

June 22, 1926.

1,589,560

H. C. REUTER

BUILDING CONSTRUCTION

Filed Jan. 20, 1926

2 Sheets-Sheet 1

Fig. 1.

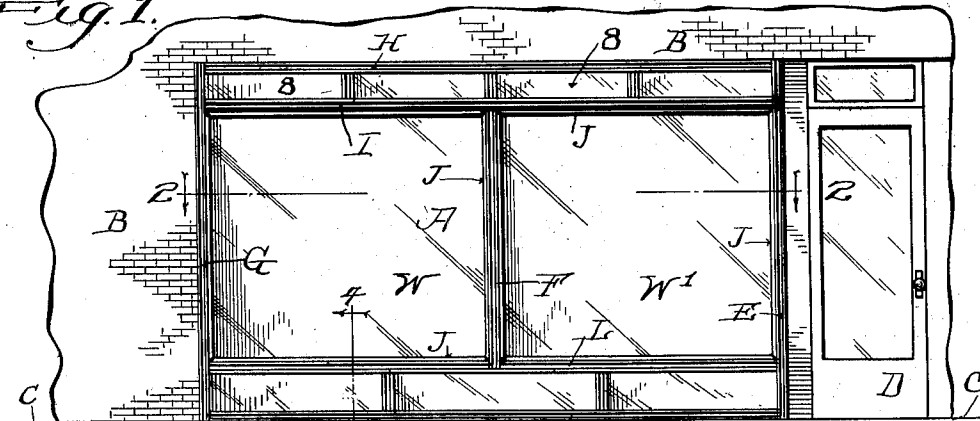


Fig. 4.

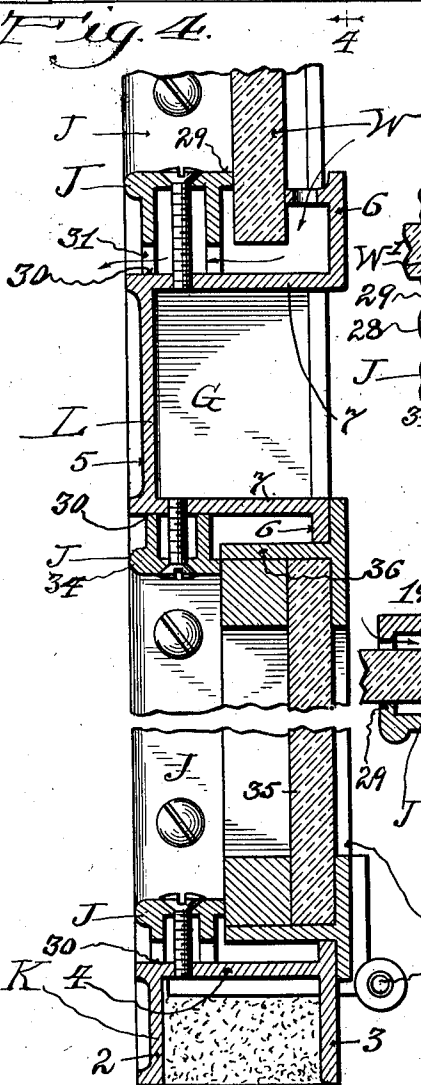


Fig. 5.

