

No. 719,364.

PATENTED JAN. 27, 1903.

L. G. PETTIS.
FIRE ESCAPE LADDER.

APPLICATION FILED SEPT. 26, 1901.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.

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Inventor:

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No. 719,364.

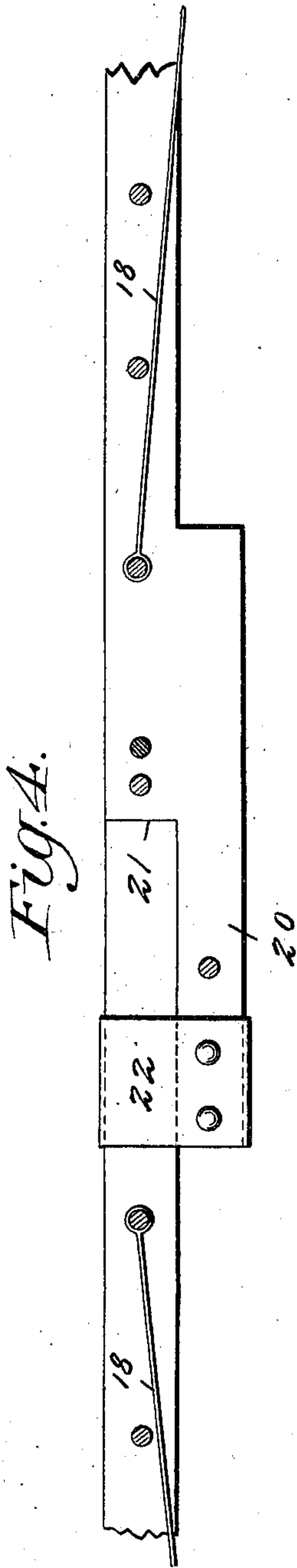
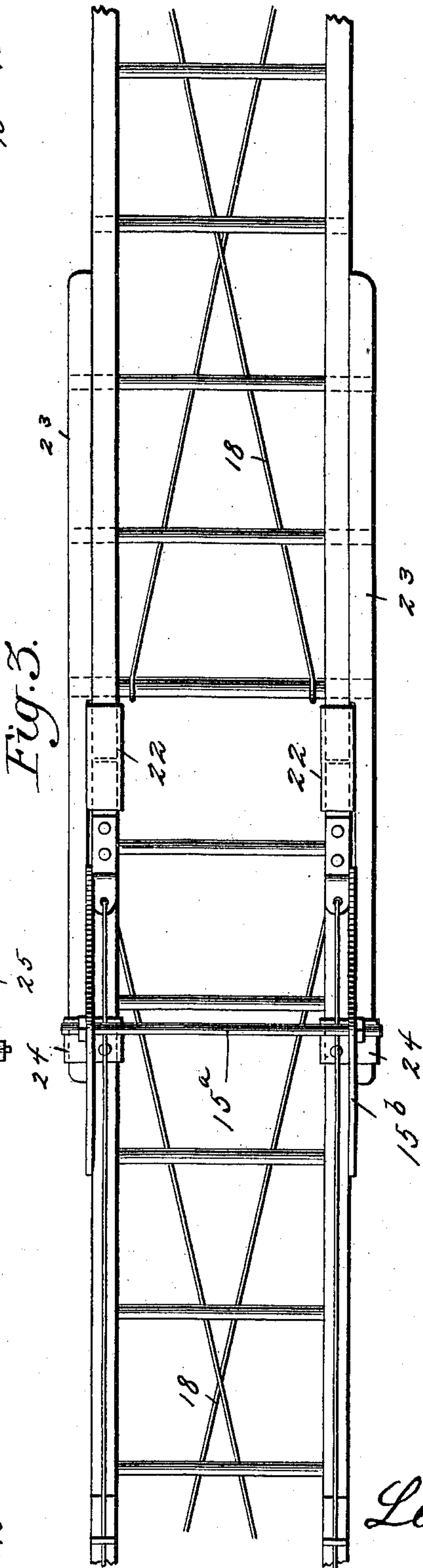
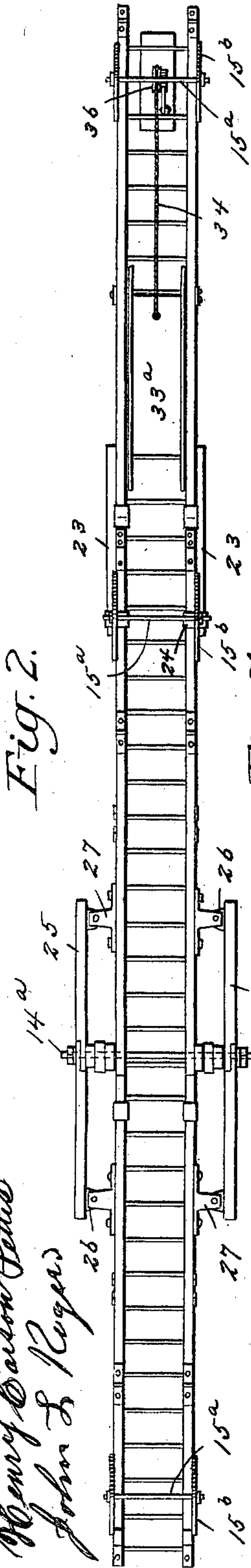
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3 SHEETS—SHEET 2.



