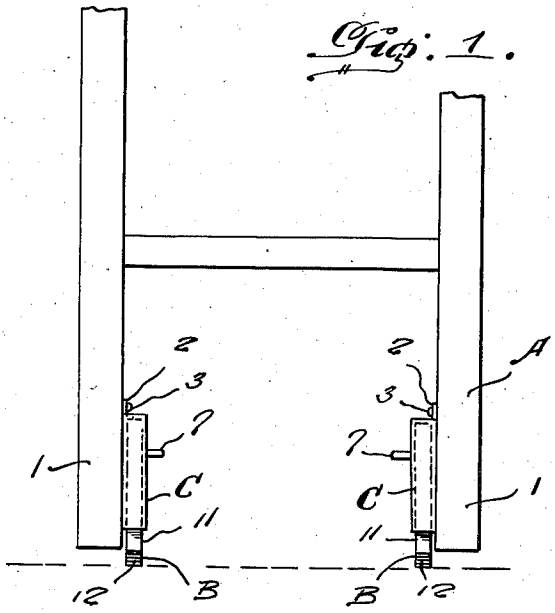
Sept. 21, 1948. O. A. LINDER ET AL 2,449,609

LADDER FOOT

Filed Jan. 21, 1947

Fig. 1.



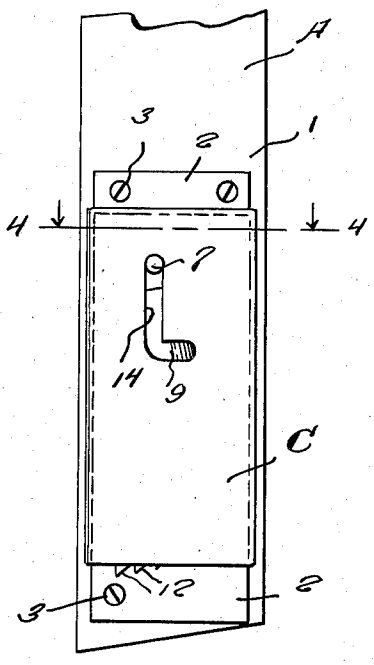


Fig. 2.

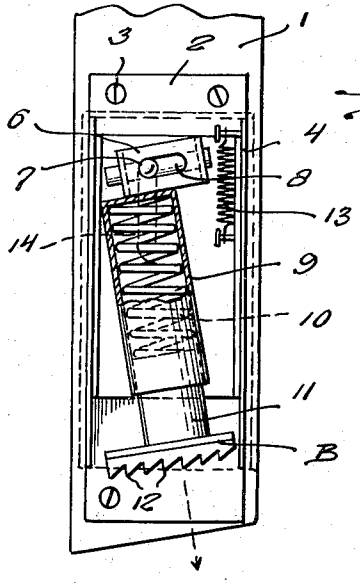


Fig. 3.

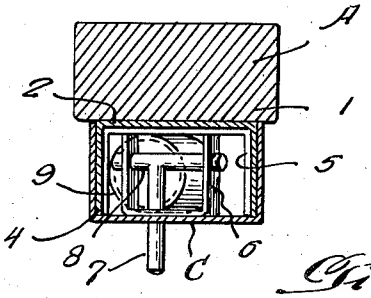


Fig. 4.

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LADDER FOOT

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Application January 21, 1947, Serial No. 723,290

3 Claims. (Cl. 228—63)

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This invention relates to ladders and more particularly and specifically it relates to an improved adjustable foot attachment for ladders.

The primary object of this invention resides in the provision of a new and improved attachment to be applied to a ladder adjacent the feet thereof which, when placed in an operable position, provides a ground engaging foot for each leg of the ladder thereby eliminating the possibility of the ladder slipping or sliding from beneath the occupant thereof and causing injury thereto.

Another object of this invention is the provision of such a foot member for a ladder which is adapted by a resilient seating means to assume different positions and angles at the bottom of the ladder to conform with the different angular positions in which the ladder is placed for its various uses.

Still another object of this invention resides in the provision of a device of the character described in which the resilient seating means for the foot tends to absorb the shock of whip and back-lash of the ladder which is inherent in any ladder when an occupant climbs thereon.

Still another object of this invention is the provision of a ladder foot such as set forth herein which is normally retained in a out-of-the-way position on the inner surface of the ladder's legs and a device which is quickly and easily brought into an operable position by either a hand or foot of the user. This device also provides for such a construction which is of extremely simple, durable and inexpensive design.

Still further improvements and advantages of this invention will readily appear to those skilled in the art when the following description is read in the light of the accompanying drawings in which:

Fig. 1 is a front elevation of a ladder with the safety feet affixed thereto.

Fig. 2 is a side elevation of one of the ladder legs and the foot thereon.

