

No. 749,972.

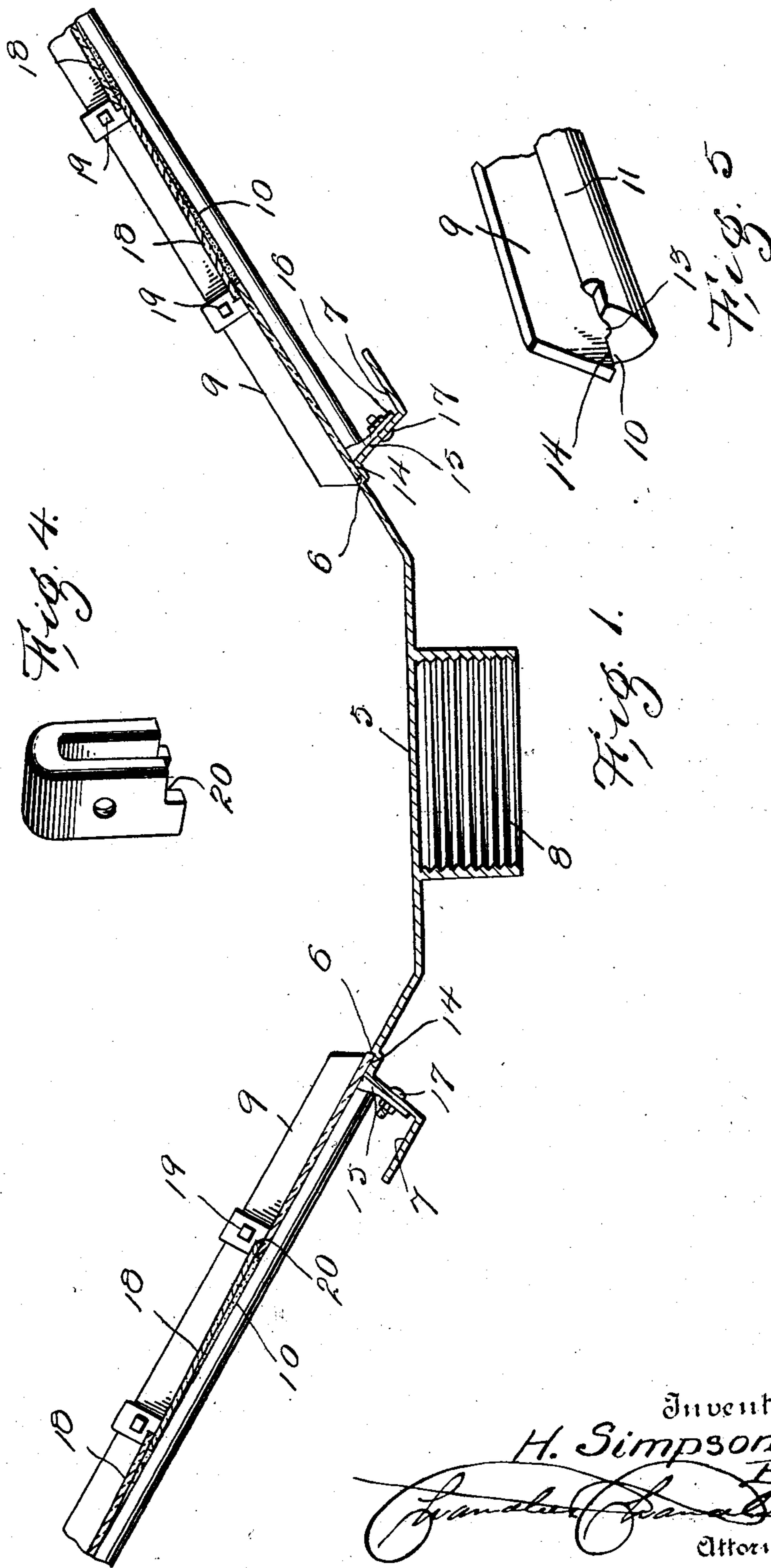
PATENTED JAN. 19, 1904.

