Feb. 13, 1951 L. F. DAKIN 2,541,343

SUPPORTING MEANS FOR LADDERS AND SCAFFOLDS

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Fig. 1.

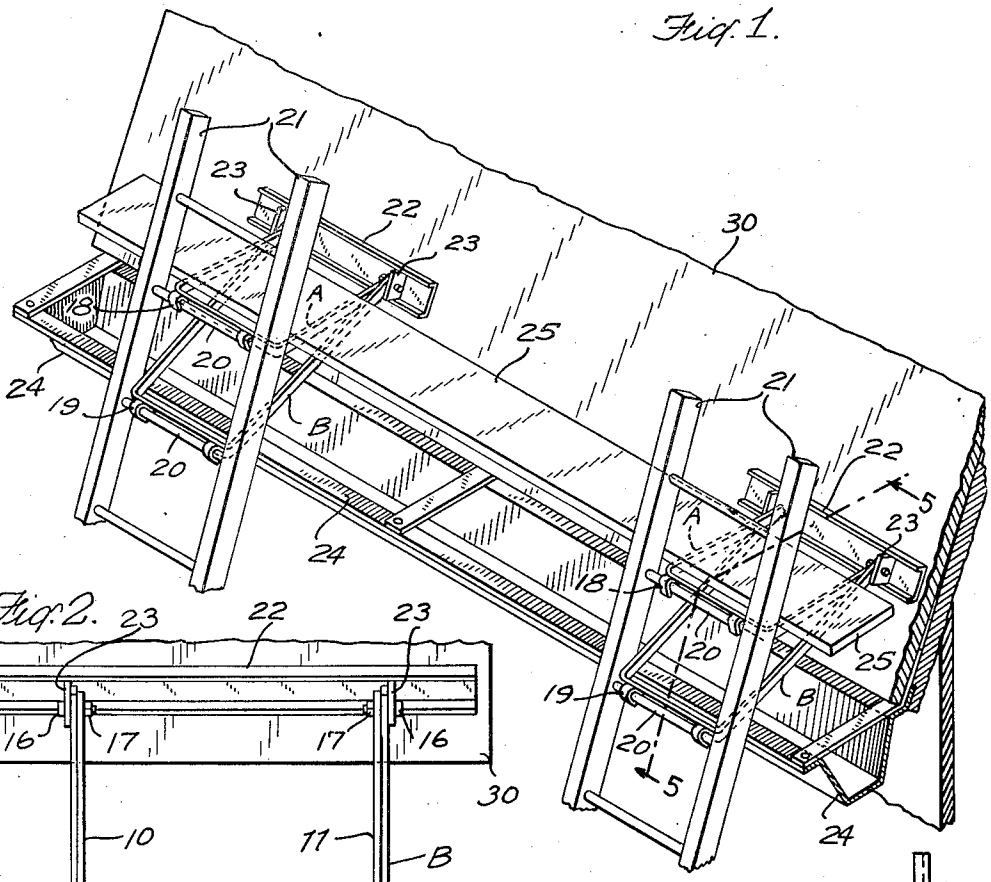


Fig. 2.

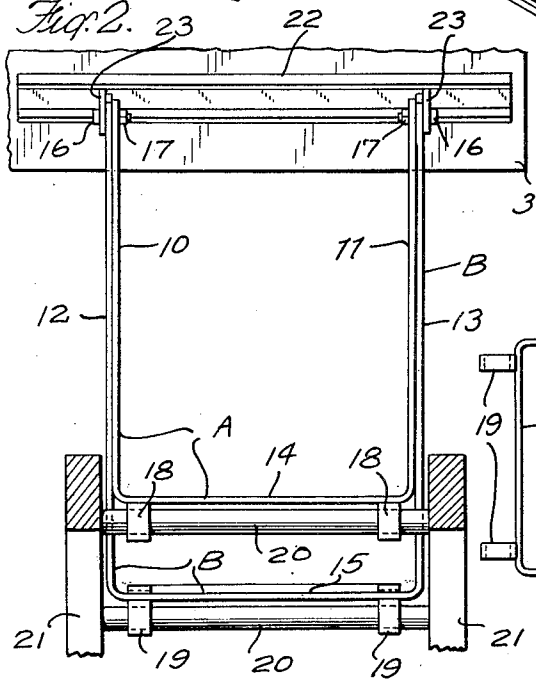


Fig. 3.

