

(No Model.)

E. O. SJOLANDER.
FIRE ESCAPE.

2 Sheets—Sheet 1.

No. 572,576.

Patented Dec. 8, 1896.

Fig. 3.

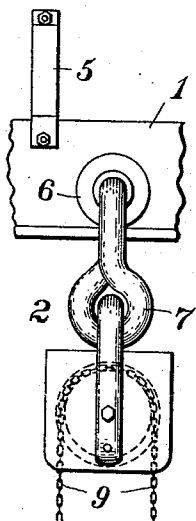


Fig. 2.

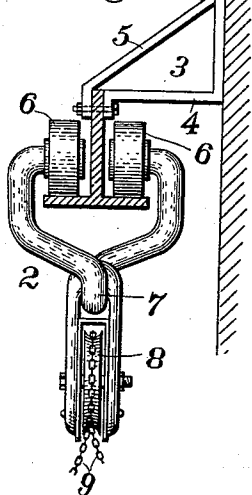


Fig. 1.

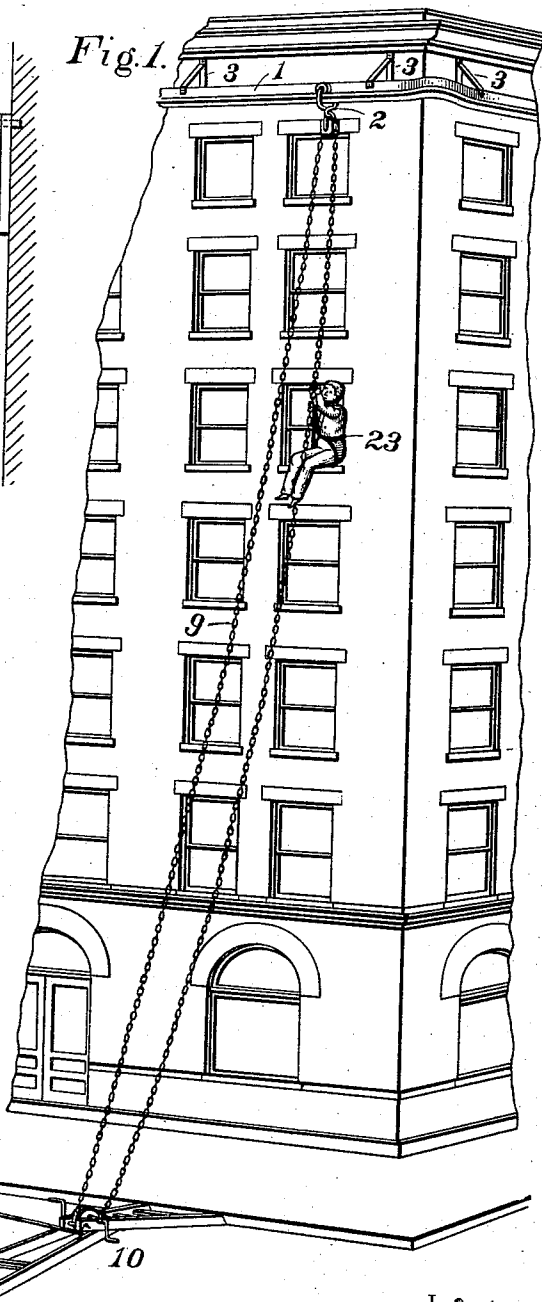
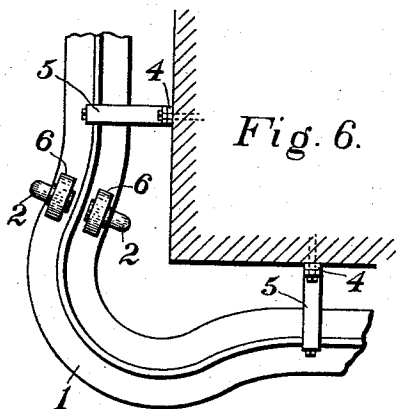


Fig. 6.



