No. 736,774.

PATENTED AUG. 18, 1903.

J. B. PHELPS.

STORE FRONT SASH.

APPLICATION FILED MAR. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

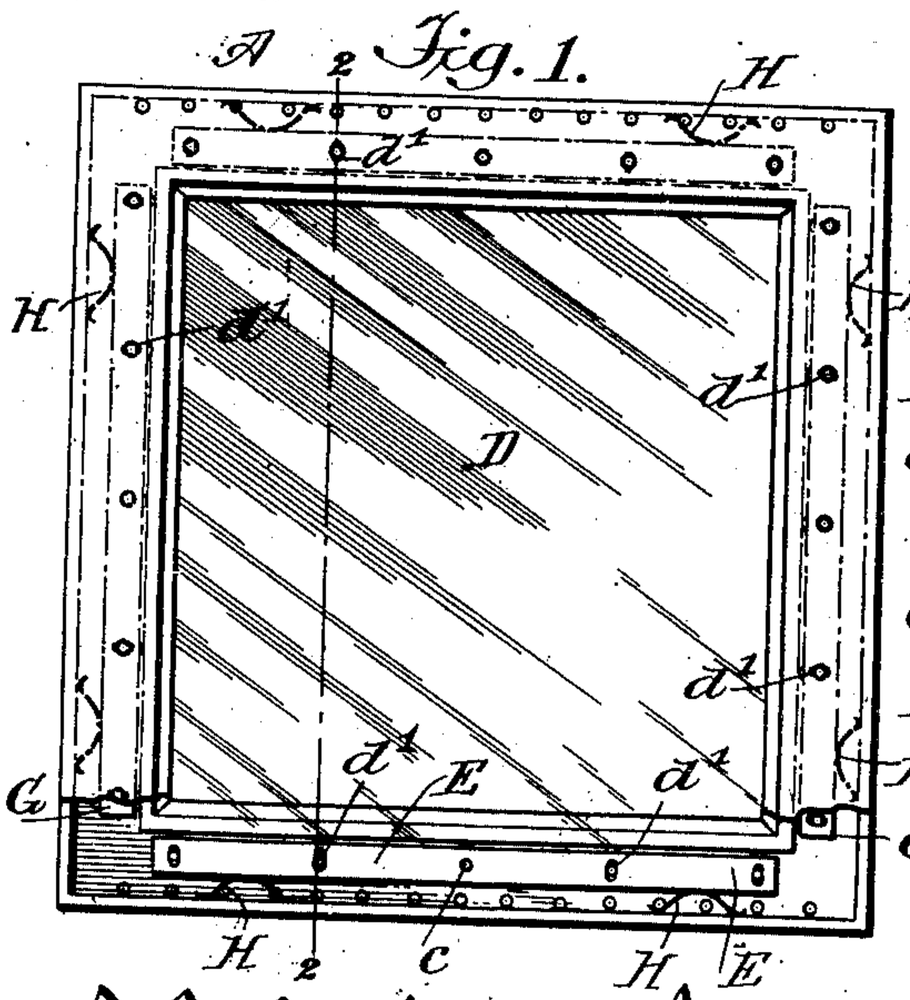
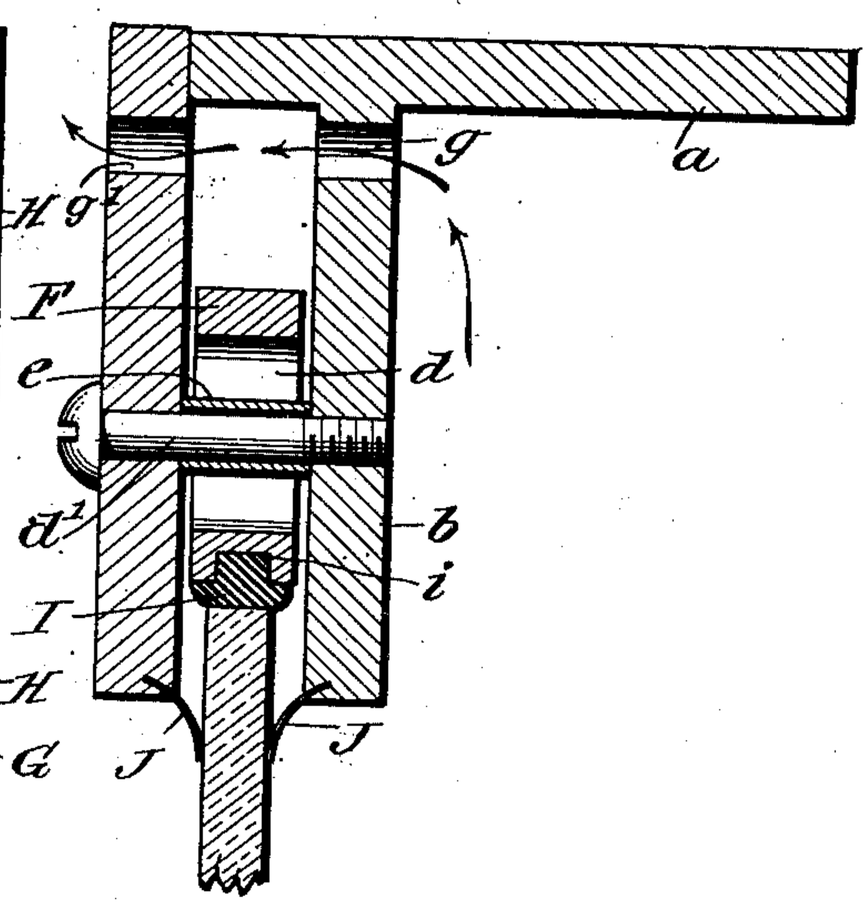


