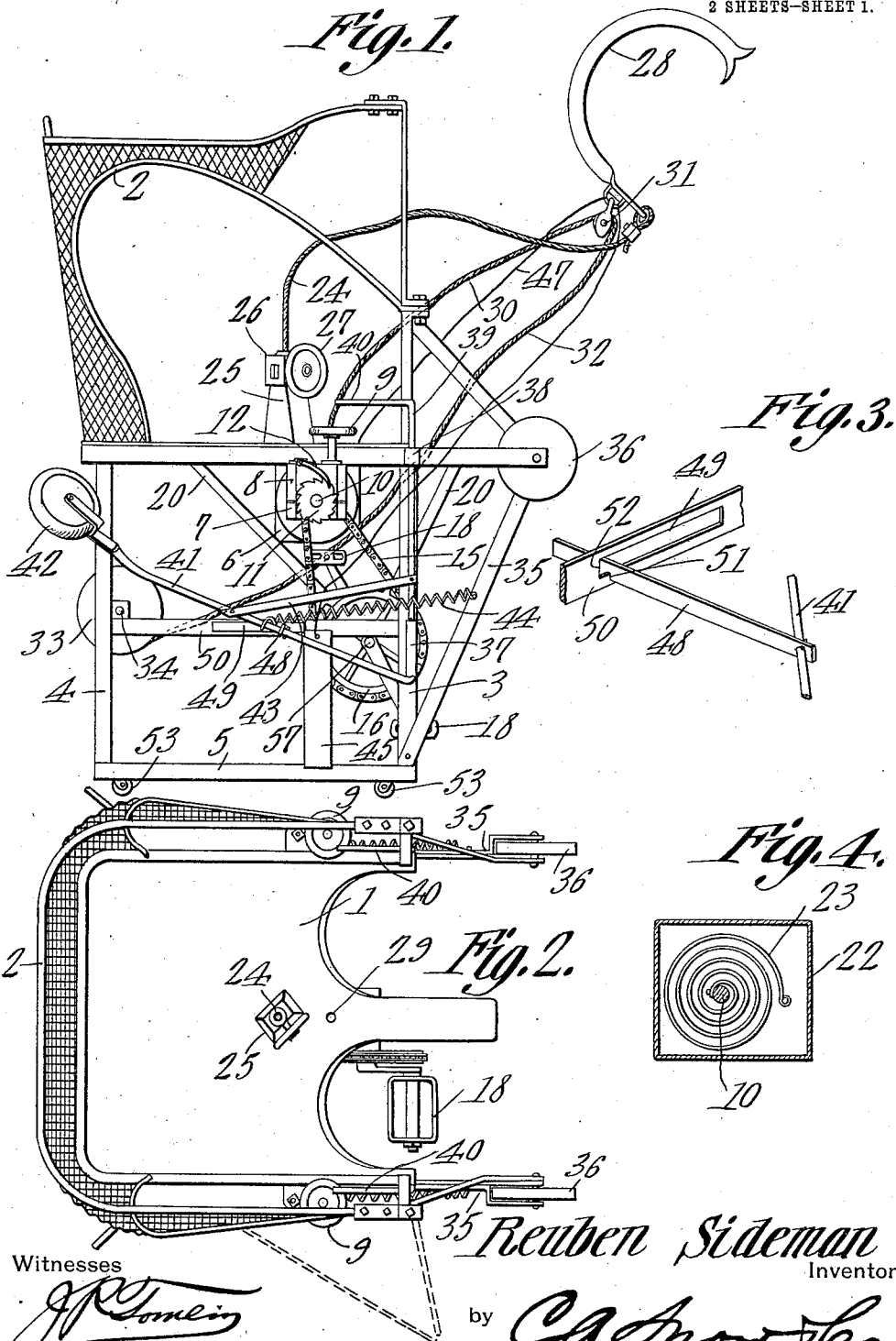


R. SIDEMAN.
FIRE ESCAPE.
APPLICATION FILED FEB. 12, 1913.

1,073,293.

Patented Sept. 16, 1913.

2 SHEETS—SHEET 1.



Witnesses

J. P. Dineen
L. Wilcox

by

Reuben Sideman
Inventor
C. A. Snow & Co.
Attorneys

R. SIDEMAN.
FIRE ESCAPE.
APPLICATION FILED FEB. 12, 1913.

1,073,293.

