June 23, 1931. W. H. WOELK 1,810,995

WOODWORKER'S CLAMP

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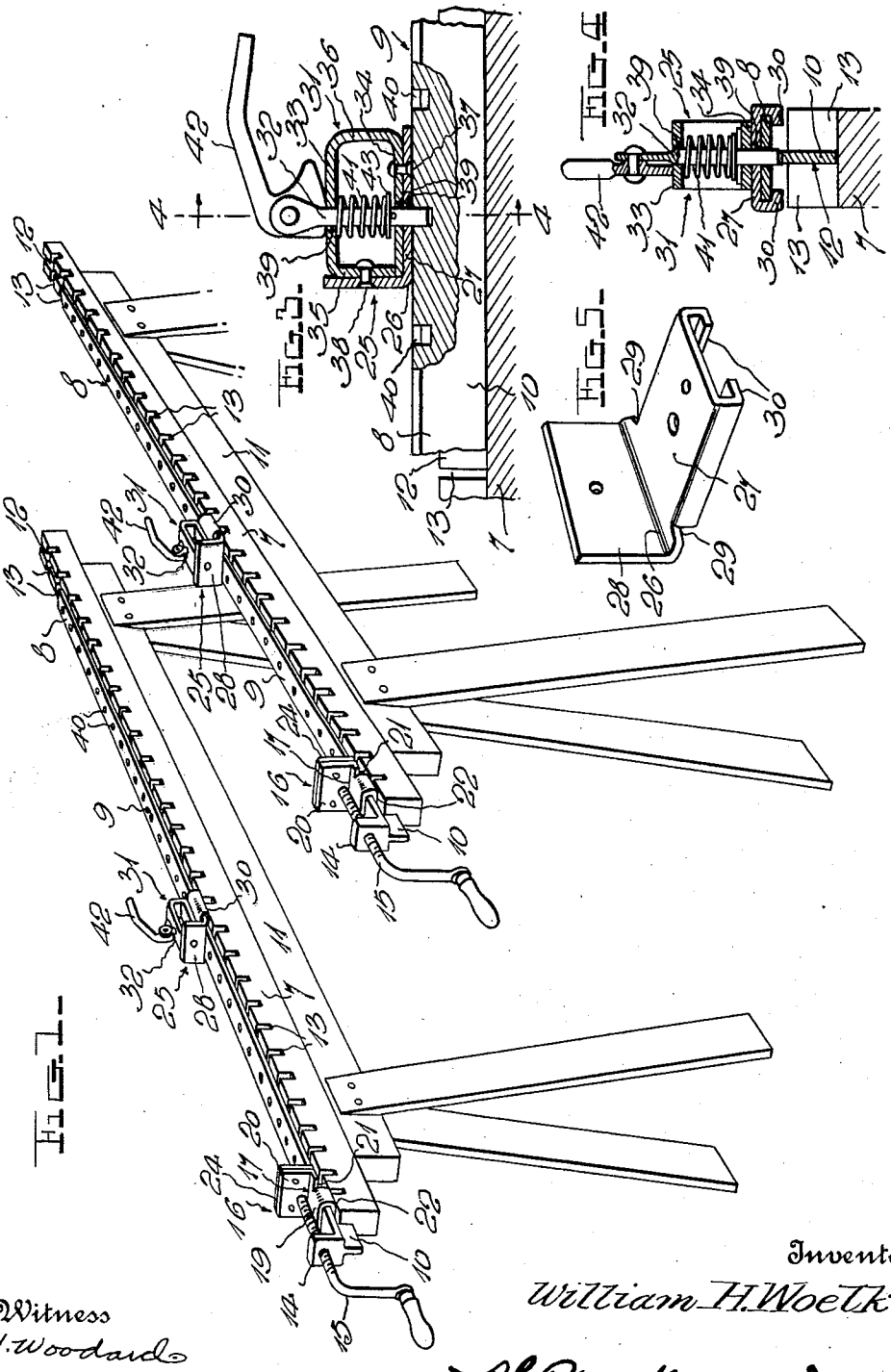


Fig. 1.

