

No. 773,174.

PATENTED OCT. 25, 1904.

F. L. O. WADSWORTH.
FIREPROOF ILLUMINATING STRUCTURE.

APPLICATION FILED MAY 27, 1899.

NO MODEL.

Fig. 1.

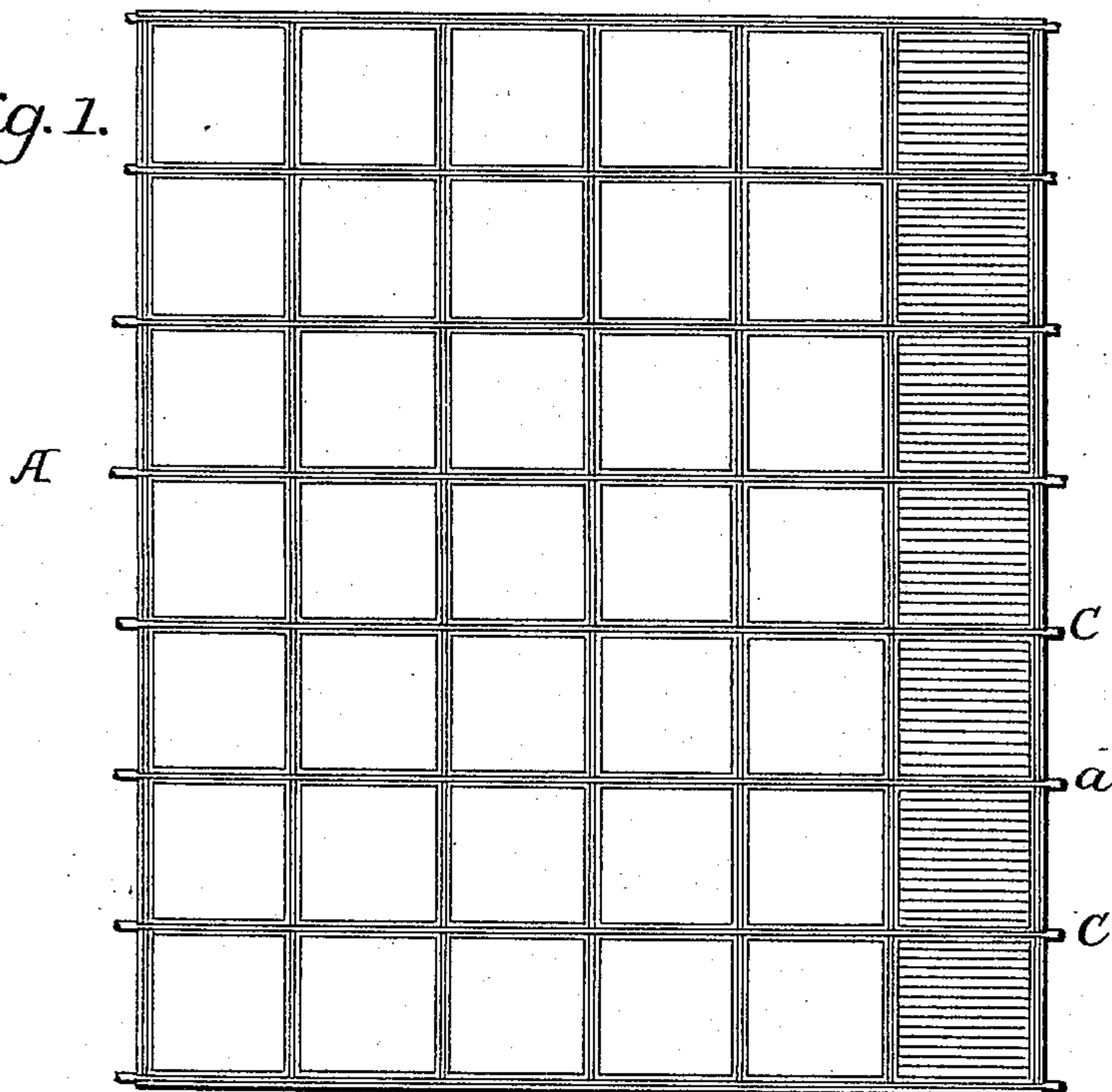


Fig. 2.



Fig. 3.

