No. 854,922. PATENTED MAY 28, 1907.

C. W. BERGQUIST.

FIRE ESCAPE APPARATUS.

APPLICATION FILED JAN. 14, 1907.

Fig. 1.

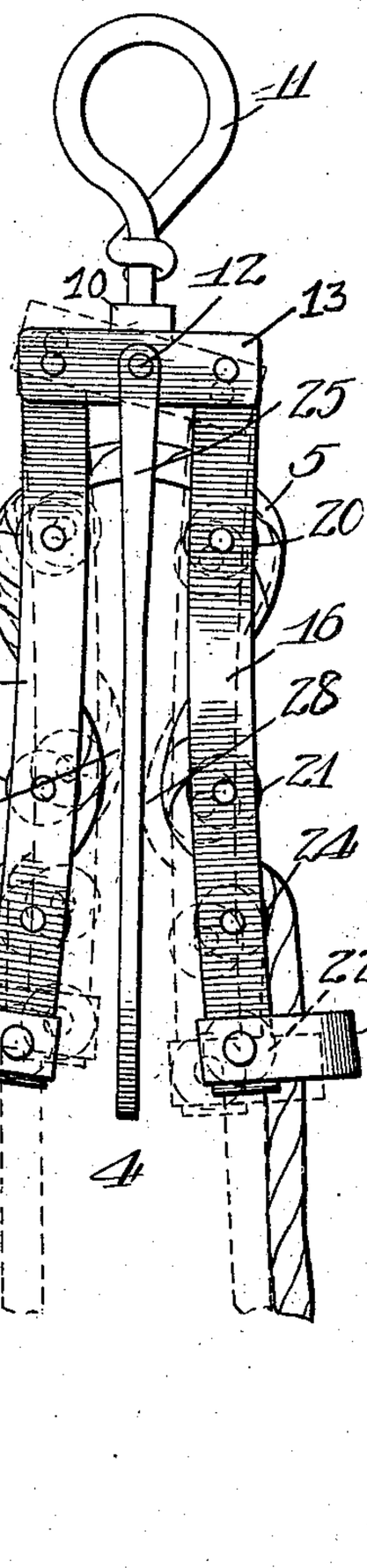

Fig. 2.

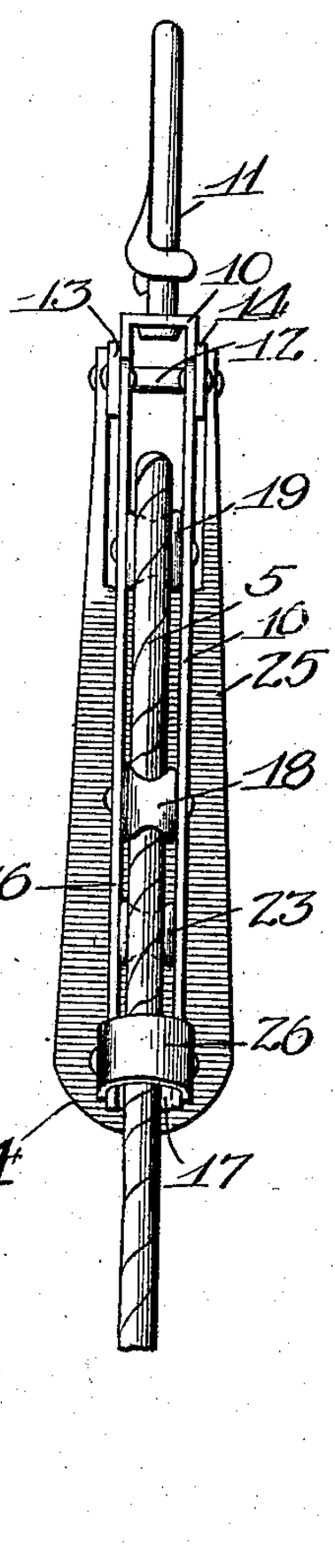

Fig. 3.

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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE APPARATUS.

No. 854,922. Specification of Letters Patent. Patented May 28, 1907.

Application filed January 14, 1907. Serial No. 352,080.

To all whom it may concern:

Be it known that I, CLAES WILLIAM BERGQUIST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Escape Apparatus, of which the following is a specification.

