R. O. KING.

CLIP FOR CONNECTING RAFTERS, PURLINS, AND SASH BARS OF GREENHOUSES.

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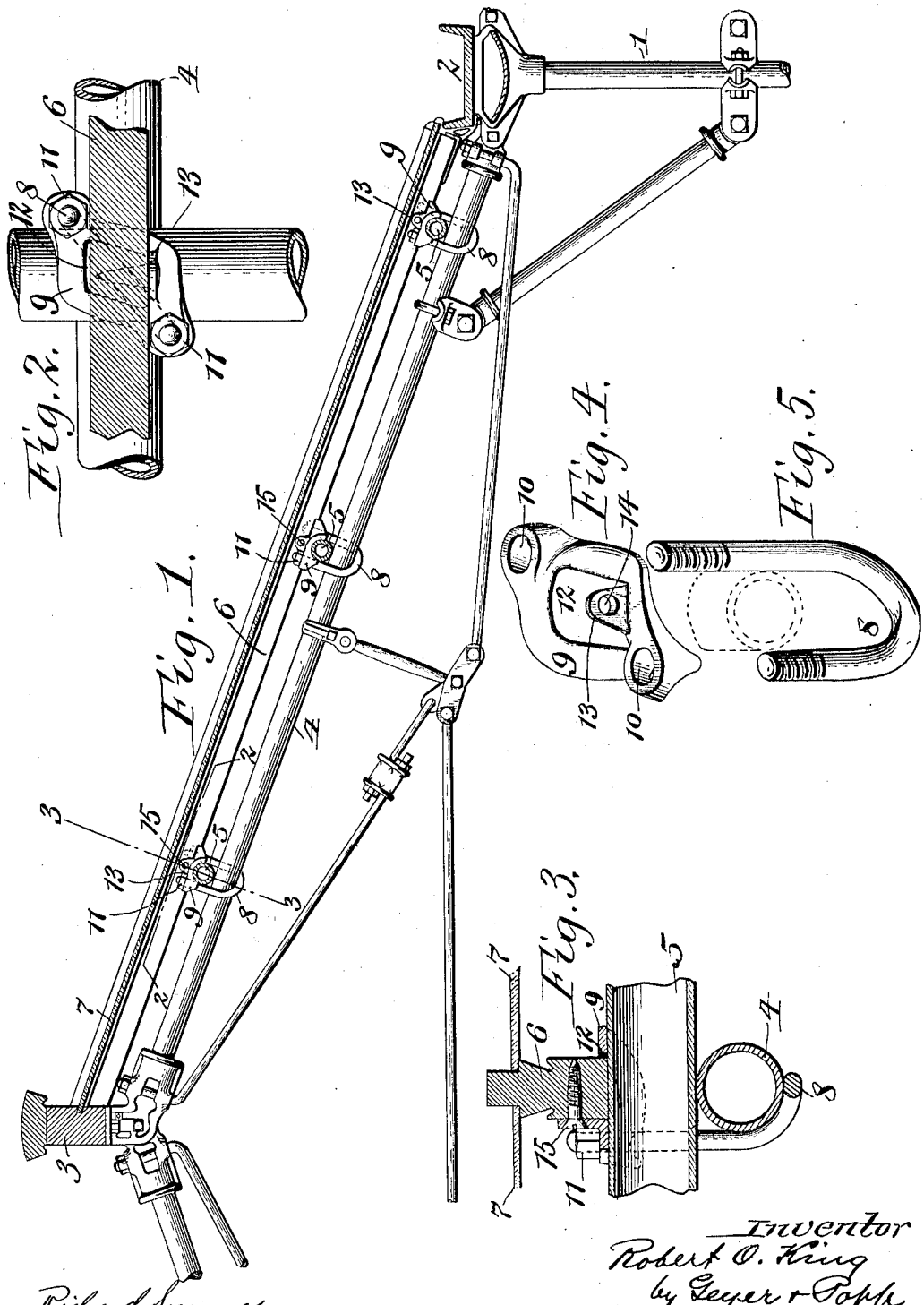

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

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CLIP FOR CONNECTING RAFTERS, PURLINS, AND SASH-BARS OF GREENHOUSES.

1,048,704. Specification of Letters Patent. Patented Dec. 31, 1912.

Application filed April 29, 1911. Serial No. 624,262.

To all whom it may concern:

Be it known that I, ROBERT O. KING, a citizen of Canada, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Clips for Connecting Rafters, Purlins, and Sash-Bars of Greenhouses, of which the following is a specification.

