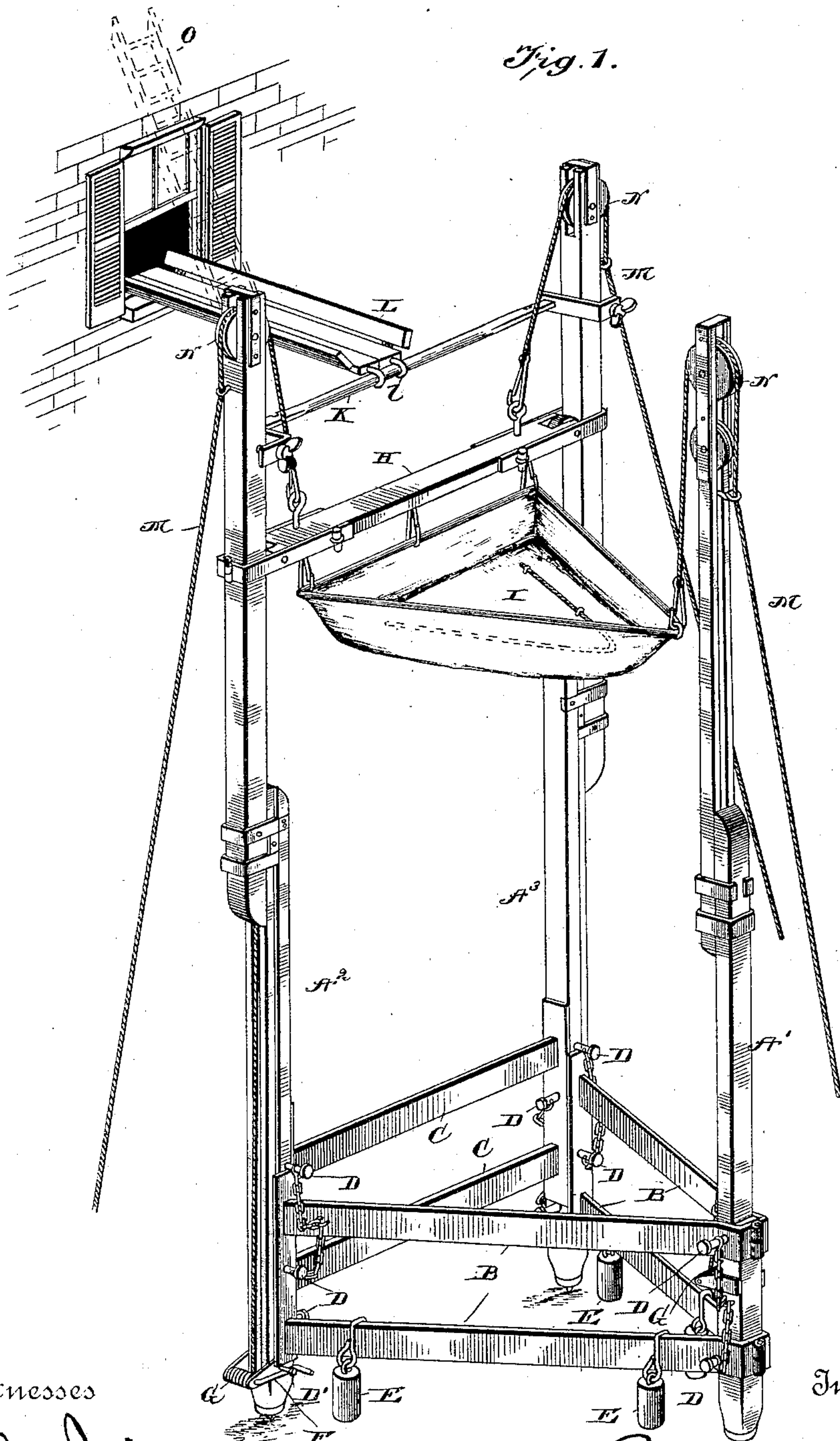


3 Sheets—Sheet 1.

No. 453,044.

Patented May 26, 1891.

Fig. 1.



