MOVABLE LADDER STEP

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This invention relates to improved means to be removably attached to ladders having side rails and round rungs whereby to provide a movable ladder step.

The primary object of the invention is to provide a movable platform step for ladders having parallel side rails which may be moved along the said side rails to any rung of the ladder whereby to convert any desired rung of the ladder into a safe, comfortable and convenient platform step.

Another object of the invention is to provide a movable platform step for ladders having parallel side rails and round rungs which is inexpensive to manufacture, which is readily applicable to a ladder having parallel rails and round rungs, which is easily slideable along the rails of the ladder to the desired rung, and which readily engages the selected rung and converts it into a step.

Other objects of the invention will become apparent by reference to the following detailed description taken in connection with the accompanying drawing; in which:

Fig. 1 is a front elevational view of a ladder showing in full lines a device embodying the invention removable fixed at one rung of the ladder, and indicating in dot and dash lines the device moved to another rung of the ladder.

Fig. 2 is an enlarged fragmentary sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary rear elevational view taken on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3.

Referring now to the drawing wherein like numerals refer to like and corresponding parts throughout the several views, the particular embodiment of the movable ladder step disclosed for the purpose of illustrating the invention is shown applied to a ladder 50 having side rails 51 and rungs 52 and comprises a pair of sleeves 16 formed to telescopic sliding relationship over the side rails 51 of the ladder 50 without contacting the rungs 52 thereof, a pair of brackets 11 each preferably welded to the rear of one of the said sleeves 16 formed to cantilever rearwardly from the said sleeves 16 and support a transversely disposed rod 12 upon which is pivotally mounted a step 13 by means of a pair of straps 14 riveted by rivets 140 or otherwise secured to the bottom of each side of the ladder step 13. Each of the said straps 14 is formed with a substantially closed hinge loop 15 at the rear thereof through which the transverse rod 12 is disposed and is provided with a rung engaging hook 16 at the forward end thereof adapted to fit around and engage a rung 52 of the ladder 50.

An inwardly projecting step 110 welded or otherwise secured to each of the brackets 11 is suitably located to limit the rearward tilting of the ladder step 13. Obviously the ladder step 13 cannot tilt forwardly from weight thereon because, for the ladder step 13 to tilt forwardly, the sleeves 10 must be lifted to release the couple between the transversely disposed rod 12 and the rung 52 of the ladder 50.

When a ladder step embodying the invention is applied to a ladder 50, the sleeves 10 thereof are telescoped over the side rails 51 of the ladder 50 and the step 13 depends in substantially vertical relationship from the transversely disposed rod 12 extending between brackets 11. At the desired rung 52 of the ladder 50, the step 13 is swung forwardly about the transversely disposed rod 12 until the forward end thereof passes the center of the selected rung 52 whereby upon the sleeves 16 are slid down the side rails 51 of the said ladder 50 until the rung engaging hooks 16 of the straps 14 firmly engage the selected rung 52 as best shown in the full lines in Fig. 2. In this position, the more weight that is placed on the step 13 the more firmly the step 13 becomes anchored to the selected rung 52. By lifting the sleeves 10 a short distance, the ladder step 13 becomes disengaged from the selected rung 52 and may then be moved upwardly or downwardly to any other selected rung 52 or off the ladder 50 entirely.

Although but a single embodiment of the invention has been disclosed and described in detail, it is obvious that many changes in the size, shape, arrangement and detail of the various elements of the invention may be made without departing from the spirit and scope thereof as defined by the appended claims.

We claim:

1. A movable step for a ladder composed of a pair of parallel side rails and spaced rungs comprising a pair of sleeve members each partially encompassing the ladder side rails telescoped in sliding relationship thereover and including a bracket fixed to and extending rearwardly therefrom, a transversely disposed member extending between the said sleeve members at the rear thereof, a step member means secured to and supporting the said step member hinged at one end to the said transversely disposed member and formed near their other ends to hook around a selected rung of the ladder, and a step fixed to and extending from each of the said brackets
located above the said step member whereby to limit the rearward tilting of the said step member after the said step supporting means has been engaged onto the selected rung of the said ladder.

2. A movable step for a ladder composed of a pair of parallel side rails and spaced rungs comprising a pair of sleeves formed to telescope in sliding relationship over the side rails of the said ladder, a bracket fixed to and extending rearwardly from each of the said sleeves, a transversely disposed rod secured to each of the said brackets and disposed horizontally therebetween, a ladder step of less width than the space between the said ladder side rails, a strap fixed to the bottom of the ladder step adjacent each side of the ladder step hinged to the said transversely disposed rod and provided with a hook near the forward end thereof adapted to engage any selected rung of the said ladder, and a step fixed to and extending inwardly from each bracket located above the said step member whereby to limit the rearward tilting of the step member after the said hooks of the said straps have been engaged onto the selected rung of the said ladder.

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