

Dec. 9, 1947.

J. H. MOTT

2,432,206

LADDER STEP

Filed July 22, 1946

2 Sheets-Sheet 1

FIG. 1.

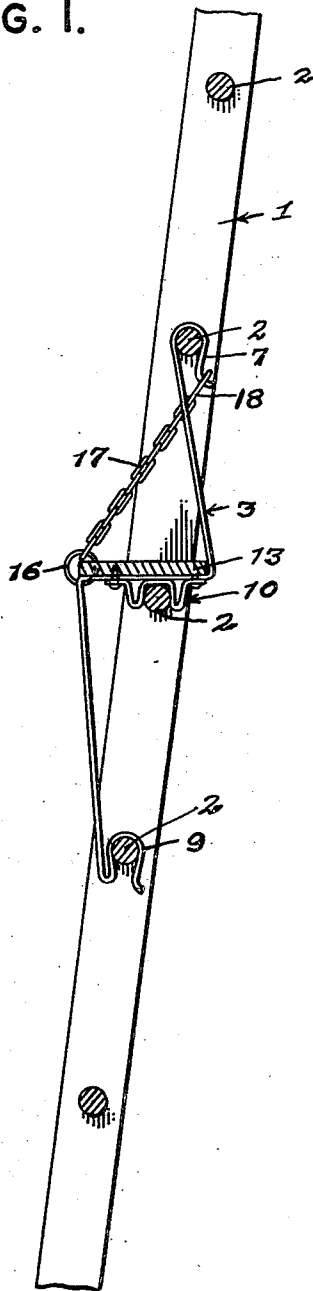
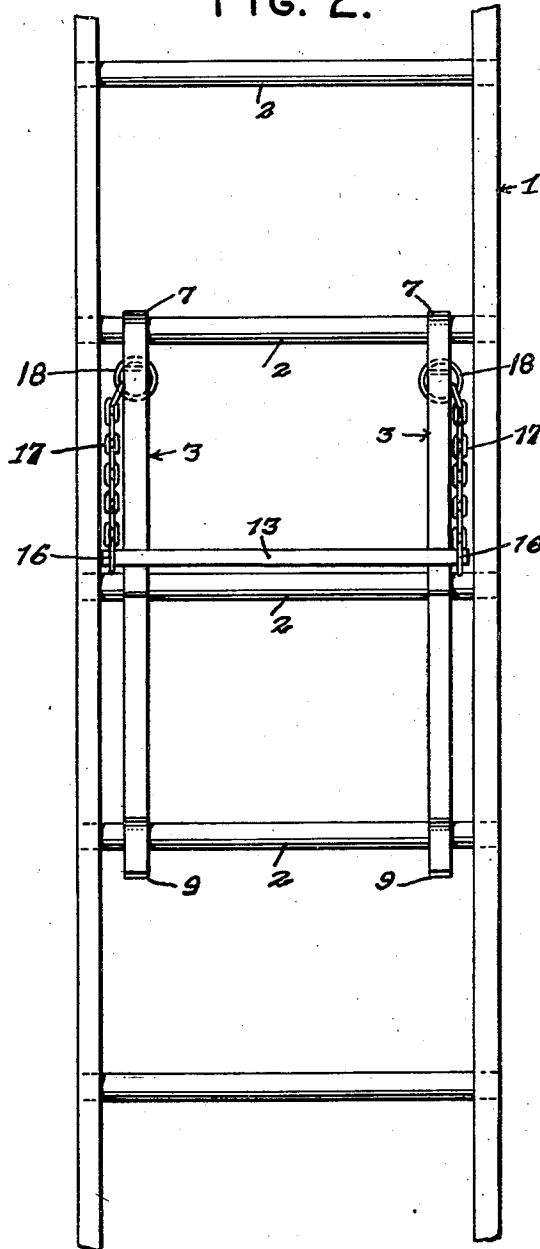


FIG. 2.



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FIG. 3.

