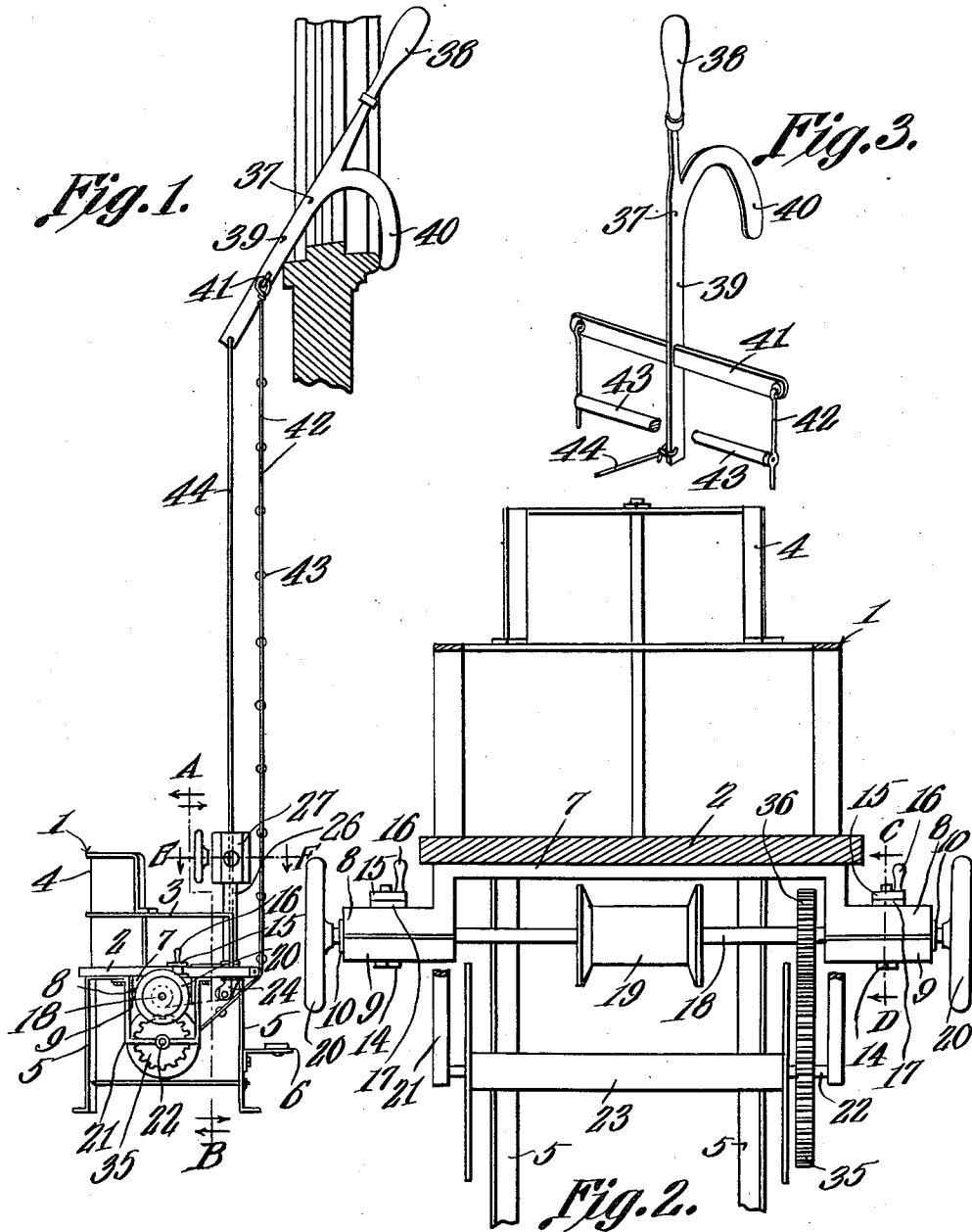


R. SIDEMAN.  
FIRE ESCAPE.  
APPLICATION FILED SEPT. 25, 1911.

1,022,568.

Patented Apr. 9, 1912.

