(No Model.)

C. A. NOACK.

FIRE ESCAPE.

No. 521,416. Patented June 12, 1894.

Fig. 1.

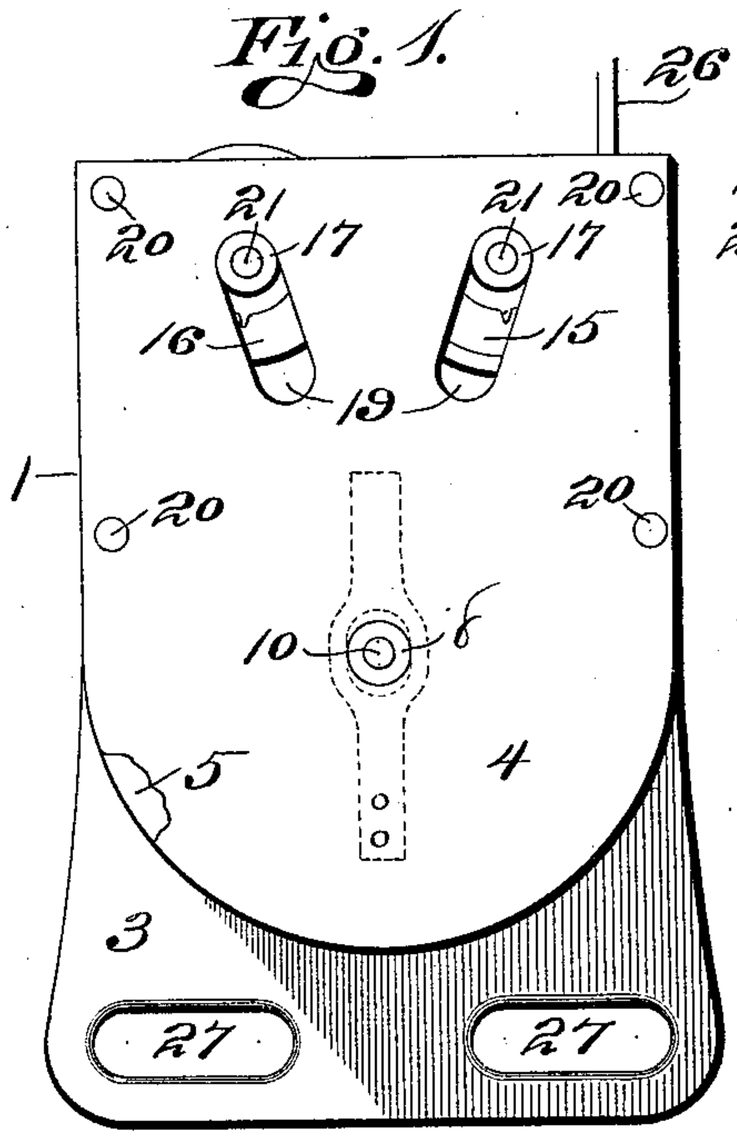


Fig. 2.

