No. 890,838. PATENTED JUNE 16, 1908.

F. J. BREWER.

MULTIPLE TOOL HOLDER.

APPLICATION FILED OCT. 31, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

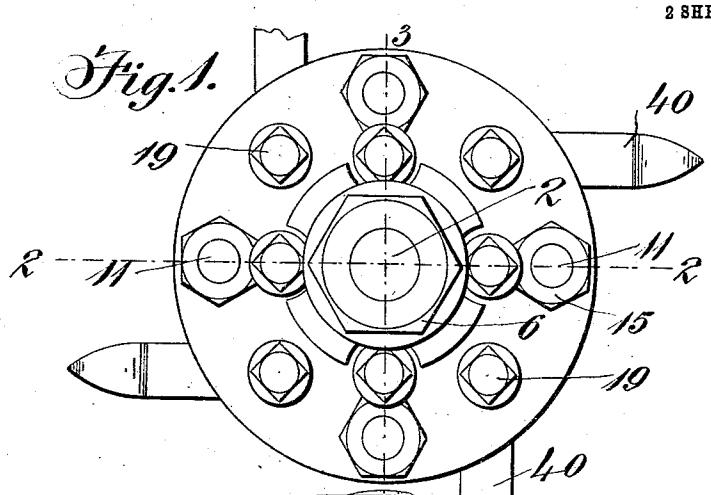
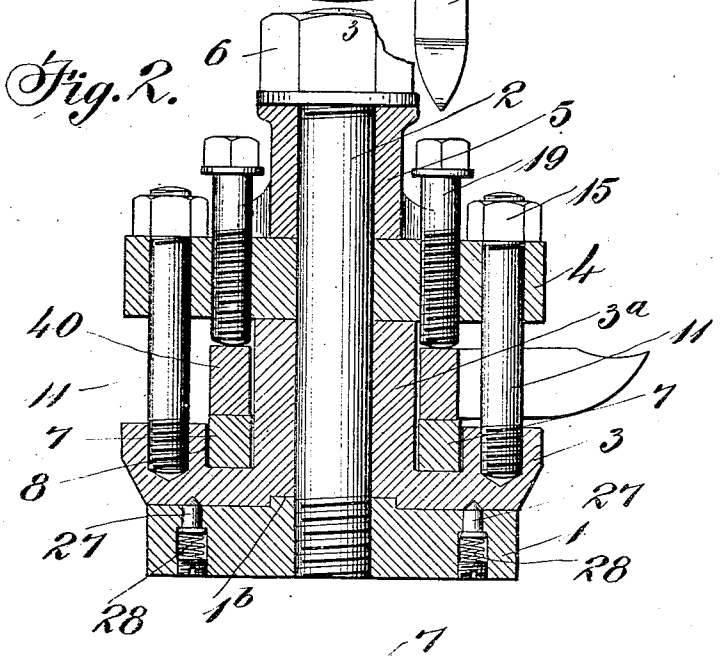


Fig. 2.



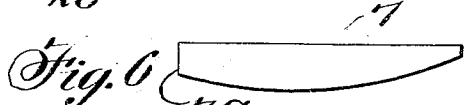


Fig. 6

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2 SHEETS—SHEET 2.

Fig. 4.