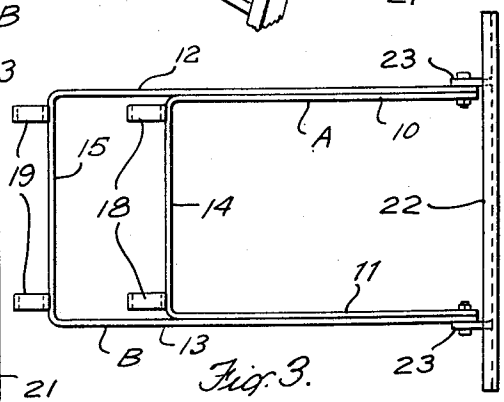
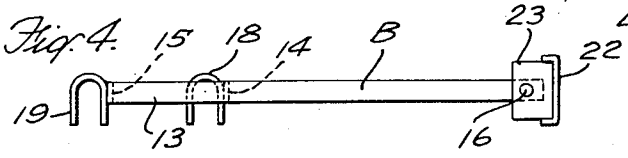


Fig. 4.



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Fig. 5.

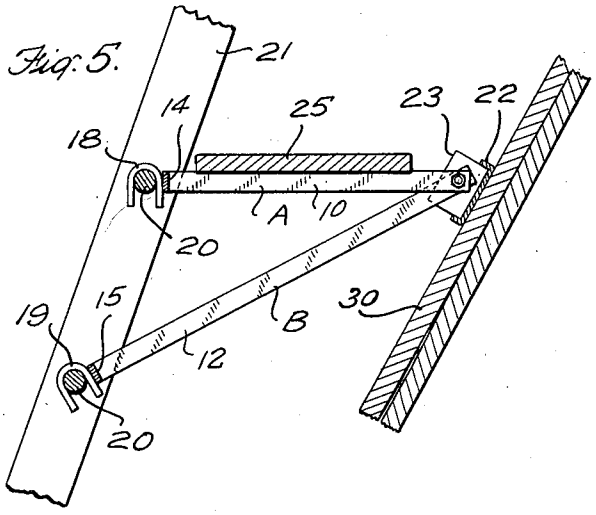


Fig. 6.

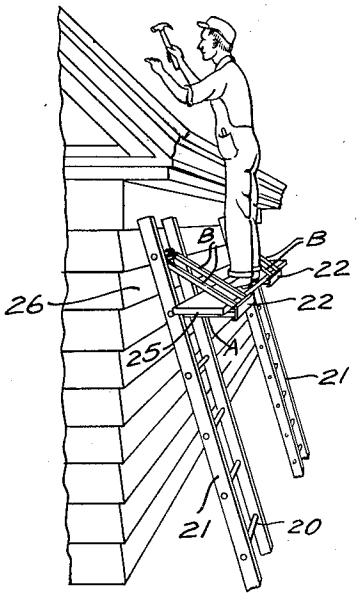


Fig. 7.

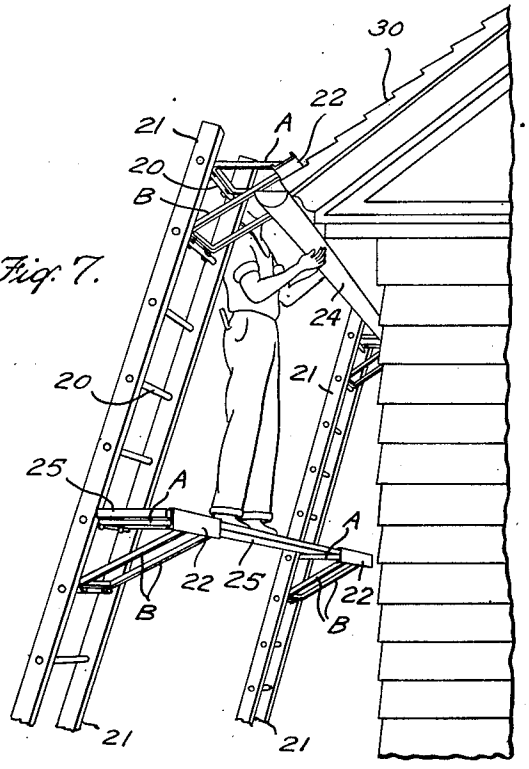
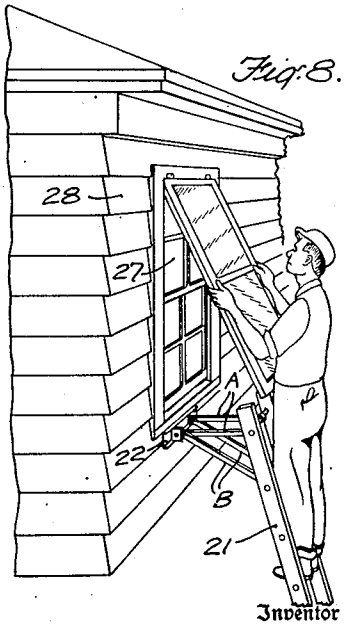


Fig. 8.



