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L. V. LAZEAR

1,609,257

LADDER

Filed May 25, 1926

FIG 1

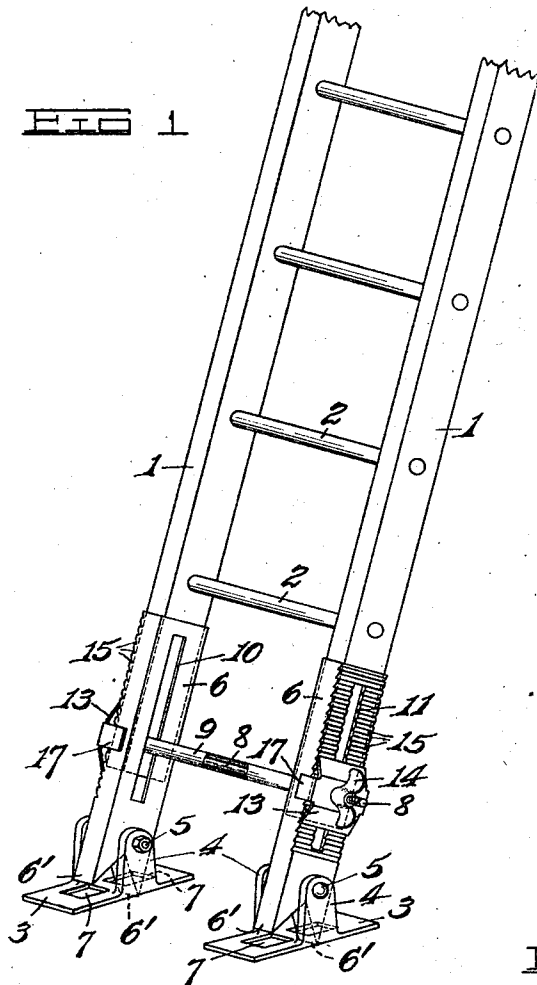


FIG 2

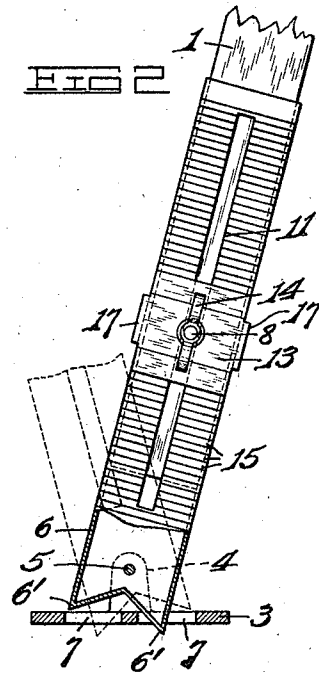


FIG 4

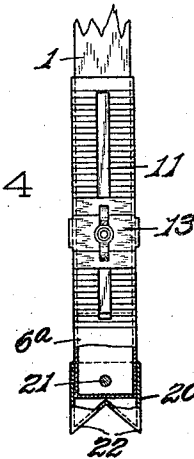
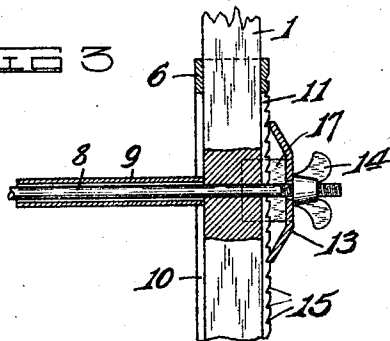


FIG 3



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LADDER.

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This invention relates to improvements in ladders, and the primary object thereof is to provide a ladder which has improved means for supporting the ladder in upright position when resting upon inclined or uneven ground.

A further object of the invention is to provide a ladder which has improved means for preventing slipping thereof.

A still further object of the invention is to provide a novel and improved leveling structure for a ladder, the same having associated therewith means for biting into the surface of the ground.

