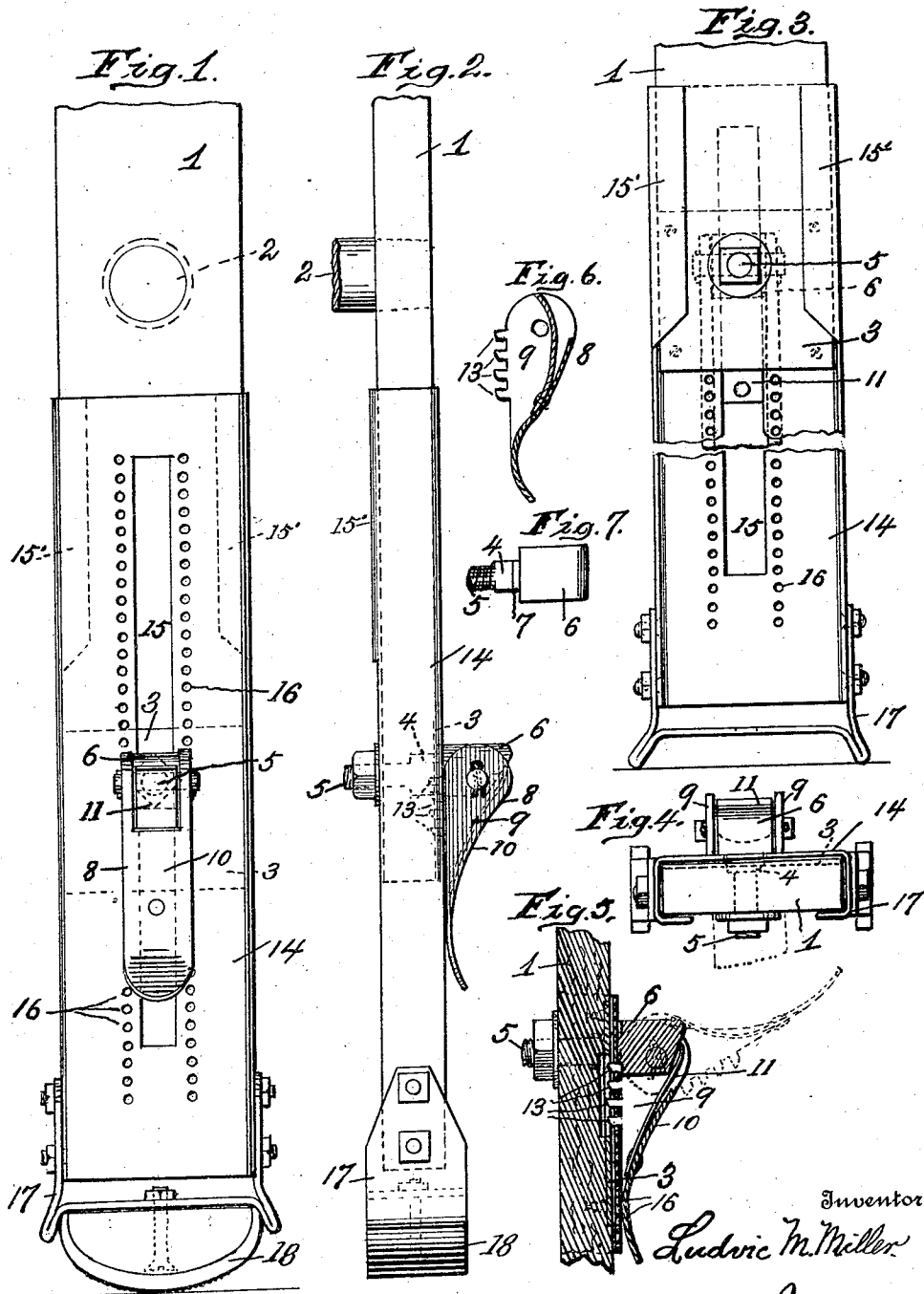


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EXTENSION FOOT FOR LADDERS.
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To all whom it may concern:

Be it known that I, LUDVIC M. MILLER, a citizen of the United States, residing at Winneconne, in the county of Winnebago, State of Wisconsin, have invented certain new and useful Improvements in Extension Feet for Ladders, of which the following is a specification.