Witnesses

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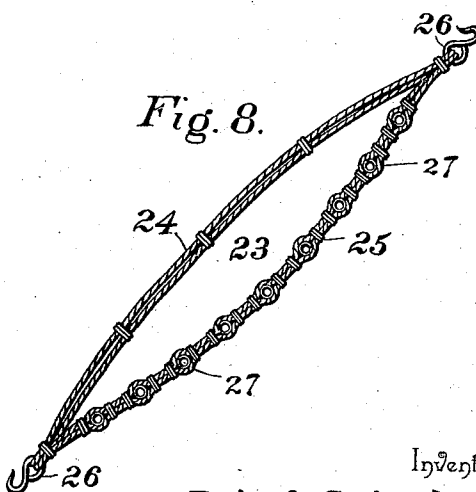
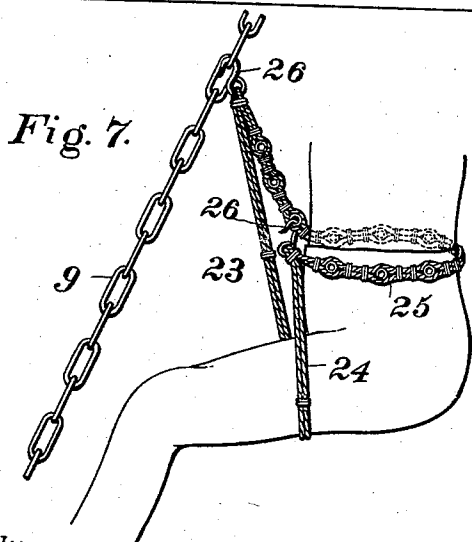
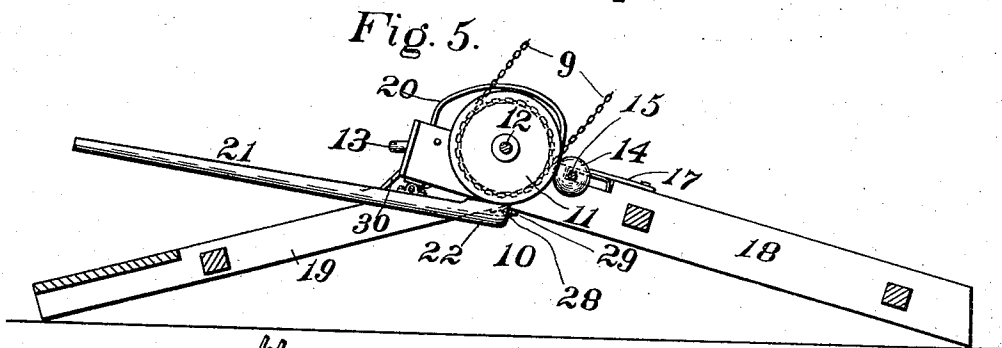
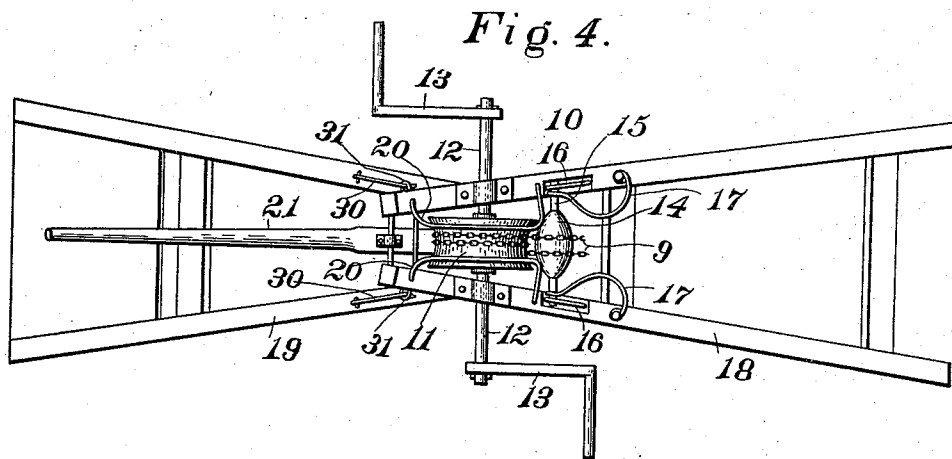
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UNITED STATES PATENT OFFICE.

ERIC O. SJOLANDER, OF CEDAR BAYOU, TEXAS, ASSIGNOR OF ONE-HALF
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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 572,576, dated December 8, 1896.

Application filed February 8, 1896. Serial No. 578,572. (No model.)

