Jan. 31, 1939. L. R. BROWN 2,145,619

ANTISLIPPING ATTACHMENT FOR LADDERS

Filed Jan. 28, 1938

Fig. 1.

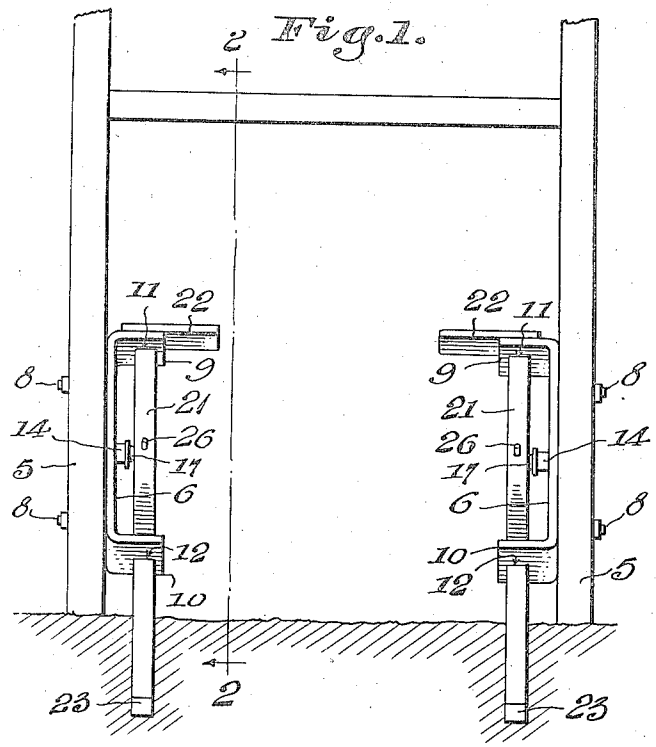


Fig. 2.

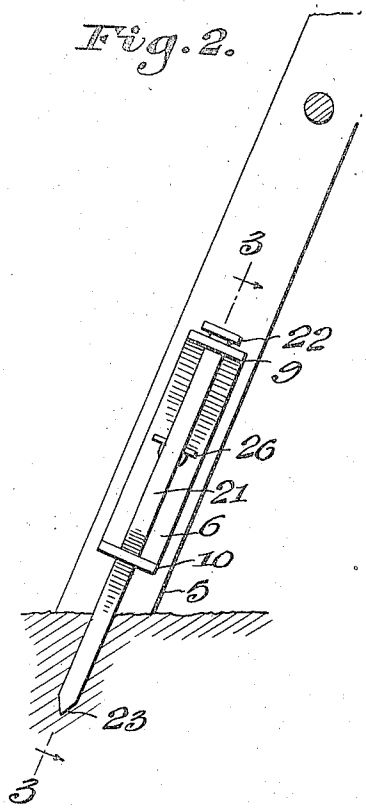


Fig. 3

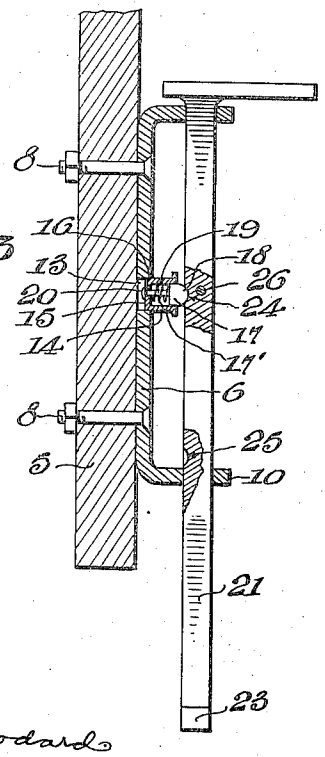
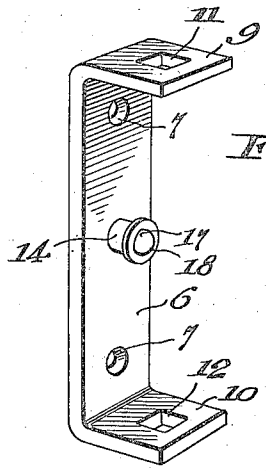


Fig. 4.



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ANTISLIPPING ATTACHMENT FOR LADDERS

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Application January 28, 1938, Serial No. 187,499

3 Claims. (Cl. 228—61)

The invention relates to a new and improved device for holding the lower end of a ladder against slipping when placed against a building or the like, and the object of the invention is to provide an exceptionally simple and inexpensive, easily attached, easily operable, and highly effective device of this character.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being accomplished by reference to the accompanying drawing.

Fig. 1 is a side elevation of the lower portion of a ladder showing two of the anti-slipping devices carried by the stiles thereof.

Fig. 2 is a vertical sectional view on line 2—2 of Fig. 1.