This invention relates to clips or fasteners which are more particularly designed for connecting or coupling the rafters, purlins and roof sash bars of green houses although the same may also be used for other purposes or constructions of buildings in which similar conditions exist.

It is the object of this invention to provide an improved clip or fastener for this purpose which permits of securely and reliably fastening together a rafter, purlin and sash bar by means of less parts than have been employed for this purpose heretofore; which can be produced at considerably less cost, and which not only is much neater in appearance but also offers less obstruction to the entrance of light into the green house than the prior known devices for this purpose.

In the accompanying drawings: Figure 1 is a fragmentary vertical transverse section of the roof and associated parts of a green house showing my improved clip or fastener applied to a rafter, purlin and sash bar thereof. Fig. 2 is a substantially horizontal section, on an enlarged scale, taken in line 2—2, Fig. 1. Fig. 3 is a vertical section, on an enlarged scale, taken in line 3—3, Fig. 1. Fig. 4 is a perspective view of the saddle, or cross piece of my improved clip. Fig. 5 is a similar view of the U-bolt forming part of the clip.

Similar letters of reference indicate corresponding parts throughout the several views.

That part of the green house shown in the drawings for illustrating the application of my invention comprises a tubular post 1, a gutter 2 arranged on top of the post, an elevated ridge 3, an incline rafter 4 preferably of tubular form connected at its opposite ends by suitable fittings with the ridge and post, a plurality of longitudinal horizontal purlins 5 resting on the upper side of the rafter at right angles thereto, an inclined roof sash bar 6 extending from the gutter 2 to the ridge vertically in line with the rafter and resting at its underside on the upper side of the several purlins and glass or transparent panes 7 supported upon the roof sash bar. At each crossing of the purlins relatively to the rafter and sash bar these parts are connected or fastened together by my improved clip or fastener which is constructed as follows:

8 represents a U-bolt which is arranged diagonally with reference to the rafter and one of the purlins and embraces the same at the crossing between these parts so that the bow of this U-bolt engages with the underside of the rafter and its legs or branches project upwardly along opposite sides of the rafter and the respective purlin.

9 represents a saddle or cross piece which rests diagonally on top of the purlin where the same is crossed by the sash bar and which is detachably connected at its opposite ends with the U-bolt by means of openings 10 arranged at opposite ends of the saddle and receiving the legs of the U-bolt, and screw nuts 11 applied to the legs of the U-bolt and bearing against the upper side of the saddle. The central part of the saddle is provided with an opening 12 through which the lower part of the sash bar projects into engagement with the upper side of the purlin.

For the purpose of holding the sash bar in position relatively to the rafter and purlin the saddle is provided on one side of its central opening with an upwardly projecting lug 13 which engages with one side of the sash bar and is secured thereto by means of a screw 15 passing through an opening 14 in this lug, as shown in Fig. 3. By this means the rafter, purlin and sash bar are securely connected and reliably held against displacement relatively to each other. Furthermore, this connection between the rafter, purlin and sash bar is effected by the use of a minimum number of parts all of which are of simple construction, thereby reducing the cost of building the green house.

Moreover this clip is very compact in construction so that it is very neat in appearance and also permits entrance of the maximum amount of light into the green house.

I claim as my invention:

1. A clip for connecting a rafter, purlin and roof sash bar, comprising a U-bolt adapted to embrace a rafter and purlin, and a saddle which is provided with end open-

ings adapted to receive the ends of the legs of said bolt and which is adapted to rest on the purlin and provided with a central opening through which the sash bar is adapted to project into engagement with the purlin and provided with a lug arranged adjacent to said central opening and adapted to be secured to the sash bar.

2. The combination of a rafter, a purlin resting on the rafter at right angles thereto, a roof sash bar resting on the purlin above the rafter and parallel with the latter, and a clip for connecting the rafter, purlin and sash bar comprising a U-bolt arranged diagonally relatively to the rafter and purlin and embracing the same at the crossing thereof, a saddle resting diagonally on the purlin and provided at its ends with openings which receive the ends of the legs of the U-bolt and provided centrally with an opening through which the sash bar projects into engagement with the purlin and also provided on one side of said opening with a lug, and a screw passing through said lug into said sash bar.

Witness my hand this 27th day of April, 1911.

ROBERT O. KING.

Witnesses:
THEO. L. POPP,
ANNA HEIGIS.