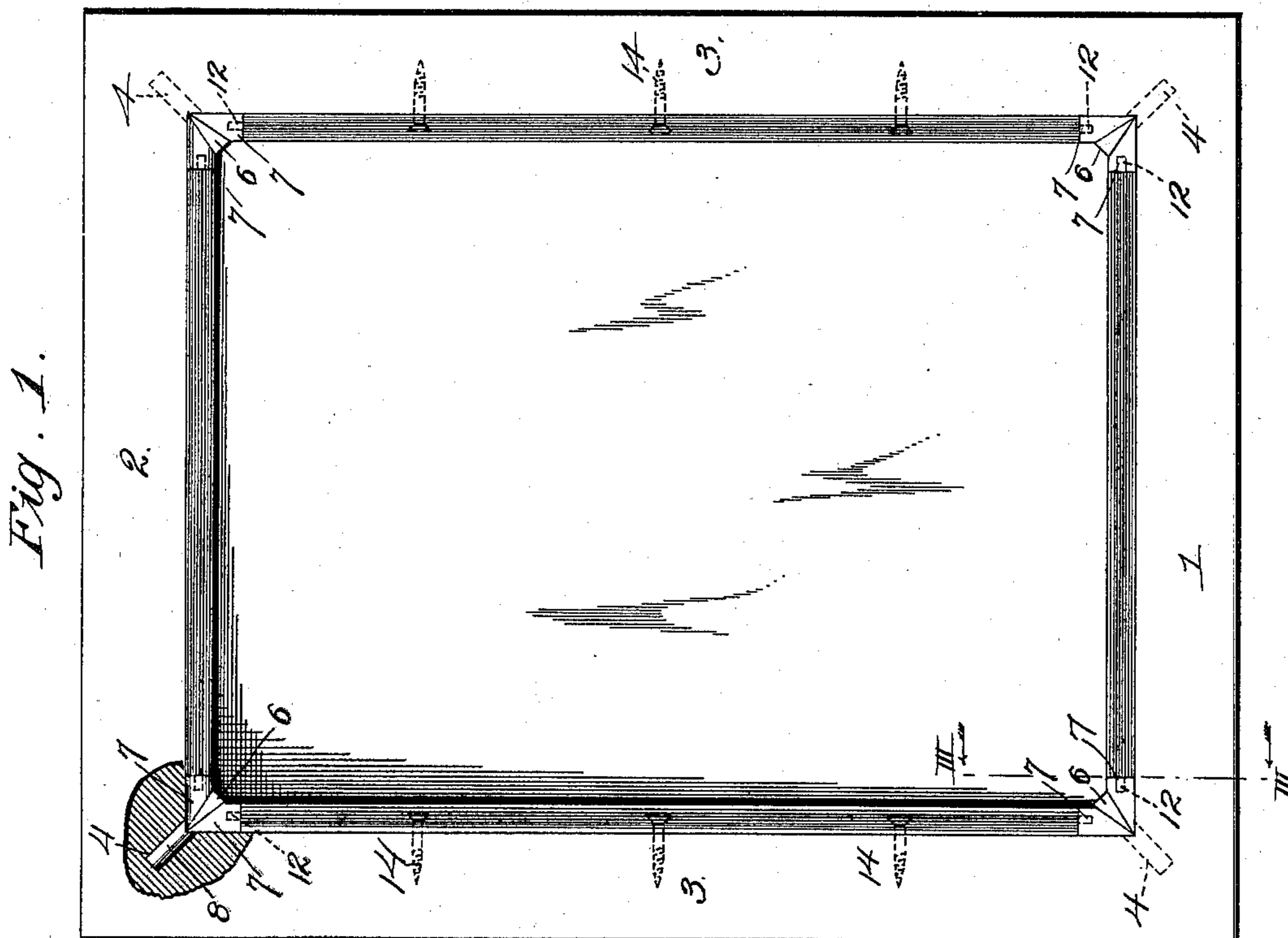
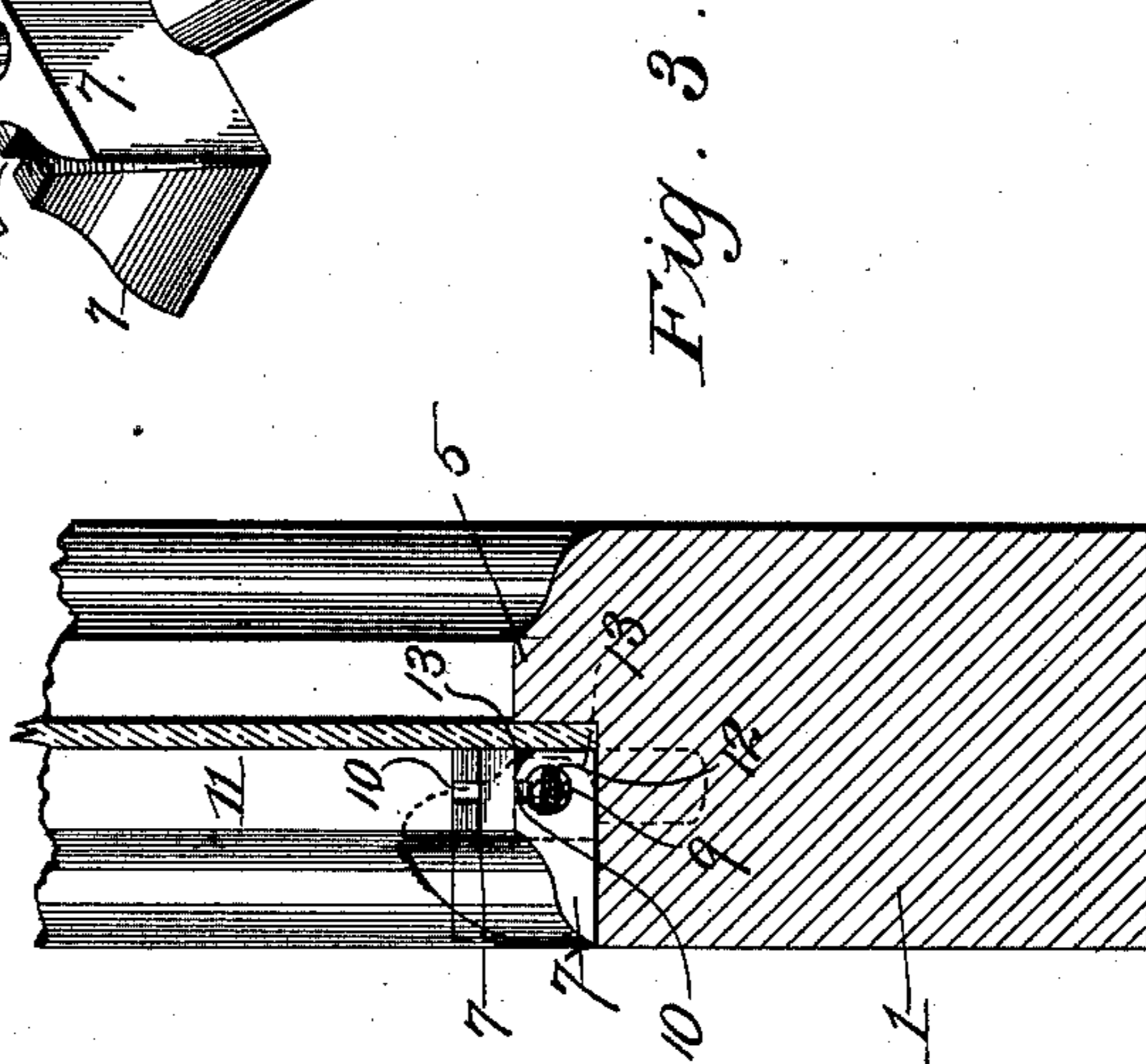
