Nov. 9, 1926. 1,606,445

W. R. PIRSCH

FOLDING LADDER

Filed June 1, 1925

Fig. 1.

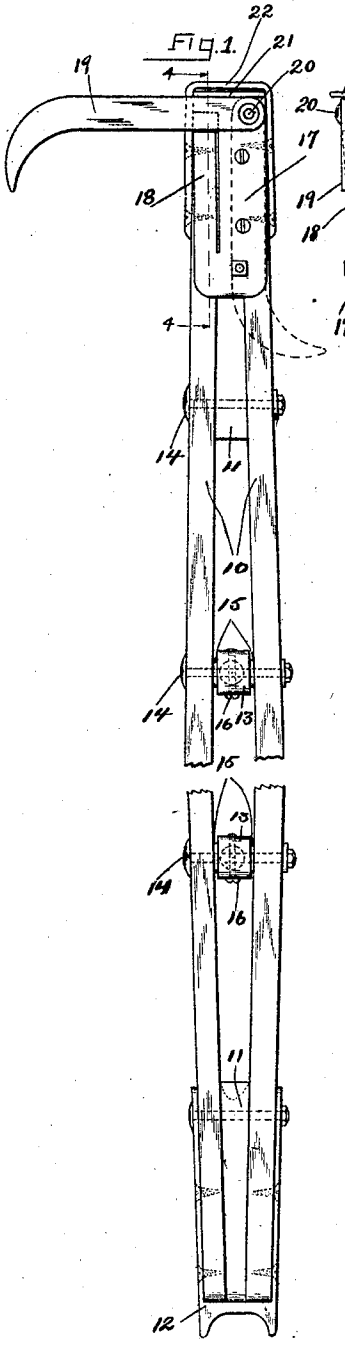


Fig. 2

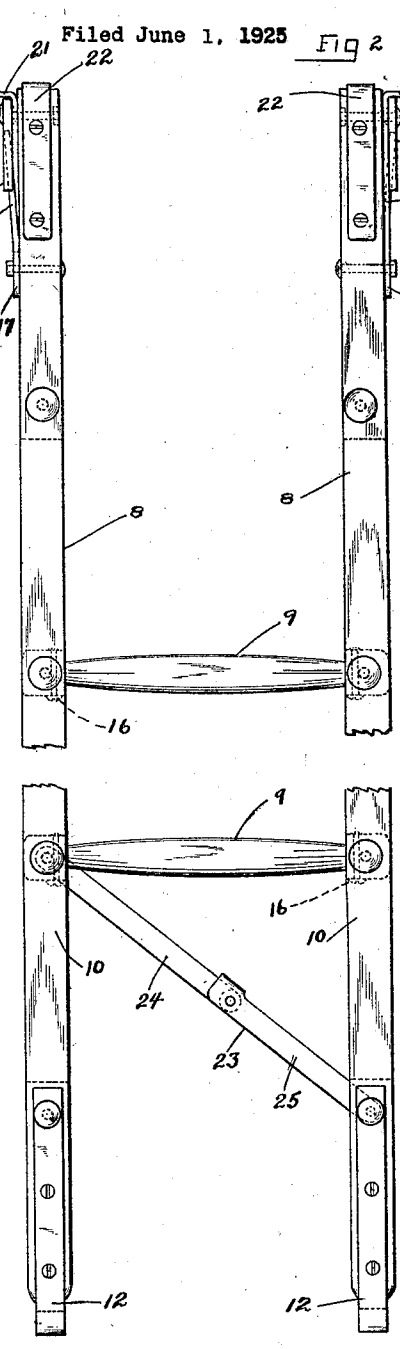


Fig. 3.

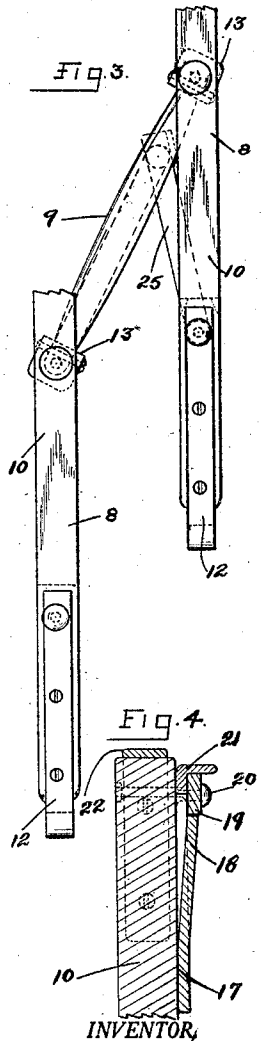
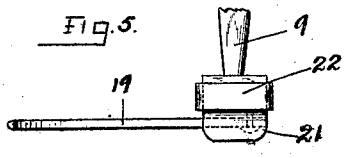


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

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FOLDING LADDER.