In describing the invention in detail, reference is herein had to the accompanying drawings, in which—

Figure 1 is a perspective view of the invention.

Figure 2 is an enlarged detail view, partly in side elevation and partly in section;

Figure 3 is also a detail section; and—

Figure 4 is a view similar to Fig. 2, showing a modified form of the invention.

Referring to the drawings, 1 indicates the usual stiles and 2 the rungs of a ladder of an ordinary type. Base plates 3 are provided and are formed with upstanding perforated ears or lugs 4, between which are pivoted the lower ends of sleeves 6, the pivot means consisting of bolts 5. The sleeves 6 are formed of metal shaped to closely embrace the stiles 1, as shown. The lower ends of the sleeves constitute feet for the stiles and have inverted V-shaped notches at their lower ends, thereby to provide V-shaped toes 6' which are adapted to project through openings 7 formed in the base plates 3 for biting into the ground so as to hold the ladder against slipping.

The sleeves are adjustably held on the stiles by means of a horizontally disposed rod or bolt 8 which passes through the stiles and through a tube 9 which constitutes the lowermost rung of the ladder. The sleeves 6 are provided with longitudinal slots 10 and 11 on their opposite sides, the ends of the tube 9 being received in the slots 10, while the bolt ends pass through both of the slots and through resilient bowed members or clips 13. One, or both, ends of the bolt 8 are provided with wing nuts 14 which seat upon the clips 13, as shown. The outer face of each of the sleeves 6 is formed with transverse ratchet teeth 15 which face up-

wardly and which are adapted to have seated thereon the edge of the inclined lower end of the clip. Either of the sleeves 6 may be adjusted along the stiles to lengthen or shorten the latter to the extent that the ladder may be firmly seated when mounted upon an inclined supporting surface. In order to hold the clips against rotary turning movement, the same are provided with side guides 17 which engage the front and rear sides of the sleeves 6.

The sleeves 6 may be adjusted to surfaces of varying inclinations and the ladder may be moved about the pivots 5 to incline in either of two directions relative to the base plates 3, as indicated in full and dotted lines in Fig. 2, and in each movement the corresponding toe will be projected into positive engagement with the ground at a point below the base, as indicated.

In the modified form of the invention shown in Fig. 4, all of the parts are constructed as in the preferred form excepting that the bases 3 are omitted and separate feet 20 are provided which embrace the lower ends of the sleeves 6^a and are secured thereto by pins 21. The feet 20 have V-shaped notches forming V-shaped toes 22, as in the preferred form, which are adapted to engage the ground or other supporting surfaces for preventing slipping of the ladder.

What is claimed is—

1. In a ladder, stiles having rungs, sleeves slidably mounted on the lower ends of the stiles and having therein longitudinal slots, said sleeves also having V-shaped toes at their lower ends, a tubular lower rung, the outer faces of the sleeves having transverse teeth, resilient clips having opposed wings engageable with said teeth, a bolt directed through said tubular rung and having its opposite ends projecting through the slots of the sleeves, through the stiles and through the clips, and an adjusting nut on one end of the bolt.

2. In a ladder, stiles having rungs, sleeves longitudinally slidable on the lower ends of the stiles, said sleeves having longitudinal slots in their opposite lateral faces and having inverted V-shaped notches forming V-shaped toes at their lower ends, the lower of said rungs being tubular, the outer face of each sleeve having transverse teeth, resilient bowed clips having portions engage-

able with said teeth, a bolt passed through said tubular rung, through the slots of the sleeves, through the stiles and through the clips, and an adjusting nut on one end of said bolt. 5

3. In combination with a ladder, a tubular lower rung, sleeves longitudinally slidable on the stiles of the ladder and having slotted faces, teeth formed on the outer face

of each sleeve, resilient clips for interengagement with said teeth, a bolt passed through said rung, the slots of the sleeves, the stiles and the clips, and an adjusting nut on one end of said bolt. 10

In testimony whereof, I affix my signature. 15

LEROY V. LAZEAR.