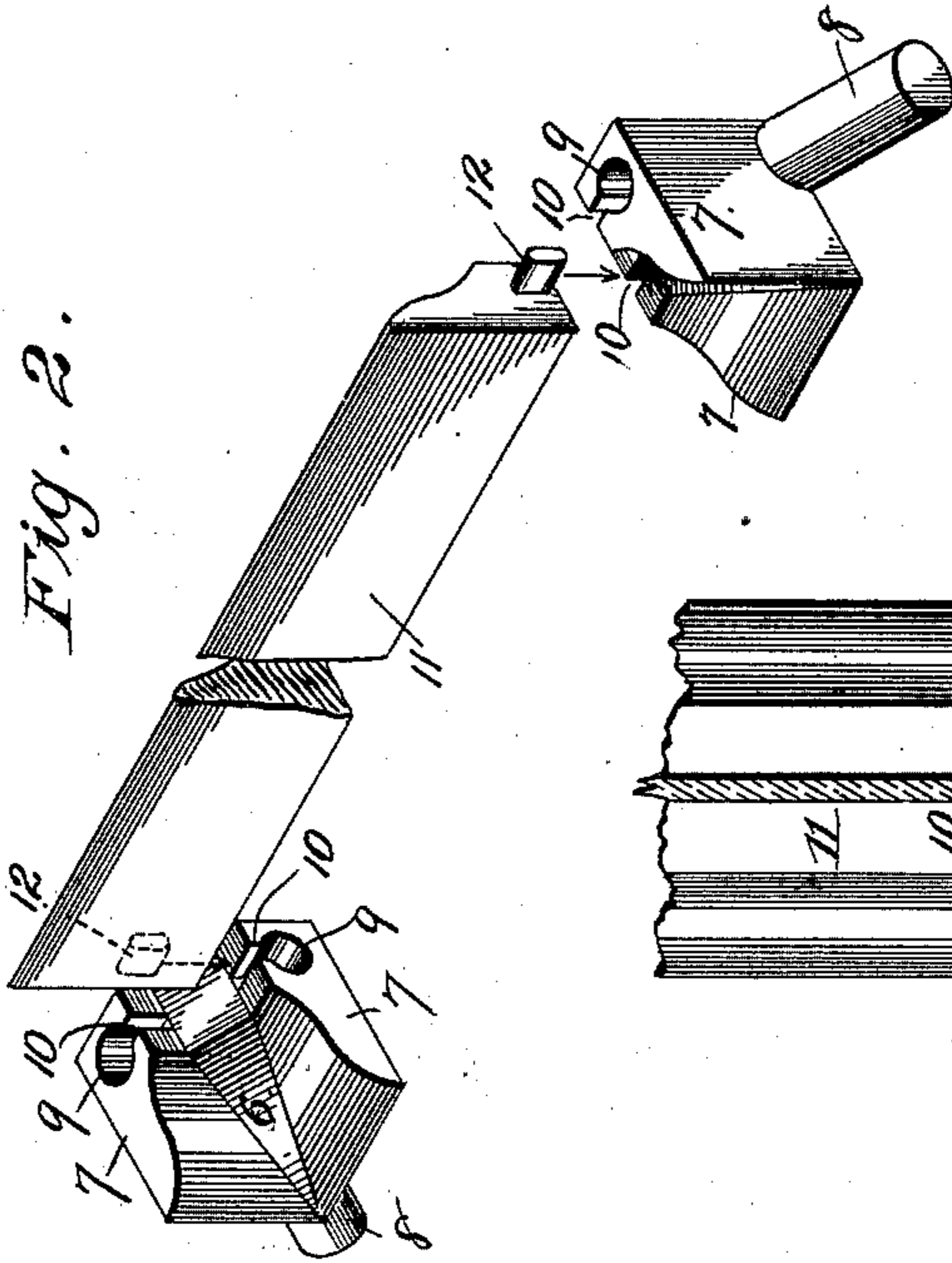


