W. D. OSTERHOUDT.

ADJUSTABLE FOOT FOR LADDERS.

APPLICATION FILED OCT. 12, 1912.

1,088,167. Patented Feb. 24, 1914.

Fig. 1

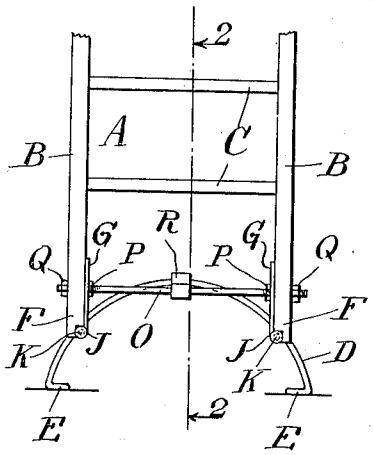


Fig. 2

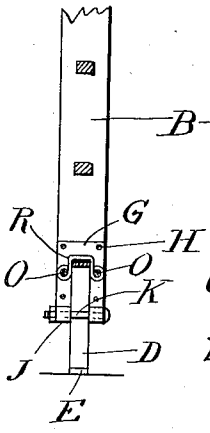


Fig. 3

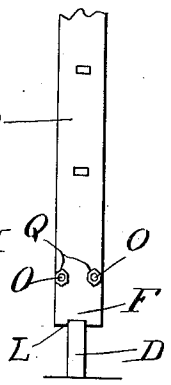


Fig. 4

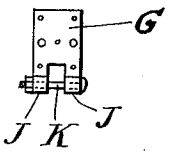


Fig. 5

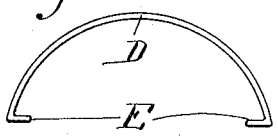


Fig. 7

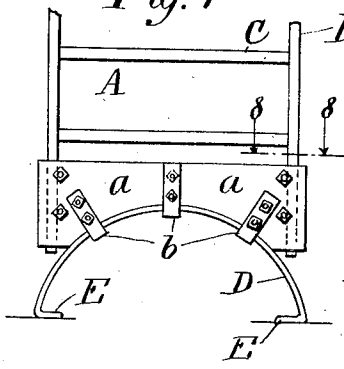


Fig. 9

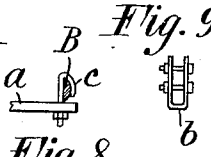


Fig. 8

Fig. 6

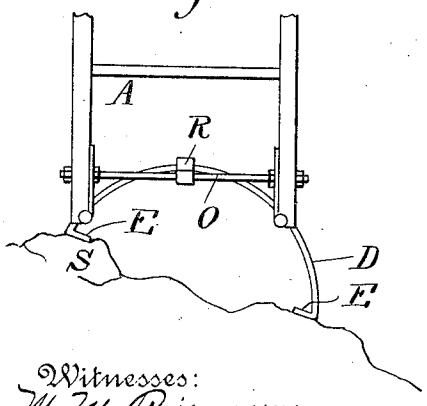
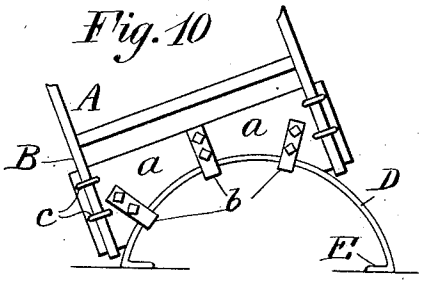


Fig. 10



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UNITED STATES PATENT OFFICE.

WILLIAM D. OSTERHOUDT, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR OF ONE-HALF TO EVERETT V. WATSON, OF FISHKILL-ON-THE-HUDSON, NEW YORK.

ADJUSTABLE FOOT FOR LADDERS.

1,088,167. Specification of Letters Patent. **Patented Feb. 24, 1914.**

Application filed October 12, 1912. Serial No. 725,437.

To all whom it may concern:

Be it known that I, WILLIAM D. OSTERHOUDT, a citizen of the United States, and a resident of Poughkeepsie, Dutchess county, State of New York, have invented certain new and useful Improvements in an Adjustable Foot for Ladders, of which the following is a specification, accompanied by drawings.

This invention relates to an adjustable foot for ladders, whereby the ladder can be accommodated to uneven ground, and the ladder can be adjusted at an angle to the ground.

The primary objects of the invention are to increase the practicability, simplify the construction, and strengthen the parts of such an adjustable ladder base.

Another object is to do away with locking devices, which are more or less complicated and apt to break and therefore dangerous.

A further object is to enable the ladder to be supported from the base by means of the side rails instead of the rounds, which are the weakest parts of the ladder.

To these and other ends, which will hereinafter appear, the invention consists of the devices shown in their preferred forms in the accompanying drawings, in which—

Figure 1 is a front elevation partly broken away of a ladder embodying the invention; Fig. 2 is a transverse sectional elevation on the line 2—2 of Fig. 1 looking in the direction of the arrows; Fig. 3 is a side elevation of the ladder; Fig. 4 is a detail view of one of the brackets; Fig. 5 is a detail view of the arched foot; Fig. 6 is a view similar to Fig. 1, with the foot supported on sloping ground and the ladder vertical; Fig. 7 is a front elevation partly broken away of a modification; Fig. 8 is a detail horizontal sectional view on the line 8—8 of Fig. 7; Fig. 9 is a detail of one of the brackets; Fig. 10 is a view similar to Fig. 7 with the ladder at an angle to the vertical.