Application filed June 1, 1925. Serial No. 34,101.

This invention relates to improvements in ladders, and more particularly to a folding ladder.

It is one of the objects of the present invention to provide a ladder, particularly adapted for use by fire departments, which can be folded sidewise to occupy a minimum amount of space.

A further object of the invention is to provide a folding ladder which can be folded or unfolded very quickly and easily.

A further object of the invention is to provide a folding ladder of the class described which is light and very easy to handle and is also very strong and steady.

A further object of the invention is to provide a folding ladder which may be securely locked in unfolded position.

A further object of the invention is to provide a ladder having supporting hooks at its upper end portion, the hooks being adjustable to an operative or inoperative position, and lockable in the operative position.

A further object of the invention is to provide a folding ladder of the class described which is of very simple construction, is efficient in operation, is strong and durable, and is well adapted for the purposes described.

With the above and other objects in view, the invention consists of the improved folding ladder, and its parts and combinations as set forth in the claim, and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a side view of the improved folding ladder;

Fig. 2 is a front view thereof;

Fig. 3 is a fragmentary view showing the ladder partially sidewise folded;

Fig. 4 is an enlarged detail sectional view taken on line 4—4 of Fig. 1; and

Fig. 5 is a fragmentary top view of the ladder with a hook in open position.

Referring now more particularly to the drawing it will be seen that broadly, the ladder comprises a pair of stiles 8, and a plurality of rungs 9 pivotally connected to the stiles.

The stiles 8 are each formed of a pair of longitudinal rails 10 joined together at their end portions by filler blocks 11 interposed therebetween. The lower end portions of the stiles have bolted to opposite sides of the rails 10, bifurcated members 12 formed with pronged or pointed ends to prevent the ladder from slipping when positioned against a support.

The rungs 9 are formed with block or squared end portions 13 which are pivotally mounted on bolts 14 which extend through the stiles, washers 15 being carried on the bolts on opposite sides of the end portions 13. Screws 16 extend transversely through the end portions 13 adjacent the bolts 14 to prevent said end portions from splitting.

The upper end portions of the stiles have bolted to the outer faces thereof plates 17 formed with split side portions 18 bent slightly outwardly and springy. Hook members 19 are pivotally secured, as at 20, over the plates. When said hook members are pivoted to an operative position at right angles to the stiles, the upper edges of the split portions 18 of the plates 17 will bear against the lower edges of the hook members, as shown, to lock the same, the upper edges of the hook members engaging the flanged portions 21 of the plates 17. To pivot the hook members inwardly to inoperative position, the portions 18 of the plates 17 may be pressed inwardly and the hook members moved thereover to the dotted line position shown in Fig. 1. The upper ends of the stiles are finished and protected by U-shaped bands 22 secured thereto.

From the foregoing description, it will be seen that the pivotal arrangement of the rungs permits the ladder to be folded with one stile adjacent the other, as indicated by Fig. 3 and the attaching hook members 19 may be readily turned inwardly to an out of the way position. By this construction, the ladder will occupy a minimum amount of space and a large number may be readily carried by a vehicle.

It should be noted that when the ladder is unfolded, it is locked against undesired folding by a diagonally extending member 23 pivotally connected to the stiles, the member 23 being formed of a pair of links 24 and 25 pivotally connected together at their adjacent ends. The links 24 and 25 fold together, as shown in Fig. 3, when the ladder is folded.

From the foregoing description it will be

seen that the improved folding ladder is of very simple and novel construction, and is well adapted for the purposes set forth.

What I claim as my invention is:—

In a folding ladder, the combination with a pair of stiles and rungs pivotally connected at their end portions to the stiles, of plates secured to the end portions of the stiles, and hook members pivotally secured to the stiles adjacent the outer faces of the plates, said plates having upper transverse flanged portions for contact with the hook members in one position, the plates being formed with yielding longitudinally extending split portions movable outwardly with respect to the plates and adapted for releasable engagement with the under edges of the hook members when the same are extended.

In testimony whereof, I affix my signature.

WILLIAM R. PIRSCH.