(No Model.)

S. COOK.

FIRE ESCAPE.

No. 514,543. Patented Feb. 13, 1894.

Fig. 1.

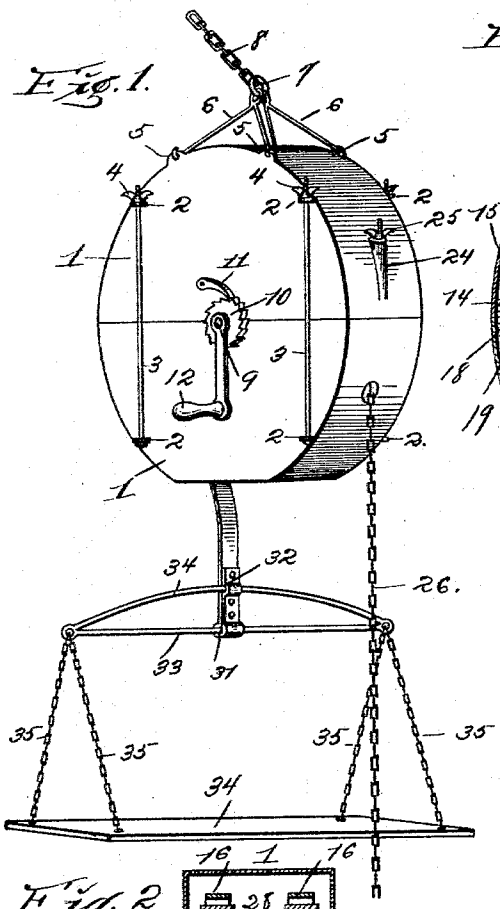


Fig. 3.

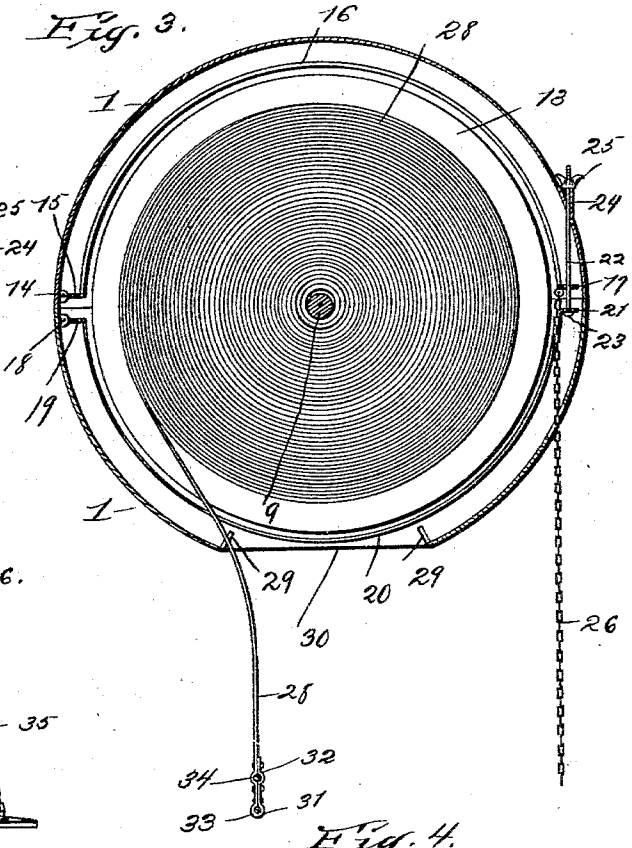


Fig. 2

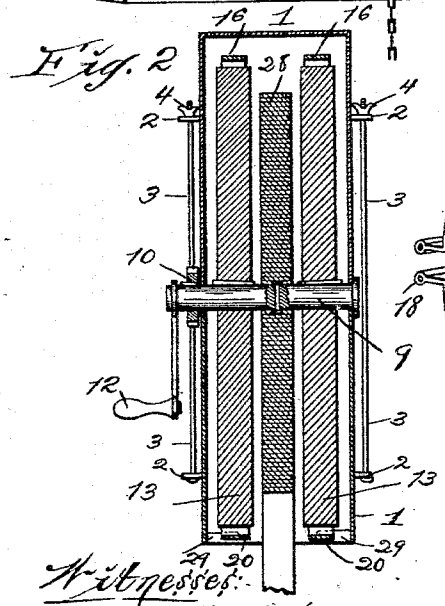
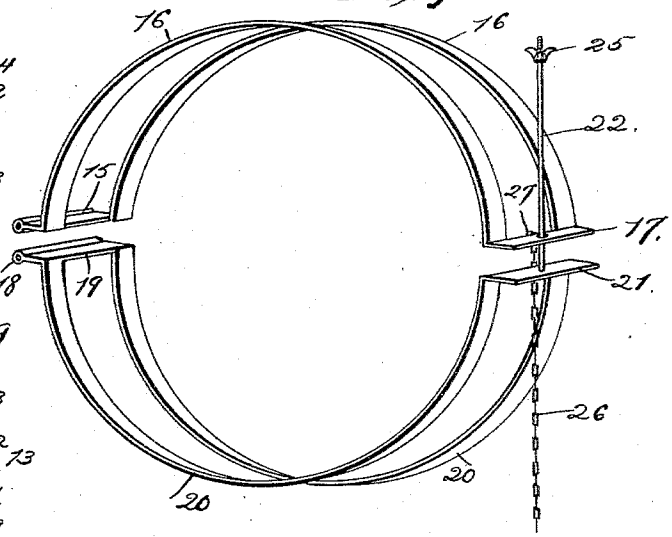


