

No. 667,753.

Patented Feb. 12, 1901.

J. WHITELEY.
LADDER FOR LIFE SAVING.

(Application filed Feb. 20, 1900.)

(No Model.)

3 Sheets—Sheet 1.

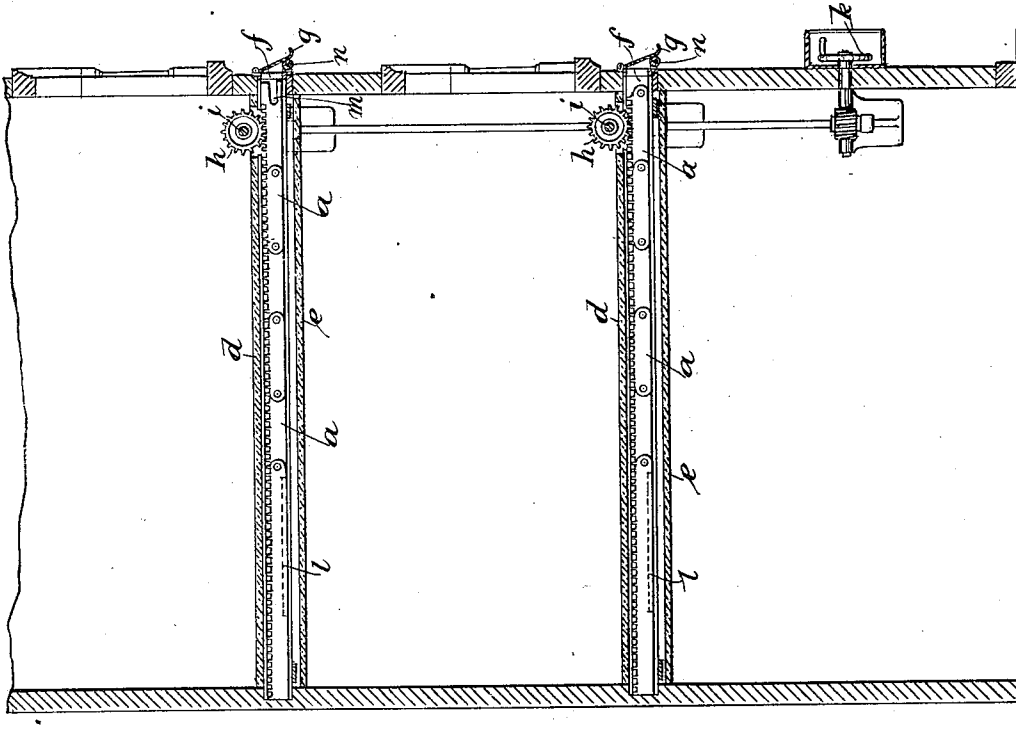


Fig. 2.

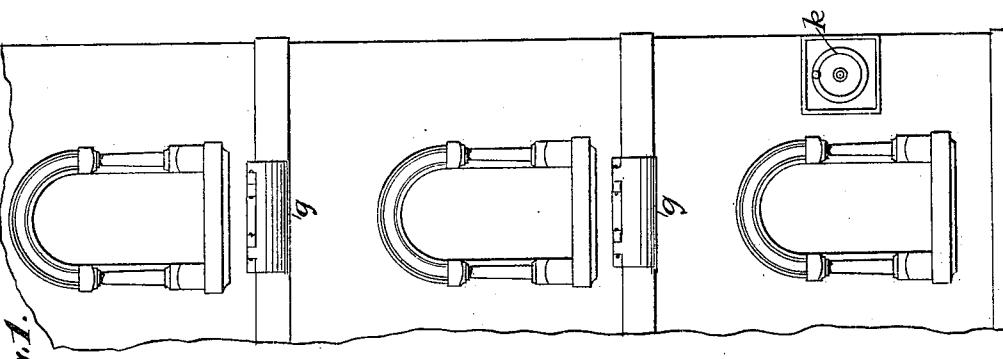


Fig. 1.