Fig. 1.



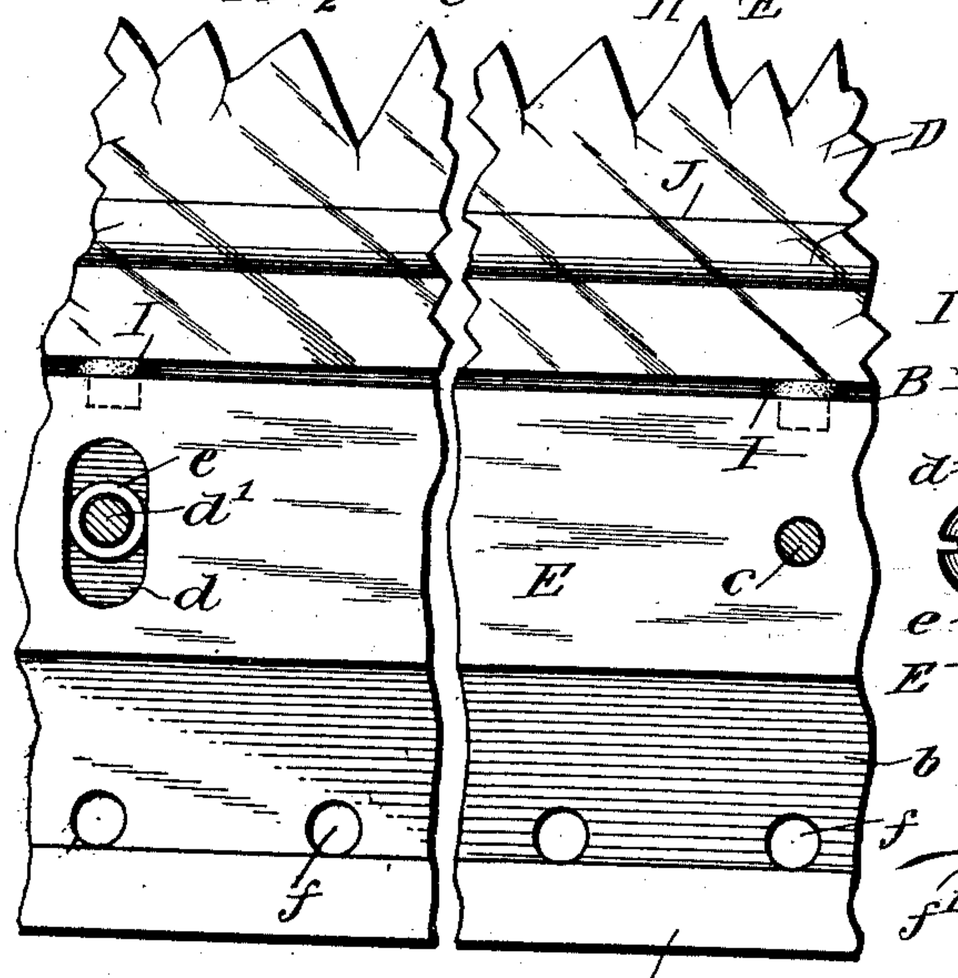


