

No. 771,521.

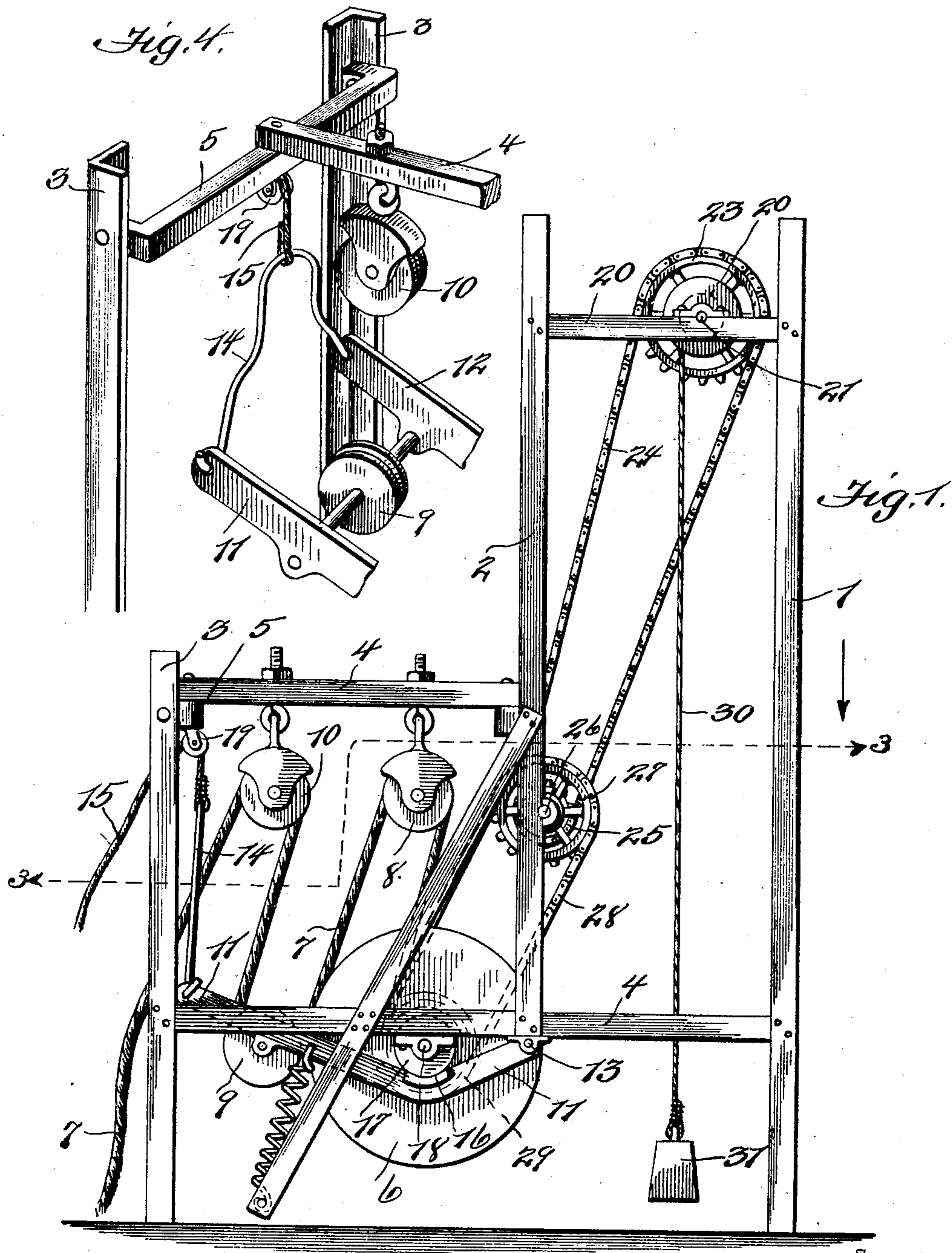
PATENTED OCT. 4, 1904.

