N. OLSEN.

FIRE ESCAPE.

APPLICATION FILED NOV. 23, 1915.

1,202,571.

Patented Oct. 24, 1916.

2 SHEETS—SHEET 1.

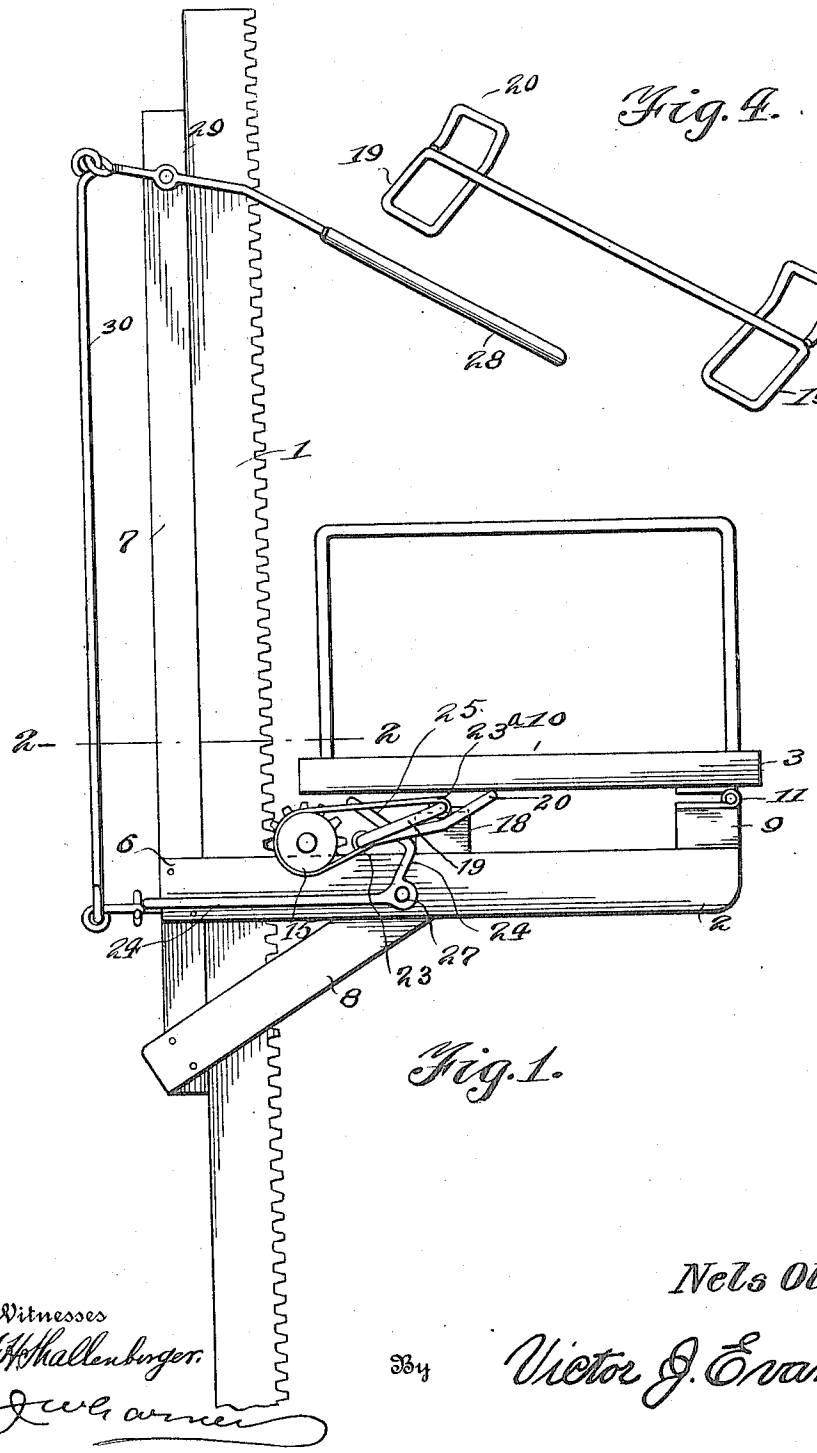


Fig. 4.

Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

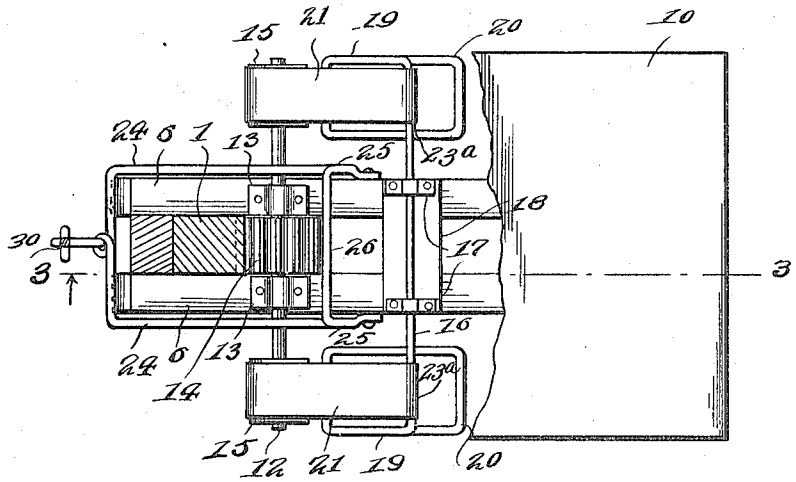
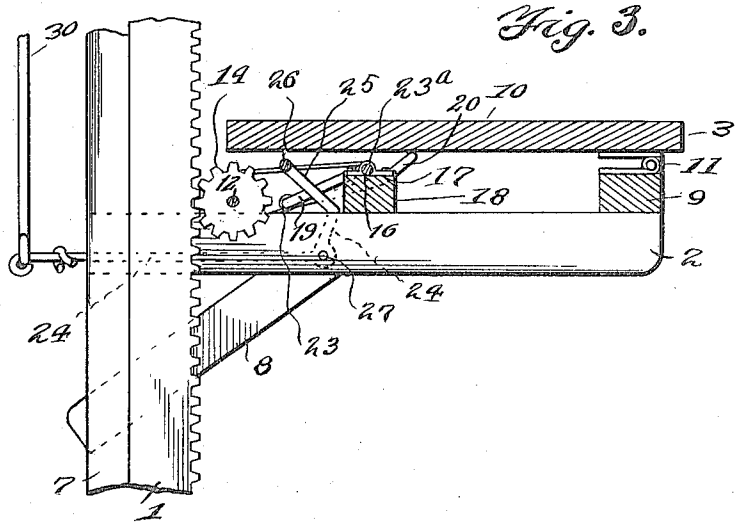


Fig. 3.



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UNITED STATES PATENT OFFICE.

NELS OLSEN, OF WORCESTER, MASSACHUSETTS.

FIRE-ESCAPE.

1,202,571. Specification of Letters Patent. Patented Oct. 24, 1916.

Application filed November 23, 1915. Serial No. 63,110.

To all whom it may concern:

Be it known that I, NELS OLSEN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to improvements in fire escapes, to enable persons to escape from burning buildings, the object of the invention being to provide an improved fire escape which embodies a vertical guide rack, a vertically movable frame, a platform on the frame and on which persons stand when using the device, means actuated by the weight of the platform and the persons thereon to secure the frame to the rack bar, and means operable by a person on the platform to release the locking means, permit the descent of the frame and platform, and at the same time regulate the speed of downward movement thereof.

The invention consists in the construction, combination, and arrangement of devices hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation of a fire escape constructed in accordance with my invention. Fig. 2 is a horizontal sectional view of the same with the platform and frame in plan and a portion of the platform removed to disclose the mechanism under the same. Fig. 3 is a vertical longitudinal sectional view of the same. Fig. 4 is a detail view.

