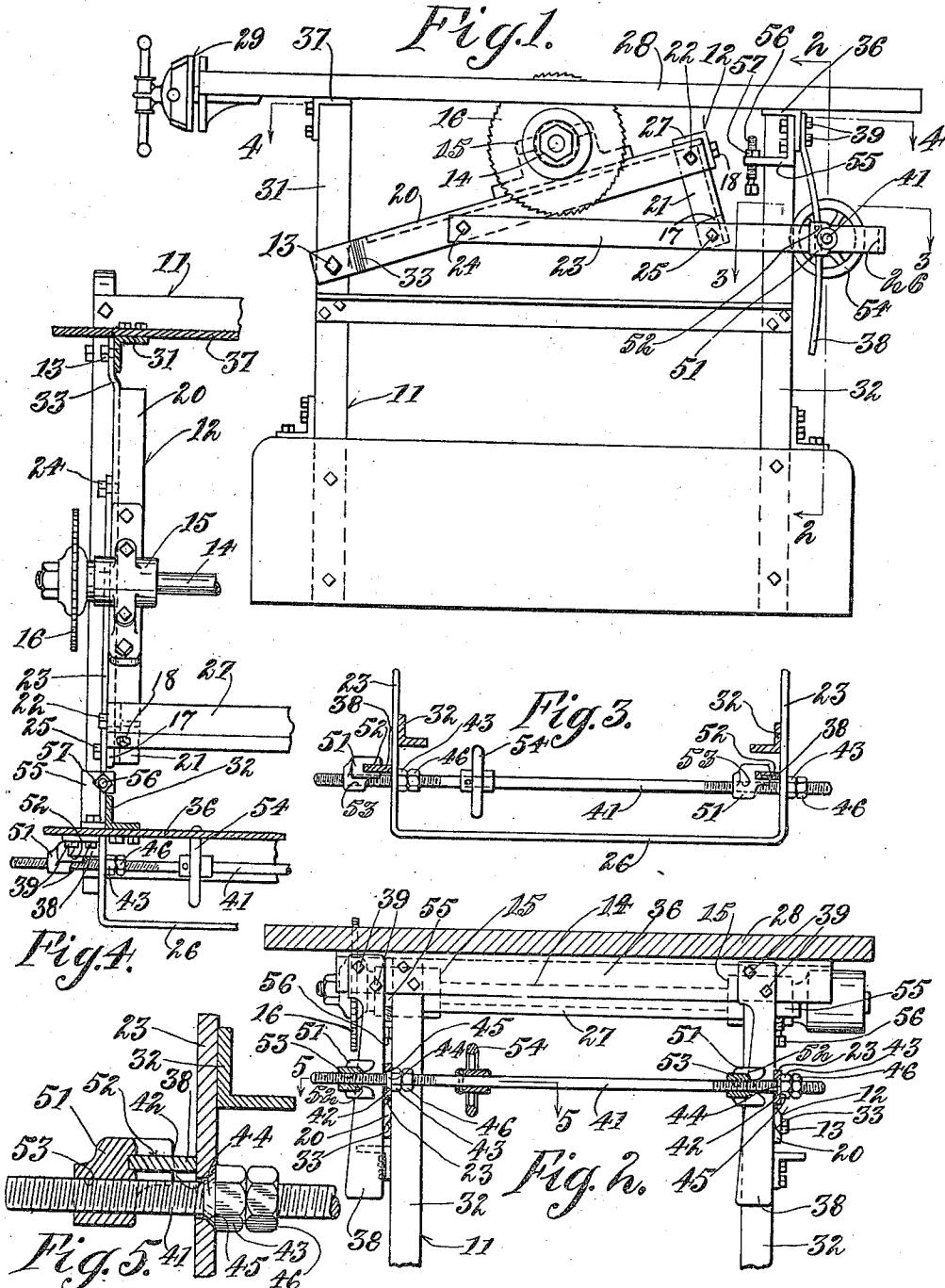


L. F. PARKS.
WOODWORKING MACHINERY.
APPLICATION FILED OCT. 20, 1911.

1,063,210.

Patented June 3, 1913.



Witnesses:
Jacob A. Hollander
Theresa Silber.

Inventor:
Lewis F. Parks,
by R. F. Verbeek, Attorney

UNITED STATES PATENT OFFICE.

LEWIS F. PARKS, OF CINCINNATI, OHIO.

WOODWORKING MACHINERY.

1,063,210.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed October 20, 1911. Serial No. 655,692.

To all whom it may concern:

Be it known that I, LEWIS F. PARKS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Woodworking Machinery, of which the following is a specification.