E. ZIBELL.
FIRE ESCAPE.

APPLICATION FILED MAY 20, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor

Emil Zibell.

Witnesses

R. A. Boswell.
Perry H. Pattison.

By

W. J. Fitzgerald

Attorney.

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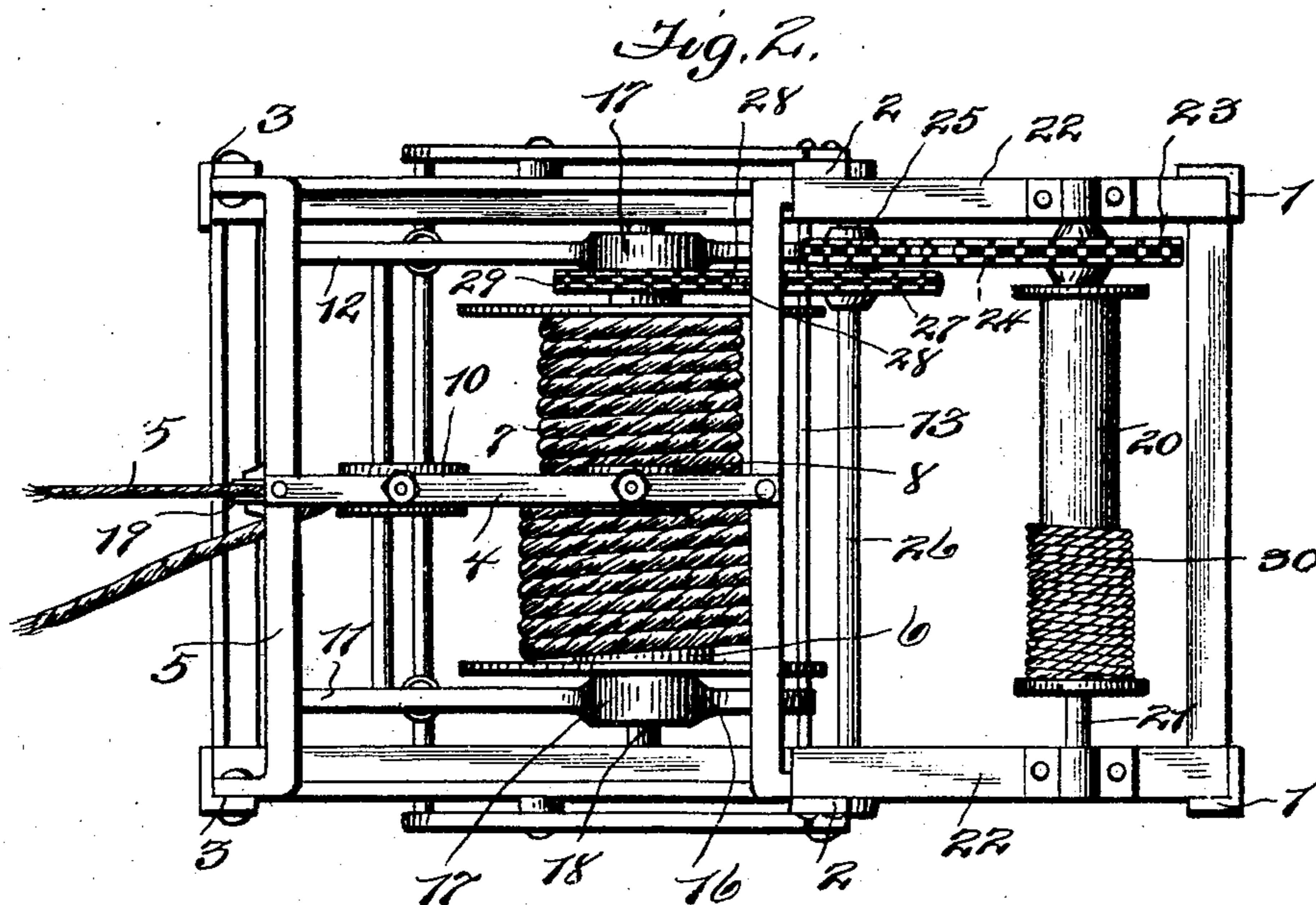
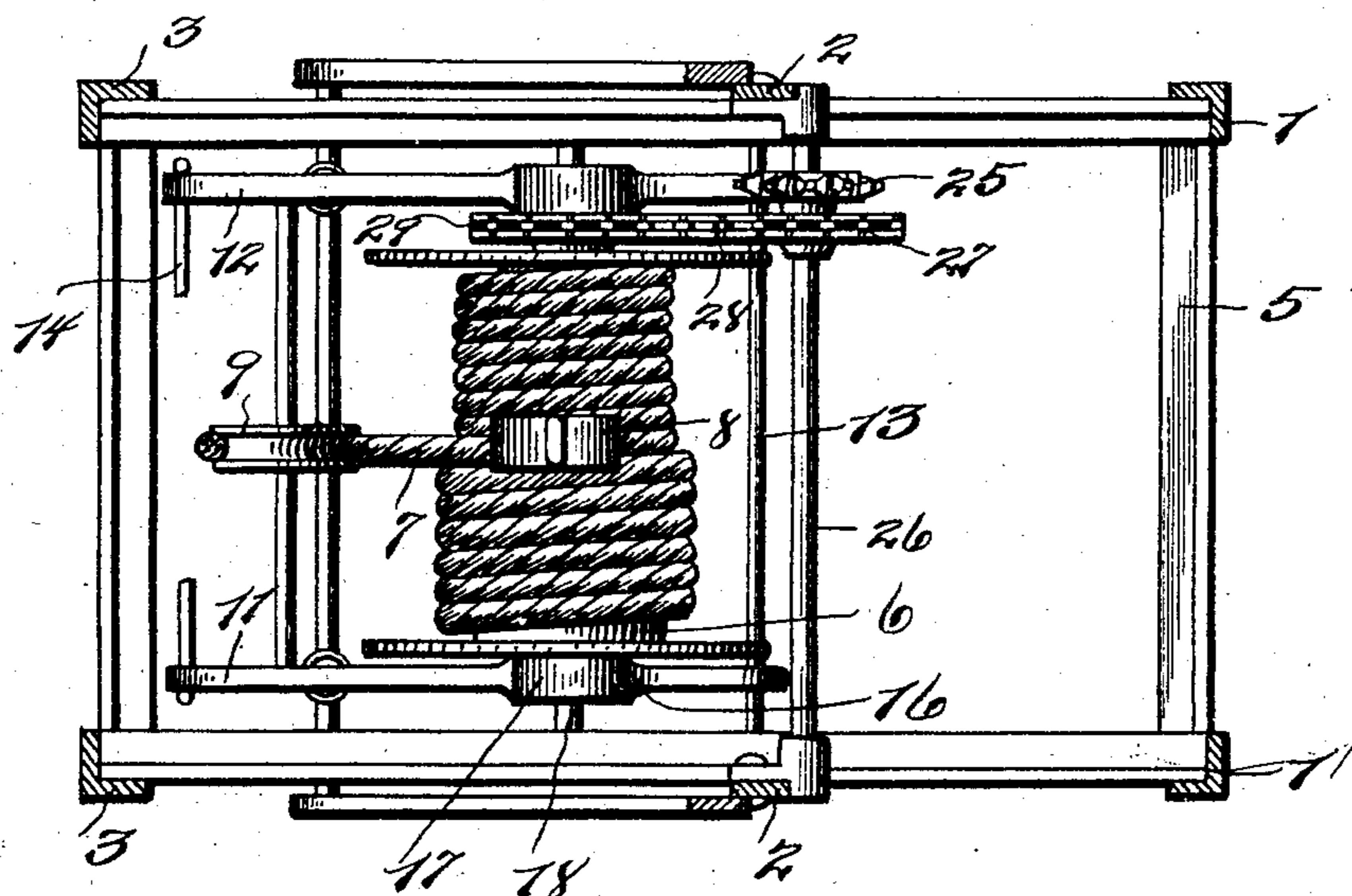


Fig. 3.



