

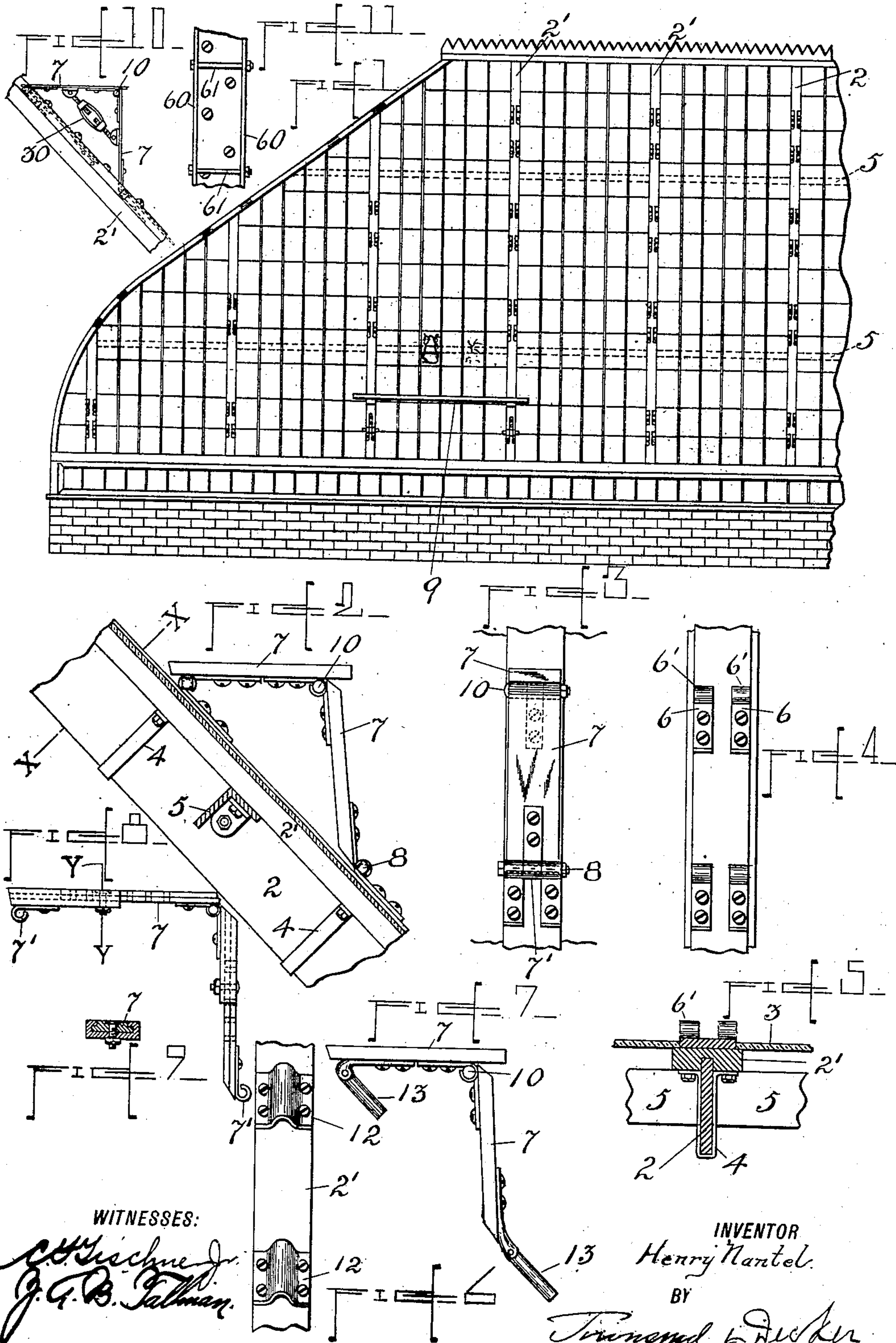
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H. NANTÉL.

PORTABLE OR TEMPORARY SCAFFOLDING FOR ROOFS.

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WITNESSES:

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PORTABLE OR TEMPORARY SCAFFOLDING FOR ROOFS.

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Specification of Letters Patent.

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Application filed June 1, 1904. Serial No. 210,644.

To all whom it may concern:

Be it known that I, HENRY NANTEL, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, with post-
5 office address as above, have invented certain new and useful Improvements in Portable or Temporary Scaffolding for Roofs, of which the following is a specification.

