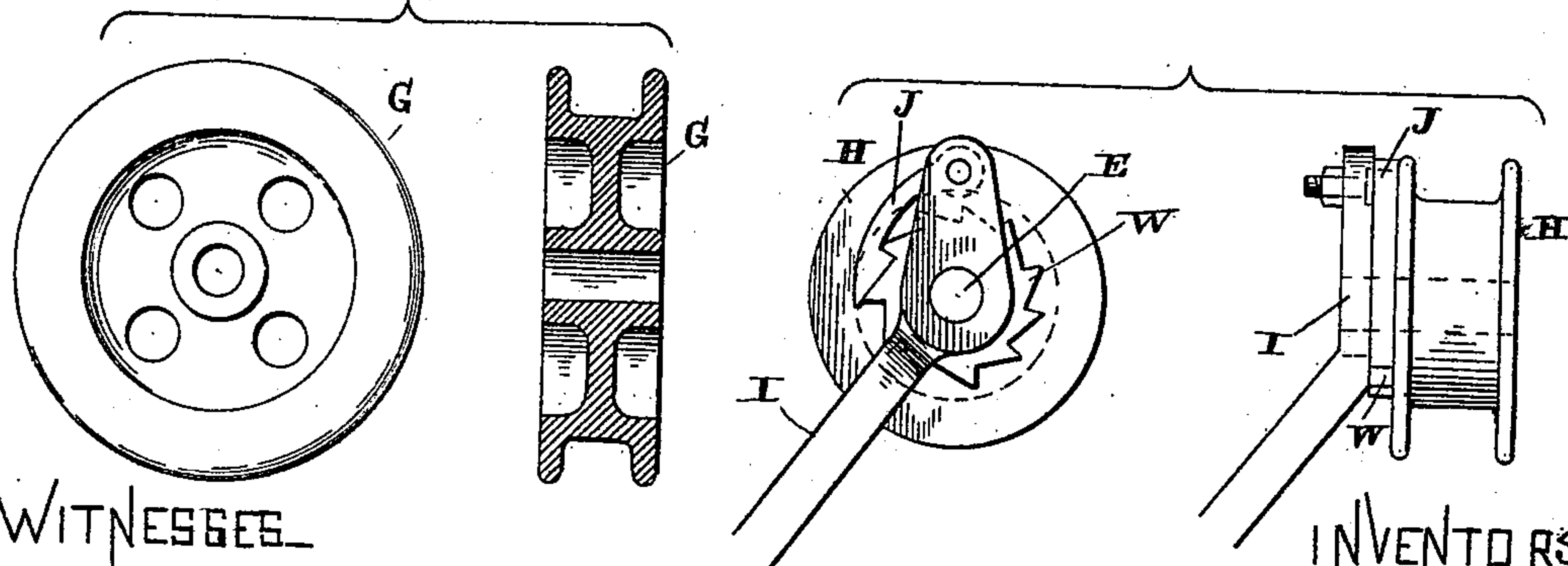


FIG. 5.



WITNESSES

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UNITED STATES PATENT OFFICE

WILLIAM HOUGHTON AND ADOLPH BROWN, OF NORFOLK, VIRGINIA.

PORTABLE FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 459,963, dated September 22, 1891.

Application filed June 20, 1891. Serial No. 396,935. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HOUGHTON and ADOLPH BROWN, of Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Portable Fire-Escapes; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in portable fire-escapes; and it consists in the construction and arrangements of parts, which will be fully described hereinafter, and particularly referred to in the claims.

The object of our invention is to provide a portable fire-escape which can be quickly and readily attached to any window, and which will automatically descend at a proper speed to the ground, and to provide means for holding the basket stationary while the person is getting therein by means of a device that can be instantly released.

Figure 1 is a side view of a fire-escape which embodies my invention, being shown attached to a building ready to descend. Fig. 2 is a top view of the same, one side of the basket and the mechanism for operating and supporting it being broken away. Fig. 3 is a front end view of the fire-escape complete. Fig. 4 represents enlarged detail views of the device for holding the basket stationary while the person is getting therein. Fig. 5 represents enlarged detail views of the friction-wheels. Fig. 6 represents enlarged detail views of the supporting-wheels which are attached to and revolve with the supporting-shaft.