Inventor

Emil Zibell

Witnesses

R. A. Boswell,
Perry F. Pattison.

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W. S. Fitzgerald
Attorneys.

Attorneys.

UNITED STATES PATENT OFFICE.

EMIL ZIBELL, OF WABASSO, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 771,521, dated October 4, 1904.

Application filed May 20, 1904. Serial No. 208,855. (No model.)

To all whom it may concern:

Be it known that I, EMIL ZIBELL, a citizen of the United States, residing at Wabasso, in the county of Redwood and State of Minnesota, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
 10 pertains to make and use the same.

My invention relates to life-saving appliances, and more particularly to that variety thereof commonly designated a "fire-escape;" and it consists of certain novel features of
 15 combination and construction of parts, the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claim.

The prime object of my invention, among others, is to provide a safety appliance of the
 20 character specified by which any number of persons or any reasonable amount of weight may be safely and readily lowered to a point of safety.

A further object of my invention is to provide
 25 reliably-efficient means for placing the apparatus under the control of the operator or persons using it, whereby it may be readily checked at any desired point in the descent—as, for instance, opposite a lower window of
 30 a building, whereby a person from any of the lower windows may be easily secured and carried to a point of safety with those who have placed themselves upon the fire-escape from points higher up on the building.

Other objects and advantages will be hereinafter made clearly apparent, considered in
 35 connection with the accompanying drawings, which are made a part of this application, and in which—

Figure 1 shows a side elevation of my safety
 40 appliance complete ready for use. Fig. 2 is a top plan view thereof. Fig. 3 is a sectional view taken on line 3 3 of Fig. 1 and looking downward thereon. Fig. 4 is a perspective
 45 detail view showing the means of constructing the levers designed for the control of the winding-drum.

The various details and cooperating accessories of my invention will for convenience
 50 be designated by numerals, the same numeral

applying to a similar part throughout the several views, and referring to the numerals on the drawings 1, 2, and 3 indicate the standards or uprights comprising part of the framework, said standards being operatively connected together by suitable cross-bars 4 and
 55 by the end sections 5, whereby a strong and rigid frame will be produced, which framework is designed to be located at or near the top of a building to be protected by my safety
 60 appliance. It will be understood that the framework, however, may be constructed in any desired way, and upon said framework I secure in suitable bearings the winding or
 65 storage drum 6, upon which is disposed the preferably steel cable 7, and it will be observed that as the cable 7 leaves the drum it is first passed over the idler-pulley 8 and
 70 thence downward over the idler 9 and thence upward over the idler-pulley 10, all of said pulleys being properly secured in position, the pulley 9 being rotatably mounted between
 the brake-levers 11 and 12, as fully shown in Figs. 2 and 3.

It will be seen that the inner ends of the
 75 brake-levers 11 and 12 are pivotally mounted upon the transversely-disposed rod 13, properly mounted in the framework above described, while the free ends of said levers are provided with the bail or pivoted member 14,
 80 adapted to be connected to the controlling rope or cable 15, also preferably formed of non-combustible material, as a wire rope of proper size. The brake-levers 11 and 12 are
 85 somewhat angular in form, as shown in Fig. 1, and at the angle thus provided I locate a brake-shoe or friction-plate 16, adapted to co-
 operate with the friction-wheel 17 upon the drum-shaft 18, and it is therefore obvious
 90 that when said brake-levers are raised upward by the cable 15, which passes over the pulley 19, the storage or winding drum will be
 checked or locked against rotation, according to the strength of the pull placed upon said
 95 cable.

