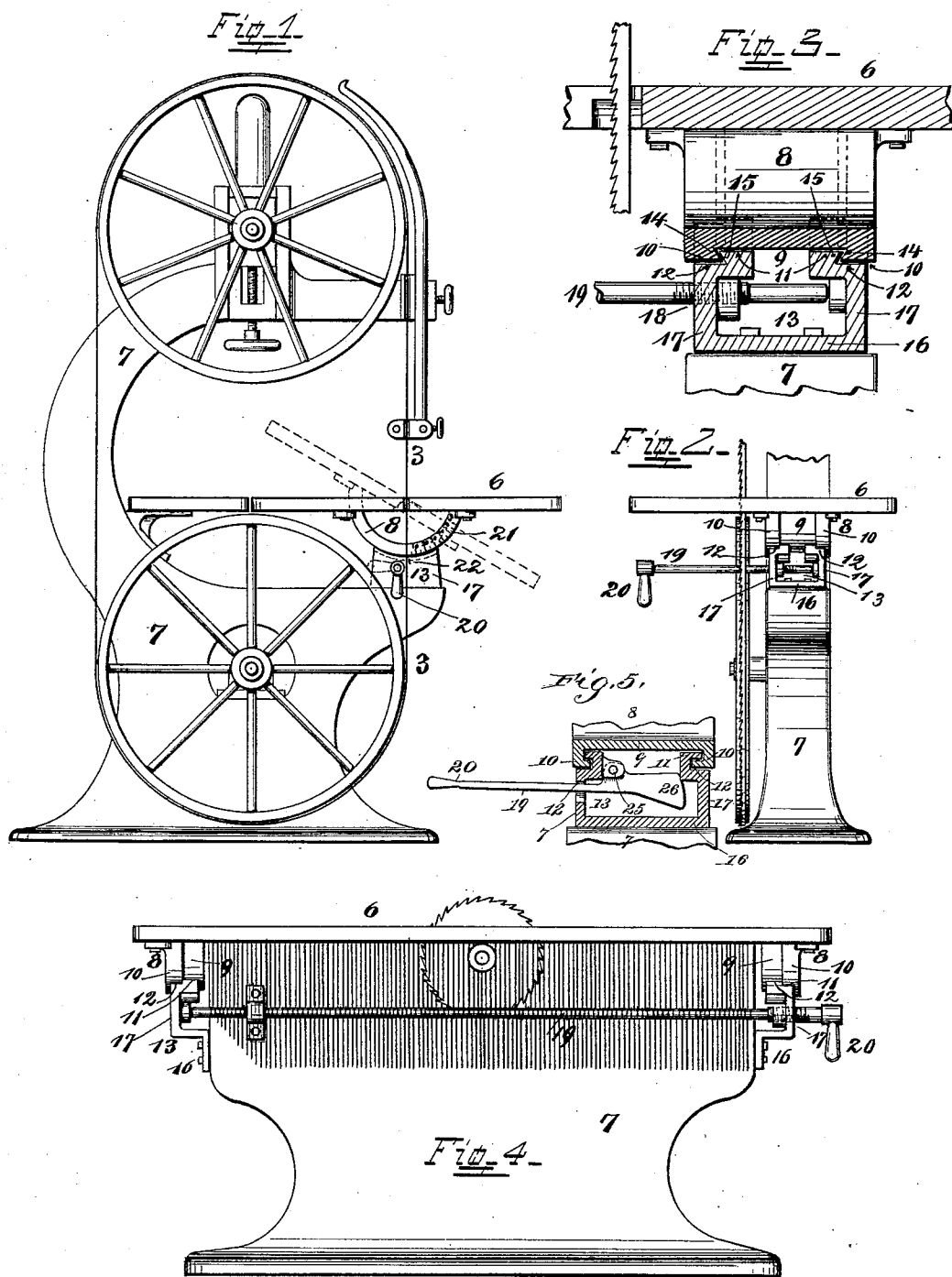


(No Model.)

W. A. GREAVES.
LOCK FOR ADJUSTABLE MACHINE TABLES.

No. 475,553.

Patented May 24, 1892.



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UNITED STATES PATENT OFFICE.

WILLIAM A. GREAVES, OF CINCINNATI, OHIO.

LOCK FOR ADJUSTABLE MACHINE-TABLES.

SPECIFICATION forming part of Letters Patent No. 475,553, dated May 24, 1892.

Application filed June 17, 1891. Serial No. 396,574. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GREAVES, 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 Locks for Adjustable Machine-Tables; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to locks for adjustable tables, such as are used in certain classes on wood-working machines—like band-saws, certain kind of circular saws, boring-machines, mortises, and other similar machines—where it is often desirable to have the perforation or cut pass through the wood at different angles, and which is generally accomplished by tilting the table, supporting the wood while being cut, to the necessary angle and securing it temporarily in such position.

My invention pertains specifically to the means for securing and locking the table in its different positions after adjustment, and the object is to make these means efficacious, quick-acting, and convenient to the operator, and to utilize part of the means which sustain the table also as means to lock it. For convenience sake I further provide an indicator in combination with these means, whereby the table may be readily and quickly adjusted to any angle. I attain these objects in a construction explained in the following description and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a band-saw, showing in dotted lines the table tilted. Fig. 2 is a front view of the lower part of the same machine. Fig. 3 is a vertical section through the table and parts below, taken on line 3 3 of Fig. 1; and Fig. 4 is a front view of a circular saw, showing my invention applied thereto. Fig. 5 is a view similar to Fig. 3, and shows the same parts constructed in a modified manner.

