United States Patent [19]

Desnoyers, Jr.

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[54] **TOOL AND METHOD OF USING SAME**

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[52] **U.S. Cl.** **83/743,** 83/452, 83/471.2, 269/228

[51] **Int. Cl.** **B26d 7/02**

[58] **Field of Search** ..... 83/745, 743, 451, 452, 83/471.2, 574; 269/228, 254 CS

[56] **References Cited**

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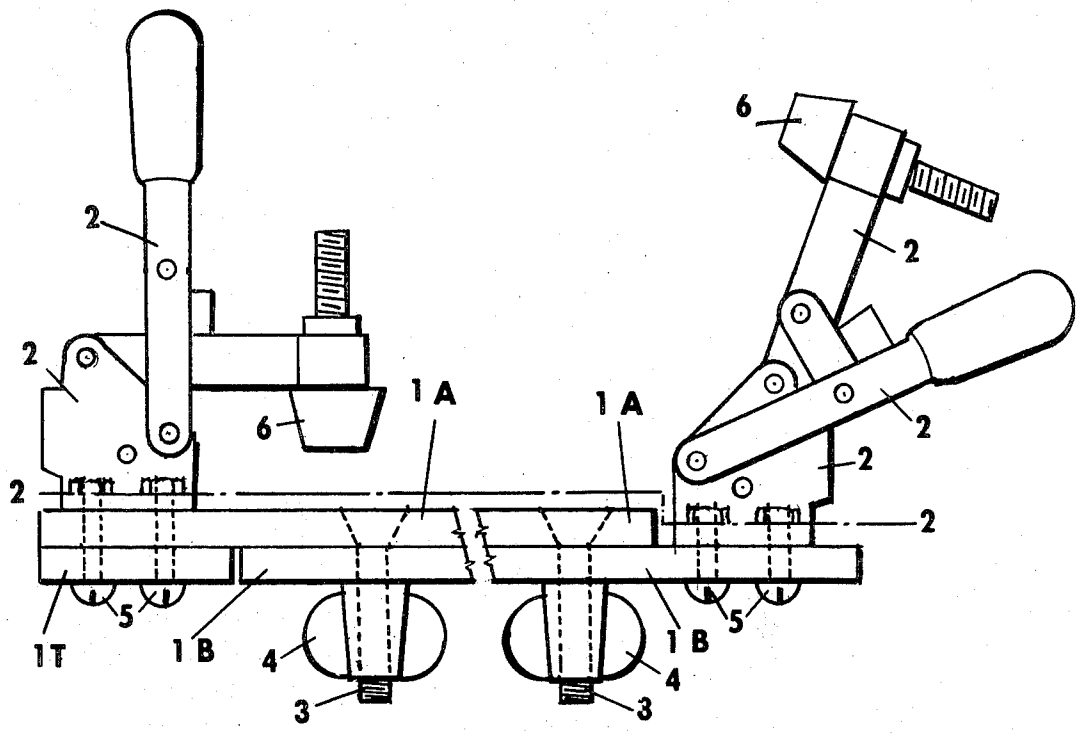
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Primary Examiner—Donald R. Schran

[57] **ABSTRACT**

A tool, providing an extensible or a non extensible straight edge, that can be rapidly attached and firmly held to an object to be sawed, by either a hand saw or a power saw.

