L. KATZ.

FIRE ESCAPE.

APPLICATION FILED SEPT. 22, 1911.

1,050,546.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

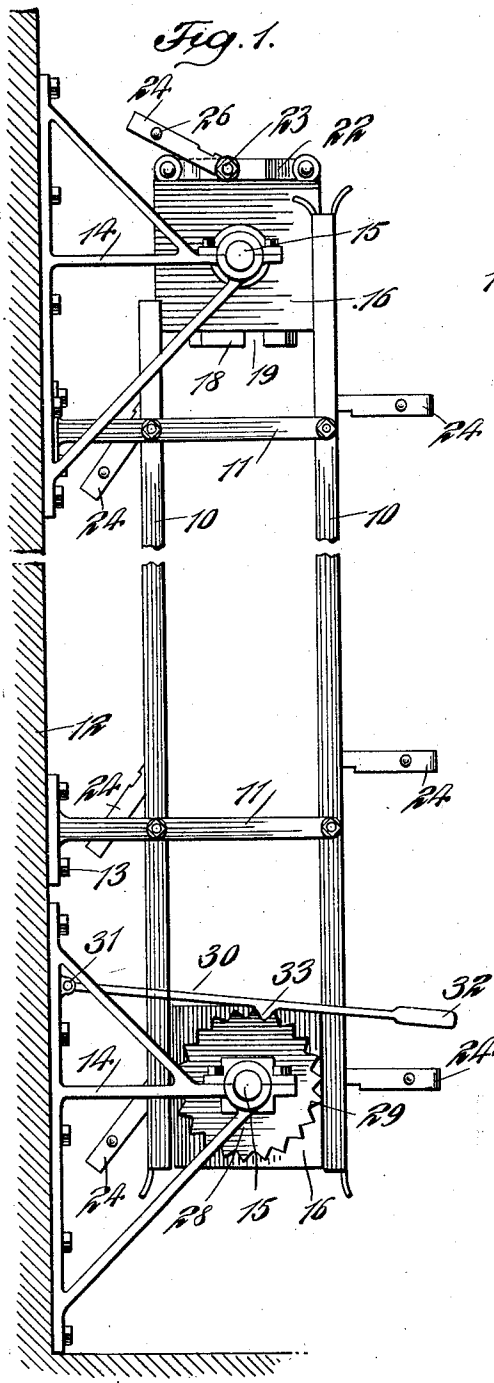
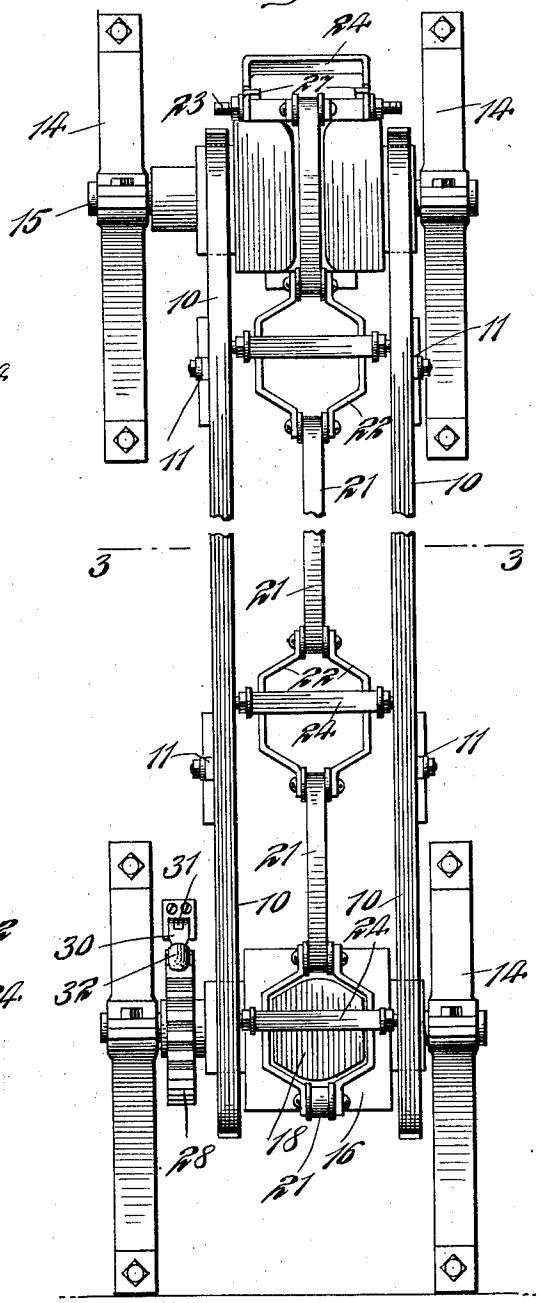


Fig. 2.