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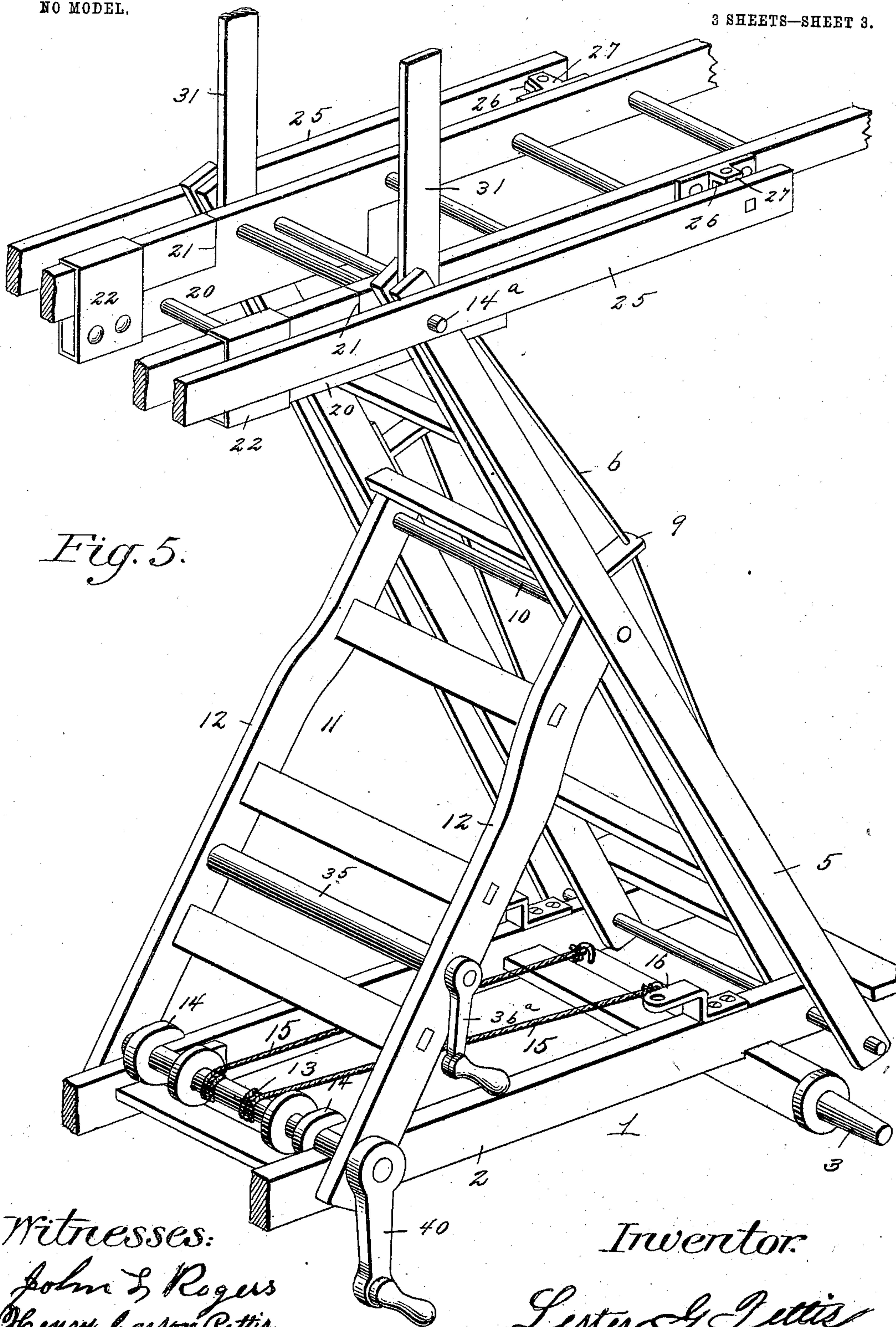
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3 SHEETS—SHEET 3.



Witnesses:

John L. Rogers
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UNITED STATES PATENT OFFICE.

LESTER G. PETTIS, OF PLATEA, PENNSYLVANIA.

