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STABILIZER FOR LADDERS

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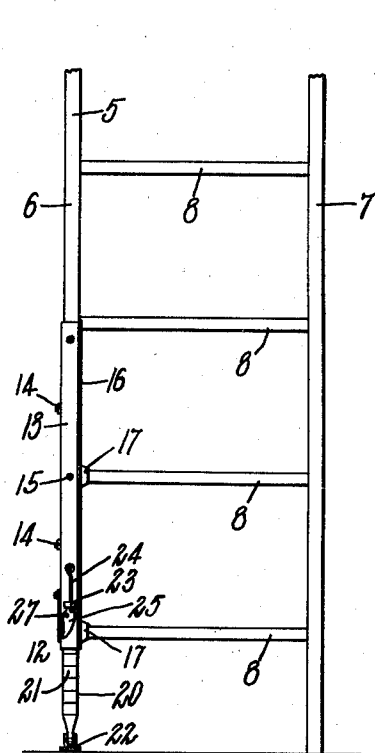


Fig. 1.

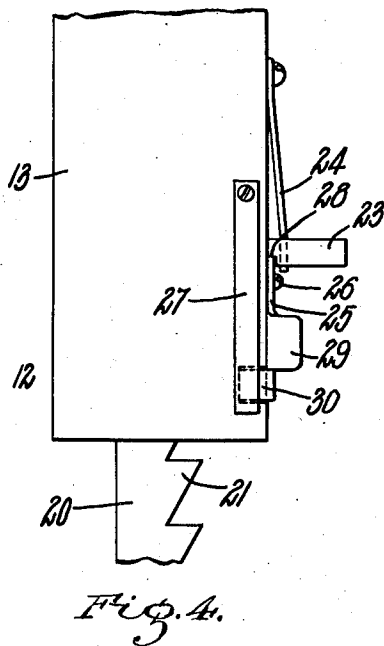


Fig. 4.

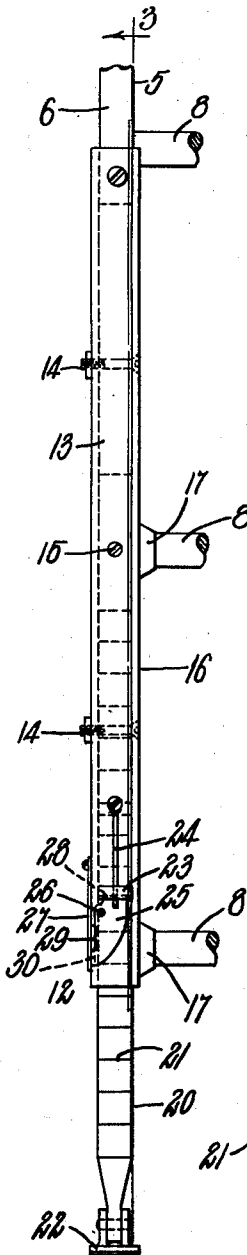


Fig. 2.

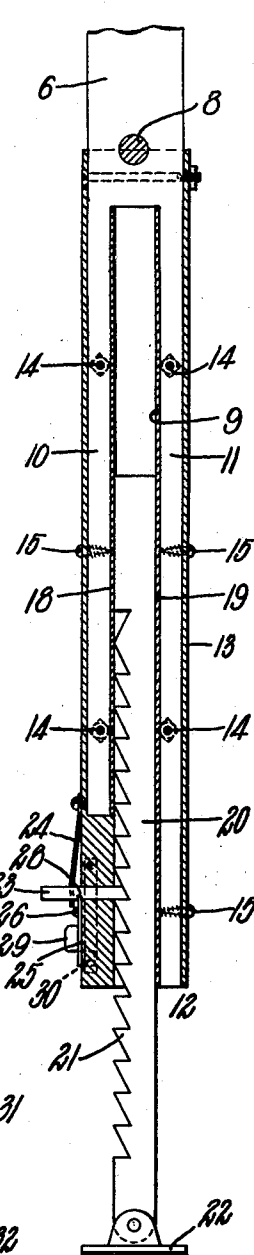


Fig. 3.

Fig. 5.

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## UNITED STATES PATENT OFFICE

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## STABILIZER FOR LADDERS

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5 Claims. (Cl. 228-63)

This invention relates to an improvement in ladders and particularly to a stabilizer therefor.

The object of the invention is to provide a simple and practical device which may be easily and quickly applied to the lower end portion of a side piece of a ladder to constitute a stabilizer therefor, thereby making it possible for the ladder to rest firmly and securely upon sloping or irregular surfaces when it is raised and in use.

Another object of the invention is to provide a structure having a leg member embodied therein which in effect constitutes an adjustable extension for a side piece of a ladder, whereby said side piece may be lengthened or shortened as may be required to permit the ladder to rest firmly upon surfaces which are inclined to the sides of the ladder when the latter is viewed from the front thereof.

Still another object of the invention is to provide a simple, effective means for automatically locking the adjustable leg in its various positions and thereby making it impossible for said leg to be released accidentally.

The invention consists in a stabilizer for ladders as set forth in the following specification and particularly as pointed out in the claims thereof.

Referring to the drawing:

Fig. 1 is a front elevation of the bottom portion of a ladder having a stabilizer embodying my invention applied thereto.

Fig. 2 is an enlarged front elevation of the stabilizer including the lower end portion of the side piece of the ladder to which the stabilizer is applied.

Fig. 3 is a vertical sectional elevation as taken on the line 3-3 of Fig. 2, looking in the direction of the arrows on said line.

Fig. 4 is an enlarged detail side elevation of the locking means for the adjustable leg.

Fig. 5 is a detail view illustrating an alternate foot structure for an adjustable leg.

Like numerals refer to like parts throughout the several views of the drawing.