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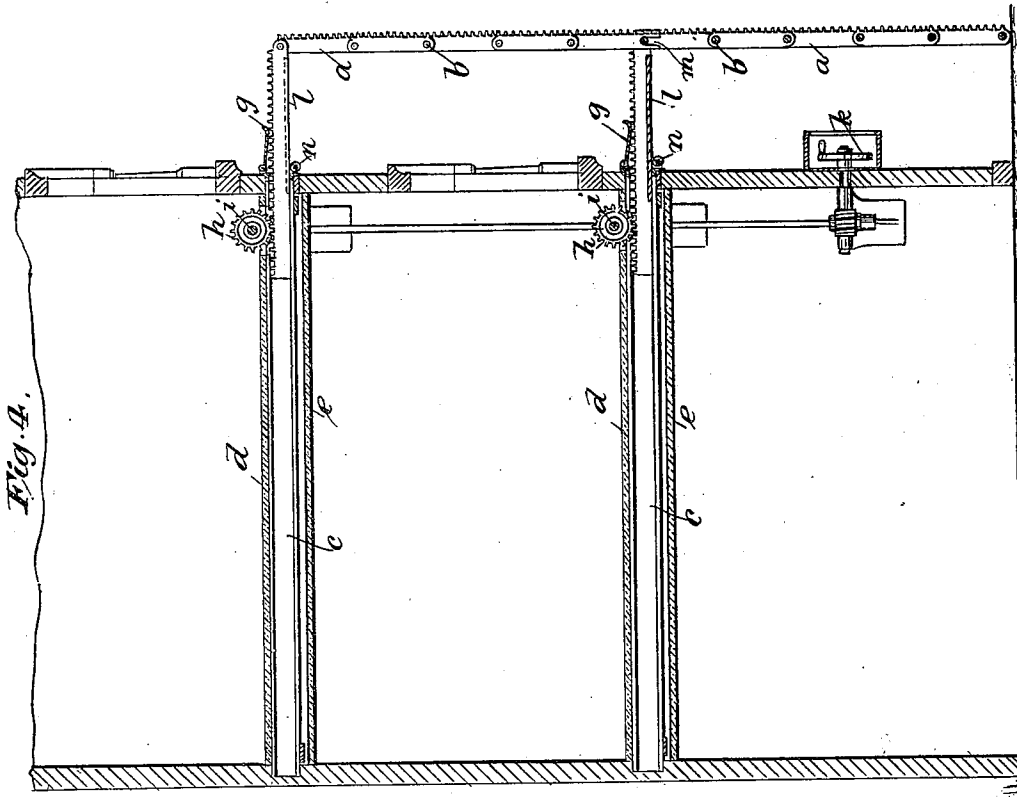
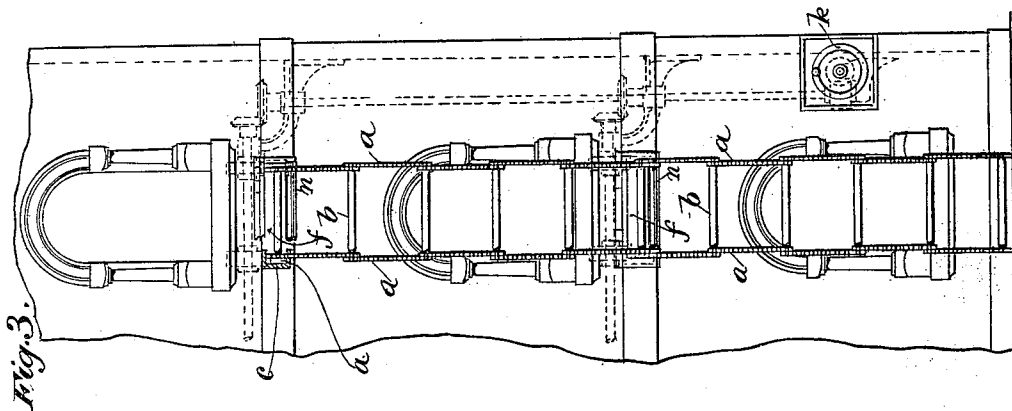
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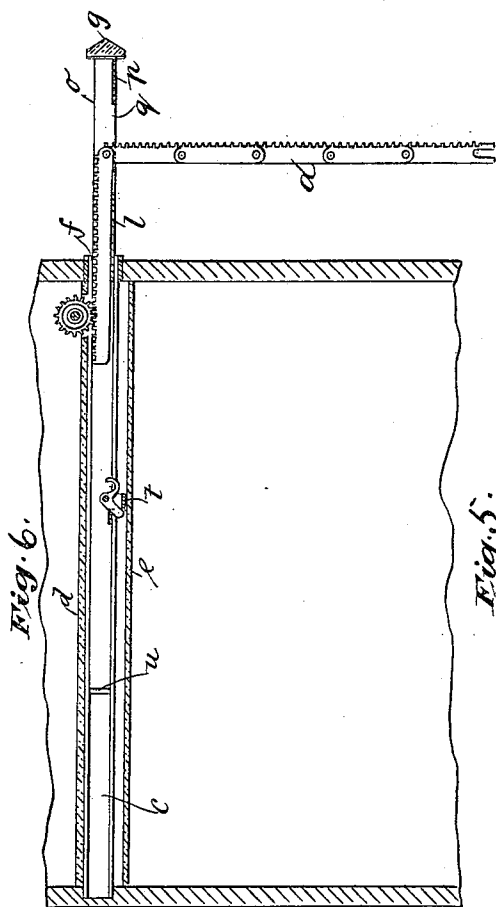
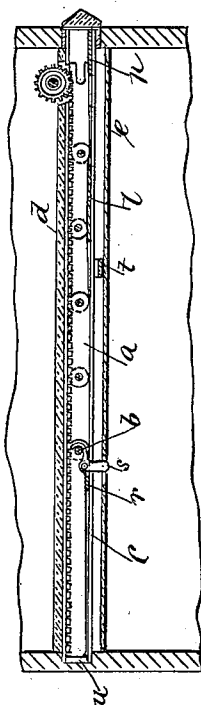
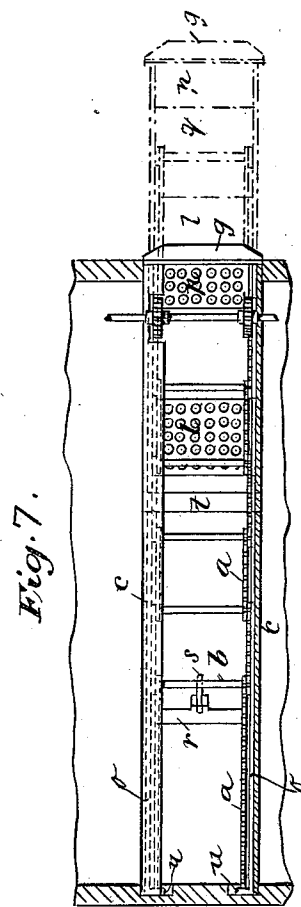
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