2 SHEETS—SHEET 1.



Witnesses

*J. P. [Signature]*  
*L. H. Wilson*

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*Reuben Sideman,*  
by *C. Snow & Co.*  
Attorneys

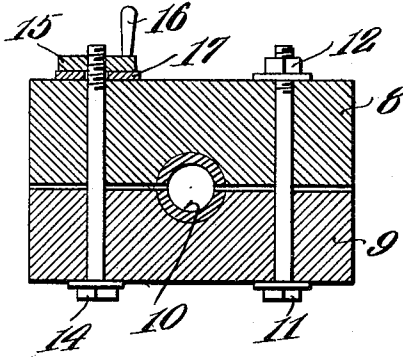
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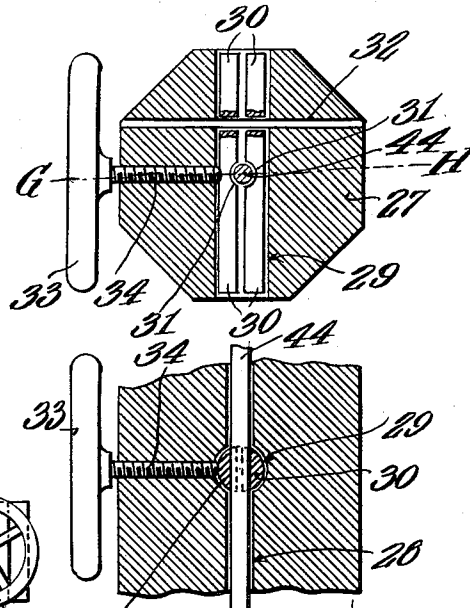
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2 SHEETS—SHEET 2.

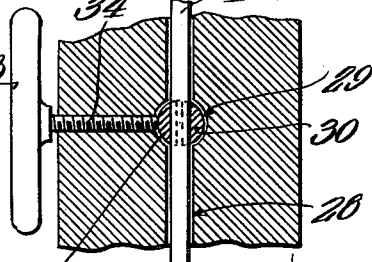
*Fig. 4.*



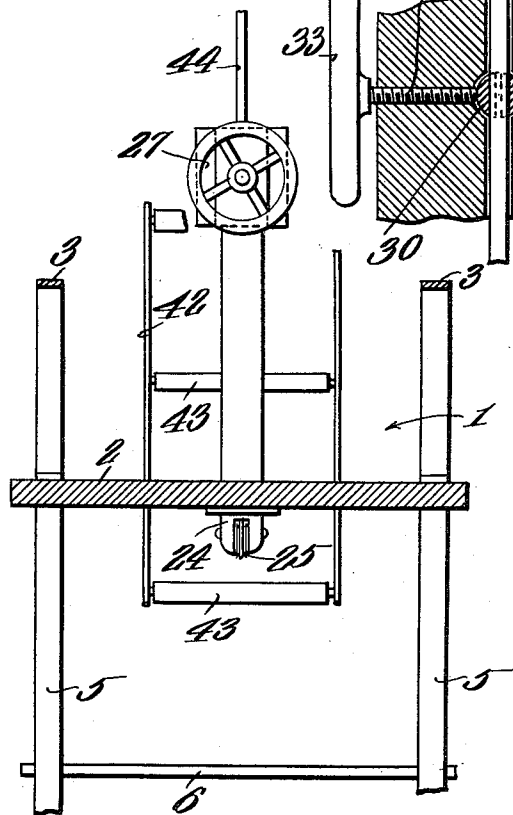
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



Witnesses

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# UNITED STATES PATENT OFFICE.

REUBEN SIDEMAN, OF SAN FRANCISCO, CALIFORNIA.

## FIRE-ESCAPE.

1,022,568.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed September 25, 1911. Serial No. 651,186.

*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.

It is the object of the present invention to provide a fire escape which will be readily portable, to provide means for limiting the downward movement of the chair portion of the fire escape, to provide means for raising the chair portion of the fire escape, and to provide a structure of this class which, when lowered to the ground, will automatically unroll a flexible ladder, whereby other persons may descend from the building with which the fire escape is assembled.

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 accompanying drawings,—Figure 1 shows the invention in side elevation; Fig. 2 is a section on the line A—B of Fig. 1, looking to the left; Fig. 3 is a detail perspective of the hook which is assembled with the upper ends of the flexible portion of the structure, whereby such portions may be connected with an overhead support; Fig. 4 is a section on the line C—D of Fig. 2; Fig. 5 is a section on the line E—F of Fig. 1; and Fig. 6 is a section on the line G—H of Fig. 5; and Fig. 7 is a section on the line A—B of Fig. 1, looking to the right.

