

W. SCHÄFER.
WINDOW FRAME.

APPLICATION FILED JAN. 18, 1912.

1,045,617.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

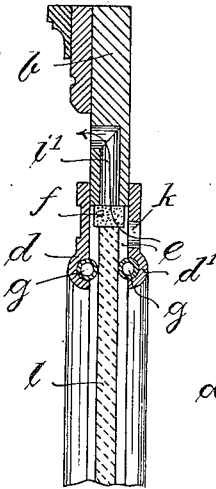


Fig. 2.

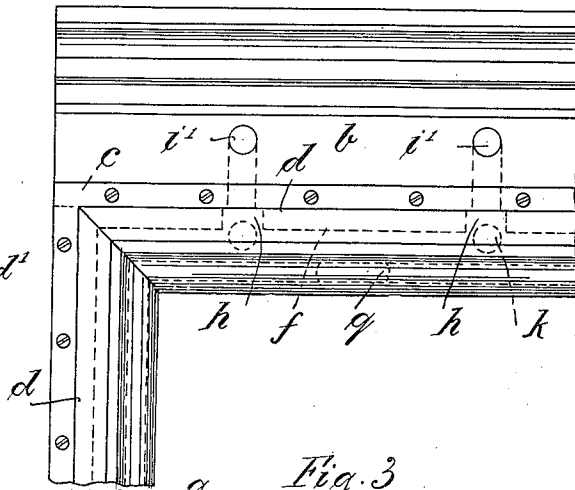


Fig. 3.

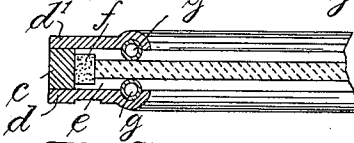


Fig. 1a

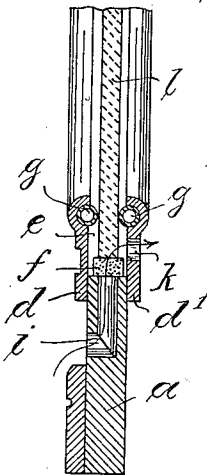
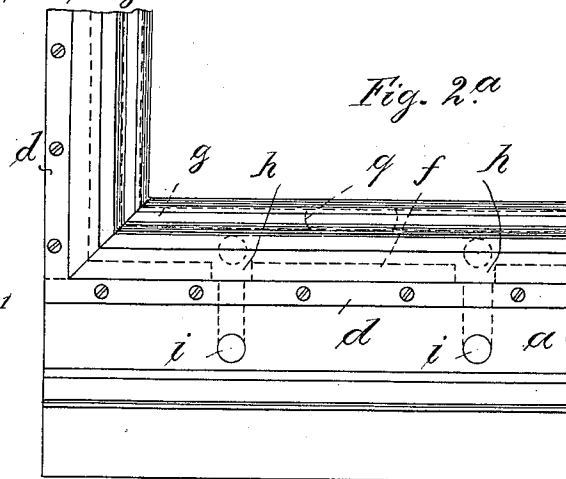


Fig. 2a



Witnesses:

Sam. Hutchinson
C. D. Brown.

Inventor:

Wilhelm Schäfer
Jesse Truman Nelson & Co.
by Attorneys

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2 SHEETS—SHEET 2.

Fig. 5.

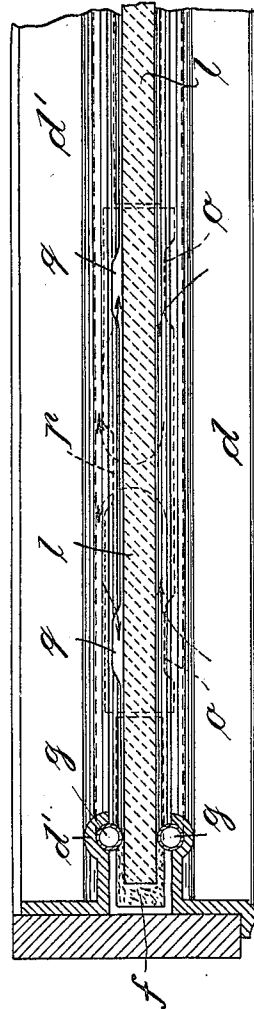
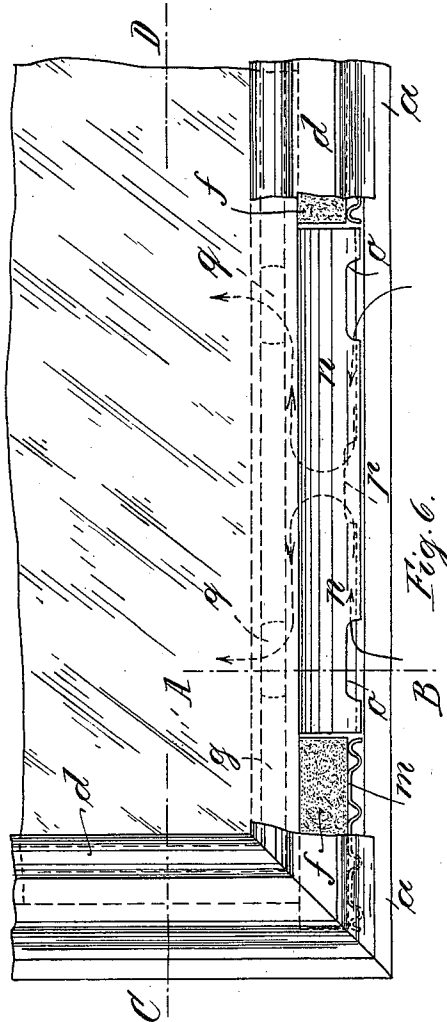
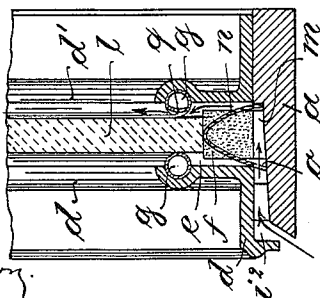