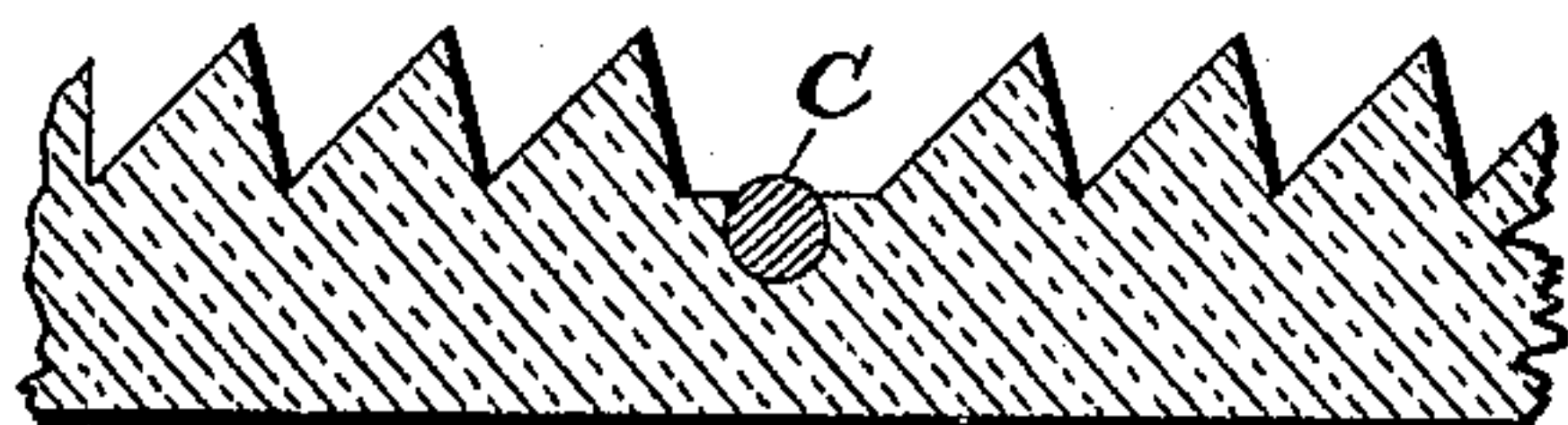


Fig. 4.



Fig. 5.

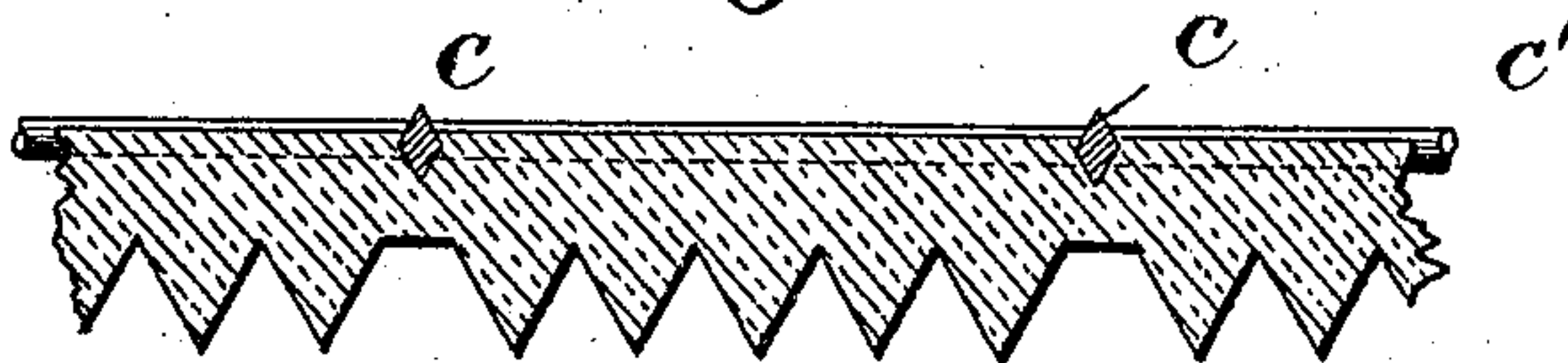
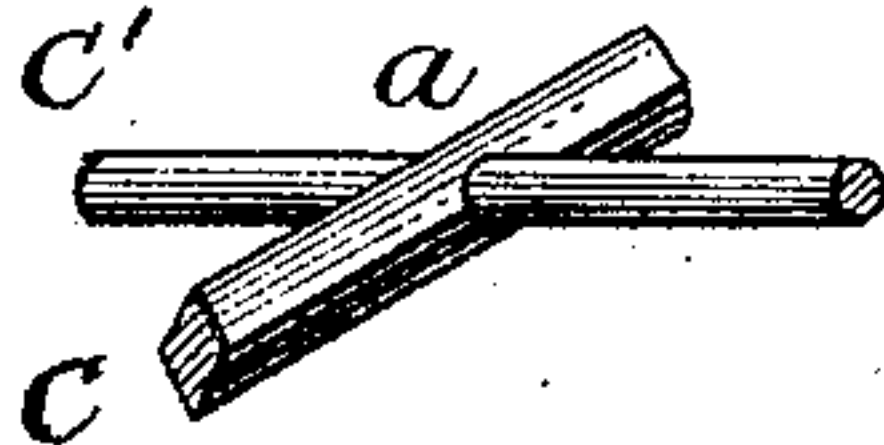


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK L. O. WADSWORTH, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR
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FIREPROOF ILLUMINATING STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 773,174, dated October 25, 1904.

