

No. 649,965.

Patented May 22, 1900.

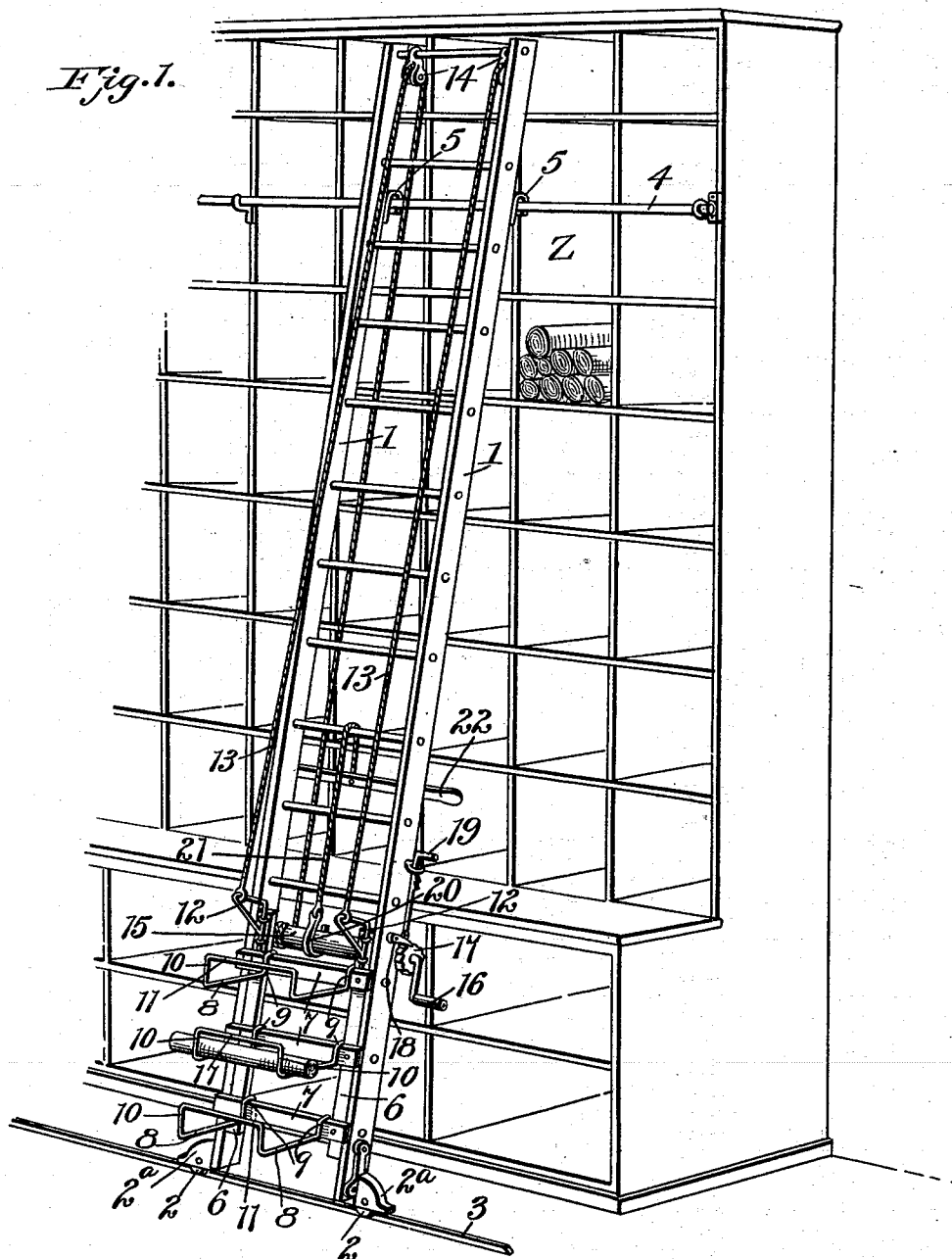
O. L. TAYLOR.

COMBINED STORE GOODS LIFTER AND LADDER.