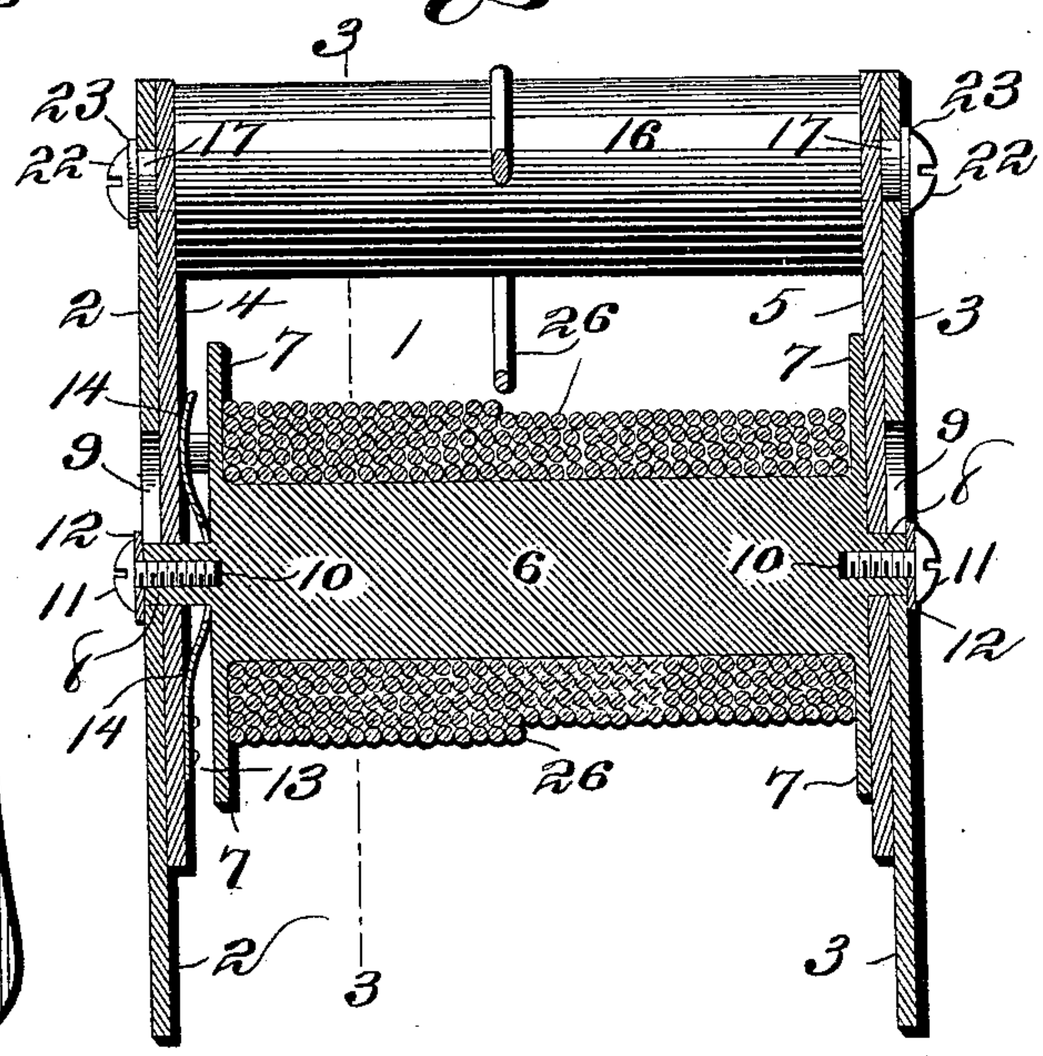


Fig. 3