To all whom it may concern:

Be it known that I, ERIC O. SJOLANDER, a citizen of the United States, residing at Cedar Bayou, in the county of Harris and State of Texas, have invented a new and useful Fire-Escape, of which the following is a specification.

The invention relates to improvements in fire-escapes.

The object of the present invention is to improve the construction of fire-escapes and to provide a simple and comparatively inexpensive one adapted to be applied to a building or series of buildings and capable of readily transferring persons from a building to the ground and of being carried from one portion of a building to another to effect the escape of persons from any portion of the same and at an elevation thereof.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a fire-escape constructed in accordance with this invention and shown applied to a building. Fig. 2 is an enlarged transverse sectional view of the track, showing the hanger suspended therefrom. Fig. 3 is a side view of the same. Fig. 4 is a plan view of the windlass-frame. Fig. 5 is a longitudinal sectional view of the same. Fig. 6 is a plan view of a portion of the track, illustrating the construction thereof at a corner of a building. Fig. 7 is a detail view illustrating the construction of the adjustable support and showing the position of the same when carrying a person. Fig. 8 is a similar view showing the support before it is applied.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a horizontally-disposed track-bar, T-shaped in cross-section, designed to be mounted on a building adjacent to the top thereof at a point above the uppermost windows and capable of receiving a hanger 2 and of permitting the same to be readily transferred from one portion of a building to another to enable persons to escape from any

window thereof. The track-bar is secured to the building by means of hangers 3, arranged at intervals and composed of L-shaped portions 4 and straight inclined braces 5. The vertical arm of each L-shaped portion rests against the building, and the outer terminal of the horizontal arm and the lower terminal of the inclined braces are bent downward vertically and are secured to the vertical flange of the T-shaped track at opposite sides thereof, as clearly shown in Fig. 2 of the accompanying drawings.

As the track is inverted-T shaped in cross-section it forms horizontal track-flanges at opposite sides of the vertical flange for rollers 6, arranged at the top of the hanger 2. The track may be mounted on a building or a series of buildings, and at a corner it is designed to have sufficient curve, as shown in Fig. 6 of the accompanying drawings, to enable the rollers to pass readily from one side of a building to another. The hangers consist of a yoke provided at its bottom with an eye 7, and having the upper terminals of its sides bent inward horizontally to provide journals for the said rollers 6, which are located at opposite sides of the vertical flange of the track. The hanger carries a pulley 8, arranged within a suitable block or casing, which has a strap-iron provided with an eye that is linked into the eye 7 of the hanger.

The pulley which depends from the hanger receives an endless chain 9, which extends downward from the top of the building to the ground, as clearly shown in Fig. 1 of the accompanying drawings, to a windlass-frame 10. The windlass-frame 10 carries a concave drum 11, around which the endless chain is wound, the chain being preferably wound around the drum twice. The drum is mounted on a transverse shaft 12, journaled in suitable bearings of the windlass-frame and carrying a crank-handle 13 at each end, and the chain is maintained in contact with the drum at one side thereof by a tapering or elliptical spring-actuated pulley 14. The pulley 14 is mounted on a shaft 15, the terminals of which slide in suitable ways 16 of the windlass-frame, and the shaft 15 is engaged by substantially U-shaped springs 17, which press the roller against the drum. The springs are provided

at their outer ends with eyes for the reception of fastening devices for securing them to the sides of the windlass-frame, and have eyes at their inner ends for the reception of the shaft 15. By this construction the drum engages the chain frictionally, and the latter may be actuated in either direction by rotating the crank-handles 12.

The windlass-frame 10 is composed of sections 18 and 19, detachably connected together at their adjacent ends and are disposed at an angle. The section 18 carries the drum and the pulley 14, and the operator by standing on the other section, 19, which is provided at its outer end with a platform, will maintain the endless chain sufficiently taut.

The chain is prevented from twisting at the drum by curved guides 20, secured to the section 18 at opposite sides of the drum, and the descent of a person is controlled by a brake-lever 21, fulcrumed on the inner end of the section 18 and having an enlarged head 22 at the inner or lower end to engage the chain. The brake-lever extends outward from the inner end of the section 18, and its outer end or handle is within easy reach of the operator when he stands upon the section 19 of the frame.