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SUPPORTING MEANS FOR LADDERS AND SCAFFOLDS

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5 Claims. (Cl. 228—60)

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This invention relates to supporting means for ladders and scaffolds.

The invention provides a novel offset bracket for ladders which will support the ladder in spaced relationship to a roof or wall of a building structure, or will provide a support for ladder planks to form a scaffold, or will perform both of these functions at the same time.

The nature of the invention will be understood from the following description when considered in connection with the accompanying drawings forming a part thereof, and in which:

Fig. 1 is a perspective view of two offset brackets embodying the invention, which support the upper ends of ladders in spaced relationship with the lower edge of a roof and also support ladder planks;

Fig. 2 is a top plan view of one of the brackets shown in Fig. 1;

Fig. 3 is a plan view of the bracket itself in folded position;

Fig. 4 is a side view of the bracket shown in Fig. 3;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 1;

Fig. 6 is a perspective view showing one use of the bracket as part of a scaffold;

Fig. 7 is another perspective view showing separate uses of the bracket as a ladder support and as a scaffold plank support, and

Fig. 8 is a further perspective view showing the manner in which the bracket is employed to support the upper end of a ladder away from the wall of a building at a window.

Like characters of reference designate the same or similar parts throughout the several views.

Referring to the drawings, particularly to Figs. 1 to 5, the bracket comprises two U-shaped arm sections A and B, the section A having shorter arms 10 and 11 than the corresponding arms 12 and 13 of section B, and a narrower base 14 than the base 15 of B. The outer ends of the adjacent arms of the two sections are pivoted together by bolts 16 having lock set nuts 17 thereon, so that the two sections move freely with respect to each other about these pivot points. Preferably the sections A and B are proportioned so that section A lies within section B when the bracket is in folded position as shown in Figs. 2, 3 and 4, with the arms of the respective sections closely adjacent and with the base members 14 and 15 spaced apart.

Base member 14 of section A has two ladder rung grips 18 welded to the outer side thereof, one adjacent each end of the base member. These grips 18 are U-shaped and are located on the base member so that the latter will be parallel with the rung when the bracket is mounted on the ladder. Section B is provided with two similar rung grips 19. As best shown in Fig. 5, the

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grips 18 and 19 fit snugly over the rungs 20 of the ladder 21 and the grips are positioned on the sections so that when the rungs are in contact with the bottoms of the grips, the centers of the rungs will be in alignment with the center lines of the arms of the sections A and B.

A swivel bearing plate 22 is secured to the outer ends of the sections A and B by the bolts 16 which pass through apertures in lugs 23 on the inside of the plate. As shown, plate 22 is U-shaped in cross-section, it extends in a direction parallel to the base members 14 and 15 and is somewhat longer than these base members. It will be understood that the nuts 17 on bolts 16 are so set that the sections A and B are free to move with respect to each other and the swivel plate 22 will pivot freely about the bolts.

In use for any purpose for which it is intended, the bracket is mounted on a ladder by placing the rung grips 18 and 19 respectively on the desired rungs. For the use illustrated in Figs. 1 and 5, the grips 18 of section A are placed on the next to the top rung 20 of the ladder, and the grips 19 of section B are placed on the third from the top rung. The upper end of the ladder is then moved toward the roof 30 of the house until the face of the bearing plate 22 is in contact with the surface of the roof. In this manner, the upper end of the ladder will be firmly supported against the roof by virtue of the extensive area of contact of the swivel plate with the roof surface, and in spaced relationship with the lower edge of the roof and the gutter 24 so that the gutter will not be damaged.

The bracket is so designed and the several parts thereof are so proportioned that when the bracket is mounted on a ladder and the swivel bearing plate 22 is in contact with the roof, no matter what the slope of the roof may be, or in contact with the wall of a structure, if the arms 10 and 11 of section A are disposed in a horizontal position, the ladder will be placed at the correct pitch for safe and effective work. In Figs. 1 and 5, a ladder plank 25 is placed on the upper horizontal arms of section A to provide a scaffold.

As shown in Fig. 6, the bracket is mounted on the upper end of the ladder with the longer section B fixed to the top rung and with the shorter section A secured to the next lower rung. The upper end of the ladder rests against the wall 26 of the house and the bracket extends away from the house. A ladder plank 25 rests on the horizontal arms of section A to provide a scaffold for working on the lower part of the roof. In this instance, as well as in Figs. 1 and 5, the ladder will be placed at the correct pitch when the arms of section A are horizontal.

