Sept. 14, 1943. T. J. NELSON 2,329,643

ATTACHMENT FOR LADDERS

Filed Dec. 22, 1941

Fig. 1.

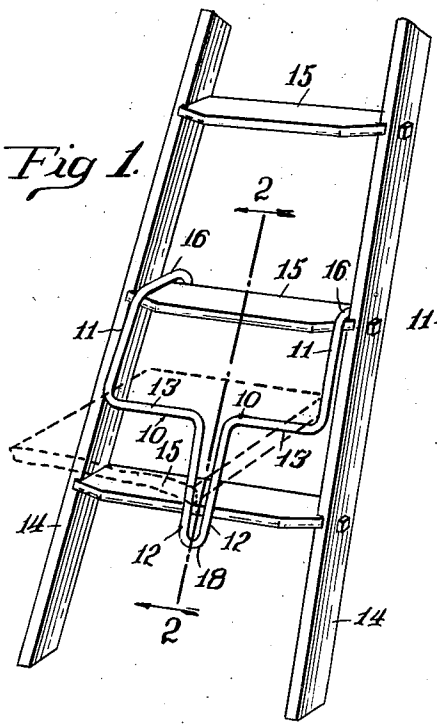


Fig. 3.

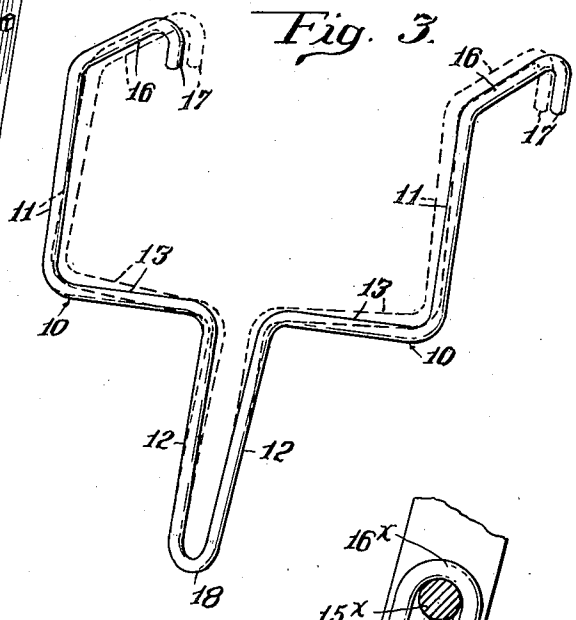


Fig. 2.

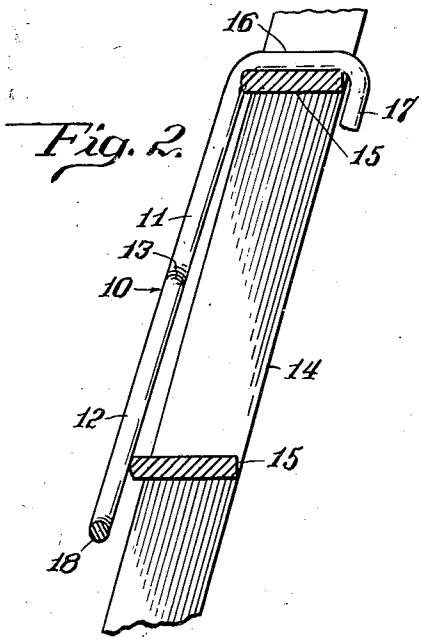
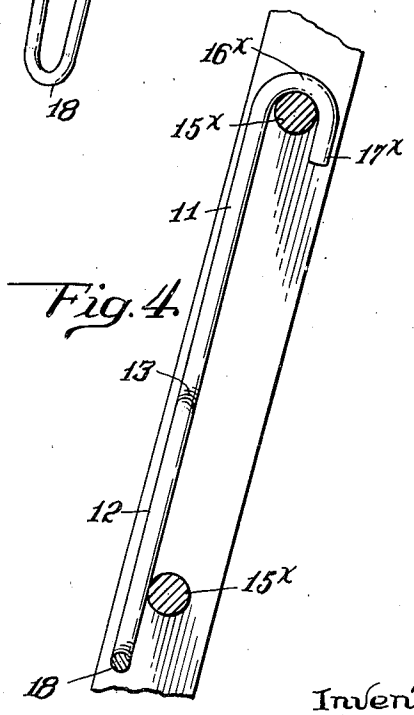


Fig. 4.



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Patented Sept. 14, 1943 2,329,643

UNITED STATES PATENT OFFICE

2,329,643

ATTACHMENT FOR LADDERS

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Application December 22, 1941, Serial No. 423,921

4 Claims. (Cl. 248—238)

This invention relates to improvements in attachments for ladders and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

It is often the practice to employ a scaffold plank between two ladders and upon which a person may stand or even sit while at work. However, when such a plank is supported at its ends upon the like step members of said ladders, it is often found that the plank is disposed either above or below that intermediate elevation which is suited for the best working conditions for the worker.

One of the objects of the invention is to provide a simple and efficient attachment for a ladder for supporting a scaffold plank at an elevation intermediate those of two adjacent step members on each of two spaced ladders when one attachment is used with each of said ladders.

Another object of the invention is to provide an attachment of this kind which may be quickly applied to and removed from a ladder without the aid of tools or other devices and which when applied to the ladder, expands outwardly to press against the stiles of the ladder with a firm grip to insure against accidental displacement thereof while in use.

Again, it is an object of the invention to provide an attachment of this kind which may be formed from a length of relatively heavy wire and therefore may be produced at a very low cost.

The above mentioned objects of the invention, as well as others, together with the advantages thereof, will more fully appear as the specification proceeds.

