No. 816,914. PATENTED APR. 3, 1906.

H. D. HINCKLEY.

ANTISLIP ATTACHMENT FOR LADDERS.

APPLICATION FILED AUG. 9, 1904.

Fig. 3.

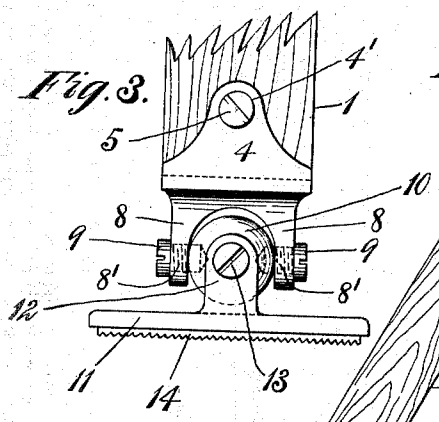


Fig. 1.

Fig. 2.

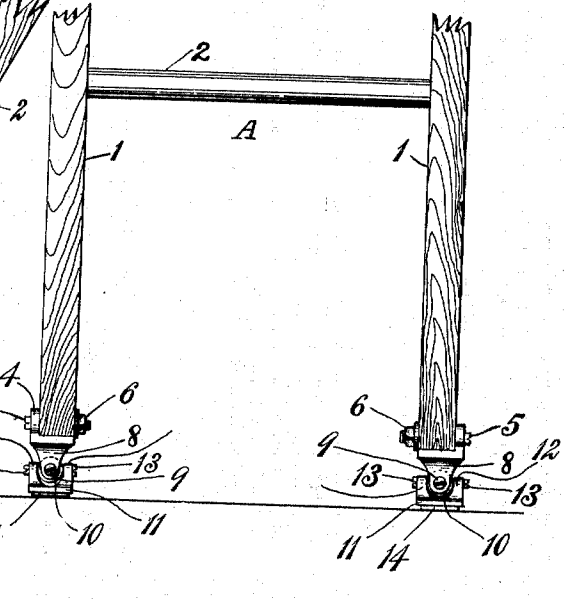


Fig. 4.

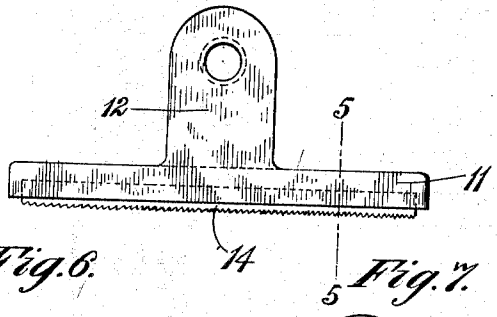


Fig. 5.

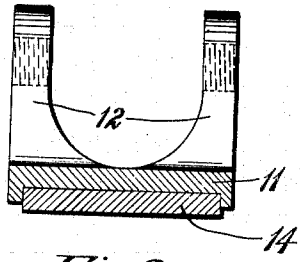


Fig. 6.

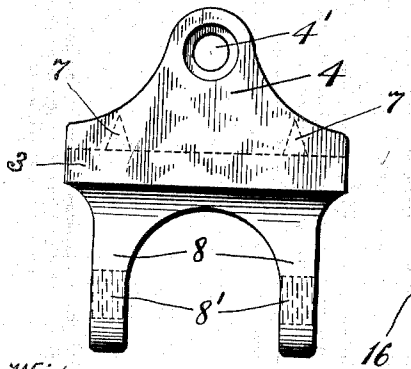


Fig. 7.

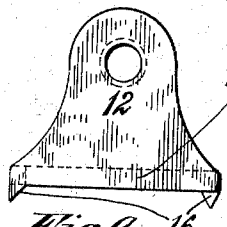


Fig. 9.

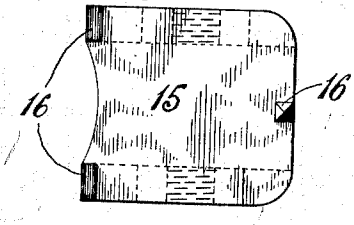
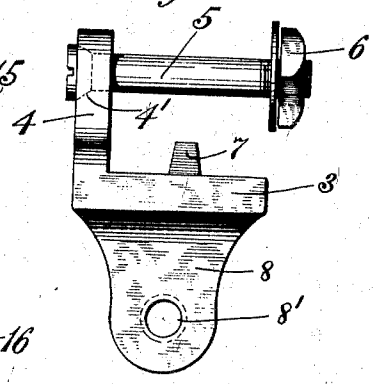


Fig. 8.



Witnesses:

F. E. Anderson

L. L. Grotta.

Inventor:

Henry D. Hinckley,

By his Attorney,

Wm. F. Hodgett

UNITED STATES PATENT OFFICE.

HENRY D. HINCKLEY, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO CHARLES R. KEENEY AND ONE-HALF TO THE HINCKLEY SPECIALTY COMPANY, BOTH OF HARTFORD, CONNECTICUT.

ANTISLIP ATTACHMENT FOR LADDERS.

No. 816,914. Specification of Letters Patent. Patented April 3, 1906.

Application filed August 9, 1904. Serial No. 220,063.

