(Model.)

R. D. FLYNN.

CRATE FOR TRANSPORTATION OF WINDOW AND PLATE GLASS.

No. 271,827. Patented Feb. 6, 1883.

Fig. 1.

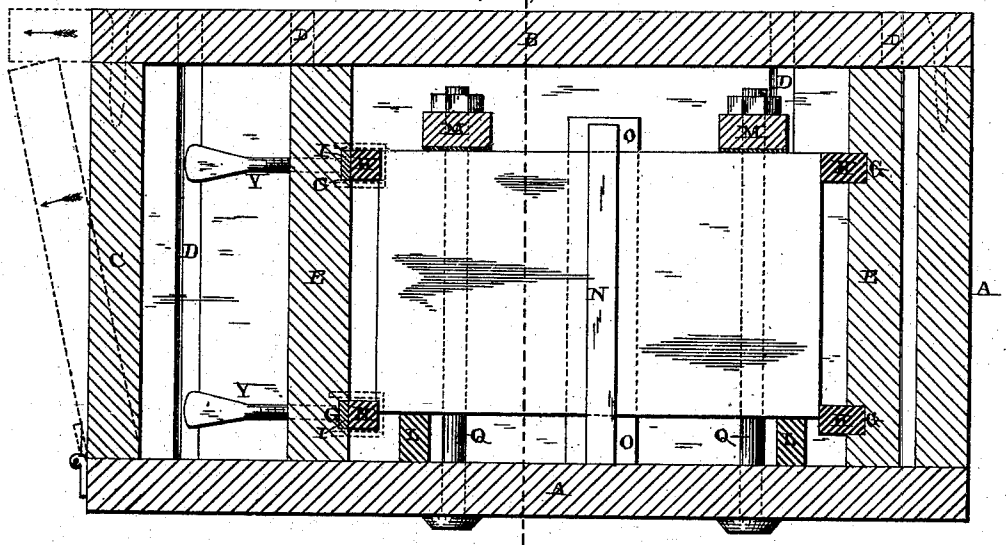
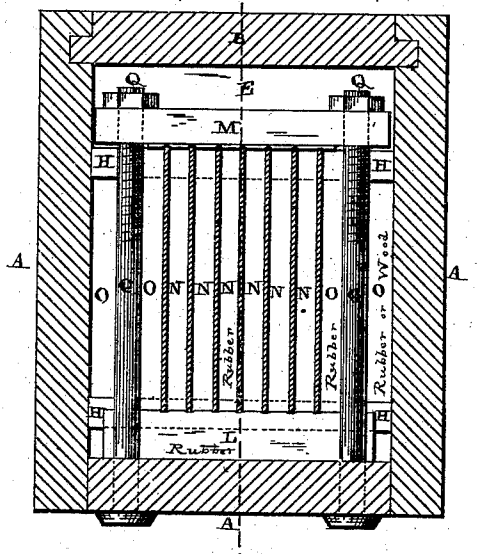


Fig. 2.



Witnesses.

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CRATE FOR TRANSPORTATION OF WINDOW AND PLATE GLASS.

SPECIFICATION forming part of Letters Patent No. 271,827, dated February 6, 1883.

Application filed November 27, 1882. (Model.)

To all whom it may concern:

Be it known that I, ROBERT D. FLYNN, of Danville, in the county of Pittsylvania and State of Virginia, have invented certain new and useful Improvements in Crates for Transportation of Window and Plate Glass; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in crates for transportation of window and plate glass; and it consists in the combination of a suitable box or crate which is provided with removable slides, suitable set-screws, which are passed through the slides for the purpose of adjusting the rubber bearings, which are loosely attached to the inner sides of the slides, against the ends of the glass, and suitable clamping-bolts, which are passed through the bottom of the crate for the purpose of holding the glass in position, all of which will be more fully described hereinafter.

The object of my invention is to provide a crate for the transportation of window and plate glass, in which each piece of glass is held in rubber bearings, separate and distinct from every other one, or packed close together to prevent it from having the slightest vibration or play in any direction.

Figure 1 is a longitudinal vertical section of a crate embodying my invention. Fig. 2 is a vertical cross-section of the same.

A represents an oblong box or crate, which is provided with the sliding top or cover B, and which has one of its ends, C, hinged to the bottom of the box, so that it can be freely opened outward for the purpose of giving free access to the set-screws. When this hinged end piece is standing in position and the cover is slid into place the crate is locked or closed by having screws passed down through the cover into the ends of the box, and screws are also passed through the ends of the sides into the hinged end piece, so as to lock it in place at both top and side.