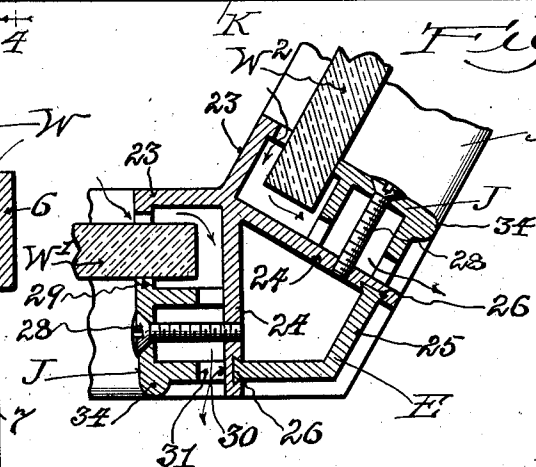
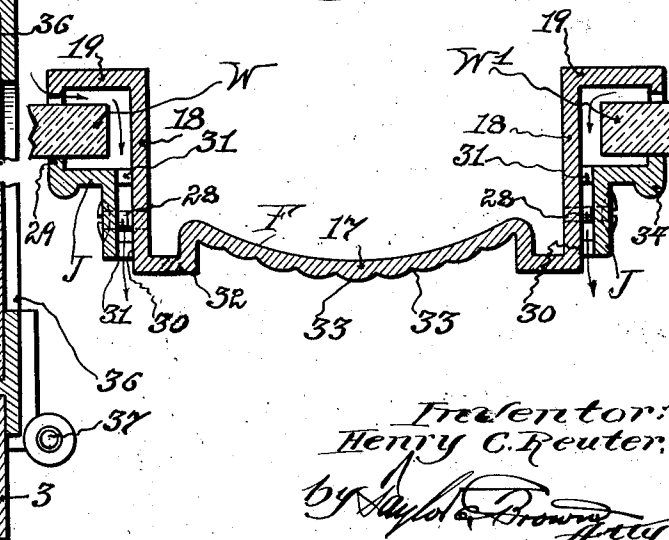


Fig. 6.



Inventor:
Henry C. Reuter,
by *Wm. A. Brown* Atty.

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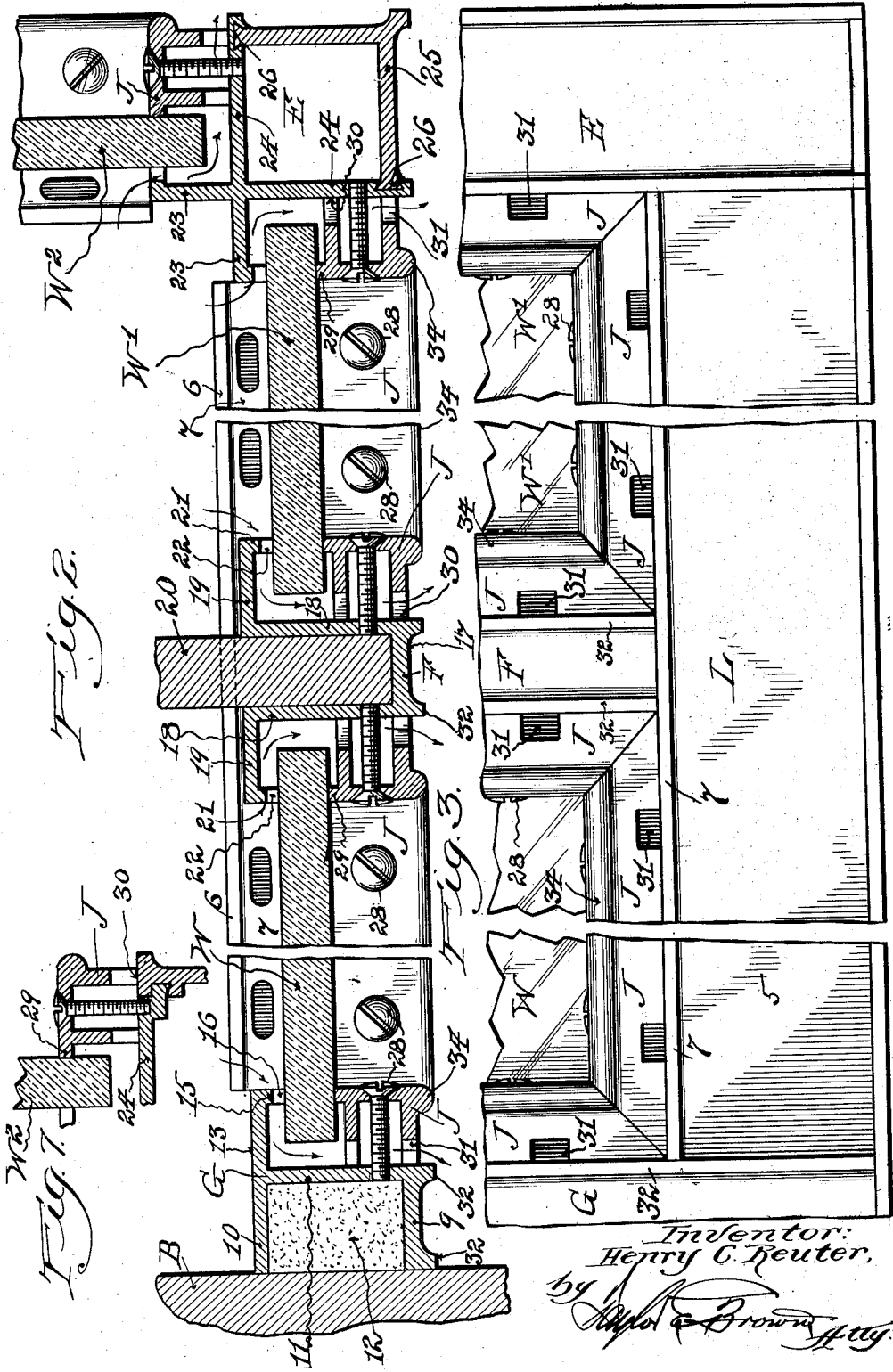
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2 Sheets-Sheet 2



