No. 648,762. Patented May 1, 1900.

A. KURRE & W. H. GIESELER.

FIRE ESCAPE.

(Application filed Oct. 4, 1899.)

(No Model.)

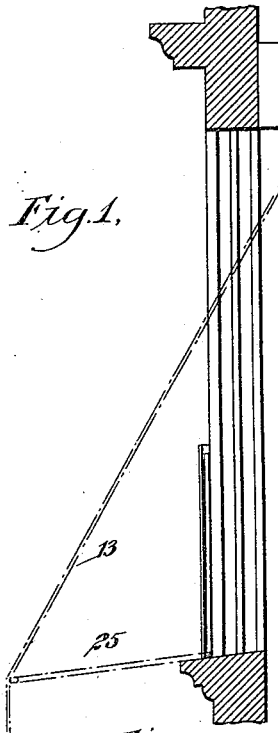

Fig. 1.

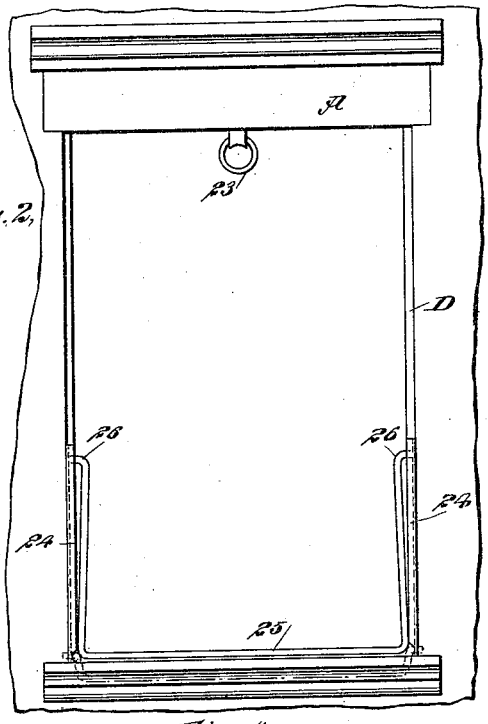

Fig. 2.

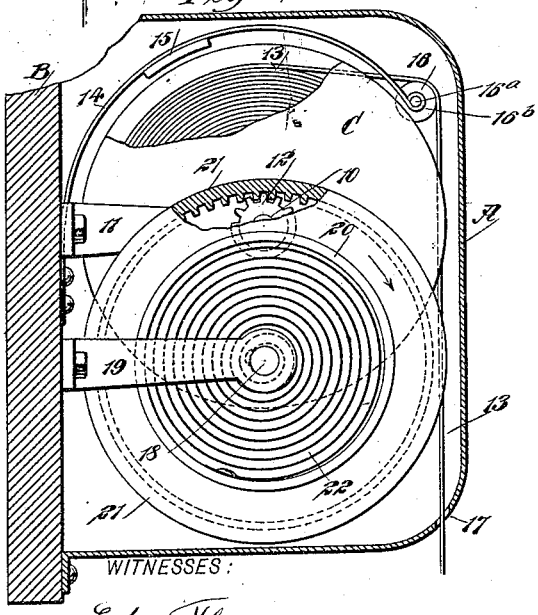

Fig. 3.

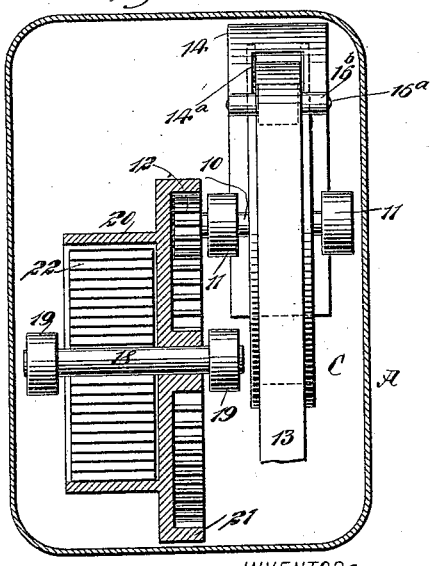

Fig. 4.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 648,762, dated May 1, 1900.

Application filed October 4, 1899. Serial No. 732,494. (No model.)

To all whom it may concern:

Be it known that we, AUGUST KURRE and WILLIAM H. GIESELER, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

One object of the invention is to provide a fire-escape which may be set up at or adjacent to a window or other opening in a building or which may be permanently attached to the casing of the window or other opening and to so construct the device that after a person has by its use descended from the building the supporting-tape employed for descending will be automatically and instantly wound up the moment it is released from the weight of such person and will be brought into position to be used by another person.

Another object of the invention is to provide an automatically-operated brake for the tape and a friction device for said tape which will be brought into operation as the tape is unwound from its support.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through a window-frame and an end view of the device attached to the frame, illustrating in dotted lines the manner in which the tape is led from the device out through the window-opening. Fig. 2 is an outer face view of a portion of the building and the window-frame with the device applied. Fig. 3 is a vertical section through the casing containing the device, illustrating the device in end elevation and with parts broken away; and Fig. 4 is a transverse section through the case and through one portion of the mechanism.

