

[54] **CLAMP HAVING MITER JAWS**  
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[51] **Int. Cl.**..... B23q 3/02, B25b 1/02, B25b 1/24

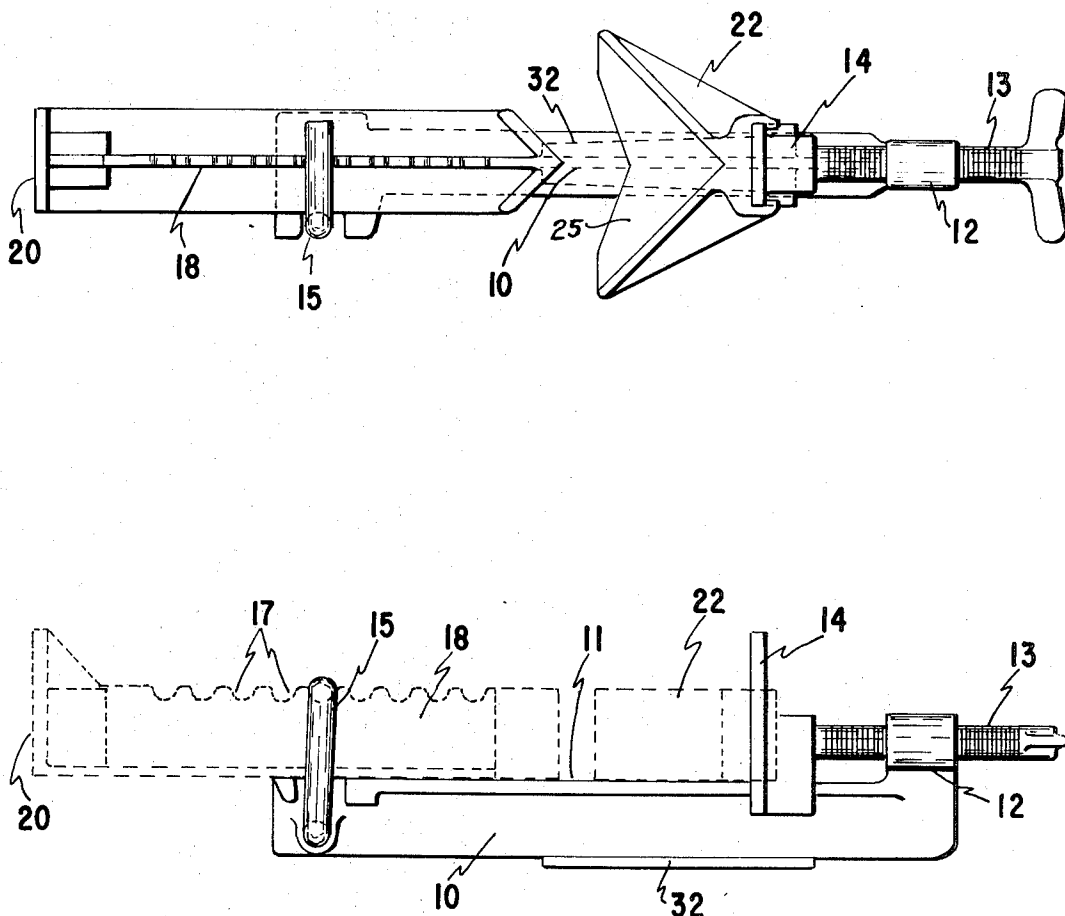
[58] **Field of Search** ..... 269/99, 41, 4, 95, 269/211, 261, 268, 269, 207, 283