Referring to the drawings, A represents a ladder having the side rails B and the rounds C. The adjustable base upon which the ladder is supported comprises various elements, one of which is the arched foot D preferably formed of wrought iron or steel and bent into semi-circular form, with inwardly bent toes E for gripping the ground or rocks upon which the ladder may be set.

A ladder is usually hoisted from the ground edgewise and therefore any device which extends very much beyond the lower ends of the side rails, interferes to a considerable extent with the hoisting, because the foot of the ladder will be raised to a considerable distance from the ground. It is almost impossible for one man to raise a long ladder having such a device attached, with the same facility with which he can raise the ladder without such a device. It is therefore desirable that the lower ends of the side rails extend as close to the ground as possible, thus facilitating the raising of the ladder and in my improved device it will be observed by reference to the figures that the lower ends F of the side rails extend rather close to the ground, so that the length of the ladder is not materially increased by the attachment of my adjustable base.

Instead of supporting the ladder upon the base by means of one or more of the lower rounds, which are the weakest part of the ladder, and thus supporting the entire weight of the ladder and the person upon the rounds, I support the ladder upon the arched foot D by means of the side rails, thereby directing the strain and twist to the strongest part of the ladder. Suitable brackets G are attached preferably to the inside of the side rails by means of screws H or other suitable fastening devices. The brackets shown in detail in Fig. 4 comprise plates having rolled eyes J embracing the arched foot D and suitable bolts K pass through the eyes J underneath the arched foot D, thus adjustably supporting the ladder on the arched foot. If desired, the lower ends of the side rails B may be cut out at L as indicated in Fig. 3, to accommodate the arched foot and bring the lower ends F of the side rails nearer to the ground. A firmer construction is also obtained by this means.

In order to prevent the side rails from spreading by the wedging action of the arched foot D and in order to further sustain the weight of the ladder and the person and provide a more rigid construction which may be adjusted in any suitable position without locking devices, I prefer to connect the lower ends of the side rails B by a suitable member or members preferably in the form of brace rods O, passing through the brackets G and side rails and connected thereto as by means of the nuts P and Q or other suitable fastening devices. These

brace rods O, as shown, preferably extend at each side of the arch of the foot D and are connected to each other by means of a transverse stirrup R passing over the top of the arched foot D and suitably fastened to the brace rods. The top of the arch D is preferably normally separated by a small space from the under portion of the stirrup R, as shown in Fig. 2, so that when the weight of the person comes upon the ladder, flexing the parts of the adjustable base, the stirrup may be brought into contact with the arch to aid in holding the parts in position by friction. The stirrup R also aids in sustaining the weight of the ladder and the person upon the arched foot.

In Fig. 1 the base and the ladder are both shown vertical, while in Fig. 6 the arched foot D is shown supported on sloping ground. In the latter case, the ladder has been slid longitudinally on the foot in the position indicated and the ladder is frictionally held upon the foot without additional locking means.

My improved device does not require any locking device, as the entire weight of the person and ladder are supported by the side rails and not from the center of the rounds, thereby keeping the ladder firm and solid on its base, and free from any twisting strain.

I am not limited to any particular angular position of adjustment of the ladder upon its foot, since I have obviated the necessity of teeth, notches or holes, for determining the position of the ladder.

The inwardly bent toes E of the arched foot D are particularly useful in certain cases, as for instance, as illustrated in Fig. 6, in which one toe is supported upon a rock S, from which it will be seen that the tip of the toe firmly grips the rock. The tips of the toes may also dig into the ground, as upon icy slopes or frozen ground.

In Figs. 7 to 10 inclusive, I have shown a modification of the invention embodying the same principles, but somewhat simplified in construction. In this modification, a single bar *a*, conforming to the arch of the foot D is held thereto as by means of the brackets *b* shown in detail in Fig. 9, and the side rails B of the ladder are suitably secured to said bar *a* as by means of the hooked clamps *c* shown in detail in Fig. 8, although any suitable means may be provided for securing the side rails B to the bar *a*. This bar *a* and with it the ladder may be adjusted at different angles upon the foot D and securely held by friction.

I claim and desire to obtain by Letters Patent the following:

1. An adjustable foot for ladders, comprising slotted brackets adapted to be secured directly to the lower ends of the ladder sides, bracing means extending between said brackets and passing through the ladder sides, a stirrup carried by said bracing means, and an arched foot passing slidably through the slots in said side brackets and through said stirrup.

2. An adjustable foot for ladders, comprising slotted brackets adapted to be secured directly to the lower ends of the ladder sides, removable means for closing the open ends of the said slots, bracing means extending transversely between said brackets and passing through the ladder sides, a stirrup carried by said bracing means and an arched foot passing slidably through the slots in said brackets and through said stirrup.

3. An adjustable foot for ladders, comprising brackets adapted to be secured to the lower ends of the ladder sides, brace rods extending between said brackets, an arched foot passing through said brackets and between said brace rods, and a transverse stirrup connected to the brace rods and passing over the arch of the said foot.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM D. OSTERHOUDT.

Witnesses:

ANNA O'BRIEN,

JOHN J. DONNELLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."