Inventor:
Henry C. Reuter,
by *Wm. C. Brown* atty.

UNITED STATES PATENT OFFICE.

HENRY C. REUTER, OF CHICAGO, ILLINOIS.

BUILDING CONSTRUCTION.

Application filed January 20, 1926. Serial No. 82,434.

This invention relates to building constructions, and more particularly to store fronts, windows and the like.

It has been common for some time in new buildings to make door frames, show window frames, transom frames and store fronts generally not only of cast metal, but also of such a type of construction as to admit of alteration or renewal. It has also been common practice to reconstruct and modernize old buildings by putting in new fronts, display window frames, &c., of metal, thin strips of copper laid over cores of wood or other filling, having usually been used.

The present invention has for its main object a metal construction which will obviate well known objections of architects, builders and owners to the types of construction above referred to, and to produce a construction which lends itself to new, as well as to repair or rebuilding work; which may be made of metal strips formed of given sections cut to lengths as desired; which will be of strong and self-sustaining units which may be easily assembled; and which will readily yield to appropriate ornamentation.

Another object of the invention is to provide what I call a ventilated construction having means whereby moisture or foul air may escape from the interior of the building or the interior of a closed display window, through the structural units without injury to the strength or ornamental appearance of the structure as a whole. One of the advantages of this feature of the invention is the ease with which glass panels or window lights may be kept free of moisture and remain clean longer, to better perform their intended functions.

These and other objects and advantages of the invention will be manifest as I proceed with a description of my invention, which consists in the devices and combinations of devices illustrated, described and more particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a view in elevation, of a store front construction embodying my invention.

Figure 2 is a transverse, sectional view of the same, the section being taken in the horizontal plane indicated by the dotted line 2-2 of Figure 1, and broken away in order to show this section upon an enlarged scale.

Figure 3 is an elevation of the bottom

part of the front shown in Figure 1, also upon an enlarged scale.

Figure 4 is an enlarged, transverse, sectional view of the lower part of the structure, the section being taken in the vertical plane indicated by the dotted line 4-4 of Figure 1.

Figure 5 is a sectional plan view of a modified form of corner post.

Figure 6 is a sectional view of a modified form of central post or stud member.

Figure 7 is a sectional plan view of a detail, showing a modified form of two inter-engaging parts.