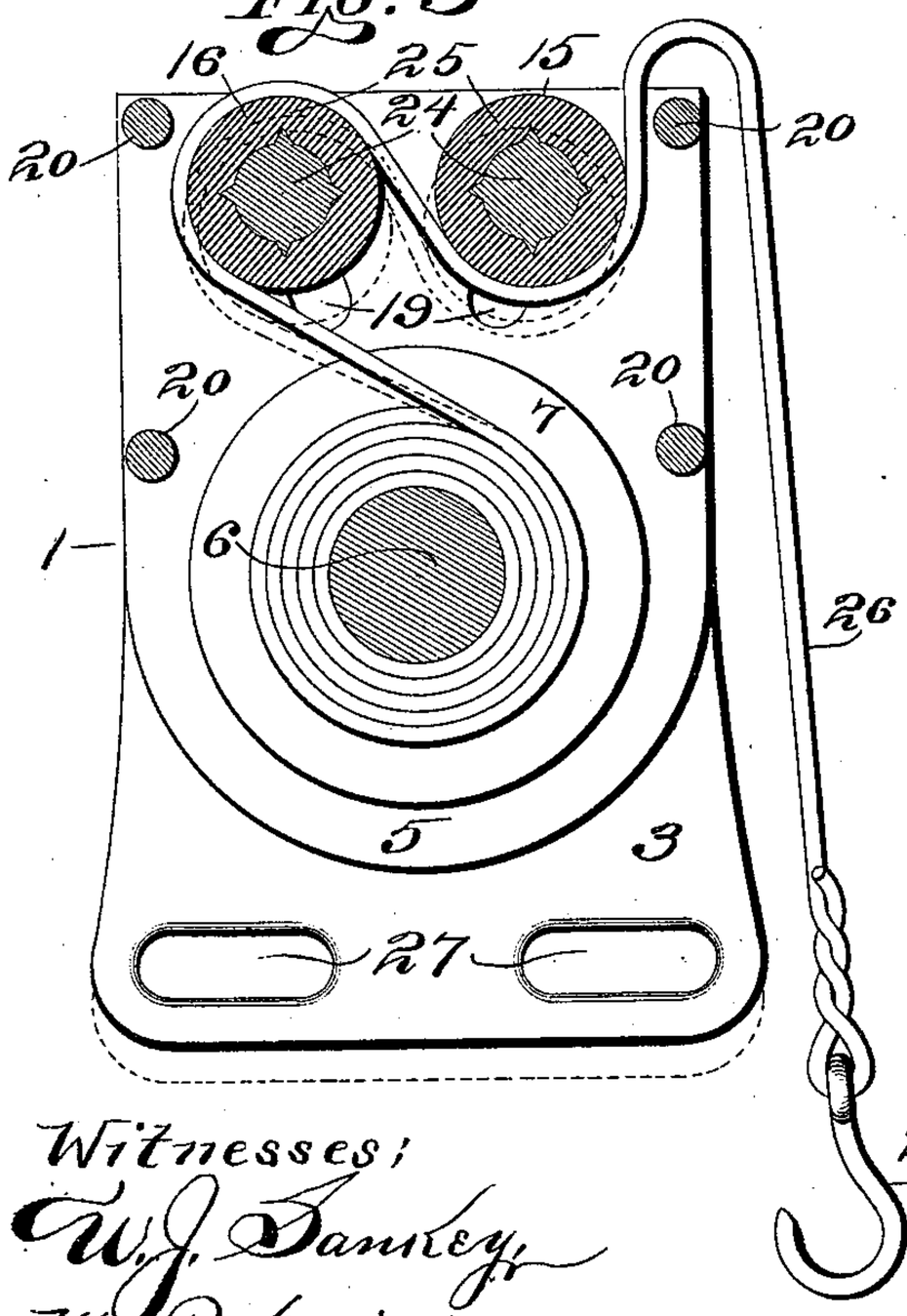
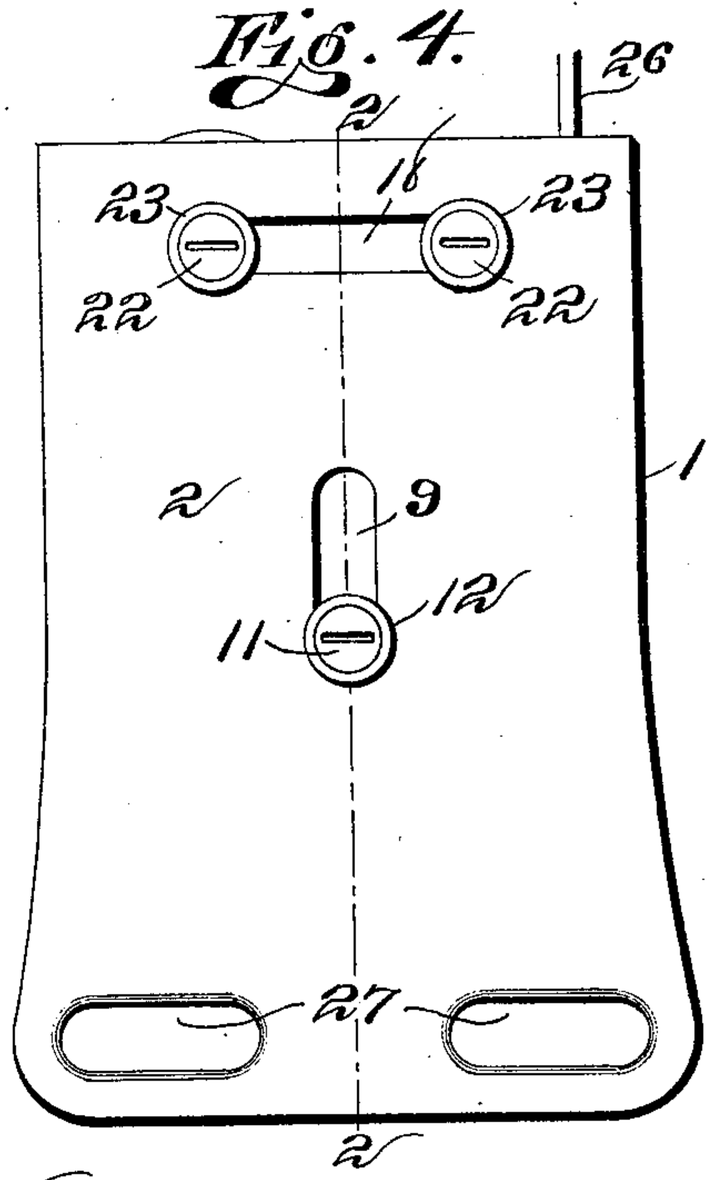


