(No Model.)

J. EIDEN.

STEP LADDER.

No. 383,449. Patented May 29, 1888.

Fig. 1.

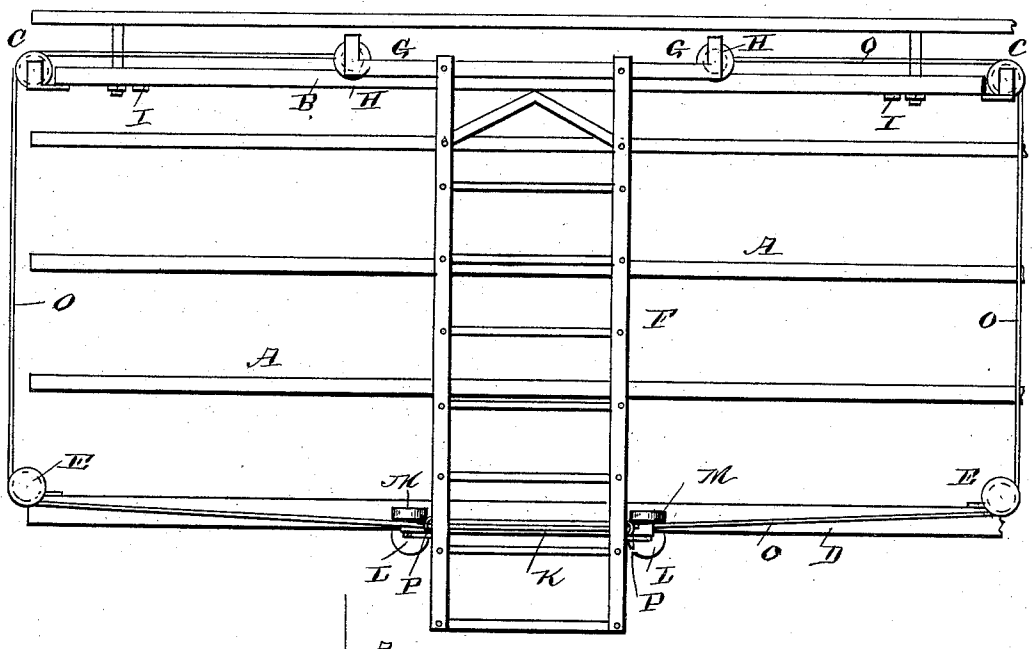
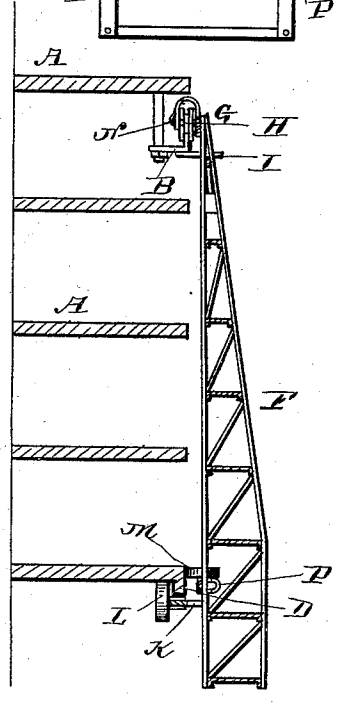


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOSEPH EIDEN, OF OCONOMOWOC, WISCONSIN.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 383,449, dated May 29, 1888.

Application filed March 8, 1888. Serial No. 266,525. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH EIDEN, a citizen of the United States, residing at Oconomowoc, in the county of Waukesha and State of Wisconsin, have invented a new and useful Improvement in Step-Ladders, of which the following is a specification.

My invention relates to improvements in step-ladders, and it refers especially to ladders such as are employed in stores, libraries, &c., to enable articles to be removed from the shelves. In the ordinary practice, ladders used for this purpose stand on the floor, and when about to be used they must be carried to the desired position. This manner of transporting the ladder is inconvenient, and, further, the ladder occupies space on the floor which might be otherwise utilized.

It is my object to provide a ladder which will be convenient and easily transported and arranged for use, and which will be disposed in a position to occupy as little space as possible.

With these objects in view the invention consists in a ladder mounted on a track in front of a series of shelves, whereby it may be arranged at any point of the track to enable the occupant to reach any part of the shelves.

The invention consists, further, in the peculiar and novel manner of arranging the ladder, and in certain details of construction, as fully described hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a front view of the ladder arranged in the operative position in front of a series of shelves. Fig. 2 is a vertical sectional view taken through the ladder.

Referring to the drawings, A A designate the shelves, and B designates a track which depends from either the ceiling or one of the shelves. (The drawings show it depending from a shelf.) Pulleys C C are arranged at the ends of the track, for a purpose to be hereinafter described. The bottom shelf is provided with a depending flange on its outer edge, (designated by the letter D,) and at the ends of the shelf are arranged the pulleys E E, which are respectively under the pulleys C C.

The ladder F may be of any preferred construction, and it is provided at its upper end with the hangers G G, having the sheaves H H mounted therein and running on the track B. Stops I I are arranged on the track near its ends to limit the movement of the ladder and prevent it from being dismounted from the rail.

K represents a bracket on the rear side of the ladder near its lower end, and L L are rollers mounted on the said bracket and bearing against the under side of the flanged shelf in rear of the flange. It will be apparent that the lower end of the ladder cannot be drawn out from the shelf, as the said rollers will strike the flange and prevent it.

M M are rollers mounted on the ladder and bearing against the front edge of the said flanged shelf to prevent friction when the ladder is moved.

N represents keepers or eyes on the hangers G, and to the same are attached the ends of the guide rope or cord O. This rope or cord passes around the pulleys C C E E and through the keepers P P, which are arranged on the ladder at the height of the lower shelf. Therefore, to arrange the ladder at any desired point, simply draw upon the guide rope or cord and the ladder may be moved in either direction. Even while on the ladder it may be moved by drawing on the lower portion of the rope or cord.

The advantages of this device will be readily appreciated without a detailed enumeration thereof herein; but the most important are that the ladder may be placed in any desired position by simply pressing against the side thereof or drawing the cord. It moves noiselessly without any special care of the operator, thus being especially adapted for use in libraries. It is always in position for use and occupies no floor-space. It cannot fall or become unsteady while in use, and it may be made long enough to extend from the floor to the ceiling, thus enabling the shelves to be arranged to the height of the ceiling.

I claim—

1. The combination of the track, the ladder having sheaves mounted on the track and provided with the guide-loops P P, the stationary pulleys C C E E, and the guide-rope attached at its ends to the upper end of the ladder, passing around the pulleys C C E E and running through the loops P P, whereby the occupant of the ladder may, by pulling the running por-

tion of the rope, move the ladder in either direction, substantially as specified.

2. The combination, with a shelf having a depending flange on its edge and the track B, of the ladder having sheaves at its upper end running on the track, and the rollers on its lower end bearing on the under side of the said shelf in rear of the flange thereon, substantially as specified.

3. The combination, with a ladder adapted to be arranged in front of a series of shelves, of the track B, having pulleys C C thereon, and the stops near the ends of the track, the pulleys E E, mounted at the ends of one of the lower shelves, the sheaves on the ladder running on the track, and the rollers L L and M M on the same bearing against the shelves, and the guide rope or cord O, attached at its ends to the ladder and passing around the pulleys C C and E E, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH EIDEN.

Witnesses:
OLIF OSEN,
ANDREW OSEN.