Referring now to the particular form illustrated in Figures 1, 2 and 3, it will be understood that the window structure A, as a whole, is set in a building flush with the front wall B thereof; that it extends a normal distance upwardly from a sidewalk indicated by the line C; that the building has a door D located in a recessed portion of the wall; and that the structure has an end wall portion extending normal to the door and outwardly therefrom to the corner post E.

The center post is indicated at F and the side post at G, the transom plates at H and I, and the bulkhead plates at K and L; the front window lights at W, W', and the end window light at W², and the various retaining member units J.

The bulkhead plate K (see Fig. 4), which rests upon the floor C, has a front wall 2, back wall 3 and horizontal intermediate integral wall 4 connecting the walls 2 and 3. The upper bulkhead plate L also has a front wall 5, back walls 6, and intermediate, integral walls 7 connecting the walls 5 and 6. The top intermediate wall 7 of plate L functions as and will hereinafter be referred to as the sill member, since upon it is supported the lower ends of the side post G, center post F and corner post E.

Transom panels are here shown at 8, and an intermediate transom plate I is used.

The side post G is shown in cross section in Figure 2; is of generally rectangular outline formed of a front wall 9, a rear wall 10, and an intermediate or inner wall 11, thus forming an outer space next to the building wall B in which may be placed any desired filling material 12, such for example as concrete or cement. The rear wall 10 is extended beyond the face of the wall 11 as shown at 13, and its outer face is provided

with a vertically, that is a longitudinally, extending bearing shoulder or rib 15. When this rib extends the length of the post G, it is preferably provided with one or more openings or slots, one of which is indicated at 16.

The central post F, as shown in section in Figure 2, is of generally rectangular U-shaped form, comprising a front wall 17, parallel, intermediate walls 18 and two rear walls 19, extending laterally one from each wall 18. The walls 18 are adapted to embrace a vertically disposed structural member of the building, as for example, the rigid post 20. The front face of each rear wall 19 is provided with a longitudinally disposed rib or ribs 21, slotted or apertured as shown at 22.

The corner post E, as shown in Figure 2, is for a right angled corner where the window lights W' and W^2 extend at right angles, while that shown in Figure 5 is for an angular corner such for example as a bay window, where the window lights W' and W^2 are not at right angles. In each instance, the post E composes two rear walls 23, two intermediate walls 24 and a front wall 25, the walls 23 and 24 being integral. The inner faces of the intermediate walls 24 are grooved or suitably recessed longitudinally to receive complementally shaped margins of the front wall 25, the connection in this instance being the tongue and groove shown at 26.

On the front face of one of the rear walls 23 is a slotted or apertured rib or ribs 27, similar to the ribs 16 and 21. The front faces of the ribs 16, 21, and 27 being in alignment, form shoulders or stops against which the rear surface of the window lights W and W' will be placed, said window lights being held against said shoulder ribs by suitable mouldings or retaining members J, as a whole.

These retaining members J are made "rights" and "lefts", cut to suitable lengths and preferably mitred at their ends. They are removably secured to the lower sill 7, the side post G, the plate I (or H as the case may be), the center post F and the corner post E, by screws 28 or any other suitable means. They are of U-shape, rectangular outline in cross section, so as to present a bearing rib shoulder 29 against the window lights and one or more bearing shoulders, as 30, against the member to which they are held by screws 28. The retaining members J are suitably apertured as indicated at 31.

The front walls 9 and 17 of the side and center posts G, F, respectively, may be suitably ornamented in the formation of the member, or may have any desirable ornamentation applied thereto. In the instance shown, integral, cavetto-fillets 32 afford a

very simple and practical ornamentation. In Figure 6, I show the front face of the wall 17 as curved and ornamented, intermediate its side margins, with a plurality of semi-circular flutings 33 extending longitudinally of the wall 17.

The retaining members J may also be suitably configured for decorative purposes, as for example, with a rounded corner bead 34.