In the drawing, 5 represents the lower portion of a ladder of well-known construction embodying therein side pieces 6 and 7 and rounds 8. In this ladder the lower end portion of the side piece 6 is cut off to materially shorten said end portion, and the latter is then slotted at 9 from the lower end thereof upwardly to provide furcations 10 and 11 to which a stabilizer 12 of this invention is applied, and between which a portion of said stabilizer is slidably mounted.

The stabilizer 12 embodies therein a casing 13 constructed of metal and rectangular in cross-

sectional contour, which entirely encloses and snugly fits the bifurcated lower end portion of the side piece 6, and said casing is fastened to the furcations 10 and 11 by suitable bolts 14 and screws 15 in a manner to reinforce and strengthen said lower end portion of said side piece 6. A face plate 16 of the casing 13 is removable therefrom and is secured thereto and to the side piece 6 by means of the bolts 14. The face plate 16 is provided with sockets 17 for receiving the end portions of certain of the rounds 8 which necessarily must be shortened slightly and fitted to said sockets. The casing 13 is provided upon its interior with flanges 18 and 19 which extend lengthwise of the casing parallel to each other and to the sides of said casing, and the opposite inner faces of said flanges 18 and 19 and the opposite inner faces of a side of the casing 13 and face plate 16 constitute guiding surfaces for a leg member 20 which is slidable between said surfaces and which constitutes an adjustable extension for the shortened side piece 6. One face of the leg 20 is notched to provide a plurality of teeth 21, and at its lower extremity said leg has a foot 22 pivotally attached thereto.

The leg 20 is held in its various adjusted positions by a latch 23 which is slidably mounted in the casing 13, and said latch is held in interlocking engagement with the teeth 21 of said leg by a spring 24 which acts to force the latch inwardly into contact with said teeth. The latch 23, furthermore, is locked in interlocking engagement with the teeth 23 by a catch 25 which is pivotally attached at 26 to the casing 13 and is forced by a spring 27 into a notch 28 provided in the under side of the latch 23. The catch 25 is provided with a finger piece 29 and the spring 27 contacts with a lip 30 formed upon said catch.

Normally the leg 20 is positioned as illustrated in Fig. 1 to in effect extend the side piece 6 to equal the length of the side piece 7 and normally the ladder is used with the leg 20 so positioned. If, however, the surface upon which the ladder rests is uneven, or if said surface slopes or is inclined away from either the right or left hand sides of the ladder as viewed from the front thereof, the leg 20 is moved inwardly or outwardly as may be necessary to permit said ladder to rest firmly in a raised position.

The leg 20 is locked securely in each position at which it may be located within its guideway in the casing 13, and in moving said leg from one position to another it is necessary to first operate the catch 25 against the pressure of the spring 27 to disengage said catch from the notch 28 in the

latch 23, after which said latch may be pulled outwardly against the tension of the spring 24 to permit the leg 20 to be moved as may be desired. When the latch 23 is released and is forced by its spring 24 into locking engagement with the teeth 21, the catch 25 will automatically return to its locking position in the notch 28 of said latch, and the leg 20 is thereafter firmly secured against accidental release.

Although I have illustrated and described the device of this invention as being applied to but one side piece of a ladder it is evident that both side pieces of a ladder may have a stabilizer applied thereto if it is so desired, in which event either or both of said stabilizers may be adjusted as may be required to obtain the result desired.

In Fig. 5 I have illustrated an alternate leg structure in which an adjustable leg 31 is similar in all respects to the leg 20 previously described except that at its lower extremity said leg 31 terminates in a point or spur 32 provided for the purpose of preventing said leg from slipping upon hard or slippery surfaces, and it is evident that if it is so desired there may be a plurality of spurs provided at said lower extremity all for the purpose of preventing the leg from slipping.

I claim:

1. A stabilizer for ladders having, in combination, a casing adapted to surround a bifurcated lower end portion of a side piece of a ladder and conform to the contour thereof, a leg slidably mounted within said casing and constituting an extension for said side piece, and means to hold said leg at different elevations in said casing.

2. A stabilizer for ladders having, in combination, a casing adapted to surround a bifurcated lower end portion of a side piece of a ladder and conform to the contour thereof, a leg slidably mounted within said casing between the furcations of the side piece and constituting an extension for said side piece, means to hold said leg

at different elevations in said casing, and spring actuated means to lock said holding means.

3. A stabilizer for ladders having, in combination, a casing adapted to surround a bifurcated lower end portion of a side piece of a ladder and having guideways embodied therein positioned between the furcations of said side piece, a leg slidably mounted within said casing between said guideways and constituting an extension for said side piece in longitudinal alignment therewith, said leg having a plurality of teeth thereon, and a latch adapted to interlock with said teeth to hold said leg at different elevations in said casing.

4. A stabilizer for ladders having, in combination, a casing adapted to surround a bifurcated lower end portion of a side piece of a ladder and conform to the contour thereof, a leg slidably mounted within said casing between the forked portions of said side piece and constituting an extension for said side piece, said leg having a plurality of teeth thereon, a latch adapted to interlock with said teeth to hold said leg at different elevations in said casing, and means to automatically lock said latch in engagement with said teeth.

5. A stabilizer for ladders having, in combination, a casing adapted to surround a bifurcated lower end portion of a side piece of a ladder and conform to the contour thereof, said casing having guideways embodied therein positioned between the furcations of said side piece, a leg slidably mounted within said casing between said guideways and constituting an extension for said side piece in longitudinal alignment therewith, said leg having a plurality of teeth thereon, a latch adapted to interlock with said teeth to hold said leg at different elevations in said casing, means to automatically lock said latch in engagement with said teeth, and a foot pivotally attached to the lower end of said leg.

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