

No. 696,043.

Patented Mar. 25, 1902.

E. HIPPARD.  
VALLEY GUTTER FOR GREENHOUSES.

(Application filed Apr. 8, 1901.)

(No Model.)

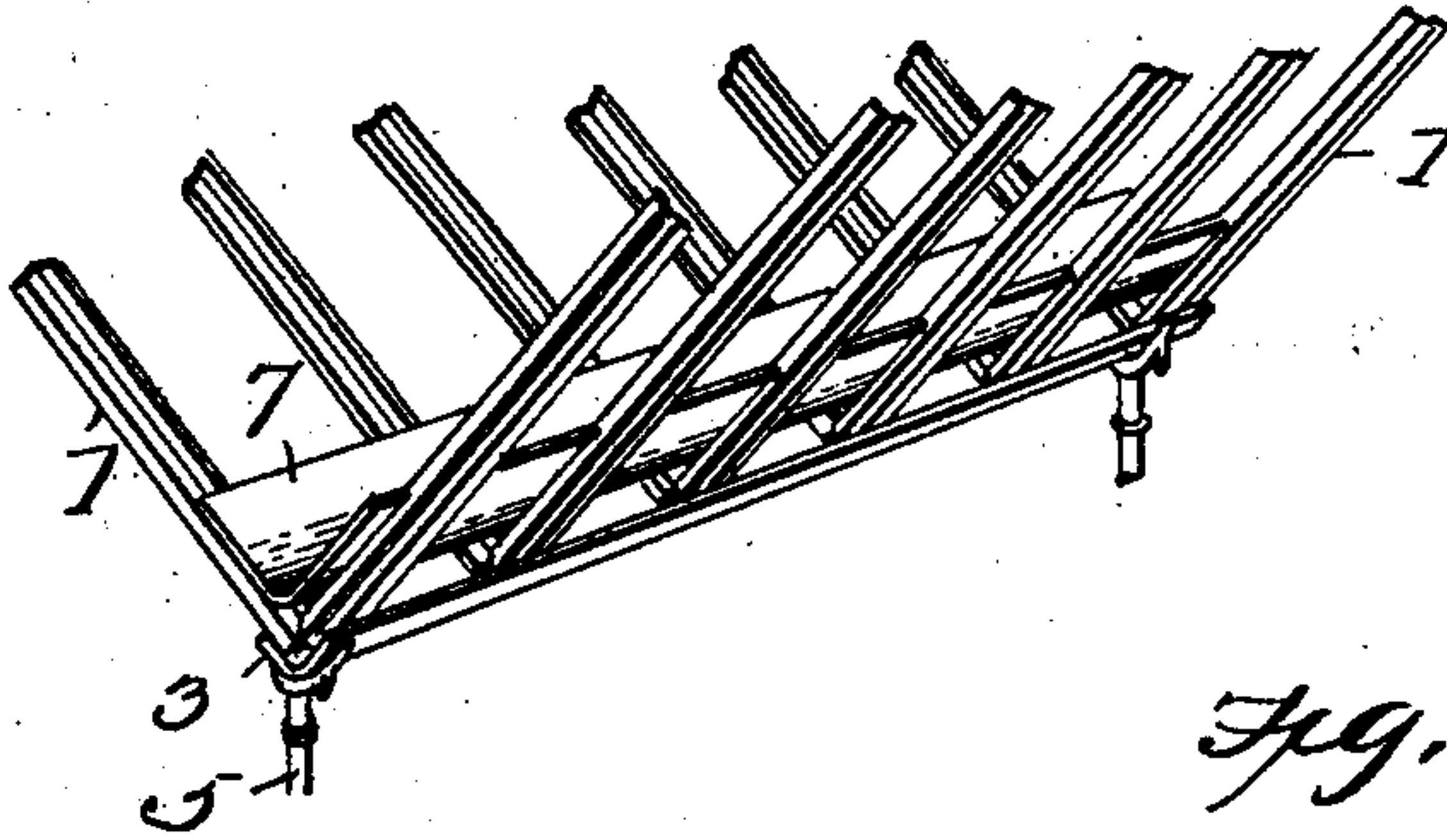


Fig. 1.

