

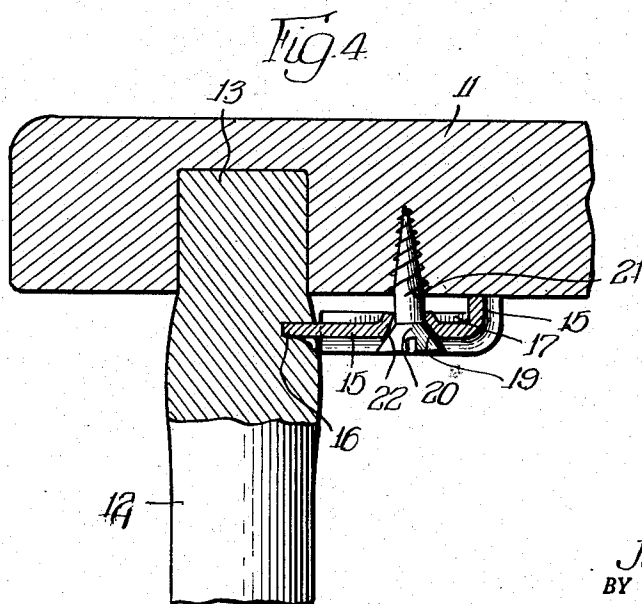
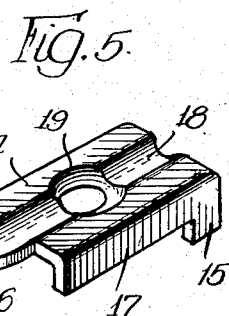
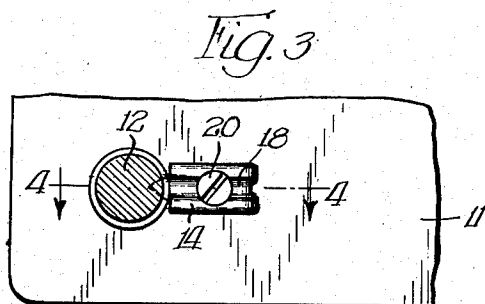
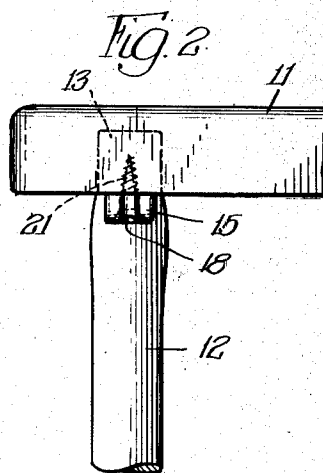
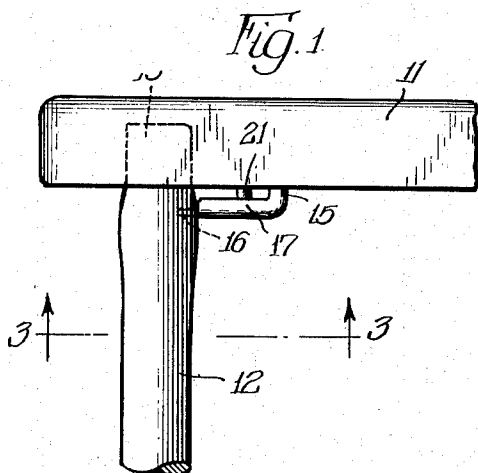
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J. H. BOYE

2,363,041

REPAIR DEVICE FOR CHAIRS

Filed May 14, 1942



INVENTOR.
James H. Boye.
BY

Wilkinson, Husley, Byron & Knight
ATTORNEYS

UNITED STATES PATENT OFFICE

2,363,041

REPAIR DEVICE FOR CHAIRS

James H. Boye, Chicago, Ill., assignor to James H. Boye Manufacturing Company, Chicago, Ill., a corporation of Illinois

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2 Claims. (Cl. 155—196)

This invention relates to a new and improved structural reinforcing member, and more particularly to a metal member adapted for tightening and reinforcing joints in wooden framed construction.

While my invention is capable of other use, it is especially adapted to use in connection with chair legs and cross spindles.

Chairs as generally constructed comprise legs and cross spindles formed of wood, the legs fitting into sockets in the base of the seat or seat supporting frame. The cross spindles normally fit into sockets in the legs or in other cross spindles. All of these connections have a tendency to work loose in time with continued use of the chair. Looseness of the chair legs may permit them to spread to such an extent as to cause stresses to be applied to them at such angle as to cause them to break. The cross spindles are normally under tension and spreading legs may pull entirely away from the spindles. Consequently, it is important to have all these joints tightly maintained both to protect the chair itself and to protect users of the chairs.

The present device may also be used with other wooden furniture or structures. Examples of such use are in connection with tables or cabinets.

