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D. DENNETT

2,210,652

SCREEN OR THE LIKE

Filed Sept. 1, 1937

Fig. 1.

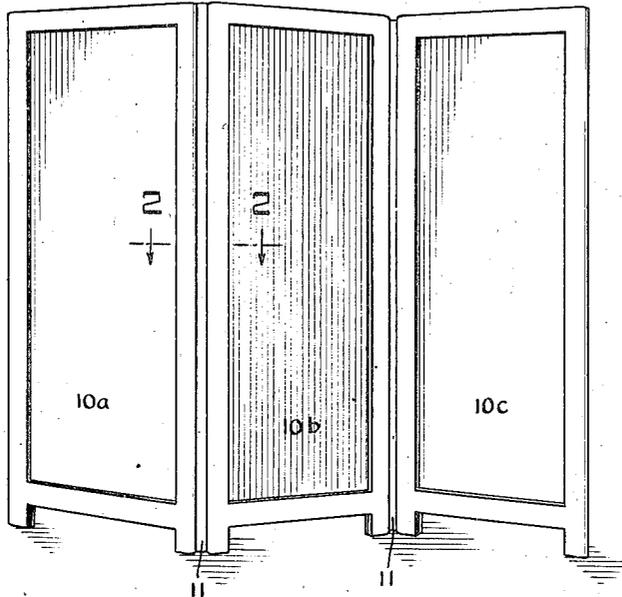


Fig. 2.

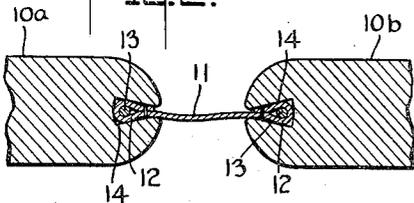


Fig. 4.

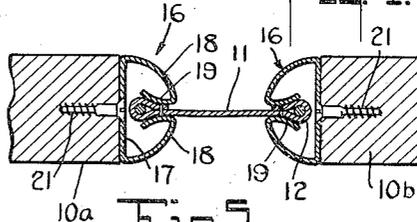


Fig. 3.

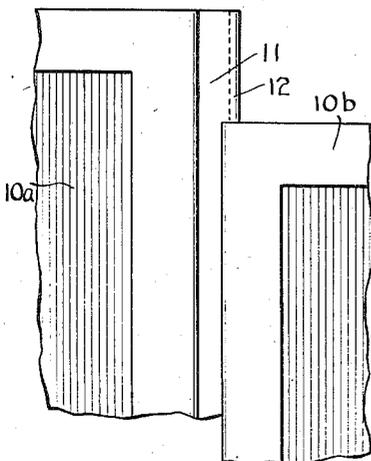


Fig. 5.

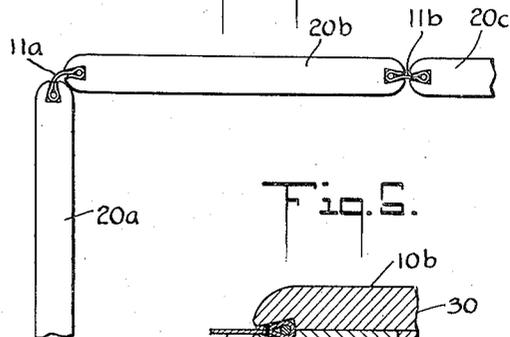
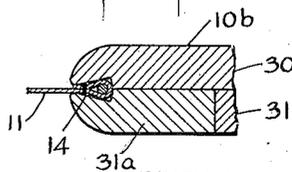


Fig. 5.



INVENTOR
Devon Dennett
BY
Harry J. Luce
HIS ATTORNEY

UNITED STATES PATENT OFFICE

2,210,652

SCREEN OR THE LIKE

Devon Dennett, Long Island City, N. Y.

Application September 1, 1937, Serial No. 161,899

1 Claim. (Cl. 45-106)

This invention relates to panel-joining means.

The invention finds particular application as a device for joining the panels of floor screens, structural partitions and the like, in a manner providing for the joining thereof without the use of tools; and additionally provides for the separation of panels when necessary and for the vertical adjustment, in any degree, of one panel with respect to another.