Fig. 2.

Fig. 4.

Fig. 5.

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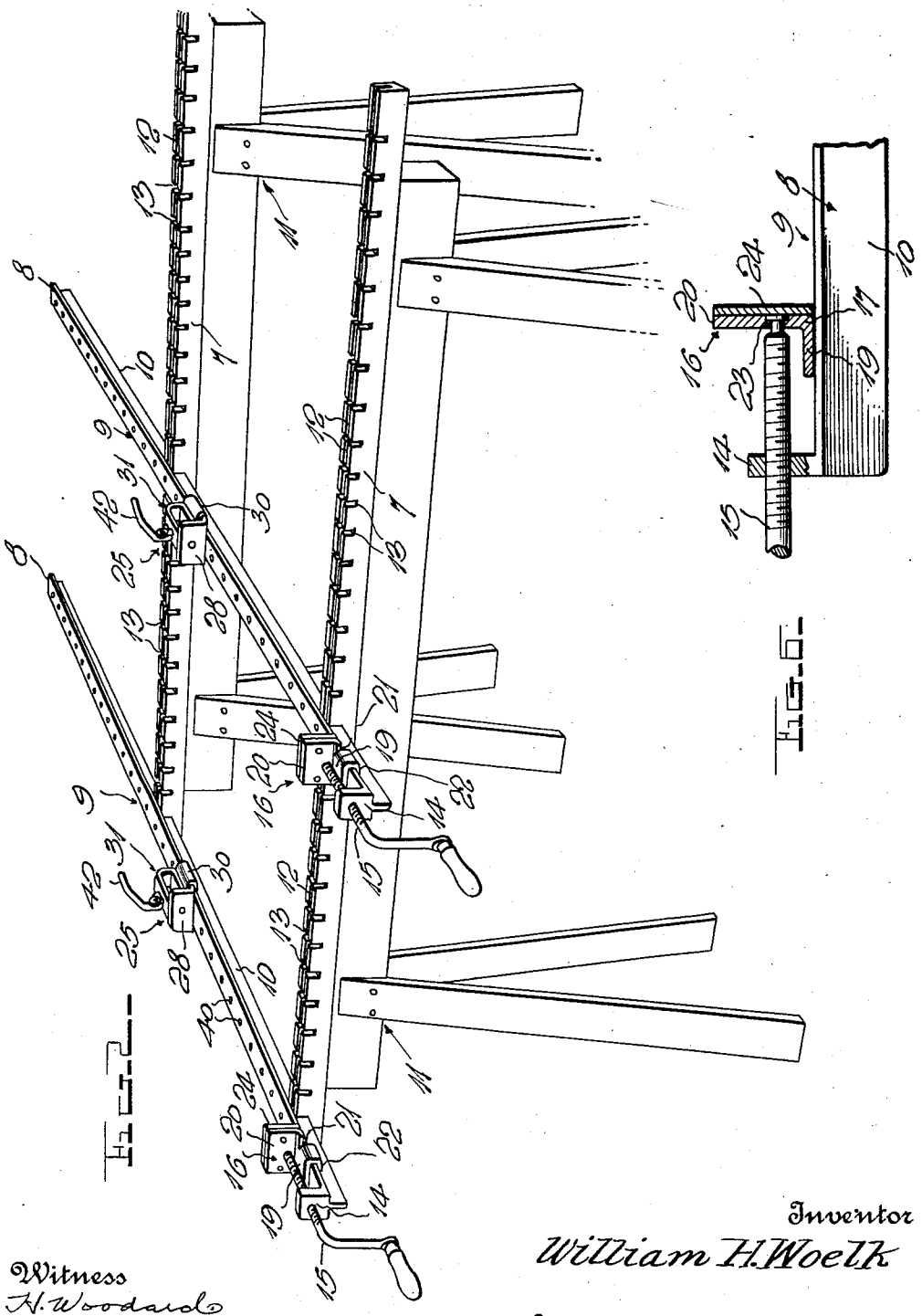


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE

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WOODWORKER'S CLAMP

Application filed July 23, 1930. Serial No. 470,142.