My invention relates to scaffolding for roofs and is
10 designed particularly for use on roofs of green houses or other structures in which the roof comprises a glazing or tiling supported in position between the rafters.

The object of my invention is to provide means whereby the temporary or portable scaffold may be
15 erected upon the roof without damage to the same, and to thereby avoid the objections incident to the setting up and taking down of scaffolding upon such rafters by the old method of nailing the supports for the scaffolding to the rafters, as has been the practice heretofore.

20 A further object of my invention is to so construct the devices that they shall not change essentially the appearance of the roof.

Roofs of green houses as ordinarily constructed comprise an iron rafter and a wooden glazing strip secured
25 thereto and affording a means for supporting the glass. It has heretofore been the practice when it was necessary to use a scaffolding upon such a roof, to nail the wooden brackets supporting the scaffold boards, directly to the wooden glazing strips and after the work was done to rip off said brackets owing to their untidy appearance. The frequent attachment and detachment of the brackets in this manner will, in the course of time, destroy or injure the glazing strips so as to render renewal of the same necessary. In the case of shingle roofs, it has been before proposed to use a bracket,
30 the foot of which comprises a bed plate adapted to be forced up under the course of shingle and combined with a super-posed claw brought down on top of the shingle and screwed firmly down by a bolt. In this
40 construction, the foot of the bracket and the bracket itself are attachable and removable together from the roof, but the frequent removal and attachment of the bracket foot to the shingle in the manner proposed, results in serious injury to the same.

45 My invention consists substantially in the combination of scaffold supports or brackets, and feet or pedestals therefor permanently secured to the roof, preferably to the rafters, said feet or pedestals being distributed in convenient positions over the roof and constituting fixtures of such character that the scaffold supports or brackets may be readily attached to or detached therefrom.

My invention consists also in the improved construction of scaffold bracket whereby the same is
55 adapted for use with the fixtures at different points on a roof of varying pitch, or upon roofs of different

itches, and whereby also they may also, if desired, be folded down upon the roof so as to not be plainly visible, and be left for renewed use when occasion requires.

My invention consists further in the novel combination of devices, and the improved details of construction more particularly hereinafter described and then specified in the claims.

In the accompanying drawings, Figure 1 shows a side elevation of a green house showing the manner in which
65 it is equipped with the holders or fixtures by which the scaffolding may be temporarily attached to the roof. It also shows a scaffold in position for repairing a pane of glass, (shown broken.) Fig. 2, is a partial section through the green-house roof, and shows the temporary
70 scaffold in side elevation. Fig. 3 is a front elevation of Fig. 2. Fig. 4 is a front elevation of Fig. 2 with the scaffold step or bracket removed. Fig. 5 is a section taken on the line *xx*, Fig. 2, the scaffold bracket being removed. Fig. 6 is a front elevation of a modified fixture adapted to receive the scaffold bracket. Fig. 7 is
75 a side elevation of a scaffold bracket adapted for use with the fixture shown in Fig. 6. Fig. 8 is a side elevation of a scaffold bracket, the sides of which are extensible to adapt the bracket to different pitches of roof. Fig. 9 is
80 a section taken on the line *yy*, Fig. 8. Fig. 10 is a side elevation of my invention, and Fig. 11 is a plan of a portion of the same.

The rafters in the form of structure to which my invention is shown applied, may be of the composite
85 structure at present in use, and comprising the iron beams 2 with the superposed glazing strips 2', on whose edges the glazing 3 is supported. The usual strengthening purlins which run longitudinally and give strength to the framework of the structure are indicated
90 at 5, these being of the usual L form and being secured to the glazing strips 2' of the roof and to the intermediate glazing strips between rafters, as well understood in the art.

