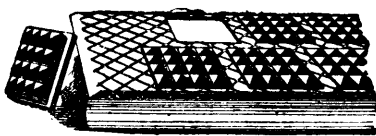


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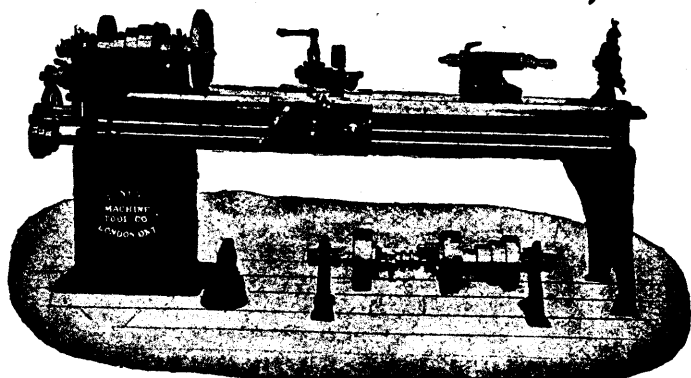
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In electricity, the uses of glass are of prime importance. It is commonly employed as an insulator, and in spite of its faults has great advantages. Of it are made the plates of the electrostatic machines of the laboratories, Leyden jars, jars for batteries, globes for arc-lamps, bulbs for incandescent lights, the plates of condensers, electric rheostats, etc. In London blocks of glass have been used to insulate the third rail on electric railway systems.

In the United States glass ties have even been used on railroads to replace the ordinary wooden ties.

Glass-cotton, which consists of very flexible, fine fibers, obtained in the Bohemian glass-works, serves to make filters which are much used in laboratories, for they are unalterable and may be used indefinitely if washed and dried after each operation. Glass-cotton can also be used to handle caustic liquids used in surgery, like nitrate of silver or tincture of iodine. But it is in our dwellings that the uses of glass have multiplied in recent years.

Glass window-panes, which represent the chief domestic uses of glass—also the oldest, since they are found in Pompeii—are being somewhat modified. We are beginning to use perforated glass, which ventilates the room without drafts. The holes, which are about fifteen cm. (six inches) apart, are conical; the little end of the whole is toward the outside; the air enters the room in diverging currents.

In shops and stores and for the roofs of glazed courts, protected glass is now often used that has a metal network embedded in it. This network is placed in position by pressing it between two plates of hot glass. Although nearly as transparent as ordinary glass, this protected glass has an enormous resisting power to shock, pressure and fire; it can not be cut with a diamond and is not to be removed by ordinary means without making a noise, which makes it a valuable protection against thieves.

Apartments on lower floors in narrow streets receive only an insufficient amount of light through their windows. To obviate this inconvenience prismatic glass has been devised, which is placed in the windows or in inclined screens. The light ray that strikes it is deviated and instead of reaching the sidewalk it is diffused through the apartment.

As for the illumination of basements below the ground level, that is obtained by aid of prismatic cubes that project the light into the remotest corners of the room. The hygienic dwelling of the future will have its walls covered with malleable glass, in which nails may be embedded. A cloth impregnated with a solution will suffice for its disinfection.

The time is not far distant when the house may be built entirely of glass. Garchig's glass-stone or ceramo-crystal, made like Reaumur porcelain by devitrifying glass debris and then agglomerating it by pressure and heat, has the first rank among materials of construction, including granite, for resistance to crushing, shock, usage, cold and chemical action. It can be readily colored and molded, and has already begun to play a great part in building-construction.