Witnesses

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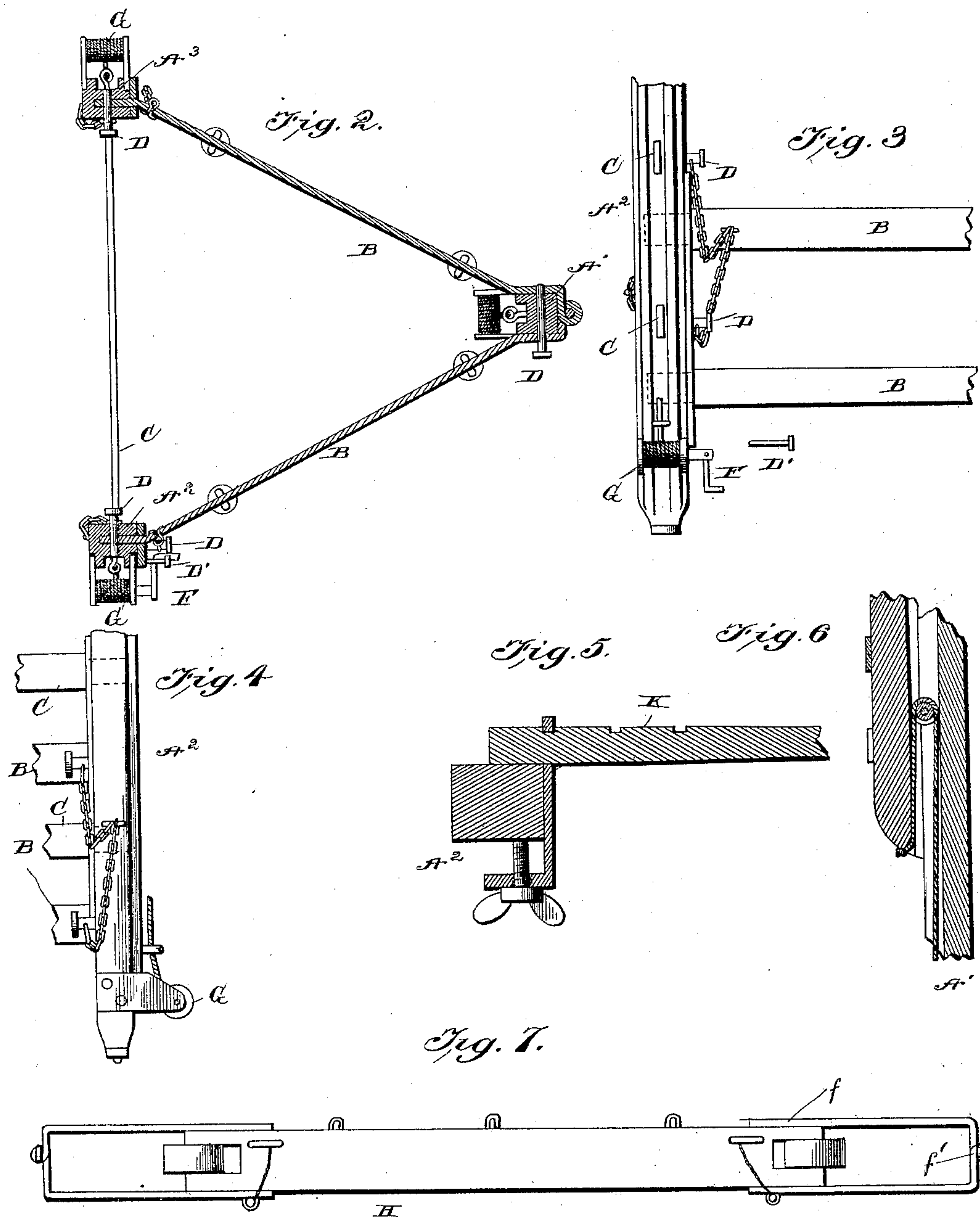
(No Model.)

3 Sheets—Sheet 2.

B. W. FLANDERS.
FIRE ESCAPE AND ELEVATOR.

No. 453,044.

Patented May 26, 1891.