The invention relates to clamps for holding window sashes, doors, cabinet-work and the like during hardening of the glue used in construction thereof, and one object of the invention is to provide a new and improved clamp which may be easily and inexpensively manufactured and hence sold at small cost, yet will be efficient and desirable from all standpoints.

In carrying out the above end, further aims are to provide novel constructions for the two jaws of the clamp, and to make unique provision for holding one of these jaws in any position to which it may be adjusted, upon the base bar of the clamp.

Yet another object is to provide a novel and advantageous relation of parts embodying two parallel supporting bars (preferably carried by trestles) and adapted to support two parallel clamps, said bars having both longitudinal and transverse grooves to receive flanges on the clamp base bars, whether the latter be disposed transversely or longitudinally of said supporting bars, enabling holding of the clamps in any desired spaced relation with each other.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a perspective view showing the trestle-carried supporting bars and two clamps supported by and extending longitudinally of said bars.

Fig. 2 is a perspective view showing the clamps disposed transversely of the supporting bars.

Fig. 3 is an enlarged vertical sectional view partly in elevation showing the construction and locking means of one of the relatively movable jaws.

Fig. 4 is a vertical transverse sectional view on line 4—4 of Fig. 3.

Fig. 5 is a perspective view of a portion of one of the jaws and its base.

Fig. 6 is a detail vertical sectional view partly in elevation, showing the screw-operated jaw and associated parts.

A preferred construction has been illustrated and will be specifically described, with the understanding however, that within the scope of the invention as claimed, variations may be made.

The numerals 7 denote two parallel supporting bars for the base bars 8 of two clamps 9, each of said base bars being of T-shape in transverse sectional with its central web or flange 10 projecting downwardly. The bars 7 are preferably secured upon trestles 11, although other desired supporting means could be provided for said bars. Each of these bars is provided with a longitudinal groove 12 and with a plurality of transverse grooves 13, said grooves 13 intersecting the longitudinal groove 12 and opening at their ends through opposite sides of the bars 7. All of the grooves 12 and 13 are relatively deep and narrow and they are adapted to snugly receive the flanges 10 of the clamp base bars 8 whether these base bars be disposed longitudinally of the bars 7 as seen in Fig. 1 or transversely of said bars 7, as illustrated in Fig. 2. Hence, the grooved bars 7 permit holding of the two clamps 9 in any desired spaced relation with each other, as may be most desirable.

As the two clamps 9 are identical, a description of one will suffice for both.

The clamp 9 is provided at one end of its base bar 8, with an upstanding lug 14 in which a hand screw 15 is threaded, the inner end of this screw being swiveled to a jaw 16. In forming this jaw, I make use of a single flat metal plate. This plate is given a right angular bend 17 between its ends, providing it with a base portion 19 and with a jaw portion 20. Near its inner end, the plate portion 19 is transversely cut at both edges, as

denoted at 21, and the metal between these cuts and the outer end of said portion 19, is bent downwardly and inwardly to provide a pair of L-shaped flanges 22 which slidably embrace the upper portion of the base bar 8. The jaw portion 20 is formed with an opening 23 in which the inner end of the screw 15 is swiveled and a face plate 24 is secured to said jaw portion 20 to receive the thrust of the screw and to prevent the latter from injuring the work.

Spaced from the jaw 16, is another jaw 25 which may be slid to any desired position upon the base bar 8 and locked in adjusted position.