JOSEPH WHITELEY, OF SALFORD, ENGLAND.

LADDER FOR LIFE-SAVING.

SPECIFICATION forming part of Letters Patent No. 667,753, dated February 12, 1901.

Application filed February 20, 1900. Serial No. 5,965. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WHITELEY, a subject of the Queen of Great Britain, residing at Salford, in the county of Lancaster, England, (whose post-office address is Clowes street, Chapel street, Salford aforesaid,) have invented new and useful Improvements in and Connected with Ladders for Life-Saving and other Purposes, (for which I have made application for patent in Great Britain, No. 15,165, dated July 24, 1899,) of which the following is a specification.

My invention has for its object to provide a ladder for life-saving and other purposes which can be readily applied to existing or new buildings or structures and in case of fire or for cleansing, painting, or repairing purposes can be instantly brought in and out of use and concealed in the building or structure when out of use. I attain this object by the mechanism illustrated in the accompanying three sheets of drawings, in which—

Figures 1 and 3 are front views, and Figs. 2 and 4 vertical sections, respectively, of a portion of a building and ladders constructed in accordance with my invention applied thereto. Figs. 5 and 6 are similar vertical sections; and Fig. 7, a plan of Fig. 5, showing a modification of my invention.

Similar letters refer to similar parts throughout the several views.