1 Claim, 4 Drawing Figures



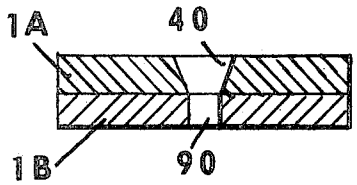


FIG 4

FIG 1

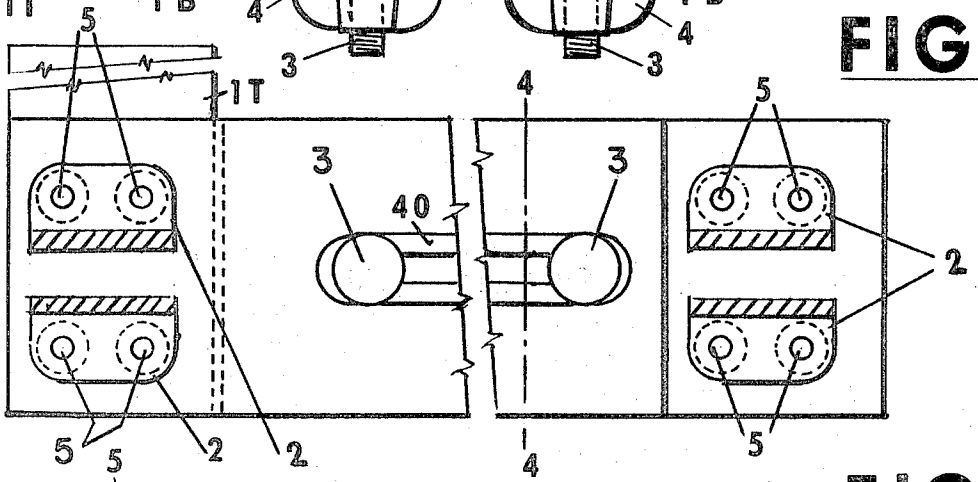


FIG 2

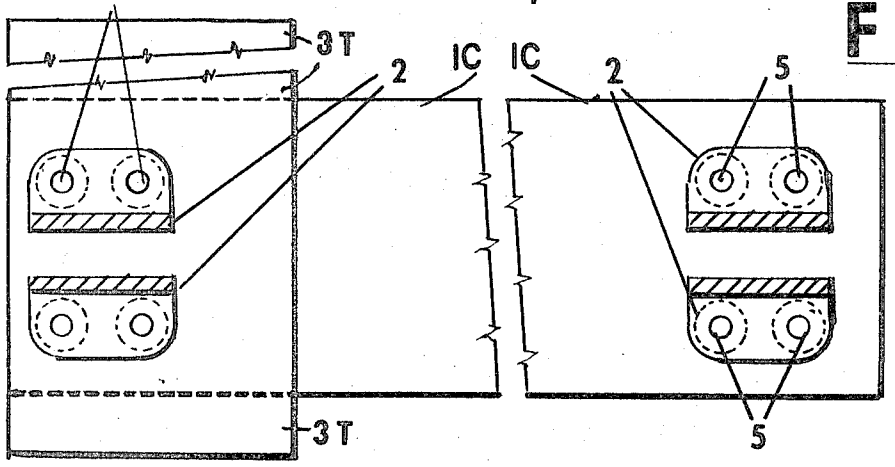


FIG 3

TOOL AND METHOD OF USING SAME

In sawing many duplicate peices off the sides or the ends of flat plywood, Masonite, or other similar flat building board material, much of the total time needed to mark and to saw each peice of flat stock, can be greatly reduced by my present tool invention.

Extreme accuracy in such an operation is always a definate and essential need. Not only are the sawed peices more accurate and dimensionally correct, but by using my improved straight edge, the person doing the sawing can accomplish remarkable savings in the speed of the sawing, at the same time insuring the unfailing similarity or identity of the sawed peices as they repeatedly come from the saw.

My invention includes a means and method of rapidly attaching and detaching my straightedge to the flat stock to be sawed, as it is shown, described and claimed herein. In the drawings:

FIG. 1, is a side view of my extensible straight edge.

FIG. 2, is a view taken along the lines 2 — 2 in FIG. 1.

FIG. 3, shows the construction of my non-extensible type of straight edge.

FIG. 4, is a sectional view along the lines 4 — 4 in FIG. 2.

The general view of my saw guidance tool as it is shown in FIG. 1 is up side down as when it is in use in guiding a sawing operation, through something that is flat or reasonably so.

Essentially my tool is either a single strip of metal, preferably magnesium or aluminum, or two similar strips of metal that can be clamped together firmly, as and when the desired overall longitudinal dimension of the tool is properly positioned. At each end of the metal strip is a quick action clamp.

At each end of said metal strip or strips (suitably fastened together), I permanently mount what is known in the hardware trade, as a "toggle clamp," these clamps in effect facing each other. Where I use two metal strips fastened together I only use two clamps.

A "toggle clamp" is a means for holding something that is flat (or nearly so) to something else that is flat, used as a mounting means, the "toggle clamp" holding the former to the latter. A quick action toggle clamp is one when merely the motion of an arm or so-called handle opens or closes the clamp and causes it to be pressed down on that which is to be clamped and held tight, or promptly released when the lever arm of the clamp is moved in the opposite direction.

The type of "Toggle Clamp" I prefer to use is that known as design **202** as manufactured by the De Sta Co (Division of the Dover Corporation) located at **346** Midland in Detroit, Mich. 48302. This is the clamp that appears in my patent drawings. I have found it entirely satisfactory for my purpose as it is herein shown and described.

While patents are not usually concerned with the definite dimensions of an invention, I prefer the use of light metal (aluminum or magnesium) strip approximately 2 inches wide and ¼ inch thick. If I use stainless steel strip, this can be a bit wider and thinner and turned up at the sides of the strip (or strips) to act as a flange to stiffen the tool in its longitudinal dimension.

In FIG. 1 the metal strip on one side is shown by the numerals 1 A and 1 A, whereas the metal strip on the other side is designated by numbers 1 B and 1 B. These two similar strips of metal are held together firmly by

a pair of wide headed bolts (in this instance beveled headed bolts) 3 and 3, each bolt tightened by a wing nut shown at 4 and 4.