I also provide the differentiating winding-
 100 drum 20, having a suitable shaft 21 located in bearings provided in the cross-bars 22 of the framework secured to the upper ends of the standards 1 and 2. Upon the shaft 21 I

secure the sprocket 23, which coöperates with the sprocket-chain 24, the latter passing around the sprocket-wheel 25, secured to the shaft 26. I also secure to the shaft 26 the sprocket-wheel 27, having the sprocket-chain 28, which passes around the sprocket-wheel 29 upon the drum-shaft 18. The drum 20 carries the cable 30, to the lower end of which I secure a weight 31, and it is obvious that when the storage-drum 6 is unwound the cable 30 will be wound upon the drum 20. The object, therefore, of the weight 31 is to rewind the storage-drum after the load has been removed from the load-carrying cable 7, it being understood that any suitable appliance is to be attached to the end of said load-carrying cable—as a basket, ring, or the like—whereby a person or persons may be readily accommodated and safely carried to the ground. Obviously when a person or a number of persons have entered the carrying-basket (not shown) attached to the end of the load-carrying cable 7 and one of said persons has grasped the controlling-cable 15 said load may be slowly or rapidly lowered, according to the strain placed upon the cable 15, and that while the storage-drum 6 is being unwound incident to the lowering of the load and the unwinding of the carrying-cable 7 the differentiating-drum 20 will be so rotated as to wind up the cable 30 and incidentally raise the compensating weight 31, so that when the persons shall have reached the ground or a point of safety and released the load-carrying cable 7 said weight will rewind the load-carrying cable upon the storage-drum 6, and thereby restore the end of said load-carrying cable to its initial or normal position at the top of the building, ready for the accommodation of another person or number of persons.

Inasmuch as any suitable form of receptacle—as a basket, wire cage, or a plurality of rings—may be provided for the end of the load-carrying cable, I deem it unnecessary for the purpose of this application to illustrate any special form of appliance, desiring to call particular attention to the construction and combination of parts involved in the production of my safety appliance.

Inasmuch as the load-carrying cable 7 passes around the pulley 9, rotatably carried between the ends of the brake-levers 11 and 12, it follows that the heavier the load placed upon the load-carrying cable the more firmly will the brake-shoe 16 be brought to bear upon the friction-wheel 17, insuring that the storage-drum can only be slowly unwound and that the person or persons will be carried with reasonable though entirely safe speed to the ground. If, however, the operator desires

to stop at any of the lower windows, as for the purpose of receiving an additional person, all that is necessary is to pull downward upon the controlling-cable 15, which will bring the brake-levers sharply upward and instantly lock further rotation of the storage or winding drum 6, and thereby incidentally check further downward movement of the carrying-basket. (Not shown.) It is further obvious that when it is desired to again move downward all that is required from the operator is to release his downward pull upon the controlling-cable 15, when the unwinding of the drum 6 will again begin.

The various parts of my invention may be very cheaply and expeditiously manufactured of any preferred material and any desired size to meet all requirements placed upon such an appliance, and while I have described the preferred combination and construction of parts I desire to comprehend in this application all substantial substitutes and equivalents that may be considered as falling fairly within the scope and purview of my invention.

Believing that the construction, advantages, and manner of using my invention have thus been made clearly apparent, further reference to the details is deemed unnecessary.

What I claim as new, and desire to secure by Letters Patent, is—

The herein-described fire-escape or safety appliance for buildings, and comprising a suitable framework; a winding or storage drum mounted in said framework; a cable normally wound upon said drum; a brake lever or levers coöperating with said drum and having the idler-pulley 9 mounted on the free ends thereof; coöperating pulleys 8 and 10 adapted, in connection with said pulley 9, to coöperate with the load-carrying cable 7 from said winding-drum; a controlling-cable 15 operatively connected to said brake-levers and an auxiliary winding-drum 20 operatively mounted in the framework and connected with the main winding-drum 6; a cable 30 carried by said auxiliary winding-drum; a weight carried by said cable on the auxiliary drum whereby when the main or storage drum 6 is unwound the cable 30 will be wound on the auxiliary drum and thereby elevate said weight, which latter will cause the rewinding of the storage-drum when the load upon the carrying-cable is removed all combined substantially as specified and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMIL ZIBELL.

Witnesses:

EMIL HOWE,
FRANK HAGERT, Jr.