6 is the table, and 7 the stationary frame of the particular machine on which the former is used.

8 is a segmental frame bolted to the under side of the table and provided with a broad central bearing-surface 9, having two lateral and narrower bearing-surfaces 10 10 to either side of it. These bearing-surfaces rest on other similar surfaces 11 11 and 12 12 of a concave segmental frame 13, which latter is suitably secured to the main frame of the machine. The opposing bearing-surfaces of frames 8 and 13 fit closely onto each other, so as to give a firm support to the table. It will be seen that the bearing-surfaces of one frame are not in one and the same plane—as, for instance, in frame 8, where the central bearing-surface 9 is not in the same plane with the lateral narrower bearing-surfaces 10 10, and in frame 13, where surfaces 11 11 are not in line with surfaces 12 12. These differences in height between the surfaces are the same in each frame, so that when the two latter are put together surface 9 of frame 8 will rest on surfaces 11 11 of frame 13, and surfaces 10 10 of the former frame will rest on surfaces 12 12 of the latter frame. It is not absolutely necessary, however, that both of the surfaces 12 12 and 11 11 on each side should be so used, and either surfaces 12 12 alone or 11 11 alone would be sufficient. Frame 13 consists, substantially, of a base 16, from which two wings 17 rise, which latter terminate on their upper ends in the bearing-surfaces 12 12 and 11 11. To prevent frame 8 and table 6, carried by the former, from becoming disengaged from frame 13, the differences between the bearing-surfaces in each frame are undercut, as shown at 14 14 and 15 15, so as to form dovetails, which when engaged with each other confine the table to the main frame of the machine and permit it to move only within its adjustable limits. One of these wings 17 is provided with a screw-threaded opening 18, through which a rod 19, partly screw-threaded, passes. One end of this rod reaches out to within convenient reach of the operator, which end is also provided with a handle 20. The other end reaches across the inside of frame 13 and bears against the inside of the other wing 17. In turning rod 19 so that it passes onward through the one wing 17 its other end will press against the opposite wing and spread the two latter apart, so that the dovetails 15 15 will tightly bear

and bind against dovetails 14 14, holding them and frame 8, which carries the table, rigidly to the position in which they are at the time. The dovetailed surfaces fit snugly in their ordinary position, so that a very slight spreading apart of the wings, accomplished by perhaps a quarter or half turn of the handle, will suffice to lock the table. The metal of the wings where rod 19 passes through and where it bears against them may be strengthened at those points, as shown in the drawings.

To facilitate quick adjustment of the table to any desired angle, frame 8 is provided with an indicator at 21, which, in combination with a normal mark at 22 on frame 13, serves to accomplish this purpose. Where tables are rather long, like in a machine as illustrated in Fig. 4, frames 8 and 13 are best divided centrally, and one-half of each is attached to each side of the table and main frame.

This invention might also be modified by reversing the dovetails, in which case the locking would be accomplished by drawing the wings 17 17 together, rod 19 being accordingly connected. The shape of the frames might also be reversed—that is to say, frame 8 might be of concave segmental form; or the frames themselves might be reversed and the rod 19 pass through the frame connected to the table.

The means for varying the lateral distance between the upright wings of one of the frames might be modified, as shown in Fig. 5, where rod 19 is changed to a lever, passing through a slot in the place of the round hole through one of the wings of frame 13. It is pivoted to a lug 25 and has a cam 26 connected to its inner end, which cam is eccentric to the pivot of the lever, so that when the outer end of this latter is depressed the wings are caused to spread. The means for confining frames 8 and 13 on each other might also be modified, as illustrated in same figure, where a groove in one frame, occupied by a tongue on the other frame, takes the place of the dovetails. In small-sized machines frames 8 and 13 might be cast integrally with the tables and frames thereof. Neither such changes in the details of construction nor a substitution for the means whereby the wings are spread, however, alters in any way the novel features of my invention, which features consist in securing the table by the lateral

impingement of a portion of a segmental frame against a portion of another segmental frame, fitting and confined on the former, and which impingement is produced by slightly varying the distance between the vertical parts of one frame, so as to cause it to bind on the contiguous portions of the other frame.

Having described my invention, I claim as new—

1. The means for locking movable machine-tables in their adjusted positions on the general machine-frame, which means consist of a convex segmental frame and concave segmental frame, both fitting on each other and one secured to the under side of the table, the other secured to the general machine-frame, one of said segmental frames being recessed, which recess is occupied by parts of the other frame and whereby the two frames are confined on each other, the lateral distance between the upright parts of one of the segmental frames being slightly variable, whereby one of these frames impinges laterally against the other one, causing them to become locked on each other, all as substantially shown and described.

2. The means for locking adjustable machine-tables in their adjusted positions on the general machine-frame, which means consist of two segmental frames, one secured to the under side of the machine-table, the other to the main frame immediately below the other, their curved surfaces fitting and resting on each other and provided with dovetails, as shown, whereby they are confined on each other, one of these frames consisting of a base, from the ends of which two wings rise at right angles and parallel to each other, their upper ends carrying dovetails, means, as a screw, for instance, whereby the distance between these wings may be slightly varied, so as to cause their dovetails to impinge laterally against dovetails on the other frame, and whereby the two segmental frames become locked on each other, all as substantially shown and described.

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

WILLIAM A. GREAVES.

Witnesses:

BUCHANAN PERIN,
CARL SPENGEL.