Jan. 11, 1938. S. J. HARDING 2,104,987

PLATFORM BRACKET FOR LADDERS

Filed April 2, 1937

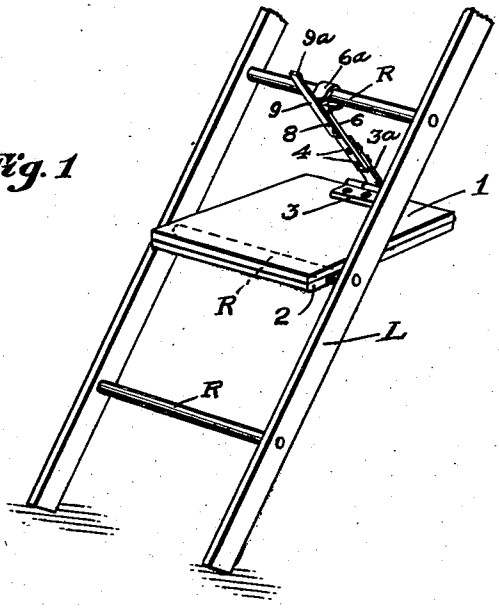


Fig. 1

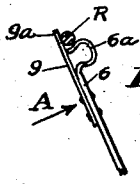


Fig. 5

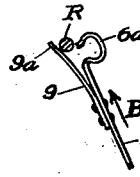


Fig. 6

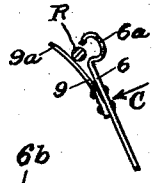


Fig. 7

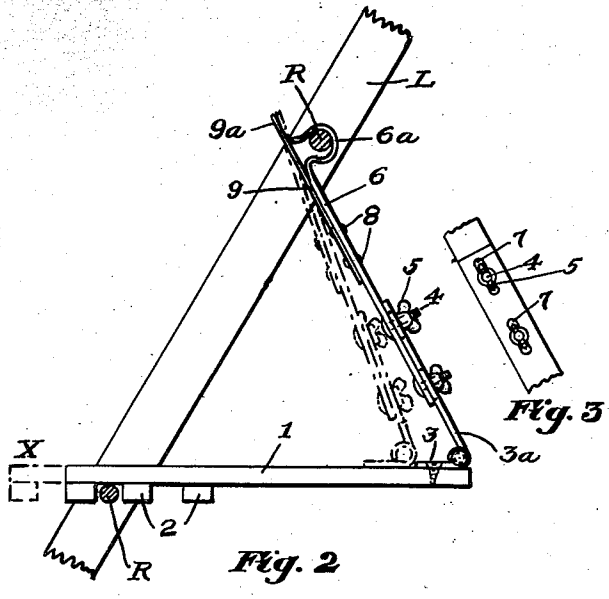


Fig. 2

Fig. 3

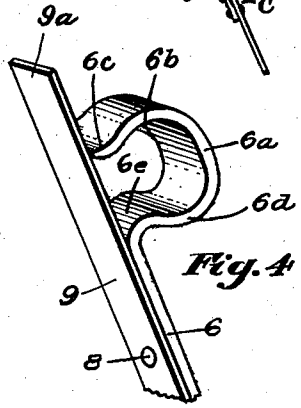


Fig. 4

Inventor,

Simon J. Harding

By Henry L. Chenery.

Atty.

Patented Jan. 11, 1938 2,104,987

UNITED STATES PATENT OFFICE

2,104,987

PLATFORM BRACKET FOR LADDERS

Simon J. Harding, West Baldwin, Maine

Application April 2, 1937, Serial No. 134,583

1 Claim. (Cl. 304—10)

My invention relates to attachments for ladders, dealing more particularly with a platform bracket which may be quickly attached to and detached from one of its rungs, together with means for adjusting the parts to accommodate the platform to different degrees of slant of the ladder, so that the platform may lie in a substantially horizontal position.

The adjusting feature aso comes into play in mounting the device upon ladders having a different center to center distance between the rungs.

The prime object I have sought in my present invention is to provide an attachable platform which is simple, and safe when one is standing thereon, and which will require no bolts or other paraphernalia to secure it to the ladder, making it proof against accidental displacement therefrom.

I have disclosed in the accompanying drawing a preferred embodiment of my invention.

In the drawing, in which like reference characters are employed to identify like parts in the various figures thereof,

Fig. 1 is a view in perspective showing the device mounted on an inclined ladder;

Fig. 2 is a side elevation thereof;

Fig. 3 shows a flat-wise view of the adjusting structure;

Fig. 4 is a perspective view of the hook, drawn to an enlarged scale, and

Figs. 5, 6 and 7 show the different steps taken to attach the device to a rung of the ladder.

Referring to the drawing, L is a ladder of the conventional type, and R the rungs thereof. In Fig. 1 the ladder is represented as inclined against some object, as for instance a building.

