T. KEEPFER.

TRAVELING STEP LADDER.

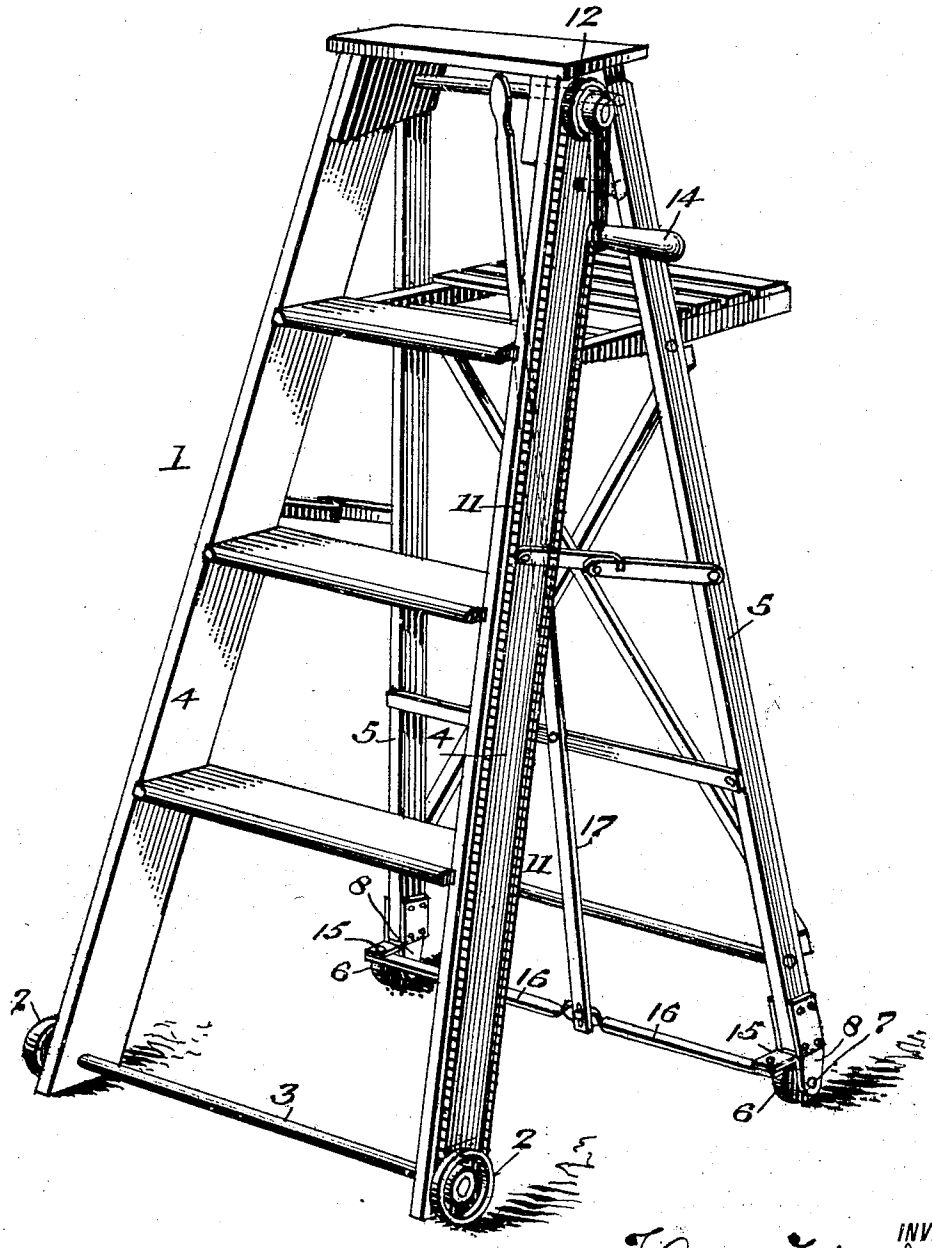
APPLICATION FILED AUG. 21, 1918.

1,306,546.

