

D. E. HUNTER.
JOINT FOR PANELS AND THE LIKE.
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986,292.

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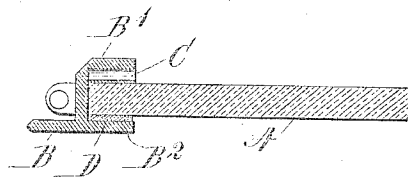


Fig. 1.

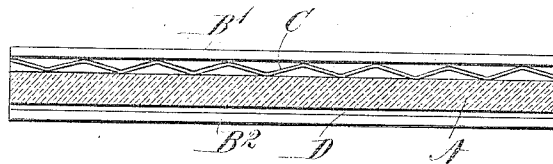


Fig. 2.

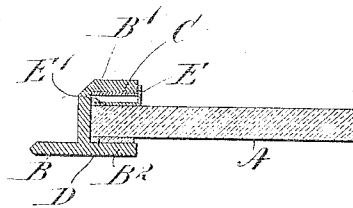


Fig. 3.

WITNESSES:
Josephine H. Ryan
Charles J. Wetherly

INVENTOR:
David E. Hunter
By Robert Roberts Buchanan
Attorneys

UNITED STATES PATENT OFFICE.

DAVID E. HUNTER, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO LIBRARY BUREAU,
OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

JOINT FOR PANELS AND THE LIKE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID E. HUNTER, a citizen of the United States, and resident of Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Joints for Panels and the Like, of which the following is a specification.

My invention relates to the construction of panels and similar adjuncts to the structure of miscellaneous furniture in which may be included, for example, door panels, windows, show cases; in short, any structure in which a plate or panel is inserted in and secured to a marginal frame or rim; and the object of my invention is to facilitate and improve the construction and assemblage of articles such as above named.

In the drawings hereto annexed which illustrate embodiments of my invention;— Figure 1 is a cross sectional view of portions of a plate and marginal frame piece which, when assembled, form a panel construction; Fig. 2 is a view in elevation and partly in section viewed from the right in Fig. 1; and Fig. 3 is a cross section similar to that of Fig. 1 in which, however, an additional feature is shown.

I take for illustration a frame and panel such as might be suitable for a show case and in which the plate portion is composed entirely of glass and the frame is preferably of metal.

Referring to the drawings, B represents a portion or section of a margin-piece or frame part and is formed with flanges B', B², which constitute the two side walls of a channel; in short, the margin-piece has the characteristic form of a channel iron. The width of the channel is considerably greater than the thickness of the plate or panel A which is to be secured to the frame. The plate A is inserted in the channel of the margin-piece, and then a spring so proportioned that it can only enter between the plate A and the flange B' of the channeled margin-piece under considerable constraint, is then compressed and crowded into the channel between the plate A and the flange B'. This spring, represented in the drawings at C, is preferably composed of a strip or strips of spring steel made in an undulating or zigzag form, the amplitude of the undulations being such that the spring re-

taining strips will, when inserted between the flanges of the margin-piece and the plate, have to be appreciably distorted or flattened out, and so that the inequalities of the thickness of the plate will be compensated for by variations in the distortions of the spring C. The form of spring shown in the drawings provides a series of individually compressible spring members, so as to compensate automatically for inequalities in the thickness of the plate. As each of the convolutions of the undulated spring strip C is individually compressible, the strip fulfils the conditions of self-adjustment to inequalities in thickness of the plate A. Each undulation of the spring strip thus constitutes a resilient, or spring-member, which is individually compressible and expandible, while the series of strip-undulations constitutes a series of individually expandible spring-members.