Fig. 3.

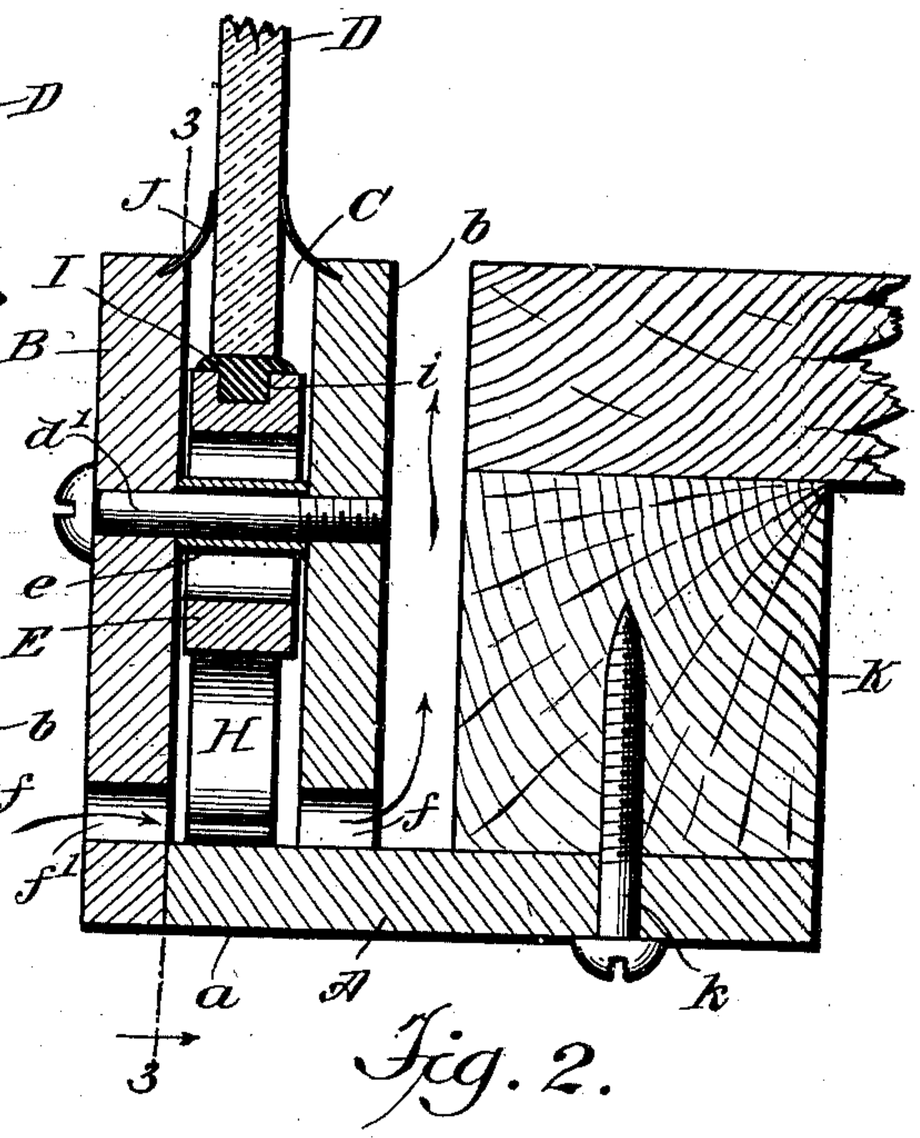


Fig. 2.