A indicates two brackets, which are made of sheet metal of any desired thickness, and which are preferably triangular in shape, but which may be of any other material or shape that may be found desirable. Pivotally connected to the inner portions or edges of these brackets are the screw-bolts B, which have their screw-threaded ends entering a screw-threaded swivel C. Both ends of this swivel C are screw-threaded, and passing into the inner ends of these swivels are the hooks D, which have their opposite and inner ends

bifurcated. These hooks catch under the trimmings at the inner side of the window-sill and support the brackets A, as shown. By means of an arrangement of this kind the distance between the ends of the hooks and the inner edges of the brackets can be varied at will to suit walls and window-sills of various widths. Journaled in the upper ends of these brackets A is a shaft E, to the ends of which are secured the wheels G just inside of the brackets A, and which revolve with the said shaft. Placed upon this shaft and revolving freely thereon independently of the shaft are the friction-wheels H. These wheels are separated by means of the sleeves F, which are placed between them upon the supporting-shaft. Extending inward from these brackets A are the ears S, between which are journaled the wheels Q, which guide the ropes from the wheels G to the friction-wheels H. Also extending from the inner sides of the brackets are the braces I, the upper ends of which surround the shaft E, adjacent to the friction-wheels H. These wheels H are each provided with the ratchet-wheels W, with which a gravity-pawl J, which is pivoted to the upper ends of the braces I, engages. By means of this construction the wheels H around which the supporting-ropes pass, are held against rotation while the basket is descending, but will freely revolve when it is being raised to position at the upper portion of a building.

Braces K have their lower ends secured to the inner sides of the brackets A and their upper ends to surround the shaft E. Supported between the upper ends of these braces K is a hook L by means of a transverse pin M. Suspended from the eyes of the bands P of the basket O are the ropes X, which are hooked over the hook L when the person is entering the basket, so that the basket is held stationary. Also suspended from the eyes of the bands P are the ropes Y, which have their upper ends secured to rings, and to these rings the elevating and supporting ropes Z are secured. These ropes Z are wrapped two or more times around the friction-wheels H, then pass around the wheels Q a suitable number of times, and then around the wheels G upon the shaft E and to the ropes of the basket. The opposite ends of these ropes

hang down in the basket, as shown, within reach of the person therein, and by means of which he can regulate the speed of the descent of the basket, or stop it entirely, if desired. As the ropes pass several times around the friction-wheels, they will of themselves prevent the basket from descending too rapidly without any attention on the part of the person in the basket.

10 In operation the ropes X are hooked over the hook L until the person is in the basket, when the pin M is pulled out of the ends of the braces K, which will allow the hook to drop out and the basket to descend, as will be readily understood. As the friction-wheels start to revolve, when the basket descends the pawls J engage the ratchet-wheels W and stop them, so that there is a friction caused upon the elevating-ropes, which prevents the basket from descending rapidly and which is automatic in its operation.

The basket is preferably, though not necessarily, provided with a lid V, so that the brackets and hooks can be placed therein, together with the elevating-ropes, as shown in dotted lines in Fig. 1, so that the whole arrangement can be set away in a very small space. The basket and all of the mechanism will be made as light as possible, so that it can be readily handled by any one.

A fire-escape of the above-described construction is simple, cheap, and automatic in its operation of descending.

Having thus described our invention, we claim—

1. In a fire-escape, the brackets, the hooks, a shaft journaled in the upper ends of the brackets, wheels secured to the shaft, wheels which revolve freely upon the shaft, a stop for the loose wheels, a basket, and an elevating-rope which passes around the said wheels and is fastened to the basket, the parts combined substantially as shown and described.

2. In a fire-escape, the brackets, screw-threaded bolts having one end pivoted to the brackets, a screw-threaded swivel, hooks

which have screw-threaded ends that enter the swivel, a supporting-shaft in the brackets, wheels placed thereon, a basket, and a supporting-rope which passes around the wheels and is secured to the basket, the parts combined substantially as specified.

3. In a fire-escape, the brackets, the hooks secured thereto, a shaft journaled in the upper ends of the brackets, wheels secured rigidly to the said shaft, wheels which revolve freely upon the said shaft, braces which have their upper ends surrounding the shaft adjacent to the said loose wheels, ratchets upon the loose wheels, a pawl pivoted upon the upper ends of the braces and engaging the said ratchet-wheels, and a supporting-rope which passes around the rigid and loose wheels and is secured to the basket, the parts combined substantially as described.

4. In a fire-escape, the brackets, hooks secured thereto, a shaft journaled in the upper ends of the brackets, wheels rigidly secured to the said shaft, loose wheels upon the shaft, a stop therefor, wheels secured to the inner sides of the brackets for guiding the supporting-ropes, supporting-ropes which pass around all of said wheels, and a basket to which the rope is secured, the parts combined substantially as specified.

5. In a fire-escape, the brackets, the shaft journaled in the upper ends thereof, the hooks secured to the brackets, braces which have one end secured to the brackets and their opposite ends surrounding the shaft, a hook between the braces, a pin for holding the hook in place, the basket, a rope secured to the basket for catching over the hook, and a supporting-rope the parts combined, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM HOUGHTON.
ADOLPH BROWN.

Witnesses:

GEO. E. FRECH,
ROLAND FITZGERALD.