Feb. 10, 1953 H. B. LASTING 2,627,616

ARTICLE OF FURNITURE

Filed July 12, 1946

FIG. 1.

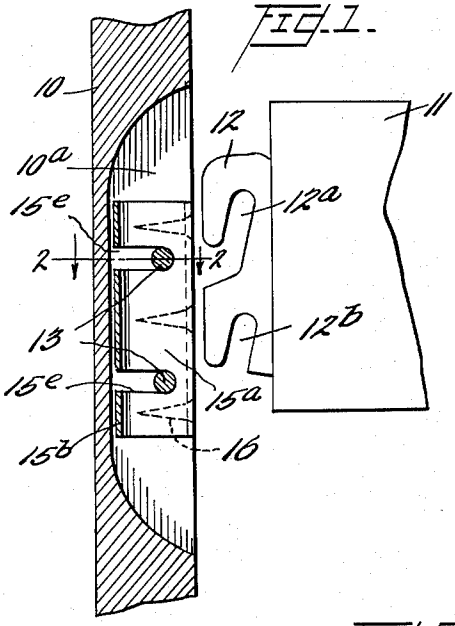


FIG. 2.

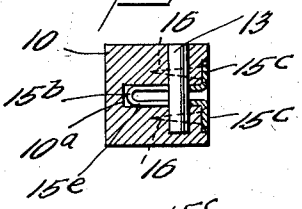


FIG. 3.

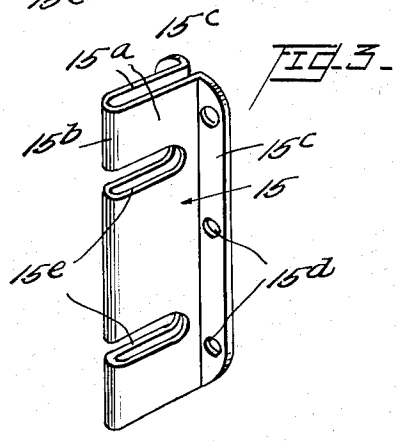


FIG. 4.

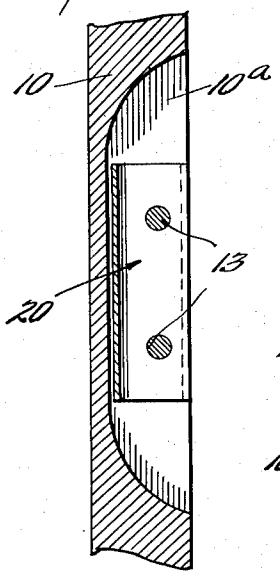


FIG. 5.

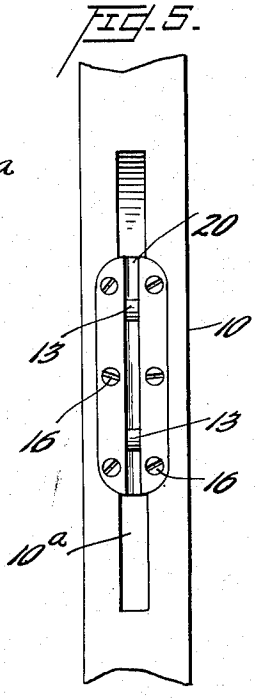
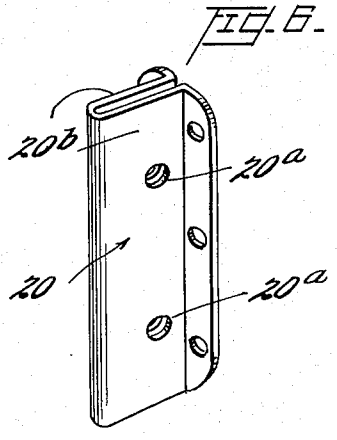


FIG. 6.



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UNITED STATES PATENT OFFICE

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ARTICLE OF FURNITURE

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Application July 12, 1946, Serial No. 683,034

6 Claims. (Cl. 5—296)

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The present invention relates to furniture and more particularly to means for the attachment of two wooden structural members, for instance, the side-rail and cornerpost of a bed of the demountable type.

Most household furniture is fabricated of wood and the problem of securing together two wooden structural elements in such manner that the resulting joint will be strong is one which has absorbed the attention of furniture manufacturers and has resulted in many proposals and suggestions some of which have been actually embodied in commercial structures and widely used.

The customary or conventional wooden bed includes a headboard assembly having cornerposts, a footboard assembly having cornerposts, and side-rails, each side-rail connecting a cornerpost of the headboard assembly to a cornerpost of the footboard assembly. It has been conventional practice heretofore to provide each side-rail with hook plates which project from the ends thereof and to provide each cornerpost with metallic pins or inserts, disposed horizontally and bridging a recess or slot in the post, to be detachably engaged by the hook plate. The pins embedded in the cornerpost ordinarily comprise the only metallic elements associated with that post which are engaged by the metal hook plate and, because of the relatively small area of contact between these pins and the corner post within which they are embedded, excessive strains are sometimes transmitted to the portions of the wooden posts against which the pins immediately bear, these strains being oftentimes more than wood is capable of resisting so that the pins become loose and work out of position or the post is broken or splintered.

