J. S. RICHARDSON.

CLAMP BRACE.

APPLICATION FILED FEB. 14, 1914.

1,157,327. Patented Oct. 19, 1915.

FIG. 1.

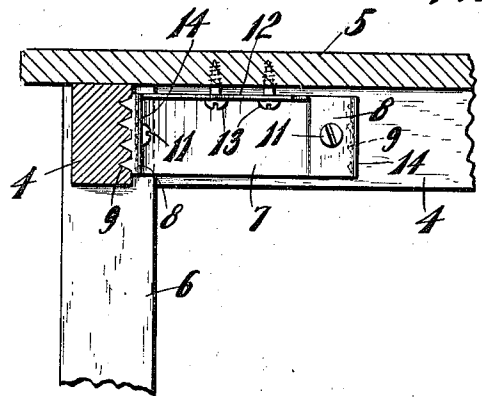


FIG. 3.

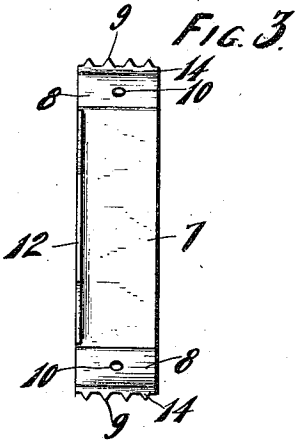
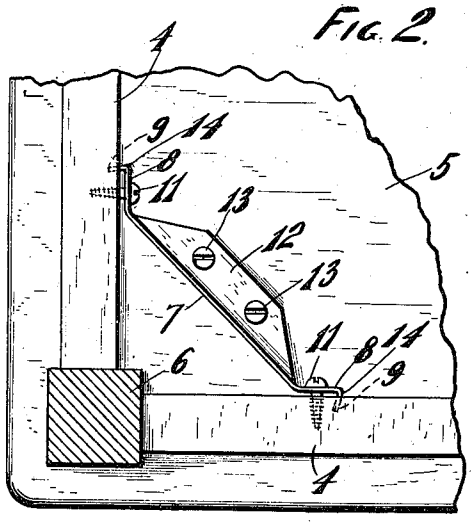


FIG. 2.



WITNESSES.

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CLAMP-BRACE.

1,157,327. Specification of Letters Patent. Patented Oct. 19, 1915.

Application filed February 14, 1914. Serial No. 818,686.

To all whom it may concern:

Be it known that I, JAIRUS S. RICHARDSON, a citizen of the United States, and resident of Sheboygan Falls, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in Clamp-Braces, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in clamp braces.

The object of the invention is to provide a simple, cheap and improved clamp brace, of such construction that the device will securely clamp together the side pieces of frames, as for instance, the side pieces of the rectangular frame of a table or of the side pieces of a chair seat frame, and the like.

A further object of the invention is to provide a construction of the above character which, when connected to two-angled side pieces or frame members, will inherently produce a tensioning effect of such character that if the material of the side pieces should shrink or expand a tension will notwithstanding be exerted and the pieces held firmly together and braced.

Still further the mechanism is such that this tensioning effect can be regulated, if desired.

The clamp brace can be used in any case where timbers, beams, or the side pieces of a frame are to be connected together, and while in the accompanying drawing I show the invention as applied to the upper rectangular frame of a table, I do not in any sense intend to limit myself to this particular application, as the device can be used to equal advantage as a brace for the side pieces of the rectangular frame of a chair seat, or in fact can be applied to a variety of different uses.

In the accompanying drawing, Figure 1 is a view of a fragment of a table, showing the top of the table in section, and one of the improved braces arranged diagonally across from one side piece to the other; Fig. 2 is an inverted plan view of Fig. 1; and Fig. 3 is a detail elevation of the device.

Referring to the drawing the numerals 4—4 indicate two of the side pieces of the rectangular upper frame of a table, 5 the table top supported thereby, and 6 one of the table legs.

The improved clamp brace consists of a plate 7, preferably flat, and also advisably of metal. This plate has its ends turned at oblique angles to form feet 8—8. The outer edges of these feet are formed with teeth 9—9 extending at angles to the said feet.

In the drawing, only one of these clamp braces is shown, but it will be understood that where it is desired to brace and clamp a rectangular frame, such as the upper frame of a table or the frame of a chair seat, four of these devices are preferably employed, and are arranged diagonally across each corner, as illustrated in the drawing. In applying the device to two side pieces, the said device is arranged in the diagonal position shown most clearly in Fig. 2. The teeth at the respective ends or edges of the feet 8 are then driven into the side pieces. The feet are provided with openings 10—10 through which screws 11 are passed and turned into the side pieces, whereby the clamp brace is secured in position.

An important feature of the invention is the arrangement of the feet 8 at oblique angles to the main flat portion of the device and at right angles to each other, and the disposition of the teeth 9 at such angles to the feet together with the solid bent portions back of the teeth that when the teeth are driven into the respective side pieces and the screws 11 are turned into the said side pieces, the feet 8 are spaced a slight distance from the sides of the side pieces. This gives a most effective tensioning, and which tensioning will be preserved even though the wood composing the side pieces shrinks or expands. Under this arrangement the side pieces are held together under all conditions, and objectionable rattling is obviated, on account of the fact that loose joints are prevented.

If additional securing means for the clamp brace is desired, the upper edge of the main flat portion of said brace may be provided with a flange 12 extending at right angles from said edge. In cases where the device is used in connection with the rectangular frame of tables, or the rectangular frames of chairs this flange will underlie the top in the case of a table, and will underlie the seat when used in connection with a chair. This flange is adapted to be secured to the table top or to the chair seat, as the case may be, by means of screws 13—13.

Another important feature of my inven-

tion is, that the entire transverse edge of the metal of each foot, adjacent the base of the teeth, is also bent down at an angle with the teeth, as indicated by the numeral 14. If this provision is not made, that is to say, if only the teeth were bent down, in the operation of driving the teeth into the wood, the points of said teeth would bend back before the points could enter the wood. By the addition of the transverse bent portion 14 at the base of the teeth, the bent area is increased to such an extent over the area that is driven into the wood, that the bending of the teeth before they enter the wood, is effectually prevented.

What I claim is:

1. A clamp brace, comprising a metal plate having feet at its ends projecting angularly therefrom, and means formed on the ends of said feet for penetrating and positively spacing said feet from the object to which said brace is applied.

2. A clamp brace, comprising a metal plate having feet at its ends projecting angularly therefrom, and means formed on the ends of said feet for penetrating and positively spacing said feet from the object to which said brace is applied, said means embodying extended portions bent angularly to said feet and which are provided with teeth at their extreme edges to form solid portions between the bend and the base of the teeth.

3. A clamp brace, comprising a metal plate having feet at its ends projecting angularly therefrom, a flange extending at right-angles from one of the edges of said plate between the feet, and means formed at the ends of said feet for penetrating and positively spacing said feet from the object to which said brace is applied.

4. In combination with the side pieces of a frame disposed at right-angles to each other and united at their ends, of a clamp brace for securing said side pieces together, said clamp brace comprising a main plate portion extending diagonally between said side pieces, feet at the ends of said main plate portion and bent angularly thereto to lie in parallel relation to said side pieces, means on the ends of said feet for penetrating said side pieces and positively spacing them therefrom, and securing screws engaging said feet for retaining said brace in position.

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

JAIRUS S. RICHARDSON.

Witnesses:
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