L. J. FAUBEL.

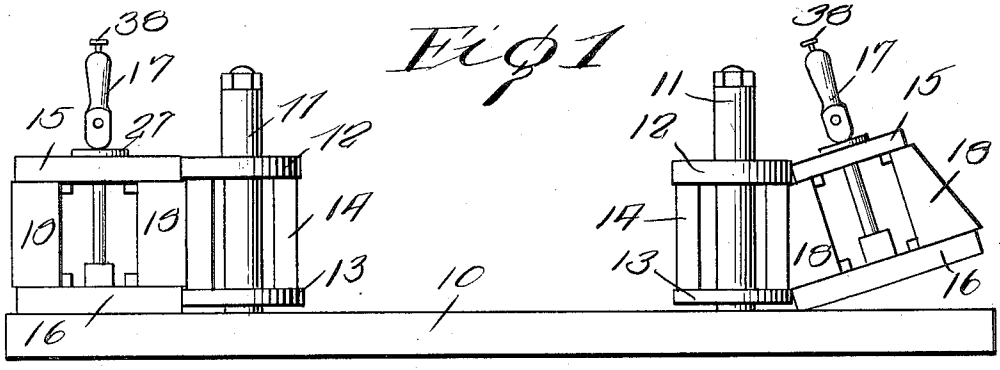
WORK CLAMP.

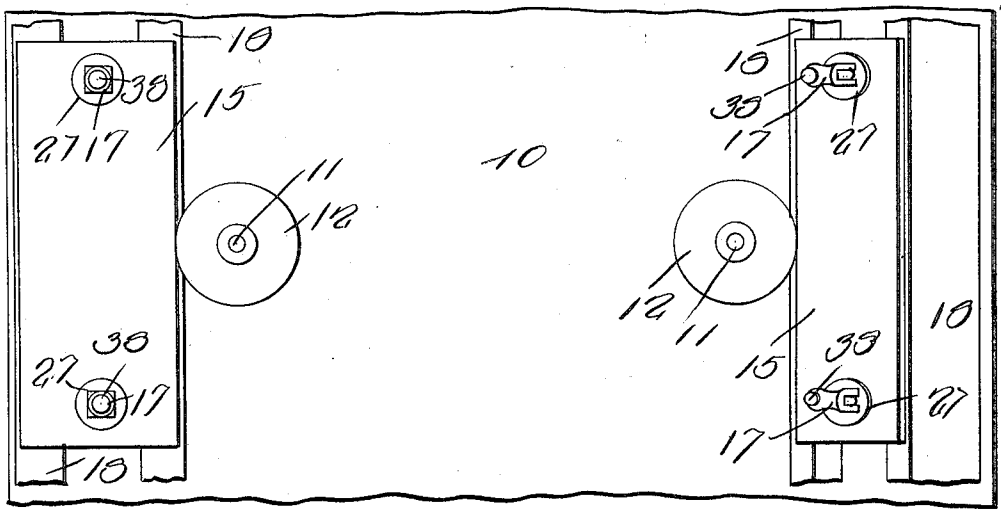
APPLICATION FILED AUG. 14, 1913.

1,101,624.

Patented June 30, 1914.

2 SHEETS—SHEET 1.





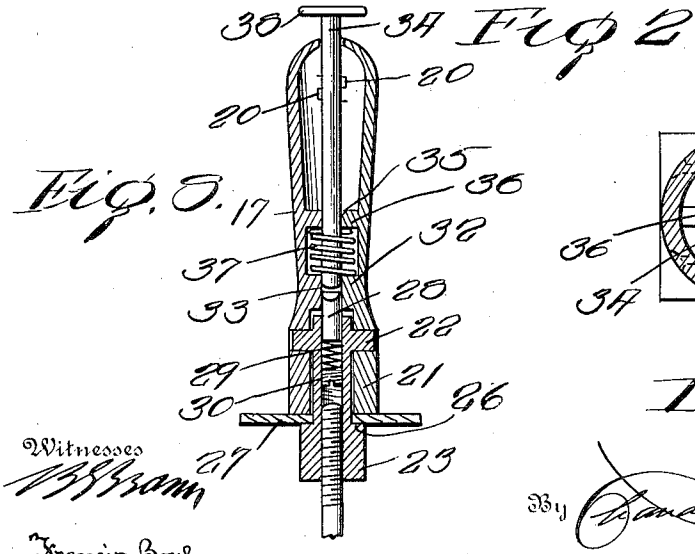


Fig. 3.