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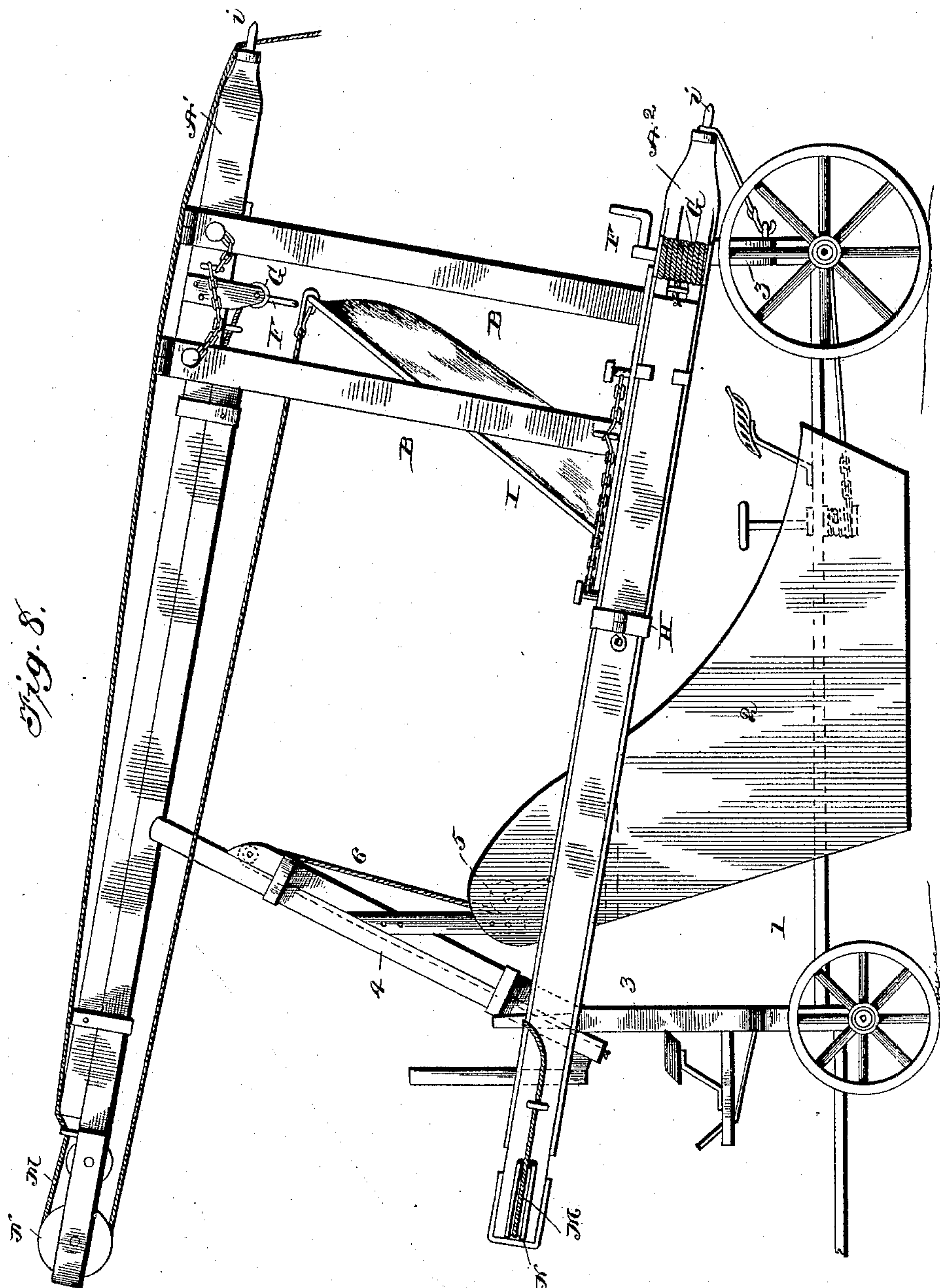
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3 Sheets—Sheet 3.

B. W. FLANDERS.
FIRE ESCAPE AND ELEVATOR.

No. 453,044.

Patented May 26, 1891.



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UNITED STATES PATENT OFFICE.

BRADFORD W. FLANDERS, OF COVENTRY, VERMONT.

FIRE-ESCAPE AND ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 453,044, dated May 26, 1891.

Application filed December 8, 1890. Serial No. 373,972. (No model.)

To all whom it may concern:

Be it known that I, BRADFORD W. FLANDERS, a citizen of the United States, residing in Coventry, in the county of Orleans and State of Vermont, have invented a new and useful Portable Fire-Escape and Elevator, of which the following is a specification.

This invention relates to a portable fire-escape and elevator, which consists of three single or extension masts or uprights standing in the form of a triangle and kept in position by two sets of iron girts or bars placed near the base of said masts or uprights, connecting the same by tenon and mortise and held in place by iron pins or other suitable means of fastening.

Referring to the drawings, which form a part of this specification, Figure 1 is a view in elevation of my improved fire-escape and elevator. Fig. 2 is a view in cross-section of Fig. 1, showing position of masts or uprights; Fig. 3, a detail side view of lower end of mast or upright; Fig. 4, a detail rear view of lower end of mast or upright; Fig. 5, a detail section of connecting-rod K; Fig. 6, a detail view of hoisting device for raising and lowering extension to masts or uprights; Fig. 7, a detail view of deck-bar or carrier H. Fig. 8 shows the fire-escape and elevator loaded on carriage for transportation.

Similar letters and figures refer to similar parts throughout the several views.

A' A² A³ are the masts or uprights with extensions, as shown in Fig. 1.

B B are double-jointed or hinged girts or bars of iron that connect mast A' with masts A² and A³.

C C are single girts or bars of iron that connect masts A² and A³.

D D are iron pins that hold the girts or bars B and C in place.

E E are weights hung upon the lower girts or bars B as ballast.

F and G are crank and drum for winding rope to raise or lower the extensions to masts A' A² A³; D', the pin to prevent the crank F from rotating except when in use.

I is the deck or car and is triangular in shape, with raised sides. It is kept in shape by means of an iron rod bent in the form of a triangle and to prevent the body of the deck or car from collapsing. The deck or

car is made of asbestos or other non-combustible material, and is attached to the deck-bar or carrier H, and also to the rope M, running over the pulley N in the top of the mast A'.