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No. 736,774. PATENTED AUG. 18, 1903.

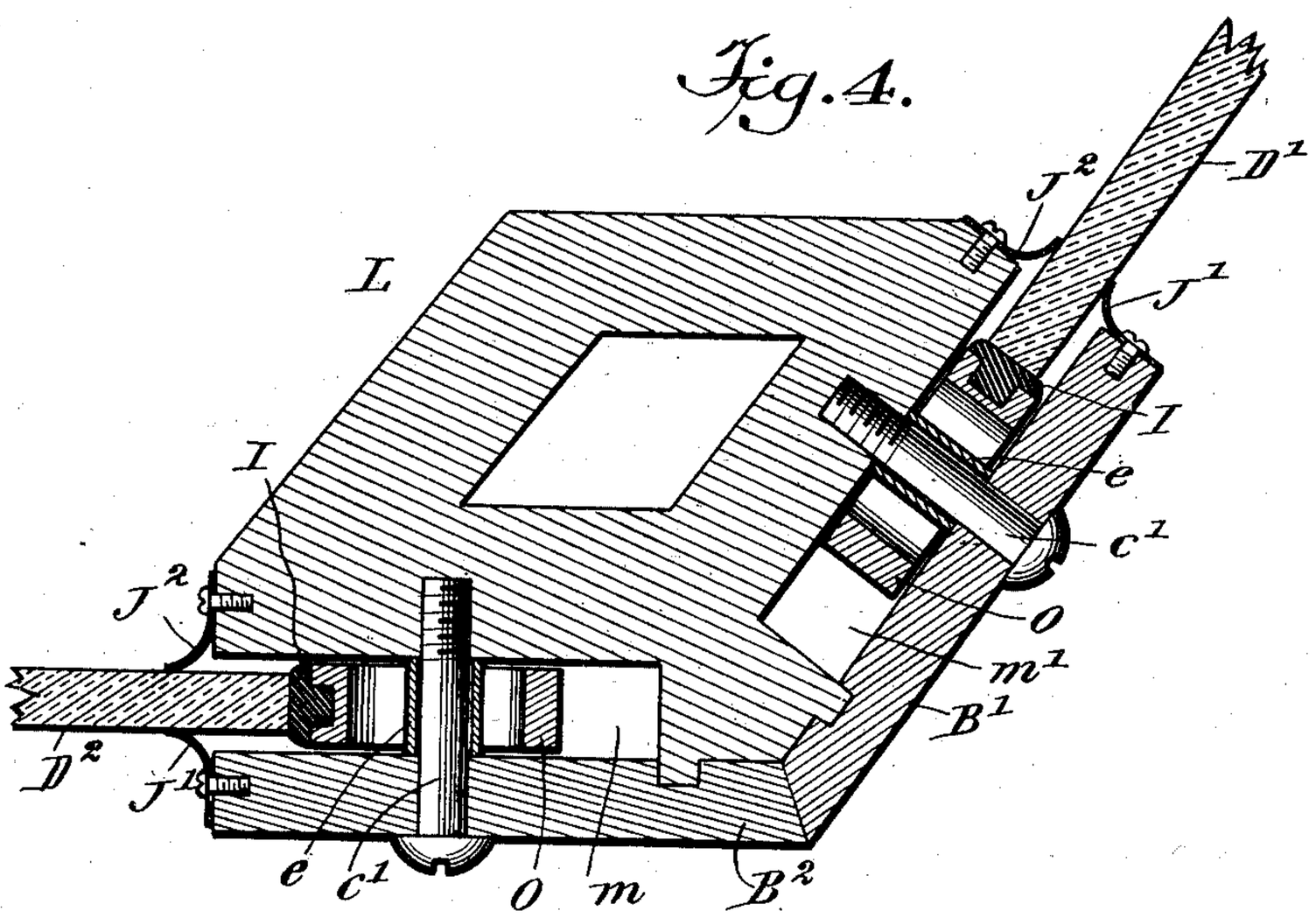
J. B. PHELPS.