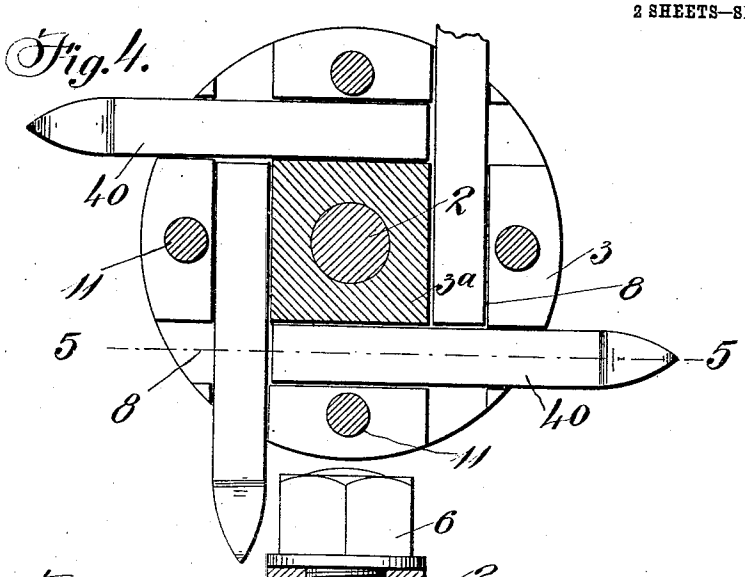


Fig. 3.

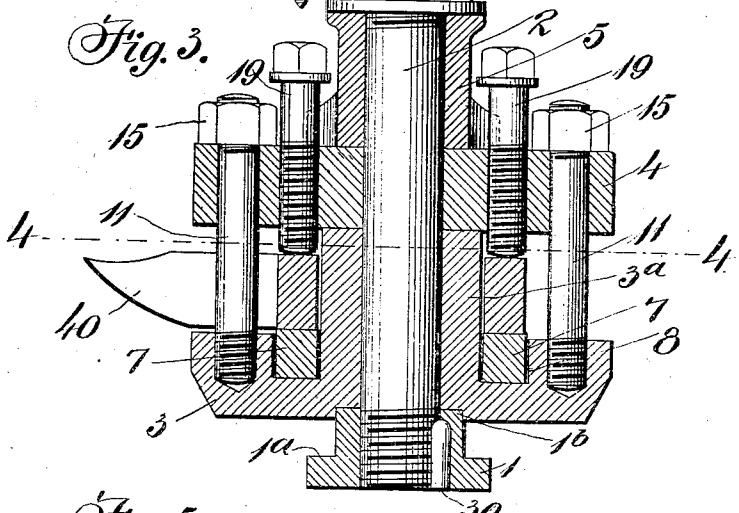
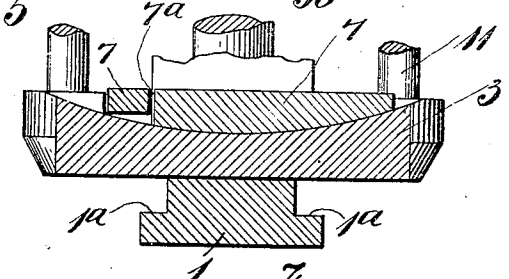


Fig. 5



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FREDERICK J. BREWER, OF CLEVELAND, OHIO.

MULTIPLE-TOOL HOLDER.

No. 890,838. Specification of Letters Patent. Patented June 16, 1908.

Application filed October 31, 1907. Serial No. 400,127.

To all whom it may concern:

Be it known that I, FREDERICK J. BREWER, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Multiple-Tool Holders, of which the following is a specification.

This invention relates to tool holders for lathes, and specially to holders or posts adapted to support a plurality of tools.

The advantage of such a holder arises from the fact that by having several tools on one post, delays incident to changing tools are avoided.

The object of the present invention is to provide a holder of improved construction in which the various tools will be firmly held, with means for varying the vertical angle of any one of the tools, as well as the horizontal angle incident to the rotation of the holder, to bring the several tools into operation.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a top plan view of the holder. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a horizontal section on the line 4—4 of Fig. 3. Fig. 5 is a vertical section on the line 5—5 of Fig. 4. Fig. 6 is a side elevation of one of the shoes on which the tool is clamped.

Referring specifically to the drawings, 1 indicates the base of the tool post, consisting of an elongated rectangular block having shoulders 1^a at each side which fit in the T-groove of the slide rest of any ordinary machinist's lathe.

2 is a stud or bolt which screws into the base 1 and is held from turning out by a small pin 30.

