

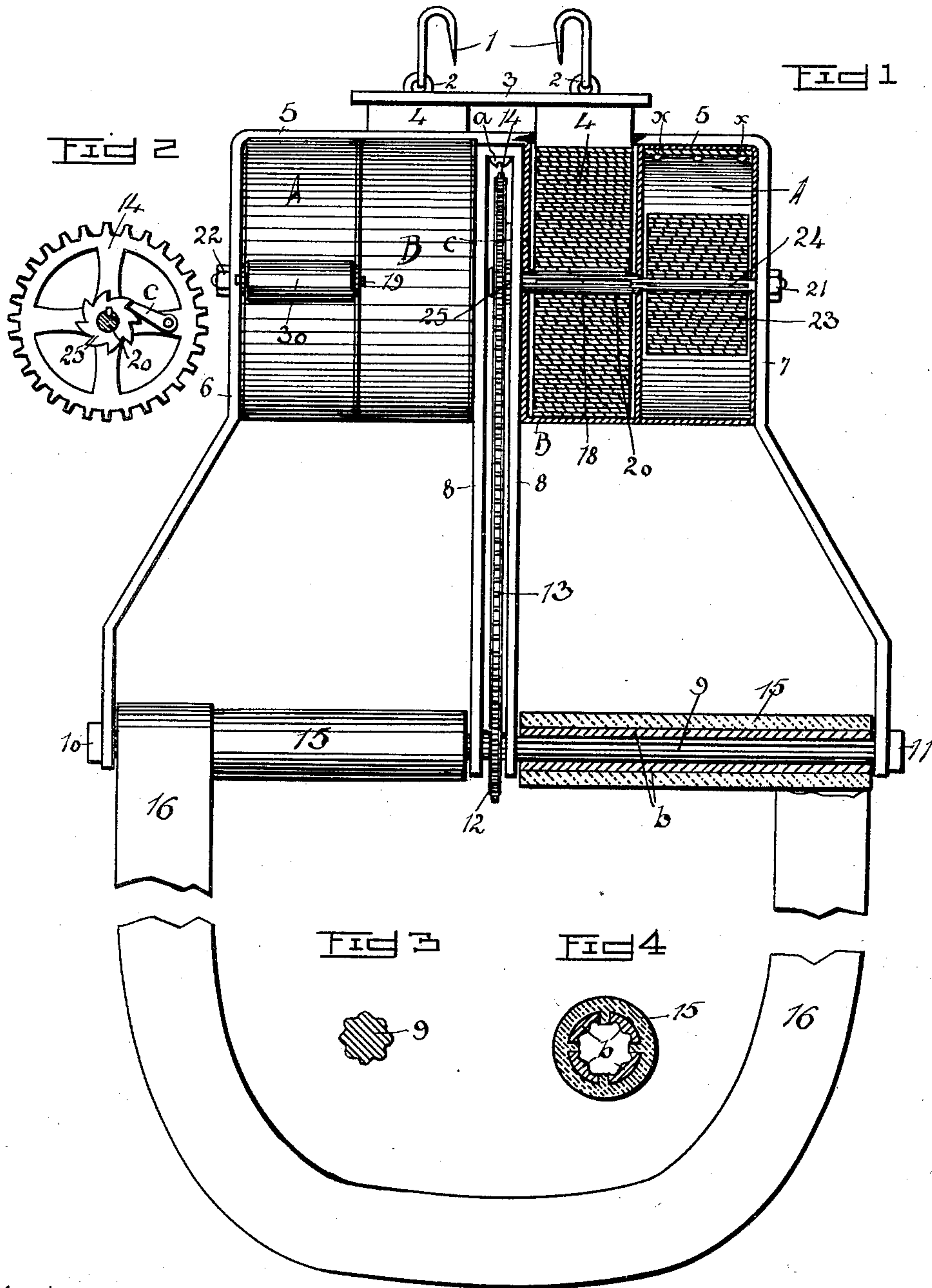
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Patented Nov. 19, 1901.

J. MICHAELSEN.  
FIRE ESCAPE.

(Application filed Mar. 26, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 686,749, dated November 19, 1901.

Application filed March 26, 1901. Serial No. 52,934. (No model.)

*To all whom it may concern:*

Be it known that I, JORGEN MICHAELSEN, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain  
5 useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and  
10 use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a portable fire-escape.

15 The object of my invention is to provide a light portable fire-escape of a size adapted to be placed in a grip or ordinary hand-bag, so that the same may be carried from place to place.