STORE FRONT SASH.

APPLICATION FILED MAR. 13, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.



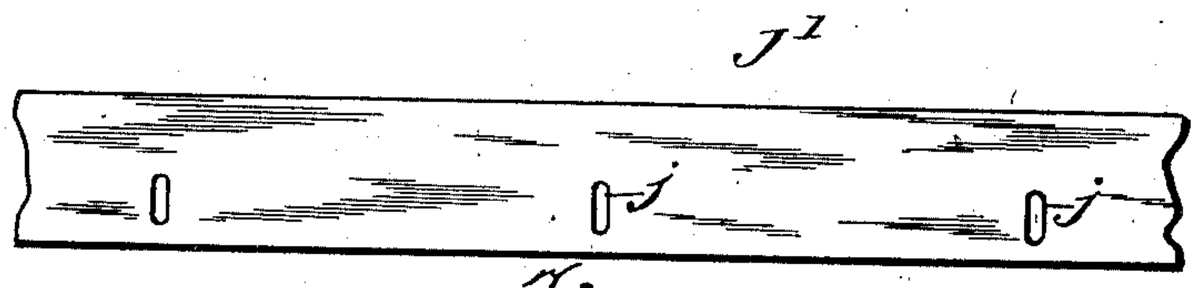


Fig. 5.

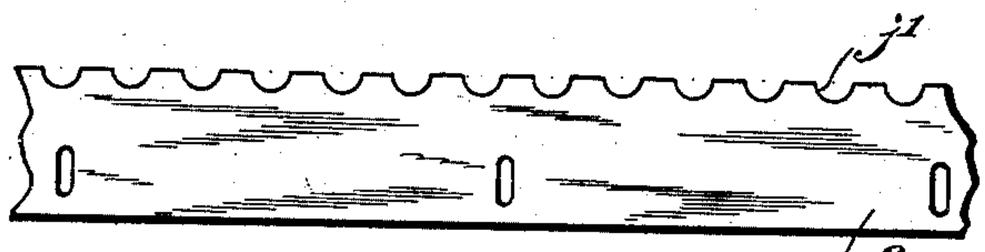


Fig. 6.

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No. 736,774. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

JEROME B. PHELPS, OF MENDOTA, ILLINOIS.

STORE-FRONT SASH.

SPECIFICATION forming part of Letters Patent No. 736,774, dated August 18, 1903.

Application filed March 13, 1903. Serial No. 147,619. (No model.)

To all whom it may concern:

Be it known that I, JEROME B. PHELPS, a citizen of the United States, and a resident of Mendota, in the county of Lasalle and State of Illinois, have invented a new and Improved Store-Front Sash, of which the following is a full, clear, and exact description.

This invention relates to sashes especially adapted for use in connection with large plate-glass fronts of stores, although the improvements may be used generally in connection with plate-glass windows or the like.