Fig. 4.



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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 514,543, dated February 13, 1894.

Application filed October 9, 1893. Serial No. 487,585. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY COOK, of Leavenworth, Leavenworth county, Kansas, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to fire escapes, and the objects of my invention are to produce a device of this character, which is simple, strong, durable and inexpensive of construction, and of suitable size and weight to be easily and conveniently transported from place to place. Furthermore to produce a fire escape which is positive and reliable in operation and under perfect control of the person descending, or of a person upon the ground.

With these objects in view, my invention consists in certain peculiar and novel features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is a perspective view of a device constructed in accordance with my invention. Fig. 2, is a transverse vertical sectional view of the casing containing the winding drum and brake mechanism. Fig. 3, is a vertical sectional view of the same taken in a plane at right angles to the sectional view shown in Fig. 2. Fig. 4, is a detail perspective view of the brake strap.

In the said drawings, a cylindrical casing is formed of the two similar semi-cylindrical sections 1—1, and these sections are secured rigidly together by means of tie bolts or rods 3—3, which pass vertically through the oppositely disposed ears or lugs 2—2 of the sections 1 of the casing, and the upper and screw threaded ends of these rods or bolts are engaged by wing-nuts 4. Projecting upwardly from the upper margin of the section 2 are a series of ears or lugs 5, and these ears or lugs are engaged by the bails 6 which engage at their upper ends a ring 7, carried at the lower end of a chain 8. The upper end of this chain is adapted to engage a hook or any suitable projection in the window casing or adjacent thereto, so as to afford a secure and safe support.

Journaled near its opposite ends in and extending transversely through the center of the casing is a shaft or drum 9 and carried rigidly upon one end at the outer side of the casing is a ratchet wheel 10, which is engaged by a gravity pawl 11 carried by the upper section of the casing.

The end of the shaft or drum 9 projecting outwardly from the ratchet wheel 10 carries a crank handle 12 of the construction shown, or of any other suitable or preferred construction. Keyed rigidly upon the shaft or drum 9 within the casing and a suitable distance apart are the similar disks or wheels 13. Hinged at 14 to the inner side of the upper casing and adjacent to its lower margin is a plate 15, and carried by said plate or formed integral therewith if desired are the semi-circular steel straps 16 which are arranged a slight distance above the upper periphery of the disks or wheels 13. The opposite ends of these semi-circular straps are united by the horizontal plate 17. Hinged at 18 to the inner side of the lower section of the casing and adjacent to its upper margin is a plate 19, and this plate also carries a pair of semi-circular steel straps 20 which are arranged adjacent to or in contact with the lower periphery of the said disks or wheels. The opposite ends of these semi-circular straps 20 are also united by a horizontal plate 21 which is oppositely disposed to and vertically below the similar portion 17 of the upper straps 16. A rod 22 is passed vertically through aligned apertures or holes in the horizontal plates 21 and 17, until its head 23 bears against the under side of the plate 21, and its upper end projects through the tubular extension or projection 24 formed upon the periphery of the upper section of the casing; the passage of said tubular extension communicating with a hole or aperture formed through said upper section for the passage of the bolt, and the upper end of this bolt is engaged by the clamping wing-nut 25. By this arrangement, it will be seen that the lower straps 20 may be brought to bear more or less firmly upon the lower periphery of the disks, for a purpose to be presently explained. A chain 26 is secured at its

