

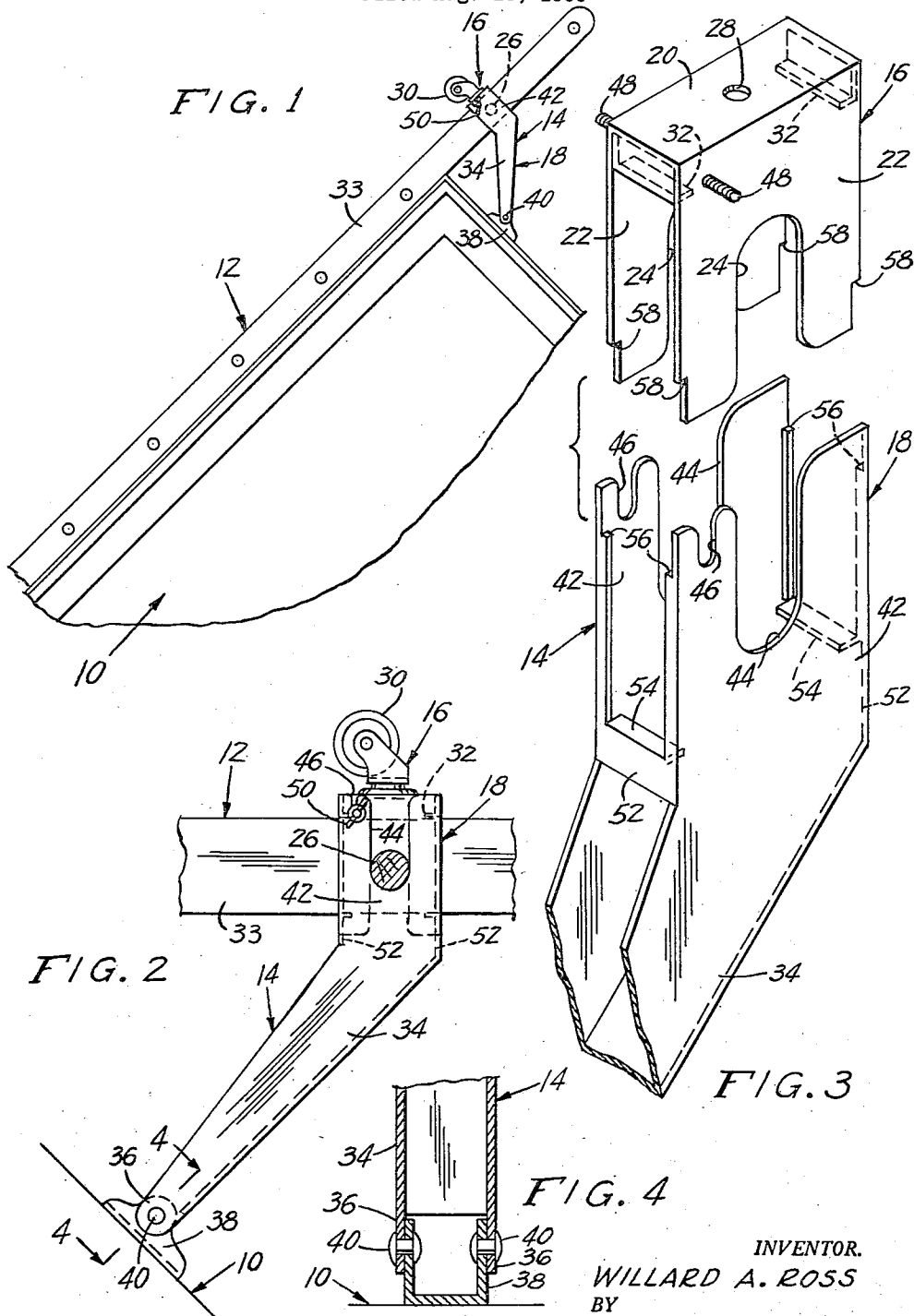
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LADDER HOOK

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LADDER HOOK

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2 Claims. (Cl. 228—60)

Summarized briefly, the present invention is a ladder hook formed as a pair of like devices connectable to the stringers of a ladder, and extending from said stringers in such a manner as to provide depending legs supported upon a roof adjacent the ridge peak with the ladder lying flat against the roof at the other side of the ridge peak. Each of the paired hooks comprises an obtuse-angular leg provided at one end with cooperating, separable clamp sections so shaped as to embrace between them, and to become interlocked with, the associated stringer, as well as with a selected rung of the ladder. Carried by one of the cooperating clamping sections of the hook is a caster, usable for the purpose of rolling the ladder up the roof when the same is being placed in proper position, and at the end of the hook opposite from that carrying the caster, a pivoted foot is provided, that adjusts itself automatically to the roof pitch.