In this invention, the panel-joining means may include a strap or relatively narrow band of leather, fabric, spring metal, or the like, said strap having thickened longitudinal marginal surfaces. The thickened portions of the strap are arranged to cooperate with a suitable strap-edge receiving groove or equivalent structure along the facing edges of adjacent panel sections.

The stated strap-receiving elements may comprise a suitable continuous wedge-shaped slot in the edge portions of the panels, said wedge slot expanding in width from the edge of the panel inwardly. Alternatively, the strap-receiving means may comprise a suitable spring-metal molding, suitably attached to the edges of the screen, and arranged to receive and hold the stated thickened edge-portions of the panel-joining strap.

The invention finds particular use as a means of joining the panels comprising the customary floor screen. In such applications the panel-joining means may be, and preferably are, straps of leather or similar decorative fabric, the lengthwise marginal portions of which have been hemmed over to provide increased thickness. The respective panels are joined by inserting each of the thickened margins of one end of the strap into the respective receiving grooves or equivalent, and drawing the strap along the length of the panels, the slots providing a continuous keyway for the thickened edge-portions of the hinge forming strap. It will be evident that as the straps are not fixedly secured to the screen panels, the screen panels are vertically adjustable one with the other. Accordingly, therefore, irregularities in the floor or other surface on which the screen rests, may be compensated for merely by suitable vertical adjustment of the screen panels.

A further advantage of this invention, as applied to floor screens or partition-forming panels, is that the panel-joining member, being imperforate and co-extensive with the length of the panels, effectively eliminates light leakage or air leakage between the respective panels, and thus affords full screening effect.

In the accompanying drawing,

Fig. 1 is a perspective of a multiple-panel floor screen embodying my invention;

Fig. 2 is a plan section taken through 2-2 of Fig. 1, illustrating the grooved side-edges of the panels;

Fig. 3 is an elevation of a portion of the screen of Fig. 1, illustrating the mutual adjustment feature of the screen panels;

Fig. 4 is a plan section of a second form of hinge-retaining means;

Fig. 5 is a plan view of a series of partition sections, utilizing this invention as joining means;

Fig. 6 is a plan-sectional view of a portion of a laminated screen panel, illustrating a method of forming the hinge-retaining groove.

In the accompanying drawing, 10a, 10b and 10c, respectively designate panels of a floor screen. The panels are arranged to be joined, in a manner providing flexibility, by a hinge 11, see Fig. 2, which may be formed of a strap of leather, fabric or other flexible material, hemmed or turned inwardly at its marginal surfaces 12, to provide thickened edge portions. Advantageously, the stated marginal edges may be turned over a suitable corded filler, as 13, to increase the edge thickness.

To cooperate with the hinge 11 to effect joinder of the panels, the wood or other sides of the stated panels may be provided with a continuous wedge-shaped keyway or groove 14, which, as shown in Fig. 2, is inwardly divergent, increasing continuously in width from a minimum at the outer surface of the panel edge to a maximum within the panel. There is thus provided a dovetail or keyway arranged to loosely and slidably confine the hinge 11 by the thickened edge-portions thereof, while preventing, by reason of the narrow mouth of the keyway, the transverse withdrawal or pulling out of the stated edge-portions. It is to be noted, however, that the slots 14 are of sufficient dimension to permit the hinge 11, after its respective edge-portions 12 are edge-wise inserted into the slots 14 at an upper or lower edge of the to-be-joined panels, to be readily drawn lengthwise along the panels to complete the joinder thereof.

The panels are thus joined in a manner which, although accomplished without tools or without attachment of the hinge to the panels by adhesives, screws or other means, firmly secures the panels against accidental separation. Additionally, as indicated in exaggerated manner in Fig. 3, contiguous panels are mutually adjustable. The screen is therefore readily adaptable to irregular floor surfaces.

It is to be noted from Fig. 2 that the hinge-receiving keyways 14 may be milled into the edges of the panels. Such treatment is obviously practicable for panels formed of wood or equivalent materials. However, decorative screens or partitions are often constructed with metal panels, or panels formed with metal frames, in which difficulties attend the milling of suitable slots.

