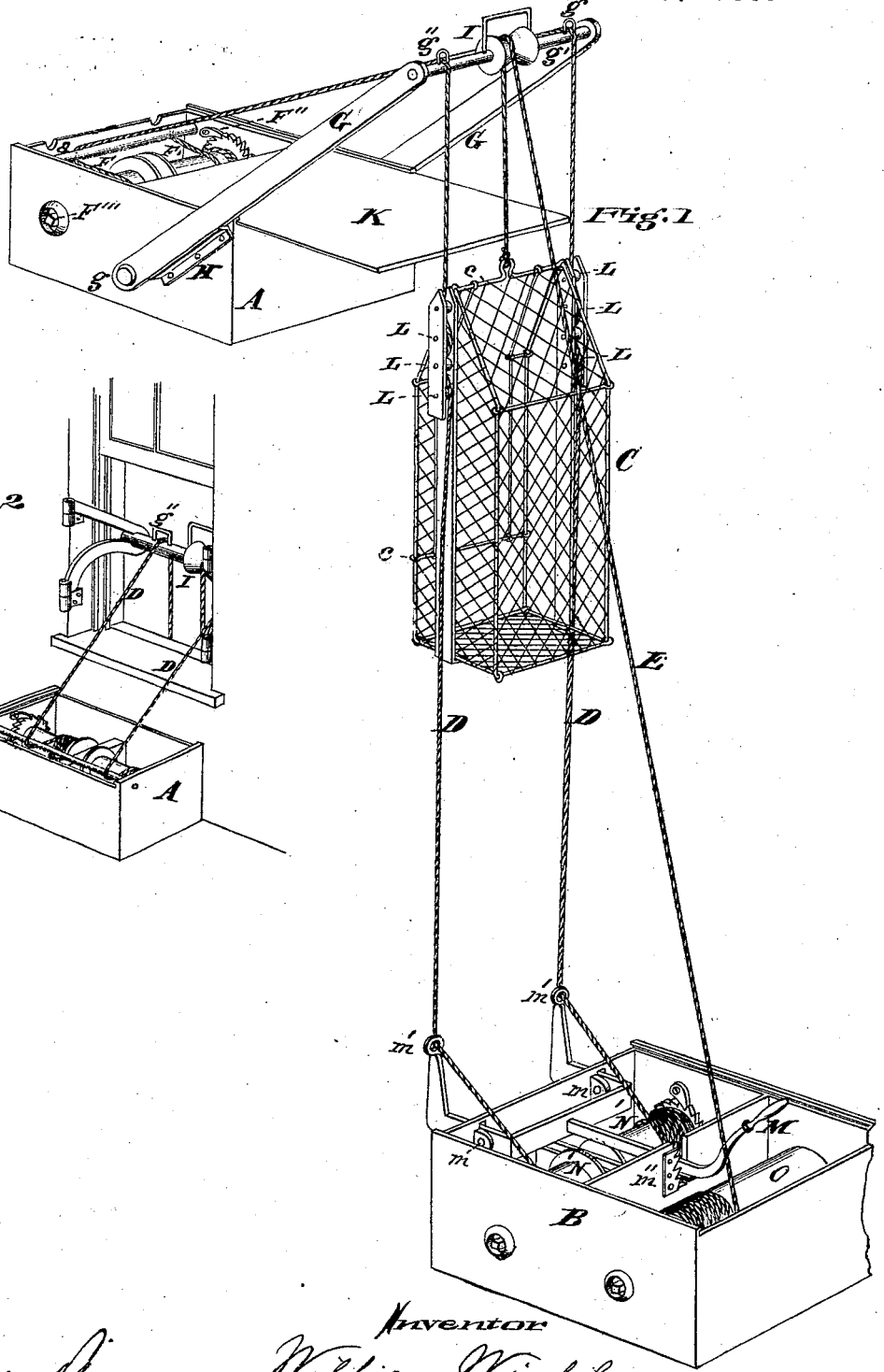
W. WINKLESS.

Fire-Escape.

No. 197,709. Patented Nov. 27, 1877.



Witnesses

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WILLIAM WINKLESS, OF NEWPORT, KENTUCKY.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **197,709**, dated November 27, 1877; application filed July 28, 1877.