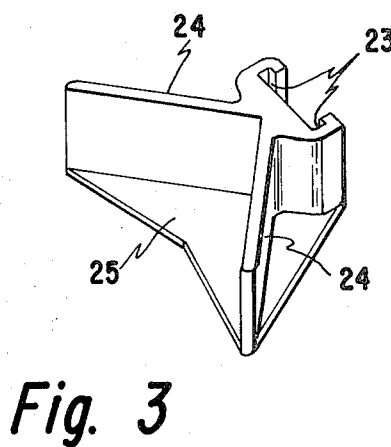
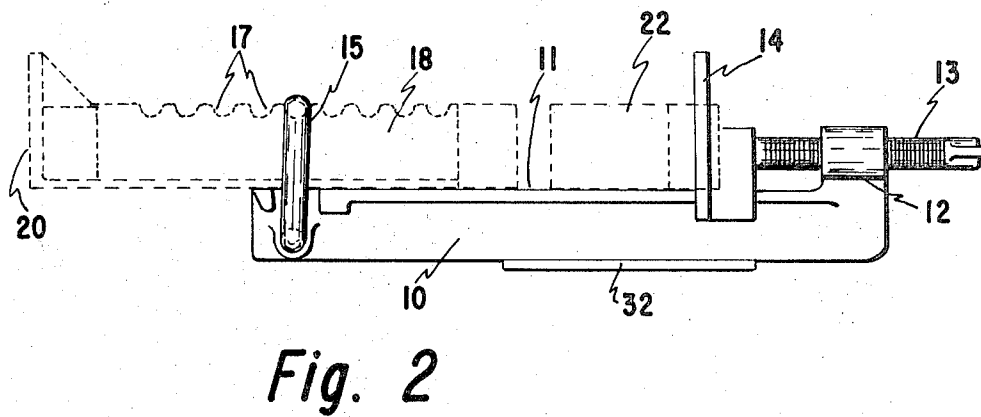
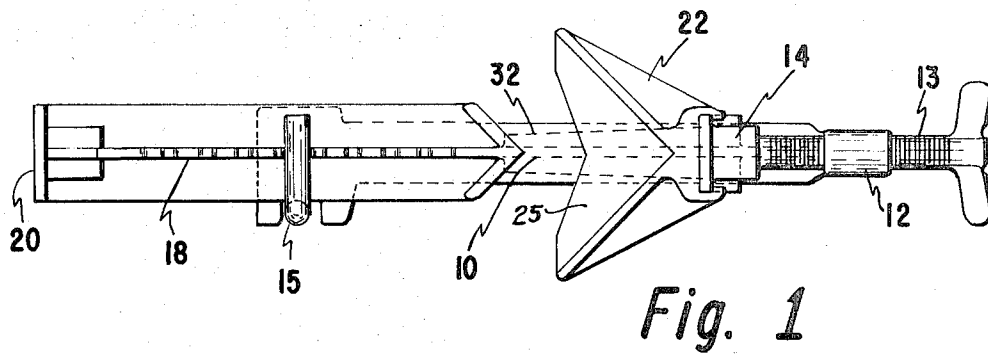
[57] **ABSTRACT**

A clamp having as an improvement, removable devices adapted to hold mitered joints. The clamp may be removably fixed to a bench by novel holding means.