The case A is secured to a support B, preferably to the upper member of a window-frame at the inner face of said frame, as shown in Fig. 1. A shaft 10 is mounted to revolve in bearings 11, secured to the support B, the said bearings being within the case, and at the inner end of the shaft 10 a pinion 12 is secured, while between the bearings 11 a reel C is attached to the said shaft 10, whereby the reel and the pinion 12 turn with the shaft 10. A tape 13, preferably of metal, a rope, or a chain is attached to the central portion of the reel C and is wound up thereon, as shown in Fig. 3. A brake 14, consisting, preferably, of an arched spring-strap, is attached at one of its ends to the support B or to any stationary object, and the said brake extends over the upper portion of the reel and is provided between its ends with a shoe 15, located upon the under face of the strap, the said shoe when the strap is drawn downward being arranged to engage with the peripheral surface of the reel C.

A slot 14^a is made in the lower end of the brake-strap 14, as shown in Fig. 4, and at the lower or outer end of the slot 14^a a friction-pulley 16 is journaled, the pivot-pin 16^a of which extends beyond the roller into eyes 16^b, formed in the strap, and the eyes 16^b of the strap are adapted to engage with the periphery of the reel when the device is in operation. That portion of the tape which is unreeled passes over the upper portion of the said friction-roller, as shown in Fig. 3, and the roller forms a positive guide for the tape, since it enters the space between the sides of the reel. When a person descends by means of the tape, the weight of the person will set the brake on the reel and will regulate the rapidity of the descent, and at the same time the roller 16 will serve as a guide for the tape as it is unreeled, as has been stated, and the tape 13 as unreeled passes out through an opening 17 in the bottom of the case.

A shaft 18 is secured in hangers or brackets 19 at one side of and below the revolving shaft 10. A drum 20 is mounted to turn loosely on the fixed shaft 18, and the said drum is attached to an internally-toothed gear 21. The pinion 12 on the shaft 10 engages with the teeth of the gear 21, as is shown in both Figs. 3 and 4. A spring 22 is coiled within the drum 20, one end of which spring is secured to the drum and the other to the fixed shaft 18. Thus when a person descends as the tape is unwound from the reel C the shaft 10 is revolved and in its turn revolves the

drum 20, and the drum in turning will wind up the spring 22, so that when a person descending by the tape alights or releases the tape the spring 22 will immediately uncoil and cause the gear 21 to communicate a reverse movement to the shaft 10 and rewind the tape 13 on the reel.

A ring 23 is preferably secured to the outer end of the tape 13, and when a person is to descend the tape is passed through the ring in a manner to produce a slip-loop, and this loop is passed around the body, usually under the arms, so that the person descending is supported in a sling. When using the device, the tape is carried out through the window-opening and is held from possible contact with the window-sill or other projections by means of a guide-bail 25, thus enabling a person when secured to the tape to jump out of a window without danger of striking the wall of the building. The legs of this bail are provided with outwardly-extending arms 26, adapted to enter slideways 24, constructed upon the outer side surfaces of the window-frame, as shown in Figs. 1 and 2.

When the escape is not in use, the bow-section of the guide-bail rests upon the window-sill and its legs occupy an upward position, being sprung in at their upper ends by reason of the engagement of the arms 26 with the side faces of the slideways 24. When the device is to be brought into service, the bow portion of the bail is drawn outward and its legs are carried downward until the arms 26 spring into openings at the bottom portions of the slideways 24, (see dotted lines in Fig. 2,) whereupon the bail will rest upon the window-sill, as shown in Fig. 1, and will effectually prevent the tape from wearing against the sill and will serve to carry the person so far out from the building that under no possibility will the descending person be brought in contact with any projection from the face of the building and whereby also the person descending will be carried as far as possible out of reach of the flames issuing from the window or other opening in the building.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a fire-escape, the combination with a shaft, a reel mounted on said shaft and a tape carried by the reel, of a brake consisting of a strip of metal attached at one end to a support for the reel and extended over the upper portion of said reel, a shoe between the ends of said brake for engaging with the peripheral surface of the reel, and a pulley mounted in the free end of the brake-strip, the pivot-pin of said pulley being extended to engage with the peripheral surface of the reel, substantially as specified.

2. In a fire-escape, the combination with a shaft, a reel mounted on the shaft and a tape carried by the reel, of a brake consisting of a curved strip of metal extended from the upper portion of the reel, a shoe on said brake for engaging with the peripheral surface of the reel, a pulley at the free end of said brake-strip, the pivot-pins of which are extended to engage with the peripheral surface of the reel, and a spring-and-gear connection whereby the reel is rotated in a direction to wind the tape thereon, substantially as specified.

3. A guide for a fire-escape, consisting of slideways having apertures therein and adapted for attachment to opposite sides of a window or like opening, and a bail having arms projected from its leg-sections and arranged to enter and travel in the said slideways, for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

AUGUST KURRE.
WILLIAM H. GIESELER.

Witnesses:
J. FRED ACKER,
WALTER S. DOBBINS.