UNITED STATES PATENT OFFICE.

GEORGE E. HATCH, OF WEST MERIDEN, CONNECTICUT, ASSIGNOR TO MERIDEN FLINT GLASS COMPANY, OF SAME PLACE.

IMPROVEMENT IN TEMPERING GLASS.

Specification forming part of Letters Patent No. **202,544**, dated April 16, 1878; application filed March 20, 1878.

To all whom it may concern:

Be it known that I, GEO. E. HATCH, of West Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Tempering Glass; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to an improvement in the method of tempering glass. In the usual method the articles of glass, immediately or very soon after being formed, are placed on plates in the leer and passed through, subjected in such passage to the flame and smoke from the fire which produces the heat. This exposure discolors the glass more or less, which necessitates cleaning when the articles are removed from the leer. Again, in such passage the glass is subject to drafts of air, suddenly varying the temperature, which weakens the glass to a considerable extent, and particularly so in those articles which are to be subsequently cut.

The object of this invention is to overcome these difficulties; and it consists in inclosing the glass articles in a box secure from the admission of air or gases in their passage through the leer, as hereinafter described.

The boxes are made from metal, and of a size according to the work to be done, usually so that several pieces may be set into each box, and in substantially the same manner as they are set onto the plates in the leers, being there free to the surrounding atmosphere in the box. The box is closed by a suitable cover, fitting sufficiently tight to prevent smoke from entering the box. These boxes are placed in the leer, and carried through in the same manner as the plates usually are. The heat from the fire heats the box, and consequently the interior of it, to a sufficient degree for tempering; but the inclosure prevents the smoke or gases from coming in direct contact with the glass, thereby avoiding the usual discoloration, and also avoiding the direct action of irregular currents of air, which are unavoidably admitted every time the leer is opened for the removal of articles; hence the articles come from the leer clean and perfect, avoiding the usual subsequent cleaning, and also the loss of many articles in case of cutting.

It is not necessary that the boxes should be passed through the leer. It will serve the purpose if they be placed in an oven and remain stationary till the usual heat is attained, it only being essential that the articles stand free in the box, so that nothing but the box itself prevents the direct action of the heat upon the glass; but the leer is preferable.

I claim—

The herein-described method of tempering glass, consisting in arranging the glass free in a closed box and subjecting it to the heat directly upon the box, but so as to exclude the smoke or gas from the box, substantially as described.

GEO. E. HATCH.

Witnesses:
JOHN E. EARLE,
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