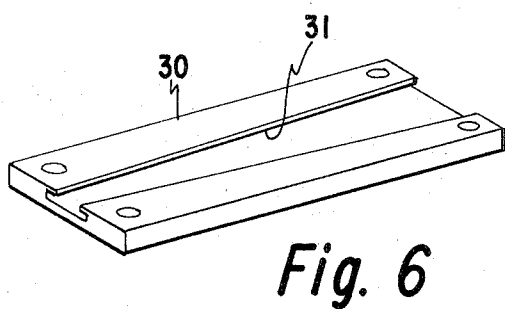
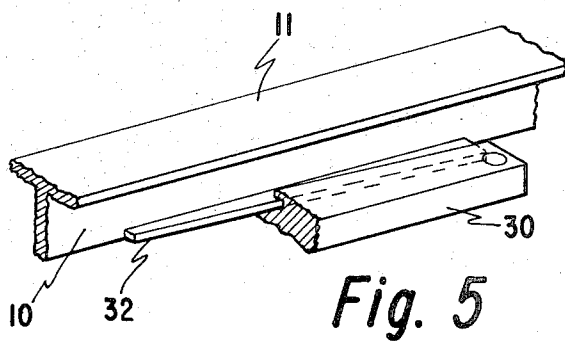
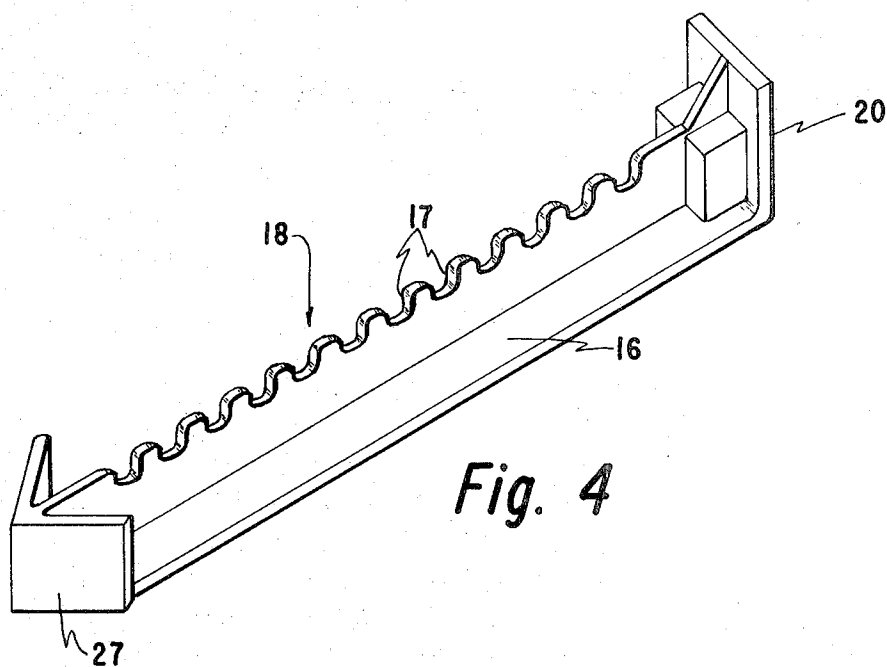
**4 Claims, 6 Drawing Figures**

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## CLAMP HAVING MITER JAWS

## BACKGROUND AND SUMMARY OF THE INVENTION

In U.S. Pat. No. 3,603,580, I have disclosed a novel clamp usable for holding two pieces of material — particularly wood pieces — together for glueing. That clamp was designed especially for holding corners where one piece overlapped the end of the other.

It has now been discovered that modifications were necessary to hold corners where the two pieces were mitered so that the glue was applied to two matching surfaces at an angle to the main edge of each of the pieces. By my invention, I provide a clamp similar to my previously patented clamp, but having attachments whereby both types of corner joints can be held. The attachment also provides means for operating the clamp as an ordinary clamp.

Previously, even with my clamp, it was difficult to hold a mitered corner joint. My device provides a dual purpose clamp able to hold mitered joints of material up to about four inches thick, or usable as a bar clamp having relatively short opening. In addition, by use of a novel clamping arrangement to hold the device to a table or bench it readily becomes usable as a vise to hold workpieces.

It should further be pointed out that the clamp, while holding a mitered joint leaves the upper surface of the pieces completely open. This makes it possible to apply holders, fasteners or other material to the joined pieces. This could be used to attach strengthening braces to the joint by placing the workpiece face down in the clamp. Similar uses will undoubtedly occur to those skilled in the art upon a study of the specification and drawings.

The use of the device as a vise is made possible through a novel holding arrangement providing for quick connection between the clamp and a device on a workbench. Thus, a corner could be held in the clamp, then the clamp be attached to the workbench to hold the assembly in place while other work was being done on the workpiece.

## FIGURES

FIG. 1 is a top plan view of my clamp as used to hold mitered joints,

FIG. 2 is a side elevational view of the device as shown in FIG. 1,

FIG. 3 is an isometric view of the reversible attachment removed from the clamp,

FIG. 4 is an isometric view of the reversible attachment removed from the clamp,

FIG. 5 is a broken isometric view of the body of the clamp engaged with the holding member to support the clamp on a workbench, and

FIG. 6 is an isometric view of the holding member isolated from the clamp.