(No Model.)

R. L. PHEARS.
WINDOW PANE SECURING DEVICE.

No. 584,828.

Patented June 22, 1897.



Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT L. PHEARS, OF KANSAS CITY, MISSOURI.

WINDOW-PANE-SECURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 584,828, dated June 22, 1897.

Application filed February 23, 1897. Serial No. 624,594. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. PHEARS, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Window-Pane-Securing Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to window-pane-securing devices, and my object is to produce devices of this character whereby a pane of glass may be clamped and secured quickly and easily in position by a novice or inexperienced person in the trade or art to which the invention appertains.

A further object of the invention is to produce devices of this character which obviate the use of putty entirely, and of screws, if desired.

A further object is to produce devices of this character which are simple, strong, durable, and inexpensive of manufacture.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents an inner face view, partly in section, of a window-sash embodying my improvements. Fig. 2 represents, on an enlarged scale, a perspective view of devices embodying my invention. Fig. 3 represents, on an enlarged scale, a cross-section taken on the line III III of Fig. 2.

In the said drawings, 1 designates the bottom, 2 the top, and 3 the side bars, of a window-sash.

4 designates holes which are drilled into said sash at its four corners, said holes extending at angles of forty-five degrees.

5 designates an annular flange or bead of the window-sash, against which the pane of glass rests.

6 designates corner-brackets provided with arms 7, projecting at right angles to each other, and with the stems or tangs 8. One of these brackets is fitted in each corner of the sash and forces the pane of glass at such points tightly up against the bead or flange 5 and

holds it in such position by reason of the fact that the stems or tangs 8 of the brackets fit snugly in the holes 4 of the sash. Each arm of said brackets is provided with a cylindrical hole 9 and a narrow or contracted mouth 10 for the same.