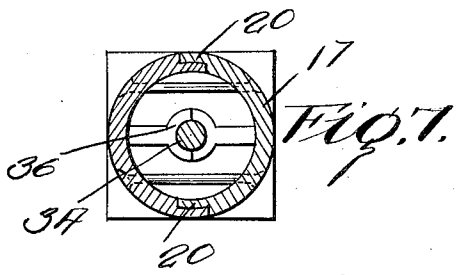


Fig. 7.

Witnesses

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WORK CLAMP.

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2 SHEETS—SHEET 2.

Fig. 3.

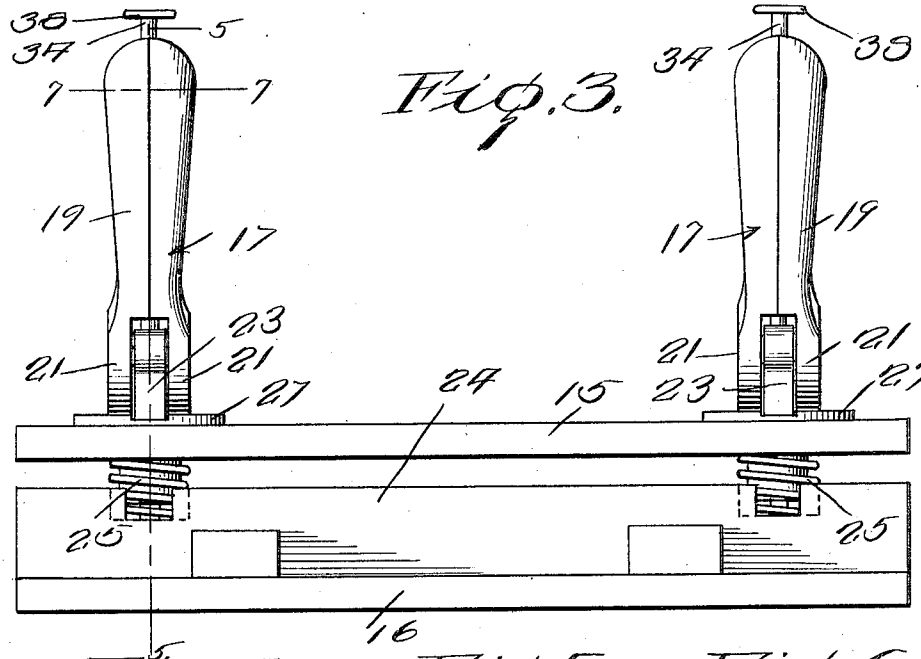


Fig 4

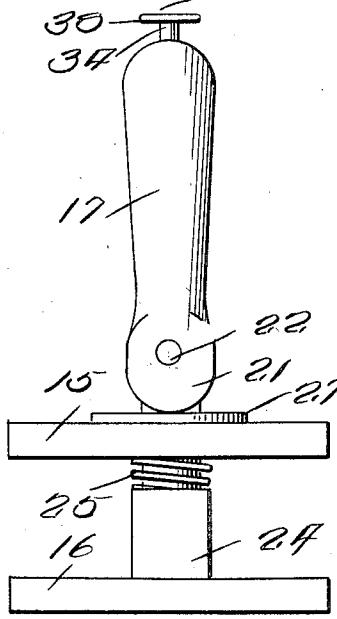


Fig. 5.

