No. 679,354. Patented July 30, 1901.

C. S. YARNELL.

WORK TABLE.

(Application filed Mar. 27, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Witnesses.
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Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

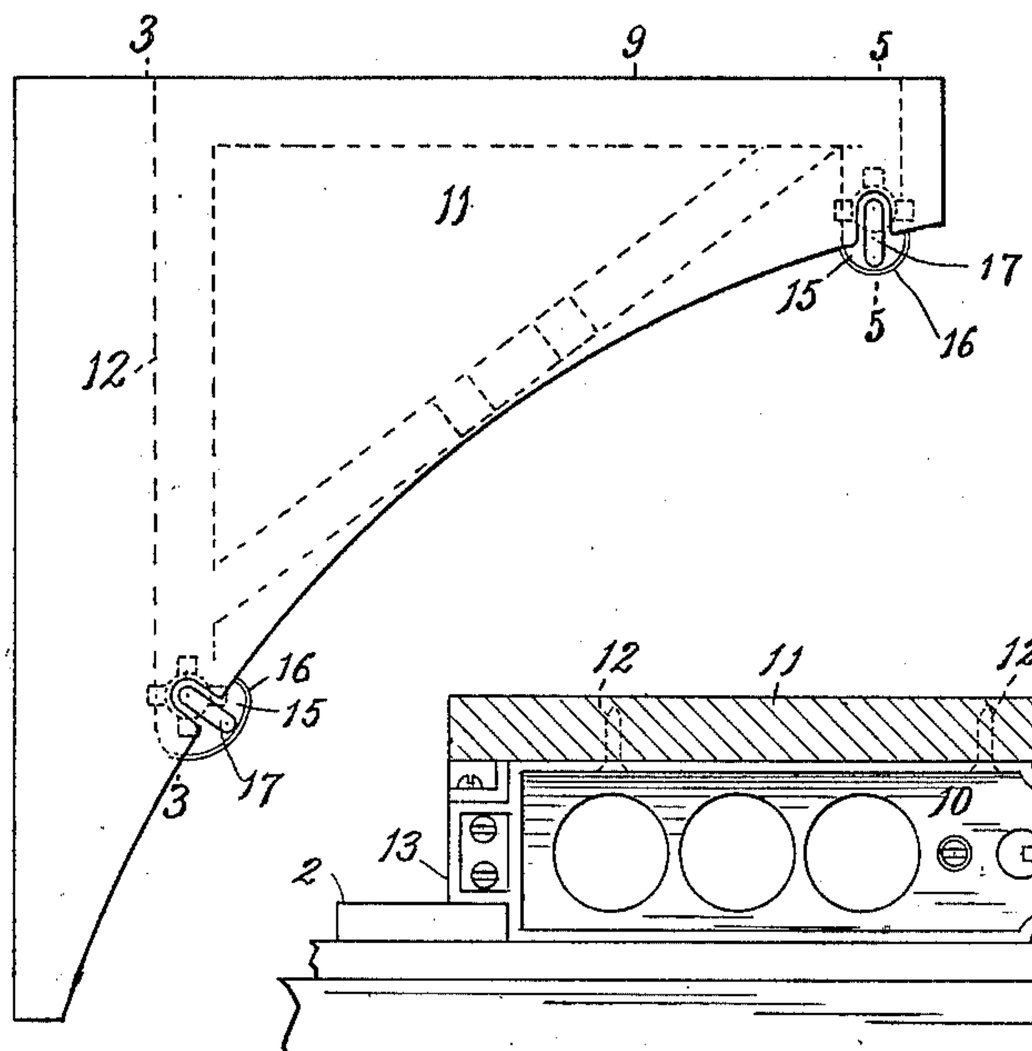


Fig. 3.