In carrying out the invention there is provided a chair, denoted generally by the numeral 1. The chair 1 may be of any desired form. In the present instance, the chair 1 comprises a seat 2, from which upstand arms 3 and a back 4. The chair 1 is equipped with legs 5, the forward legs carrying a foot-rest 6.

Extended transversely of the chair 1, and preferably secured to the under face of the seat 2, is a bracket 7, equipped at its ends with depressed bearings 8, outstanding beyond the side portions of the seat 2. The bearings 8 coöperate with auxiliary bearings 9, seen most clearly in Fig. 4. The bearings

8 and 9 are recessed, to receive a split bushing 10. A connecting element of some sort, preferably a bolt 11, loosely unites the bearings 8 and 9, the bolt 11 carrying a nut 12, located above the bearing 8 which constitutes a portion of the bracket 7. The bolt 11 connects the bearings 8 and 9 upon one side of the bushing 10, the bearings 8 and 9 being connected upon the other side of the bushing 10 by means of a bolt 14, provided upon its upper end with a wheel nut 15, having an upstanding handle 16, the wheel nut 15 being adapted to engage a washer 17 interposed between the wheel nut and the upper surface of the bearing 8.

Journalled for rotation in the split bushings 10, and extended transversely of the chair 1, is a main shaft 18, carrying in its intermediate portion, between the seat 2 of the chair 1, a drum 19. The ends of the shaft 18 outstand beyond the bearings 8 and 9, the extremities of the shaft carrying wheels 20 or the like, whereby the main shaft 18 may, when desired, be rotated by the occupant of the chair.

The side portions of the seat 2 carry, beyond the legs 5, depending hangers 21, preferably of arched form, and in the lower, intermediate portions of the hangers 21, is journalled for rotation an auxiliary shaft 22. The auxiliary shaft 22 carries a drum 23. The main shaft 18 carries a pinion 36, adapted to mesh into a pinion 35, secured to the auxiliary shaft 22.

Secured to the lower face of the seat 2 of the chair, adjacent the forward edge of the chair, is a hanger 24, in which is journalled for rotation a sheave 25. The tread of the sheaves 25 is alined with the bore of a tubular standard 26, which is fixed to and rises from the seat 2, adjacent the forward edge of the seat. The tubular standard 26 carries at its upper end, friction clutch mechanism, adapted to be operated by the occupant of the chair, to regulate the speed with which the chair descends.

The friction clutch mechanism above referred to comprises a block 27, secured to the upper end of the tube 26. The block 27 is equipped with a bore 28, alined with the bore of the tubular standard 26. In the block 27 there is a cross bore 29, communicating with the bore 28, and located at right angles thereto. Both of these bores 28 and 29 extend entirely through the block 27. Into the cross bore 29 are inserted a pair of

jaws 30, the same preferably being in the form of bars of approximately semicircular cross sectional area. In the adjacent faces of the jaws 30 there are semi-circular openings 31, alined with the bore 28 of the block 29. The openings 31 are maintained in alinement with the bore 28, and the jaws 30 are prevented from dropping out of the cross bore 29, by means of a pin 32, inserted through the block 27, at right angles to cross bore 29, the jaws 30 being adapted to move upon the pin 32, longitudinally of the pin. Threaded into one side of the block 27, is a screw 34, having a hand wheel 33, disposed toward the back 4 of the chair, and within easy reach of the occupant of the chair.

The invention further includes a hook, denoted generally by the numeral 37, and provided at one end with a handle 38, the shank 39 of the hook 37 carrying a cross arm 41, and the bill of the hook being denoted by the numeral 40. To the ends of the cross arm 41 are secured flexible elements 42, carrying rungs 43, the elements 42 and 43 constituting a flexible ladder. The lower end of this flexible ladder is extended across the forward edge of the seat 2 and is connected with the drum 23 carried by the auxiliary shaft 22. The upper end of a flexible element 44 is connected with the lower end of the shank 39 of the hook, this flexible element 44 being carried downwardly through the block 27, between the jaws 30, through the tubular standard 26, and thence over the sheave 25, to the drum 19 of the main shaft 18.

