ABSTRACT: A clamp having gripping means thereby allowing the clamp to hold long pieces of material together without the necessity of the clamp being of great length. The gripping means are easily releasable and comprise a U-shaped member having one leg journaled in a bar forming part of the clamp. The other leg of the U-shape is adapted to engage the workpiece to hold it.
3,603,580

CLAMP HAVING GRIPPING MEANS

BACKGROUND AND SUMMARY OF THE INVENTION

This invention pertains to clamps adapted to hold pieces of material together for gluing or similar fastening, and more particularly to a clamp of relatively short length adapted to hold long pieces of material together by means of unique, easily released gripping means.

Ordinarily, it is necessary to hold long pieces of wood together for gluing by use of a long clamping member engaging each end of the glued assembly. The clamp is often formed of a head piece having a slidably adjustable compression member adapted to engage one end of the assembly, a tail piece having an abutment surface to engage the other end of the assembled pieces, and an elongated pipe, or other long member extending between the head piece and tail piece, and to which both were fastened. This resulted in a long, clumsy and heavy device.

By my invention I provide a much shorter and more conveniently usable clamp. I do this by providing a tail piece adapted to grip one of the pieces being glued around an edge rather than requiring that the clamp extend completely to an opposite end and abut a surface at that end.

FIGURES

FIG. 1 is a top plan view of my device in use on a common project.
FIG. 2 is a side elevational view of the device shown in FIG. 1.
FIG. 3 is a view similar to FIG. 2 of an alternate embodiment of my invention, and
FIG. 4 is a top plan view of the clamp of my invention in an alternate application.

DESCRIPTION

Briefly my invention comprises a clamp means particularly adaptable for use as a wood clamp. The clamp is usable for holding glued joints between long pieces of material particularly because of novel holding means which eliminate the need for a long bar extending to the ends of the glued pieces.

More specifically and referring to the drawings, my device is usable for holding together two pieces of material particularly for gluing. In FIGS. 1 and 2 I illustrate its use at a glued corner using abutting pieces 10 and 11. The clamp consists of a head piece 12 of common type which includes a screw 13 threaded through the head member 14, and operated by a crank 15. A pad 16 is journaled on the tip of the screw to engage the wood piece 11.

The head member 14 is fixed to a longitudinal bar 17, and the pad 16 may be slidably journaled thereon as shown in FIG. 2. At the end of the bar 17 opposite the head member, I provide a U-shaped holding member 18. This member has one leg 19 pivotally journaled in an enlarged end 20 of the bar 17. The other leg 22 is substantially parallel to the first leg and extends over the end 20. This leg 22 is positioned to be spaced from the adjacent surface of the end 20 by a distance somewhat greater than the maximum thickness of the material to be clamped. The surface of the end 20 which engages the piece 10 may be knurled as shown in the figures. It is also envisioned that the under surface of the leg 22 may also have a knurled or roughened surface to grasp the piece more securely.

In use, the clamp is placed over the glued joint with the pad 16 retracted and lightly abutting the piece 11. The free leg 22 of the holding member 18 is slid over the other work piece 10 so that this piece is embraced between the leg 22 and the end 10 of the clamp. By holding the leg 22 in place while operating the screw 13 to tighten the clamp, it is possible to cause the piece 10 to be firmly held between the leg 22 and the end 20. Further tightening of the screw 13 simply compresses the joint between the two pieces to hold them in the desired position.

If it is desired to glue two extended pieces together, or to clamp them and hold them for any other reason, I also propose to use a similar device illustrated in FIG. 3. This device comprises a pair of tail pieces, each consisting of a holding member 18 like that of the first embodiment. Each member 18 is pivotally journaled in an end member 24 which includes a screw-threaded extension 25 and 25'. One of the extensions 25 may have a right-hand thread and the other 25' a left-hand thread. A turnbuckle nut 26 engages both extensions and is adapted to pull them together or separate them. The operation of this device will be obvious from the previous description of my first embodiment.

The device shown in FIG. 4 is not really an alternate embodiment, but simply illustrates an alternate use of the embodiment of FIGS. 1 and 2. In this use, the clamp may be used to hold a mitered joint simply by clamping the first workpiece 10' between the leg 22 and the adjacent surface of the end 20 in the manner used before, except that the clamp lies diagonally of the corner. At the piece 11', a triangular block 28 is used between the piece 11' and the pad 16 in a manner well known in the art.

I claim:

1. Clamp means for holding two workpieces together comprising bar means, head means at one end of said bar means, said head means including adjustable means adapted to engage a workpiece and urge it toward a second workpiece, holding means at the opposite end of said bar means including a substantially U-shaped member having one leg pivotally journaled in said bar means, the second leg of said U-shaped member extending adjacent said bar means whereby said second workpiece can be held between said second leg and said bar means.

2. The device of claim 1 in which said opposite end of said bar means at the position of said U-shaped member includes an enlarged end so that said first leg is journaled in said enlarged end, said second leg being positioned adjacent the surface of said enlarged end by a distance somewhat greater than the thickness of the piece to be held.

3. The device of claim 2 in which said enlarged end is formed to provide a roughened surface on the part engaging said piece to be held.