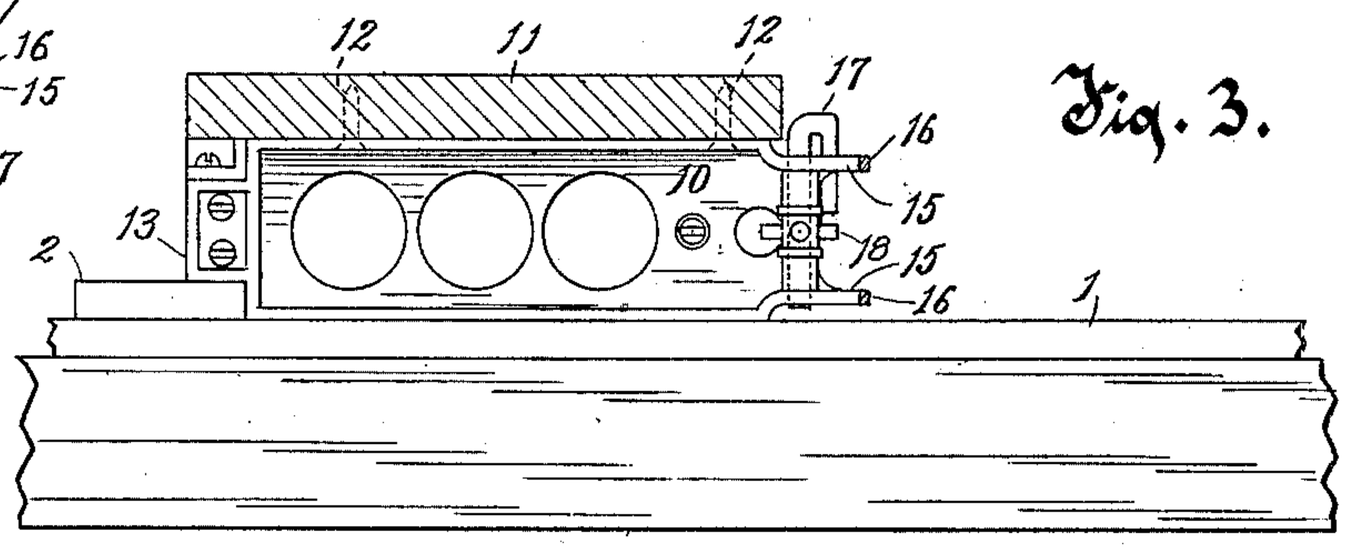


Fig. 4.

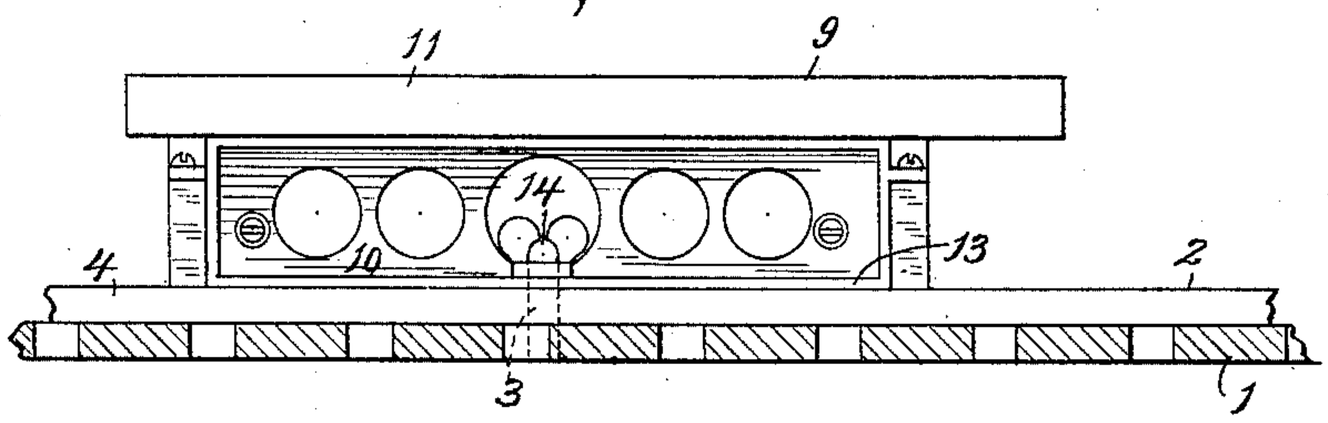


Fig. 5.