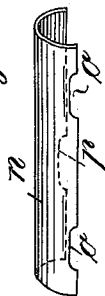
Fig. 4.



Witnesses:

Lou Hoshimoy.
C. S. Brown.

Fig. 7.



Inventor:

Wihelm Schäfer

by *Julius Hermann Kohnen & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

WILHELM SCHÄFER, OF MANNHEIM, GERMANY.

WINDOW-FRAME.

1,045,617.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed January 18, 1912. Serial No. 671,976.

To all whom it may concern:

Be it known that I, WILHELM SCHÄFER, a subject of the King of Bavaria, and resident of 53 Schwetzingenstrasse, Mannheim, in the German Empire, have invented certain new and useful Improvements in Window-Frames, of which the following is a specification.

This invention relates to improvements in the construction of window-frames and particularly those intended for shop windows and of the type described and claimed in the specification of my United States patent application Ser. No. 618,287 filed on the 1st of April 1911, the present invention constituting subject matter divided out from my aforesaid patent application.

The object of the present invention is to provide an improved combined ventilating and water draining arrangement whereby the water penetrating the joints and collecting in the grooves of the window-frame may readily flow away and thus be prevented from deteriorating the jointing medium, while enabling the circulation of air through the window frame. My invention also enables the water condensed on the inner side of the glass to be readily conducted away.

In order that my invention may be more clearly understood reference is made to the accompanying drawings whereon I have shown my invention as applied to a window-frame constructed in accordance with my concurrent United States patent application Ser. No. 618,287 filed April 1st, 1911.

Figure 1 is a vertical section through the upper part of such a window frame. Fig. 1^a is a vertical section through the lower part of the window frame. Fig. 2 is a detail side-view of Fig. 1 and Fig. 2^a a detail side view of Fig. 1^a. Fig. 3 is a transverse section through the window-frame. Fig. 4 is a vertical section on the line A—B of Fig. 5 showing a slightly modified construction. Fig. 5 is a side-view of Fig. 4. Fig. 6 is a transverse section on the line C—D of Fig. 5. Fig. 7 is a detail-view of the arched metal support for the glass, hereinafter referred to.

Referring to Figs. 1, 2, 3 of the drawings, the window-frame comprises essentially the top and bottom bars *a*, *b* and side-posts *c* which are provided on both sides with strips

d, *d'* forming grooves *e* for the reception of the glass *l*. Within these grooves *e* are suitably secured by means of screws or the like a plurality of strips *f* of resilient material, such as artificial cork or the like which has been rendered waterproof, these strips *f* having intermediate spaces *h* as may be seen from Figs. 2 and 2^a for the reception of water entering the groove *e* and for the passage of air from the exterior of the window-frame. The glass *l* is held in position by means of metal tubes *g* as described in my aforesaid concurrent patent application. Depressions *q* are preferably formed in the tubing *g* at intervals so as to provide spaces between the tubing *g* and the glass *l* through which water condensed on the glass may penetrate so as to enter the groove *e*. The groove *e* is adapted to be drained by means of conduits *i* formed on the lower part *a* of the window frame and located so as to open into the groove *e* between the cork strips *f*. Similar conduits *i'* may be provided in the upper part *b* of the window frame for the purpose of condensation, the interior strip *d'* of the frame being preferably provided with ventilating holes *k*. It will thus be seen that the conduits *i* and depressions *q* form efficient means for the removal of any water condensing on the glass and entering the grooves *e*, while at the same time the conduits *i* and *i'* and the depressions *q* and ventilating holes *k* serve for enabling a circulation of air through the groove *e* thus rapidly drying the interior of the joint and the cork strips *f* so that the latter are prevented from rapid deterioration.

