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W. O. JOHNSTON & P. J. FOLEY.

GUTTER AND ROOF SUPPORT FOR GREENHOUSES.

APPLICATION FILED APR. 17, 1903.

NO MODEL.

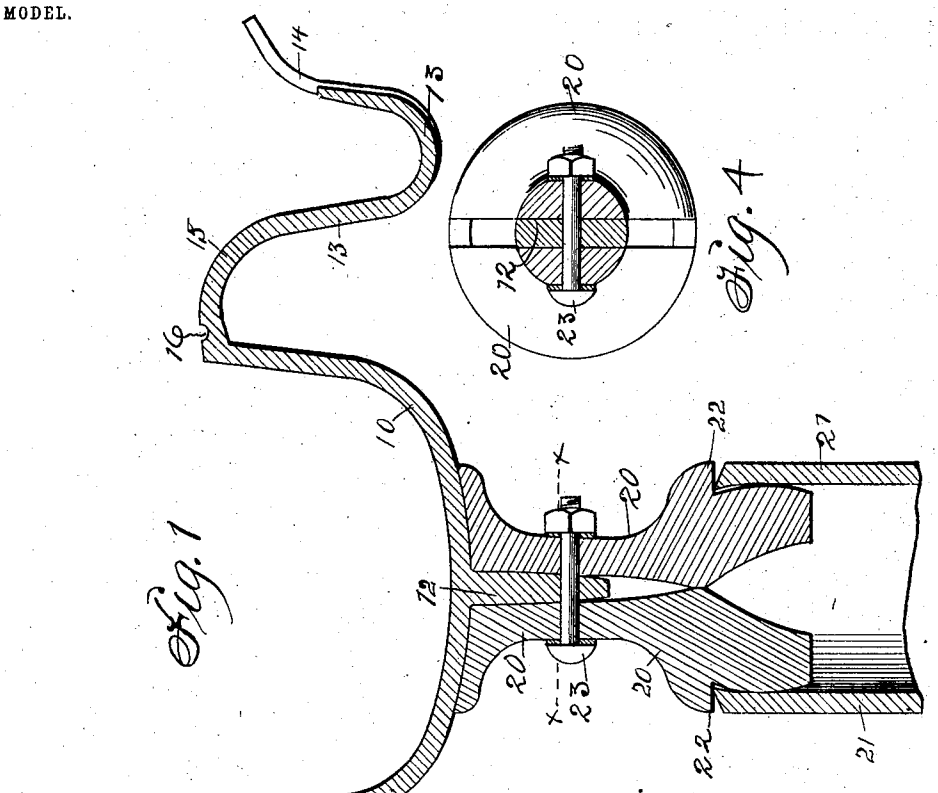


Fig. 1

Fig. 4

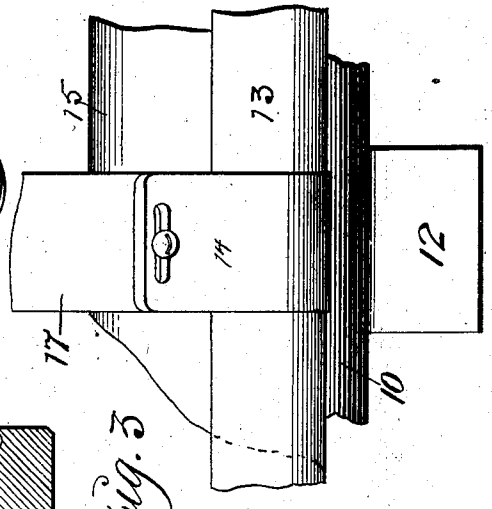


Fig. 3

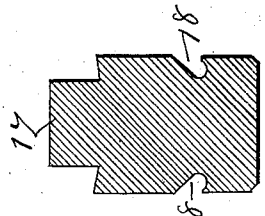


Fig. 2

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 737,110. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM O. JOHNSTON AND PHILIP J. FOLEY, OF CHICAGO, ILLINOIS.

GUTTER AND ROOF-SUPPORT FOR GREENHOUSES.

SPECIFICATION forming part of Letters Patent No. 737,110, dated August 25, 1903.

Application filed April 17, 1903. Serial No. 153,147. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM O. JOHNSTON and PHILIP J. FOLEY, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Gutter and Roof-Support for Greenhouses, of which the following is a specification.