The embodiment illustrated in Fig. 4 contemplates such structure. In this embodiment, there is provided a fabricated metal molding 16, drawn or otherwise shaped to have a base 17 engageable snugly with the edge wall of the associated panel 10a, and formed to have inwardly curving springable sides 18 respectively terminating in inwardly turned, mutually divergent, flange-portions 19 spring-pressed together to abut at a point adjacent the outer edge of the molding 16.

It is contemplated that the stated moldings 16 may be removably secured to the screen panel, as by screws 21 or equivalent devices, which may be installed by springing apart the sides 18 to permit insertion of a screw-driver or other required tool. As is clearly shown in Fig. 4, the molding 16 is the equivalent of the slots 14, see Fig. 2, in receiving and retaining the edges 12 of the hinge 11. An advantage of the metal moldings 16, however, lies in the fact that the stated moldings may themselves be of pleasing appearance, and additionally that the spring qualities of the sides 18 thereof may urge the flanges 19 into abutment when not in use as part of a panel-joining device. Thus, an inherent advantage of this invention, namely that a screen or similar structure may be so arranged that panels may be added or subtracted therefrom at any time, is augmented by the fact that on the removal of a panel and the associated hinge connection 11, the metal molding sides 18 snap together, substantially closing the opening, and making only a narrow, shallow groove visible. Conceivably, the molding 16 may be formed with sufficient depth to comprise a complete side portion of a panel.

The hinge 11 may be furnished in a continuous roll or piece sufficient to meet the requirements of the various panels, and cut to fit when assembling the panels on the job.

Fig. 6 illustrates a method of joining partition-forming panels, said panels designated 20a, 20b, 20c. In such a structure it is contemplated that the panel-joining members designated 11a, 11b, be either non-flexing, or that the span between its respective thickened end portions be reduced to a point prohibiting appreciable swing or similar movement of the respective panels. Accordingly, therefore, the corner member 11a, Fig. 6, is preferably pre-shaped, in accord with its function of providing for an angular joint between associated panels.

In Fig. 6 there is illustrated a modification of the panel 10b, see Fig. 1, in which the hinge receiving portion of the panel is formed of laminations 30, 31, each of which has been formed with a groove equivalent to one half of the ultimate keyway 14. The respective laminations, when suitably joined, thus form the screen panel, and the required keyway.

It is to be noted that this invention provides a method of joining such partition forming panels in a manner which readily permits the formation of a curved wall. Also, the panels themselves may be longitudinally curved, as the flexible or ribbon-like character of the hinge makes it conformable to any curvature or shaping of the panels. Novel decorative effects, not ordinarily attainable, may thus be achieved.

Referring again to Figure 6, a portion of the lamination 31 at one groove-end portion thereof, may be in the form of a batten 31a, formed with one-half of the keyway structure, and removably secured (as by screws not shown) to the main portion of the panel. By so making such portion of the extreme edge portion of the panel removable, to expose the interior of the keyway 14, an edge portion 12 of the hinge 11 may be placed in operative position without sliding it into the groove in the manner generally contemplated and described herein, thereby making it possible to use my invention under circumstances which otherwise may prevent the insertion of the hinge into the keyway 14.

Whereas I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of the invention.

I claim:

In a multi-panel screen or the like, the combination with a plurality of panels having keyway means disposed along the vertical edge portions thereof, said keyway means having substantially planar opposing walls which diverge substantially continuously inwardly from the mouth of said keyway means at the edge of each said panel, of flexible means operatively associated with keyway means of contiguous panels to hingedly connect the said panels, said flexible means having edge portions increasing in thickness from an initial thickness greater than the width of the mouth opening of said keyway means to a maximum thickness less than the maximum wall to wall spacing of said keyway means, whereby withdrawal of said flexible hinge means outwardly of said keyway means is opposed by a gradually increasing compression exerted by the said angularly disposed keyway walls upon said thickened edge portions of said flexible hinge means.

DEVON DENNETT. 60