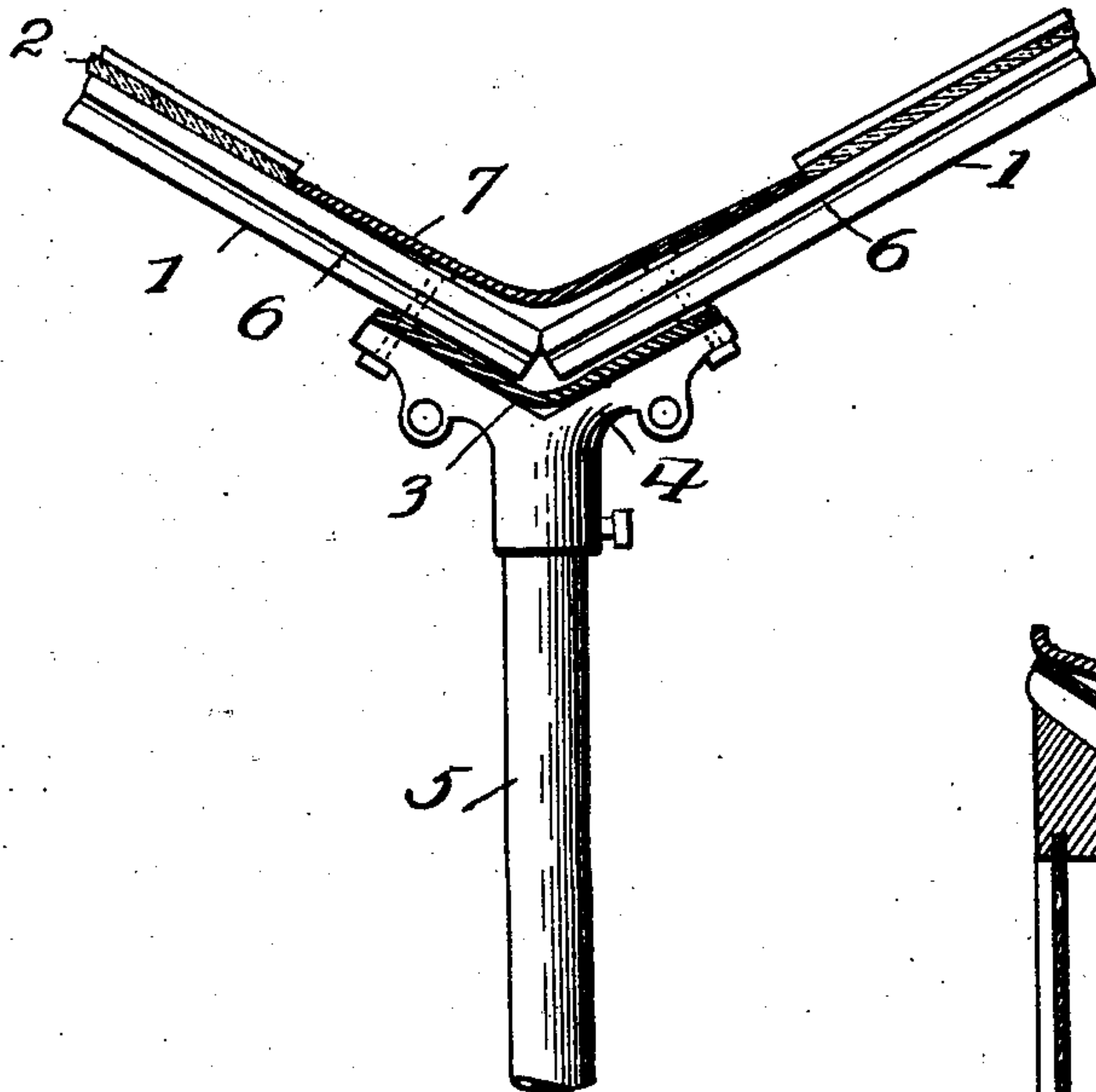


Fig. 2.