In carrying out my invention and referring to Sheets I and II, I form a ladder the sides of which consist of links *a*, jointed together by means of rods *b*, forming the steps of the ladder.

I may employ a ladder constructed as described in connection with each window above the ground-floor or in connection with the windows of every alternate or any desired number of vertical rows of windows. Each of these ladders I employ between two suitable guides—say two channel-irons *c c*, in the present instance secured between the floor and ceiling *d e*, respectively, or above the floor or below the ceiling of the building, as may be found most convenient.

In the front of each outer ladder end an aperture *f* is formed in the wall of the building to permit of sliding the ladder out and overhanging for use, as shown in Figs. 3 and 4, the said aperture being closed when the

ladder has been drawn in by a flap-like cover *g*, hinged to the building, as shown in Figs. 1 and 2, which entirely conceals the ladder. In order to facilitate the sliding in and out of this ladder, I form its links with teeth, each adapted to gear into a pinion *h*, secured upon a shaft *i*, suitably mounted in the building or structure and directly or indirectly rotated—say by a hand-wheel *k*, as shown in Figs. 1, 2, 3, and 4, or by motive power, as may be found most convenient—so that the ladders of a number of windows may be adapted to be slid in or out simultaneously from one point or separately from a number of points, as may be found most suitable. The inner end of this ladder I form with a bottom *l*, which when the ladder is slid out projects from the wall of the building (see Fig. 4) and serves as a platform, say for a fireman, painter, or repairer to stand upon.

The ends of the outer pair of ladder-links above the first ladder are each formed with a slot *m*, (see Figs. 2, 3, and 4,) adapted to engage the uppermost rod or step of the ladder below, and thereby connect the whole series of ladders together, so as to be continuous.

In order to facilitate the movement of the ladder, a roller *n* may be applied in front of the aperture *f*, over which the ladder passes.

Referring to Sheet III, instead of forming the ladder described with one platform only two may be provided. This I accomplish by employing in the guides *c c*, between the same and the ladder-links, a frame *o*, formed at its outer end with two platforms *l* and *p* and an opening *q* between the same, through which the ladder can pass up and down, the outer platform *p* being furnished with a cross-piece forming a cover *g*, adapted to close and open the aperture *f*. The last pair of links of the said ladder I leave open, and to a cross-piece *r*, formed on the said frame, I pivot a weighted hook *s*, which when the ladder is drawn out will be engaged by the last rod or step *b* of the ladder and the said frame drawn out jointly with the ladder until the platforms *l* and *p* have been sufficiently projected from the building, as shown in Fig. 6, when the said weighted hook is caused to contact with a cross-piece *t* on the guides *c c*, disengage the said frame, and allow the ladder to move

by itself and drop through the opening *g*, between the two platforms *l* and *p*. The inner ends of the frame *o o* are each formed with a projection *u u*, against which the inner ends of the last ladder-links abut when drawing the ladder in and by which the said frame is then engaged and caused to slide in with the ladder until the cover *g* has taken up its position in front of the aperture *f*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A life-saving apparatus comprising guides arranged in a buiding, and a jointed ladder arranged in said guides with means for projecting the ladder from the guides whereby it will assume a vertical position along the wall of the building, said jointed ladder having on its uppermost portion a platform, said platform being secured to the horizontal portion of the ladder which maintains its connection with the guides when the ladder is lowered, substantially as described.

2. A life-saving apparatus comprising guides arranged in a building, a cover for the outer ends of the guides, and a jointed ladder

arranged in said guides with means for projecting the ladder from the guides whereby it will assume a vertical position along the wall of the building, said cover being operated by the projection of the ladder from the guides, substantially as described.

3. A life-saving apparatus comprising guides, a ladder movable in said guides and made up of jointed sections, and platforms movable with the ladder, said platforms having a space between them through which the ladder extends, substantially as described.

4. A life-saving apparatus comprising a plurality of guides secured in the building at different levels, and a plurality of ladder-sections made up of jointed portions each ladder-section being adapted to depend when projected from the guides and to form a continuous ladder, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOSEPH WHITELEY.

Witnesses:

F. BOSSHARDT,
STANLEY E. BRAMALL.