My invention relates to supporting and adjusting means in wood-working machinery, applicable for adjusting supports of various kinds, and I have shown the same as applied to the swinging support of a circular sawing machine for adjusting the saw-mandrel and saw-blade to height with relation to the work-supporting table. The same is, however, applicable in other relations, and may be employed, for instance, for supporting and adjusting another kind of wood-working instrument, or providing adjustable positioning means between the mandrel and the support upon which the work being operated on is received.

It is the object of my invention to provide novel supporting and adjusting means of the character stated, and the invention will be readily understood from the following description and claims, and from the drawing, in which latter:

Figure 1 is a side elevation of my improved device. Fig. 2 is a vertical section of the same, taken on the line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional detail, taken on the line 3—3 of Fig. 1. Fig. 4 is a horizontal sectional detail of one side of the device, taken on the line 4—4 of Fig. 1, and showing a plan view of one side of the swinging support, it being understood that the other side of said swinging support is a reverse duplicate of the part shown; and, Fig. 5 is an enlarged detail of the clamping means shown in section on the line 5—5 of Fig. 2.

11 represents the main frame, and 12 is a support arranged to be adjusted thereon, shown pivoted at 13 to the main frame. The support is shown as having a mandrel 14, journaled in bearings 15, thereon, the mandrel having a circular saw-blade 16 secured thereto, although it is within the scope of my invention to arrange the mandrel for receiving other wood-working instruments, such as boring-bits, cutter-heads, and the like, or the support may be the support or table for the work being operated on.

The support in its preferred form at each side thereof comprises a side angle-iron stringer 20, a side angle-iron strut 21, secured at its upper end to the forward end of the stringer, as by a bolt 22, and a side bar 23 having its rear end connected to the stringer intermediate of the ends of the latter, as at 24, and having the lower end of the strut 21 secured thereto, as at 25, with a spacing piece 17 between the strut and side bar. There is a front bar 26 which has connection with the side bars at the respective sides of the support and shown integral with said side bars. An angle-iron cross-bar 27 is secured at the front ends of the angle-iron stringers, the top wing of the same being received across the top wings of the angle-iron stringers, and the front wing of the same being received across the front wings of the struts to which it is secured by the bolts 18, the said front wing and strut normally slanting forwardly and downwardly. The construction imparts lateral rigidity to the support.

The construction is such that the supported part, exemplified as the saw-mandrel, is supported as on a lever, from the fulcrum of the lever, illustrated as the pivots 13. The saw-mandrel is arranged to have the circular saw-blade secured thereto, my improved device being provided for adjusting the same with relation to the work-support 28, or table, which may if desired be employed as an ordinary work-bench, by adjusting the saw to a position below the top of the table, and having suitable tools secured thereto, for instance a vise, shown at 29. My improved device affords a large range of adjustment for the purpose, in that the mandrel is elevated to proper relation with its coacting work-support, and the adjusting means therefor are at convenient height for manipulation by the operator and in such relation to the mandrel as to support it with great rigidity.

The main frame is exemplified as comprising rear angle-iron uprights 31 and front angle-iron uprights 32, the wings of the angle-irons being at the outside of the frame so that the side wings of the rear uprights may form faces against which the rear of the support is pivoted, and the inside faces of the side bars may have sliding movement against the side wings of the front angle-iron uprights for aiding in rig-

idity of the parts, the side wings of the angle-iron stringers 20 being slightly bent as shown at 33 and presented at their rear ends to the side wings of the rear angle-iron uprights.

5 The adjusting means for the support comprise wedge-shaped bars and clamping means therefor, forming coacting parts, one of which is mounted on the movable support and the other of which is mounted on the stationary frame. I have shown the wedge-shaped bars mounted on the stationary frame and the clamping means therefor mounted on the pivoted support.

15 The wedges of the wedge-shaped bars, as exemplified, increase in thickness toward their lower ends, and as shown, the wedge-shaped bars are located one at the side of each of the side bars 23, 23.

20 36, 37, are respectively front and rear angle-iron cross-bars of the main frame whose depending wings are secured respectively to the front and rear angle-iron uprights.

25 38, 38, are wedge-shaped bars secured, as by bolts 39, to the depending wing of the front angle-iron cross-bar 36.

30 41 is a screw-threaded rod passing through apertures 42 in the side bars 23 and extending between the wedge-shaped bars. Positioning nuts 43 are threaded to the threaded rod, and preferably have journal-ends 44 received in countersunk recesses 45 in the side bars and are locked in place by lock-nuts 46.

