F. PFEIL.

FIRE ESCAPE.

APPLICATION FILED MAR. 9, 1918.

1,301,497.

Patented Apr. 22, 1919.

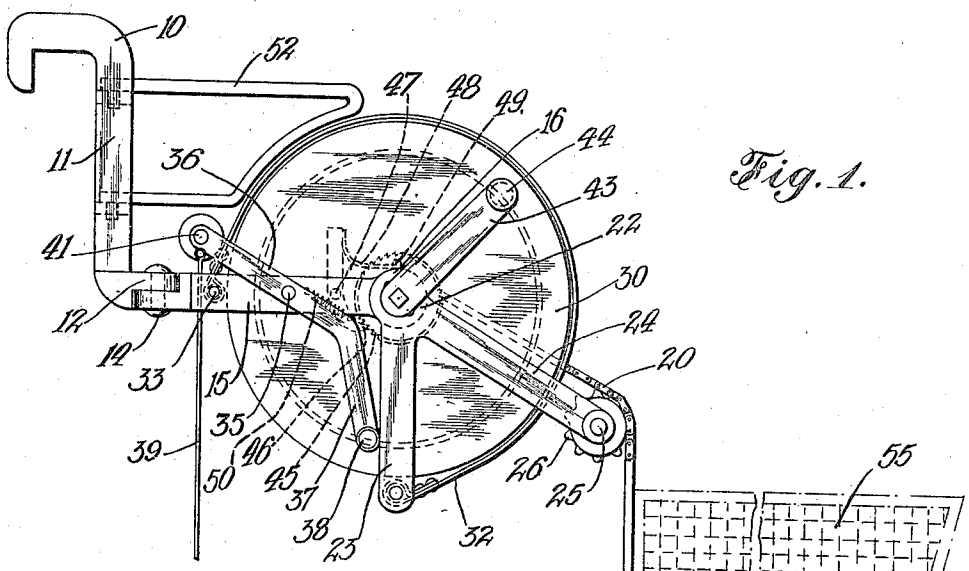


Fig. 1.

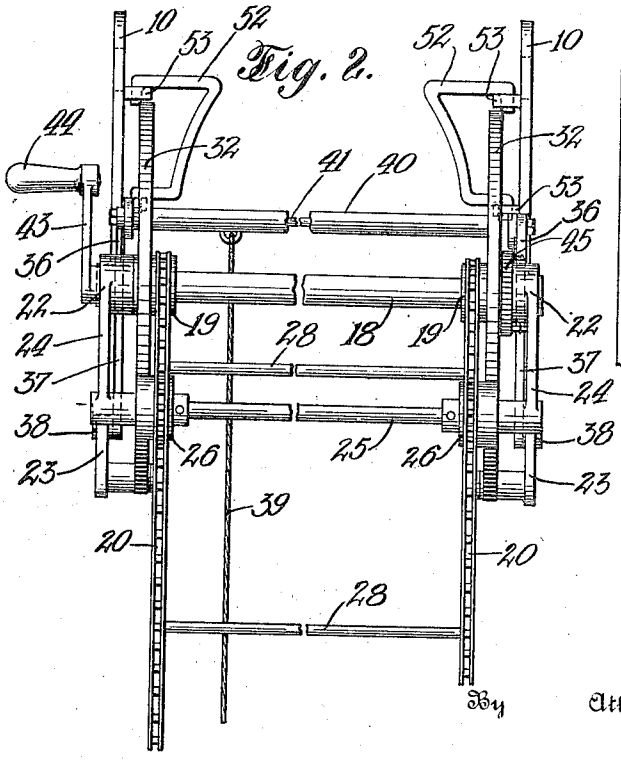


Fig. 2.

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FIRE-ESCAPE.

1,301,497. Specification of Letters Patent. Patented Apr. 22, 1919.

Application filed March 9, 1918. Serial No. 221,349.

To all whom it may concern:

Be it known that I, FRANK PFEIL, a citizen of the United States, and a resident of Livingston, county of Madison, and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to improvements in fire-escapes and particularly to types adapted to be attached so as to extend outward from a window when required for use.

The principal object of the invention is to provide a fire-escape which may be readily attached to the sill of any ordinary window or the like, and which is capable of being used by a number of people in descending from the window to the ground.

A further object is to provide a device which may be compactly folded for storage when not in use, and finally to provide a fire-escape which may be readily operated in a safe and expeditious manner.

These and other like objects are attained by the novel construction and combination of parts hereinafter described and shown in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a side elevational view showing a fire-escape made in accordance with the invention, and

Fig. 2 is a front elevational view of the same.