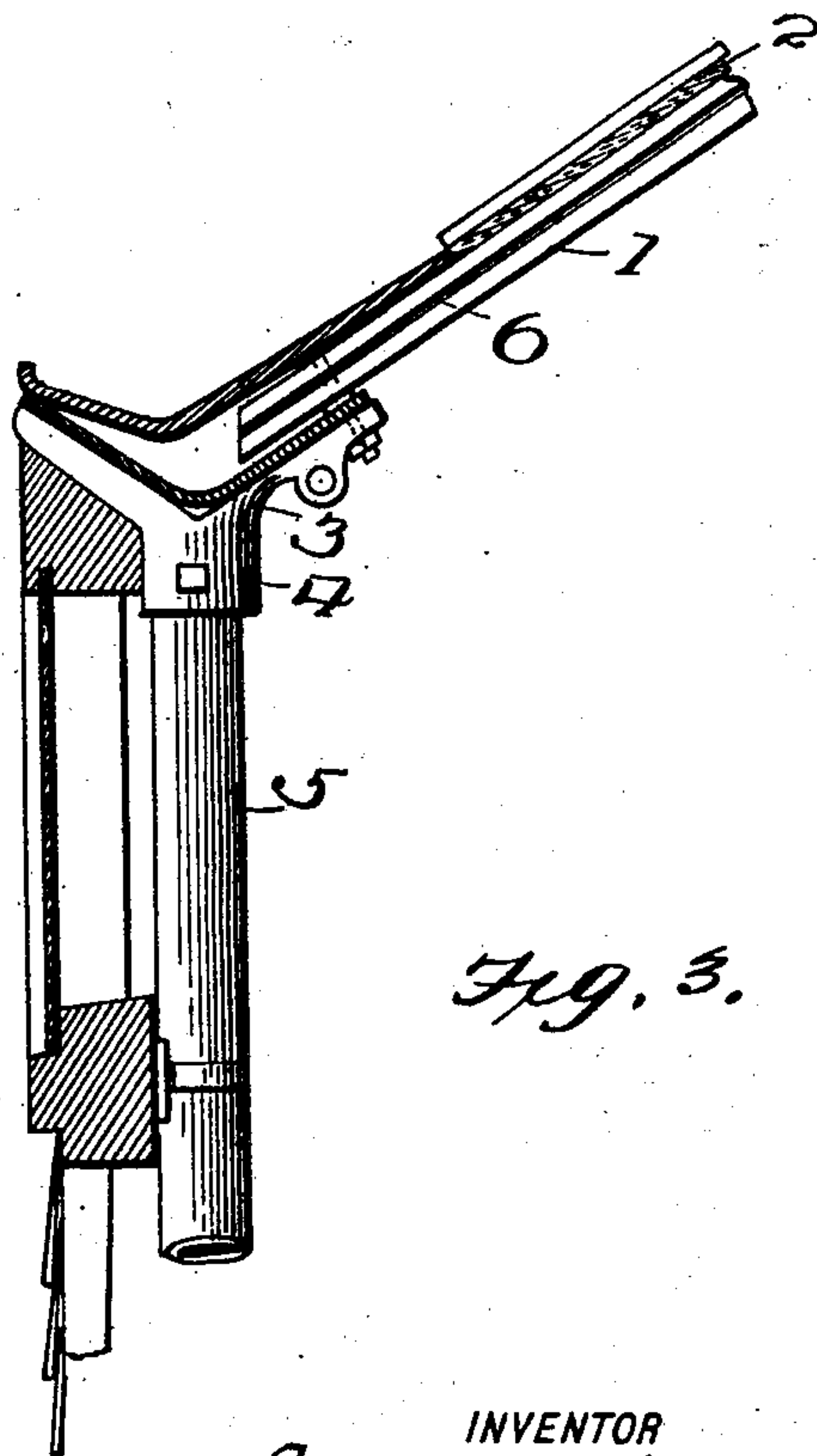


Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## VALLEY-GUTTER FOR GREENHOUSES.

