Aug. 31, 1948. L. A. WIELAND 2,448,286

HACKSAW

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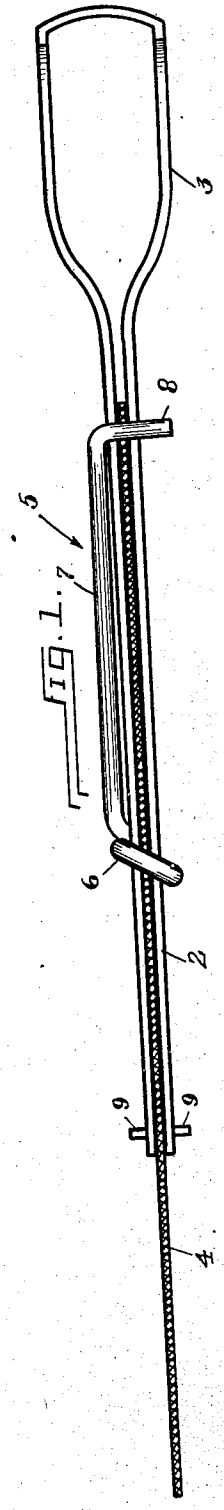


FIG. 1.

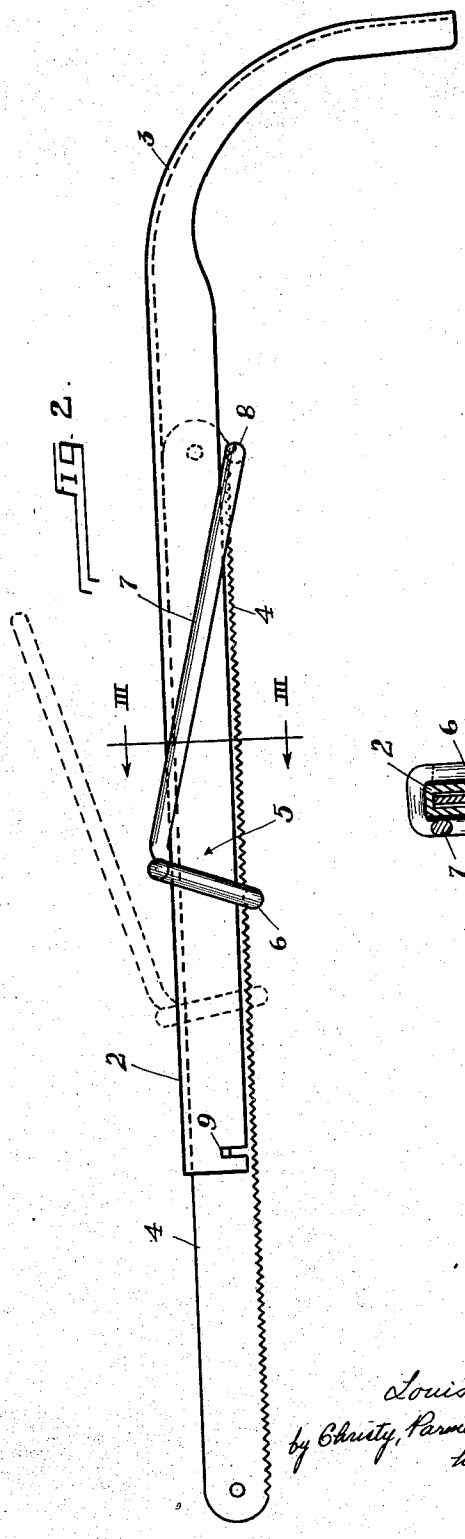


FIG. 2.

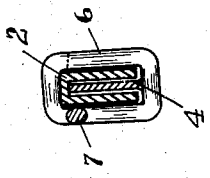


FIG. 3.

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HACKSAW

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3 Claims. (Cl. 145—31)

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My invention relates to hack-saws, and consists in an improved tool for holding a conventional hack-saw blade for service, with no limitation upon the depth of cut that may be made, as is the case with a blade supported in the usual hack-saw frame or holder of inverted U-shape.

The holder of the invention is of economical and simple construction, and easily manipulated in introducing and removing blades, and is adapted to the use of the parts of broken blades.

The invention will be understood upon reference to the accompanying drawings, in which:

Figure 1 is a view in bottom elevation of a tool embodying the invention;

Figure 2 is a view of the tool as seen in side elevation; and

Figure 3 is a view in cross section, as seen on the plane III—III of Figure 2.