Patented Sept. 16, 1913.

2 SHEETS—SHEET 2.

Fig. 5.

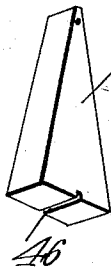
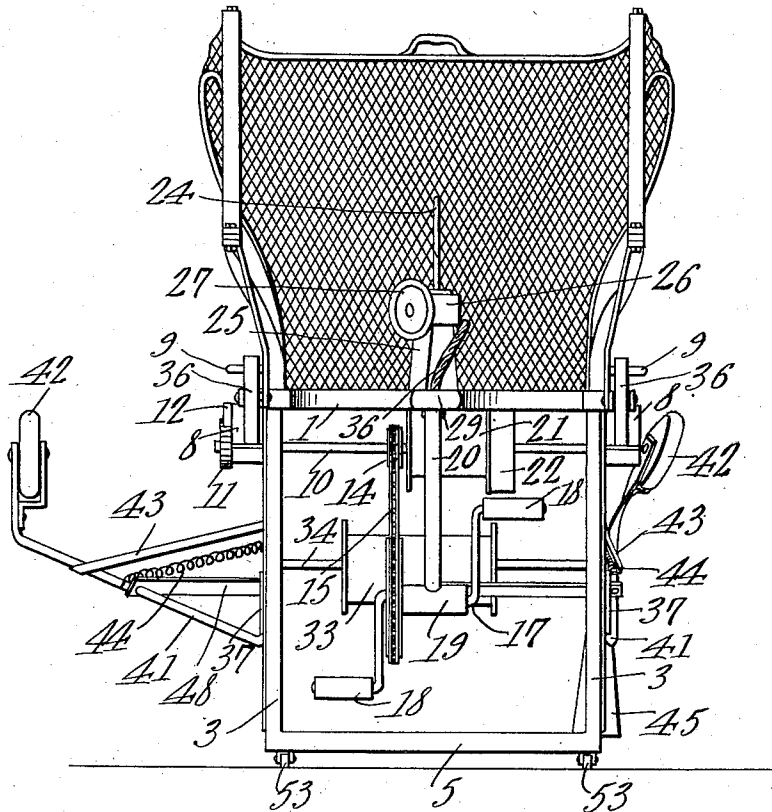


Fig. 6.

Witnesses

J. P. Tomein
L. Wilcox

Reuben Sideman
Inventor

by

Cashnow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

REUBEN SIDEMAN, OF SAN FRANCISCO, CALIFORNIA.

FIRE-ESCAPE.

1,073,293.

Specification of Letters Patent.

Patented Sept. 16, 1913.

Application filed February 12, 1913. Serial No. 748,031.

To all whom it may concern:

Be it known that I, REUBEN SIDEMAN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Fire-Escape, of which the following is a specification.

The device forming the subject of this application is a fire escape of that general type which is shown in my prior Patent No. 1,022,568, granted to me upon the 9th day of April, 1912.

One object of the present invention is to improve generally, the construction of a fire escape of the type above referred to.

Another object of the invention is to provide novel mechanism for spacing the carrier of the fire escape anti-frictionally from the walls of the building upon which the carrier is employed.

Another object of the invention is to provide novel means whereby the anti-friction mechanism above mentioned may be swung automatically to a position in front of the carrier, so soon as the downward movement of the carrier commences.

Another object of the invention is to provide means whereby the carrier may be raised, means being provided for automatically reeling in the supporting cable, as the carrier is elevated.

Another object of the invention is to provide means whereby the occupant of the carrier may raise the same while the occupant remains in the carrier.

It is within the scope of the invention to improve generally and to enhance the utility of, devices of that type to which the present invention appertains.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—Figure 1 shows the invention in side elevation; Fig. 2 is a top plan; Fig. 3 is a perspective of the latch and attendant parts which coöperate to hold the anti-friction frame in projected position in front of the carrier; Fig. 4 is a sectional elevation illustrating the spring means for

actuating the main shaft; Fig. 5 is a front elevation of the completed structure, one anti-friction frame being in advanced position and the other anti-friction frame being in retracted position; Fig. 6 is a perspective of the wedge which serves to release the anti-friction frame, so that the same may be swung forwardly.