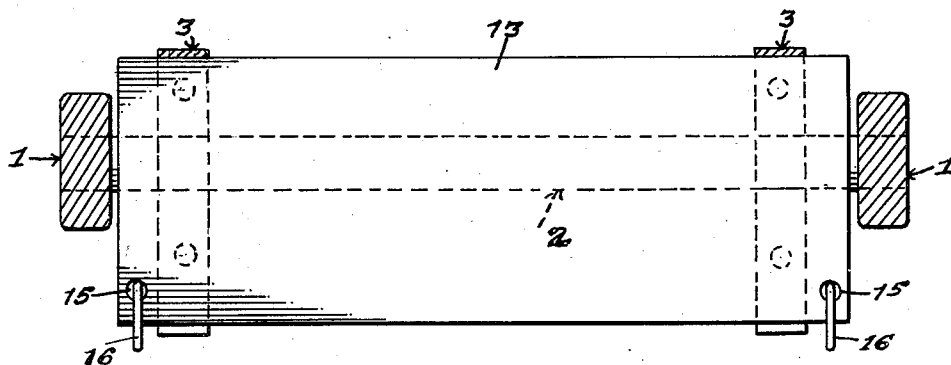


FIG. 4.

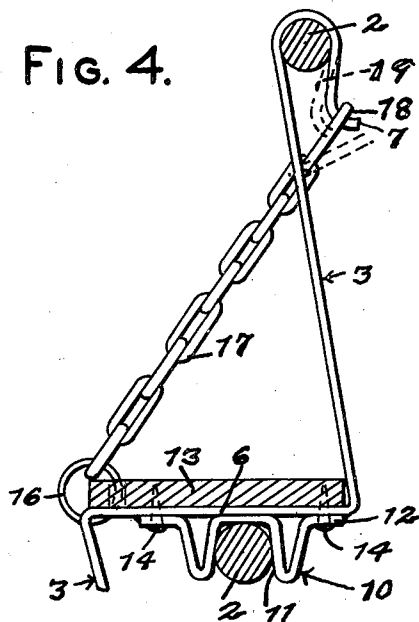


FIG. 5.

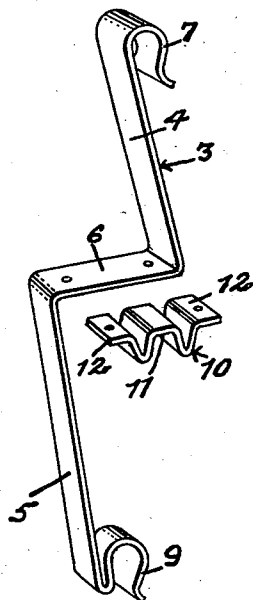
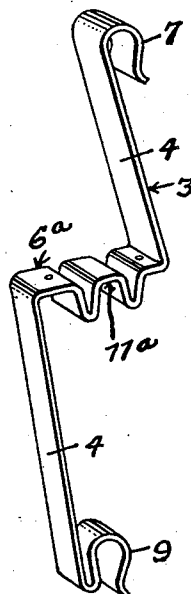


FIG. 6.



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2,432,206

LADDER STEP

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Application July 22, 1946, Serial No. 685,465

4 Claims. (Cl. 304—10)

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This invention relates to a ladder step.

An object of the invention is the construction of a novel and efficient device to be applied to a standard ladder whereby a person using a ladder equipped with the device will not become tired by having aching feet and limbs.

Another object of the invention is the construction of a simple and efficient device which is very stable and durable, resulting in a long life for the device.

A still further object of the invention is the construction of a device which is connected or mounted on three rungs of a standard ladder, whereby the device is securely retained in position without any opportunity of becoming dislodged accidentally.

With the foregoing and other objects in view, my invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a fragmentary vertical sectional view of an ordinary or standard ladder, showing in vertical central section a device applied thereto in accordance with the present invention, while,

Figure 2 is a view in front elevation thereof.

Figure 3 is an enlarged horizontal sectional view of the device and ladder.

Figure 4 is an enlarged fragmentary vertical sectional view of the device and ladder.

Figure 5 is an enlarged perspective view of one of the double hook members and the rung bracket.

Figure 6 is an enlarged perspective view of another embodiment of a double hook member.

Referring to the drawings, in which the preferred embodiments of my invention are illustrated, 1 designates a standard ladder and 2 are the rungs thereof.