Instead of the tongue and groove connection 26, other arrangements may be used, one such being shown in Figure 7, where the tongue is, on the intermediate wall 24 and the recess in the front wall 25.

In some instances, it is desired to have a transverse or bulkhead window hinged to swing open. Such an arrangement is illustrated, in one form, in Figure 4, where the glass or window light 35 is in a suitable frame 36 and the latter is hinged at 37 to a fixed support, as for example, the wall 3 of the lower plate K. In this instance, the front of the frame 36 abuts against the retaining members J, and the rear of the frame against the rear walls 3 and 6 of the plate K and sill plate L, respectively.

The retaining members J may be modified to suit special cases, one such modification being shown in Figure 6.

It will be understood that practically every unit of my structure,—the posts E, F, G, the plate L, plates K, I and H, the retaining members J and the front walls 25 of the corner posts E (where the posts are made in two parts as here shown, though the corner post may be made in one piece), are made from suitable metal such as bronze, which may be fabricated from dies, of suitable design, and turned out in long strips and then cut to suitable length for the particular installation desired. In making the installation, the plate K and sill plate L are set in position, the posts and transom plates set, the window lights positioned, and finally the retaining members J set and screwed in place. Where two units are secured together (as for example, a corner post E), the parts are telescoped, the tongue of the front wall 25 sliding longitudinally in the groove in the wall 24 and forming a snug and tight fit therein at 26.

Bronze metal comes from the dies not only truly shaped in cross-section, but highly polished on wall surfaces, suitable for immediate installation upon being cut to proper dimension. The units are made of sufficient thickness to not only be self-supporting, but to be inherently strong.

Structures such as are above described, made of suitable metal, particularly bronze, are relatively cheap, strong and durable, of pleasing appearance even in the simplest designs and are readily ornamented in elaborate design where required, by screwing or

otherwise securing ornamented design units to the front faces of the posts E, F, and G, or to the retaining members J.

Where this construction is used in commercial buildings having show or display windows closed off from the interior of the building, such show window space often becomes filled with foul air or becomes moist from sweating in cold weather, or from water carelessly left by window washers. In my invention, this is entirely remedied by the apertures in the various parts, whereby ventilation is constantly effected, and whereby any moisture or drip water will drain out to atmosphere.

It will be manifest that many modifications in details may be employed and yet embrace the essential principle of my invention, and while I have illustrated and described a form in which I have embodied my invention in actual installations in practical use, I do not desire to be limited to such form except as set forth in the claims hereto appended.

I claim as my invention:

1. A metal, self-supporting frame for an aperture in a building wall, comprising side posts, a bottom sill member and a top plate member, each side post comprising front, rear and intermediate integral walls, an outwardly directed, vertically disposed rib shoulder on the outer face of each rear wall, a panel adapted for insertion in the frame, and a retaining unit adapted to contact with said panel to hold the latter in contact against the shoulder rib, and means for securing the retaining unit to the frame.

2. A metal, self-supporting window frame, comprising a bottom sill member, a top plate member and two side posts, a panel, a plurality of retaining units, each post having a front wall, a ribbed rear wall and an integral, intermediate wall, the retaining units bearing against the outside of the panel, and being secured, one to each of the four frame members.

3. A metal, self-supporting frame for two windows, comprising a bottom sill member, a top plate member, two side post members, an intermediate post member, two panel members, and retaining units, the intermediate and the two side posts each having integral front, rear and intermediate walls, and panel-abutting, shoulder ribs longitudinally disposed on their rear walls, and means for securing the retaining units against the panels and to the frame members.

4. A metal, self-supporting frame for two windows, comprising a bottom sill member, a top plate member, two side post members, an intermediate post member, two panel members, and retaining units, the intermediate and the two side posts each having integral front, rear and intermediate walls, and panel-abutting, shoulder ribs longitudinally

disposed on their rear walls, and means for securing the retaining units against the panels and to the frame members, the intermediate post member having its rear wall separated into two sections, spaced apart, with a shoulder rib on each section.