FIRE-ESCAPE LADDER.

SPECIFICATION forming part of Letters Patent No. 719,364, dated January 27, 1903.

Application filed September 26, 1901. Serial No. 76,712. (No model.)

To all whom it may concern:

Be it known that I, LESTER G. PETTIS, a citizen of the United States, and a resident of Platea, borough of Lockport, in the county of Erie and State of Pennsylvania, have invented Improvements in Fire-Escape Ladders, of which the following is a specification.

This invention relates to fire-escapes, and has for its object the production of a new and improved device of this character which may be conveniently transported from place to place and which will be cheap, durable, and efficient.

A further object of the invention is to provide new and improved means for raising and lowering the device to place it in operative position and in condition for transportation, respectively.

Still further objects of the invention will appear as the nature of the same is more fully understood from the following description and claims, taken in connection with the accompanying drawings; and the same consists in the construction, combination, and arrangement of parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side elevation of a fire-escape constructed in accordance with my invention, illustrating it in operative position. Fig. 2 is a top plan view of the ladder. Fig. 3 is a fragmentary top plan view of the intermediate and upper sections of the ladder. Fig. 4 is a central longitudinal section of Fig. 3. Fig. 5 is a detail perspective view of the truck and ladder, the ladder being in raised position.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

1 designates the truck upon which is mounted the fire-escape, and consists of a body 2, having secured to the under side thereof axles 3, upon which are journaled supporting-wheels 4. The truck is provided with a suitable draft device, whereby the same may be propelled to transport the fire-escape from place to place.

5 designates a supporting-frame fulcrumed upon the truck 1, near the rear end thereof, and is adapted to be turned upon its fulcrum to raise and lower a ladder carried thereby. The supporting-frame is provided with braces

in order to give thereto sufficient rigidity to obviate any liability of the same becoming injured, and comprises rods 6, having their ends screw-threaded for the reception of nuts 7, securing the rods to brackets 8, between which are situated braces 9, having eyes for the reception of the rods. Secured to the supporting-frame through the medium of a fulcrum-pin 10 is a lever 11, comprising a frame having sides 12, provided at their lower ends with bearings in which is journaled a shaft 13, adapted to rest upon the truck 1, serving as an antifriction-roller facilitating the operation of the supporting-frame to raise and lower the ladder, and to hold the ladder in its raised position the shaft 13 is engaged by hooks 14, pivotally mounted upon the truck 1. The shaft 13 has wound thereon cables 15, having their free or opposite ends fastened to the rear axletree of the truck. It will be perceived that when motion is imparted to the shaft 13 the cables 15 are wound thereon, moving the lever upon the truck toward the rear end thereof, turning the supporting-frame upon its fulcrum to elevate the ladder carried thereby, in which position it is held by the engagement of the shaft 13 by the hooks 14. The releasing of the shaft will permit the lever and supporting-frame to assume their normal positions upon the truck.

The ladder is pivotally secured upon the supporting-frame to one side of its center through the medium of a bolt 14^a and comprises several sections—a lower section, an intermediate section, and an upper section—each having side rails and rounds and provided with inverted-V-shaped arms 15^b, secured to the side rails and having eyes for the reception of transverse bolts 15^a to prevent the lateral movement of the side rails and consequent displacement of the rounds. To give to each section sufficient individual rigidity to obviate the bending of the same under any weight that may be placed thereon, I provide each with brackets 16^a, carrying adjusting-bolts 17, provided with eyes for the reception of the ends of cables 18, having their opposite ends secured to one of the rounds. Braces 19 are carried by the side rails of each section and are provided with eyes for the reception of the cables 18. The

side rails of the intermediate and upper sections have their lower ends enlarged and cut away to form arms 20 and shoulders 21, upon which rest and against which abut the extremities of the side rails of the adjacent sections. The arms 20 are provided with collars 22 to receive the side rails of the adjacent sections. The side rails of the upper section have secured thereto side brace-rails 23, the forwardly-extending ends of which are received by collars 24, carried by the intermediate section, which in connection with the arms 20 and collars 22 provide a safe connection between the upper and intermediate sections. The bolt 14^a projects laterally for the reception of the adjacent ends of arms 25, having their opposite ends provided with horizontally-disposed eyes 26, adapted to be secured to brackets 27, carried by the intermediate and lower sections, thereby securing the sections together from longitudinal movement and which are held against vertical movement with relation to each other by the arms 20 and collars 22. The lower and intermediate sections have secured to each of their side rails eyes 28 and brackets 29. Cables 30, after being passed around vertical posts 31, secured to the bolt 14^a, are threaded through the eyes 28 and attached to bolts 31^a, adjustably mounted in the brackets 29. The upper section is provided with brackets 29 and cables 32. Each after having one of its ends secured to the posts 31 is secured to bolts 33, adjustably mounted in the brackets 29.