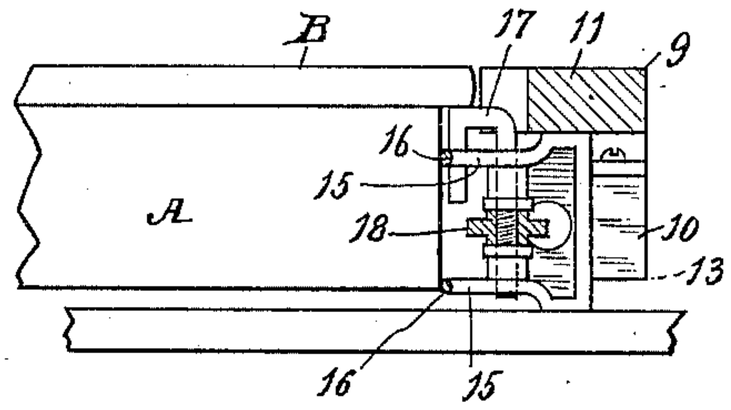
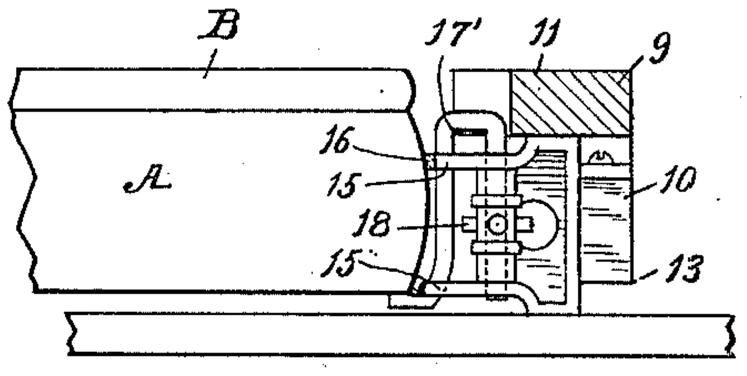


Fig. 6.



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UNITED STATES PATENT OFFICE.

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WORK-TABLE.

SPECIFICATION forming part of Letters Patent No. 679,354, dated July 30, 1901.

Application filed March 27, 1901. Serial No. 52,773. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. YARNELL, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Work-Tables, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improved work-holders, the mechanism in which the invention is embodied being especially adapted for holding round table-tops while their upper surface is being finished by abrading and polishing, especially by means of a reciprocating polisher or buffer. The table-tops that my improved holder is particularly adapted for are the round wood tops of tables for household use.

The invention consists of the mechanism, its parts, and combinations of parts, as herein described and claimed or the equivalent thereof.

In the drawings, Figure 1 is a top plan view of a slatted bench or table having my improved mechanism thereon for clamping and holding round table-tops or similar articles while being polished or otherwise finished. Fig. 2 is a top plan view of one of the clamping members. Fig. 3 is a vertical section of the same clamping member shown in Fig. 2 on line 3 3 thereof looking toward the right, the section resting on a fragment of the work-supporting table. Fig. 4 is an edge view of one of the clamping members resting on a fragment of the work-table, which is shown in section. Fig. 5 is a vertical section of the clamping member shown in Fig. 2 on line 5 5 thereof in connection with a fragment of a table-top shown in such relation thereto as the table-top has when it is in position to be clamped in place for being polished. Fig. 6 is a vertical section of my improved mechanism in connection with a fragment of a table-top therewith, the view being substantially like the view shown in Fig. 5, except that the table-supporting device in Fig. 6 is in modified form.

In the drawings I show the top 1 of a work-table, which is advisably composed of transverse slats, though this is not material to my invention. Two parallel longitudinally-disposed rails 2 2 rest movably on the top of the work-table opposite each other, and these rails are provided with a series of pin-holes 3 3, the pin-holes being advisably at equal distance apart and registering with each other in the two rails. These rails are also advisably strengthened by truss-rods 4 4. Reversely-threaded screws 5 5, rotatable without endwise movement in boxes therefor fixed on the work-supporting table, are disposed at right angles to the rails 2 2 at distances apart and advisably near the ends of the rails 2 2 and turn by their threads in nuts therefor fixed in the rails 2 2. These screws are each provided with sprocket-wheels and are connected together by an endless sprocket-chain 6. For rotating these screws they may be faced at one extremity, as shown at 7, and a crank-handle 8 is employed to rotate the screws. It will be noted that the construction is such that by rotating either screw by means of the handle 8 both screws are homogeneously rotated, and thereby the rails 2 2 are concurrently and homogeneously moved toward or from each other.

