

W. H. WINSLOW.  
PRISM LIGHT AND PRISM PLATE.

No. 586,258.

Patented July 13, 1897.

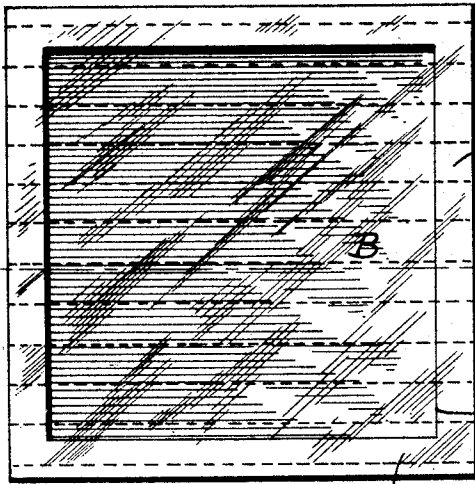


Fig. 3. A

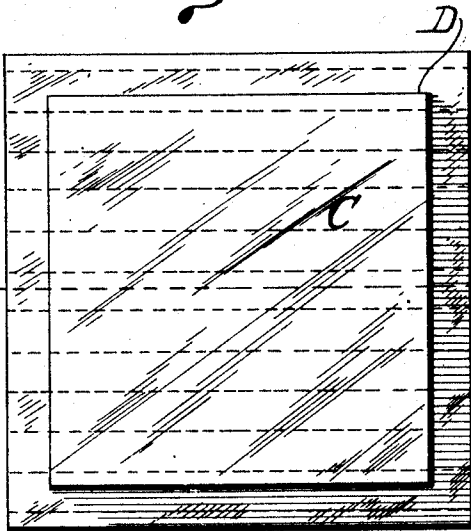


Fig. 1.

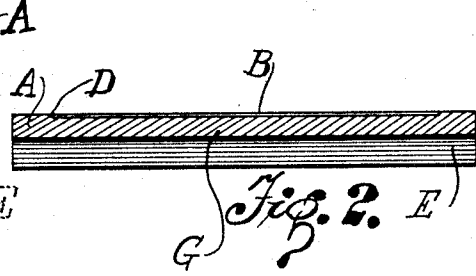


Fig. 2. E

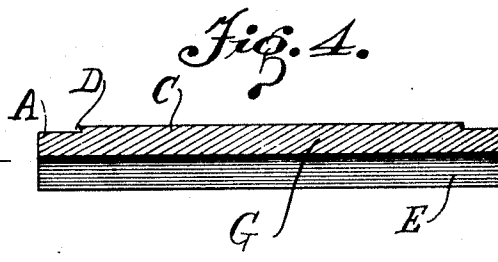


Fig. 5.

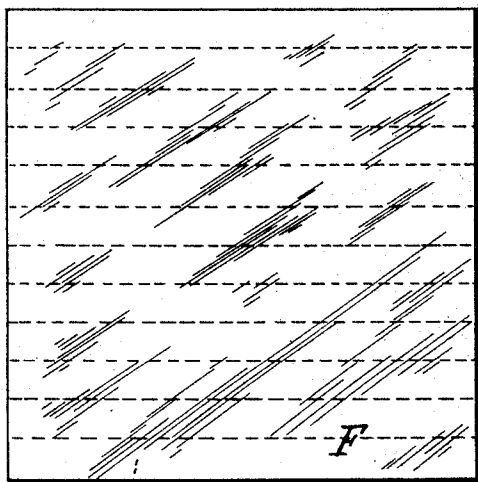
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*E Fig. 6.*