Patented June 10, 1919.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

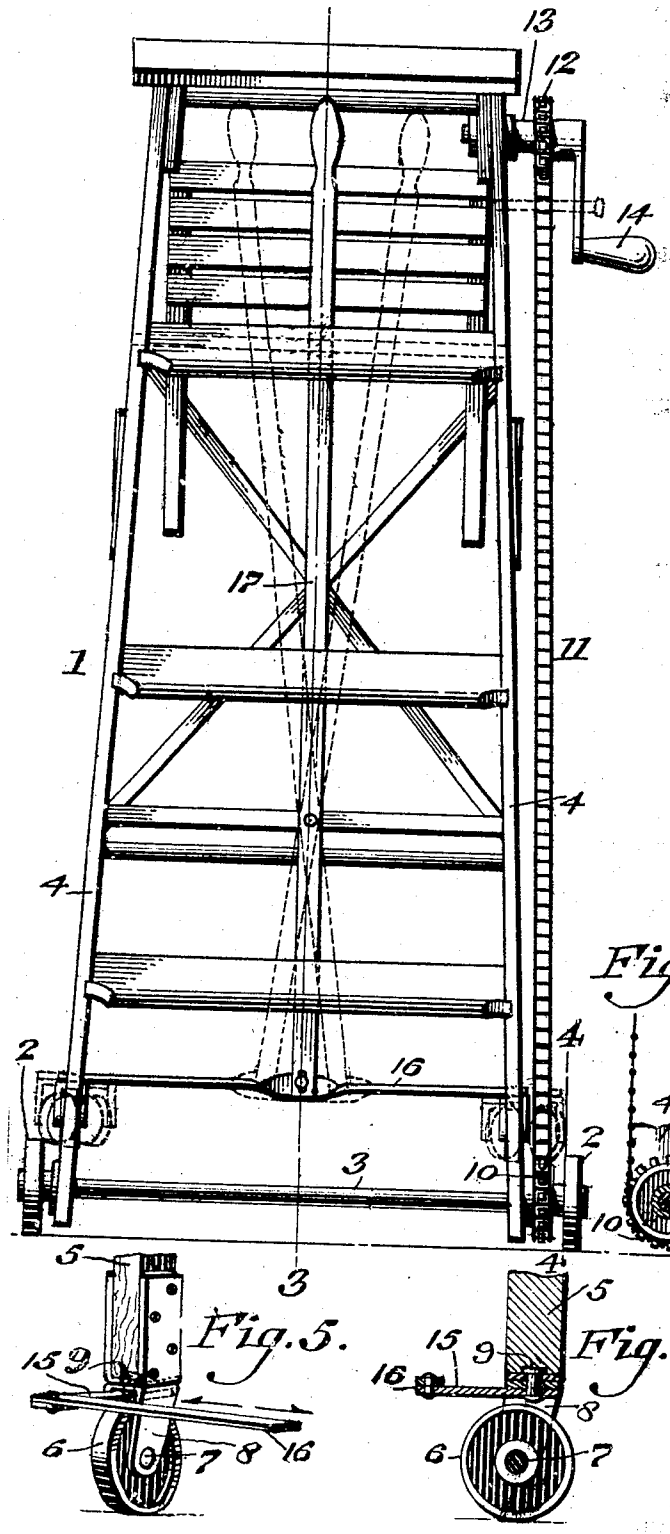


Fig. 3.

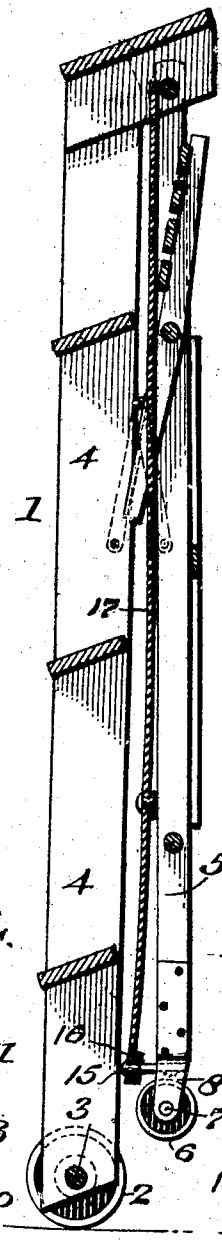


Fig. 4.

Fig. 7.

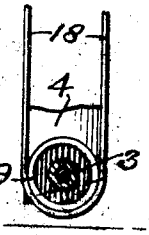


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

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TRAVELING STEP-LADDER.

1,306,546. Specification of Letters Patent. Patented June 10, 1919.

Application filed August 21, 1918. Serial No. 250,897.

To all whom it may concern:

Be it known that I, THOMAS KEEPFER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Traveling Step-Ladder, of which the following is a specification.

My invention relates to an improvement in a step ladder, and consists in adapting the same to be propelled or to travel from place to place, and furthermore to be steered to a desired place while being occupied, both manipulations being accomplished while the ladder is in use without the occupant being required to descend from the ladder or vacate the same.