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2 SHEETS—SHEET 2.

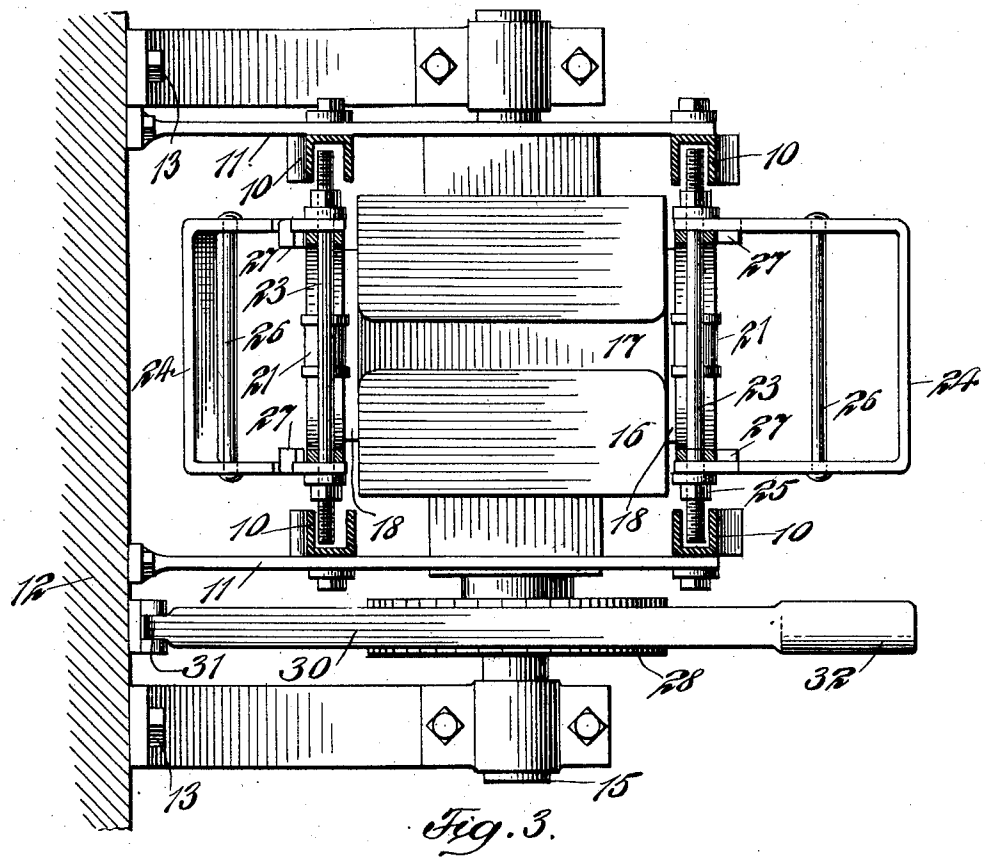


Fig. 3.

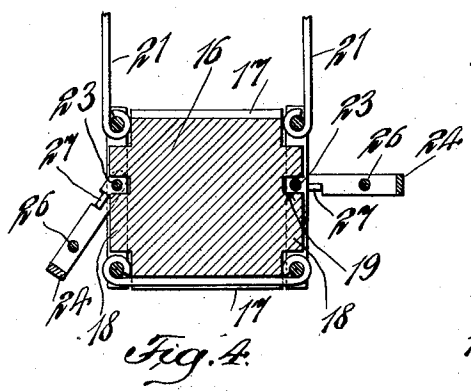


Fig. 4.

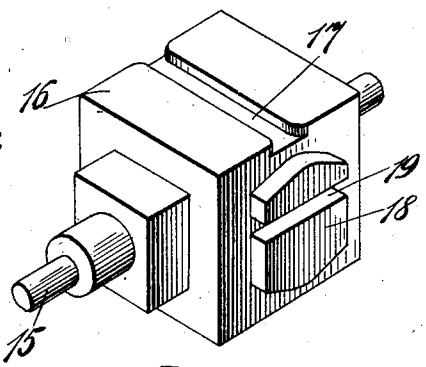


Fig. 5.

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FIRE-ESCAPE.

1,050,546. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed September 22, 1911. Serial No. 650,672.

To all whom it may concern:

Be it known that I, LUIS KATZ, a citizen of the United States, residing at the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact specification.

My invention relates to fire escapes and the same has for its object to provide a simple, efficient and reliable apparatus adapted to be secured upon the walls of buildings and other structures adjacent to the windows thereof.

Further, said invention has for its object to provide a fire escape comprising a plurality of suitable supports upon which is disposed an endless conveyer provided with means for supporting a person while descending from an upper portion of a building or other structure.