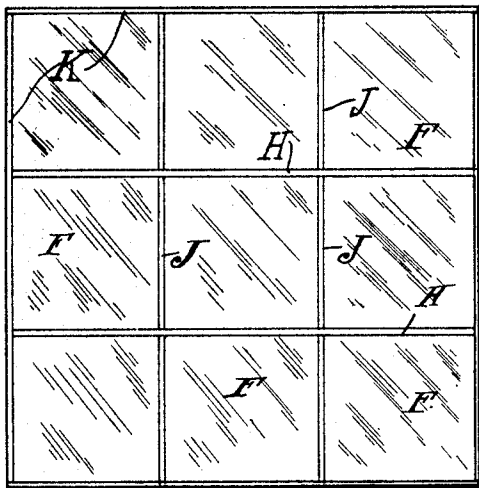


*Fig. 7.*

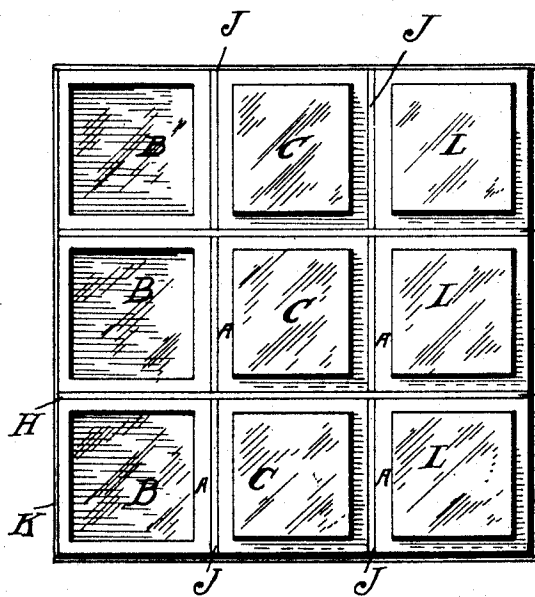
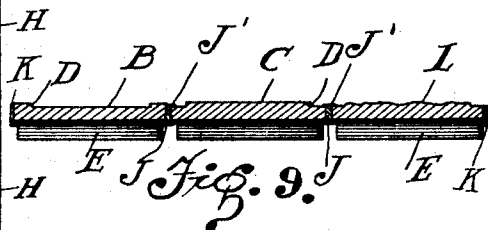


*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

WILLIAM H. WINSLOW, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE LUXFER PRISM PATENTS COMPANY, OF SAME PLACE.

## PRISM-LIGHT AND PRISM-PLATE.

SPECIFICATION forming part of Letters Patent No. 586,258, dated July 13, 1897.

Application filed March 24, 1897. Serial No. 628,997. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. WINSLOW, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Prism-Lights and Prism-Plates, of which the following is a specification.

My invention consists in prism-lights and prism-plates made from such lights, and has for its object to produce prism-lights having smooth unbroken surfaces on the plane side, and prism-plates having smooth unbroken surfaces on the plane sides, as more fully hereinafter explained and described.

Figure 1 is a plan view of the plane side of the prism-light. Fig. 2 is a cross-section through the same. Fig. 3 is a plan view of a prism-light; Fig. 4, a cross-section through the same. Fig. 5 is an edge view, and Fig. 6 a plan view, of my finished and improved prism-light. Fig. 7 is a plan view of a finished prism-plate; Fig. 8, a plan view of the same before the plate has been finished; Fig. 9, a cross-section of Fig. 8. Figs. 7, 8, and 9 are on a smaller scale than the others, and Figs. 8 and 9 illustrate the prism-plate when it is to be subjected to a different treatment.

Like parts are indicated by the same letter in all the figures.

A is the edge, rim, or border of a prism-light, and it should be of uniform thickness.

B is the central depressed surface of the light, and C is the raised surface of such light.

D is the line of separation between the edge or border and the central surface, and it is frequently in the form of a sort of groove. (Not easily shown in the drawings, but very noticeable in the product.)

The object of the prism-lights is to introduce light into rooms and properly direct or control it, and therefore, of course, such prisms are to be used in high-grade buildings and as fronts in expensive shops and on great thoroughfares. Smooth and perfect finish is therefore of the greatest importance, since the prism-plates are intended practically to take the place of plate-glass.

In the prism-lights heretofore formed the prisms did not ordinarily extend to the outer

margin of the plate, but a rim was left, and then the prism-lights were assembled to form a prism-plate, being united by the lead mountings, such as are commonly employed in stained-glass and ornamental work. In forming these prism-lights the molds were constructed so that the bounding-line of the prism area coincided with the groove or indentation D, and therefore such groove was unnoticed and negligible. Now, however, the prisms extend to the outer edge of the body of the prism-light in every direction, so far as that may be possible, and hence if the groove be suffered to remain it appears as a line or lines running across the prisms and disfiguring the product, rendering it to a degree undesirable for the work for which it is intended. In the ordinary process of molding, however, it is impossible to avoid this groove-like appearance, or at least to avoid an irregular and unsatisfactory surface, as indicated in the drawings. In ordinary practice the central surface is sometimes elevated above and sometimes depressed below the surface of the surrounding rim or border. The surrounding rim or border is kept of uniform thickness, so as to make the application of the prism-light to its frame easy and satisfactory, and this uniformity is particularly desirable when the prism-lights are to be mounted into prism-plates by my electro-glazing method.