(Application filed Feb. 18, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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INVENTOR

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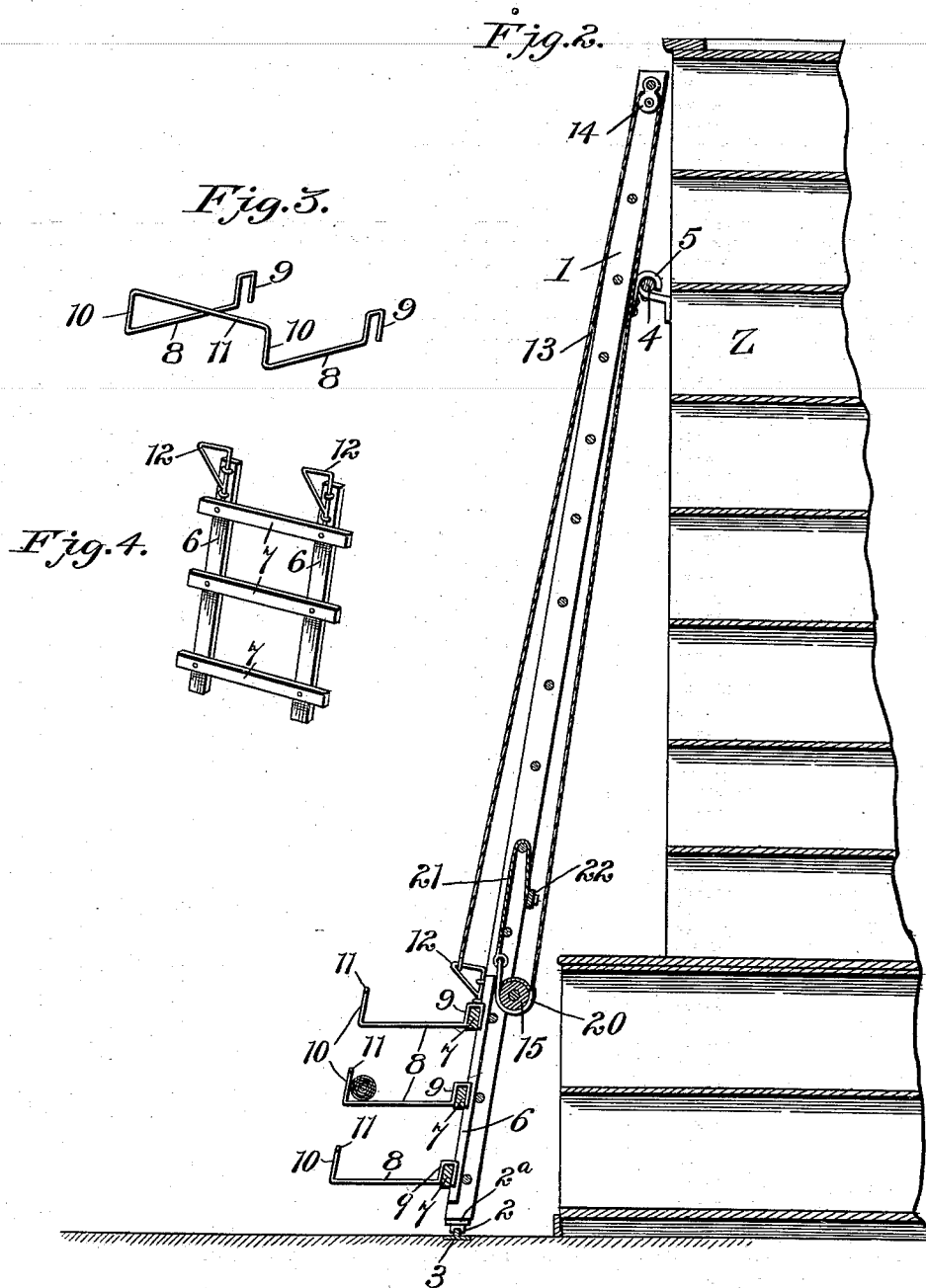
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UNITED STATES PATENT OFFICE.

ORLANDO L. TAYLOR, OF WINONA, MINNESOTA.

COMBINED STORE-GOODS LIFTER AND LADDER.

SPECIFICATION forming part of Letters Patent No. 649,965, dated May 22, 1900.

Application filed February 18, 1899. Serial No. 706,059. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO L. TAYLOR, a citizen of the United States, and a resident of Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in a Combined Store-Goods Lifter and Ladder; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a perspective view showing the invention as in application. Fig. 2 is a central vertical longitudinal section of same. Fig. 3 is a perspective view of one of the wire shelves. Fig. 4 is a perspective detail view of carriage without shelves.

This invention is designed to provide means of improved character in the nature of a combined movable ladder and elevator for use in stores for the purpose of elevating and storing goods; and the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the numeral 1 designates a ladder or frame, the lower ends of whose side rails are provided with grooved sheaves or rollers 2, journaled in brackets 2^a, which engage and travel on a rail 3, secured to the floor of the building adjacent and parallel to the wall on which are the shelves Z, to which the goods are to be raised and in which they are to be stored.

4 is a horizontal guide-rail which is secured to the shelving, preferably at points some distance below the top thereof, and which is slidably engaged by hooks 5 or other suitable bearing devices on the side rails of the ladder or frame.