My invention relates to devices known as "fire escapes" and the object of the invention is to provide a simple and yet efficient mechanism adapted for hotels and other places where it has been found impracticable to employ the more bulky and cumbersome devices which take up considerable room, require more or less skill or previous training for their operation and whose first cost of installation is comparatively great.

With the above-named general objects in view my invention consists in the novel construction and arrangement of parts hereinafter described in detail, illustrated in the drawing and incorporated in the claims.

In the drawing—Figure 1 is a view of a part of a building to which my invention has been applied and showing a person in the act of making use of the device. Fig. 2 is an enlarged view showing a side view of the apparatus. Fig. 3 is an edge view.

Referring in detail to the several views in the drawing, 2 represents the outside of a window casing and same is provided with a hook 3 upon which the brake-mechanism 4 of the apparatus is suspended. The rope or cable 5 is provided at its ends with belts or stirrups 6 and 7. A person 8 is shown occupying the stirrup 6 in Fig. 1. The heavy rope 5, which must sustain the weight of the person or persons using the apparatus is made long enough to permit one of the belts to nearly or quite reach the ground or landing place when the other belt is at its highest point or at the braking-mechanism 4. A light cord or rope 9 of about the same length as the weight-sustaining rope 5, connects the two belts and is used to slacken the speed of descent after the descending person has passed the rising end or belt of the heavy rope, in case the drop should be too rapid. A slight pull on the upwardly rising run of the rope will increase the braking-power of the machine, as will hereinafter be more fully explained.

As shown in Figs. 2 and 3 the braking-mechanism comprises a U-shaped bracket 10 with which an eye-bolt 11 has swivel connection. The bracket supports a pin or bolt 12 which projects beyond the sides of the bracket and on the projecting ends are pivoted a pair of rock-bars 13 and 14 which operate as a single member and will be referred to as such hereinafter. From the ends of the rock-bar comprising said members 13 and 14 are pivotally suspended hangers, or rope-guides 15 and 16, each of which is shown as consisting of two strips of metal between which are rotatively mounted a series of sheaves or grooved pulleys 17, 18, 19, 20, 21 and 22. Two fixed friction rolls 23 and 24 are also shown as adapted for insertion between the sheaves where additional friction-engagement with the rope is desired to retard its passage through the braking-mechanism. On the pin or bolt 12 is also pivotally hung a friction-plate or brake-shoe 25 which is suspended between the two rope-guides, or rope-retarders. At the lower ends of the rope-guides, or retarders, guards 26 and 27 guide the rope properly onto and from the sheaves.

While the mechanism 4 is, for the sake of convenience in illustration, shown hung on the outside of the window-frame, it is intended, in practice, to be hung on the inside of the frame where it can be readily located in case of need and protected against the weather when not in use.

The operation of my invention is as follows: When a weight is imposed upon one of the runs of the rope its inwardly projecting bends 28 and 29 are by the tilting of the rock-bar forced against the friction-plate 25. In Fig. 2 the dotted lines show the positions of the parts when a weight has been imposed upon the right hand run of the rope. By pulling down upon the left-hand run the latter will not only be tightened in its engagement with the sheaves but the left hand hanger will be forced closer to the friction-plate and the friction between the latter and bend 29 is increased. As both the rope-guides are identical and either the left or right hand run can be used no confusion can arise in the employment of the apparatus or delay occasioned in emergencies. With an increase or decrease of weight upon the rope there will be, respectively, an increase or decrease of frictional engagement between the rope and sheaves, as the bends of the rope over the sheaves tend to straighten out. This, in practice, has been found to regulate the rate of speed of a descending body even without the auxiliary

control afforded by manipulation of the ascending run of the rope, referred to above.

I claim as my invention—

1. The combination with a rope or the like, of a pair of pivoted hangers movable angularly toward and from each other; a brake-shoe suspended between said hangers; a series of sheaves or friction-members over which said rope is arranged to pass along a tortuous path over said hangers; said rope arranged so that it may contact with said brake-shoe during its passage over said sheaves or friction-members.

2. The combination, with a rope, of a brake-mechanism comprising pivotally suspended hangers, or rope-guides, having sheaves or friction-members, mounted therein, and a brake-shoe pivotally suspended between said hangers; said rope arranged to pass over said sheaves in such a manner that parts thereof are exposed to contact with said brake-shoe, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CLAES WILLIAM BERGQUIST.

Witnesses:

MAE C. ALLEN,

LILLEON C. HOUGH.