Among other objects my invention seeks to provide an improved mounting which holds the glass securely in place without the use of putty, allows for expansion and contraction of the glass and for the settling of the store-front or sash-frame, so as to minimize the tendency of the glass plate to become broken, to permit the plate-glass to be mounted in the sash or front without cutting the glass if its edges are not square or true, to make provision for fitting two or more plate-glass panes to an angle corner or post, and to provide for circulation of air through the show-window and on the inner surface of the plate-glass.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation, on a reduced scale, of a store-front sash embodying my invention and adapted to hold a plate-glass without resorting to the use of putty. Fig. 2 is an enlarged vertical section, partly broken away, through the glass-sash, the view being taken on the line 2 2 in Fig. 1. Fig. 3 is a sectional elevation through a part of the sash shown by Fig. 2 and in the plane indicated by the dotted line 3 3 of Fig. 2. Fig. 4 is a horizontal section through another embodiment of the invention adapted to employ a post or column at an angle of a show-window. Figs. 5 and 6 are detail views of parts to be hereinafter described.

The show-window or store-front is provided with a continuous marginal frame A, preferably made of metal in the form of an angle-iron. This angle-iron consists of a base *a* and a web *b*, the latter extending at right angles to the base and disposed between the inner and outer edges thereof. (See Fig. 2.) The web *b* of the angle-iron frame constitutes the inner wall of the sash. The outer wall of the sash is formed by a metallic plate B, which is in opposing parallel relation to the web *b*, and between this web and the outer plate or front B is a chamber C, adapted to receive the edge of a plate-glass D.

The plate-glass D is not secured rigidly in the sash-chamber C, but this plate-glass has its edge portions yieldably supported within the sash-chamber by a series of plates or strips E F G.

The strip E is arranged in a horizontal position in the lower portion of the sash-chamber C. The strip F is disposed in a like position in the upper portion of the sash-chamber, whereas the strips G are vertically disposed in the side portions of the sash-chamber. These strips engage individually with the edges of the plate-glass at the top, bottom, and sides thereof, and said strips are yieldably supported in the sash-chamber by the arrangement of bolts and springs now to be described.

Each strip is provided at its middle with an opening to receive a pivotal bolt *c*, one end of which is secured firmly in the member *b* of the angle-iron frame and the bolt passing loosely through the front plate B. The strip is furthermore provided with transverse slots *d*, through which loosely pass other bolts *d'*, each bolt being equipped with a sleeve *e*, as shown by Figs. 2 and 3. The sleeves *e* extend across the sash-chamber C to have engagement at their ends with the member *b* of the angle-iron and the front plate B, thus preventing the bolt from drawing the parts *b* B together and rigidly clamping the plate-glass D. The bolts *d'* pass through the front plate B and are screwed into the member *b* of the angle-iron, and each strip E F G is thus confined within the sash-frame by the central pivotal bolt *c* and by the other bolt *d'*, whereby each member is capable of a limited yieldable movement on the axis afforded by the middle pivotal bolt *c*.

Each strip is normally held in engagement with the edge of the plate-glass D by suitable springs, and in Fig. 1 these springs are shown

in the form of bent plates or leaves H, which engage with the member *a* of the angle-iron and with the outer edge of the strip. In Fig. 1 two of the leaf-springs are shown in operative relation to each strip in the frame, said springs being disposed on opposite sides of the pivot *c;* but it is evident that the number of the springs, the arrangement thereof, and the style of springs which I may use can be varied within wide limits.

The plate-glass D does not have direct engagement with the edge of the strips E F G, but these strips are provided with cushion-plugs I, which are seated in suitable sockets *i* of the strips and which project beyond the edge portions of the strips to have engagement with the edges of the plate-glass. These sections may be made of rubber or other suitable material, and the strips E F G may be made of metal, wood, or other appropriate material.

The spaces between the plate-glass D, the member *b* of the angle-iron, and the front plate B are adapted to be closed by the flexible metallic tongues J. These tongues extend continuously along the sides of the sash-frame, and they are arranged in pairs, one on the inside of the plate-glass and the other on the outside thereof. The yieldable tongues are fastened to the member *b* of the angle-iron and the front plate B, and these tongues are disposed in converging relation, so as to have frictional engagement with the plate-glass D on the inner and outer faces thereof, thereby closing the sash-chamber C against the admission of dirt, water, or the like.