K represents a connecting-rod for keeping in place the masts A² and A³, and also to hold the bridge or chute L, and is fastened to the masts by means of clamps and set-screws.

M are ropes running over pulleys N in the top of masts A' A² A³.

Referring to Fig. 2 of the drawings, it will be observed that the girts or bars B have their ends or terminals bent slightly at an angle and seated in mortises in two of the masts A² A³, and through their ends or terminals the pins D pass and lock the said girts or bars in position. The apex of the angle formed by these girts or bars B forms, preferably, a hinge, although I do not limit myself to this construction, as the parts may be otherwise separably secured to each other, the form shown being deemed the most desirable for assembling or dismounting the machine.

The deck-bar or carrier H comprises a bar and two end clamping-bands which embrace the masts. These clamping-bands have one end secured rigidly to the extremity of the deck-bar or carrier, as shown at *f*, Fig. 7, and hinged, as indicated at *f'*, the opposite end thereof being free and having a slot which engages a staple with the deck-bar or carrier, and through which it is locked in position by a suitable pin.

The carriage 1, as shown in Fig. 8, is provided with a receptacle 2 for tools and other light articles. Upon this carriage is placed my improved fire-escape and elevator, the upper or inner parts thereof resting on suitable supports, as the standards or uprights 3. Upon these a bolster or cross-bar rests, and upon this two sliding bars 4 are fixed. These bars operate similarly to the masts, being extended or raised and lowered by means of the winch 5, acting through the cord 6, which is secured to the lower end of the movable bar to raise or lower the same, and through it raise the escape to an approximately vertical position. This mechanism also serves to give steadiness to the escape while it is at rest or in transit, and thereby prevents collapse or injury thereto.

The operation of this feature of mechanism

is obvious. All that is necessary to bring the escape into position for operation will be to raise it sufficiently high through the mechanism just described to readily free it and discharge it from the carriage, when by the aid of the firemen or other persons it will readily assume an upright position, when the spikes *i* will engage with the earth and prevent its slipping or displacement. When in position, as shown in Fig. 1, it will only be necessary to withdraw the pins *D'* from their sockets and actuate the drums *G*, so as to raise the masts to any desired height and then lock the cranks again by means of their pins *D'*, when the device will be ready for action. The deck-bar or carrier *H* and deck or car *I* are then raised and lowered by means of the ropes *M* by parties situated on the ground. Should it be desirable for any reason to not have the escape so near the building, the chute or bridge *L* is attached by suitable hooks *l* to the connecting-rod *K*, and its opposite end being placed on a window-sill or the like will afford a ready exit from a building to the deck or car *I*. Should the escape of itself be of insufficient length, the ladder *O*, as indicated by dotted lines, Fig. 1, may be employed as a prolongation thereof.

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

1. In a fire-escape, the combination of vertically-adjustable standards arranged to form a triangle with relation to each other, pulleys affixed to the upper ends of said standards, and ropes passing over said pulleys and engaging with a deck or car and with a reciprocating bar or platform interposed between two of the standards and to which one side of the deck or car is attached.

2. A fire-escape of the character described, having a horizontally-adjustable bar located upon two of its standards, screw-clamps thereon for engaging the standards, and a platform having one end thereof engaging said bar, its opposite end being free to rest upon or engage a window-sill or the like.

3. A fire-escape having brace-bars hinged at their extremities, such hinged portions forming recesses for embracing the standards, the opposite extremities tenoned for engagement with mortises in the standards and forming braces therefor.

4. In a fire-escape, standards having brace-bars hinged together for engaging a standard, the opposite ends of such bars forming tenons, mortises in said standards with which these engage, lateral openings through said tenons and mortises, and pins or bolts for entering the same and locking the parts.

5. A fire-escape consisting of three vertically-extensible standards forming a triangular frame and having pulleys upon their upper sections for actuating a life car or deck, ropes passing thereover, winches and ropes for raising and lowering these sections, horizontal braces at the base of the standards, with removable ballast-weights thereon, and a deck or car of suitable configuration attached to said pulley-ropes.

6. A fire-escape having a horizontal bar or platform interposed between its vertical standards and held thereto by suitable straps, and a car or deck one side of which is secured to said platform, the opposite side thereof being slung from a rope on the opposite standards.

7. A fire-escape of the character described, consisting of standards triangularly arranged with relation to each other to form a frame, a deck or car movably suspended in such frame, ropes and pulleys for actuating the extensible sections of the standards, and independent mechanism for actuating the life-car, in combination with a carriage for transporting said fire-escape and having adjustable braces for bearing and supporting the upper or unsupported standards and thereby preventing shock or vibration thereto.

BRADFORD W. FLANDERS.

In presence of--

O. H. AUSTIN,

INEZ J. WINSLOW.