The invention that forms the subject matter of this application relates to an extension foot for ladders, or other articles of manufacture where a support or leg has or may be provided with an extension that is adjustable so that one or more members may be adjusted to maintain a part thereof in a horizontal position when the support is placed upon an uneven surface.

Primarily the object of my invention is to provide the stile of a ladder with an adjustable extension member that is slidable upon the stile said member being held either in movable or in locked engagement with the stile, by retaining and locking means secured to the stile.

A further object of the invention is to provide the stile of a ladder with an extension member having a foot that serves to reinforce said member, the foot being constructed to maintain a pad, which can be attached thereto when desired.

My invention consists in the arrangement and construction of parts wherein the stile of a ladder is provided with an extension member that is slidably attached to the stile said extension member being provided with a longitudinal slot and with perforations adjacent to the slot, the stile being provided on its outer side with a washer-plate and carrying a bolt, the head of which is constructed to overlie the edge portions of the extension member adjacent to the slot and being provided with parallel sides, a flat top and a downward and inward inclined face, to which head is pivoted a lever having a spring for engagement with either the upper face of the bolt or with its inclined face, to maintain the lever-lock substantially horizontal or projecting outward from the stile, or with its inner face parallel with the outer face of the slide so that detents on the inner edges of the lever will engage with the perforations through the extension slide, as will be set forth in the claims.

The invention further consists in the combination of an extension slide having longi-

tudinal perforations therethrough of a locking member that is carried by the stile, said locking member having detents or teeth located to project from the side members below the fulcrum thereof, whereby the parts will be connected to admit of extension and will be locked against movement in an opposite direction.

The invention also consists in certain combinations and construction of parts, as herein set forth and pointed out in the claims.

The accompanying drawings illustrate the invention applied to one of the stiles or side pieces of a ladder and if desired the same structure may be applied to both stiles, and when only one extension member is used, a foot as shown may be attached to the other stile.

In the accompanying drawings which illustrate a preferred embodiment of my invention, Figure 1 is a side elevation of a portion of a ladder having an extension foot, constructed in accord with my invention applied thereto. Fig. 2 is a view looking edgewise at the stile and extension foot. Fig. 3 is a view looking toward the inner side of one of the stiles to which extension foot is attached. Fig. 4 is a view looking downward. Fig. 5 is a vertical section, and Figures 6 and 7 are detail views.

The drawings show a portion of a ladder which is of conventional form to which an extension foot made in accord with my invention is attached, the stile 1 of the ladder being provided with steps or rungs 2. The lower portion of the leg or stile has attached thereto a washer plate 3, which is secured to the outer face of the stile said plate having therethrough parallel and longitudinally disposed sets of perforations between which is a rectangular opening of a size to receive the squared portion 4 of a bolt 5 having a head 6. The head 6 of the bolt 5 has an inclined outer face, a horizontal upper face and vertical sides, the head being provided with an opening to receive a fulcrum pin for associating a lever-lock with the bolt and the stile of the ladder. The inner face of the head of the bolt has an off-set 7 that engages the washer plate 3 immediately above and below the rectangular opening therethrough and the width of the head is such as to overlie the edges of the extension member adjacent to a longitudinal slot formed therethrough. The stile 1 below the

slots in the washer plate is recessed to provide ample space for the detents of a locking lever which is fulcrumed upon the head 6.

5 The locking lever 8 has parallel sides 9 which are connected by a transverse portion 10 to which is attached a spring 11, by means of a rivet. The spring 11 is of such length and shape that it extends beyond the transverse portion 10 of the locking lever, the free end of the spring being adapted to engage with the inclined outer face of the head or lug 6 of the bolt to move the detents 13 of the lever into holding position, or to engage with the upper horizontal face of the head to hold the lever in a horizontal position, substantially at right angles to the stile, from which position it may be moved by foot pressure. The parallel sides of the lever 8 are each shaped to provide a plurality of detents 13 with inclined or curved outer ends the inclined or curved portions extending from the outer ends of the detents inward and downward, to provide means whereby the stile may be moved upward without carrying with it the extension member.