6 designates a car or carriage arranged to reciprocate on the ladder-frame. It consists of elongated parallel side bars, to which are secured cross-pieces 7. These side bars are arranged to hug the inner faces of the side rails of the ladder, the cross-pieces thereof lapping over the same and bearing at their end portions upon said side rails, transverse

vibration of the carriage being thereby prevented. Carried by these cross-pieces are suitable detachable shelves, which may be of different construction, according to the nature of the goods which they are to carry. The construction illustrated is more especially designed for use in handling rolls of wall-paper, and the shelves are each constructed from a metal rod bent to form the parallel lateral arms 8, whose free end portions terminate in upwardly-extending downwardly-directed angular hooks 9, which are designed to engage over one of the cross-pieces 7 in the manner shown. At its outer portion each lateral arm of the shelf is bent upwardly at right angles, as at 10, and these upwardly-extending arms are connected by the transverse portion 11. The arms 10 and transverse portion 11 form guards to retain on the shelf the rolls of paper or other goods which are laid transversely on the lateral arms 8. Secured to the upper end portion of each side bar of the carriage is a forwardly-projecting triangular bracket 12, and connected to the upper forward corner portion of each bracket is a rope 13, which extends upwardly to the top portion of the ladder, where it passes over a pulley 14 and thence downwardly to a winding-drum 15, which is journaled transversely to the rear side of the ladder some distance above its lower end. Said drum is provided with a crank 16, a ratchet-wheel 17, and a pawl 18.

19 is a lifting device connected to the pawl for retracting and holding it from engagement with the ratchet-wheel 17, when desired.

20 is a friction-brake band on the drum 13. Connected to said band is a rope 21, which passes upwardly and over one of the rungs of the ladder and thence down to a hand-lever 22, to which it is connected. Said lever is pivoted at one end to the rear side of one of the side rails of the ladder.

The operation of the device is obvious. It will be noted that by reason of the manner in which the operating-ropes 13 are connected to the carriage—that is to say, at points some distance in front of and above the carriage proper—the tendency is to hold the carriage flat to its guides on the ladder or frame no matter at what point the carriage is on said frame. It will be observed that

when the shelves of the carriage are loaded the load will operate to keep the lower end of the carriage to the rails, while the inward draw of the cable upon the upper end thereof will prevent same from leaving the rails. 5 After the carriage has been raised and its load of goods removed the pawl-lifter 19 is operated to retract and hold the pawl 18 out of engagement with the ratchet-wheel and the carriage is allowed to descend, too rapid 10 descent being prevented by the manipulation of the brake device above described.

The shelves can be quickly removed from the carriage when it is not desired to use 15 them, or the entire carriage may be removed from the ladder, which can then be used as an ordinary ladder. Other ladders such as are commonly used in stores may be mounted on the same guide-rods.

20 Instead of a ladder a simple frame without rungs may be used to support and guide the carriage.

Having thus described my invention, what I claim as new, and desire to secure by Letters 25 Patent, is—

1. In store furniture of the class described, the combination with an inclined frame or ladder, of a carriage arranged to travel on said frame or ladder, and having side bars 30 which bear against the inner sides of the side rails of the frame or ladder and cross-bars whose end portions bear upon the outer edges of said side rails, a shelf or shelves secured to said carriage, the forwardly-projecting 35 arms secured to the upper end of the carriage, the ropes or cables connected to the outer extremities of said arms, the bearing-pulleys for said ropes or cables, and winding devices therefor, substantially as specified.

2. The combination with a ladder or frame, 40 of a carriage arranged to travel thereon and having angular cross-bars, of a shelf or shelves having angular hooks which detachably engage said angular cross-bars to support said shelves, and means for operating 45 said carriage, substantially as specified.

3. In store furniture of the class described, the combination with the car or carriage having the cross-bars, of detachable shelves consisting each of a rod bent to form parallel 50 lateral arms and angular hooks at the inner ends of said arms for engagement with one of said cross-bars, and a transverse portion connected to the outer ends of said arms by upwardly-bent portions, substantially as 55 specified.

4. In store furniture of the class described, the combination with an inclined ladder or frame, of a carriage arranged to travel thereon, and having side bars which bear against 60 the inner sides of the side rails of the frame or ladder, and angular cross-bars whose end portions bear upon the outer edges of said side rails; a shelf or shelves having angular hooks which detachably engage said angular 65 cross-bars to support said shelves; the forwardly-projecting arms secured to the upper portion of said carriage; the ropes or cables connected to the outer portions of said arms; the bearing-pulleys for said ropes or cables; 70 and winding devices therefor, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ORLANDO L. TAYLOR.

Witnesses:

HELMER H. LEE,
D. E. VANCE.