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES A. NOACK, OF ST. LOUIS, MISSOURI.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 521,416, dated June 12, 1894.

Application filed February 5, 1894. Serial No. 499,229. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. NOACK, of St. Louis, State of Missouri, 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 an improved fire escape, and consists in the novel construction, combination and arrangement of parts hereinafter described and designated in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of my improved fire escape with the adjacent movable plate removed to more clearly show the construction of same. Fig. 2 is a vertical longitudinal central section of the improved fire escape more clearly showing the construction of same, said section being taken on the line 2—2 of Fig. 4. Fig. 3 is a vertical transverse section of the improved fire escape, said section being taken on the line 3—3 of Fig. 2 and Fig. 4 is an end elevation of the same.

My invention relates to that class of fire escapes in which there is a drum carrying a coil of wire, and of such a size that it can be packed in a valise or trunk, and easily operated in case of an emergency.

My invention has other minor objects which will be hereinafter described in connection with the mechanical description of same.

Referring to the drawings: The numeral 1 designates the complete fire escape, and 2 and 3 the outer plates, which, in connection with the inner plates 4 and 5, form the frame thereof. The plates 2 and 4 are located adjacent each other, while the plates 3 and 5 are located adjacent each other, said plates being held together in the manner now to be described.

6 indicates a drum, which is constructed with an annular flange 7 and a trunnion 8 at each end. These trunnions are of such a length as to project through suitable openings in the plates 4 and 5, and through vertical slots 9 in the plates 2 and 3, the outer ends being in alignment with the outer surfaces of said last mentioned plates. Formed in each of the trunnions 8 is a longitudinal screw-threaded bore 10, which is engaged by a screw 11, so that when a washer, such as 12, is placed thereon it will overlap the adjacent edges of the vertical slots 9 and hold the plates 2, 3, 4 and 5 in position. The trunnion 8 at the left hand of the drum 6 is somewhat longer than the thickness of the plates 2 and 4, so that when the washer 12 engages the outer surface of the plate 2 there will be a space 13 between the adjacent end of said drum and the adjacent surfaces of the plate 4. The purpose of this space is to allow a spring, such as 14, to be placed therein, one end of said spring being connected to the adjacent surface of the plate 4 and bent in such a manner that it will engage the adjacent end of the drum 6 and create a friction upon said drum, and also prevent it from being easily rotated. The free end of said spring is so formed as to engage the adjacent surface of the plate 4, and a suitable opening is formed in that portion of said spring, which engages the end of the drum 6, to allow the adjacent trunnion 8 to pass through.

