No. 874,069. PATENTED DEC. 17, 1907.

G. C. HESTER.

SASH BAR.

APPLICATION FILED MAY 27, 1907.

2 SHEETS—SHEET 1.

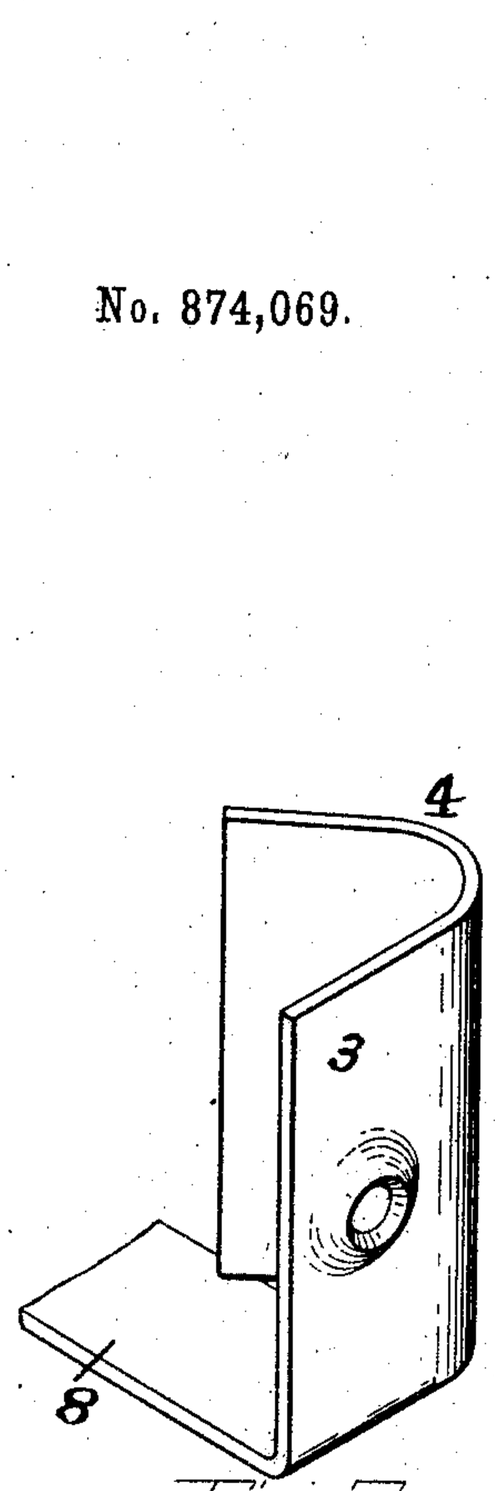


Fig. 2.

Fig. 4.

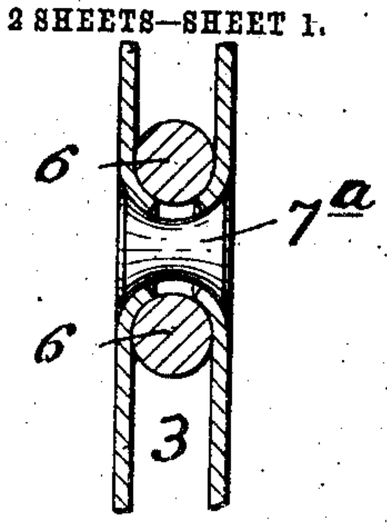


Fig. 3.

Fig. 1.

Witnesses:
J. L. Taylor.
G. B. Priddle.

Inventor:
Geo. C. Hester,
by
Priddle and Williamson
Attorneys.

No. 874,069. PATENTED DEC. 17, 1907.

