

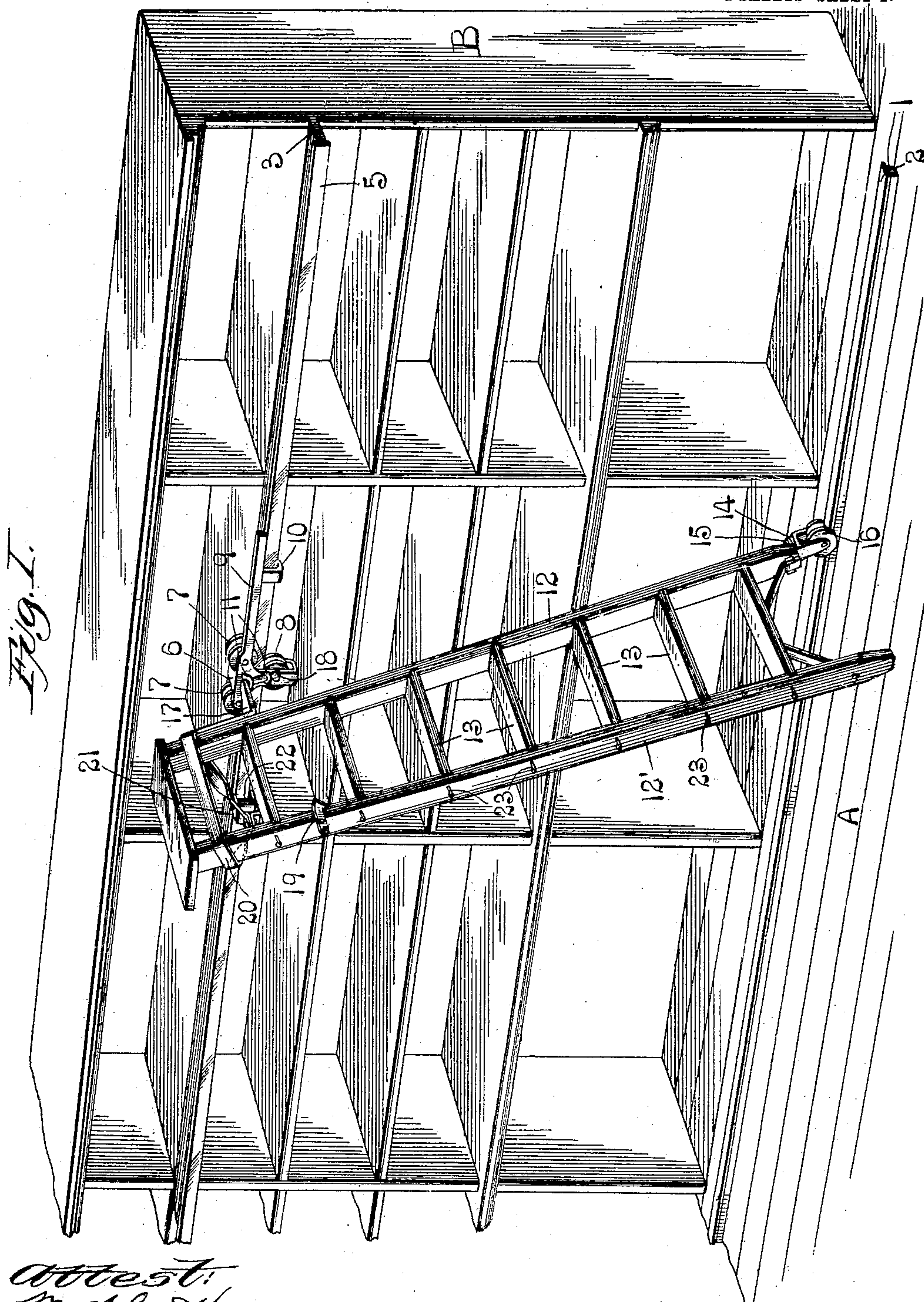
No. 862,622.

PATENTED AUG. 6, 1907.

G. ELLER.
STORE LADDER.

APPLICATION FILED MAR. 26, 1907.

2 SHEETS—SHEET 1.



Attest:
Wm. H. Roth
Lily Rost

Inventor
George Eller
by Geo. H. Knight atty.