The device of the invention is economically formed of a length of strip steel, and a length of spring wire. The length of strip steel is shaped to form an elongate body 2 of U-shape in cross section, and terminates at one end in a curved and flanged portion 3 that provides the handle of the device. The handle 3 is of concave or dished form in cross section, as may be understood upon viewing the end of the handle at the right-hand end of Fig. 1. A hack-saw blade 4 of conventional and unspecialized form, or a part of a broken blade, is adapted to be inserted in the channel of the U-shaped body 2, with the saw-tooth edge of the embraced blade exposed below or outward from the channel in the body 2, as the drawings indicate.

The length of spring wire is fashioned into a device 5 for clamping and securing the blade 4 in the body 2, with one end of the blade 4 extending from the end of the body, as shown, whereby the assembled tool may be manipulated to saw metal, or other material to be cut. The clamping device includes a portion 6 that is looped about the body 2, and from such loop portion 6 an arm portion 7 extends downward along the side of the body 2 and terminates in a finger or catch portion 8, which yieldingly engages the exposed edge of embraced saw blade 4. The loop 6 and arm 7 are so particularly fashioned that when the catch or finger portion is engaged upon the edge of the blade (as indicated in full lines in Figures 1 and 2) the arm 7 is flexed or stressed, and the loop 6 is inclined, with the top of the loop pressed against the upper edge of the body 2 and bottom of the loop 6 pressed tightly against the exposed edge of the blade. Thus, the device 5 cooperates with the

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body 2 to clamp the blade 4 securely in the body 2 of the tool holder, the loop 6 and finger 8 yieldingly engaging the exposed edge of the blade at two spaced apart points.

In order to release the blade, the arm 7 is pressed downward and swung outward to disengage the finger or catch 8, and then the arm is swung upward into the dotted line position, Figure 2. This swings the loop into a position in which it extends in a perpendicular plane with respect to the axis of the body 2, with the consequence that the height of the loop (as viewed in Figure 1) is in effect increased, and the clamping engagement with the edge of the blade interrupted. As thus released, the blade may be removed and a new blade inserted, or the existing blade may be adjusted along the length of the body of the holder, until the desired portion thereof extends from the end of the holder. Then, the clamp is closed again and the blade locked in adjusted position. It is to be noted that the stressed arm 7, acting on the inclined loop, causes the lower limb of the loop to bear with great mechanical advantage or locking force on the blade.

When the spring clamping device 5 is in its release position, it may be slid along the body of the holder into suitable position to engage the particular blade, it being again noted that parts of broken blades may be used in the tool of this invention.

At one end of the body 2 of the holder the handle 3 and at opposite end two lugs 9, 9 provide means for preventing the clamp 5 from sliding from the body 2. The body of the holder and the clamp are retained in adjustable assembly.

While I have especially designed the tool holder of the invention for hack-saw blades, it will be understood that it may find utility in adjustably supporting other blades or blade-like devices. Furthermore, it may be noted that the holder and clamp may be constructed of other materials than strip steel and spring wire, and that with the terms of the appended claims many other modifications and variations may be practiced without departing from the spirit of the invention.

I claim:

1. A clamping device for securing a hack-saw blade in an elongate relatively narrow body of U shape in cross section wherein one edge of the blade is exposed at the opening in the U, said clamping device comprising a loop portion adapted to embrace and slide on said body, and a re-

silient arm portion extending from said loop portion and terminating in a catch adapted resiliently to engage said exposed edge of the blade, with the loop portion engaging said exposed edge at a point spaced from the catch, said arm portion being movable angularly about said loop portion on said body as a fulcrum to disengage said catch from said blade edge and to release the engagement of said loop portion with said edge.

2. A device of the class described having a holder comprised of a strap of metal formed part way of its length into a straight portion of relatively narrow U section and continued therefrom in a curved portion of relatively broad dished section, said straight portion of U section being adapted to receive the body of a hack-saw blade with its saw edge exposed at the opening of the U, and said curved portion forming a handle, and a clamping device mounted on said straight portion to engage said exposed saw edge and secure said blade in said holder comprising a loop portion embracing and slidable on said blade-receiving straight portion of the holder, and a resilient arm portion extending from said loop portion and terminating in a catch adapted resiliently to engage said exposed blade edge, with the loop portion engaging said exposed edge at a point spaced from the catch, said arm portion being movable angularly of said blade-receiving portion of the holder to disengage said catch from said exposed blade edge

and to release the engagement of said loop portion with said edge.

3. A device of the class described comprising a blade holder of U section, a handle, and a clamping device having a loop portion embracing and slidable on said blade holder, and a resilient arm portion extending from said loop portion and terminating in a catch adapted resiliently to engage the edge of a blade exposed in said holder with the loop portion engaging said exposed edge at a point spaced from the catch, said arm portion being movable laterally and angularly of said blade-receiving portion of the holder to disengage said catch from said exposed blade edge and to release the engagement of said loop portion with said edge.

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