To all whom it may concern:

Be it known that I, WILLIAM WINKLESS, of Newport, Campbell county, State of Kentucky, have invented an Improvement in Fire-Escapes, of which the following is a specification:

My invention relates to the class of fire-escapes which let down escaping appliances from the roof, windows, or other elevated positions.

My invention consists, first, of an escape embracing in its construction an elevated winch carrying two guiding-cables, a cage for passengers moving on said guiding-cables under the action of a controlling-rope, and a winch or windlass in the lowest position, connected so as to regulate the tension of the guiding-cables; second, in providing the cage with idler-pulleys, over which the cables pass in a circuitous direction, and combining a lever with the cables adapted to operate thereon for instantly changing their tension to govern the descent of the cage; third, in so constructing the cover of the upper winch that it may be used as a platform or approach to the cage when the latter is held off from the building by the extended hinged crane-arms; fourth, in the provision, in connection with the upper winch, of an extensible platform for the convenience of escaping passengers when extended, and for covering the winch mechanism when closed up; fifth, in a peculiar device acting in conjunction with the winches for tightening the guiding-cables.

In the accompanying drawings, Figure 1 is a perspective view of my apparatus. Fig. 2 is a perspective room interior view, showing its adaptation for operation from a window.

Referring to the drawings, A is the upper winch and B the lower one. C is the passenger cage or cab, and D D are the guiding-cables of the same.

The winches may be permanent structures or portable, the cables being adapted to be drawn up by the upper winch and boxed up when not required for use. The cage and rope E of same, by which it is raised and lowered, may be kept in any convenient place for immediate use. The upper winch has a double or divided drum, F F′, each part carrying a guiding-cable, each part being arranged to let out its cable after the lifting of pawl F″, and to wind it up again by the use of hand-crank on axle F‴.

G G′ are crane-arms hinged to the winch-box at *g*, and connected by a stationary axle, *g′*, on which the idler-pulley I turns, the axle having eyes *g″* for the guidance of the cables. When extended, as shown, the crane rests on the battens H for support, and, owing to the hinges, being adapted to fold back out of sight and use.

An extensible platform, K, moves in ways on the top of the winch-box, and when extended serves as a platform from which passengers step into the escape-cab, the latter having an opening, *c*, to permit them to enter. When closed up, the platform is a cover for the winch mechanism.

When a cage is undesirable, the ways or cables D D′ may be joined at intervals by cross-ropes, so as to form a ladder, the winches serving to give it the required tension.

To regulate the descent of the cage or cab, I journal in its frame, on each side, idler-pulleys L, and pass the guiding-cables in the circuitous route around them, as shown, so that the upper or lower winch, or any tightening device for the cables, may cause the cables to partially support the cage by kinking of the said cables at the idlers, and thus render the descent of the cage governable. When the descent is too rapid, and beyond the control of the rope E, either winch may tighten the cables, so as to brake the descending cage, or they may be tightened by the special lever M, which is more expeditious in operation. It is pivoted at *m m*, and carries eyes *m′*, through which the cables pass anglewise, as shown; and a rack, *m″*, holds the lever in any position into which the operator forces it. The flexibility of the lever allows it to be disengaged from the rack for return.

The tightening-drums N N′ of the lower winch are like the drums F F′ of the upper one, and, in addition to these, a single drum, O, may be used to operate the suspension-rope E. The cables pass, preferably, over the bar *a* in leaving the winch A. The lower winch

may be anchored in the street at any point, so as to give a curve to the guiding-cables, or so as to work them vertically.

I claim—

1. The combination of upper and lower winches A B, guiding-cables D D, cage C, and suspension operating rope E, substantially as and for the purpose specified.

2. The combination of upper and lower winches A B, guiding-cables D D, cage C, having idlers L for kinking said cables, and suspension operating rope E, substantially as specified.

3. In combination, the winch A and its cover K, adapted to serve as a platform, hinged crane-arms G G′, and cage C.

4. In combination with the winch A, ropes D D, and cage C, the extensible platform K, operating substantially as and for the purpose specified.

5. In combination with the winch-frame B and cables D D, the lever M, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

WILLIAM WINKLESS.

Witnesses:

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