The purpose of the present invention is, in a specific sense, to provide an improved means for detachably securing together the side-rail and cornerpost of a bed structure. The improvement is, however, applicable to other articles of furniture. It includes a stress distributing member of novel character by means of which the forces applied to the metallic pins embedded in the cornerposts are transmitted to relatively large areas of the associated wooden posts so that the stress is distributed instead of remaining concentrated upon those portions of the wood which are immediately engaged by the pins, as heretofore. The essential features of the conventional bed structure remain as before, i. e., the bedpost with its vertically elongated slot to receive the hook plate of the side-rail, together with the metallic

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pins, the stress distributing member being readily included, the only change necessary to permit its use being to slightly widen the vertical slot or recess in the cornerpost to permit its insertion.

The novel stress distributing member may be applied at the factory in which the furniture is being constructed in which event it may be provided with circular apertures for the reception of the pins of the bedpost, the stress distributing member being first inserted in a slot in the bedpost and the pin thereafter passed through the apertures in that member. The member likewise may be designed and constructed as a repair member whereby a bed not originally provided with such a member may be repaired in the field when repairs become necessary. For field repair the member is provided with parallel slots to permit its insertion into the elongated recess which is bridged by the steel pins, without first removing the pins. In either case, however, the pins and member maintain close contact, the member is attached to the bedpost at a plurality of points, and forces transmitted by the pins to the bedpost are communicated thereto through the stress distributing member, instead of directly, so that the stress is actually widely distributed and no longer concentrated.

In the accompanying drawings two embodiments of the invention are illustrated by way of example.

In the drawings,

Figure 1 is a view which shows in vertical section portion of a bedpost equipped with the stress distributing member, the section being taken in the plane of the recess provided for the reception of the hook plate of the side-rail, one end of a side-rail being shown in side elevation, with its associated hook plate,

Figure 2 is a section on line 2—2 of Figure 1,

Figure 3 is a perspective view of one embodiment of the stress distributing member,

Figure 4 is a vertical section through a bedpost which is equipped with a modified form of stress distributing member, the section being taken in the plane of the vertical recess provided for the reception of such member,

Figure 5 is a front elevation of a bedpost equipped with a modified type of stress distributing member, and

Figure 6 is a perspective view of such member.

A typical bedpost fabricated of wood and of relatively light section is indicated at 10 in the drawings, and a side-rail 11. From the end of the side-rail projects the metallic plate 12, com-

monly known as the hook plate, this plate being of conventional character and provided with two downwardly and outwardly pin-receiving slots indicated at 12*a* and 12*b* respectively. The bedpost is vertically slotted or grooved to receive the hook plate 12, the slot being indicated generally at 10*a* and is equipped with parallel horizontally extending metallic pins 13 which are inserted into the post from one side and which bridge the slot or recess 10*a*, as shown in Figure 2. The stress distributing member is indicated at 15. This member is fabricated of metal, either by stamping and bending or by casting, and is seen to comprise a main portion which includes two parallel walls 15*a* connected by a semi-cylindrical part 15*b*, and two flanges 15*c* disposed in a common plane, each such flange comprising a laterally extending continuation of the associated side wall 15*a* of the member. Each flange is provided with a series of apertures 15*d* for the reception of wood screws such as indicated at 16.

The member is so formed that the distance between the mutually facing surfaces of its walls 15*a* is slightly greater than the width of the hook plate 12. The elongated slot 10*a* of the bedpost is therefore somewhat wider than normal since it must receive not only the hook plate but likewise the member 15.

The stress distributing member illustrated in Figures 1, 2 and 3 is for assembly in the field as a strengthening member to render secure a furniture joint previously fabricated elsewhere but which has become weakened by use. To effect such assembly it is necessary to widen the previously formed slot 10*a* so that the member 15 may be inserted. Preferably also the face of the bedpost is cut away to receive the flanges 15*c* so that the plane of the faces of these flanges will be flush with the plane of the surface of the bedpost after the assembly has been completed. The member 15 is inserted, the pins 13 entering the parallel slots 15*e* provided for their reception, and the wood screws 16 then passed through the apertures 15*d* into the post to secure the member to the post at a plurality of points.

The pins 13 closely engage the member 15 at the outer ends of the slots 15*e* respectively and it will be apparent that any force applied to these pins, or either of them, by the hook plate 12 will be transmitted to the stress distributing member 15 and hence into the bedpost through the screws 16, instead of being transmitted wholly and directly from the pins to the wood, as heretofore. By thus distributing the stress the joint construction is very greatly strengthened and the life of the article of furniture to which it is applied greatly prolonged.