Mounted on but not fixedly secured to one of the rungs is a platform 1 having on its under side a plurality of cleats 2 which loosely engage the rung on two of its sides. This prevents horizontal displacement of the platform from the ladder.

Secured on the opposite end of the platform is a combination butt and strap hinge 3, the strap portion 3*a* being free to swing. Fastened to the portion 3*a* by any suitable means, as for instance, by the screws 4 and thumb-nuts 5 is a hanger 6, slots 7 in the part 3*a* providing for longitudinal adjustability between the parts.

The hanger 6 has on its upper end a hook 6*a* which when the device is in position on a ladder partially encloses one of the rungs R.

The hook 6*a* is specially contoured, as clearly shown in Figs. 2 and 4. The upper end, at 6*b*, is of arcuate form and quite closely fits the rung for a portion of its periphery. From the portion 6*b* the hook merges into a reversely curved end portion 6*c*, the extreme end on the inside of the hook being rounded.

The back side of the hook is somewhat flattened and this portion merges into another arcuate part 6*d*, similar to but disposed in reversed position to the top portion 6*b*.

Extending from the downwardly curved part 6*d* the hook takes a short reverse curve and unites with the main portion of the hanger 6. It will be observed, therefore, that the hook has a top and bottom, inside contour fitting the rung.

The two arcuate portions or pockets at 6*b* and 6*d* are relatively spaced a distance sufficient to enable the rung R to pass freely between the portions 6*c* and 6*e*, incident to installing the device on a ladder, or detaching it therefrom.

On the hanger 6 is secured, by rivets 8, a flat spring 9, the upper end portion of which, 9*a*, extends above the hook a distance approximating the diameter of the rung.

By reference to Fig. 2 it will be seen that the upper one, of the two rungs shown, seats in the arcuate pocket 6*b* of the hook. With the hanger under tension, this partial enclosure of the rung by the hook greatly assists in preventing displacement of the hook from off the rung should the person standing on the platform accidentally contact the hanger forcibly with his foot.

Moreover, should the person's heel bear heavily on the extreme end of the platform, as at X, particularly when the platform is extended to the position shown in dot and dash lines, Fig. 2, the result would be to raise the hinge end of the platform and cause the hanger to rise and the rung to seat in the lower pocket 6*d*, thereby automatically providing means to resist any tendency of the hook to become detached from the rung, at least under any ordinary circumstances.

Although it is possible that the particular contour of the inside of the hook 6 might ordinarily serve as the hook-locking means to retain it on the rung, I have elected, in order to provide against any eventuality, to add structure which absolutely insures retention of the hook in its grasp of the rung, this structure being the spring 9 just previously referred to.

Attention is now directed to Figs. 5, 6 and 7, depicted in more or less diagrammatical form and illustrating the steps to be taken in mounting the device on a ladder.

First, the upper end of the hook is swung un-

der the rung, with the spring 9 abutting on the front side of it, as shown in Fig. 5.

Next a pressure is applied to the hanger 6 in the direction indicated by the arrow A, bending the spring into the shape as shown in Fig. 6, sufficient to allow the rung to pass down through the space between the spring and the end of hook portion 6c.

Then the hanger structure is raised bodily as indicated by the arrow B, Fig. 6, until the rung comes abreast of the open side of the hook, when, by releasing the grasp of the hanger the rung, through the agency of the recoil of the spring, arrow C, automatically forces the hook over the rung and leaves the spring closing the open side, as shown in Fig. 4.

In detaching the hook from the rung the same procedure is followed, only in converse order.

In Fig. 4 it will be noticed that the under side of the reversely curved portion 6c, at its extreme end, is rounded. This is to facilitate withdrawal of the hook from off the rung and avoid friction which would otherwise be present if this extreme end were made square.

My platform bracket eliminates many small parts usually found in devices for the same purpose. It can be mounted and demounted on and off the ladder in much less time than it takes to do the same thing with the conventional type of bracket. Its simplicity enables it to be constructed much more cheaply as it embodies but few parts, whereas the usual type consists of many small pieces. When not in service it may be folded into a very compact form.

What I claim is:

A device of the class described, adapted to be mounted on a ladder having a plurality of rungs thereon, comprising in combination with a platform positioned between the side members of said ladder and supported at one end by one of said rungs, a hanger making pivotal connection, at its lower end, with said platform, a double-hook portion on the opposite end of said hanger, said portion having one open side, a flat spring normally closing the open side of said double-hook portion and extending for a predetermined distance above the top thereof, and means on said double-hook portion, including two oppositely disposed concave rung-seating pockets adapted to offer resistance to transverse displacement of said hook member from off its supporting rung, regardless of whether the hook attaching end of the platform is disposed in its normal position or raised by reason of pressure applied to its forward end, said means being in addition to the said flat spring which yields to permit entrance of the rung into the hook space and thereafter yieldingly acts to prevent its accidental displacement therefrom.

SIMON J. HARDING.