In the present embodiment of the invention there is provided a carrier which supports the operator, the carrier being lowered to permit the operator to leave a burning building or to descend from a structure upon which the operator is working.

The carrier may be of any form but in the present instance is shown in the form of a chair comprising a seat 1 provided with back and arms 2, there being forward legs 3 and rear legs 4 connected with the seat 1. The lower ends of the legs 3 and 4 being united by a bottom frame 5 which may be provided with casters 53. Hangers 6 are located adjacent the sides of the seat 1 and are secured thereto, the hangers 6 supporting fixed bearings 7 and movable bearings 8, the movable bearings 8 being controlled by hand wheels 9 which may be manipulated to increase and decrease the friction of the movable bearings 8 upon a main shaft 10 which is journaled in the pairs of bearings and extends across the carrier, as will be best understood from Fig. 5. Secured to one end of the main shaft 10 is a ratchet wheel 11 adapted to be engaged by a pawl 12 which is carried by the seat 1, or is supported from any other suitable fixed portion of the carrier.

The main shaft 10 may be rotated by the occupant of the carrier to cause a raising of the carrier. To this end, a sprocket wheel 14 is secured to the main shaft 10 and about the sprocket wheel 14 is trained a sprocket chain 15, engaged with a sprocket wheel 16 secured to a shaft 17 provided with pedals 18, the shaft 17 being journaled in a bearing 19 upheld by a frame 20, the frame 20 being secured to the seat 1. The shaft 17 and attendant parts, the sprocket wheels 14 and 16 and the chain 15 constitute a gear train, under the control of the operator, for actuating the shaft 10.

Secured to the shaft 10 is a main drum 21. Attached to the seat 1 or otherwise supported, is a casing 22 within which is located a coiled spring 23. See Fig. 4. One end of the spring 23 is attached to the casing 22 and with the other end of the spring

23 is attached the main shaft 10. One end of a flexible element 24 is mounted upon the main drum 21, the flexible element 24 passing upwardly through a tubular standard 25 which is fixed to the seat 1. At its upper end, the tubular standard 25 carries a friction brake 26 adapted to engage the flexible element 24. The friction brake 26 is actuated by a hand wheel 27. The upper end of the flexible element 24 is connected to a support engaging member 28 which may be in the form of a rigid hook adapted to be engaged over the sill of a window or any like structure.

Secured as indicated at 29 to the seat 1 is a flexible element 30, passed upwardly over a sheave 31 which is connected with the support engaging member 28. The free end 32 of the flexible element 30 is extended downwardly and is wrapped around a receiving drum 33, mounted upon a shaft 34 supported by the rear legs 4 and, if desired, held by braces 50 which extend along the sides of the carrier and unite the rear legs 4 with the forward legs 3.

Brackets 35 are secured to the sides of the carrier, and at the outer ends of the brackets 35 are journaled wheels 36, adapted to bear against the wall of the building, to facilitate the raising and lowering of the carrier and to prevent the building from being scratched or marred by the carrier as the same moves vertically. Bearings 37 are mounted upon the forward legs 3 and aligned vertically with the bearings 37 are other bearings 38 which may constitute a part of the brackets 35. In the bearings 37 and 38, and at the sides of the carrier, upright shafts 39 are journaled, the upper ends of the shafts 39 carrying angularly disposed handles 40. The lower ends of the shafts 39 may be rearwardly and upwardly extended to form arms 41, carrying wheels 42. Braces 43 connect the shafts 39 with the arms 41, the shafts, the arms, and the braces constituting frames which are pivoted to the carrier adjacent the front of the carrier. The frames 39-41-43 may be swung rearwardly, so as to lie in approximate parallelism with the sides of the carrier and resilient means is provided for maintaining the frames rearwardly extended. This means preferably comprises retractile springs 44, the forward ends of which are secured to the brackets 35, the rear ends of which are secured to the arms 41. When the rear ends of the arms 41 lie adjacent the sides of the carrier the springs 44 will tend to swing the rear ends of the arms 41 inwardly toward the carrier. When, however, the arms 41 are swung outwardly, beyond a predetermined point, the tendency of the springs 44 will be to swing the arms 41 forwardly and thus dispose the wheels 42 in front of the carrier and in position to en-

