

No. 659,093.

Patented Oct. 2, 1900.

F. OCKERS.  
FIRE ESCAPE.

(Application filed Feb. 14, 1900.)

(No-Model.)

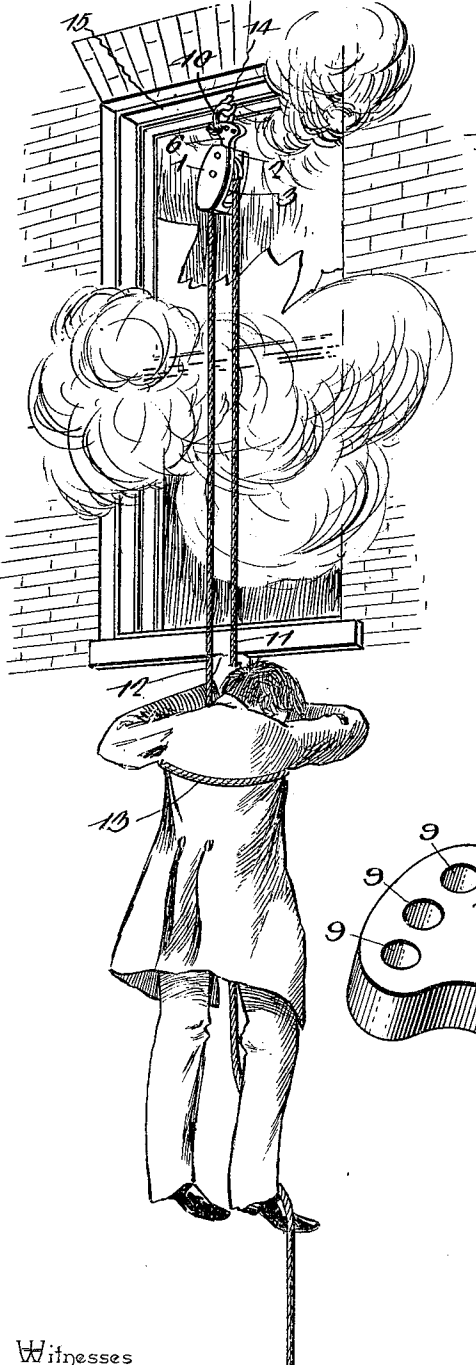


Fig. 1.

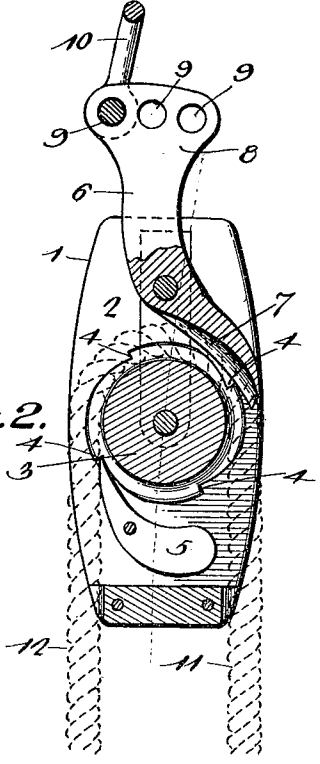


Fig. 2.

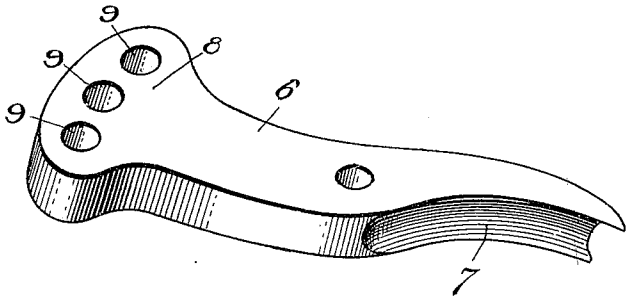


Fig. 3.

Witnesses

*Kraußbülwerwell.*

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By *his* Attorneys,

*Frederick Ockers*, Inventor.

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# UNITED STATES PATENT OFFICE.

FREDERICK OCKERS, OF WEST SAYVILLE, NEW YORK.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 659,093, dated October 2, 1900.

Application filed February 14, 1900. Serial No. 5,197. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK OCKERS, a citizen of the United States, residing at West Sayville, in the county of Suffolk and State of New York, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to fire-escapes, and has for its object to provide an improved device of this character whereby a person may lower himself from a burning building with facility and despatch. It is furthermore designed to provide improved means for preventing a too-rapid descent of the device and to have the latter under the complete control of the operator, so that the speed of descent may be conveniently regulated according to the circumstances of the particular situation and also to permit of a rapid return of the device for repeated use.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view illustrating the application and operation of a fire-escape constructed in accordance with the present invention. Fig. 2 is a sectional elevation of the improved pulley employed in the construction of my fire-escape. Fig. 3 is a detail perspective view of the brake or friction device for governing the descent of the device.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

In carrying out the invention I employ a block-and-tackle device comprising a block 1, having a longitudinal bifurcation or slot 2, which is open at the upper end thereof. Mounted within this slot is a grooved pulley or sheave 3, the flanges of which are provided with a plurality of notches 4 to form ratchet-teeth. Located below and within the slot is a gravity pawl or detent 5, the upper free end

of which is designed to engage with the notches in the flanges of the pulley to prevent rotation thereof in one direction and to permit of a free rotation thereof in the opposite direction. As clearly shown in Fig. 2 of the drawings, this pawl or detent is bowed, so that its upper end is disposed at one side of the pulley and does not engage the latter at the lower side thereof.