In practical operation, the bill 40 of the hook 37 is engaged over an overhead support of any sort, such, for instance, as a window sill; as shown in Fig. 1. By rotating the wheel nut 15, the position of the movable bearing 9 with respect to the fixed bearing 8 may be adjusted, so that the split bushings 10 will grip the main shaft 18. The occupant of the chair 1 may thus regulate the speed of rotation of the main shaft 18. By seizing the hand wheel 33, the screw 34 may be advanced into the block 27, to compress the jaws 30 upon the flexible element 44. The occupant, taking his place in the chair 1, may then rotate the hand wheel 33 so as to loosen the hold of the jaws 30 upon the flexible element 44, whereupon the chair 1 will slowly descend, unreeling the flexible element 44 and the flexible ladder, comprising the elements 42 and 43.

It may be noted that the tubular standard 26 is located adjacent the front of the chair 1, and is adapted to be straddled by the occupant of the chair. This tubular standard serves, therefore, at once, as a means for preventing the occupant of the chair from falling therefrom, and as a

means whereby the friction clutch mechanism shown in Figs. 5 and 6 may be supported. It is desirable to employ the means shown in Fig. 4 for engaging the main shaft 18, in addition to the friction clutch mechanism shown in Figs. 5 and 6, since by limiting the speed of rotation of the shaft 18, wear and tear upon the flexible element 44, due to the gripping effect of the jaws 30, may be avoided. The cooperating parts 8 and 9 serve as the primary means for preventing a rapid descent of the chair, the jaws 30 and the operating parts serving as a secondary means whereby the speed of descent of the chair may be limited, and as a means whereby the chair may be stopped at any desired point. The chair, as it descends, unreels the flexible ladder 42-43, so that other occupants of the building may readily descend, after the chair has once been lowered. As will be understood readily, the wheels 20 may be employed for rotating the shaft 18, the intermeshing pinions 36 and 35 securing a simultaneous rotation of the shafts 18 and 23. Thus, the flexible element 44 and the ladder 42-43 may be rolled up, beneath the seat of the chair, the entire device being thus disposed in compact and portable form.

The structure herein disclosed is adapted to be used by steeple jacks, painters, and others, as well as by persons escaping from a burning building. When the device is employed by workmen, it may be desirable to elevate the chair 1, as well as to lower the same. Under such circumstances, the hand wheels 20 may be employed for elevating the chair.

It is to be observed that the occupant of the chair has two distinct means under his control, for limiting the descent, and should one of these means become inoperative, the other may be employed, both of them being equally accessible to the occupant.

Having thus described the invention, what is claimed is:—

1. A fire escape comprising a chair; a tubular standard fixed to and rising from the front portion of the chair; a flexible element passed through the standard; means upon the standard, and under the control of the occupant of the chair, for gripping the flexible element; a shaft journaled for rotation upon the chair, one end of the flexible element being connected with the shaft; and means upon the other end of the flexible element to engage with an overhead support.

2. A fire escape comprising a chair; two-part bearings located at the sides of the chair; a shaft journaled for rotation in the bearings; means uniting the parts of the bearings, and under the control of the occupant of the chair, for varying the frictional hold of the bearings upon the shaft; a flexible element assembled with the shaft; means

upon the flexible element for engagement with an overhead support; a standard fixed to and rising from the chair; and a clamp carried by the standard, and under the control of the occupant of the chair, for frictionally engaging the flexible element.

3. A fire escape comprising a chair; a main shaft and an auxiliary shaft journaled for rotation upon the chair; intermeshing pinions upon the shafts; a friction brake under the control of the occupant of the chair, and engaging the main shaft; a flexible element connected with the main shaft; a flexible ladder connected with the auxiliary shaft; means connected with the flexible element and with the ladder for engaging an overhead support; and mechanism fixed to the chair and located above the same, for frictionally engaging the flexible element.

4. A fire escape comprising a chair; a main shaft and an auxiliary shaft journaled for rotation upon the chair; intermeshing pinions upon the shafts; a flexible element connected with the main shaft; a flexible ladder connected with the auxiliary shaft; means connected with the flexible element and with the ladder, for engaging an overhead support, and a device under the control of the occupant of the chair, and engaging the flexible element, to limit the lowering of the chair and to limit the unreeling of the ladder.

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:

AARON POSNER,

ABRAM MARKOVITZ.

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