The extension member 14 is preferably made of sheet metal, the outer side portion having therethrough a slot 15 the side edges of the slot being separated by a space which is equal to a little more than the width of the part 7 of the bolt and less than the width of the head 6, and parallel with the sides of the slot are apertures or perforations 16 that are spaced apart and are of a size to register with the detents 13 that project from the sides of the lever 10. The sides of the extension member 14, overlie the sides of the stile and are provided adjacent to their lower ends with perforations for bolts which connect to the extension member a foot piece, and the upper portion of the extension has its sides extended and bent to provide portions or flanges 15', 15' which will overlie the inner face of the stile to admit of movement of the extension member beyond the lower rung of the ladder.

The side portions of the extension member 14 adjacent to its lower end has secured thereto, by means of bolts, a foot piece 17 made from a flat bar of metal which when bent into shape has spaced apart end portions that are apertured to receive bolts for securing the same to the extension member. The foot piece is bent upon itself to provide outward and downward extending projecting portions that are connected by a cross bar that extends below the lower end of the extension member. For outside use the diverging ends of the foot piece will rest upon the ground, and for inside use a suitable pad 18 may be attached to the cross bar by a bolt.

In use, when the locking lever is positioned

as shown by Fig. 2, the stile and the extension piece may be moved to provide for adjustment and during such movement the locking lever will swing upon its fulcrum, but as soon as the weight of the stile comes upon the lever its detents will enter the perforations to hold the extension member in locked engagement with the stile.

If desired the locking lever may be moved manually to a substantially horizontal position, and when so positioned and held by its spring it can be tripped or moved downward by foot pressure, and it will be noted that when the lever is in a horizontal position the extension member will be slidable in both directions upon the stile.

The construction of the parts may be varied from the preferred form illustrated by the accompanying drawings, and modifications may be made without departing from the spirit of the invention as set forth in the claims.

I claim.

1. In combination with the stile of a ladder, of a sheet metal extension plate having a longitudinal slot and two sets of alined perforations which are located on opposite sides of the slot, a lever catch maintaining bolt attached to the stile and provided with a portion adapted to be positioned between the side walls of the slot and also with a portion which overlies the extension plate between the edges of the slot and the two sets of alined perforations, a lever catch pivoted to the bolt, said catch having side portions each with detents of greater length than the thickness of the extension plate which detents are positioned to enter the two sets of alined perforations.

2. In an extension foot for ladders, a member maintained in slidable engagement with a stile, said member having therethrough a centrally located longitudinal aperture and adjacent thereto two sets of alined perforations, a bolt attached to the stile, a lever fulcrumed to the bolt to depend therefrom and provided on opposite sides with detents, a spring for moving the lever to place its detents in the perforations through the slidable member, said spring also serving to hold the detent lever in an inoperative position when moved to a laterally extending position so that said spring engages a different face of the bolt.

3. An attachment for ladders, comprising an extension member provided centrally with a longitudinally extending slot and with two sets of alined apertures located parallel with and adjacent to the sides of the slot, a bolt which is fixedly attached to the stile and is provided with a head having different surfaces with which a spring may engage, a detent lever having side portions with projecting detents the same being curved on their lower inner ends, a pin for

connecting the lever to the bolt, and a spring attached to the lever for engagement with the different surfaces of the head of the bolt.

5 4. An attachment for ladders comprising a slidable member that is maintained in engagement with a stile thereof, a bolt attached to the stile and provided with a head that overlies a portion of the slidable member and maintains the same against displacement from the stile, a lever latch pivoted to the head of the bolt and having integral means for holding the slidable member against movement in one direction and
10 a spring for holding the lever latch either in an operative or in an inoperative position.

5 5. In combination with a ladder, a sheet metal extension for a stile thereof, said extension being shaped to overlie the outer face of the stile and the sides thereof, and

having integral spaced apart flanges which overlie the inner face of the stile, a slot and two sets of alined perforations through the outer face of the extension member, of a bolt 25 attached to the stile of the ladder the bolt having a head or lug with parallel sides, a downward and inward inclined face and a horizontal upper portion, a lever maintained in pivotal engagement with the head 30 of the bolt and provided with sides having detents which may enter and pass through the perforations, a spring attached to the lever for engagement with the inclined face of the bolt and when in such engagement 35 functioning to hold the lever so that the detents will engage the extension member such spring also holding when in engagement with the upper face of the bolt the lever in a non-operative position.

LUDVIC M. MILLER.