E E are the prisms and F the smooth uniform finished surface of the body G of the prism-light. In applying my method and producing my product I arrange the molds so that every prism-light formed will have a central surface C projecting above the surface of the border A instead of being in any instance depressed below, as is the surface B. In other words, I make the departure from the surface uniformity desired always positively in the direction of an excess of material or an elevation of surface on that part of the prism-light surface which does not coincide with the surface of the border or edge. These prism-lights are then subjected to a grinding or polishing treatment, which removes the excess, reduces the surface to uniformity with the surface of the border, and

obliterates the groove or line D. The product thus formed is illustrated in Figs. 5 and 6. It only remains now to unite these prism-lights together into the prism-plate, as, for example, the prism-plate illustrated in Fig. 7, and this is done by connecting them in a net or grid having the warps H H, the ties J J, and the surrounding frame K. At least this is one way of uniting or mounting them so that they are ready for the sash. The important feature of this method of mounting is that the several prism-lights must be united by an intervening substance which adheres so closely to the edges of the lights that it holds them by its contact or engagement with such edges and does not therefore require to be extended or projected beyond the surfaces of the prism-lights. If the surfaces of the connecting-net elements are thus flush with the surfaces of the prism-lights, it is obvious that the product will be a complete prism-plate composed of prism-lights and a securing net and frame, the whole presenting a continuous plane and uniform and finished surface, to which a high polish may easily be given, so as to make it closely approximate the finished effect of plate-glass and to make it suitable for buildings of the highest class and grade. The difference between the product thus produced and that heretofore produced by the best application of my electroglazing method of mountings is illustrated in Figs. 8 and 9, where in the finished product are shown the depressed as well as the elevated surfaces of the prism-lights and also the roughened or irregular surface L.

In mounting the prism-lights by my electroglazing process, and this is true also of other processes of mounting, the keys J' J' project beyond and overhang the corners of the lights, usually on both surfaces, and these keys may be extended laterally, so as to form beads, so to speak, along the warps or the ties. In the final finishing of the plate these keys on the plane side of the plate may be entirely removed, so as to produce the uniform and smooth surface above referred to. This can perhaps be most safely done in cases where the prism-lights are mounted by my electroglazing process, and if need be, either with that or other processes, the edges of the lights may be shaped or treated so as to make it safe thus to remove the overhanging keys or beads. Of course all these improvements are applicable where the prisms, as shown in Fig. 8, do not extend entirely across the prism-surface of the lights, but in such cases improvements are not quite so necessary. In some instances it may be found desirable to mount the lights first and then by polishing and grinding to remove the projecting and irregular surfaces, keys, beads, and the like and bring the whole to a finished uniform surface, and it is possible also to accomplish the results sought to be obtained by this invention by grinding to a uniform surface,

either before or after mounting, even when the edge or rim A is not formed in the first instance of uniform thickness. My preferred process, however, is to first produce the prism-lights with a uniform edge and an elevated surface; second, to grind away the excess of material and obliterate the line or groove by bringing the whole to a surface uniform with the surface of such edge; third, to mount the lights into a prism-plate by my electroglazing process, and, fourth, to grind the finished product, so as to make the whole surface of metal and glass perfectly uniform and to remove the projecting keys, beads, or the like.

As previously suggested, there may evidently be great modifications from what is above shown and described without departing from the spirit of my invention, and I do not wish to be limited to the particular things shown and described.

I have shown and described my invention as applied to prism-lights and prism-plates, but it is equally applicable in many other cases, as, for example, to a degree at least in connection with ornamental glass, stained glass, tiles, and the like.

In forming glass articles it is the practice to estimate in each operation the amount of material necessary to produce the article, and in forming in the old way these prism-lights it is the object of the molder to get exactly the proper quantity of molten glass, but this he never succeeds in doing, but always has a little too much or not quite enough to give the smooth surface. In the formation of many glass articles, as, for example, pitchers, this is a matter of no consequence, as the excess of glass can be suffered to remain in the bottom or some other part of the pitcher where its presence is unnoticed, though in fact such articles are never facsimiles of each other. To produce the result herein sought for, however, the prism-lights must be facsimiles of one another.

I claim—

1. As a new article of manufacture, a prism-light consisting of a body of glass with projecting ribs on the prism side and an excessively-elevated rough surface on the plane side adapted to be removed to constitute a smooth, uniform surface when assembled with other prism-lights in a prism-plate, substantially as shown and described.

2. The process of producing prism-lights which consists in putting in the mold an excess of molten glass and thus forming two surfaces, one, the established prism-light surface, the other an excessively-elevated surface on the plane side of the prism-light, then grinding such excessively-elevated surface to a uniformity with the established surface.

3. The process of producing prism-plates which consists in putting into the mold for each prism-light an excess of molten glass and thus forming two surfaces, one, the established prism-surface, the other the excess-

5 ively-elevated surface on the plane side of the prism-light, then grinding said excessively-elevated surfaces to a uniformity with the established surface, then uniting the series of said prism-lights in a prism-plate with intermediate metallic portions then bringing the surface of said metallic portions to a uniformity with the established surface of the

prism-lights and thus producing a prism-plate having a smooth unbroken surface on its 10 plane side of glass and metal.

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