(No Model.)

E. A. AUSTIN.

ROOFING LADDER.

No. 524,661. Patented Aug. 14, 1894.

Fig. 1.

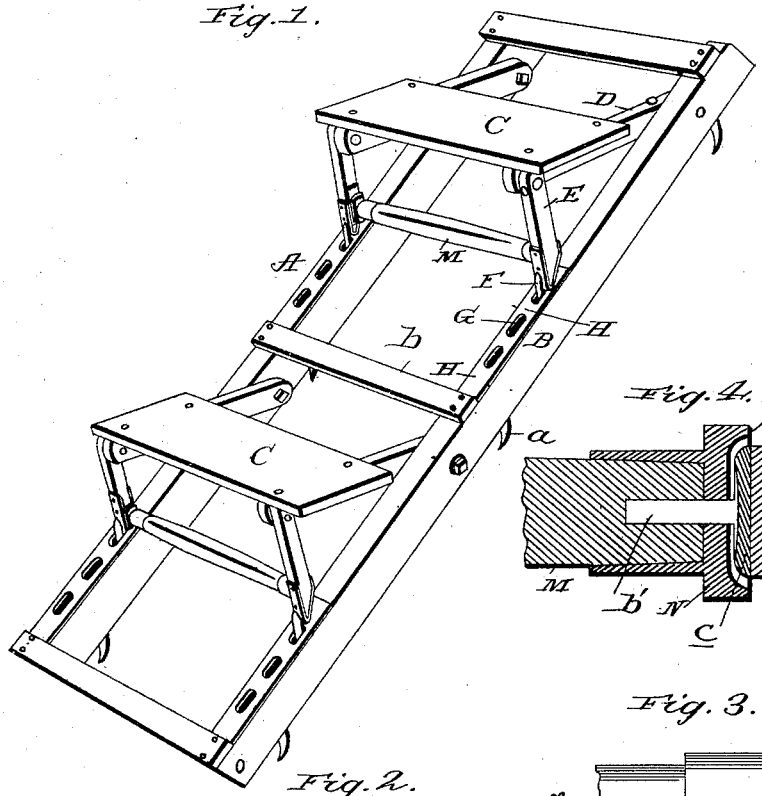


Fig. 4.

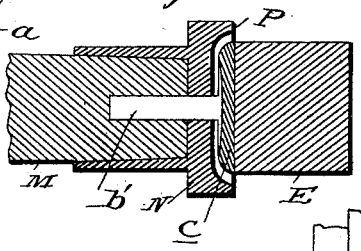


Fig. 3.

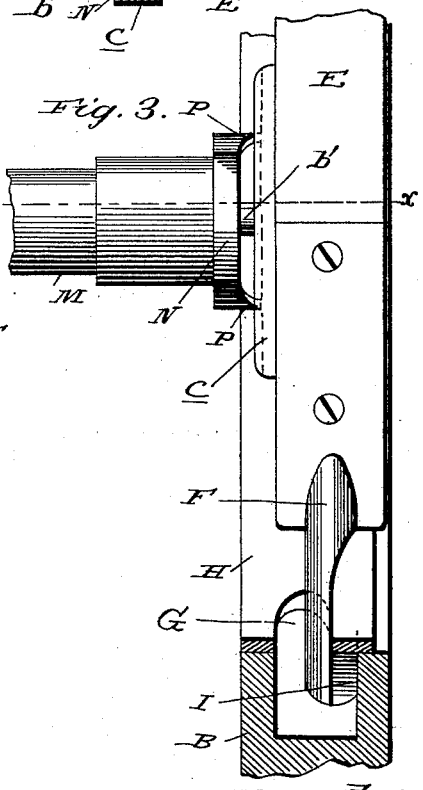


Fig. 2.

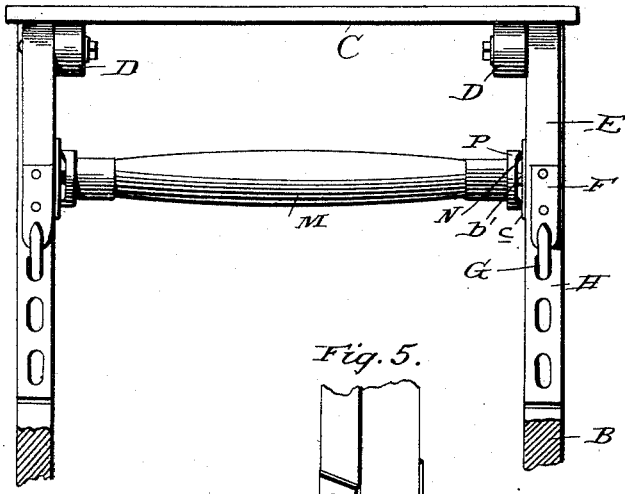
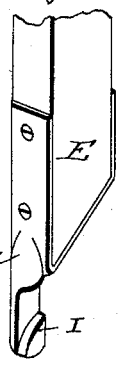


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDGAR A. AUSTIN, OF HANNIBAL, MISSOURI.

ROOFING-LADDER.

SPECIFICATION forming part of Letters Patent No. 524,661, dated August 14, 1894.

Application filed January 2, 1894. Serial No. 495,286. (No model.)

To all whom it may concern:

Be it known that I, EDGAR A. AUSTIN, a citizen of the United States, residing at Hannibal, in the county of Marion and State of Missouri, have invented certain new and useful Improvements in Roofing-Ladders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in pitched roof ladders, or that class of ladders designed for use upon inclined planes, and it is designed more particularly as an improvement upon the ladder disclosed in my Letters Patent dated September 19, 1893, and numbered 505,343, which ladder embodies a main frame having side bars provided with apertures at intervals in their length and steps or platforms arranged upon arms pivotally connected to the side bars and supported by legs which are provided with points adapted to take into the apertures of the side bars so as to support the steps or platforms in a horizontal position irrespective of the angle of inclination of the main frame.