The invention is satisfactorily illustrated in the accompanying drawing, but the important instrumentalities thereof may be varied.

Figure 1 represents a perspective view of a step ladder in operative condition embodying my invention.

Fig. 2 represents an elevation thereof in folded condition.

Fig. 3 represents a vertical section thereof on line 3—3 Fig. 2.

Fig. 4 represents a vertical section of a portion on line 4—4 Fig. 2.

Fig. 5 represents a perspective view of members on the lower portion of one of the props of the ladder.

Fig. 6 represents a transverse vertical section of the members shown in Fig. 5.

Fig. 7 represents a section of a modification of the members shown in Fig. 4.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings.

1 designates a step ladder of conventional form. 2 designates wheels or rollers which are connected with the axle 3, the latter having its bearings on the lower ends of the side bars 4 of the body of the ladder, they being of such diameter that said body is raised slightly from the floor on which the ladder is placed so that said body may be run or roll on said wheels.

5 designates the side members of the props of the ladder, the same being adapted to be folded on and unfolded from the body of the ladder, as usual in step ladders.

On the lower ends of said side members are the wheels or rollers 6, the bearings of whose axles 7 are on the ears 8 which are connected with said ends of said side members by the pivots 9 whereby when said side members are in operative position they are raised slightly from the floor so that said side members may run or roll on the latter as shown in Fig. 1.

Connected with either of the wheels 2 is the sprocket wheel 10 around which passes the sprocket chain 11 which passes also around the sprocket wheel 12 which is mounted on the shaft 13 whose bearing is on the upper end of one of the side bars 4 of the ladder and has connected with it the crank handle 14 whereby by rotating the latter motion is imported to the sprocket wheel 12, the chain 11, and the sprocket wheel 10, and consequently to the bottom wheels 2 of the ladder, and thus the ladder may be moved on said wheels 2 as well as on the wheels 6.

The ears 8 of the wheels 6 of the legs have connected with them the arms or links 15 which are pivotally connected by the cross bar 16 to the center of which is pivotally connected the vertically extending lever 17 whose upper end forms a handle which is convenient of reach at the top of the ladder, whereby the bearings of the wheels 6 of the props may be turned to the right or left and with them said wheels 6 also to change the direction of the ladder or to steer the same in the direction that it is desired to run it.

The operation is as follows:—

When the ladder is occupied and so in use, should it be desired to place it in a different position, the occupant rotates the crank handle whereby power is communicated to the wheels 2 of the body of the latter, and so the ladder is propelled running on the wheels 2 and the wheels or rollers 6 as is evident. Then the handle of the lever 17 is grasped and the latter turned to the right or left, whereby the angularity of the wheels 6 are changed, and so the ladder may be steered to the desired spot, it being noticed that all of this is accomplished by the occupant remaining on the ladder, or in other words not required to descend from the ladder to shift it, and afterward ascend as a matter of course.

It is evident referring to Fig. 7 that an endless belt 18 may be employed in lieu of the sprocket chain 11, and the sprocket wheels 10 and 12 may be replaced by pulleys 19, one of which is shown in said Fig. 7,

these being mere mechanical equivalents for rotating the wheels 2.

In order to prevent improper movement of the crank handle 14 and consequently of the wheels 2, a pin shown in dotted lines in Figs. 1 and 2 may be passed through the same into the adjacent side of the ladder, or any other suitable device may be employed in lieu of said pin, to accomplish a similar object.

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

1. A step ladder having its body and its prop mounted respectively on wheels, mechanism on said body for rotating the wheels thereon, and mechanism on said prop for changing the angularity of its wheels, both said mechanisms being operative by the occupant of the ladder while thereon.

2. A step ladder having its body mounted on a wheel adapted to be hand operated by the occupant of the ladder, and its prop mounted on a wheel and provided with means for changing the angularity of the latter named wheel whereby the ladder may be steered.

3. A step ladder having a prop mounted on a wheel, a bearing member for the axle of said wheel pivotally connected with said prop, and a steering device on said prop connected with said member whereby the ladder may be steered by the occupant thereon.

4. A step ladder having its body mounted on a wheel and provided with gearing, and a hand operated device for actuating said gearing and consequently said wheel, and having a prop mounted on a wheel, a bearing member for the axle of the latter named wheel pivotally connected with said prop, and a steering device on said prop connected with said bearing member whereby the ladder may be propelled and steered by the occupant thereon.

THOMAS KEEPFER.

Witnesses:
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