gage the building when the carrier moves vertically. A means is provided for swinging the arm 41 forwardly so that the springs 44 may act by tension to impart further swinging movement to the arms 41 in a forward direction. To this end, a pair of wedges 45 are provided, one wedge being shown in Fig. 6. Each wedge 45 at its lower end is provided with a slot 46 which receives a portion of the bottom frame 5 of the carrier, and thus the wedge is supported between the arms 41 on one hand and the brace 50 upon the other hand, as will be understood when Figs. 1 and 5 are examined. The lower ends of flexible elements 47 are connected with the upper ends of the wedges 45, the upper ends of the flexible elements 47 being connected with the support engaging member 28, or being otherwise held fixedly.

Latches 48 which may be in the form of bars are pivoted and are loosely supported at their outer ends upon the arms 41. The latches 48 pass inwardly through slots 49 formed in the braces 50. Each latch 48 is equipped in its lower edge with a notch 51, adapted to engage the lower wall of the slot 49, one end wall 52 of the slot 49 constituting an abutment which prevents the latch 48 from moving transversely.

The operation of the structure hereinbefore described is as follows:—The carrier is thrust outwardly through the window of the building, and the support engaging member 28, ordinarily, is hooked around the window sill. The operator then places himself in the carrier. The hand wheels 9 are manipulated to alter the brake pressure upon the main shaft 10, thereby regulating the speed at which the flexible element 24 is paid off the main drum 21. The friction brake 26, controlled by the hand wheel 27, prevents the carrier from moving downwardly, until the operator has manipulated the hand wheel 27. Owing to the fact that the brake mechanism, controlled by the wheels 9 is provided, all of the friction due to regulating the lowering of the carrier is not imposed by the brake 26 upon the flexible element 24. When the wheel 27 is manipulated as above described, the carrier will move downwardly, the flexible element 24 being paid off the main drum 21. At the same time, the spring 23 will be put under tension. So soon, therefore, as the operator dismounts from the carrier, the spring 23 will actuate the shaft 10 to reel in the flexible element 24 when the carrier is elevated to receive another passenger, the pawls 12 having been first disengaged from the ratchet wheel 11. When the carrier descends, the flexible element 30 will be unrolled from the receiving drum 23 and when it is desired to elevate the carrier, the free end 32 of the flexible element 30 may be

drawn upon, the flexible element running over the sheave 31 and effecting a raising of the carrier. During this operation, the spring 23 will actuate the shaft 10 and cause the flexible element 24 to be taken up by the main drum 21.

The structure herein disclosed is adapted to be employed by painters and other mechanics. Under such circumstances, the operator, through the medium of the pedals 18 may actuate the shaft 17, the sprocket wheel 16, the sprocket wheel 14 and the shaft 10, the drum 21 being thereby rotated and the flexible element 24 being shortened.

The pivotally mounted frames 39—41—43 may be swung outwardly through the medium of the handles 40. Under ordinary circumstances, the initial forward swinging movement of the frames is effected by the wedges 45. When the carrier descends, the flexible elements 47 will be drawn taut and will hold the wedges 45 against downward movement. The inclined faces of the wedges 45, coacting with the arms 41 and the braces 50 will swing the arms 41 outwardly until the springs 44 can exert a tension upon the arms, whereupon, the arms will swing to a position in front of the carrier. The wheels 42 will, therefore, be positioned in front of the carrier and will prevent the carrier from swinging inwardly into doors and other openings, as the carrier is lowered. When the arms 41 swing forwardly, the latches 48 will ride in the slots 49 until the notches 51 engage with the lower walls of the slots, the latches 48 abutting against the end walls of the slots 49 as will be understood readily from Fig. 3. These latches 48, therefore, should serve to prevent the arms 41 from swinging rearwardly, and serve to hold the wheels in front of the carrier and in position to engage with the wall of the building.

Having thus described the invention what is claimed is:—

1. In a device of the class described, a carrier; a frame mounted upon the carrier movably and adapted to project in front of the carrier; means for projecting the frame; and mechanism engaging the frame to actuate the frame initially and to render the frame responsive to said means, said mechanism including a fixed, overhead support.