An objection to the construction above specified is the fact that a person in taking hold of one of the steps or platforms to move the ladder, is liable to casually disengage the points of the legs from the apertures of the side bars, which necessitates a re-adjustment of the step or platform. To overcome this objection and provide means whereby the points of the legs may be securely locked in the apertures of the side bars, is the general object of my present invention.

Other objects and advantages will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1, is a perspective view of my improved ladder with the parts in their operative positions. Fig. 2, is an enlarged detail front elevation with the locking bar or shaft in a position to lock the points of the legs in the apertures of the side bars. Fig. 3, is a similar view, partly in section, illustrating a portion of one of the side bars, a leg, and one end of the locking bar in a position to lock the point of the leg in the aperture of the side bar. Fig. 4, is a detail transverse section taken in the plane indicated by the line x, x, of Fig. 3, with the cam shoe of the locking bar in a position to permit of the point being disengaged from the apertures, and Fig. 5, is a detail perspective view illustrating a portion of one of the legs and the point carried thereby.

Referring by letter to said drawings:—A, indicates the main frame of the ladder which comprises side bars B, having spurs or barbs a, and a suitable means, as cross bars b, for connecting the side bars, and C, indicates the steps or platforms of which any suitable number may be employed. These steps or platforms C, are mounted upon arms D, pivotally connected to the side bars B, at intervals in the length thereof, and they are supported in their operative positions by the pivoted legs E, which are provided at their lower ends with points F, designed and adapted to engage the apertures G, in the bars B. The said apertures G, are preferably reinforced with metallic plates H, and the points F, are preferably formed of iron or steel so as to increase the strength and durability of the ladder, and are provided upon their outer sides with lugs I, the purpose of which will be presently disclosed.

By reason of the construction thus far described, it will be perceived that after the ladder has been placed upon a pitched roof or other inclined plane, the steps or platforms may be readily adjusted to and fixed in a horizontal position so that a workman may easily climb to the apex of a roof or may work in comfort at any point between the apex and the eaves. I have found from experience that when a workman grasps one of the steps or platforms C, to move the ladder, there is a liability of the points F, being disengaged from the apertures G, which necessitates a re-adjustment of the step or platform. To remedy this objection as well as to fix the points F, against casual disengagement under any circumstances, I have provided the locking shafts or bars M, which are loosely mounted upon pins b', extending inwardly from plates c, connected to the inner sides of the legs E, as shown. These shafts or rods M, have shoes N, fixed on their ends, and the said shoes are provided with one or more cam projections P, as better shown in Fig. 4. There are prefer-

ably two cam projections P, employed at each end of the rods, and they are designed and adapted, when the rods are turned to the position shown in Figs. 1, 2, and 3, to spread and hold the legs E, apart so as to securely lock the points F, in engagement with the apertures G, or the reinforcing plates H, thereof. When, however, it is desired to disengage the points F, from the apertures G, or plates H, it is simply necessary to turn the shafts or bars M, to the position shown in Fig. 4, when the legs may be readily drawn toward each other and their points removed from the apertures. In addition to locking the points F, against casual disengagement and rendering the ladder entirely safe, the shafts or bars M, serve to afford a convenient hand grasp when the ladder is to be moved, and also serve to brace and strengthen the legs which is an important desideratum.

In using the ladder, it is placed upon the roof by the operator; and the points of the legs E, are so placed in the apertures G, as to hold the steps or platforms C, in a horizontal position. The shafts or bars M, are then turned to the position shown in Figs. 1 to 3, when the points F, will be locked in the apertures G, and the ladder will be rendered firm and rigid.

I have endeavored in the foregoing specification, to impart a full and clear understanding of my ladder by specifically describing the construction and the relative arrangement of the several parts thereof, but I do not desire to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice, as fairly fall within the scope of my invention.

Having described my invention, what I claim is—

1. In a ladder for the purpose set forth, the combination with a frame, an adjustable step or platform, and legs connected with the step or platform and adapted to engage the frame so as to support said step or platform in its adjusted position; of a rotatable shaft or bar having a cam adapted to engage one of the legs; the said shaft or bar being adapted to spread the legs so as to fix them in engagement with the frame, substantially as specified.

2. In a ladder for the purpose set forth, the combination with a frame, an adjustable step or platform, and legs connected with the step or platform and adapted to engage the frame so as to support said step or platform in its adjusted position; of a rotatable shaft or bar mounted between the legs and having cams adapted to engage said legs so as to spread them apart, substantially as and for the purpose set forth.

3. In a ladder for the purpose set forth, the combination with a frame, an adjustable step or platform and legs connected with the step or platform and having plates on their inner sides provided with inwardly extending dowels; the said legs being adapted to engage the frame so as to support the step or platform in its adjusted position; of a rotatable shaft or bar loosely mounted on the dowels and carrying shoes at its ends, provided with cams adapted to engage the plates, substantially as specified.

4. In a ladder for the purpose set forth, the combination with a frame provided with apertures, an adjustable step or platform and legs connected with the step or platform and having points provided with lugs adapted to engage the apertures of the frame; of a rotatable shaft or bar having a cam adapted to engage the legs so as to spread them apart, substantially as specified.

5. The combination with a pair of legs; of a rotatable shaft or bar arranged between and connected with said legs and having a cam adapted to engage one of the same, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR A. AUSTIN.

Witnesses:
THOS. R. CONLAN,
DENNIS FARRELL.