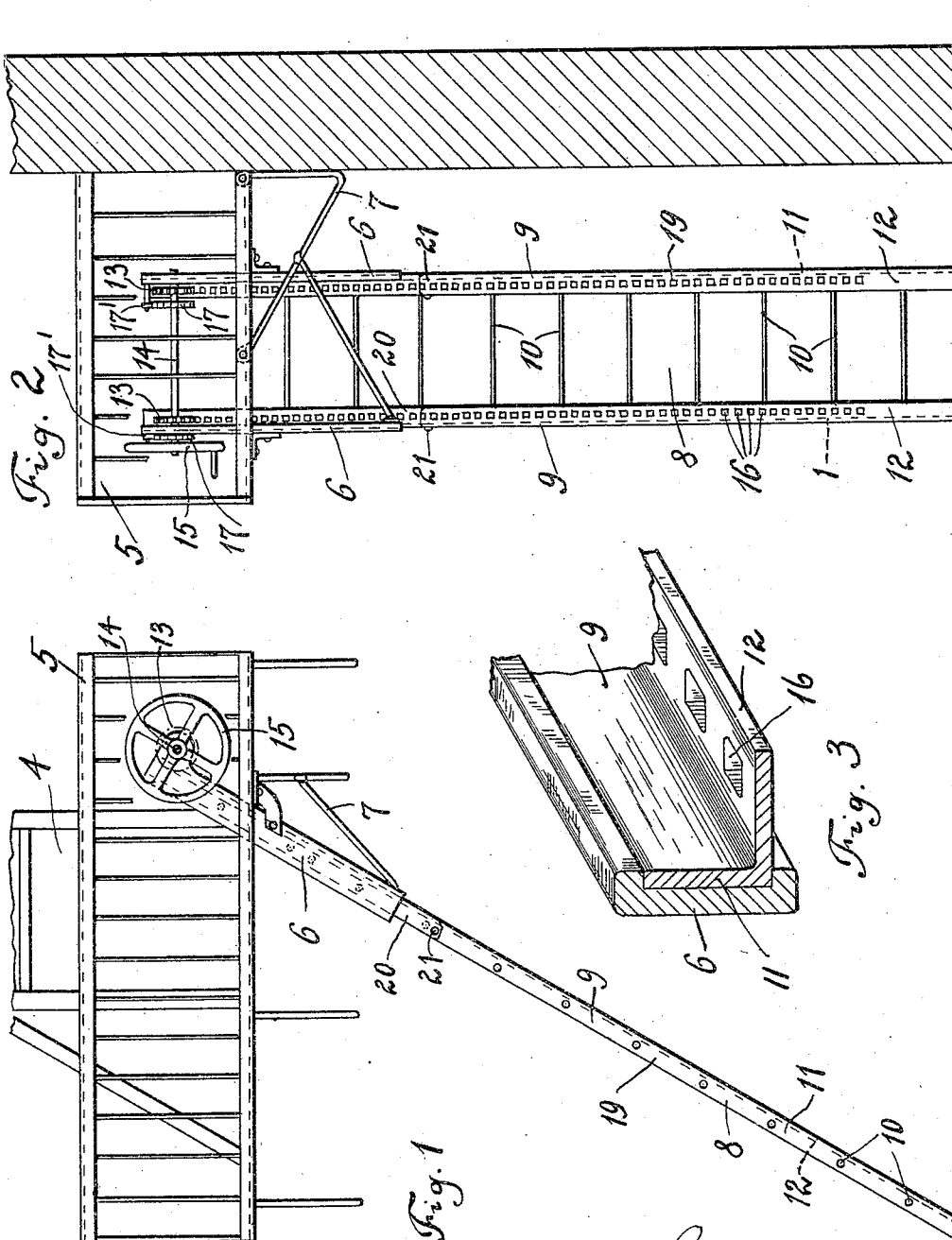


L. VOGL.
FIRE ESCAPE.

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WITNESSES

S. Bimbaury
C. R. Radcliffe

INVENTOR
Laurens Vogl
BY
Signmund Herzog
his ATTORNEY

UNITED STATES PATENT OFFICE.

LAURENZ VOGL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO FRITZ GOTFREDSEN,
OF NEW YORK, N. Y.

FIRE-ESCAPE.

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To all whom it may concern:

Be it known that I, LAURENZ VOGL, a citizen of the United States, and resident of the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to fire-escapes, and more particularly to that part of the fire-escape which leads from the floor next above the ground floor to the ground. The ladder, forming the lowermost section of the fire-escape and leading from the floor next above the ground floor, is either fixedly secured to the platform of said floor when the fire-escape leads into the yard of a building, or the same is detachably held by the platform, when the fire-escape leads to the street, and is usually in the latter case kept upon the platform so as not to obstruct the sidewalk of the street. When the ladder is fixedly attached to the platform, unauthorized persons may have access to the building by way of the fire-escape, while, when kept upon the platform, it is usually very difficult to lower the same into its proper position to allow of an escape from the burning building, for the reason that such a ladder, being made for obvious reasons of metal, is of considerable weight, and can, therefore, not be placed in position by a woman or child.