This invention is an improvement over my former Patent No. 1,206,910, and, referring to the drawings, will be seen to comprise a pair of hooks 10, adapted to be disposed over a window sill near its ends in such manner as to be securely held thereon.

The vertical bar elements 11, of the hooks are turned outward at their lower ends 12, and connected by pivot joints 14, with horizontal bars 15, so that the hooks can be turned inwardly toward each other when the device is folded for storage.

The outer end of the bars 15, carry enlarged hubs 16, in which is rotatably mounted a shaft 18, having at its ends adjacent to the hubs 16, a pair of sprockets 19, engaged with chains 20, which may be wound or coiled on the sprockets in an obvious manner.

Rotatably mounted on the shaft 18, are hubs 22, from which extend arms 23 and 24 respectively, the latter arms carrying at their extremities a shaft 25, having mounted upon it sprockets 26, the same acting as guides for the chains 20, by means of which they are extended outwardly from the apparatus so as to permit the descent of a person. Engaged between the chains 20, are a plurality of rods 28, the same acting as the rungs of a ladder, so that when the chain has once been extended, other persons can pass downward using the rungs as steps.

A pair of circular plates or disks 30, are rigidly secured on the shaft 18, the same serving to guide the chains as they are wound upon the sprockets 19.

At the outer end of the arms 23, are secured the ends of brake bands 32, their opposite ends being held by pins 33, set in the bars 15, the arrangement being such that as the chains are drawn down, it causes a braking effect upon the disks 30, preventing them from rotating too rapidly.

Pivotally engaged by a pin 35, to the bars 15, are levers 36, the downturned arms 37, of which carry rollers 38, adapted to impinge against the sides of the arms 23, when the lever 36 is drawn downward by the cord 39, attached to a sleeve 40, rotatably mounted on a shaft 41, the arrangement being such that when the cord is pulled, it causes the lever to press the arm 23 outwardly, thereby releasing the braking effect of the encircling bands 32.

One of the outer extending ends of the shaft 18, is squared and fitted to a lever 43, terminating in a handle 44, by means of which the shaft can be rotated and the chain wound upon it. Also engaged with the shaft 18, at its opposite end is a ratchet 45, engageable with which is a dog 46, pivoted on the pin 47, set in the adjacent bar 15, and normally pressed into engagement by means of a flat spring 48, pivotally engaged by a screw 49, set in the hub 16, so that it is possible to move the spring laterally outward from contact with the end of the dog which will then be drawn outwardly by reason of the tension spring 50, so as to permit the ratchet to revolve with the shaft 18.

Guide arms 52, are pivoted in brackets 53, arranged upon the inner side of the vertical arms 11, of the hook, materially assisting a person when passing outward from the window over the shaft 18, so as to step upon the rungs of the chains 20.

In addition to the rungs 28, an open wire basket 55 may be attached to the chains thereby permitting the descent of children or women in a safe and expeditious manner rather than by use of the rungs only.

It is to be noticed that the guide arms 52, can be closely folded as well as the vertical hook arms, thereby, when not in use, forming a compact structure which may be disposed of in any convenient manner.

In operation, the hooks 10, having been extended outward from a window, in an open position, and the guides 52 extended outward, the apparatus is in condition to be used by stepping upon the rungs, first moving the spring 48, out of its normal position, so as to permit the shaft 18, to rotate under the weight of the operator while the speed of descent can be controlled by grasping the cord 39, causing more or less friction between the inner surface of brake bands 32 and the disks 30, permitting the operator to descend at any speed.

After the chain has been entirely unwound other persons can step over the apparatus, using the rungs in the manner of a ladder.

When not in use the handle 44 may be operated coiling the chain upon the sprockets 19, and the other parts of the apparatus closely folded adjacent to the coiled chains and disposed of in any desired manner.

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

In a fire-escape, the combination with a pair of arms, of hooks pivotally engaged therewith, said hooks being engageable with the sill of a window, guide-arms pivotally secured in brackets at the inner sides of said hooks, a shaft mounted in the outer end of said arms, a pair of spaced chains engaged with said shaft, a ratchet wheel mounted on said shaft, a dog pivoted in said arms engageable with the said ratchet, means for manually rotating said shaft, means for normally holding said dog in engagement, said means permitting the release of said dog, a spring adapted to release said dog, braking means operated by the descent of an operator, means for manually reducing the action of said braking means and an open wire basket attached to said chains, substantially as described, and for the purpose set forth.

In testimony whereof I have affixed my signature.

FRANK PFEIL.

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