3 is a lower clamping plate or part which is circular in outline and which has at the center a sleeve 3^a which fits over the bolt 2, and which is arranged to rotate on said bolt to bring the desired tool into operation. The plate has a central circular recess on the under side, in which fits a raised collar 1^b on the base block. In its bottom face the plate 3 has four point-entered holes at quarters, to receive the points of the guide pins 27 which are yieldingly supported in the base block 1 by springs 28, and which by entering the holes serve to set the holder at the proper radial adjustment.

4 indicates an upper clamping plate which is also circular in outline and which has a central opening through which bolt 2 extends. Said plate rests on top of the sleeve 3^a and is rotatable on the central bolt. The plates 3 and 4 are connected by four stud bolts 11 located near the outer edges of the plates and provided with nuts 15, whereby the upper and lower plates are firmly held together.

5 denotes a sleeve which fits over the central bolt 2 above the plate 4 and receives the pressure of a nut 6 which screws on the upper end of the central bolt 2, and said sleeve transmits the pressure of said nut so that when the nut is tightened the rotatable parts are clamped to the base plate and prevented from turning while in use.

The post is adapted to hold four tools, and each tool rests upon a shoe 7 which fits in a groove 8 formed in the lower clamping plate 3. The shoes are convex on the bottom, and the grooves are concave with similar curvature so that the shoes rest in the grooves and may be adjusted forwards and backwards therein to vary the vertical angle or elevation of the tools. The grooves 8 are located on all four sides of the lower plate, with respect to the central post, so as to form a square around the post with the grooves crossing each other near the ends thereof. The shoes 7 are cut off at one end, as indicated at 7^a, so that the shoe in one groove will not extend at its rear end across the groove at a right angle thereto, and consequently will not interfere with the shoe in the other groove. As stated, the tools, which are indicated at 40, rest upon the shoes 7, and are clamped in place by means of screws 19, of which there are eight, or two for each tool, so that each tool is engaged by two screws. The screws are tapped through the upper plate 4, in line with the grooves thereunder. The screws 19 are arranged symmetrically around the central post and over the grooves, with one screw at each corner, or intersection, and one intermediate screw on each side, so that the shoes can be turned end for end in the same grooves, which will allow the operator two ways to direct or

point the cutting edge of each tool. Thus, in boring he may point the tool in one direction, as with the head of the lathe on his left hand side, while for turning, with the head on his left hand side, he can point the tool in the opposite direction. The screws 19 are hardened, so as to hold the tools firmly, and each tool, in either position, will be engaged by two screws.

In order to turn the holder to bring any desired tool into operation, the nut 6 is loosened, and the clamping plates and the tools held therebetween can then be rotated on the central bolt 2 to the desired position, being stopped or guided at each quarter by the pins 27 to bring the tool into proper alinement; and when adjusted as desired, the holder is fixed by tightening the nut 6. Each tool is independently adjustable to vary its vertical angle, by means of the slide shoes 7, and is held at adjustment by the appropriate clamping screws 19.

Although the device is shown as capable of holding four tools, by means of four sets of clamping devices arranged at right angles to each other, it may be modified to hold a greater or lesser number of tools, for instance, by having a different number of grooves arranged at equal angles according to the number, and provided with appropriate clamping devices.

I claim:

1. In a multiple tool holder, the combination of upper and lower plates constructed to receive a plurality of tools therebetween, a central clamping bolt extending through the plates and forming a pivot therefor, screw bolts connecting the plates near the outer edges thereof, and clamping screws tapped through the upper plate and adapted to bear on the tools.

2. In a multiple tool holder, in combination, a central bolt, upper and lower plates having a spacing sleeve at the center and rotatable on said bolt, screw bolts connecting the plates near the outer edges thereof, the lower plate having a plurality of grooves in the upper face thereof arranged symmetrically around the center, and clamping bolts tapped through the upper plate over the grooves.

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

FREDERICK J. BREWER.

Witnesses:
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