Among important objects of the invention are the following:

To facilitate the placement of the ladder upon the roof, as well as the removal of the ladder;

To provide a hook which will automatically adjust itself to various roof pitches;

To provide a hook which will be of particularly high strength, and will be rugged, in relation to its size, weight, and materials used in the manufacture thereof;

To insure the retention of the ladder in a proper position upon the roof during use, thus to incorporate a desirable safety factor in the device;

To provide a device which will be swiftly and easily fitted to or removed from the associated ladder, and which will fit any of various makes of wooden, extension ladders; and

To provide a device which will be particularly shaped for facilitating the use of adapters to increase the number of different types of ladders to which it can be attached.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing in which like reference characters designate like parts throughout the several views and wherein:

Figure 1 shows a ladder hook in side elevation, in association with a fragmentarily shown ladder and roof;

Figure 2 is an enlarged side elevational view of the device in which the ladder has been shown fragmentarily and in section;

Figure 3 is a still further enlarged, exploded perspective view, a portion being broken away, of the device per se; and

Figure 4 is an enlarged detail section on line 4—4 of Figure 2.

Designated generally at 10 is a house on the pitched roof of which is supported a conventional wooden extension ladder 12 equipped with a pair of ladder hooks 14 only one of which is shown. Both hooks of the pair would be identical, so the description of one will suffice for both. The illustrated construction is one that will permit fully identical devices to be used in pairs, but

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"left" and "right" hooks can be manufactured if desired.

The ladder hook comprises two main components, a clamp section generally designated at 16, and a second clamp section generally designated 18 and formed integrally with a depending leg.

Section 16 comprises a length of sheet metal bent to include a rectangular, flat bight 20 integral along its opposite side edges with depending side walls 22 lying in parallel planes perpendicular to the plane of the bight so that the body of clamp section 16 is substantially of inverted U-shape. Opening upon the free, lower edges of the side walls 22 are slots 24 having rounded inner ends in which is adapted to be snugly fitted a selected rung 26 of ladder 12.

A center opening 28 of bight 20 receives the stem of a removable caster 30 projecting upwardly from the bight in the operative position of the hook shown in Figure 1.

Integral with and depending from the opposite ends of bight 20 are confronting transverse flanges 32 of L-shaped cross section providing spacers engageable against the top surface of a stringer 33 of ladder 12.

Clamp section 18 includes an elongated, hollow, channel shaped leg 34 tapering toward its outer end and formed at said outer end thereof (Figure 4) with extensions 36 of the side walls thereof, having transversely aligned openings. An elongated, channeled foot 38 has openings registering with the openings of extensions 36, to receive pivot pins or rivets 40, the foot pivoting about an axis normal to the longitudinal center line of leg 34, to adjust itself to any of various roof pitches.

Integral with leg 34 at the larger end thereof are flat, parallel clamping walls 42 spaced apart a distance slightly greater than the distance between the side walls 22 of section 16, and having upwardly opening slots 44 registrable with the slots 24 to cooperate therewith in receiving rung 26. At one side of slot 44, clamping walls 42 are formed with upwardly opening small slots 46, adapted to receive the end portions of an unheaded, threaded stud 48. Clamping section 16 is adapted to be fitted between walls 42, after which, with the ends of stud 48 engaged in slot 46, wing nuts 50 are turned home against the walls 42 upon the stud 48.

Integral with and extending transversely between walls 42 at the bases of the same are connecting walls 52 of section 18, formed with inwardly bent, transversely extending lips or abutments 54. At opposite ends of lips 54, the side edges of walls 42 are formed with narrow, elongated abutment flanges 56 adapted to engage against the ends of the flanges 32 of section 16.

In the opposite side edges of the walls 22 there are formed, adjacent the free ends of the walls 22, right angular, shallow recesses 58 defining shoulders adapted to engage against the lips 54, the portions of the walls 22 disposed below said shoulders extending downwardly in the space between the respective walls 22 of section 18.