11 designates clamping-strips, which are adapted to connect the corner-brackets and clamp the pane of glass squarely against the flange or bead 5 for its entire length. Each strip 11 in cross-section corresponds to the form of the arms 7 of the brackets, which are preferably of ornamental configuration.

The top and bottom strips 11 in length are equal to the distance between the horizontal arms of the brackets, while the side strips 11 are equal to the distance between the vertical arms of the said brackets, as shown clearly in Fig. 1. Each strip is provided at its ends with trunnions or pins 12 of elongated form, so that they may be slipped through the mouths 10 of the opposing arms of the brackets and into the cylindrical cavities 9, which in diameter slightly exceed the greatest diameter of said elongated pins in order that the latter may turn therein without lateral play or movement, that the outer edges of said strips when swung from the position shown in dotted lines, Fig. 3, to that shown in full lines, same figure, shall bear firmly and squarely against the glass and clamp the latter tightly against the bead or flange 5 of the sash. In order to accomplish this, the strips are disposed parallel with the glass, as indicated in Fig. 2 and in dotted lines in Fig. 1, and then pushed in the proper direction until said elongated trunnions or pins 12 have wholly entered the cylindrical cavities of the opposing arms of the brackets. The outer faces of the strips are now disposed at right angles to the bead or flange 5, as indicated also in Fig. 3, and the necessarily-rounded corners 13 of said strip are opposed to the glass. The strip is then grasped and, supposing it to be the bottom strip, swung downwardly and away from the glass, as indicated by the arrow in Fig. 3. As this operation takes place the rounded corner of said strip commences to push the glass toward the bead or flange 5, and owing to the fact that the curve of said shoulder is eccentric of the axis of said pin and the cavity 9 this pressure on

the glass is increased as the rotatable operation of the strip continues until by the time the outer face of the strip bears against the glass the latter, as hereinbefore stated, is clamped tightly and firmly secured against said bead or flange 5. The joint thus made is so close that it is air and water tight and the necessity for using putty is entirely obviated.

For small windows, such as car-windows and the like, where the strips 11 are comparatively short, it will be undesirable and unnecessary to employ screws for securing said strips to the sash at intermediate points, but for large windows and large panes it may be desirable to secure said strips at intermediate points, as indicated by the screws 14 in Fig. 1.

Should it be necessary at any time to replace a broken glass, it is obvious that an unskilled person, by inserting a screw-driver under the edges of said strips, may swing them back to positions parallel with the glass, lift them from position, extract the corner brackets or two or more of them, and then remove the glass and replace it with a perfect one. The brackets are then replaced and the strips resecured in position, as before described.

It is to be understood, of course, that while direct reference is made in this description to securing window-glasses in position, it is my intention to apply these devices in various other connections. For instance, these devices may be employed advantageously in connection with glass doors for book-cases and for removably securing in frames sheets of material not necessarily transparent.

From the above description it will be apparent that I have produced devices for securing window-panes in position which embody the features of advantage enumerated in the statement of invention, and it is to be understood that I may vary the form, proportion, and detail construction of the parts in some degree without departing from the spirit and scope of my invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a sash provided with a bead or flange against which a pane of glass rests, of securing devices comprising brackets secured in the corners of the sash, and clamping-strips connecting said brackets and clamping the glass firmly against said bead or flange, for the purpose set forth.

2. The combination with a sash provided with a bead or flange, against which a pane of glass rests, of brackets fitting in the corners of the sash and provided with pins projecting into holes in the sash, and clamping-strips connecting and carried by said brackets and clamping the glass firmly against said bead or flange, for the purpose set forth.

3. The combination with a sash provided with a flange or bead against which a pane of glass rests, of brackets secured in the corners of the sash, and provided with cylindrical openings, and clamping-strips, provided with trunnions engaging said openings, and clamping the glass firmly against said bead or strip.

4. The combination with a sash provided with a bead or flange against which a pane of glass rests, of brackets secured in the corners of said sash and provided with cylindrical openings having contracted mouths, and clamping-strips connecting said brackets and provided with elongated trunnions which fit snugly and rotatably in said openings, and clamp the glass firmly against the bead or flange, substantially as described.

5. The combination with a sash provided with a bead or flange, against which a pane of glass rests, of brackets fitting in the corners of the sash and provided with cylindrical openings having contracted mouths, and clamping-strips having rounded corners and provided with elongated trunnions arranged eccentrically of said corners, and fitting rotatably and snugly in the openings of said brackets, substantially as described.

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

ROBERT L. PHEARS.

Witnesses:

G. Y. THORPE,
M. R. REMLEY.