In the drawing:

Fig. 1 is a perspective view of a fragment of a step ladder, to which one of the improved attachments has been applied for the purpose of supporting a scaffold plank at an elevation or plane between those of two adjacent step members of the ladder.

Fig. 2 is a vertical sectional view on an enlarged scale, through parts appearing in Fig. 1 as taken on the line 2—2 thereof.

Fig. 3 is a perspective view of one of the attachments on a scale enlarged over that of Fig. 1.

Fig. 4 is a view similar to Fig. 2 illustrating a slightly modified form of the invention.

Referring now in detail to that embodiment of the invention illustrated in Figs. 1, 2 and 3 of the accompanying drawing and especially to Fig. 3, the improved attachment is preferably formed from a length of relatively heavy wire to include a pair of laterally spaced, substantially upright side members 10—10, each comprising an upper portion 11, a lower portion 12, and an intermediate horizontal portion 13. The upper portions 11—11 of the side members 10—10 are preferably spaced apart a distance somewhat greater than the distance between the side stiles 14—14 of a ladder which includes the vertically spaced step members 15—15. The top end of each upper portion 11 includes a horizontal step member engageable part 16 having a downturned end 17, the portion 16 being disposed in a plane at a right angle to the plane of the intermediate portion 13. Thus the top end part of each side member is formed to have a hook-like engagement with one of the step members of the ladder when it is of the flat step type as appears in Figs. 1 and 2.

The bottom portions 12—12 of the side members of the attachment are spaced considerably closer together than said upper portions 11—11 thereof as is apparent in Fig. 3 and the lower ends of said portions 12—12 are connected by a crotch or bend 18. A spacing between said portions 12—12 which permits a grasping of both of them by one hand of the user is preferred. Each intermediate portion 13 is connected at its outer end to the bottom end of an associated upper portion 11 and each intermediate portion 13 is connected at its inner end to the top end of an associated lower portion 12. From top to bottom, the distance between the crotch 18 and the horizontal portions 16 of the attachment is preferably greater than the distance between two adjacent step members 15—15 of the ladder as best appears in Figs. 1 and 2.

In Fig. 4 I have shown the attachment as formed for use in connection with ladders having the rungs 15x—15x such as found in sectional extension and other ladders. Under such conditions the top end of each upper portion 11—11 is bent into a semi-circular shape 16x and is provided with a downward extension 17x so as to form a hook for engagement on the rung 15x as shown.

Generally the stiles in most ladders converge inwardly toward the top of the ladder and therefore the step members 15 or 15x decrease successively in width upwardly on the ladder.

Thus, to apply an attachment to each one of a pair of ladders, the top end portions of the side parts 10—10 of one attachment are sprung inwardly toward each other so that they will pass between the stiles 14—14 of one ladder just above that step member thereof, to which it is desired to apply the attachment. After said sprung end portions have been so positioned, the attachment

is moved downwardly until the parts 16 or 16x engage on the top surface of the step members 15 or 15x and the extensions 17 or 17x hook behind said step member. The side members 10—10 then spring or yield outwardly to grip against the inner faces of the stiles 14—14. The other attachment is applied to its associated ladder in the same way.

As the attachment has an overall height from top to bottom, which is greater than the distance between two adjacent step members, the lower end portions 12—12 will engage or bear against the front edge or surface of the step member below when the upper end portions have the hooked engagement with the step member as before mentioned.

This disposes the intermediate portions 13—13 of both attachments about midway between the elevations of said two adjacent step members. Each end of a scaffold plank 18 may now be inserted between the upper portions 11—11 of the associated attachment, so as to rest in supporting engagement upon the portions 13—13.

By making the attachment so that the upper portions of the side members may be sprung inwardly, the attachment may be applied to any step of the ladder from the top to the bottom thereof and when so applied snugly fits in place. When so applied in place, it cannot be accidentally dislodged so as to endanger the workman upon the scaffold.

Also as the attachment may be formed from a single length of relatively heavy wire, it may be made to sell at a relatively low price. The attachment does not include or require any screws or like device or any tools in applying it to or removing the same from a ladder.

While in describing the invention I have referred in detail to the form, arrangement and construction of the parts involved, the same is to be considered only in the illustrative sense so that I do not wish to be limited thereto except as may be specifically set forth in the appended claims.

I claim as my invention:

1. An attachment for a ladder and embodying therein laterally spaced and substantially upright side members having upper and lower end portions, said upper end portions each being formed for a hook-like supporting engagement with one step member of the ladder and the lower end portions of both side members being formed and adapted for engagement against the next lower step member of the ladder, the attachment also embodying therein a scaffold plank engageable portion disposed in a plane between those of said step members and arranged substantially parallel therewith and supported from said side members.

2. An attachment for a ladder made from a length of relatively heavy wire and formed to provide a pair of side members, each including an upper portion and a lower portion, each upper and lower portion being connected together by an intermediate plank engageable portion, the top end of each upper portion being formed as a hook facing in a direction at substantially a right angle to said intermediate portion, said lower portions being spaced closer together than said upper portions, the bottom ends of said lower portions being connected together.

3. An attachment for a ladder made from a length of material and embodying therein upper hook-like portions at the sides thereof, a lower and substantially U-shaped bottom portion, laterally disposed portions intermediate said upper hook-like portion and said bottom portion and each connected to parts of said bottom portion, there being side prtions connecting said laterally disposed portions, each with a hook portion.

4. An attachment for a ladder made from a length of material and embodying therein upper hook-like portions, a vertical side portion depending from each hook-like portion, a bottom U-shaped portion including spaced vertical side portions which are connected together by a crotch for a lateral yielding action toward and away from each other, and intermediate portions arranged at substantially a right angle to said vertical side portions and each connected at one end to the bottom end of the first mentioned vertical side portions and each connected at the other end to the top end of the second mentioned vertical side portions.

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