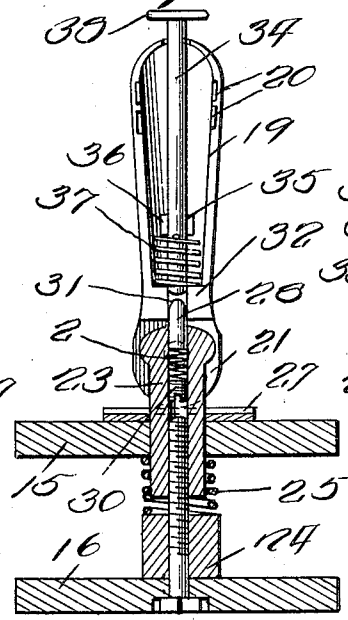
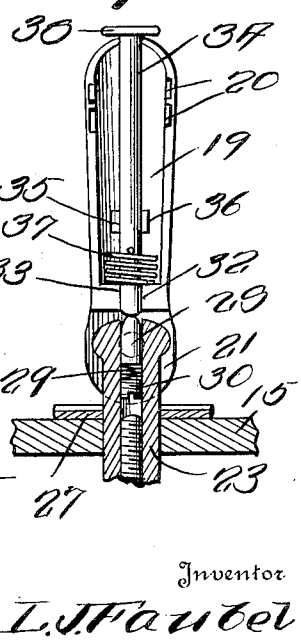


Fig 6



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS J. FAUBEL, OF OSSINING, NEW YORK.

WORK-CLAMP.

1,101,624. Specification of Letters Patent. Patented June 30, 1914.

Application filed August 14, 1913. Serial No. 784,776.

To all whom it may concern:

Be it known that I, LOUIS J. FAUBEL, a citizen of the United States, residing at Ossining, in the county of Westchester, State of New York, have invented certain new and useful Improvements in Work-Clamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to work holders designed especially for use in connection with wood working machines of that general type known as variety shapers.

An object of the present invention is to provide a work holding clamp that will include top and bottom boards spaced apart sufficiently to bear upon the top and bottom collars of the shaper cutter head while the work is being operated upon by the knives of the cutter head.

A further object of the invention is to provide a novel handle for securing the top and bottom boards of the clamp to the work.

A further object is to provide a clamp of this type that will be extremely strong and durable and will be so constructed as to be not easily accidentally displaced from applied position.

With the above objects in view the invention consists of certain novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings illustrating this invention:—Figure 1 is a front elevation showing the application of a pair of my improved work holding clamps in operative position upon a variety shaper. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a front elevation of my improved clamp. Fig. 4 is an end elevation of the clamp. Fig. 5 is a vertical sectional view on the line 5—5 Fig. 3 showing the construction of one of the handles. Fig. 6 is a similar view showing the handle stem depressed to release the handle from operative position. Fig. 7 is a cross sectional view on the line 7—7 Fig. 3. Fig. 8 is a vertical sectional view through the handle taken in a plane at right angles to the view shown in Fig. 5.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates the table top, 11 the cutter head spindles, 12 and 13 the upper and lower collars of the cutter heads, and 14 the blades of the cutter heads, these parts being all of the usual and well known type employed in variety shapers.

For holding the work, I provide a clamp including a top board 15, a bottom board 16, and handles 17 which connect both boards and draw the same tight upon the edges of the work, which latter in the present instance is shown as boards 18 the outer faces of which project beyond the longitudinal edges of the top and bottom boards of the clamp so as to be operated upon by the cutter heads in the usual manner. The top and bottom boards of the clamp bear respectively upon the top and bottom collars 12 and 13 of the cutter head whereby said top and bottom boards of the clamp perform the function of gages.

In Fig. 1 there is shown two clamps embodying my improvements, the only difference being that the bottom board of one is disclosed as being of greater width than the top board thereof, whereby a bias cut is made by the cutter head upon the work as the upper and lower boards of the clamp are forced into engagement with the collars 12 and 13 respectively. Both the top and bottom boards of the clamp may be formed of any desired shape whereby the work may be shaped as desired.

Each handle comprises a two-piece shell 19 the halves of which are secured together by interfitting studs 20 as shown best in Fig. 7, the shell carrying at the bottom hinge ears 21 which eccentrically receive gudgeons 22 of a tubular rod 23 which is removably secured to a longitudinal cleat 24

carried by the bottom board of the clamp, by means of a screw 25 the head of which is secured in the cleat, and the shank of which is threaded into the lower end of the bore of the rod. The rod is enlarged at the lower end to produce opposite shoulders 26 that lie flush with the top face of the top board, and a washer 27 is disposed on the rod and bears upon the top face of the top board and bears upon these shoulders, this washer forming an abutment and wear plate against which the eccentric edges of the ears carried by the handle bear with a resultant clamping of the top and bottom boards together.

