Aug. 31, 1926.

1,597,786

J. L. HAMEL

LADDER FOOT

Filed Nov. 14, 1925

Fig. 2.

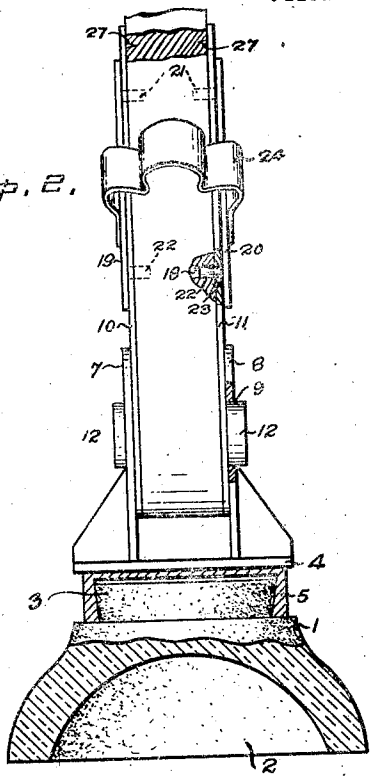


Fig. 1.

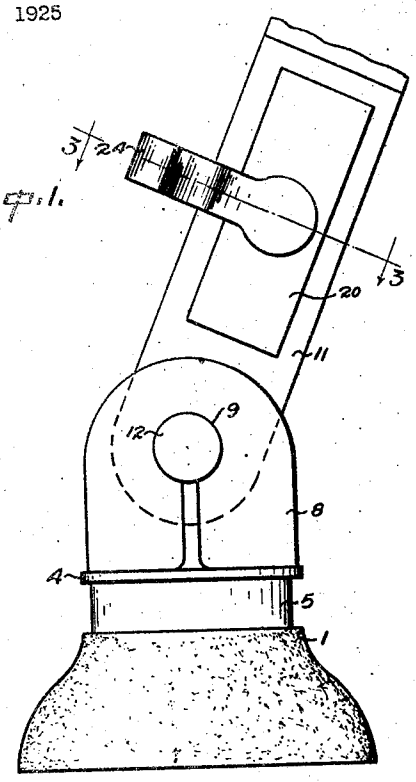


Fig. 3.

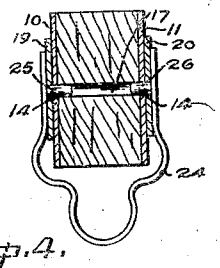


Fig. 4.

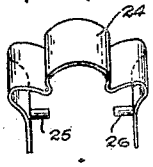


Fig. 5.

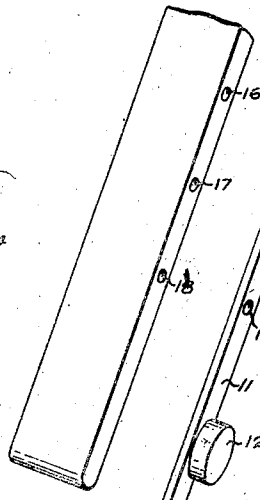


Fig. 6.

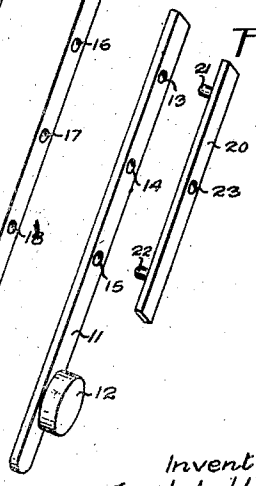
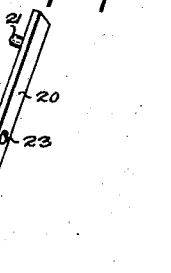


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOSEPH LEWIS HAMEL, OF BUFFALO, NEW YORK.

LADDER FOOT.

Application filed November 14, 1925. Serial No. 69,029.

My invention relates to improvements in non-slipping feet for ladders and the object of the invention is to devise means whereby such feet may be readily attached to and detached from the tops and bottoms of ladders, the object of the feet being to anchor the ladder in position when in use so that it cannot become accidentally displaced. A further object of the invention is to construct a device in which nuts, bolts, or other similar means of attachment are obviated, the feet being rigidly secured to the ladder by means of spring clips.

My invention consists of a ladder foot constructed and arranged all as hereinafter more particularly described and illustrated in the accompanying drawing in which:—

Fig. 1 is a side elevational view of my ladder foot, showing it secured to a fragmentary portion of a ladder rail.

Fig. 2 is a front elevational view thereof, the suction cup which I provide as a ground or wall grip, and portions of the ladder rail being broken away.

Fig. 3 is a cross sectional view through the line 3—3 Figure 1.

Fig. 4 is a perspective view of the spring clip which I use for securing my device to the ladder rail.

Fig. 5 is a perspective view of a broken away end of a ladder rail.

Fig. 6 is a perspective view of one of the plates of my device which is secured to the end of the ladder rail.

Fig. 7 is a perspective view of another plate which is fitted upon the plate shown in Figure 6.

Like characters of reference indicate corresponding parts of the different views.

1 is a suction cup having a recess 2 on its lower face and a reduced circular portion 3 on its upper face, the cup being of circular formation and preferably constructed of rubber. 4 is a socket member having a downwardly extending skirt 5 on its lower face into which the reduced portion 3 of the suction cup is inserted.