35 51, 51, are clamp-shoes which have slots 52, in which the respective wedge-shaped bars are received, these slots having inner walls which preferably conform in shape to the shape of the side walls of the wedge-shaped bars respectively. They have threaded connections 53 with the threaded rod for being simultaneously adjusted by the threaded rod, a hand-wheel 54 being shown on the threaded rod for the purpose. The threaded rod and hand-wheel and the cross-bar 26 are located at approximately similar elevations for convenient manipulation and proper support of the parts.

40 50 There is an angle-iron piece 55 secured preferably to the rear of the depending wing of the front angle-iron cross-bar 36, adjacent to each end of the latter. Each of these angle-iron pieces is arranged to receive a bolt 56 adjustably locked in place by a nut 57. These bolts act as stops against which the respective side bars 23 may be received when the support is raised to its limit of upward movement.

60 The wedge-shaped bars are preferably curved lengthwise thereof on an arc described from the pivotal axis of the support.

65 The support is arranged to be conveniently raised by manually raising the front

cross-bar 26 at any point lengthwise thereof. If the hand-wheel 54 is turned for increasing the space between the positioning nuts 43 and the shoes 51, the pivoted support will gravitate a distance dependent on the separation obtained between the positioning nuts and the shoes with relation to the incline of the wedges of the wedge-shaped bars, each side of the support being simultaneously acted on, and the adjusting means affording very delicate adjustments. When the proper elevation is obtained for the adjusted part, the hand-wheel may be turned in the opposite direction and the parts securely clamped in place.

80 My improved device is economical in construction and delicate in operation, and minute adjustment may be obtained thereby.

85 Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In means of the character described, the combination of a main frame, a mandrel-support comprising side angle-iron stringers whose rear ends are pivoted with relation to said main frame and which slant upwardly toward the front of said main frame, side-bars which extend forwardly under said stringers, and struts secured in the angle between said stringers and side bars, a mandrel, said stringers, side bars and struts forming triangular side-frames upon the upper stretches of which said mandrel is journaled, said mandrel arranged for receiving a wood-working instrument, and adjusting means between the forward portions of said side bars and main frame.

2. In means of the character described, the combination of a main frame, a mandrel-support comprising side angle-iron stringers whose rear ends are pivoted with relation to said main frame and which slant upwardly toward the front of said main frame, side bars which extend forwardly under said stringers, a front cross-bar between said side bars for manipulating said support, and struts secured in the angle between said stringers and side bars, a mandrel, said stringers and struts forming triangular side-frames upon the upper stretches of which said mandrel is journaled, said mandrel arranged for receiving a wood-working instrument, and adjusting means between the forward portions of said side bars and main frame.

3. In means of the character described, the combination of a mandrel-support comprising side angle-iron stringers whose rear ends are provided with pivoting means, side bars secured to said stringers intermediate of the ends of said stringers and extending at an angle therefrom, struts secured to the forward ends of said stringers and to said side-bars intermediate of the ends of the latter, for forming triangular side-frames in

front of which the forward portions of said side bars extend, an angle-iron cross-bar between said side-frames, and a cross-bar between the forwardly extending portions of said side bars for connecting the same, and a mandrel journaled on said stringers, said mandrel arranged for receiving a wood-working instrument, substantially as described.

4. In means of the character described, the combination of a mandrel-support comprising side angle-iron stringers whose rear ends are provided with pivoting means, side bars secured to said stringers intermediate of the ends of said stringers and extending at an angle therefrom, and struts secured to the forward ends of said stringers and to said side bars intermediate of the ends of the latter, for forming triangular side-frames in front of which the forward portions of said side bars extend, an angle-iron cross-bar between said side-frames, and a cross-bar between the forwardly extending ends of said side bars for connecting the same, a mandrel journaled on said stringers, said mandrel arranged for receiving a wood-working instrument, a cross screw-rod on the forwardly extending ends of said side bars, a clamp-shoe operated thereby and movable with said side-bars, and positioning means acted on by said clamp-shoe, substantially as described.

5. In means of the character described, the combination of a mandrel-support comprising side angle-iron stringers whose rear ends are provided with pivoting means, side bars secured at their rear ends to said stringers respectively intermediate of the ends of the latter, said side bars having a front-bar integral therewith connecting the same, and struts secured to the front ends of said stringers and the intermediate portions of said side bars respectively for forming triangular side-frames, and an angle-iron cross-bar connecting said stringers, a mandrel having journal-support on said stringers, said mandrel arranged for receiving a wood-working instrument, a cross screw-rod in said side bars adjacent to said front bar, a clamp-shoe adjacent to each of said side bars operated by said screw-rod and movable with said side-bars, and coacting means with which said clamp-shoes cooperate, substantially as described.