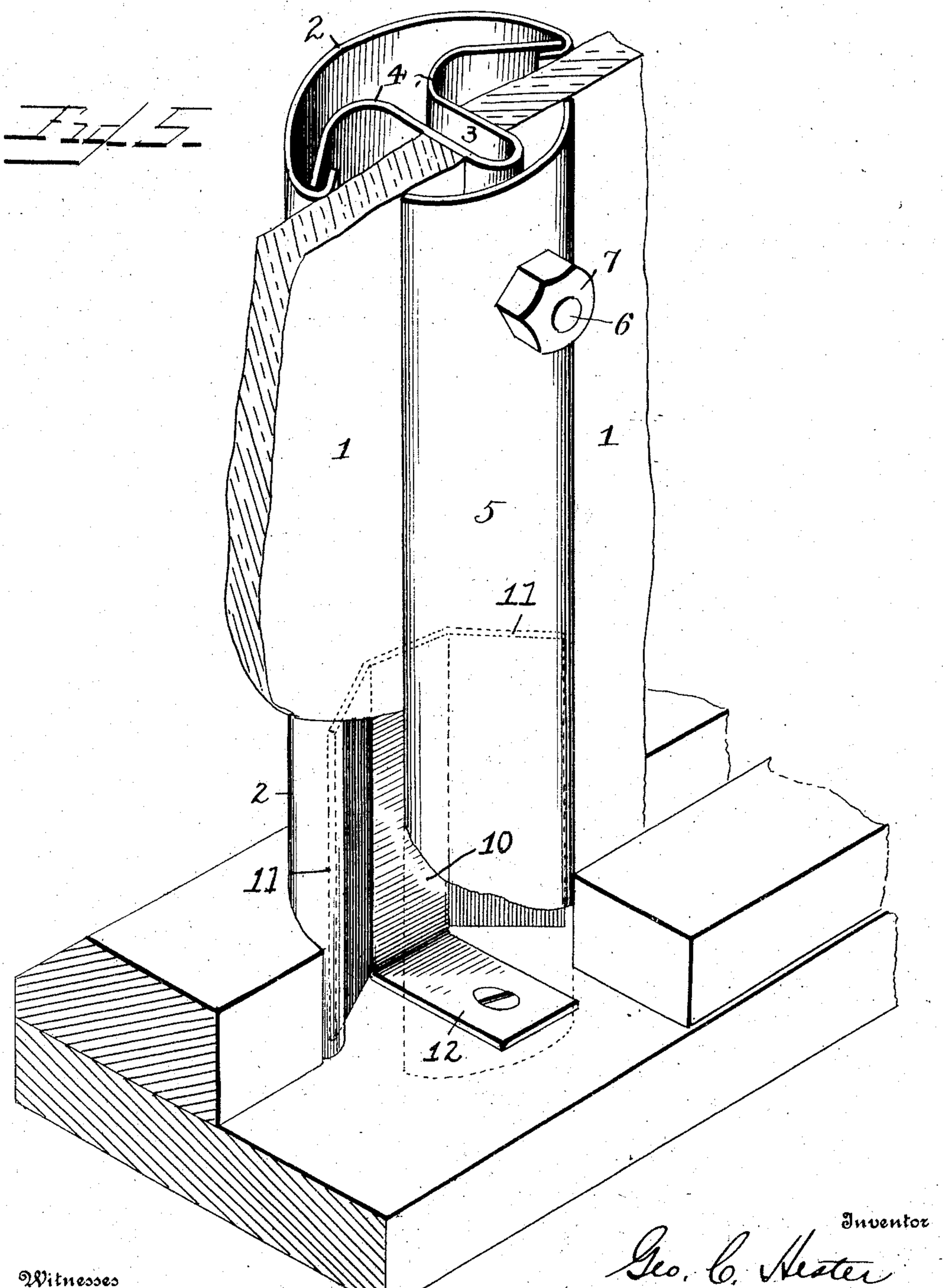
G. C. HESTER.

SASH BAR.

APPLICATION FILED MAY 27, 1907.

2 SHEETS—SHEET 2.

Fig. 5.



Witnesses
J. L. Lawlor
G. B. Prindle

Inventor
Geo. C. Hester
By Prindle and Williamson
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE C. HESTER, OF PORTLAND, OREGON.

SASH-BAR.

No. 874,069. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed May 27, 1907. Serial No. 375,939.

To all whom it may concern:

Be it known that I, GEORGE C. HESTER, of Portland, in the county of Multnomah and in the State of Oregon, have invented a certain new and useful Improvement in Sash-Bars, and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a window equipped with a sash bar embodying my invention, parts of the bar and one of the panes of glass being broken away; Fig. 2 a detail view in perspective of a clamp that I may use at the window sill; Fig. 3 a detail view in vertical section of the clamping means at the sill; Fig. 4 a detail view of the bolt I may use with the clamps applied above the sill; Fig. 5 a perspective view, similar to Fig. 1, showing a different construction of the clamp at the window sill.

The object of my invention is to provide a sash bar for securing plates or sheets of glass for windows, show cases, etc. which will be all-metal, have no screws or fastenings accessible from the outside; easily and quickly assembled and taken down; and strong, but light, and inexpensive of manufacture, and to these ends,—

My invention consists in the sash bar construction substantially as hereinafter specified and claimed.

To illustrate my invention I show it adapted for securing two plates of glass 1 in a window frame, the two plates being in the same vertical plane, but I do not limit myself to the glazing of windows, nor to any particular relation of the plates or panes, as they may be arranged in any angular relation between 90° and 180°. On the outer side of the glass I use a vertical bar or rail 2, formed of sheet metal bent into curvilinear or concavo-convex shape in cross-section, the concave side being towards the glass and the sides bearing against the respective plates on opposite sides of the joint between them. The sides of the rail or bar are bent or curved inward to carry their edges outward away from the glass, so that a smooth round surface has contact with the latter, and so that a sort of channel or hook-like formation is produced on each side the bar or rail for the interlocking engagement of the clamping devices I employ. Said clamping devices comprise a member having a tongue-like part that lies between the two plates of glass and against which their opposite edges abut giving them a good wide bearing, and on each side has a laterally and inwardly bent flange whose edge enters and engages the channeled or hook-like side of the bar or rail and draws and holds it against the outer surface of the glass, as hereinafter described. Said member is made of sheet metal, and may, as shown in Fig. 1, be in one piece, bent into a T-shape, the portion 3 corresponding to the vertical member of the T being formed of two parallel sections that pass between the two plates of glass and are joined on the inner side of the latter and the portions 4 corresponding to the cross of the T curving first laterally outward and then inward. On the inside of the plates of glass, there is a vertical bar or rail 5 that overlaps both edges of the plates to as to completely cover the joint between them, and passing through a hole in the said bar or rail and a hole in the tongue-like portion 3 of the clamping member, is a horizontal bolt 6 having a T-head inside said portion 3, and having a nut 7 engaging the outside of the bar or rail 5, so that by means of the bolt and nut, and the clamp, the two bars or rails 2 and 5 are drawn tightly against the outer and inner sides of the plates of glass.