Upon the upper face of the socket member 4, a pair of upwardly extending, parallel and spaced apart lugs 7 and 8 are provided, and 9 are oppositely positioned centrally disposed circular orifices in the lugs, 10 and 11 are a pair of plates of similar construction having bosses 12 on their outer faces in the vicinity of their lower ends, the bosses being adapted to be freely inserted into respective orifices 9. Upon the upper ends of the plates 10 and 11, three centrally positioned spaced apart orifices 13, 14, and 15 are provided and coincide with three centrally positioned spaced apart transversed orifices 16, 17, and 18 which extend through the end of the ladder rail.

19 and 20 are a second pair of plates designed to lie on the outside of the respective plates 10 and 11 each having a pair of lugs 21 and 22, the lugs 21 on the plate 20 passing through the orifice 13 in the plate 11 into the orifice 16 in the ladder foot, and the lug 22 similarly passing through the orifice 15 in the plate 11 into the orifice 18 in the ladder foot. The lugs on the plate 19 pass through the orifices in the plate 10 and into the other side of the orifices 16 and 18 in the ladder foot in a similar manner. The plates 19 and 20 are also each provided with a centrally positioned orifice 23 which coincides with the orifices 14 in the plates 10 and 11. 24 is a spring clip of substantially U shaped formation having a pair of inwardly extending lugs 25 and 26 upon its inner faces, the clip being adapted to be sprung over the plates 19 and 20 when they are in position, the lugs 25 and 26 each passing through the pairs of orifices 14 and 23 into the orifice 17 in the ladder end.

In order to attach my device to a ladder, it is merely necessary to drill three holes in the ends of the ladder rails as shown in Figure 5, these holes being positioned to coincide with the orifices in the plates 10 and 11, which as before explained are adapted to be positioned one upon either side of the ladder end. My device is then attached to the ladder as follows:

The plates 10 and 11 are placed against the inner walls of the lugs 7 and 8, the bosses 12 entering the orifices 9. The end of the ladder rail is now inserted between the ladder plates which are each provided on its inner face with a prong 27 which protrudes into the ladder rail and holds the plates in their adjusted position thereon while the remainder of my assembly is being attached. The plates 19 and 20 are now placed upon the plates 10 and 11. The lugs 21 and 22 passing through the orifices 13 and 15 into the orifices 16 and 18 in the ladder end as before described. The spring clip 24 is now sprung over the plates 19 and 20, the lugs 25 and 26 passing through the orifices 23 and 14 and entering the orifice 17 in the ladder

foot. When this is done it will be seen that the ladder foot is rigidly held in position as any relative movement between the plates 10 and 11 and the ladder rail is prevented by the lugs 21 and 22 on the plates 19 and 20 which are held in position by the clip 24, the lugs 25 and 26 giving added rigidity.

In order to remove my device from the ladder it is merely necessary to spring the clip 24 out of position and remove the plates 19 and 20 when the whole foot attachment assembly will fall apart. A pair of my devices can be used with a plurality of different sized ladders, it being only necessary to have the devices of sufficient size for attachment to the largest ladder rail, and where it is attached to smaller ladder rails, washers can be inserted on the lugs 12 between the lugs 7 and 8 and the plates 10 and 11 to prevent the socket member 4 having any play in respect to the rail end.

From the foregoing description it will be apparent that I have devised a ladder foot of extremely simple construction, a pair of which can be very quickly applied to any ladder. Furthermore, as before described, one pair of feet will fit a number of ladders of various sizes.

What I claim for my invention is:—

1. The combination of a ladder rail and a ladder foot, of a pair of plates to which the ladder foot is secured, said plates being adapted to be positioned one on each side of the ladder rail, means for preventing the plates having a sliding movement in respect to the rail and resilient means for securing said plate sliding preventive means and the plates in their adjusted position.

2. The combination of a ladder rail and a ladder foot, of a pair of plates on the ladder rail upon which the foot is mounted, a second pair of plates mounted upon the first mentioned plates, and resilient means for securing the plates in their adjusted position.

3. The combination of a ladder rail having a plurality of orifices therein and a ladder foot, of a pair of plates to which the ladder foot is secured, said plates being adapted to be mounted on the ladder-rail and having a plurality of orifices therein coinciding with the orifices in the ladder rail, a second pair of plates each adapted to be mounted on one of the first mentioned plates and having prongs on their inner faces each adapted to enter a pair of coinciding orifices in one of the first mentioned plates and the ladder rail, and resilient means for securing the plates in their adjusted position.

4. The combination of a ladder rail having a plurality of orifices therein and a ladder foot, of a pair of plates to which the ladder foot is secured, said plates being adapted to be mounted on the ladder rail and having a plurality of orifices therein coinciding with the orifices in the ladder rail, a second pair of plates each adapted to be mounted on one of the first mentioned plates and having prongs on their inner faces each adapted to enter a pair of coinciding orifices in one of the first mentioned plates and the ladder rail, said second mentioned plates having orifices therein coinciding with orifices in the first mentioned plates and an orifice in the ladder rail, and a substantially U-shaped resilient clip having inwardly extending prongs positioned upon its ends and adapted to enter the coinciding orifices in the plates and ladder rail for securing the plates in the adjusted positions.

JOSEPH LEWIS HAMEL.