6. In means of the character described, the combination of a frame and a support, constituting a pair of parts, a mandrel on one of said parts, said mandrel arranged for receiving a wood-working instrument, and adjusting means between said pair of parts comprising a plurality of wedge-shaped bars on one of said parts, a transverse rod on the other of said parts between said bars, positioning means at each of said wedge-shaped bars, and a shoe for each of said

wedge-shaped bars having operative connection with said rod for being simultaneously operated thereby, said positioning means and shoes being at opposite sides of said wedge-shaped bars respectively.

7. In mechanism of the character described, the combination of a frame and a support arranged to be adjusted thereon constituting a pair of parts, a mandrel on one of said parts, said mandrel arranged for receiving a wood-working instrument, and adjusting means between said parts comprising a plurality of wedge-shaped bars on one of said parts, a transverse threaded rod on the other of said parts between said bars, adjustable positioning means for each of said wedge-shaped bars, and a movable shoe for each of said wedge-shaped bars having threaded connection with said rod and simultaneously operable thereby, said adjustable positioning means and shoes being at opposite sides of said wedge-shaped bars respectively.

8. In mechanism of the character described, the combination of a frame and a support, constituting a pair of parts, a mandrel on one of said parts, said mandrel arranged for receiving a wood-working instrument, and adjusting means between said parts comprising a plurality of wedge-shaped bars on one of said parts, a transverse threaded rod between said bars on the other of said parts, said last-named part embracing a contact-plate for each of said wedge-shaped bars, a positioning nut on said threaded rod for each of said contact-plates, and a clamping shoe threaded to said threaded rod for each of said wedge-shaped bars, said wedge-shaped bars being between said shoes and contact-plates, and said contact-plates being between said wedge-shaped bars and positioning nuts, respectively.

9. In mechanism of the character described, the combination of a frame, a support pivoted thereon, a mandrel on said support, said mandrel arranged for receiving a wood-working instrument, the said support embracing side bars and a connecting front bar therefor, a pair of wedge-shaped bars on said frame, a transverse threaded rod in said side bars, a positioning nut on said rod at one side of each of said side bars, one of said wedge-shaped bars being at the other side of each of said side bars, and a clamping shoe threaded to said threaded rod at the other side of each of said wedge-shaped bars, the thicker portions of the wedges of said wedge-shaped bars being below said shoes for clamping said support to said wedge-shaped bars by gravity.

10. In mechanism of the character described, the combination of a frame embracing an angle-iron upper front cross-bar having a depending wing, a support pivoted to

said frame, a mandrel on said support, said mandrel arranged for receiving a wood-working instrument, said support embracing side bars and a connecting front bar therefor, a pair of depending wedge-shaped bars and a pair of angle-pieces secured to said depending wing, stops on said angle-pieces for said side bars, a threaded rod passing through both said side bars, said wedge-shaped bars being at one of the sides of said side bars respectively, positioning nuts on said threaded rod at the other of the sides of said side bars respectively, clamp shoes at the other of the sides of said wedge-shaped bars respectively and having threaded connection with said threaded rod, and an operating handle for said threaded rod for moving both said shoes simultaneously.

11. In mechanism of the character described, the combination of a frame and a support arranged to be adjusted thereon constituting a pair of parts, a mandrel on said support, said mandrel arranged for receiving a wood-working instrument, and adjusting means between said parts comprising a wedge-shaped bar on one of said parts and clamping means therefor on the other of said parts, the latter part having a clamped portion between said wedge-shaped bar and clamping means, said clamping means embracing a threaded rod received through said clamped portion, a position-

ing-nut on said rod at one side of said clamped portion, and a shoe having threaded connection with said rod at the other side of said clamped portion, said wedge-shaped bar being between said shoe and positioning-nut, substantially as described.

12. In mechanism of the character described, the combination of a frame and a support arranged to be adjusted thereon constituting a pair of parts, and adjusting means therebetween comprising a wedge-shaped bar on one of said parts and clamping means therefor on the other of said parts, the latter part having a clamped portion between said wedge-shaped bar and clamping means, said clamping means embracing a threaded rod received through said clamped portion, a positioning-nut on said rod at one side of said clamped portion, said positioning-nut having a journal extension in said clamped portion, and a shoe threaded to said rod at the other side of said clamped portion, said wedge-shaped bar being between said shoe and positioning-nut, substantially as described.

In testimony whereof, I have signed my name hereto in the presence of two subscribing witnesses.

LEWIS F. PARKS.

Witnesses:

EDWARD SOUTHWORTH,
THERESA SILBER.