SPECIFICATION forming part of Letters Patent No. 696,043, dated March 25, 1902.

Application filed April 6, 1901. Serial No. 54,669. (No model.)

*To all whom it may concern:*

Be it known that I, EMANUEL HIPPARD, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Valley-Gutters for Greenhouses; 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 appertains to make and use the same.

My invention relates to valley-gutters for greenhouses; and it consists of the novel construction and combination of the various parts, as will be hereinafter described, and stated in the claims.

The principal object of the invention is to simplify and cheapen the cost of construction of this class of gutters without in any way impairing their durability and efficiency.

Another object of the invention is to effectually provide for the disposal of the water falling upon the house and of the water of condensation.

Still another object of the invention is to construct the gutters so as to effect a saving of space and cause very little shade in the houses, thereby permitting benches to be placed directly below them.

These and other objects are attained by means of the structure illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a section of a greenhouse-roof structure without the glass, showing my improved gutter applied thereto; Fig. 2, a transverse section through the gutter and parts of the greenhouse structure to which it is attached, and Fig. 3 is a modification showing the gutter applied to the eaves of a greenhouse.

In the views the numeral 1 indicates the sash-bars, which may be of any approved construction, and 2 the glass. The lower ends of the sash-bars project beyond the lower row of panes of glass and have their upper corner edges slightly beveled, so as to form a miter-joint between a portion of the ends of the bars and leave a rectangular opening between the other portion thereof

for the passage of the water of condensation down an auxiliary or drip gutter 3. The gutter 3 is made of any suitable material, preferably metal, and is substantially V shape in cross-section. It is bolted to the under side of the extended ends of the sash-bars and is provided at intervals with socketed brackets 4, in which the ends of the supporting-pillars 5 are received. The sides of the sash-bars are provided with longitudinal grooves 6, which catch the water of condensation and convey it to the drip-gutter 3.

The numeral 7 indicates the main gutter, which is preferably made of metal and approximately V shape in cross-section. The gutter 7 is supported upon the extended ends of the sash-bars and is secured thereto, as shown. The panes of glass are secured in the rabbeted upper edges of the sash-bars in the usual overlapped position, the lower panes being prevented from slipping by the upper edges of the gutter 7 abutting against them, as shown.

Both the main and drip gutters when of unusual length may be constructed of sections joined together in any suitable and well-known manner.

It will be noted that the ends of the sash-bars do not come in contact with the gutters, and thus the accumulation and holding of moisture is obviated, thereby lessening the chances of their decay.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In greenhouses or similar structures, the combination with the sash-bars thereof, said sash-bars having their lower ends extended toward each other, approximately in the form of a V, of a main gutter supported upon and secured to said extended ends, and a drip-gutter secured to the under side of the extended sash-bars and below the main gutter.

2. In greenhouses or similar structures, the combination with the sash-bars thereof, said sash-bars having their sides grooved longitudinally and their ends extended toward each other, approximately in the form of a V, of a main gutter supported upon and secured



to said extended ends, and a drip-gutter secured to the under side of the extended ends, substantially as specified.

3. In a greenhouse or similar structure the  
5 combination with the sash-bars thereof, said bars having longitudinal grooves in their sides, and extended lower ends, of a main gutter supported upon and secured to said extended ends, and a drip-gutter secured to

the under sides of the extended ends, below the main gutter, and suitable gutter-supports, as set forth.

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

EMANUEL HIPPARD.

Witnesses:

VOLNEY ROGERS,  
ESTHER M. REESE.