The base member *a* of the angle-iron extends inwardly from the other member *b* in order that it may overlap a part K of the store-front, and this member *a* is adapted to be secured to the part K by bolts, screws, or other suitable device, as indicated at *k* in Fig. 2. The plate-glass D is exposed to the circulation of currents of air within the show-window, and provision is made for the inlet and circulation of the air by forming inlet-openings *f f'* in the bottom of the sash, while outlet-openings *g g'* are provided in the top of the sash. The inlet-openings *f f'* are formed in the member *b* of the angle-iron A and the front plate B, thus allowing air to pass through the sash-frame below the lower edge of the plate-glass D. The outlet-openings *g g'* for the warm air are formed in the member *b* and in the front plate B, so that the air will pass over the top edge of the plate-glass D.

In Fig. 4 of the drawings I have shown a corner-post or stile which is located at an angle or bend of the window and is adapted to receive the adjacent edges of glass plates D' D². This post or stile L is provided with recesses *m m'* in two of its faces, said recesses lying at an angle to each other, and said post is also provided with the front plates B' B². The recesses *m m'* are the equivalents of the sash-chambers C, because they receive the edge portions of the glass plates D' D², and with these plates engage the tongues J' J², which are fastened to the plates B' B² and to the edges of the stile or post L. In the chambers *m m'* are secured the strips O, each of which is pivoted at its middle and is provided with slots adapted for the reception of the bolts *c'*, said strip being mounted in the sash-chamber or recess in the way heretofore described. Of course each strip is held in place by the action of suitable springs, and it is equipped with cushions adapted for engagement with the edge of the glass plate.

If desired, the outside spring-tongue, as J', may be provided with transverse slots *j*, adapted to receive suitable fastening-screws by which the tongue may be adjusted relatively to the glass plate, as shown by Fig. 5. In Fig. 6 of the drawings I have shown the inside spring-tongue J² as having a series of notches *j'* in its top edge, said notches forming openings through which the air may freely circulate.

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

1. A store-front sash having a sash-frame provided with a chamber, a plate-glass fitted at its edge portions in said chamber, and yieldably-mounted strips lying within the sash-chamber and engaging with the edge portions of the plate-glass.

2. A metallic sash having a chamber, a glass fitted therein, yieldable strips confined within said chamber and engaging with the edges of the sash, and tongues attached to the sash and engaging with the face of the glass.

3. A metallic sash having a chamber, a glass fitted therein, a series of strips engaging with the edge portions of the glass, and springs for holding said strips and the glass in engagement with each other.

4. A metallic sash having a sash-chamber, a glass fitted therein, slotted strips engaging with the edges of the glass, bolts fastened to the sash and passing through the slots of the strips, and springs engaging with the slotted strips.

5. A metallic sash having a sash-chamber, a glass fitted therein, means for yieldably holding the glass in place within said sash, and converging tongues attached to the sash and engaging with the inner and outer faces of the glass.

6. A metallic sash having a sash-chamber, a glass fitted at its edge portions in said sash-chamber, means for yieldably holding said glass in the sash, and tongues attached to the sash and engaging with the faces of the glass.

7. A metallic sash having a sash-chamber, a glass, yieldably-mounted strips within the sash-chamber, and cushions disposed between the strips and the edges of the glass.

8. The combination of a corner-post having sash-chambers in its diverging faces, yieldably-mounted strips in said sash-chambers, and glass plates fitted in the sash-chambers into engagement with said strips.

9. The combination with a sash-frame, of a plurality of strips slidably confined within the respective sides of said sash-frame, a glass supported at its several edges by said slidable strips, and springs engaging with said slidable strips for holding them in operative relation to the glass and for cushioning jar and vibration thereon.

10. The combination with a sash-frame, and a plate-glass, of a yieldable tongue having circulation-openings, said tongue engaging frictionally with the plate-glass.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEROME B. PHELPS.

Witnesses:
R. N. CRAWFORD,
ROBERT HUSE.