Fig. 3 is an enlarged vertical sectional view on line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the bracket portion of one of the attachments.

A preferred construction has been shown and will be specifically described, with the understanding, however, that within the scope of the invention as claimed, minor variations may be made.

Two of the attachments are shown connected with the lower ends of the ladder stiles 5, but as both attachments are duplicates, a description of one will suffice.

A one-piece metal strip 6 preferably formed from ordinary strap iron or steel, is provided to lie against either the inner or the outer side, or even one edge of the stile 5, said strip 6 having openings 7 to receive screws, bolts or rivets 8 for attaching it to said stile. The upper and lower ends 9 and 10 of the strip 6 are bent laterally in the same direction and are provided with spike-guiding openings 11 and 12 respectively. Preferably, the central portion of the strip 6 is provided with an additional opening 13 in which one end of a short tubular metal casing 14 is frictionally held or otherwise secured. While the outer end of the casing 14 is open, said casing is provided with an inner wall 15 having a central opening 16. A detent 17 having a rounded outer end 18, is slidable in the casing 14 and is provided with a stud 19 which passes slidably through the opening 16, the free end of said stud being upset as at 20 to prevent sliding of the detent 17 from the casing. A coiled compression spring 17' surrounds the stud 19, contacts at one of its ends with the end wall 15, and contacts at its other end with the detent 17, said spring serving to project the detent until its rounded end 18 projects somewhat beyond the open outer end of the casing 14.

An anchoring spike 21 passes slidably through the openings 11 and 12 and is provided at its upper end with a foot plate 22 by means of which it may be readily raised and lowered. While the lower end 23 of this spike 21 is shown pointed, it could well be rounded or of other desired shape to facilitate forcing of said spike into the ground. Preferably, the spike 21 is of square cross section or other flat-sided form and the openings 11 and 12 are similarly shaped, holding said spike against rotation. This spike extends across the open end of the casing 14 and is provided with upper and lower shallow sockets 24 and 25 cooperable with the rounded end 18 of the detent 17 for the purpose of holding said spike yieldably in raised or lowered position. The downward movement of the spike is preferably limited by the foot plate 22 striking the upper laterally bent end 9 of the metal strip 6, the upper socket 24 being then in position to receive the rounded end 18 of the detent 17. The upward movement of the spike 21 may well be limited by a pin 26 driven through an opening therein in position to strike the lower side of the laterally bent strip end 9, the socket 25 being in position to engage the rounded detent end 18 when said pin strikes said strip end.

It will be seen from the foregoing and the accompanying drawing that a simple and inexpensive device has been provided for carrying out the object of the invention. When the spikes are not needed, they are yieldably held in raised positions by the detent 17 and the lower socket 25. When these spikes are needed, however, to prevent ladder slippage, it is only necessary to force downwardly upon the foot plates 22, thereby forcing the spikes into the ground and allowing the detent 17 to engage the upper sockets 24 for the purpose of holding said spikes in lowered position. An upward pull on the foot plates 22, either with the foot or by hand, will quickly and easily raise the spikes when required, and they will again be held in raised position by the detents 17 and the lower sockets 25.

Excellent results are attainable from the details shown and described and they are, therefore, preferably followed. Attention, however, is again invited to the possibility of making variations within the scope of the invention as claimed.

I claim:

1. An anti-slipping attachment for a ladder, comprising an elongated metal strip to lie against

a ladder stile and having openings to receive attaching fasteners, the upper and lower ends of said strip being provided with laterally projecting spike guides, a spike slidably engaged with said spike guides and disposed in outwardly spaced relation with said strip, and spring-pressed means confined between said spike and said strip and carried by one thereof for yieldably holding said spike in either raised or lowered position.

2. An anti-slipping attachment for a ladder, comprising an elongated metal strip to lie against a ladder stile and having openings to receive attaching fasteners, the upper and lower ends of said strip being extended laterally in the same direction to provide two arms having free outer ends, said arms having vertically alined spike-guiding openings, said strip being provided between said arms with a short tubular projection extending laterally in the same direction as said arms, a spike slidable in said spike-guiding openings and extending across the outer end of said tubular projection, and a spring-pressed detent mounted in said tubular projection for holding said spike in raised or lowered position, said spike having shallow sockets cooperable with said detent.

3. An anti-slipping attachment for a ladder, comprising an elongated metal strip to lie against a ladder stile and having openings to receive attaching fasteners, the upper and lower ends of said strip being bent laterally in the same direction to provide arms having free outer ends, said arms having vertically alined spike-guiding openings, said strip being provided between said arms with an additional opening, a short tubular casing having one end secured in said additional opening, said tubular casing projecting laterally from said strip in the same direction as said arms, a spike slidable in said spike-guiding openings and extending across the outer end of said short tubular casing, and a spring-pressed detent mounted in said short tubular casing for holding said spike in raised or lowered position, said spike having shallow sockets cooperable with said detent.

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