It is now the object of the present invention to provide means whereby the lowermost section of a fire-escape is normally kept in an elevated position a sufficient distance above the ground, so as to leave the street unobstructed and to prevent, on the other hand, unauthorized persons from gaining admission to the building by way of the fire-escape, and at the same time provide means for the convenient lowering and raising of said lowermost section, so as to permit the occupants of the building to have a safe and expeditious exit therefrom. To attain this end, the lowermost section of the fire-escape is slidably arranged in stationary means, attached to the lowermost platform of the building, which stationary means are provided with means in mesh with the slidable section to raise and lower the latter.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a fire-es-

cape, constructed and arranged according to the present invention, Fig. 2 a rear elevation of the same, and Fig. 3 a detail of construction.

In the drawings, 4 indicates the window of the floor next above the ground floor, whereby access may be had to the platform 5, which is of the usual construction and arrangement. The fire-escape is from the top floor down to the platform 5 of a construction, which does not differ in any essential way from the fire-escapes heretofore in use, that is the ladder sections are fixedly secured to their respective platforms.

To the platform 5 are secured in any suitable manner U-shaped guide rails 6, 6; two in number and arranged at an angle to the platform to hold the lowermost section of the fire-escape in the proper position to allow of a quick and easy escape of the occupants of the building. To more securely hold the guide rails 6 in place, a plurality of suitable brackets or braces 7, 7 are mounted upon the wall of the building and engage the rails 6, 6.

The lowermost section of the fire-escape comprises a ladder 8, made of the side pieces 9, 9, which are connected by means of the usual rungs or steps 10.

Obviously, the guide rails, brackets and the ladder are made of metal, so as to be fireproof.

The side pieces of the ladder are slidably arranged in the U-shaped guide rails, and are made of angle irons, the vertical legs 11 of which are engaged by the rungs or steps 10 in a line running parallel with the horizontal legs 12, and being arranged at a substantial distance therefrom, for a purpose hereinafter to be described.

The means for raising and lowering the ladder comprises two pinions 13, 13, mounted upon a shaft 14, which is journaled in the guide rails 6, and is provided with a hand wheel 15 to facilitate the rotation of the same. These pinions mesh with racks, arranged on the side pieces 9 of the ladder. In the present case the racks are formed upon the horizontal legs 12 of the side pieces, by forming therein a line of substantially rectangular holes 16, the size of which corresponds to the section of the teeth of the pinions, allowing thus the engagement of the teeth with the holes. The holes are arranged either throughout the whole length

of the side pieces 9, or only through a part of the same, as it is intended to raise the ladder wholly above the platform or only a certain distance above the ground.

- 5 In order to keep the ladder in any desired position, the shaft 14 is provided with ratchets 17, in engagement with pawls 17', pivoted to the guide rails 6, and kept in engagement by springs 18.
- 10 The ground floor is very often higher than the floor above the ground floor, and therefore the ladder cannot be raised above a certain height without interfering with the platform of the floor above. On the other
- 15 hand, sometimes a wall prevents the raising of the ladder above a certain level. In such cases the ladder may be made of a plurality of sections. As shown in the drawings, the ladder is made of two sections 19 and 20,
- 20 pivoted together at 21, whereby the section 20 may be swung about 180° on its pivot, so that it lies against the section 19, allowing thus a further raising of the ladder.

- The operation of the device is as follows:
- 25 The ladder is normally held in its elevated position, and, to lower the same, the pawls 17' are disengaged with the ratchets 17, whereby the weight of the ladder will cause the same to descend. The upper section 20,
- 30 which is normally arranged under an angle to the plane of the lower section 19 of the ladder when the ladder is held in its elevated position, will be automatically swung into the plane of the section 19 as soon as
- 35 the lower end of the section 20 comes in contact with the upper end of the stationary

rails 6. The ladder thereby descends to its lowermost limit, which is the ground. The ladder is raised to its upper position by turning the hand wheel 15, whereby the 40 pinions, engaging the holes 16, lift the ladder; the ratchet and pawl arrangement allows, of course, the ladder to be kept in any predetermined position.

It will be understood that various minor 45 changes may be made in the construction and arrangement of the parts without departing from the spirit and scope of the invention.

What I claim is:—

50 In a fire escape, the combination with a platform, of guide supports fixedly secured at an angle to said platform, said guides being U-shaped in cross section, a suitably anchored bracket engaging the depending portions of the supports to further hold the 55 same, a ladder engaging the guide supports, the side rails of the ladder being angle, the vertical legs thereof fitting within the U-shaped guide supports, and means carried 60 by the guide supports engaging the horizontal legs of the side rails of the ladder for imparting longitudinal movement to the ladder.

Signed at New York, in the county of 65 New York, and State of New York, this 6th day of August, A. D. 1908.

LAURENZ VOGL.

Witnesses:

SIGMUND HERZOG,
FRITZ GOTTFREDSEN.