It is an object of the present invention to provide a new and improved structural reinforcing device.

It is also an object to provide a device of this character adapted to be easily and quickly applied to wooden framed structures, such as chairs or tables.

It is a further object to provide a device which is simple in design and construction and adapted for commercial production and use.

Other and further objects will appear as the description proceeds.

I have shown a preferred embodiment of my invention in the accompanying drawing, in which—

Figure 1 is a fragmentary view of a portion of a chair with my structural reinforcing device secured thereto;

Figure 2 is a view of the structure of Figure 1 as seen from the right;

Figure 3 is a section taken on line 3—3 of Figure 1;

Figure 4 is a section on line 4—4 of Figure 3 and shown on an enlarged scale; and

Figure 5 is a perspective view of the device.

In the drawing, a portion of a chair seat has been shown at 11 and a chair leg at 12, the leg having its end portion 13 seated in a socket or mortise in the chair seat member. The securing

device, as best shown in Figure 5, comprises a body portion 14, with a downturned leg portion 15 at one end of the body, and an integral pointed tongue 16 extending from the opposite end of the body portion.

The sides of the body portion are turned down as shown at 17, Figure 5, for stiffening the construction, this turned down side portion extending onto the leg portion 15. The center of the body portion is also depressed at 18 to form a corrugation, which aids in stiffening the device.

The body portion is provided with countersunk opening 19, which, as shown in Figure 4, is set at an angle to engage the head 20 of the flat headed screw 21, one threaded portion of which is screwed into the chair seat member 11. The front portion 22 of the countersunk opening 19 is preferably formed on a somewhat steeper angle than the remainder of the countersink, so that as the screw is fully seated, it tends to thrust the device to the left, as seen in Figures 1, 3 and 4.

In assembling the device in a chair to hold the leg in place and tighten it, it is preferable to use a drill or auger and start a hole to receive the pointed tongue 16 of the device. It is also preferable to start a hole for the screw 21 at a small angle to the right of the vertical, Figure 4, so that the point of the screw will be directed toward the end portion 13 of the leg 12. The chair elements are normally formed of hard wood, and the device can be more readily assembled without danger of splitting, and with a certainty of securing a firm grip on the leg if these holes are started.

As best shown in Figures 2 and 4, the undersurface of the reinforcing and strengthening device is concave as a result of the groove 18 which extends longitudinally to include the pointed tongue 16 and also upwardly for the height of the leg portion 15. The device is thus adequately strengthened since the groove has the effect of corrugating the same. The said leg 15 and the flanges 17 are bent from the body portion of the device and these parts extend at right angles to said body portion. The device may be so dimensioned, for example, that the hole for the pointed tongue may be started one-quarter of an inch down on the leg from the undersurface of the seat member 11 and the opening for the screw may be started in said seat member approximately one-half inch laterally from the leg.

Using fixed dimensions of this character facilitates the accurate assembly of the device, due to the angularity of the screw and the difficulty of the countersunk portion receiving the head of the screw. When the device is tightened up, there is

a tendency not only to force the leg firmly into its mortise, but to thrust it to the left, as seen in Figure 4, so that it is firmly wedged between the side of the mortise and the device itself if the mortise is large enough so that there is lateral looseness.

While the device may be used independently thereof, it will be understood that normally adhesive or glue will be placed around the parts which are joined. The leg 15 serves as a lever or abutment about which the tongue 16 swings in a direction towards the seat of the chair to give a firm clamping action as the screw is tightly seated.

While I have shown and described the device as being used in holding a leg in a chair seat, it will be apparent that it may be used for any similar purposes. For example, it may hold stretchers of the chair to the legs or to each other, or may hold legs or corner members of tables or bookcases, or other pieces of furniture. The method of application is similar, the screw being seated in the member bearing the mortise, and the tongue 16 being seated in the member it is desired to force into the mortise and retain fixedly therein.

While I have shown a preferred embodiment of my invention, it is capable of modification to meet differing conditions and requirements, and

I contemplate such variations as come within the spirit and scope of the appended claims.

What is claimed is:

1. A structural reinforcing device comprising a member including an elongated body portion, said body portion having a pointed tongue projecting from one end thereof and having a leg projecting from the opposite end, said tongue and leg being integral with the body portion and the leg having a right angle relation therewith, flanges on the respective sides of the elongated body portion for strengthening the same, and said body portion having a central countersunk opening for receiving a securing screw.

2. A structural reinforcing device comprising a member including an elongated body portion having a longitudinal groove corrugating said body portion to increase its strength, a pointed tongue projecting from one end of the body portion, a leg projecting from the opposite end of the body portion and having a right angle relation therewith, integral side flanges bent at right angles to the body portion and extending in the same direction as the leg, but for a distance less than the leg, and said body portion having a central countersunk opening for receiving a securing screw.

JAMES H. BOYE.