It is often desirable to secure the plate in its margin or frame very securely, as when a panel is hinged at one edge, and used as a door. In order to prevent sagging or dislodgment of the plate, I insert at D, upon the flange B² an adhesive and preferably plastic sealing strip. For instance, a coating of shellac may be applied to the inner side of the flange B² before the insertion of the plate A, and then the spring retaining strips C will press the plate A firmly into the coating of shellac which, when it hardens, will form not only an effective sealing strip, but a firm and tenacious binder to hold the several parts of the structure together. When the plate is made to adhere to the flange B by such a sealing strip, it will resist dislodgment almost as if integral with the margin piece. A large square of plate glass, used as a door, vertically hinged on one margin, and provided only with an upper horizontal margin piece keyed or otherwise firmly fastened to the vertical hinged margin will hang without stirring from its fastenings. If for any reason, a neater finish is desired, a protecting strip E formed in the general shape of an angle iron may be held with its wider flange against the plate A, the spring retainer C is then placed upon the flange of the protecting strip and the protecting strip E with the spring C may then be forced together into the space between the flange B' and the plate A,

leaving the narrower flange of the piece E lying over and concealing the recess occupied by the spring C.

The above described construction is, I believe, peculiarly suited to cases where glass plates are used. Ordinary plate glass which is sufficiently regular in its thickness to serve all ordinary purposes for which transparency is called into requisition, is, nevertheless, by no means uniform in thickness; a plate of commercial quarter inch glass will vary almost always one-thirtysecond of an inch on each side of the average quarter inch thickness and sometimes as much as one-sixteenth of an inch. It is therefore, difficult to make an adequate and accurate joint between ordinary plate glass and metal frames or housings; the application of cement is, of course, an old and well known resort, but this, especially after it has stood for a long time, is liable to disintegrate and loosen and make more or less dirt. This is especially true when the structure is subject to vibration. The employment of spring pieces under considerable compression enables the manufacturer of plate glass panels to employ metal frames and ordinary plate glass, to dispense with the use of cements and at the same time to produce a structure which is durable, free from all possibility of loosening or rattling and which, especially when an adhesive sealing strip is used, is very tenaciously bound together. The facility and quickness with which panels such as above described can be assembled is obvious.

What I claim and desire to secure by Letters Patent is:

1. The combination of a channeled margin piece having opposed walls, of an adhesive strip laid upon the inner face of one of said walls, a plate engaging the channel in the margin piece at its edges and bearing against the said adhesive strip and the channel wall, an insertible spring member positioned on the face of the plate and held under constraint between said plate and the other wall of the channel, said spring member being freely expansible and contractible lengthwise and formed with a number of undulations adapted to contact with said plate, each undulation being capable of a limited inde-

pendent movement for adjusting said member to a plate of varying thickness, whereby a plurality of spring gripped plate sustaining points at the edge of the plate is provided.

2. The combination of a channeled margin piece, a plate having its edge inserted in the channel of the margin piece, an undulated spring strip held under constraint in the channel between one of the walls thereof and said plate, and a protecting strip covering the open mouth of the recess occupied by said undulated spring strip.

3. The combination of a channeled margin-piece, a plate having its edge inserted in the channel of the margin-piece, an angular-sectioned protecting strip lying against the plate, and an undulated spring-strip held under constraint in the channel, between one flange of the protecting strip and one of the lateral walls of the channel, and concealed by the other flange of the protecting strip.

4. The combination of a channeled margin-piece, a plate having its edge inserted in the channel of the margin-piece, an angular-sectioned protecting strip lying against the plate, a spring held under constraint in the channel, between one flange of the protecting strip and one of the lateral walls of the channel, and concealed by the other flange of the protecting strip, and a sealing strip between the plate and a lateral wall of the margin-piece, on that side of the plate away from the spring.

5. The combination of a channeled margin-piece, a plate having its edge inserted in the channel of the margin-piece, an angular-sectioned protecting strip lying against the plate, a spring held under constraint in the channel, between one flange of the protecting strip and one of the lateral walls of the channel, and concealed by the other flange of the protecting strip, and a sealing strip of plastic adhesive material between the plate and a lateral wall of the margin-piece, on that side of the plate away from the spring.

Signed by me at Boston, Massachusetts, this thirtieth day of January 1909.

DAVID E. HUNTER.

Witnesses:

ODIN ROBERTS.

CHARLES D. WOODBERRY.