To all whom it may concern:

Be it known that I, HENRY D. HINCKLEY, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Antislip Attachments for Ladders, of which the following is a specification.

My invention relates to attachments for ladders, and has for its object the provision of means for preventing slippage of the ladder when placed in position.

A further object of the invention is the provision of an attachment for ladders which when applied to the terminations of the sides thereof will automatically adjust itself to any inclined position in which the ladder may be placed and will prevent the slippage thereof.

A further object of the invention is the provision of a universal joint in an antislip connection, as will be hereinafter described.

Other objects of the invention will be hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation of the foot of a ladder, showing my improved attachment in place thereon. Fig. 2 is a front elevation, partly broken away, of a ladder equipped with my invention. Fig. 3 is a detail view, on an enlarged scale, of the attachment. Fig. 4 is a side view of one of the plates of the attachment. Fig. 5 is a sectional view on line 5 5, Fig. 4. Fig. 6 is a detail view of a metallic fixture which is to be attached to the foot of the ladder. Fig. 7 is a side elevation of a modified form of fixture, and Fig. 9 is a bottom plan view of the device shown in Fig. 7. Fig. 8 is a side elevation of the fixture shown in Fig. 6, illustrating the bolt by means of which this part of the attachment is secured to the ladder.

Like characters designate similar parts throughout the several views.

Referring to the drawings, A designates one of the common forms of ladder, 1 the side pieces, and 2 the rounds thereof.

Designated by the numeral 3 is a plate having an ear 4 perforated at 4′ to receive a bolt 5, which is passed through the side piece 1 and is secured by a nut 6. Prods or points 7 on said plate enter the end or foot of the side piece, and the plate is provided with ears 8, one projecting from each of its sides, said ears being perforated and internally threaded at 8′ to receive screws 9 having conical points. A ball 10 is fitted between the ears and is provided with sockets to receive the conical points of the screws 9. A plate 11, longer than the plate 3, is provided with perforated ears 12 for the reception of screws 13, having conical points fitted in other recesses of the ball, and on its under side this plate is provided in one form of the invention with a pad 14, which may be of rubber, leather, or other suitable material. This pad is shown provided with a roughened or serrated engaging surface, which will prevent slippage of the plate. If desired, the pad may be omitted, in which case the bottom of the plate 11 will be roughened to accomplish the same result.

In Figs. 7 and 9 a plate 15, similar to plate 11, is employed and is provided on its under surface with teeth or sharpened projections 16, which will engage the surface on which the ladder rests and will prevent the slippage of the ladder, said plate having perforations with internally-threaded walls to receive the screws 13. There is practically no difference between the plate of Figs. 8 and 9 and that of the other figures except in proportions and in the bearing-surfaces, the prods enabling the ladder to be held without slippage on the ground or walk upon which it is placed.

While a ball-joint is shown, any universal joint capable of connection with a ladder may be substituted therefor without departure from the invention.

When ladders as usually constructed are set at an angle, the ends of the side pieces have a tendency to slip upon the floor or other surface, and frequently accidents occur. With my improved attachment, one of which is applied to the foot of each side piece of the ladder, the universal connections permit the plates 11 to remain in horizontal positions, and as the weight of a person upon the ladder is applied at an angle, whether the ladder be inclined in one or another direction, the resultant action upon the plates 5 causes them to firmly engage the surface upon which the ladder is placed and absolutely prevent any slippage of said ladder.

While the improved attachment constitutes a useful article of hardware to be applied to ladders or other articles, the ladders

may be sold with said attachment in place on each of the side pieces in a ladder of the kind illustrated or a large attachment may be applied to the foot of what is known as a "pole-ladder," the invention not being limited to any restrictive use.

Changes may be made in various details of the invention, which is not limited to the precise construction shown and described; nor is it limited to any specific use, for it may be applied to articles other than ladders when it is desired to accomplish a like result.

Having thus described my invention, what I claim is—

1. The combination, with a ladder, of an antislip attachment comprising plates, one of which is secured to the foot of said ladder, and a universal joint connecting the plates.

2. The combination, with a ladder, of an antislip attachment comprising a plate secured to the foot of said ladder; a second plate, provided with means to prevent slippage; and a universal joint connecting said plates.

3. The combination, with a ladder, of an antislip attachment secured to the foot thereof, and comprising a plate having ears; a second plate mounted for universal movement between the ears; and means carried by said second plate for preventing slippage of the attachment.

4. The combination, with a ladder, of a plate secured to the foot thereof, said plate having perforated ears; a second plate having ears; a universal joint carried by the ears of both plates; and an antislip device carried by the second plate.

5. The combination, with a ladder, of a plate secured to the foot thereof, said plate having perforated and internally-threaded ears; a second plate having perforated and internally-threaded ears; a ball located between the ears; screws having points entering recesses of the ball; and an antislip device carried by said second plate.

6. The combination, with a plate having a flat base, and a perforated ear rising from said base, and also having separated ears depending from said base, of screws threaded into said depending ears; a ball having recesses to receive the ends of the screws; a second plate having perforated ears rising therefrom; screws threaded into the ears of said second plate, and entering the ball; and an antislip device carried by said second plate.

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

HENRY D. HINCKLEY.

Witnesses:
FREDERICK E. ANDERSON,
FRANCES E. BLODGETT.