The ladder step device comprises two double hook members 3. Each double hook member is formed from a single piece of metal and is provided with an upper hook portion 4 and a lower hook portion 5; portions 3 and 4 being integral with a horizontal tread portion 6. Formed on the upper end of hook portion 4 is a springy hook 7. On the lower end of hook portion 5 is a U-shaped hook 9.

A rung bracket 10 is formed from a single piece of material and comprises an inverted U-shaped portion 11 which is provided with flanges 12. Flanges 12 normally engage the under face of horizontal tread portion 6. On the horizontal tread portion 6 of the two double hook members

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3 is a tread member 13. Suitable nails 14 are passed through the flanges 12, tread portion 6, and enter the tread member 13 (Figure 4) whereby these parts are securely fastened together. The rung bracket 10 may be welded or otherwise fastened to the tread portion 6, if the operator desires.

Apertures 15 are formed in the tread member 13, near the front edge thereof and in these apertures are rings or links 16 which constitute part of chains 17. Each chain 17 has its upper ring or link 18 normally over the springy hook 7 (Figure 4) whereby the chain is securely held in position against accidental displacement. When the operator wishes to detach the chain from the springy hook 7 all that is necessary is to push inwardly on the outer end of said hook as shown by dotted lines 19, Figure 4, whereupon the chain is released from its fastened position. These chains perform a dual function, to wit: they strengthen the entire device by partly supporting the tread member 13, and they also act to lock the upper springy hooks 7 on the ladder rung, whereby the device cannot be accidentally displaced off the ladder.

The inverted U-shaped portions 11 constitute saddle portions that fit snugly upon one of the rungs 2, Figure 4.

The importance of the double hook structure of each member 3 is that both the upper and lower ends of the device are stable, and secure when the device is in position upon the ladder, Figures 1 and 2.

The chains 17 constitute a lock for the device because when said chains are in their normal position the device cannot be accidentally moved upwardly whereby the device cannot be removed from its mounted position on the ladder until the chains are released from the springy, outwardly-curved hooks 7.

In Figure 6 there is shown another embodiment wherein the horizontal tread portion 6^a includes the structure of the rung bracket 10. That is to say, the horizontal tread portion 6^a is provided with an integral inverted U-shaped portion 11^a, while the flanges 12 of rung bracket 10 are an integral part of the tread portion 6^a. This structure (Figure 6) eliminates the employment of a separate rung bracket in constructing the complete device.

Therefore, in both embodiments, each double hook member 3 is provided with a horizontal tread portion having inverted U-shaped rung-engaging means.

While I have described the preferred embodi-

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ments of my invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In a device of the class described, the combination of a pair of hook members, each hook member comprising an upper hook portion and a lower hook portion, a tread portion connecting the inner ends of said upper and lower hook portions, a tread member on said tread portions, a spring hook on the upper end of each upper hook portion, and a chain fastened to said tread member and having a portion detachably mounted on said springy hook.

2. In a device of the class described, the combination of a pair of hook members, each hook member comprising an upper hook portion and a lower hook portion, a tread portion connecting the inner ends of said upper and lower hook portions, a tread member on said tread portions, said tread member provided with outer corners, rings in said tread member near said outer corners, chains having their inner ends mounted on said rings, and said chains having their outer ends left free, a spring hook on the upper ends of each upper hook portion, and said outer free ends of said chains detachably mounted on said spring hooks.

3. In a device of the class described, the combination of a hook member, said hook member

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comprising an upper hook portion and a lower hook portion, a tread portion connecting the inner ends of said upper and lower hook portions, a tread member on said tread portion, a spring hook on the upper end of said upper hook portion, and a flexible member fastened at one end to said tread member and detachably mounted at its other end upon said spring hook.

4. In a device of the class described, the combination of a hook member, said hook member comprising an upper hook portion and a lower hook portion, a horizontal tread portion integral with the inner ends of said upper and lower hook portions, tread means on said tread portion, a springy hook having an outwardly extending chain-receiving portion, said springy hook on the upper end of said upper hook portion, and a chain fastened to said tread means and normally, detachably mounted on said outwardly extending chain-receiving portion of said springy hook.

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The following references are of record in the file of this patent:

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