Our object is to provide a new form of metal gutter for greenhouses, to facilitate fixing tubular posts thereto for supporting the gutter, to adapt the gutter for advantageously fixing sash-bars thereto, and to convey water of condensation from the sash-bars into drip-conductors at the parallel sides of the gutter.

Our invention consists in the construction, arrangement, and combination of parts, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a transverse sectional view of the gutter and drip-conveyers and shows the manner in which tubular posts are detachably fastened thereto and sash-bars fitted to the top and side of the gutter at any pitch or angle desired and securely fastened by means of screws passed through lugs on the gutter into the wooden sash-bars. Fig. 2 is a transverse sectional view of a sash-bar. Fig. 3 is a side view of the drip-gutter and shows the under side of the sash-bar. Fig. 4 is a transverse sectional view on the line x x of Fig. 1 looking downward.

The numeral 10 designates the metal gutter, that is preferably cast in a mold. It is obvious it may vary in size and weight as desired and in length of sections. It has integral tapering flat lugs 12, projecting downward in alinement with the longitudinal center of the bottom of the gutter at points where supports are to be connected therewith and provided with bolt-holes for fastening clamps to the lugs and gutter, as required for detachably fixing posts to the gutter. At its parallel sides are integral drip-conveyers 13, and at the points where sash-bars are to be fixed lugs 14 are formed on or fixed thereto and provided with transverse slots, through which screws can be passed into sash-bars, as shown in Figs. 1 and 2.

The parts 15, that extend from the top edges of the gutter 10 for connecting the drip-conveyers 13 and for supporting sash-bars, are curved to serve as arcs of true circles for concentrically fitting and fixing the ends of sash-bars thereto, so they can be extended at different angles, as required to produce such a pitch of roof as may be desired. Grooves 16 in the metal can be advantageously filled with cement for making water-tight joints where glass terminates at the lower ends of sash-bars 17, fitted and fixed to the gutter, as shown in Fig. 1. Grooves 18 in the side faces of the sash-bars convey water of condensation from the bars into the drip-conductors 13.

Clamps 20, fitted to the under side of the gutter and to the flat lugs 12, as shown in Fig. 1, are enlarged at their lower end portions and adapted to contact with each other and to extend into the top of a tubular post 21 to serve as levers, so their short arms or lower ends can be clamped fast in the post at the same time their upper ends or long arms are clamped fast to the flat lugs 12 for rigidly fixing them to the gutter. Shoulders 22 at the outside and lower portions of the clamps engage the top of the post that is beveled and bent inward and fitted to the clamps. Coinciding perforations in the clamps and the flat lugs 12 admit a screw-bolt 23 for detachably fixing the parts together by means of a nut on the end of the bolt.

Having thus set forth the purpose of our invention and the construction, arrangement, and combination of the different parts, the practical utility thereof will be readily understood by persons familiar with the art to which it pertains.

What we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a metal gutter for greenhouses having a flat lug projecting downward from the longitudinal central line of the bottom of the gutter and provided with a bolt-hole, a pair of clamping-irons, as shown and described for the purposes stated.

2. A metal gutter for greenhouses having an arc portion extending laterally at its top and side, a drip-conveyer extending downward from said arc portion and a lug extending upward and outward from the drip-conveyer, for the purposes stated.

3. A metal gutter for greenhouses having

arc portions extending laterally at its top and side a drip-conveyer extending downward from said arc portions and a lug extending upward and outward from the drip-conveyer and a sash-bar fitted to the arc portions and fixed to the lug and gutter and provided with grooves in its side faces, arranged and combined in the manner set forth for the purposes stated.

4. A metal gutter having a flat lug projecting downward from its bottom, clamping-irons fitted to the said flat lug and gutter, a screw-bolt extended through coinciding apertures in the said flat lug and said irons and the lower end portions of the said irons adapted to contact with each other and provided with shoulders to engage the top of a tubular post and downward extensions adapted to enter and engage the post, in combination with a tubular post, for the purposes stated.

5. An improved gutter and sash-bar and gutter-support comprising a metal gutter having flat lugs projecting downward from its under side, arcs extending outward and downward from the tops of its parallel sides, drip-conveyers below the arcs, lugs extending upward and outward from the drip-conveyers, sash-bars fitted to the arc portions and fixed to the said lugs and provided with grooves in their side faces, clamping-irons fixed to the said flat lugs to extend into the tops of tubular posts and provided with shoulders to engage the tops of the posts, arranged and combined in the manner set forth for the purposes stated.

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