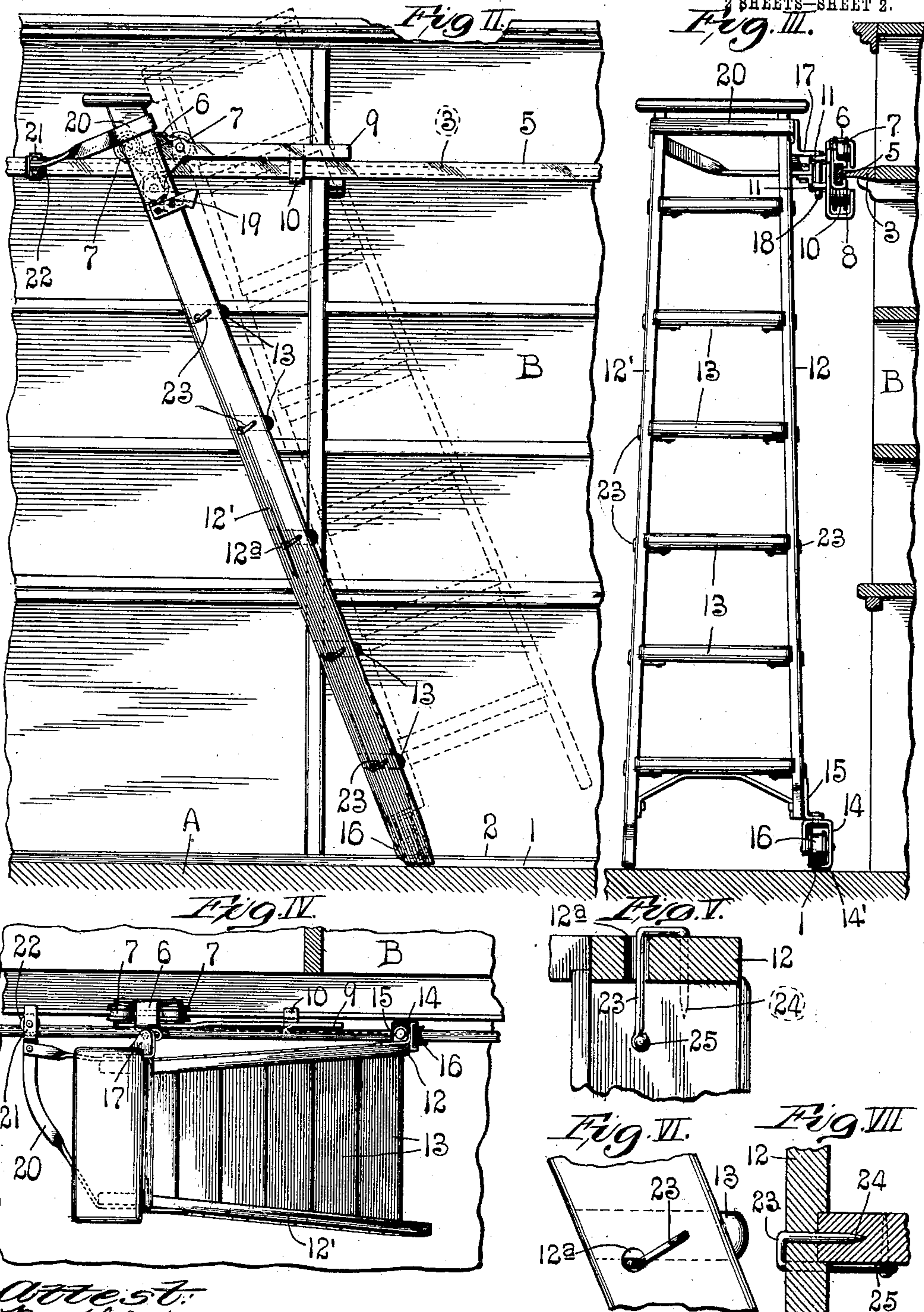
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Lily Post

Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE ELLER, OF ST. LOUIS, MISSOURI.

STORE-LADDER.

No. 862,622.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed March 26, 1907. Serial No. 364,592.

To all whom it may concern:

Be it known that I, GEORGE ELLER, a citizen of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Store-Ladders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a ladder for use in stores for gaining access to the upper shelves upon which goods carried in stock are placed and it has for its object to produce a ladder of the kind named which is of durable and efficient construction and which may be folded against the shelving when not in use, thereby lessening the aisle space occupied by the ladder when it is not needed.

Figure I is a perspective view of my ladder illustrated in condition for use in conjunction with store shelving. Figure II is a side elevation of the ladder shown in full lines in position for use and in dotted lines in folded position. Fig. III is a front elevation of the ladder. Fig. IV is a top or plan view of the ladder. Fig. V is an enlarged view in part a horizontal section taken through one of the sides of the ladder and in part an inverted plan view of one of the steps and illustrating the means for connecting the steps to the sides of the ladder. Fig. VI is a fragmentary side elevation of the ladder at the location of one of its steps and illustrating the step securing means. Fig. VII is a vertical section taken through one of the sides of the ladder and one of the steps and showing the step securing means in elevation.

A designates the floor of a building and B shelving that is mounted upon the floor and which may extend to any desirable height as is common in retail or other stores.

1 designates a track rail that is seated on the floor A adjacent to the shelving B and has a top or tread member 2 that juts inwardly over the base of the rail at its side which faces the shelving B.

3 is a rail secured to the shelving and provided at its outer edge with a flanged head 5, the flanges of which extend both above and below the body of said rail.