In connection with the rails 2 2 four clamping members 9 9 are employed. These clamping members are conveniently constructed with a metal frame 10 and a top 11, that may be of wood or metal, but is advisably of wood and may be covered, if desired, with sheet metal, preferably brass, though as such covering is not usually required it is not shown in the drawings. The top 11 is secured to the frame 10 conveniently by means of screws 12 12. The frame 10 may be made in part secured together by screws, as shown in the drawings, or may be made integral, if preferred. The general form of each of these four clamping members is that of a triangle, though the long edge of the top 11 is preferably curved to adapt it to the form of the edge of a table being held in place thereby. It should, however, be understood that the table being held in place need not be one that has a curve conforming to the curve of the top of the clamping member, as tables having a greater or less curve are held in place with equal facility and security. These four clamping members are arranged on the

work-table in pairs opposite each other at the inner edges of the rails 2 2, the frames 10 being each provided with a flange 13, that fits upon the top surface of a rail 2, and a pin 14 is inserted through a hole in the flange 13 and into any one of the pin-holes 3 in a rail 2 that is desired. It will be seen that by this arrangement there is provided between the four clamping members 9 9 an approximately circular opening, into which a round table-top may be placed to be clamped by these clamping members when drawn thereto.

The frames 10 are provided with fingers or knobs 15 in flattened form and having rounded terminal edges, which knobs project beyond the edge of the top 11 and are adapted to bear against the frame A of the table, being supported on the work-table in the manner shown in Figs. 5 and 6. The bearing edges of the knobs 15 are advisably covered with a cushion 16, of leather or other suitable material. I preferably employ a plurality—two or more—of knobs of this character on each clamping member 9. For supporting the table-top to be polished on these clamping members and in such manner as to be adjustable vertically I employ vertically-adjustable supporting devices consisting of bolts 17 17, which are conveniently supported loosely in the frame 10, through which they pass in suitable apertures or boxes therefor. These bolts are preferably located in the frame at the same places as the knobs 15, the enlargements or extensions of the frame for constructing these knobs providing convenient means for supporting these bolts at those localities. These bolts 17 have overturned tops, the upper surfaces of which are adapted to receive thereon the top B of the table to be polished, and the free leg of the bolt may bear against the frame A of the table, though this is not a necessity. For supporting and adjusting these bolts vertically they are provided with screw-threads, on which nuts 18 are employed, which nuts are placed in bearings therefor in the frame 10, preventing endwise movement of the nuts, whereby by the rotation of the nuts the bolts are raised and lowered.

In the modified form shown in Fig. 6, in which a table is shown having a top B that does not project beyond the frame A, I employ a modified form of bolt 17′, in which the overturned end of the bolt is extended downwardly and turned laterally, so as to pass under the lower edge of the frame A of the table, and thereby support the table instead of having its top rest on the bolt, as shown in the form illustrated in Fig. 5.

From the drawings and the foregoing description it will be understood that in use the rails 2 and the members 9 9 are first so adjusted that a round-top table can be easily, but with as little play as possible, let down within the circle of the members 9 9 onto the bolts 17. Thereupon the bolts 17 are adjusted to bring the table to the proper height for finishing, and then the screws 5 5 are rotated, moving the rails 2 2 toward each other, whereby the table-top is clamped by the clamping members in secure position for being polished or otherwise finished.

What I claim as my invention is—

1. In combination in a work-table, a work-table frame or top, rails resting movably on said frame or top, reversely-threaded screws mounted rotatably in the work-table frame or top and turning in said rails adapted to adjust the rails toward and from each other, and clamping members secured movably to and adjustable with and on said rails above the top of the work-table, the clamping members being so shaped and arranged as to form complementary members of a work-holding device, each member being substantially triangular in form and provided with thereon-mounted supporting and clamping devices adapted to clamp and hold the work above the table and within and between the clamping members and substantially flush with the top surface thereof.

2. In combination in a work-table, a fixed supporting means, a pair of rails adjustable toward and from each other on the supporting means, reversely-threaded screws rotatable in the supporting means and turning by their threads in the rails, clamping members in a generally triangular form in opposite pairs adjustable on and along said rails, means securing the clamping members releasably to the rails, knobs projecting from the clamping members at their long edges, and means in the clamping members adjustable transversely thereof for supporting the article held thereby at a suitable height with reference thereto.

3. In clamping mechanism in a work-table, a clamping member in substantially triangular form, and knobs at a distance apart projecting inwardly from the long edge or hypotenuse of the clamping member below its top surface and adapted to receive the work against them and hold it between the clamping members and substantially flush therewith above the table.

4. In clamping mechanism in a work-table, a clamping member in substantially triangular form, a plurality of knobs projecting from the long edge of the clamping member, and adapted to receive against them the article to be held, bolts movable endwise at a right angle to the direction of the projection of the knobs, and nuts turning on the bolts but held in the clamping member against endwise movement.

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

CHARLES S. YARNELL.

Witnesses:
E. A. FORCE,
GEO. M. JONES.