15 and 16 designate two mating rollers, which are constructed with a trunnion 17 on each end thereof of suitable length as to pass through a horizontal slot 18, which is formed in the plates 2 and 3 and through slots 19 formed in the plates 4 and 5. These last mentioned slots are adjacent the upper end of the plates 4 and 5, and project in radial alignment with the openings through which the trunnions 8 of the drum 6 pass. The plates 4 and 5 are held together by suitable posts 20, the ends of which are depressed and pass through suitable openings formed in said plates, and are then riveted so that the ends thereof will be in alignment with the outer surface of said plates. By the construction of these posts, the plates 4 and 5 will be held rigid with each other, and thus form a frame for the rollers 15 and 16 and the drum 6.

Referring now to the trunnions 17 of the rollers 15 and 16, each one is constructed with a longitudinal screw-threaded bore 21, which is engaged by a screw 22 carrying a washer 23 of such a size as to overlap the adjacent outer edges of the slots 18. By the construction of these washers 12 and 23 and the screws 11 and 22, it can be readily seen that the plates 2 and 3 will be held in the required position.

Again referring to the rollers 15 and 16, they are each constructed with a central shaft 24,

which extends longitudinally through said rollers, and to which the trunnions 17 are connected. These shafts are preferably made of iron and constructed with a series of wings or ribs to prevent the outer cylindrical surface 25 of said rollers from turning thereon, the outer surface being formed of hard rubber, or like material, to prevent the wire or cable 26 from fracturing them when weight is applied to the fire escape.

Formed in the lower end of each of the plates 2 and 3 are two horizontal slots or openings 27, so that said plates can be engaged by straps to engage the body of a person while they are being lowered from a building, these straps referred to not being shown, as they can be of any ordinary construction.

Connected to the free end of the wire or cable 26 is a hook 28, the opposite end of said wire being connected to the drum 6 in any ordinary and convenient manner.

In the practical operation, the wire or cable 26 is wound upon the drum 6 and the hook 28 is made to engage some stationary object in a room, or the window-sill, and the straps which engage the slots 27, are fastened around the person who is to be lowered from the building. When the weight of a person is brought to bear upon the fire escape, the weight will draw down on the plates 2 and 3, which will cause the rollers 15 and 16 to be drawn down likewise, they having their bearings in the slots 18 and 19 in the manner hereinbefore described, the slots 19 will cause said rollers to be drawn together; and the wire or cable being wound upon the drum 6 and thence passed over the roller 16 and under the roller 15, said rollers, when so drawn down, will clamp the wire between them and cause it to unwind from the drum 6 slowly, the object applied to the fire escape causing the clamping of the wire in proportion to the weight—the greater the weight the tighter the rollers will clamp the wire.

What I claim is—

1. In a fire escape, plates 2 and 3 each having a horizontal and a vertical slot, plates 4 and 5, each having an opening which registers with said vertical slot, and each also having two slots adjacent their upper ends which extend in radial alignment with said opening, substantially as set forth.

2. An improved fire-escape having opposite vertical frame-pieces, a wire or cable, two rollers mounted parallel between said frame-pieces to automatically clamp said wire or cable between them with a variable pressure, and a reel upon which said wire, or cable, may be wound, substantially as herein specified.

3. In a fire escape, two outer plates 2 and 3, each having a vertical slot 9 and a horizontal slot 18, two plates 4 and 5, each having an opening which registers with the slots 9, and also having two slots 19 which are in radial alignment with the last mentioned opening, a drum 6 having a flange 7 and a trunnion 8 at each end, said trunnions constructed to engage the openings in the plates 4 and 5 and the vertical slot 9 in the plates 2 and 3, and two rollers 15 and 16 constructed with a trunnion at each end, which engages the slots 18 and 19 and forms bearings for said rollers, substantially as set forth.

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

CHARLES A. NOACK.

Witnesses:
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