In Fig. 7, the ladder is supported against the roof 30 by a bracket at the upper end of the ladder which is attached to the ladder as illustrated

in Figs. 1 and 5. A scaffold is provided by a second bracket on each ladder which is attached to rungs at the appropriate height for the work to be performed. As illustrated, the lower bracket is mounted on the ladder in the same manner as the upper bracket, and a ladder plank 25 is supported at its ends on the lower brackets. The swivel bearing plates 22 will prevent the plank from moving off the brackets.

Fig. 8 illustrates how the bracket is utilized to support a ladder so that work may be done from the ladder on or around a window 27 in a wall 28 of a structure. The bracket is attached to the upper end of the ladder in the manner shown in Figs. 1 and 5, and the swivel bearing plate 22 rests against the wall just below the window.

Brackets embodying the invention are of simple construction and they are readily made and applied to ladders, as will be apparent from the foregoing disclosure. They are capable of supporting ladders against buildings for any purpose, either against a wall or from the roof, and irrespective of the slope or pitch of the roof because of the swivel bearing plate which will move about its pivots until the bearing face of the plate is in contact with the roof. Thus the bracket will support a ladder from a roof so that the ladder does not come in contact with the eaves or gutters of the building, and it will perform this function with flat or horizontal roofs as well as with sloping roofs. There are no complications or mechanical adjustments necessary, simply the placing of the bracket or brackets on the ladder for the purpose intended. The correct pitch of the ladder will automatically be determined merely by placing the ladder with the arms of the shorter section horizontal. For scaffolding, the brackets may be placed either inside or outside of the ladders as previously mentioned. And when the brackets are utilized with the horizontal arms above the sloping arms as shown in Figs. 1, 5 and 7, the ladder planks may be placed directly in position without the necessity of sliding the planks endwise back and forth through supporting openings.

It will be understood that a preferred form of the invention has been selected for illustration and description and that changes may be made in the several parts of the bracket and in their interrelation without departing from the principles of the invention. Accordingly, the invention is not to be limited excepting by the scope of the appended claims.

What is claimed is:

1. A ladder supporting bracket comprising two U-shaped members, each member having straight legs and a base, the legs and base of one member being shorter than the legs and base of the other member to permit said one member to lie within the other member, means for pivotally connecting together the outer end portions of corresponding legs of the members, a ladder rung grip on the base of each member adjacent each leg of the member, and a bearing plate extending between the outer ends of the legs of each member and pivotally connected to said members by the means for pivotally connecting said members together.

2. A ladder supporting bracket comprising two one-piece U-shaped members, each member having straight legs and a base, the legs and base of one member being shorter than the legs and base of the other member to permit said one member to lie within the other member, means for pivotally connecting together the outer end portions of corresponding legs of the member, a ladder rung grip on the base of each member adjacent each leg of the member, and a bearing plate extending between the outer ends of the legs of each member and pivotally connected to said members by the means for pivotally connecting said members together.

3. A ladder supporting bracket comprising two U-shaped members, each member having straight legs and a base, the legs and base of one member being shorter than the legs and base of the other member to permit said one member to lie within the other member, means pivotally connecting together the outer end portions of corresponding legs of the members, a ladder rung grip on the base of each member adjacent each leg of the member, and a bearing plate pivotally connected to the outer end portions of the legs of said members, the bearing plate having a length greater than the distance between the legs of said members.

4. A ladder supporting bracket comprising two one-piece U-shaped members, each member having straight legs and a base, the legs and base of one member being shorter than the legs and base of the other member to permit said one member to lie within the other member, means for pivotally connecting together the outer end portions of corresponding legs of the members, a ladder run grip on the base of each member adjacent each leg of the member, and a bearing plate pivotally connected to the outer end portions of the legs of said members by the means for pivotally connecting said members together, the bearing plate having a length greater than the distance between the legs of said members.

5. A ladder supporting bracket comprising two U-shaped members, each member having straight legs and a base, the legs and base of one member being shorter than the legs and base of the other member to permit said one member to lie within the other member, means for pivotally connecting together the outer end portions of corresponding legs of the members, a bearing plate pivotally connected to the outer end portions of the legs of said members by the means for pivotally connecting said members together, the bearing plate having a length greater than the distance between the legs of said members, and two, spaced, ladder engaging devices on each member at the ends thereof opposite the ends connected to the bearing plate.

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