H. SIMPSON.
GREENHOUSE FRAME.

APPLICATION FILED AUG. 14, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



Witnesses
H. Simpson
and C. Jones

Inventor
H. Simpson
By
Charles H. Jones
Attorneys

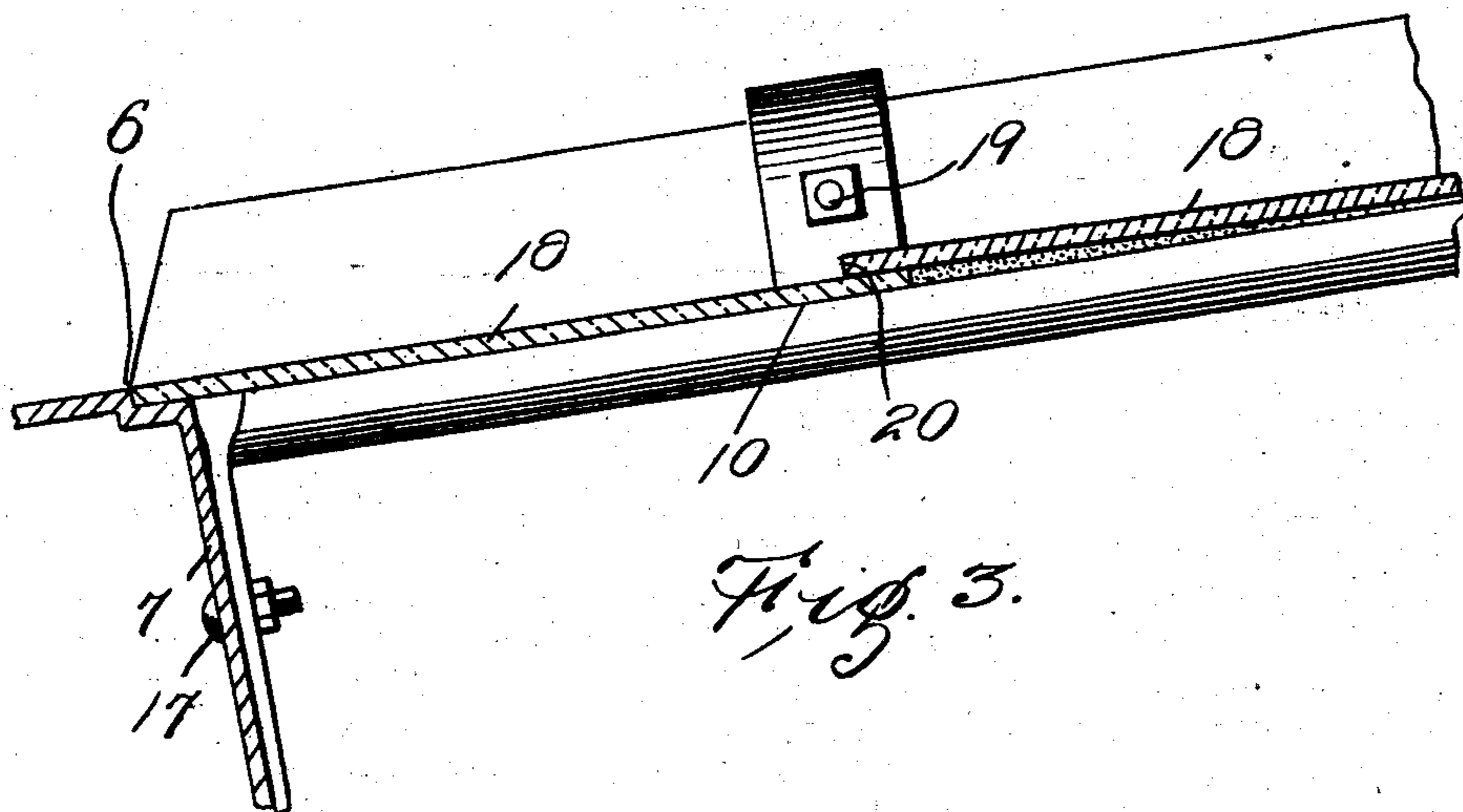
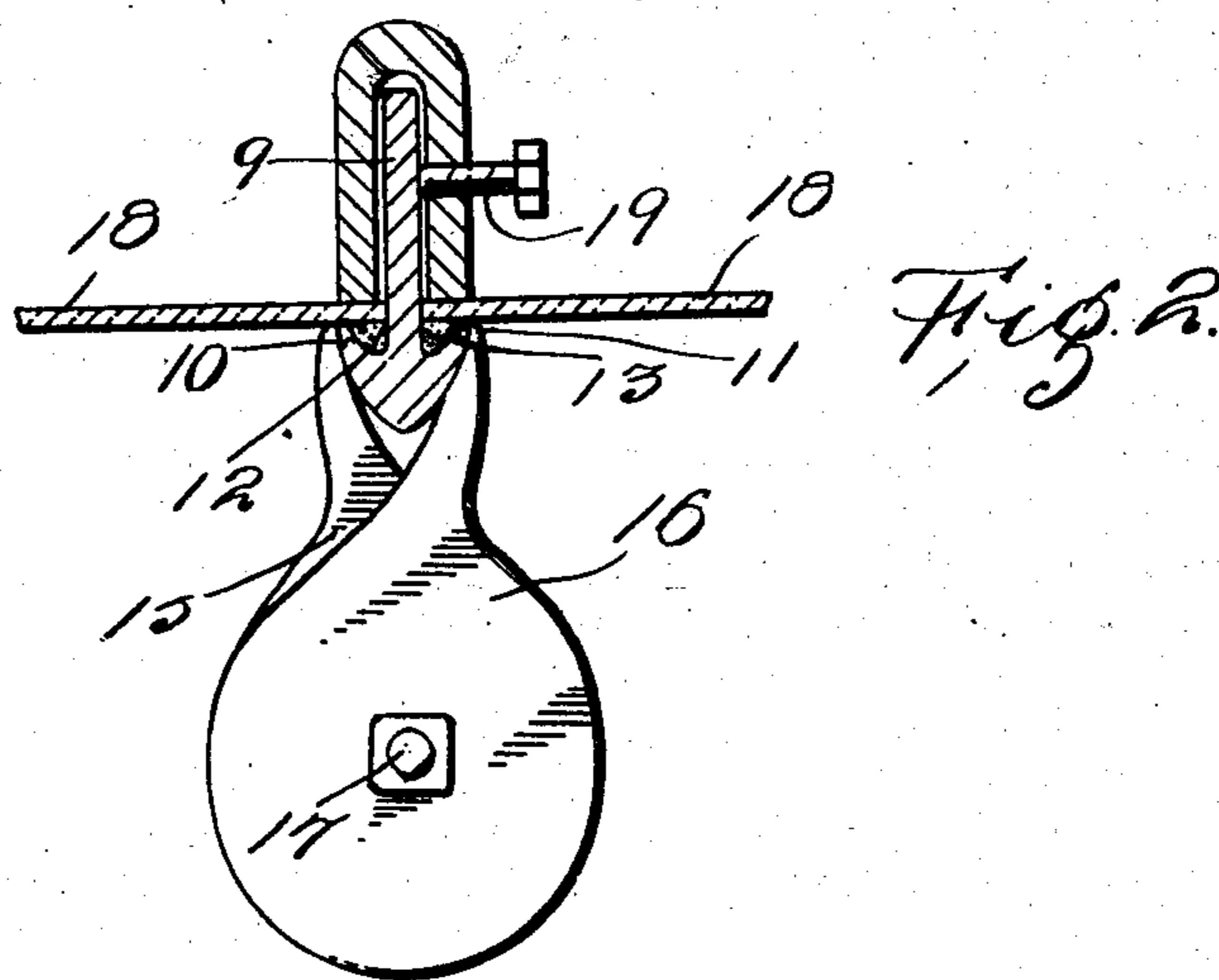
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H. Simpson
Fred C. Jones