Thus, when the clamping sections are interfitted with the recessed lower ends of walls 22 interlocked with the lipped walls 52 of section 18, and with the wing nuts turned tightly against the outer surfaces of walls 42, the clamping sections will be firmly interengaged with one another, about the stringer 33 and rung 26. The stringer, of course, extends through the clamping sections in the space between the walls 22, with the lips 54 and flanges 32 abutting against the top and bottom faces of the stringer, and the ladder rung confined within the oppositely extending, rounded inner end portions of the slots 24, 44.

The construction provides a highly rigid, secure connection of the hook to the ladder, while at the same time permitting easy attachment of the device to the ladder, or the equally easy removal of the same from the ladder.

In use, with the devices attached to the ladder in the manner illustrated and described, the ladder is pushed

up the roof with leg members 34 projecting upwardly and casters 30 in rolling engagement with the roof surface. When the casters move past the ridge peak, the ladder is flipped over, disposing the legs in depending, operative positions, and the feet 38 will adjust themselves to the pitch of the roof at the other side of the ridge peak. The ladder will now be properly held, and can be used by the workman without danger of slippage of the ladder from its position, or of lateral deviation of the ladder.

By the use of adapters, or by adjustment of the sides of the stringer-receiving space defined between the transverse and side walls of the respective clamping sections, the device can be made to fit ladders of any size. In the illustrated example, the ladder hook will fit the average, most widely used type of wooden extension ladder.

Further, the hook is so designed as not to require drilling, nailing, or any other modification or redesign of the ladder on which it is used, being merely clamped to the ladder and depending wholly upon the ladder rung for its rigidity as regards slippage longitudinally of the ladder and upon the stringer for security against lateral deviation.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles it is being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed:

1. A ladder hook for attachment to a ladder stringer and rung as one of a pair of like devices connectable to the respective stringers of a ladder, comprising a first clamp section of U-shape including a bight part and side walls extending from said bight part, said side walls having transversely aligned slots opening upon the ends of the side walls remote from the bight part, said slots being adapted to receive a rung of a ladder and said side walls being adapted to embrace between them a stringer of said ladder; a second clamp section having side walls spaced apart a distance sufficient for extension of the walls of the first section into the space between the walls of the second section, said second clamp section including slots aligning with those of the first clamp section but extended in an opposite direction, for engagement of the ladder rung between the inner ends of the slots in the interfitted positions of the clamp section, the second clamp section including transversely extending

walls adapted to engage against one face of the stringer with the bight part overlying the other face of the stringer; means for separably connecting the clamping sections; and a leg formed as an extension of the second section disposed angularly to the length of the stringer in the stringer-embracing positions of the clamping sections, said leg being adapted to engage against a roof adjacent the ridge peak thereof, with the ladder extending in contact with the roof at the other side of the ridge peak.

2. A ladder hook for attachment to a ladder stringer and rung as one of a pair of like devices connectable to the respective stringers of a ladder, comprising: a first clamp section adapted to be fitted about a stringer and rung of a ladder at the area of intersection of the stringer and rung, said first clamp section including side walls and a bight from which the side walls depend, the side walls being adapted to embrace between them said stringer and being formed with slots adapted to receive said rung; a second clamp section having side walls spaced apart a lateral distance slightly greater than the distance between the side walls of the first section, for disposition of the side walls of the first section in the space between the side walls of the second section, the second clamp section including transverse connecting walls at the bases of the side walls thereof and the side walls of the first section being adapted to interfit with said connecting walls to interlock the respective sections about the stringer and rung, the side walls of the second section having slots aligning with those of the first named side walls to cooperate with the slots of the first named side walls in gripping said rungs between the clamp sections; a fastening element extending through the side walls of the respective clamp sections for connecting the same in their interfitted relationship; and a leg extending from the side walls of the second section, said leg being of channeled formation with the side walls of the second section being formed as integral extensions of the side walls of the leg and being extended at an obtuse angle to the lengths of the side walls of the leg.

References Cited in the file of this patent

UNITED STATES PATENTS

783,259	Friend	Feb. 21, 1905
893,083	Locke	July 14, 1908
1,285,918	Brown	Nov. 26, 1918
1,393,048	Stiles	Oct. 11, 1921
1,590,064	Seaman	June 22, 1926
2,319,893	Tuttle	May 25, 1943
2,680,554	Dakin	June 8, 1954
2,718,378	Lutton	Sept. 20, 1955