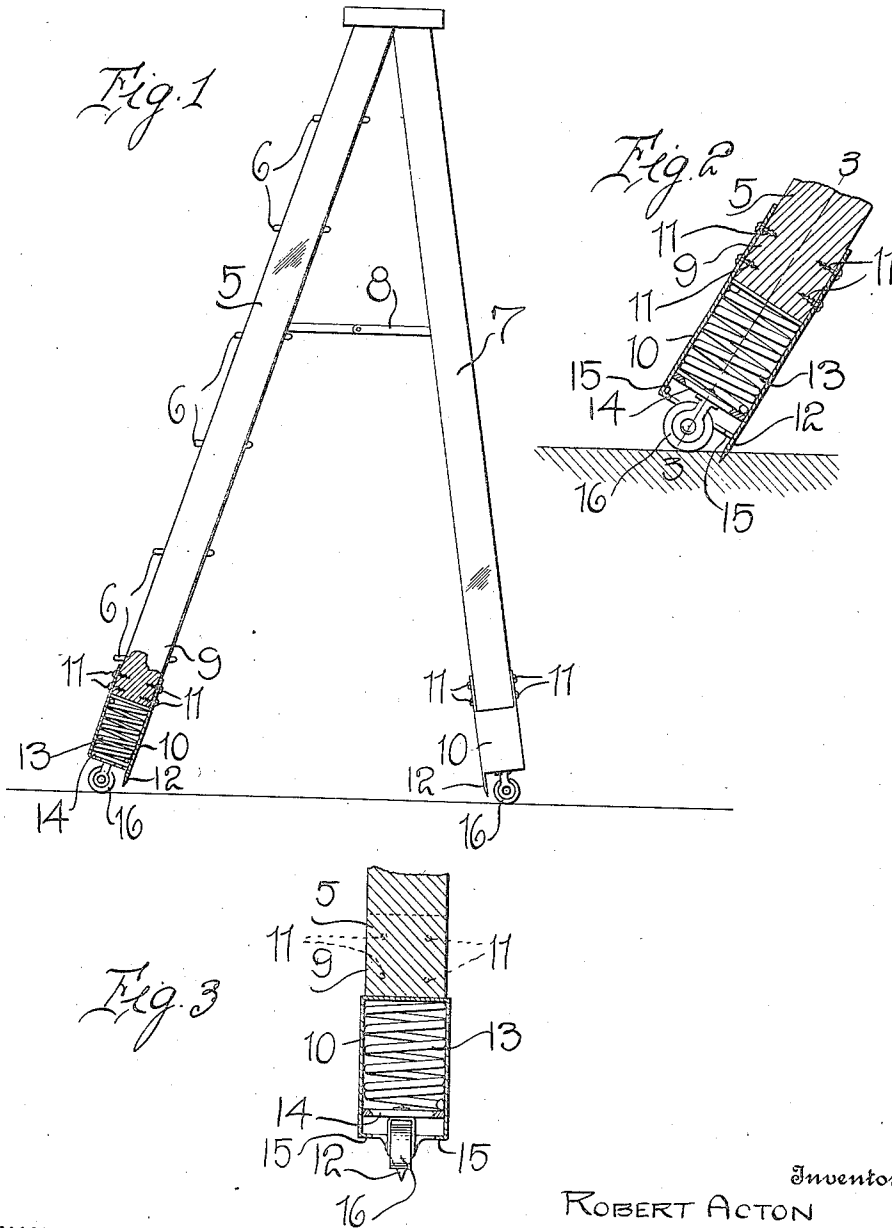


R. ACTON.
STEP LADDER.
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1,152,687.

Patented Sept. 7, 1915.



Witnesses
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ROBERT ACTON, OF LA SALLE, ILLINOIS.

STEP-LADDER.

1,152,687.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT ACTON, a citizen of the United States, residing at La Salle, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Step-Ladders, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved step ladder and has for its primary object to provide improved means rendered operative by the weight of the user, whereby the ladder is effectually held against shifting movement or collapse.