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H. Simpson
Charles H. Jones
Attorneys

UNITED STATES PATENT OFFICE.

HARRY SIMPSON, OF EDGELY, PENNSYLVANIA.

GREENHOUSE-FRAME.

SPECIFICATION forming part of Letters Patent No. 749,972, dated January 19, 1904.

Application filed August 14, 1903. Serial No. 169,471. (No model.)

To all whom it may concern:

Be it known that I, HARRY SIMPSON, a citizen of the United States, residing at Edgely, in the county of Bucks, State of Pennsylvania, have
 5 invented certain new and useful Improvements in Greenhouse-Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
 10 pertains to make and use the same.

This invention relates to greenhouse-frames; and it has for its object to provide a simple and durable construction which will permit of
 15 building the greenhouse-roof entirely of metal and glass.

A further object of the invention is to provide a construction and arrangement which will hold the glass securely in place and in which drip-troughs may be attached wher-
 20 ever desired.

Other objects and advantages of the invention will be understood from the following description.

In the drawings forming a portion of this
 25 specification, in which like numerals of reference indicate similar parts in the several views, Figure 1 is a transverse section through a gutter and the glass of a greenhouse-roof, the bar and the glass-retaining clamps being shown
 30 in elevation. Fig. 2 is a transverse section through one of the bars and a glass-retaining clamp with the glass held thereby and showing in elevation a hanger connected to the bar and by means of which the drip-trough is sus-
 35 pended. Fig. 3 is an enlarged side elevation of a portion of a rail and hanger and retaining-clamp, the overlapping portions of two sheets of glass being shown in section. Fig. 4 is a detail perspective view of the retaining-
 40 clamp. Fig. 5 is a perspective view showing the lower end portion of one of the bars of the frame, illustrating the manner in which the flanges are cut away, also the manner in which each flange is notched to accommodate a sis-
 45 ter hook.

Referring now to the drawings, there is shown a portion of the roof of a greenhouse comprising a gutter 5, the sides of which are bent to form seats 6, beyond which said sides
 50 are bent downwardly and then outwardly and

upwardly to form the troughs 7, extending longitudinally of the side edges of the gutter. At the central portion of the gutter 5 and on the under side thereof is a vertical collar 8, which is threaded for engagement with the
 55 threaded upper end of the usual post, it being understood that the threads may be omitted, if desired.

In connection with the gutter 5 there are employed bars 9, each consisting of a vertical
 60 web having flanges 10 and 11 at its lower edge and at opposite sides, these flanges diverging upwardly and forming between them and the web of the rail channels 12 and 13, which are
 65 designed to receive putty. The lower ends of the bars 9 have their flanged lower edges cut away, and the resultant shoulders 14 are disposed upon the seats 6, while the adjacent ends of the flanged portions rest upon the in-
 70 ner sides of the troughs 7.

To further support the troughs 7, hangers are employed in the form of sister hooks 15 and 16, which are engaged over the flanges 10 and 11, which are notched at such points of
 75 engagement, so that said sister hooks may lie flush with the upper edges of the flanges at the sides of the hooks. The sister hooks are bolted against the inner sides of the troughs 7 by means of the bolts 17, as illustrated.

The plates or sheets of glass 18 are disposed
 80 upon the putty that is filled in the channels 12 and 13, the edges of the adjacent sheets or plates being overlapped, as illustrated. To hold the plates snugly down against the putty, so as to prevent leakage between the plates
 85 and the rails, retaining-clamps are employed. Each of the retaining-clamps consists of a U-shaped plate, which is disposed over the bar, to which it is held by means of a set-screw 19, the lower ends of the spaced members of the
 90 U-shaped plate being notched or stepped, as shown at 20, so that they may rest upon both plates of glass where they overlap, and thus hold them securely in place. With this construction it will be seen that the water that
 95 falls upon the roof will drain between the bars and over the glass to the gutter 5 and that any drip from the glass and bars will run down and finally be caught in the troughs 7. With this arrangement, moreover, there is
 100

employed only metal and glass, while the parts are held with security and rigidity.

It will be understood that drip-troughs may be suspended by means of the hangers where-
5 ever desired, it being understood that in practice modifications of the specific construction shown may be made within the scope of the claims and that any suitable materials and proportions may be used for the various parts
10 without departing from the spirit of the invention.

What is claimed is—

A greenhouse-frame comprising a gutter having longitudinal troughs at its side edges

and seats extending longitudinally at the inner edges of the troughs, bars resting with their lower ends in the seats, hangers connected to the bars and to the troughs, glass plates resting upon the bars with the lowermost plates having their lower edges in the seats, and means for holding the glass plates upon the bars. 15 20

In testimony whereof I affix my signature in presence of two witnesses.

HARRY SIMPSON.

Witnesses:

JACOB M. WINDER,
PHILIP WINTER.