5. A metal, self-supporting frame for two windows, comprising a bottom sill member, a top plate member, two side posts, an intermediate post, two window panels and retaining units for each panel, the intermediate post and each side post having a rear wall and a shoulder rib on the rear wall for contact with a panel, and means for securing the retaining units to the frame members.

6. A metal, self-supporting frame for two windows, comprising a bottom sill member, a top plate member, two side posts, an intermediate post, two window panels and retaining units for each panel, each side post having a rear wall and a shoulder rib on the rear wall for contact with a panel, and means for securing the retaining units to the frame members, and the intermediate post having a front wall, rearwardly directed and spaced apart intermediate walls and a rear wall integral with each of the spaced apart walls, and a longitudinally disposed shoulder rib on each rear wall of said intermediate post.

7. In a metal, self-supporting frame for a window, a corner post comprising a front wall, two rear walls angularly disposed, and an integral, intermediate wall for each rear wall, means for telescopically connecting the side margins of the front wall with the respective intermediate walls.

8. In a metal, self-supporting frame for a window, a corner post comprising a front wall, two rear walls angularly disposed, and an integral, intermediate wall for each rear wall, means for telescopically connecting the side margins of the front wall with the respective intermediate walls, said means including a recess or groove in the intermediate wall and a complementary tongue on the edge of the front wall.

9. A metal, self-supporting frame for an aperture in a building wall, comprising side posts, a bottom sill member and a top plate member, each side post comprising front, rear and intermediate integral walls, an outwardly directed, vertically disposed rib shoulder on the outer face of each rear wall, a panel adapted for insertion in the frame, and a retaining unit adapted to contact with said panel to hold the latter in contact against the shoulder rib, and means for securing the retaining unit to the frame, the shoulder ribs and the retaining units being provided with means forming a conduit or passageway extending around the edges of the panels from the rear side to the outside thereof.

10. A metal, self-supporting frame for an aperture in a building wall, comprising side posts, a bottom sill member and a top plate member, each side post comprising front, rear and intermediate integral walls, an outwardly directed, vertically disposed rib shoulder on the outer face of each rear wall, a panel adapted for insertion in the frame, and a retaining unit adapted to contact with said panel to hold the latter in contact against the shoulder rib, and means for securing the retaining unit to the frame, the shoulder ribs and the retaining units being provided with means forming a conduit or passageway extending around the edges of the panels from the rear side to the outside thereof, said means including a plurality of slotted apertures in the ribs and retaining walls.
11. A metal, self-supporting frame for two windows, comprising a bottom sill member, a top plate member, two side posts, an intermediate post, two window panels and retaining units for each panel, each side post having a rear wall and a shoulder rib on the rear wall for contact with a panel, and means for securing the retaining units to the frame members, and the intermediate post having a front wall, rearwardly directed and spaced apart intermediate walls and a rear wall integral with each of the spaced apart walls, and a longitudinally disposed shoulder rib on each rear wall of said intermediate post, said spaced-apart, intermediate walls of the intermediate post being adapted to embrace a fixed support of the building.
12. A metal, self-supporting frame for a store front, comprising vertical side posts extending the height of the opening in the store wall, a transversely extending top plate member, a bottom member and an intermediate sill member, an intermediate post extending vertically between the sill member and the top plate, a second top plate, transoms intermediate the two top plates, bulkheads between the sill and the bottom member, window glass panels above the sill and on each side of the intermediate post, retaining units surrounding the margins of the window panel and removably secured to the sill, the posts and a top member, the several members, excepting the panel, each being rolled of predetermined cross section in strips and cut to desired lengths to fit space intended to be occupied in the frame.
- In testimony that I claim the foregoing as my invention I affix my signature this 13th day of January, 1926.

HENRY C. REUTER.