The invention has for a more particular object to provide means upon the side rails or supporting legs for the ladder adapted to embed itself in the floor or ground, and spring pressed casters or rollers, the springs acting to force the ladder upwardly when the weight is removed therefrom whereby the same may be readily shifted or moved from place to place.

The invention has for a further general object to improve and simplify the construction of devices of the above character whereby the same may be produced at small manufacturing cost and applied to the ordinary ladder without requiring any alteration in its construction.

With the above and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawing, in which,

Figure 1 is a side elevation partly in section, showing the normal condition of the ladder holding and supporting means; Fig. 2 is an enlarged sectional view illustrating the manner in which the ladder is held against casual shifting movement when in use; and Fig. 3 is a section taken on the line 3—3 of Fig. 2.

Referring in detail to the drawing, wherein I have indicated a very common form of step ladder, 5 indicates the side rails of the ladder proper, to which the ends of the spaced steps 6 are suitably secured.

7 designates the usual brace and support which is pivotally connected at its upper end to the side rails 5, the movement of said support being limited by a toggle link connection 8. To the lower ends of the longitudinal bars 9 of the ladder support, and

to the lower ends of the rails 5 of the ladder proper, the rectangular casing or housing 10 is secured by means of suitable fastening screws indicated at 11, which are disposed through openings in the walls of said hollow casing and threaded into the rail of the ladder. One wall of the casing 10 is extended below the lower end of the remaining walls and formed into a sharpened spur or point 12. Within the casing 10, a coil spring 13 is arranged. One end of this spring is connected to a plate or disk 14 loosely engaged within the casing; the other end of the spring being suitably fixed to the base of said casing. The lower end edges of the casing walls are preferably flanged inwardly, as shown at 15, to limit the outward movement of said disk. Upon the disk 14, a caster or roller 16 is mounted in any approved manner. Normally, the spring 13, by its expansive action, forces the roller 16 outwardly, and beyond the piercing point or spur 12.

In the use of the device as above described, it will be understood that when the ladder is not in use and there is no weight thereon, the rollers or casters 16 provide means whereby said ladder may be easily and quickly shifted or moved from one place to another. After the ladder has been arranged in the desired position and the operator climbs the same, the weight thus devolving upon the ladder forces the ladder rails and the supporting legs 9 downwardly against the action of the several springs 13 so that the spurs or points 12 are embedded in the floor or ground, as the case may be. By means of these piercing spurs, it is obvious that the ladder will be securely held against any casual shifting movement, and liability of its collapse thus reduced to a minimum. As soon, however, as the user descends and the weight is removed from the ladder, the springs 13 act to force the ladder upwardly and disengage the holding spurs from the floor or other surface.

From the foregoing description, taken in connection with the accompanying drawing, it will be seen that I have produced a very simple and effective device for obviating liability of accident and consequent injury to the user of the ladder, due to a shifting movement of the same by the changing of the position from one side to the other of the center of the ladder, so that the weight thereon is not properly balanced.

The device may be readily applied to the various forms of ladders now in common use, and can, therefore, be supplied and sold separately and readily attached to the ladder by the individual user.

While I have shown and described the form, construction, and arrangement of the several elements employed, it will be seen that the device is susceptible of considerable modification, and I, therefore, reserve the privilege of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

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

The combination with a ladder, of a cas-

ing fixed to the lower end of the ladder rail and provided upon one of its walls with an outwardly projecting piercing spur, a supporting caster, and a coil spring arranged in said casing and normally acting to force the caster downwardly and yieldingly support the ladder thereon, the action of said spring being overcome when a weight devolves upon the ladder and said piercing spur embedded in the floor or other surface to hold the ladder against casual shifting movement.

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

ROBERT ACTON.

Witnesses:

VALENTINE PHILLIPS,

WILLIAM F. SECHTING.