



# UNITED STATES PATENT OFFICE.

JOSEPH VAGHI, OF BETHEL, CONNECTICUT.

## LADDER.

942,683.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, JOSEPH VAGHI, a subject of the King of Italy, and a resident of Bethel, in the county of Fairfield and State of Connecticut, have invented a new and Improved Ladder, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved ladder, more especially designed for use on buildings, to provide a safe escape in case of fire, and to allow firemen to quickly reach upper stories of the building, the ladder having its side bars formed of lazy tongs, and the rungs of the ladder forming the pivots on which the members of the lazy tongs are fulcrumed, the ladder when folded taking up very little room, and when in use is locked in an extended position and spaced a sufficient distance from the face of the building to allow convenient ascent and descent of persons making use of the ladder.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the ladder in an extended position; Fig. 2 is an enlarged elevation of the lower end of the ladder in an extended position; Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 2; Fig. 4 is a similar view of the same on the line 4—4 of Fig. 2; and Fig. 5 is a side elevation of the ladder folded.

The side bars A, A' of the ladder are in the form of lazy tongs, and the rungs B of the ladder form the pivots for the members C, C' of the lazy tongs for each side bar A, A' and the uppermost members C, C' of the side bars A, A' terminate in hooks C<sup>2</sup>, adapted to be hooked onto the sill of a window or other support, so as to support the ladder while in an extended position, as indicated in Fig. 1.

In order to prevent the lazy tongs forming the side bars A, A' from opening too far, use is made of lugs D formed on the members C and C' to be engaged by the other members C', C, to limit the opening swinging movement of the members C, C'. By this arrangement, the lazy tongs forming the side bars A, A' are not fully opened and consequently the rungs B are spaced from the face of the wall, as the pivotal ends of adjacent members C, C or C', C' abut

against the face of the wall and thus hold the rungs B spaced from the face of the wall, to accommodate the feet of the person descending or ascending on the ladder.

In order to automatically lock the ladder in an extended position, use is made of hooks or catches E, fulcrumed on the lowermost pivot C<sup>3</sup>, connecting the two lower members C, C' with each other, as plainly indicated in Fig. 2, and the free end of the hook E is provided with a slot E' adapted to engage the pivot C<sup>4</sup> connecting the two lowermost members C', C' with each other. From the pivotal end of the hook E depends an arm E<sup>2</sup> pressed on by a spring F and adapted to rest against a lug G formed on the lowermost member C. Now when the ladder is extended and the members C, C' open, then the free end of the hook E finally engages the pivot C<sup>4</sup>, so as to lock the members C, C' against further opening, in addition to the lugs D previously mentioned. The members C, C' of the lazy tongs forming the side bars A, A' of the ladder are of such length as to space the rungs B, B the desired distance apart at the time the ladder is in an extended position.

When the ladder is folded, as shown in Fig. 5, it takes up very little room and can be conveniently stored in a room and used in case of fire, by the operator engaging the hooks C<sup>2</sup> on the sill of a window and allowing the side bars A, A' to extend on the outside of the building down from the window, as indicated in Fig. 1, to permit the occupant of the room to descend the ladder to the sidewalk or ground. When the ladder is in a folded position it may be extended from the ground by the operator taking hold of the lowermost rungs B, B, and drawing the same apart, so as to cause the lazy tongs to open up in an upward direction, to allow the operator to hook the hooks C<sup>2</sup> onto the sill of a window or other support, with a view to support the ladder and to allow firemen or other persons to ascend the ladder to an upper floor.

The ladder shown and described is very simple and durable in construction, is composed of comparatively few parts, and not liable easily to get out of order.

It will be noticed from an inspection of Fig. 2 that the catch E is provided with a beveled end adjacent to the slot, for engaging the pivot to lift the catch when the ladder is unfolded, and that the engagement

of the angular arm E<sup>2</sup> with the stop lug G holds the catch in such position that the beveled end thereof will engage the pivot.

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

A ladder comprising side bars in the form of lazy tongs and rungs whose ends are the pivots for the lazy tongs, a catch pivoted on one of the pivots connecting the ends of the lazy tongs and near the lower end of the ladder and having a slot for engaging the

opposite pivot, and an angular arm, a spring pressing the arm for the purpose specified, a stop lug on the lazy tong member opposite to the spring, the catch having a beveled end for engaging the pivot to lift the catch. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH VAGHI.

Witnesses:

THEO. G. HOSTER,  
CELESTE GUZZETTI.