## DESCRIPTION

Briefly, my invention comprises a clamp means similar to that described in my aforesaid patent, but improved by the use of two removable attachments. The attachments are formed to clamp mitered corners and are readily removable to allow the clamp to be used for clamping other types of joints. I also provide a holding means adapted to hold the clamp to a workbench.

More specifically, my invention includes the basic members of the previously patented device including the longitudinal bar member 10. In this improved clamp, the bar is formed of T-shaped cross sectional member avoiding the need for an enlarged end. The surface 11 of the bar is the equivalent of and is adequate for the purpose served by that enlarged end illustrated in the prior patent. The head piece 12 embracing the screw threaded member 13 to control the pad 14 may be similar to the previous device. The removable U-shaped yoke member 15 is also similar to that of my former clamp.

The novel part of my present device includes a removable and reversible abutment attachment 18 best shown in FIG. 4. This attachment is also formed of a generally T-shaped bar 16 including flat cross members adapted to slide along the upper surface 11 of the main bar of the clamp. The web of the T-shaped member is formed to provide notches 17. These notches are engaged by the removable U-shaped yoke member 15 to hold the attachment in longitudinal position on the clamp.

One end of the bar 16 is formed with a flat abutment 20. Using this end with the flat pad 14 would allow the clamp to be used as an ordinary bar clamp.

The other end of the bar 16 is used with a second attachment 22 shown best in FIG. 3. This attachment is formed with a channelled socket 23 adapted to fit over the pad 14 as shown in FIG. 1. A pair of walls 24 extend in a V-shape from an apex next to the socket 23. These walls preferably form a 90° angle to hold a mitered joint. If joints were to be made at some other angle than a right angle a different attachment could be used, but this would seem to be a rare occurrence and would require special handling. A web 25 is provided for added strength in supporting the walls 24 and to support the workpieces being glued.

The bar 16 has a pointed end 27 opposite to the abutment 20 formed to match the angle of the walls 24. This end is directed toward the pad 14 when it is desired to clamp a mitered joint. For this purpose, the attachment 22 is used on the pad 14, and the workpieces may then be held in proper relationship between the walls 24 and the end 27, and at right angles to each other.

My device is also designed to be used as a vise. This is accomplished through the use of a plate 30 adapted to be affixed to a workbench or the like. A tapered slot 31 including overhanging flanges is formed in the plate 30. An attaching flange 32 is fastened to the upright portion of the bar 10 on the clamp. This flange is tapered to the same shape as the slot 31 so that it can be inserted into the slot, slid toward the narrow end and thus clamped in place. Thus, the clamp can be mounted on a bench for use as a clamp for holding workpieces to be clamped or as a bench vise to hold a single piece to be worked on.

I claim:

1. Clamp means comprising a main bar, head means near one end of said bar, adjustable means movably mounted in said head means, pad means carried by said adjustable means and movable longitudinally of said bar, U-shaped yoke means having substantially parallel legs, the first of said legs being pivotally journaled near the end of said bar opposite said head means, abutment means having a surface matching that of said bar whereby it is slidable both longitudinally and laterally on said bar, the second of said legs extending over said

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abutment means to hold it in slidable engagement with said bar, said abutment means being thereby readily removable from said bar by sliding laterally of said bar and away from said yoke means.

2. The device of claim 1 in which disengagable attachment means are fastened to said bar and are adapted to be attached to a workbench whereby said main bar may be readily attached and disengaged from said workbench.

3. The device of claim 1 in which attachment means 10

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is removably mounted on said pad means, said attachment means formed to provide a right angle socket, said removable means having a second end formed to provide a matching point whereby a mitered joint may be held between said socket and said point.

4. The device of claim 1 in which said removable means is formed with notches engaged by said yoke member to hold said removable means firmly in place.

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