2. In a device of the class described, a carrier; a frame hinged to the carrier and adapted to swing to a position in front of the carrier; means for swinging the frame into position in front of the carrier; and mechanism engaging the frame to impart initial movement to the frame and to render the frame responsive to said means, said mechanism including a part adapted for connection with an overhead support; and locking means for holding the frame in outstanding position in front of the carrier.

3. In a device of the class described, a carrier; a frame pivoted to the carrier; a movable member cooperating with the carrier and with the frame to swing the frame away from the carrier; and means for connecting said member with an overhead support.

4. In a device of the class described, a carrier; a frame pivoted to the carrier; a movable member cooperating with the carrier and with the frame to swing the frame away from the carrier; means for connecting said member with an overhead support; and locking mechanism for holding the frame in advanced position.

5. In a device of the class described, a carrier; a frame hinged to the carrier; a wedge interposed between the frame and the carrier; and means for connecting the wedge with an overhead support.

6. In a device of the class described, a carrier; a frame hinged to the carrier; a wedge interposed between the frame and the carrier; means for connecting the wedge with an overhead support; and locking mechanism for holding the frame in outstanding relation to the carrier after the frame has been actuated by the wedge.

7. In a device of the class described, a carrier; a frame hinged to the carrier; a spring connected with the frame and with the carrier and constituting means for swinging the frame toward the carrier; a movable member bearing upon the frame and adapted to impart initial movement to the frame, whereby the spring will constitute means for swinging the frame into a projecting position; and means for connecting said member with a fixed support.

8. In a device of the class described, a carrier; a frame hinged to the carrier; a spring connected with the frame and with the carrier, to one side of the pivotal mounting of the frame, the spring constituting means for swinging the frame against one side of the carrier, and for swinging the frame away from the carrier when the frame is initially actuated beyond a predetermined point; a wedge interposed between the carrier and the frame and constituting means for imparting an initial movement to the frame to cause the spring to swing the frame away from the carrier; and means for connecting a wedge with an overhead support.

9. In a device of the class described, a carrier; a building-engaging frame pivoted to the carrier; means cooperating with the frame for swinging the frame into building-engaging position; and a device for connecting said means with an overhead support.

10. In a device of the class described, a carrier; a drum journaled on the carrier; a support engaging member; a flexible element connecting the drum with the support

engaging member; a frame pivoted to the carrier; a wedge interposed between the frame and the carrier; and a connection between the wedge and the support engaging member.

11. In a device of the class described, a carrier; a drum journaled on the carrier; a flexible element assembled with the drum; a support engaging member connected with the flexible element; a frame hinged to a carrier; means for swinging the frame into projected position when an initial impulse is imparted to the frame; a member engaging the frame to impart initial impulse thereto; and means for connecting the said member to the support engaging member.

12. In a device of the class described, a carrier; a support engaging member; a flexible element connected with the carrier and looped around the support engaging member; a drum mounted on the carrier; a flexible element connected with the drum and with the support engaging member; means upon the carrier for controlling the unreeling of the last specified element from the drum; and yieldable means for actuating the drum, to reel in the last specified flexible element upon the drum, when the carrier is elevated by means of the first specified flexible element.

13. In a device of the class described, a carrier; a main shaft journaled in the carrier; a drum carried by the main shaft;

a flexible element wound about the drum; means for connecting the flexible element with an overhead support; a friction brake upon the carrier, and controlling the unreeling of the flexible element from the drum, said friction brake being adapted to be actuated by the hand of the operator; a pedal supported by the carrier; and means for operatively connecting the pedal with the shaft.

14. In a device of the class described, a carrier; a shaft journaled on the carrier; an arm projecting from the shaft; a wheel on the arm; a latch pivoted to the arm and adapted to engage the carrier; a frame secured to the carrier; a wheel on the frame; a retractile spring connecting the arm with the frame; a wedge interposed between the arm and the carrier; a hook; a connection between the hook and the wedge; a drum on the carrier; a flexible element connecting the drum with the hook; a sheave on the hook; and a flexible element passed around the sheave, one end of the said flexible element being secured to the carrier.

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

REUBEN SIDEMAN.

Witnesses:

DANIEL WEINSTEIN,
ABRAM MARKOVITZ.

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