In the modification shown in Figs. 4 to 7 of the drawings, the exterior strip *d* of the frame is so located on the window-sill *a* that a space *i²* is formed between the strip *d* and sill *a* this space serving as the conduit for conducting away water from the joint and for the entering of air. In this case the cork-strips *f* are seated upon corrugated sheet metal plates *m* the space below the strips *f* being either open to the conduit *i* or closed as desired and intermediate the cork strips *f* and adapted to bear against the glass *l* is an arched metal plate *n* shown in detail in Fig. 7, this plate *n* being provided with recesses or cut away parts *o* at its

front edges and with a recess or cut-away part *p* in its rear edge, the recesses *o* and *p* alternating with one another while the recesses *p* alternate with the depressions *q* in the inner tubing *g*.

It will thus be seen on reference to Figs. 5 and 6 that the air entering the room from the exterior of the window frame is compelled to pass in a zig-zag path through the window frame the air entering the conduit *i*² passing through the recesses *o* into the space beneath the arched plate *n* and passing out therefrom through the recess *p* and upwardly between the depressions *q* and the glass *l*. In this manner any dust or dirt is trapped in the window frame and during rainy weather, is washed out by the water penetrating the joint.

I claim:—

1. A window frame comprising strips forming a groove between them for the reception of the glass, material spaced in said groove and bearing against the edges of the glass, metal tubing within said groove, on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing, and conduits passing through said frame and leading from the exterior thereof to the spaces between said material in said groove.

2. A window frame comprising strips forming a groove between them for the reception of the glass, material spaced in said groove and bearing against the edges of the glass, corrugated metal plates upon which said material is seated, metal tubing within said groove, on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing, and conduits passing through said frame and leading from the exterior thereof to the spaces between the said material in said groove.

3. A window frame comprising strips forming a groove between them for the reception of the glass, strips spaced in said groove and bearing against the edges of the glass, metal tubing within said groove, on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing, conduits passing through said frame and leading from the exterior thereof to the space between said strips, resilient arched metal plates in the spaces between said strips and apertures in said plates alternating with one another and adapted to allow water to drain there-through and to cause air entering said conduits to take a zig-zag course through the frame.

4. A window frame comprising strips forming a groove between them for the reception of the glass, strips spaced in said groove and bearing against the edges of the glass, corrugated metal plates upon which

said strips are seated, metal tubing within said groove, on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing, conduits passing through said frame and leading from the exterior thereof to the spaces between said strips, resilient arched metal plates in the spaces between said strips, and apertures in said arched plates alternating with one another and adapted to allow water to drain therethrough, and to cause air entering said conduits to take a zig-zag course through the frame.

5. A window frame comprising strips forming a groove between them for the reception of the glass, the outer strip being spaced some distance from the window sill so as to form a conduit from the exterior of the frame to the interior of said groove, material spaced in said groove and bearing against the edges of the glass, and metal tubing within said groove on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing.

6. A window frame comprising strips forming a groove between them for the reception of the glass, the outer strip being spaced some distance from the window sill so as to form a conduit from the exterior of the frame to the interior of said groove, material spaced in said groove and bearing against the edges of the glass, corrugated metal plates upon which said material is seated, and metal tubing within said groove on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing.

7. A window frame comprising strips forming a groove between them for the reception of the glass, the outer strip being spaced some distance from the window sill so as to form a conduit from the exterior of the frame to the interior of said groove, strips spaced in said groove and bearing against the edges of the glass, metal tubing within said groove on the inner side of said glass having depressions at intervals forming spaces between the glass and tubing, resilient arched metal plates in the spaces between said strips and apertures in said plates alternating with one another and adapted to allow water to drain there-through and to cause air entering said conduits to take a zig-zag course through the frame.

8. A window frame comprising strips forming a groove between them for the reception of the glass, the outer strip being spaced some distance from the window sill so as to form a conduit from the exterior of the frame to the interior of said groove, strips spaced in said groove and bearing against the edges of the glass, corrugated metal plates upon which, said strips are

seated, metal tubing within said groove on
the inner side of said glass having depres-
sions at intervals forming spaces between
the glass and tubing, resilient arched metal
5 plates in the spaces between said strips, and
apertures in said arched plates alternating
with one another and adapted to allow
water to drain therethrough, and to cause

air entering said conduits to take a zig-zag
course through the frame.

In witness whereof I have hereunto set
my hand in the presence of two witnesses.

WILHELM SCHÄFER.

Witnesses:

A. O. TITTMANN,

G. SCHIMPF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."