6 designates a carriage that is adapted to travel upon the shelf supported rail 3 and which is provided with a pair of upper track wheels 7 that are adapted to ride upon the upper flange of the rail 3 and a lower track wheel 8 that is adapted to ride against the lower flange of said shelf supported rail. The carriage is also provided with a rearwardly extending arm 9 arranged parallel with the head of the track rail 3 and which carries a guide yoke 10 that is adapted to embrace and travel in engagement with the flanges of the rail 3 for the purpose of restraining the carriage from side movement relative to the flanges of the rail with which the carriage wheels cooperate. 11 are outwardly projected superposed eyes carried by the carriage 6 and

adapted to receive a member to be hereinafter described.

12 and 12' designate the sides of the ladder and 13 are the ladder steps which are secured to said sides. The inner side 12 of the ladder is shorter than the outer side 12' and is adapted to occupy a position above the floor track rail 1, and secured to this inner side of the ladder is a caster comprising a frame 14 pivotally connected to a bracket 15 attached to the inner side 12 and a flange wheel 16 that is adapted to travel on the tread of the floor rail 1. The caster frame 14 is provided at its inner side which faces the shelving B with an inturned tongue 14' that extends beneath the jutting edge of the tread of the floor rail to serve as a means for preventing the dislodgment of the caster from the floor rail.

17 designates a bracket arm secured to the inner side 12 of the ladder and provided with a depending pivot pin 18 that is loosely seated in the superposed eyes 11 of the carriage 6 and which, while serving to connect the upper end of the ladder to the carriage 6 for its support, provides a joint between the ladder and the carriage of such nature that the ladder may be swung from a position at right angles to the shelving B into a folded position parallel with the shelving and vice versa. It will be seen while the swinging movement of the upper end of the ladder is permitted by the loose connection of the bracket arm 17 to the carriage 6 such movement is also permitted at the lower end of the ladder, due to the fact of the caster carrying the inner side 12 of the ladder being pivotally connected to said inner side, as explained.

19 is a latch hook attached to the outer side 12' of the ladder in such position that it will move into engagement with the arm 9 of the carriage when the ladder is moved into the folded position illustrated in dotted lines Fig. II, and thereby serve to hold the ladder in such folded position until it is lifted and drawn outwardly to disengage the latch hook from the arm.

20 designates a brace which is secured to and extends in a loop around the upper end of the ladder and terminates in a bifurcated free end 21 in which is vertically journaled an antifriction roller 22 that is adapted to ride against the face of the shelf supported track rail 3 when the ladder is moved to and fro along the shelving B and is in service for gaining access to the shelves of the shelving.

For the purpose of furnishing a secure means for the connection of the steps 13 to the sides of the ladder, I utilize in connection with each step, a staple 23, one of the legs of which terminates in a point 24 and the other leg of which terminates in an eye 25. To permit the application of these staples each side of the ladder is provided at the location of the steps with perforations 12^a through which the legs of the staples that

bear the eyes 25 are adapted to be passed. In applying the staples to the steps the leg of the staple is introduced into the proper perforation 12^a and the leg of the staple provided with the point 24 is driven through the side of the ladder and into the step with the result of the last named leg being firmly embedded in the side and step of the ladder while the other leg of the staple occupies a position beneath the step, as illustrated in Figs. V to VII inclusive. A nail or other fastener is then introduced through the eye 25 and into the step, thereby securely attaching the staple to the step in a manner to effectually prevent disconnection of the step from the side of the ladder.

I claim:

1. In a store ladder, and traveling support therefor, the combination of a ladder, a carriage having outwardly projecting superposed eyes and a bracket, secured to the inner side at the upper end of the ladder, and having a depending pivot pin loosely seated in the superposed eyes whereby said ladder is foldably attached to said carriage, substantially as set forth.

2. In a store ladder and traveling support therefor, the combination of a ladder, a carriage having outwardly pro-

jecting superposed eyes, a bracket secured to the inner side at the upper end of the ladder and having a depending pivot pin loosely seated in the superposed eyes, whereby said ladder is foldably attached to said carriage, a bracket secured to the inner side at the lower end of the ladder, and a caster pivoted to the bracket at the lower end of said ladder, substantially as set forth.

3. In a store ladder and traveling support therefor, the combination of a ladder, a carriage having outwardly projecting superposed eyes and a rearwardly extending arm provided with a guide yoke adapted to embrace the flanges of a track rail, a bracket attached to said ladder and pivotally fitted to the superposed eyes of said carriage, and a traveling support for the lower end of said ladder, substantially as set forth.

4. In a store ladder and traveling support therefor, the combination of a ladder, a carriage, means whereby said ladder is foldably connected to said carriage, a track rail on which said carriage operates, and a brace looped around and carried by said ladder and having a bifurcated free end provided with a roller adapted to ride against said track rail, substantially as set forth.

GEORGE ELLER.

In presence of—

WM. H. WELKENER,
F. J. FATH.