Fig. 3 is a view of Fig. 2 with parts broken away and removed for clearer illustration of the working mechanism of the foot.

Fig. 4 is a horizontal cross section taken on line 4—4 of Fig. 2.

Referring now to the accompanying drawings which illustrate the preferred embodiments of this invention and in which like numerals indicate similar parts throughout A designates a ladder of the conventional type with ground engaging feet 1 at the lower end thereof.

The safety ladder foot comprising this invention is secured to the bottom inner surface of

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each foot of the ladder and is constructed and operated in the manner now to be described. Inasmuch as the foot secured to each leg of the ladder is identical, the following description will refer to the singular for the purpose of clearer illustration.

The foot comprises a flat rectangular metallic plate 2 which is adapted to be secured vertically to the lower inner leg of the ladder by screws 3 or the like. This plate 2 carries a pair of outwardly extending flanges 4 one from each vertical edge thereof, these flanges originating at a spaced distance from each end of said plate.

A U-shaped plate member 5 is slidably mounted within said flanges with the open side thereof outwardly disposed from said plate 2. A small rectangular housing 6 is secured to the upper end of said sliding member at a slight angle from the horizontal and a T-shaped bar member 7 is secured with its head between the sides of said housing and the leg thereof projecting outwardly through a slot 8 in the housing face.

A cylindrical tube 9 is secured to the face of the sliding plate beneath said housing at the same angular disposition so that the upper end of said cylinder lies in a parallel plane with and adjacent to the lower end of said housing. A coil spring 10 is mounted and secured at its upper end in said cylindrical tube and carries a cylindrical stud 11 at its bottom, with said stud slidable in said tube. A flat rectangular plate B is formed at the lower end of said stud in a position external the tube, and the lower surface of this plate B is provided with a plurality of ground or floor engaging teeth 12.

A coiled spring 13 is secured to the upper end of one of said plate flanges 4 and depends within the sliding member 5 where it is secured so as to normally retain the sliding member in an upwardly retracted position between said flanges.

A cover C of rectangular shape and having one face and one end thereof open is placed over the flanges 4 with open face inward and the open end downward to enclose the foot mechanism as illustrated. A vertical L-shaped slot 14 is provided in the cover C in a position so that the extended end of the T rod 7 extends outwardly through the upper end of the vertical leg of the slot when the mechanism is in the described position.

When the foot is to be placed in an operable condition the extended end of the T arm 7 is moved downward, by the hand or foot, in the slot 14 and then locked in a down position by being moved horizontally into the foot of the L.

The above operation causes the down movement of the sliding plate against the tension of the spring 13 and thus bringing the toothed foot into contact with the ground or floor. The toothed foot securely engages the floor and forms, because of the coil spring 10, a secure footing support for the ladder adapted to easily absorb the shock of back-lash and the like caused by movement of a person on the ladder, and thus preventing the slipping and sliding of the ladder from beneath the occupant thereof.

Having thus described the construction and function of this invention what I desire to claim in Letters Patent is:

1. In combination with a ladder or the like a removable foot therefor of the character described comprising, a rectangular plate secured to the lower leg of said ladder, vertical flanges bordering said plate, a U-shaped member slidably mounted within said flanges, resilient means retaining said sliding member upwardly retracted between said flanges, a bracket secured to said sliding member, a T-shaped member carried by said bracket with the leg of said T in an outwardly extended position, a cylindrical tube secured to said sliding member, a ground engaging foot resiliently carried within said tube, and said T leg being adapted to be lowered and locked against the resilient means to position said foot in an extended ground engaging position for the purpose described.

2. In combination with a ladder or the like a removable foot therefor of the character described comprising, a plate secured to the lower end of said ladder leg, vertical flanges bordering said plate, a U-shaped member slidably mounted within said flanges, a spring interconnecting said plate and said sliding member normally retaining

said sliding member in an upwardly retracted position between said flanges, a rectangular bracket arranged at an angle from the horizontal and secured to said sliding member, a T-shaped rod with the head thereof secured within said bracket and the leg thereof outwardly projected therefrom, a cylindrical tube disposed below said bracket at an angle from the horizontal corresponding to that of said bracket and secured to said sliding member, a coil spring secured at its upper end within said tube, a ground engaging foot slidably mounted within the lower end of said tube and secured to the lower end of said spring, a cover adapted to enclose the outer face and top of said flanges, there being an L-shaped slot in said cover adapted to receive the extended foot of said T-shaped rod, and means adapting said rod to be lowered in said slot and locked in the horizontal foot thereof to securely position said foot in a lowered ground engaging position for the purpose described.

3. A device as set forth in claim 2 wherein said T-shaped rod is slidably secured in said rectangular bracket housing to enable it to move to the horizontal locking position in the foot of the L-shaped slot.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,313,469	Forsman	Mar. 9, 1943