The inner bar or rail 5 may be flat, or, as shown, dished, or concavo-convex, with its concave side towards the glass.

The tongue-like portion of the clamp need not be formed of two members joined together, as shown in the upper part of Fig. 1, but they may be unconnected by any integral piece, as illustrated in the lower part of Fig. 1 and in Fig. 2 they being joined instead by a rivet 7 passing through alining holes in the portions which form the sides of the tongue, which holes are countersunk, as shown, and there being employed in this case instead of T-headed bolts shown in Fig. 4, an eye bolt, as shown in Figs. 1 and 3. In the case of a clamp applied at the bottom of a window, the clamp may, as shown in Figs. 1 and 2, be provided with laterally projecting feet 8, which rest upon and are attached to the window sill; and if desired, the lower end of the inner bar or rail 5 may be provided with a horizontal foot 9, which may be fastened to the sill. If the bar or rail 5 is not fastened to the sill, the glass may be removed from the rear, or if the clamp next the sill is not attached to the latter, the glass may be removed from the front without disturbance of the outer or inner rails, as the case may be.

The form of clamp which I prefer to use at the window sill is illustrated in Fig. 5. It comprises a vertical main part 10 and two vertical flanges 11 that extend in diverging lines from the main part, which engage the hook-like or channel formations in the bar or rail 2, just as in the other form of my clamp. At the bottom of the vertical member 10, and extending horizontally at right angles inwardly therefrom, is a single foot 12, which may be fastened to the window sill. The employment of the single foot, and having the relative position shown and described, is of especial advantage, in that it enables the clamp to be conveniently used on a corner. It will be understood, of course, that in the embodiment of my invention illustrated in Fig. 5, the vertical bar or rail 5 on the inner side of the plates of glass is employed.

By reason of the bending of the edges of the outer rail or bar, as shown and described, the rail or bar is substantially stiffened or strengthened, and, as well, a smooth glass-engaging surface is provided which will not mar or scratch the glass, and the bar or rail is held securely from lateral movement by the interlocking engagement of the clamps with the curved or bent edges; and said bar or rail may be carried in stock and cut to length as required, and this is true also of the inner bar or rail, especially when in a flat form.

The forms of all the parts of my sash bar are such as to admit of easy manufacture, and the clamps may be made comparatively short, and only such a number of them are used as the weight of the glass requires.

Besides the structural and other advantages which have been mentioned, it will be apparent that the channels or passages which exist in the sash bar may be very conveniently used for the passage of electric wires either leading to lights mounted upon the sash bar, or for other purposes.

Having thus described my invention, what I claim is:—

1. In a sash bar, the combination of a sheet metal bar or rail having grooved or channeled glass-engaging edges, and a clamp of bent sheet metal comprising T-shaped member having a tongue-like portion that passes between the sheets or panes and having flanges that engage the channels or grooves in said bar, and press the glass-engaging edges of the bar against the glass and means for applying pressure to said member.

2. In a sash bar, the combination of a bar or rail having grooved or channeled glass-engaging edges, and a clamp comprising a member with flanges that engage the channels or grooves in said bar, and press the glass-engaging edges of the bar against the glass and having a tongue-like portion that passes between the sheets or panes, said clamp being of sheet metal bent to form the flanges and tongue-like portion and a bolt connected to said tongue-like portion.

3. In a sash bar, the combination of a bar or rail having grooved or channeled glass-engaging edges, and a clamp comprising a member having a tongue-like part that lies between the two sheets or panes, and two laterally and inwardly bent flanges whose edges interlock with the respective bar grooves or channels, and press the glass-engaging edges of the bar against the glass and a bolt connected with said tongue-like part.

4. In a sash bar, the combination of a concavo-convex bar having its opposite edges grooved to form rounded glass-engaging surfaces and grooves or channels, a clamp having a tongue-like part lying between two sheets or panes of glass, and provided with laterally and inwardly bent flanges that interlock with the respective bar grooves or channels, and press the glass-engaging edges of the bar against the glass a second bar situated opposite the first, and a bolt connected with said tongue-like part and engaging said second part.

5. In a sash bar, the combination of a bar or rail having grooved or channeled glass-engaging edges, and a clamp comprising a member having flanges that interlock with the respective bar grooves or channels, said clamp having an inwardly projecting foot for attaching the clamp to a window or other frame, and means independent of said foot for applying pressure to said member to press the glass-engaging edges of the bar or rail against the glass.

In testimony that I claim the foregoing I have hereunto set my hand.

GEORGE C. HESTER.

Witnesses:
TRUMAN J. GLOVER,
M. E. NICHOLS.