For locking the handle in operative position a locking bolt 28 is slidably fitted in the upper end of the bore of the rod 23, the bolt being normally urged upwardly by means of a helical spring 29 that is confined in the bore of the rod against the bottom of the bolt by means of a plug 30 that is threaded into the bore of the rod. The upper end of the bolt is beveled on the opposite sides as shown at 31 to produce cam faces the function of which will presently be explained.

Formed in the handle is an internal collar 32 having a central opening 33 therein, into which opening the locking bolt springs upon the handle being rotated to upright position, whereby the handle is locked in such position until the bolt is depressed out of the opening 33. Upon the handle being rocked upwardly to upright position, from either side of the bolt, the corresponding cam face of the bolt will ride upon the lower face of the collar 32 with a resultant camming downward of the bolt against the pressure of its controlling spring 29, the bolt being returned to normal position upon the handle assuming upright position, whereby the bolt enters the opening in the collar and locks the handle stationary.

For releasing the handle, a push rod 34 is slidably fitted in an opening 35 formed in an internal collar 36 disposed in the handle, the push rod normally projecting into the upper end of the opening 33 formed in the collar 32, and being held in this position by means of a helical spring 37 that is disposed on the push rod between the collars 32 and 36, the spring bearing against the collar 32 and having one end passed through the push rod. The upper end of the push rod projects above the top of the handle and is equipped with a button 38 which forms means for depressing the push rod and also contacts with the top of the handle and limits depression of the push rod. Upon the push rod being depressed its tip engages with the tip of the locking bolt and pushes the locking bolt out of the opening 33 in the collar 32 whereby the handle is released and may be rocked to horizontal position with a resultant loosening of the top and bottom boards of the clamp from the work.

Two or more handles constructed as above described may be employed in connection with each top and bottom board whereby to securely clamp said boards upon the work.

It will thus be seen that I have provided an extremely simple and effective work holder for use in connection with wood working machines of that general type known as variety shapers, which work holder is formed of a few strong and durable parts that may be constructed at a minimum cost and will not easily get out of order.

What is claimed, is:—

1. A work holder including clamp boards, a rod connected to one of said boards and projecting through the other of said boards, a handle having hinge ears eccentrically pivoted on the projecting end of said rod, said handle being adapted to be rocked to operative position in prolongation of said rod whereby said ears exert a pressure on the last named board with a resultant drawing of said boards together, interlocking means between said handle and said rod for automatically locking said handle in operative position, and means carried by said handle for releasing said locking means.

2. A work holder including clamp boards, a tubular rod connected to one of said boards and projecting through the other of said boards, a hollow handle having hinge ears eccentrically pivoted on the projecting end of said rod, a washer on said rod bearing against the last named board, said handle being adapted to be rocked to operative position into prolongation of said rod with a resultant pressure of said ears on said washer whereby said boards are drawn toward each other, a spring pressed locking pin carried in the bore of said tubular rod and adapted to project into said handle and lock said handle in operative position, and a spring pressed push rod carried by said handle adapted to be urged against said bolt to force the latter out of engagement with said handle whereby to release said handle.

3. A work holder for use in connection with a variety shaping machine having upper and lower cutter head collars, said work holder including clamp boards adapted to receive the work therebetween, a rod connected to one of said boards and projecting through the other of said boards, a handle having hinge ears eccentrically pivoted on the projecting end of said rod, said handle being adapted to be rocked to operative position in prolongation of said rod and exert a pressure on the adjacent board with a resultant drawing of said boards together, said rod and said handle being so proportioned that

when the handle is in operative position said boards are spaced apart the same distance as said collars on said shaping machine whereby said boards function as a gage when disposed edgewise against said collars, interlocking means between said handle and said rod for automatically locking said handle in operative position, and means carried by said handle for releasing said locking means.

In testimony whereof, I affix my signature, in the presence of two witnesses.

LOUIS J. FAUBEL.

Witnesses:
GAYLORD B. HUBBELL,
ISAAC LEGGETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."