Holding the Toggle Clamps in their position on my metal strip 1 C or strips 1 A and 1 B are four round-headed bolts here shown at numerals 5, 5, 5, and 5. At numeral 6 I detail a rubber cushion that is pressed firmly against the plate of material that is to be sawed, as the sawing takes place and as the saw runs along close to the edge of my strip or strips . . . the plate to be sawed lying firmly between the rubber cushion 6 and the metal strip 1 A (in FIGS. 1 and 2) or the metal strip (the single metal strip) 1 C as it is shown in FIG. 3.

In all four Figs. (FIG. 1, FIG. 2, FIG. 3 and FIG. 4.), the parts in my drawings are shown in their upside down position. The Toggle Clamp 2 on the right side of FIG. 1 is open with the rubber cushion 6 up, whereas the toggle clamp 2 (which is identicle) on the left side of FIG. 1 is shown in the down position as it is functioning to hold tight the flat peice to be sawed. This flat peice to be sawed lies between the two rubber cushions 6 and 6 when they are both in their clamping position as is the rubber cushion 6 at the left side of FIG. 1. The flat peice to be sawed lies between the two rubber cushions 6 and 6 and the metal saw guide strip shown in FIGS. 1, 2 and 4 by the numeral 1 A.

In FIG. 3 the flat peice to be sawed lies between the two rubber cushions (like 6 and 6 in FIG. 1) and the metal strip shown in FIG. 3 as numeral 1 C.

So that my tool may be used as a "T-Square" as at various times it must be, I have shown at number 1T a cross strip, member bolted to the longitudinal strip member 1A at directly right angle, one to the other. In FIG. 3 this cross strip member is illustrated as numeral 3T. Here again the angle between the cross strip 3T and the longitudinal strip 1C is exactly 90° for its use as the T-Square is ordinarily employed.

If the T square feature of my tool (sawing guide tool) is not needed, the lengthwise strips I A and 1 B are simply pulled a bit farther apart before the tightening of the two thumb screws 4 and 4 takes place.

While the tops of my set screws 3 and 3 can be flat tops that are not beveled, never the less I prefer the use of bevelled flat top screws 3 and 3 as they are illustrated in FIGS. 1 and 2. In FIG. 4 a beveled groove is shown at 40 matched to a round hole 90 to receive the beveled head set screw 3 along its suitably threaded shank.

The pressure of the rubber cushions 6 and 6 can be suitably adjusted since they (the rubber cushions) are mounted on a threaded shank provided with a nut that keeps each rubber cushion exactly where it is positioned. Once the tool is placed just where the plate under it is to be sawed, a mere flick of the two handles on the two toggle clamps, temporarily and tightly fastens the saw guidance tool to the work so that the sawing can proceed. When the sawing operation is over, again, a mere flick of the two handles opens up the two toggle clamps, thus releaseing the saw guidance tool from the flat sheet that has been accurately sawed. Since the saw slides close of the edge of my metal strip or or strips (if the adjustable tool is being used) the toggle clamps in no way interfere with the movement of the saw (if it be either a hand saw or a power saw.).

It is well within the province of my invention to substitute spring action clip board type quick clamps for the toggle type quick clamps as shown and described

herein. Equipped with a rubber tip just as the toggle clamps have, that can be made adjustable in just the same way, my clip board type clamp is spring urged and remains when it is not in use, with the rubber tip firmly set against the longitudinal metal peices (1A, 1B, or 1C). In the same manner these clip board type quick clamps, face each other as they are mounted at the ends of the long metal strip, or the adjustable pair of metal strips. Like the standard clip board clamp, each clamp is lifted on its hinged mounting to allow the flat peice being sawed to slide under the rubber tips of the two clamps before the clamps are let down (on the flat work to be sawed) before the sawing operation commenses. When the sawing is finished by pressing down the end of the clamp opposite to the end of the clamp on which the adjustable rubber tip is located, by this pressing down action on the clamp, the tool is released at each end from the flat work that has been sawed, the coiled spring in the central portion of the clip board type clamp urging the rubber tip down against the longitudinal strip or strips, as the kind of sawing guidance tool may happen to be (that is adjustable or non-adjustable as to its particular required longitudinal length of the tool).

This invention is to be interpreted from its broadest aspects, and is to be limited only in accordance with the claims attached hereto.

I claim:

1. A sawing guide tool to increase the speed and accuracy of an individual or identically repeated sawing operation on a suitably sawable flat or substantially flat material, said tool comprising a pair of completely flat metal strips being one on top of the other, which, when together can become longitudinally extensible, one of said metal strips having a lengthwise slot in which a set screw on the other strip may become positioned, tightly clamping said two flat metal strips together to obtain a given lengthwise dimension of said pair of metal strips, and a quick closing clamp mounted on one end of one of one of said flat metal strips, to temporarily hold the tool tightly against the work to be sawed, one clamping element of said quick closing clamp gripping the opposite surface of the flat piece to be sawed, in order to firmly guide the proper direction of the saw as it moves closely along against said pair of completely flat metal strips until the sawing operation has been completed.

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