In constructing the jaw 25, I make use of a flat metal plate which is given a right angular bend 26 between its ends, providing it with a base portion 27 and with a jaw portion 28. Near its inner end, the base portion 27 is transversely cut at both edges, as shown at 29, and the metal between these cuts and the outer end of the base portion 27 is bent to provide L-shaped flanges 30 which embrace the upper portion of the base bar 8. A brace frame 31 is provided to give additional rigidity to the jaw 25 and to carry a locking pin 32 for holding said jaw in adjusted position. This brace frame embodies upper and lower side bars 33 and 34, and vertical end bars 35 and 36. The side bar 34 is secured against the base portion 27 by rivets 37, and the end bar 35 is secured against the jaw portion 28 by a rivet 38. The side bars 33 and 34 and the base portion 27, are formed with vertically alined openings 39 through which the locking pin 32 passes, the lower end of said locking pin being adapted for reception in any of a plurality of openings 40 which are formed in the base bar 8.

A coiled spring 41 is provided to downwardly project the pin 32, and a cam lever 42 is pivoted to the upper end of said pin for co-action with the bar 33, in raising said pin against the action of said spring. The spring 41 is confined within the brace frame 31, thrusts at one end against the side bar 33, and thrusts at its other end against a washer or other shoulder 43 with which the pin is provided.

By constructing the two jaws 16 and 25 in the manner shown and described, they may be easily and inexpensively manufactured, yet they will be efficient and desirable from all standpoints. By operating lever 42 to release pin 32, the jaw 25 may be quickly moved to any desired position, release of said lever 42 then allowing spring 41 to project pin 32 into one of the openings 40, securely locking the jaw 25 in adjusted position. The jaw 16 may then be operated by the screw 15 to produce the necessary clamping action.

It will be seen from the foregoing that the structure herein described effectively carries out the objects of the invention, and while this structure is preferable, attention is again invited to the fact that within the scope of the invention as claimed, variations may be made.

I claim:—

1. In a work clamping means, two parallel clamp-supporting bars each having a relatively deep and narrow groove, and a plurality of clamps having individual base bars resting upon said clamp-supporting bars, said clamp base bars having longitudinal flat-sided flanges disposed in said grooves.

2. In a work clamping means, two parallel clamp-supporting bars, each bar having a longitudinal groove and a plurality of transverse grooves intersecting said longitudinal groove and opening through opposite sides of the bar, all of said grooves being relatively deep and narrow, two clamp base bars adapted to rest upon said clamp-supporting bars in positions extending either longitudinally or transversely thereof, said clamp base bars having longitudinal flanges adapted for reception in either said longitudinal grooves or said transverse grooves, and relatively adjustable clamp jaws carried by said clamp base bars.

3. In a clamp, a base bar having spaced openings, a jaw plate perpendicular to said base bar and having an integral base plate resting slidably upon said base bar, said base plate having guide flanges slidably embracing a portion of said base bar, a brace frame having two side bars and two end bars, one of said side bars being secured upon said base plate, and one of said end bars being secured against said jaw plate, both of said side bars and said base plate having alined openings, and a pin slidably received in said alined openings and adapted to enter any of said openings of said base bar.

4. In a clamp, a base bar having spaced openings, a jaw plate perpendicular to said base bar and having an integral base plate resting slidably upon said base bar, said base plate having guide flanges slidably embracing a portion of said base bar, a brace frame having two side bars and two end bars, one of said side bars being secured upon said base plate, and one of said end bars being secured against said jaw plate, both of said side bars and said base plate having alined openings, a pin slidably received in said alined openings and adapted to enter any of said openings of said base bar, and a projecting spring for said pin confined between said side bars.

5. In a clamp, a base bar having spaced openings, a jaw plate perpendicular to said base bar and having an integral base plate resting slidably upon said base bar, said base plate having guide flanges slidably embracing a portion of said base bar, a brace frame having two side bars and two end bars, one of said side bars being secured upon said base plate, and one of said end bars being secured

against said jaw plate, both of said side bars and said base plate having alined openings, a pin slidably received in said alined openings and adapted to enter any of said openings of said base bar, a projecting spring for said pin confined between said side bars, and a cam lever for retracting said pin, said cam lever being pivoted to said pin and co-acting with the outermost of said side bars.

In testimony whereof I affix my signature.

WILLIAM H. WOELK.