In the form of invention shown in Figures 4, 5 and 6 the stress distributing member 20 is provided with aligned circular pin receiving apertures 20*a* in its parallel walls 20*b* for the reception of pins 13 of the bedpost 10. This form of the invention is primarily intended to be used in original construction or manufacture, the stress distributing member being incorporated in the furniture joints at the point of manufacture of the furniture. For that reason it is unnecessary to provide slots such as the slots 15*e* of the stress distributing member 15 previously described, the pins 13 being passed through the registering apertures 20*a* after the stress distributing member 20 has been assembled with the bedpost 10 and secured in position by means of the screws 16. The function of the stress distributing member, however, is the same as before, forces applied directly to the pins 13 by the hook plate or a side-rail by which they are engaged being communicated to the bedpost largely through the member 20 and the screws 16, thus widely distributing the stress and greatly prolonging the life of the structure. Other specific forms of the invention may be devised when problems of generally similar, but specifically different, nature are presented.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. An article of furniture comprising a wooden member having formed therein an elongated, narrow and relatively deep slot, a metallic pin embedded in said member and bridging said slot, a second member having a hook plate projecting into the slot formed in the first member, said hook plate operatively engaging said pin, and a reinforcing element for providing additional support for said pin to hold the same firmly against movement relative to the wooden member in which it is embedded under the influence of forces imposed upon the pin by the hook plate, said element having two portions, a body portion disposed within the aforementioned slot formed in said wooden member and substantially in parallel relationship to said hook plate, said body portion extending from the entrance of the slot in said member to a point beyond said pin and having formed therein a pin receiving slot the opposed edges of which engage the embedded pin, the second portion of said element comprising a flange rigid with said body portion and disposed without the slot formed in said wooden member and in contact with the outer surface of said member, and means rigidly attaching the flange of said element to said wooden member.

2. An article of furniture comprising a wooden member having formed therein an elongated, narrow and relatively deep slot, a metallic pin embedded in said member and bridging said slot, a second member having a hook plate projecting into the slot formed in the first member, said hook plate operatively engaging said pin, and a reinforcing element for providing additional support for said pin to hold the same firmly against movement relative to the wooden member in which it is embedded under the influence of forces imposed upon the pin by the hook plate, said element having two portions, a body portion disposed within the aforementioned slot formed in said wooden member and substantially in parallel relationship to said hook plate, said body portion extending from the mouth of the slot in said member to a point beyond said pin and having formed therein a pin receiving slot the opposed edges of which engage the embedded pin, the second portion of said element comprising a flange rigid with said body portion and disposed without the slot formed in said wooden member and in contact with the outer surface of said member, and means rigidly attaching the said flange of said element to said wooden member at a plurality of spaced points, whereby any forces imparted thereto by the pin will be distributed to spaced parts of said wooden member.

3. An article of furniture comprising a wooden member having formed therein an elongated, narrow and relatively deep slot, metallic pin means embedded in said member and bridging said slot, a second member having a hook plate projecting into the slot formed in the first mem-

ber, said hook plate operatively engaging said pin means, and a reinforcing element for providing additional support for said pin means to hold the same firmly against movement relative to the wooden member in which it is embedded under the influence of forces imposed upon the pin means by the hook plate, said element having a body portion disposed within the aforementioned slot formed in the wooden member, and having substantially parallel walls upon opposite sides of said hook plate and an interconnecting web means located beyond the end of said hook plate, said body portion being slotted to receive the pin means and the edges of the slots formed in said walls engaging the embedded pin means, said element including two flanges, one integral with each of said walls and disposed angularly thereto, said flanges engaging the outer surface of said member upon opposite sides of said elongated slot, respectively, and means rigidly attaching each of said flanges to said wooden member.

4. The combination set forth in claim 3 in which said pin means includes two parallel pins bridging the slot formed in said wooden member, the hook plate operatively engages both of said pins, and the slotting in said body portion of said element forms parallel pin receiving slots.

5. A furniture repair element for providing additional support for the exposed portions of a hook plate engaging pin embedded in a slotted wooden furniture member, said element having a relatively thin body portion adapted to be inserted into a slot in such a member, and a flange adapted to engage the outer surface of such

member, said body portion comprising two generally parallel thin walls between which a hook plate may be inserted, a narrow web rigidly connecting corresponding edges of said walls, the walls and web of said body portion being slotted to receive a pin and the edges of the slots formed in said walls being adapted to engage such pin, the flange portion of said element including a flange integral with each of said walls and disposed at an angle thereto, said flanges being adapted to engage laterally spaced outer surfaces of such a member, respectively and each being apertured at a plurality of spaced points for the insertion of wood penetrating securing elements.

6. The furniture repair part described in claim 5 in which the inner ends of the open ended slots formed in the parallel walls of said body portion, respectively, are curved to snugly engage a pin of circular cross section.

HYMAN BERRIL LASTING.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
932,233	Adams	Aug. 24, 1909
1,094,980	Cordle	Apr. 28, 1914
2,425,927	Elrad	Aug. 19, 1947

FOREIGN PATENTS

Number	Country	Date
570,616	Germany	Feb. 17, 1933
425,473	France	Apr. 6, 1911