Application filed May 27, 1899. Serial No. 718,589. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. O. WADSWORTH, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fireproof Illuminating Structures, of which the following is a specification.

My invention relates to illuminating structures, and to that class of structures which may be provided with prisms on one surface at least and with bars, wires, or metallic strips partially embedded or anchored in one of the faces of the structure, so that the greater portion of the strips is within the body of the structure, but a part of the outer face of each strip is exposed and extends above the surface.

Figure 1 is a face view of an illuminating structure constructed in accordance with and embodying my invention. Fig. 2 is an edge view of the structure of Fig. 1. Figs. 3, 4, and 5 are enlarged sectional views showing modifications. Fig. 6 is a detailed view illustrating one arrangement of cross-bars in my improved structure.

The panel A is one homogeneous plate of glass or vitreous material of any suitable proportions and dimensions, and partially embedded therein as a constituent part thereof are metallic strips, bars, or a frame C extending from side to side at one face, the greater portion of the metal bars lying and keyed within the body of the panel, but a part of the outer face of each strip being exposed at the surface in line with the bases of the prisms and extending above the plane of said surface. The metallic bars may extend parallel to each other from one side to the other, or two sets of cross-bars may be used, and one may be perforated for the passage of the other, so as to constitute practically a metallic frame. The metallic part of the structure, whatever may be its construction and arrangement, is partly embedded in the vitreous portion, while the latter is in a hot and plastic state, which may be effected by simply pressing the bars into the heated plastic material—

an operation much less expensive and more rapidly effected than that of inclosing the metallic portion wholly within the vitreous body, as usual.

A panel in the surface of which metallic strips are thus partially embedded or anchored or so as to expose the faces or edges of the said strips above the surface of the glass constitutes a most effective fireproof vitreous screen, the tendency to crack under the influence of heat and differences in expansion between the glass and metal being greatly reduced by the partially-exposed strips which conduct and equalize the heat, but also in case of fracture hold the parts of the structure together. They also add to the stiffness and rigidity of the structure, so that it can be made of larger or more extended size than would otherwise be practicable, while they do not obstruct the light to the extent resulting from the use of frames supporting inserted tiles. The improved structure, moreover, is free from the objections incident to frames with inserted tiles in that there are no joints to be cemented and there is no danger of leakage at any point. Another advantage from the presence of the partially-embedded strips is the facility afforded of soldering to the face of the structure any metallic devices or ornaments which it may be necessary or desirable to attach. Further, the panel may be formed of extended dimensions in one piece, but can be fractured on straight lines and with facility by cutting with a diamond directly opposite the strips along the lines of the reduced thickness of the glass resulting from the presence of the strips.

When the structure is used as a canopy or for a sidewalk, the face having the strips therein is uppermost, and said strips serve to prevent injury to the glass from falling articles, especially as said strips project above the plane of the face, and the projecting portion of the metal strips serves to form a non-slipping walking-surface, enabling the sidewalk-lights to be set in large sheets instead of, as is the present practice, in small individual pieces separated by iron or cement

bars. In this latter case, also, the strips serve to strengthen and protect the glass.

In prismatic illuminators the prisms may be assembled in groups between the strips
5 and may be of varying forms and dimensions, as shown in Figs. 1 and 2. I thus secure in one structure a prismatic and a fireproofing effect. The strips in such a structure may be inserted at either face and may be of any de-
10 sired or of different cross-sectional forms, some of which are illustrated. When a frame is required, a bar C of diamond shape in cross-section may be perforated at intervals for the passage of cylindrical bars or wires C', as
15 shown in Figs. 5 and 6.

I claim as my invention—

1. A prismatic illuminating structure consisting of a continuous plate of glass having prisms at one face and provided with metallic
20 strips immovably but partially embedded

within the body of the plate, a portion of each strip being exposed beyond the glass, substantially as and for the purpose set forth.

2. An illuminating structure consisting of a continuous plate of vitreous material with
25 a series of metallic strips extending from side to side of said plate, a portion of each of said strips projecting and extending above one surface of the material and the remaining portion of the strips completely embedded and
30 surrounded by the material, substantially as set forth.

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

FRANK L. O. WADSWORTH.

Witnesses:

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