A building is designed to be provided with a life-belt or support 23 for each person employed in or inhabiting it. This life-belt or support may be constructed of any suitable material, being composed of sides 24 and 25 and provided at the ends of the sides with hooks 26, and the side 24 is adapted to form a seat for a person, while the other side is designed to encircle his body. The side 25 is provided at intervals with suitable eyes 27, and the life-belt is applied by encircling the body above the waist with the side 25, engaging one of the hooks with an eye at the front of the body, the other side, 24, forming a seat, as clearly illustrated in Fig. 7 of the accompanying drawings, and the other hook is engaged with one of the links of the endless chain, thereby securely connecting a person with the same. The weight of one or more persons will cause the endless chain to move with sufficient rapidity to transfer such persons from a building to the ground with the desired rapidity, and the movement of the chain may be readily regulated by the brake mechanism, before described.

The sections 18 and 19 of the windlass-frame are composed of side bars and cross-bars, the side bars being arranged at an angle to each other and connected by the cross-bars. The inner ends of the side bars of the section 19 are beveled and fit against the lower edges of the side bars of the section 18, and eyes 28 are arranged at the inner terminals of the side bars of the section 19 and are engaged by hooks 29 of the other section, 18. The sections 18 and 19 are further connected by hooks 30, mounted on the section 19, adjacent to the inner edge thereof, and the other

section is provided with eyes 31 at its inner end to be engaged by the hooks 30.

It will be seen that the fire-escape is exceedingly simple and comparatively inexpensive in construction, that it is capable of being readily transferred from one portion of a building or buildings to another, and that it is adapted to transfer persons rapidly from any window of a building to the ground.

It will also be apparent that simple and effective means are provided for controlling the descent of persons, so that any number of them may be lowered at one time, and that means are also provided for reversing or moving the endless chain in either direction when desired.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a fire-escape, the combination of an endless chain, a windlass-frame composed of two detachable sections oppositely inclined and disposed at an angle, their inner connecting ends being elevated, one of said sections being adapted to receive the weight of the operator, whereby the chain is maintained taut, and a drum mounted on the windlass-frame at the angle thereof and receiving the endless chain, substantially as described.

2. In a fire-escape, the combination of a track, a hanger, an endless chain connected with the hanger, a drum receiving the endless chain, a windlass-frame carrying the drum and composed of two sections arranged at an angle and detachably connected, one of the sections being provided with a platform adapted to receive the weight of the operator, whereby the chain is maintained taut, and a brake-lever fulcrumed on the windlass-frame, arranged to engage the chain adjacent to the drum and having its handle portion arranged above the platform of the windlass-frame in convenient reach of the operator, substantially as described.

3. In a fire-escape, the combination of a track, a hanger, an endless chain connected with the hanger, a drum receiving the endless chain, a windlass-frame carrying the drum and composed of two sections detachably connected, arranged at an angle and adapted to receive the weight of the operator to maintain the chain taut, a brake-lever fulcrumed on the windlass-frame and arranged to engage the chain adjacent to the drum, and a spring-actuated pulley slidingly connected with the windlass-frame and arranged to engage the chain, substantially as described.

4. In a fire-escape, the combination of a windlass-frame, a drum journaled thereon, a shaft arranged in suitable ways and located adjacent to the drum, a pulley mounted on the shaft, substantially U-shaped springs located at the ends of the shaft, provided with eyes for the reception of the latter and se-

cured at their outer terminals to the windlass-frame, substantially as described.

5 In a fire-escape, the combination of a windlass-frame composed of two sections detachably connected and arranged at an angle, a drum mounted on one of the sections, a crank-handle connected with the drum, curved guides mounted on the windlass-frame, located at opposite sides of the drum, and adapted to prevent an endless chain from becoming twisted, a brake-lever fulcrumed on the windlass-frame and arranged adjacent to the drum, and a spring-actuated pulley located adjacent to the latter, substantially
10 as described.

6. In a fire-escape, the combination of an

endless chain, means for operating the same, and a life-belt or support composed of two sides, one of the sides being provided at intervals with eyes, and hooks located at opposite ends of the sides, one of the hooks being adapted to engage the endless chain and the other to engage said eyes, substantially as and for the purpose described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

ERIC O. SJOLANDER.

Witnesses:

JOHN ILFREY,
JAMES BUSCH.