In the embodiment of my invention, I provide a vertical standard 1 which serves as a guide for the frame 2 which carries the platform 3. Said standard has rack teeth 4 on one side. The frame 2 comprises a pair of horizontally arranged bars 6 which are arranged on opposite sides of the vertical standard to slide thereon, a vertical bar 7 which connects the inner ends of said bars 6 and bears slidably on the side of the vertical standard opposite the rack teeth, and inclined braces 8, which are arranged on opposite sides of the vertical standard, have their lower ends secured on opposite sides of the lower portion of the vertical arms 7, and have their upper ends secured under the bars 6. A cross bar 9 is secured on the outer ends of the bars 6.

A platform 10 on which the person or persons using the fire escape are to stand is hinged at its outer side to the bar 9 as at 11. In practice the said platform will preferably be provided with a supporting rail or the like. A shaft 12 is mounted in bearings 13 on the bars 6 and is provided with a pinion 14 which engages the rack teeth of the standard or bar 1, the said pinion being arranged in the space between the bars 6. On the ends of said shaft are brake drums 15. A rock shaft 16 is mounted in bearings 17 on a bar 18 which is secured on the bars 6 and the said rock shaft is provided with arms 19 which extend toward the brake drums and is also provided with upwardly and outwardly extending lever arms 20. The platform bears on the lever arms. Brake straps or bands 21 pass over one side of the brake drums and each has one end secured to the rock shaft as at 23^a and the other end secured to one of the arms 19 as at 23. Hence the weight of the platform and the load thereon is imposed on the levers 20 so that the rock shaft is caused to partly turn and move its arms 19 upwardly thus causing said arms to tighten the brake bands or straps on the drums and thereby prevent the descent of the frame, its platform and the persons thereon under normal conditions.

To control the descent of the loaded platform, I provide a controlling element 24 having arms 25 which are pivotally mounted on opposite sides of the bars 6 as at 27, and a U-shaped combined dog and lever 26 which may be engaged with the pinion to prevent the latter from turning and thus lock the fire escape or may be caused to raise the free end of the loaded platform and hence release the platform from the levers 20 sufficiently to reduce friction between the bands or straps 21 and the brake drums and thus permit and regulate the descent of the loaded platform. The arms 24 of the controlling element are united at a point beyond the vertical bar 7 of the frame. A lever 28 for operating the controlling element is fulcrumed to the upper portion of the bar 7 as at 29 and is connected to the controlling element by a rod 30. Said lever is arranged above the platform where it may be readily grasped and operated by one of the persons on the platform.

In practice, my improved fire escape will be erected at one side of a building or at any other convenient point which will permit persons in seeking to escape to readily step on and have access to the platform.

While I have herein shown and described a preferred form of my invention, I would

have it understood that changes may be made in the form, proportion, and construction of the several parts without departing from the spirit of the invention and within the scope of the appended claims.

Having described the invention, what is claimed is:

1. In a fire-escape, in combination with a vertical standard, a frame slidably mounted on the standard for vertical movement, a revoluble member carried by the frame and engaged with the standard, a platform on the frame, means controlled by the weight of the platform and arranged to check or permit the rotation of the revoluble member and hence check or permit the descent of the platform, and a controlling element for said checking means.

2. In a fire-escape of the class described, a vertical standard, a frame mounted for vertical movement on the standard, a revoluble member carried by the frame and engaged with the standard, a platform on the frame, a brake mechanism to control the rotation of the revoluble member and including a lever on which the platform bears, and a controlling element to regulate the pressure of the platform on the brake lever.

3. In a fire escape of the class described, the combination of a vertical standard having rack teeth on one side, a frame arranged for vertical movement on the standard, a shaft mounted on said frame, having a pinion engaging the rack teeth of the standard and also having a friction brake drum, a brake mechanism, coacting with the friction brake drum mounted on the frame and including a lever, a platform on the frame and bearing on said brake lever, and a controlling element to regulate the pressure or weight of the platform on the brake lever.

In testimony whereof I affix my signature in presence of two witnesses.

NELS OLSEN.

Witnesses:
MAGNUSS OLSON,
JOHN A. STRANDBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."