To the rafters is secured, at any desired intervals,
95 fixtures to which the scaffold supporting brackets or steps may be temporarily attached. In the form of my invention illustrated in Figs. 2, 3, 4 & 5 these fixtures comprise straps 6, having eyes 6' mounted in
100 pairs, as shown, upon the glazing strips of the roof and secured thereto by screws or bolts. The plank or board supporting brackets 7 are adapted for attachment to and detachment from said fixtures, by providing them with co-operating eyes 7', preferably
105 consisting of metal, which are attached to the brackets, and being entered in the space between the eyes 6, 6', may be firmly secured in position by means of bolts or pins 8, in obvious manner. Upon the brackets 7, the plank 9 is sustained in the usual manner. To adapt the brackets for use with fixtures at points
110 on the roof where the pitch is different, I prefer to hinge the riser and step or sole of the bracket together

as indicated at the point 10, Fig. 2, and to still further adapt them for use in this manner, I prefer to make both the riser and step extensible and retractable, as indicated in Fig. 9, by making each in two sections adapted to be bolted or secured together, when adjusted to the desired length. Instead of making them extensible by the means shown, it is obvious that other means might be employed for this purpose.

To strengthen the structure so as to enable it to securely bear the strain of the scaffold and weights thereof, I propose to employ in connection with the glazing strips 2', and the iron beams 2, suitable metal straps of yoke form, 4, which are secured at their free ends by bolts to the glazing strips and pass around and under the beam, as shown in Fig. 5.

In equipping the roof with fixtures, the supports or parts thereof, which co-operate respectively with the riser and tread of the bracket, are placed nearer together where the pitch of the roof is greater; then by adjustment of the hinged bracket, the step of the bracket may be made to occupy a horizontal position. In the use of this device, the workmen, provided with two pairs of brackets and two planks 9, may work their way from the top to the bottom of the roof, by attaching and detaching the brackets and shifting the plank and pair of brackets from position below to position above the other plank and pair of brackets in alternation, and in obvious manner.

As by my device, the necessity for nailing and tearing away scaffold supports is entirely avoided, it is obvious that damage to the roof is done away with, and that at all times there is ready a means for erecting the scaffold and reaching any desired point on the roof for repairs, without the use of nails or special tools and without damage to the glazing strips.

While I have so far described one particular form of fixture adapted for use in carrying out my invention, it is obvious that many other forms of fixture and co-operating bracket may be used without departing from my invention.

In Figs. 6 & 7, I illustrate the form in which the use of bolts or pins is dispensed with. In this form, the fixtures consists of sockets 12, and the bracket is provided with co-operating pins 13 adapted to enter said sockets in obvious manner.

In the modification of my invention shown in Figs. 10 & 11, the fixture is shown as comprising a channel-iron, the upright flanges of which are indicated at 60; said channel-iron may be secured upon the top of

the rafter, being fastened directly to the glazing strip 2', and may extend approximately from the upper end of the rafter to the lower end thereof, or be applied in short lengths, if desired. The flanges are perforated at suitable points to receive the pins 61, adapted to pass through said flanges horizontally; while the step or bracket is provided with suitable eyes, as already described, through which said pins 61 may be passed.

When the scaffold is dismantled, the brackets or steps may be left upon the roof, in which case it is only necessary to disconnect the step and riser at the hinges 10 by drawing out the hinge pins and allowing said parts to swing down flat upon the roof, as indicated in the dotted lines, Fig. 10, in which case they will be scarcely visible and will be largely masked by the flanges of the channel-bar or iron. It would also, as is obvious, be possible to unship the bracket or step when not required for the support of the board or bracket, by drawing one only of the pins 61 by which it is attached to the fixture in proper position to support the plank or board 9, the pin 10 being left in place. In this instance, the step and the riser would be swung down flat upon the rafter as before, the step and riser then turning upon the hinge pin 10 and being flattened out in a continuous line upon the rafter in obvious manner. 30 is a turn-buckle used to adjust the step and riser to any slope of the roof previous to attaching the bracket to the fixtures, and also serving to strengthen the bracket. While in the drawings this turn-buckle is shown only with the bracket illustrated in Fig. 10 it is obvious that I may attach the same to any other form of bracket covered by my invention.

What I claim as my invention is:

1. In a portable or temporary scaffolding for roofs, the combination with bracket supporting metal fixtures forming loops permanently secured to the roof, of scaffold brackets or steps adapted to support planking and combined with means for detachably securing them to said loops, as and for the purpose described.
2. The combination with a glass roof, of bracket-supporting feet or cleats of metal permanently fastened to the rafters, and plank supporting brackets or steps combined with means for securing the tread and riser to said feet, as and for the purpose described.

Signed at New York in the county of New York and State of New York this 14th day of May A. D. 1904.

HENRY NANTTEL.

Witnesses:

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