The inner sides of the box or crate have a number of vertical grooves, D, made in them to receive the removable slides E. These slides are intended to be adjusted back and forth from one set of grooves to the other, according to the length of the glass which is to be transported.

In the inner sides of the slides are made suitable horizontal grooves, G, in which are placed the rubber bearings H. These bearings H have a series of notches made in their inner edges to receive the ends of the plates of glass, and are secured in any suitable manner to the metallic backing-pieces I. These backing-pieces may be secured to the slide at that end of the piece having the hinged end, either by means of loops, which are passed over their outer sides, or retained in place in any other way that may be preferred. These bearing-pieces are made of rubber on account of its elasticity, and while the rubber is the most preferable for this purpose any other soft elastic material may be used in its place.

Passing through from the outer side of the slide, at the end of the crate having the hinged ends, are a suitable number of set-screws, Y, just opposite the grooves made in the inner side of the slides, which have their inner ends to bear against the metal backing-pieces I, for the bearing-pieces. By turning these set-screws toward the right the rubber bearing-pieces can be forced horizontally toward the ends of the plates of glass, so as to clamp the glass with any desired degree of force between them. Those bearing-pieces inserted in the grooves of the slide at the end of the crate which has a stationary end need no device of any kind to hold them into place, for the pressure of the glass alone is sufficient for this purpose; but the bearing devices which are to be acted upon by the set-screws must have a movement endwise of the box, so that they can be forced against the ends of the glass for the purpose of holding them in place.

Placed in the bottom of the crate are suitable blocks of rubber, L, which extend horizontally across, and upon which the lower edges of the plates of glass rest.

Suitable pieces of rubber, N, are also placed between the plates of glass for the purpose of preventing them from having any lateral play or vibration.

Between the outer sides of the outer plates of glass and the inner sides of the box are also placed rubber blocks O, and, in case there is considerable space between the sides, blocks of wood may be placed next to the sides of the box.

The means above described prevent the plates from having an endwise or a lateral play, but are not sufficient to hold the plates down in position upon the bottom of the box. For this purpose separate clamping-pieces are used, consisting of the headed bolts Q, which are passed up from the bottom of the box and through the cross-pieces M at their tops, these cross-pieces having suitable blocks or pieces of rubber attached to their under sides, and are held down upon the bolts by means of suitable clamping-nuts.

By means of the construction above described the finest and most costly plate and window glass can be transported with perfect safety under any and all circumstances, and no additional cost after the first expense of the crate. As the crates are to be returned to the shippers, they can be used over and over again. Where small panes of glass are to be transported they may be packed closely together, so as to be in contact with one another, instead of having pieces of rubber placed between them. The blocks of rubber which bear against their ends need not be grooved, for each pane of glass makes its own indentation in the rubber. The grooves in the sides of the crate should be so adjusted to the different lengths of glass that when the slides are slipped into place the rubber bearings will come against the rubber bearings, so that the set-screws will have to be moved a very short distance to tighten the glass in place.

Having thus described my invention, I claim—

1. In a crate for the transportation of glass, the combination of the movable slides, and rubber or other elastic bearings secured to their inner sides for the ends of the plates of glass to bear against, substantially as shown.

2. The combination of a crate for the transportation of glass, having a sliding cover and hinged end, with adjustable slides provided with rubber bearings upon their inner sides, and set-screws for moving the rubber bearings, substantially as described.

3. The combination, in a crate for the transportation of glass, of the adjustable slides having grooves in their inner sides, and the rubber bearings placed in the grooves, one of the slides being provided with set-screws for forcing the bearings against the ends of the glass, substantially as set forth.

4. The combination, in a crate for the transportation of glass, of clamping-bolts which are passed through the bottom of the box and have their upper ends connected together by cross-pieces, with suitable rubber blocks for the lower edges of the glass to rest upon, substantially as specified.

5. In a crate for the transportation of glass, the combination of the adjustable slides provided with rubber bearings, the removable cover and end, with a means for tightening the rubber bearings against the ends of the glass, and suitable clamping-bolts and cross-pieces for holding the glass down, all being combined and arranged to operate substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBT. D. FLYNN.

Witnesses:
AUSTIN FLYNN,
ROBERT M. LACEY.