The above manner of connecting the several sections of the ladder by the cables 30 and 32 obviates all liability of the sections separating longitudinally and also gives to the ladder sufficient rigidity to permit of the accomplishment of the desired results.

Mounted to travel back and forth upon the ladder is a car 33^a, having secured thereto one end of a cable 34, the opposite end of which is secured to a shaft 35, and it also passes around a pulley 36, journaled near the upper end of the ladder. It will be perceived that by imparting motion to the shaft 35 through the medium of the crank 36^a, carried thereby, the cable 34 is wound thereon, causing the car to move upward upon the ladder, and by releasing the shaft 35 the car will travel down the ladder through the virtue of its own weight and the inclination of the ladder. Each of the cables 38 has one of its ends secured to the shaft 13 and its opposite end to the lower portion of the ladder. The turning of the shaft 13 in one direction or the other, through the medium of the crank 40 carried thereby, will cause the cable 38 to be unwound from or wound upon the pulleys 39, consequently elevating or lowering the upper end of the ladder to accommodate the different heights of buildings.

It is obvious from the above description, taken in connection with the accompanying drawings, that I provide a fire-escape having

the ladder thereof so mounted upon a truck that it may be raised to applied position and the angle of inclination thereof in such position may be varied to accommodate for the different heights of buildings, and that the ladder is capable of being taken apart and placed upon the truck in a compact form to facilitate the transportation of the device, and that the invention produces a fire-escape which is cheap, durable, and efficient.

Having thus fully described the invention, what is claimed as new is—

1. In a fire-escape, the combination with a truck, of a supporting-frame fulcrumed thereon, a ladder pivotally mounted upon the supporting-frame, a lever for raising and lowering the supporting-frame, a shaft journaled on the lever and adapted to rest upon the truck, serving as an antifriction-roller, and hooks pivotally mounted upon the truck and adapted to engage the shaft to hold the supporting-frame in elevated position.

2. In a fire-escape, the combination with a truck, of a supporting-frame fulcrumed thereon, a ladder pivotally mounted upon the supporting-frame, a lever for raising and lowering the supporting-frame, a shaft journaled on the lever, and adapted to rest upon the truck, serving as an antifriction-roller, cables secured to the rear axletree of the truck and shaft, and hooks pivotally mounted upon the truck, and adapted to engage the shaft to hold the supporting-frame in elevated position.

3. In a fire-escape, the combination with a truck, of a supporting-frame fulcrumed thereon, a lever for raising and lowering the supporting-frame, a shaft journaled on the lever and adapted to rest upon the truck to serve as an antifriction-roller, cables secured to the rear axletree of the truck and shaft, hooks pivotally mounted upon the truck, and adapted to engage the shaft to hold the supporting-frame in elevated position, a ladder pivotally mounted upon the upper end of the supporting-frame, a plurality of arms secured in parallel relation to the side rails of the ladder, bolts connecting the arms to prevent the lateral displacement of the side rails, and a car movably mounted upon the ladder.

4. In a fire-escape, the combination with a truck, of a supporting-frame fulcrumed thereon, a lever for raising and lowering the supporting-frame, a shaft journaled on the lever, and adapted to rest upon the truck to serve as an antifriction-roller, cables secured to the rear axletree of the truck and shaft, hooks pivotally mounted upon the truck and adapted to engage the shaft to hold the supporting-frame in elevated position, a bolt carried by the supporting-frame near the upper end thereof, a ladder pivotally mounted upon the shaft, a plurality of arms secured in parallel relation to the side rails of the ladder, bolts connecting the arms to prevent the lateral displacement of the side rails, posts carried by the last-mentioned shaft, a plurality of eyes carried by the ladder, brackets secured

to the ladder, adjusting-bolts carried by the brackets, cables secured to the posts, threaded through the eyes and fastened to the bolts whereby the ladder is braced, and a car movably mounted upon the ladder.

5 In a fire-escape, the combination with a truck, of a supporting-frame fulcrumed thereon, a lever for raising and lowering the supporting-frame, a shaft journaled on the lever, and adapted to rest upon the truck to serve
10 as an antifriction-roller, cables secured to the rear axletree of the truck and the shaft, hooks pivotally mounted upon the truck, and adapted to engage the shaft to hold the supporting-

frame in elevated position, a ladder pivotally
15 mounted upon the upper end of the supporting-frame, a car movably mounted upon the ladder, means for imparting motion to the car, pulleys carried by the shaft, cables secured to the lower end of the ladder and the
20 pulleys to increase or diminish the inclination of the ladder when motion is imparted to the shaft.

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