Further, said invention has for its object to provide an endless ladder in the form of a conveyer having a plurality of hinged supports pivotally arranged thereon, and adapted to support a person, and at the same time provide means for enabling the person to hold and steady himself during the descent of the ladder or conveyer.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, my invention consists in the novel details of construction and in the combination, connection and arrangement of parts hereinafter more fully described, and then pointed out in the claim.

In the accompanying drawings showing one illustrative embodiment of the invention and in which the same reference numeral refers to similar parts in the several figures. Figure 1 is a view in side elevation of the device; Fig. 2 is a view in front elevation; Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2; Fig. 4 is a vertical sectional view taken through the center of one of the drums, and Fig. 5 is a perspective view of one of the drums.

Referring to the drawing, the frame work of the device is shown as consisting of four upright channel irons, 10, 10, which are held in position by means of suitable horizontal supporting members 11, 11, secured to the wall 12 of the building in any suitable manner, as by means of bolts 13. These supporting members 11, 11 are attached to the channel irons 10, 10, and it will, of course, be understood that the number of supporting members depends on the height of the building to which the device is attached. The uprights 10, 10 are so positioned at the front and rear of the frame that the channeled portions face one another, as clearly shown in Fig. 3.

Adjacent to the upper and lower ends of the frame work and rotatably supported in brackets 14, 14 secured to the building, are transverse shafts 15, 15 carrying rollers 16, 16 which are of polygonal cross section, being provided with flat faces. In the embodiment shown, each roller is square being provided with four faces. The faces of the rollers are provided alternately with grooves 17 and projections 18, the latter being provided with transverse recesses 19, in order that the faces of the roller will conform to the links of the endless traveling chain 20.

The chain is composed of alternately arranged bar links 21 and spaced-sided links 22 pivotally connected to one another. In the embodiment shown, the spaced-sided links are hexagonal. Intermediate the ends of the links 22, and supported by the side portions thereof, are transverse rods 23, upon which supporting brackets 24 are pivotally mounted. The ends of the transverse rods 23 extend outwardly beyond the sides of the links 22 and engage within the channeled portions of the uprights 10, thereby guiding the chain during its travel. These outwardly extending ends are preferably threaded, as shown, for the reception of nuts 25 which serve to retain the brackets 24 in position. Each of the brackets is provided with a transverse bar 26 which, together with the bracket 24 and rod 23, form a platform upon which a person may stand when using the device. In order to maintain the bracket 24 in a horizontal position on the descending portion of the chain, it is provided adjacent its inner ends with inwardly extending lugs 27 which engage the side portions of the link 22, as clearly shown in Fig. 3. These lugs are preferably formed by bending inwardly a portion of the metal of which the bracket 24 is made. On the ascending portion of the chain, the brackets 24 will drop and assume a position such as is shown at the left in Fig. 4.

The device is so positioned relatively to the building that the platforms may be reached from the windows of the buiding,

or from balconies which may be provided on its outer wall. In case of fire, persons in the building may step upon the platforms carried by the chain and grasp the chain with their hands to prevent them from falling. The device is so constructed that the weight of one person standing on one of the platforms will cause the chain to travel in such a manner that the person will descend. As the chain thus travels, the drums 16 will rotate and the parts are so arranged that the bar links 21 will engage the grooves 17 and the projections 18 will engage within the spaced-sided links 22, the rods 23 being received within the recesses 19. Due to this co-action between the drums and the links of the chain, lateral movement of the latter is prevented, and the links are maintained in alinement with one another.

In order to prevent too rapid movement of the chain, occasioned by a number of people using the device at one time, a brake is provided which consists of a disk 28, provided with serrations or teeth 29, preferably formed in its periphery, and this disk is rigidly fixed to the shaft 15 bearing the lower drum 16. A lever 30 has its inner end pivotally mounted on a support 31 and is provided at its outer end with a handle 32. Intermediate the point of support and the handle, the lever is provided with a projection 33 shaped to correspond with the serrations or teeth 29 on the disk 28, so that, as the disk rotates, the projection 33 will successively engage the teeth. A person standing on the ground, by applying pressure to the handle 32, may control the speed with which the chain travels.

Having described this invention in connection with the illustrative embodiment thereof, to the details of which disclosure the invention is not of course to be limited, what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claim:—

In a fire escape, in combination, a frame, upper and lower drums rotatably supported thereby, an endless traveling chain engaging said drums and composed of bar and spaced sided links and person supporting means carried by said spaced sided links, said drums being provided with flat chain engaging surfaces, certain of said surfaces being provided with a groove to receive said bar links therein, and the others of said surfaces being provided with projections to extend within said spaced sided links, substantially as specified.

Signed at the city of New York, in the county and State of New York, this 31st day of August, nineteen hundred and eleven.

LUIS KATZ.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."