Mounted above the pulley and within the slot 2 is a bell-crank friction lever or brake 6, the lower end of which is grooved or guttered upon the inner side thereof, as indicated at 7, and disposed to cooperate with the periphery of the pulley. It will be noted that this shoe end of the lever is located diametrically opposite the pawl or detent 5, so that these parts are designed to prevent movements in the same direction of the rope and pulley, respectively. The upper end of the bell-crank lever projects upwardly through the open end of the slot or bifurcation in the block and is enlarged into a substantially-segmental head 8, which is provided with a plurality of perforations or openings 9, that extend laterally of the head.

To support the block, there is provided a clevis or hook 10 for detachable engagement with any of the perforations in the head of the friction-lever, so that the latter may be forced into frictional engagement with the periphery of the pulley.

A suitable rope or cable 11 is reeved through the block and over the pulley, so that the rope is frictionally engaged by the grooved portion of the lever. The suspending portion 12 of the rope or cable, which is opposite the friction-lever, is provided with a seat 13, preferably formed by loop or slip-noose provided in one end of the rope and in which the operator is designed to be seated.

In the operation of the device the hook or clevis 10 is engaged with a fixed object—as, for instance, a hook 14—set into the upper portion of a window-frame 15. The seat or noose is then slipped about the body of the operator and immediately beneath his arms, so that he may be firmly secured to the rope. The main or loose portion of the rope is then grasped by the operator, who lowers himself out of the window and down to the ground. By reference to Fig. 2 of the drawings it

will be observed that the weight of the operator is placed upon the bell-crank lever, so that the grooved shoe end thereof is frictionally engaged with the rope, so as to bind the latter against the pulley to retard the downward movement of the rope and the operator. In this connection it will be observed that the pawl 5 prevents rotation of the pulley during the downward movement of the suspending portion 12 of the rope, so that the rope cannot freely pass through the block during the descent of the operator. Moreover, the operator has hold of the free portion of the rope, and thus has the device under complete control, so as to conveniently regulate the speed of descent according to the circumstances of the situation. After the operator has reached the ground or other place of safety the device may be quickly returned for another use by pulling downwardly upon the free portion of the rope, and as the pawl 5 does not interfere with the rotation of the pulley in this direction the rope may be quickly pulled through the block.

25 Although the block has been shown as attached to the upper portion of a window-frame, it will of course be understood that it may be attached to the bottom thereof or to any other portion of the building, as may be convenient or desirable.

30 What I claim is—

1. A fire-escape, comprising a pulley-block, a rope reeved therethrough, a seat provided upon the rope, a friction lever or brake fulcrumed intermediate of its ends upon the block and having its inner end in frictional engagement with the rope, and a suspending device connected to the outer free end of the lever or brake, and also adjustable transversely thereof.

2. A fire-escape, comprising a pulley-block, a rope reeved therethrough, a bell-crank lever or brake mounted upon the block and in frictional engagement with the rope, said lever or brake having a plurality of laterally-disposed perforations or openings, and a de-

tachable suspending device for connection with any of the openings in the lever or brake.

3. A fire-escape, comprising a pulley-block, means for preventing rotation of the pulley in one direction, a rope reeved through the block and over the pulley, a seat provided upon the rope, and a friction lever or brake in frictional engagement with the rope, and arranged to retard the movement of the rope in the same direction as that in which the pulley is prevented from rotating.

4. A fire-escape, comprising a pulley-block, having a pulley provided with ratchet-teeth, a pawl or detent mounted upon the block and cooperating with the ratchet-teeth of the pulley to prevent rotation of the latter in one direction, a rope reeved through the block and over the pulley, a seat provided upon the block and arranged to frictionally engage the rope and retard the movement thereof in the same direction as that in which the pulley is prevented from rotating.

5. In a fire-escape, a pulley-block, a pulley mounted therein and provided with a marginal series of ratchet-teeth, a pawl mounted upon the block and cooperating with the ratchet-teeth to prevent rotation of the pulley in one direction, a rope reeved through the block and over the pulley, a seat provided upon the rope, a bell-crank friction lever or brake mounted upon the block, the inner end of the lever being grooved for frictional engagement with the rope, and the opposite end thereof being provided with a plurality of laterally-disposed perforations or openings, and a removable suspending device for adjustable engagement with the respective openings in the lever or brake.

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

FREDERICK OCKERS.

Witnesses:

SAMUEL P. GREEN,  
NICHOLAS VAN DER BERGH.