20 In the accompanying drawings I have shown in Figure 1 a view of a fire-escape embodying my invention with portions broken away. Fig. 2 shows a side view of the upper sprocket as used in my invention, while Figs. 3 and 4  
25 show the handle-shaft and one of the compressible handles.

My invention comprises a frame including the top bar 5 and the side bars 6 and 7. Revolvably held within the frame members 6 and 7  
30 is a shaft 9, and this shaft 9 is centrally supported by means of the bars 8 8, secured by means of the screw A, as shown. At the ends this shaft is secured within the bearings 10 and 11. Centrally this shaft 9 is provided with  
35 the gear or sprocket wheel 12, as shown. In cross-section this shaft is scalloped or corrugated, as is shown in Fig. 3.

Passing through the frame members 6, 7, and 8 8 is a shaft 20, provided with the slots  
40 18 to receive the ends of the preferably steel tapes 4, as is shown in Fig. 1. This shaft has two additional slots 24, one only being shown in the drawings, within which is held the end of a suitable coil-spring 23, which  
45 spring 23 by means of suitable pins  $\alpha$  is secured to the housing A, as is shown. Centrally this shaft 20 is provided with a gear-wheel 14 (shown in detail in Fig. 2) and to which is further keyed an ordinary ratchet-  
50 wheel 25, engaged by the pawl c. Passing over the sprocket-wheels 14 and 12 is an or-

dinary chain 13, so that the shafts 20 and 9 will revolve in like directions. The tapes 4, which wind upon the shaft-section 20, are held within a housing B, while the coil-springs  
55 23 are held within the housings A.

Loosely working upon the corrugated shaft 9 are the handles 15, which handles are made of some resilient material, as rubber, and upon the inside are provided with the bearing-blocks b, also corrugated, as is shown in Fig. 4. These handles are so made that in their loose condition the shaft 9 will revolve within them under slight friction. As soon, however, as these handles are clamped, being, as has been said, resilient, the bearings b are bound upon the shaft 9, and so prevent the shaft 9 from revolving very swiftly. To further check the speed of this shaft 9, I provide a suitable strap 16, working over these  
60 handles 15, so that the operator's weight would help to compress the handles 15 at the points where they worked over the same, a further check to the speed of the shaft 9 being imparted by means of the operator clasp-  
65 ing these handles 15.

Upon opposite sides the housings A are provided with the rollers 30, so that in case the apparatus comes in contact with the wall of a building it will readily work over the  
80 same.

When properly constructed, the operation of my device would be as follows: The operator desiring to use the same would secure the steel tape by means of the hooks 1, which  
85 by means of the eyelets 2 are secured to bar 3, to which in turn are secured the tapes 4 4. The operator would then place the strap 16 under his arms or stride the same, as he might desire, and at the same time tightly  
90 clasp the handles 15 15. The weight of the operator and the apparatus would then act to unwind the tapes 4 from the shaft 20, to revolve the gear 14 and the gear 12 by means of the chain 13, and this gear 12 being se-  
95 cured to the shaft 9 would revolve the shaft. The weight of the operator would now act as a governor, in that the elastic handles 15 would be bound upon the shaft 9 to check its speed, as would also be accomplished by  
100 the operator tightly clasping the compressible elastic or resilient handles 15, so that if



power enough is applied to the handles 15 the movement or play of the tapes 4 may be entirely checked, so that it is possible for an operator to gently lower himself by means of  
5 this apparatus. Now in unwinding the steel tapes 4 the coil-springs 23 would have been uncoiled against their tension. As soon as the operator releases the apparatus these coil-springs 5 would begin to revolve the shaft  
10 20 to again wind up the unwound tapes, and in order to make it unnecessary to revolve the lower shaft 9 I provide the shaft 20 with the ratchet-wheel 25, so that as the apparatus ascends a second operator may use the same,  
15 the handles 15 remaining quiet. Where the apparatus rubs against the building or walls, the little rollers 30 are engaged.

The device is light and portable and readily operated.

20 Having thus described my said invention,

what I claim as new, and desire to secure by United States Letters Patent, is—

In an apparatus of the character described the combination with a suitable frame, of a shaft within one end of said frame, a gear- 25 wheel secured to said shaft, a second shaft opposite said first-mentioned shaft, coil-springs secured to said second shaft, tapes or strands extending from said second shaft and adapted to wind upon the same, a gear- 30 wheel secured to said last-mentioned shaft, a chain working over said gears, and compressible handles secured to said first-mentioned shaft all arranged substantially as and for the purpose set forth.

Signed in presence of two witnesses.

JORGEN MICHAELSEN.

Witnesses:

M. BOEKHOFF,

R. J. DAVENPORT.