upper end at 27 to the inner margin of the horizontal plate 17, and hanging pendently therefrom passes through an opening or aperture formed through the lower section; said chain or rope being of sufficient length to reach the ground. Interposed between the disks or wheels 13 and secured rigidly at its inner end to the shaft or drum 9 is the steel strap 28; said strap when in its normal position as shown, being wound or coiled upon said shaft or drum, and the outer end or portion of said strap hangs downwardly through the opening or slot 30 formed through the bottom of the lower section of the casing. The lower portion of the said section is preferably cut away at its side margins so as to form a squared surface by which the casing may be supported in an upright position when placed upon the ground or any flat surface. Projecting radially inward from each end of said opening are the lugs 29 which are arranged beneath the straps 20, and are adapted to support said straps adjacent to the lower periphery of the disks 13, should the nut 25 be unscrewed too far. The lower end of the strap 28, is bent upon itself and secured to form the bearings 31, and 32, for the horizontal rod 33 and the arched or bowed rod 34 which is secured at its opposite ends to or formed integral with the rod 33. A plate 34 preferably rectangular in form is arranged horizontally and is connected to the outer ends of the rods 33 and 34, by means of the chains 35, there being preferably four of these chains which are secured at their lower ends near the corners of the plate 34.

A fire escape thus constructed is adapted more particularly for family use, and can be conveniently stored until occasion requires for service. In case of fire, the upper end of the chain 18 is secured to a hook or other suitable projection, and the remaining portion of the device is passed through the window. The pawl is now disengaged from the ratchet. Should the person first escaping be a heavyweight, it will first be necessary or desirable to operate the nut 25 so as to produce strong frictional contact between the lower straps 20 and the adjacent periphery of the disks or wheels 13. The escaping person now slips from the window upon the bottom 34 of the carrier or chair and grasps the pendent brake chain 26 and immediately begins to descend. Should the frictional contact between the straps 20 and the disks or wheels 13 be insufficient, and the person descend too rapidly, by manipulating properly the chain 26, the upper straps 16 may be brought into contact with the periphery of said disks or wheels also, and by thus increasing the frictional resistance to the rotation of the said disks or wheels, the carrier will descend more slowly. By properly manipulating the chain 26 the persons can regulate their speed of descent to a nicety. After the person steps upon the ground and releases the chain 26, the person above first throws the gravity pawl 11 back into engagement with the ratchet wheel 10, and then by operating the crank handle 12 raises the chair or carrier to its former and original position. Should the person next desiring to descend be considerably lighter than the preceding person or the one that has already descended, the clamping nut 25 is operated in the reverse direction to that described so as to diminish or decrease the frictional contact between the disks 13 and the straps 20, otherwise the descent might be too slow. The person now slips through the window and upon the chair or carrier, and grasping the chain 26 descends at the speed desired, or the speed of descent may be determined and regulated by a person manipulating the chain 26 from the ground.

From the above description, it will be seen that I have produced a fire escape which is simple, strong, durable and inexpensive of construction, positive and reliable in operation, and under perfect control of an operator, whether descending or upon the ground below.

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

1. A fire escape, consisting of a cylindrical casing, a shaft or drum journaled therein, a disk mounted rigidly upon said shaft or drum, and a strap secured to said shaft or drum and having a chair or carrier at its lower end, in combination with a semi-circular strap carried by the casing and arranged adjacent to the lower periphery of the disk, a bolt secured to said strap, and a clamping nut engaging said bolt so that the frictional resistance between said brake strap and the said disk, may be increased or diminished at will, substantially as set forth.

2. A fire escape, comprising a casing, a shaft or drum journaled therethrough, a disk carried by said shaft or drum, and a strap secured upon said shaft or drum at one end, and carrying a chair or carrier at its opposite end, in combination with a strap carried by the casing and arranged adjacent to the lower periphery of the disk, and means whereby the frictional resistance between the disk and said strap may be increased or diminished at will, and a second strap carried by the casing and arranged adjacent to the upper periphery of the disk, and a pendent chain secured at its upper end to the free end of said strap, substantially as and for the purpose set forth.

3. In a fire escape, the combination with a cylindrical casing, a shaft or drum journaled therethrough, a strap carrying a chair or carrier at its lower end, and secured at its upper end to the said shaft or drum, and a pair of brake disks carried by said shaft or drum, of a pair of plates hinged to the inner side of the casing, a pair of semi-circular brake straps carried by each of said hinged plates and adjacent to the periphery of the said disks, a pair of plates uniting the opposite ends of said semi-circular straps, a bolt passing ver-

tically through the last mentioned plates and through the casing, and having its headed end bearing against the under side of the lower plate, and having a nut engaging its upper end, and a chain secured to the inner margin of the upper plate and extending pendently therefrom and through an aperture or hole formed in the casing, and supporting lugs in the lower portion of said casing and arranged beneath the lower pair of semi-circular straps, substantially as set forth.

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

SIDNEY COOK.

Witnesses:
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