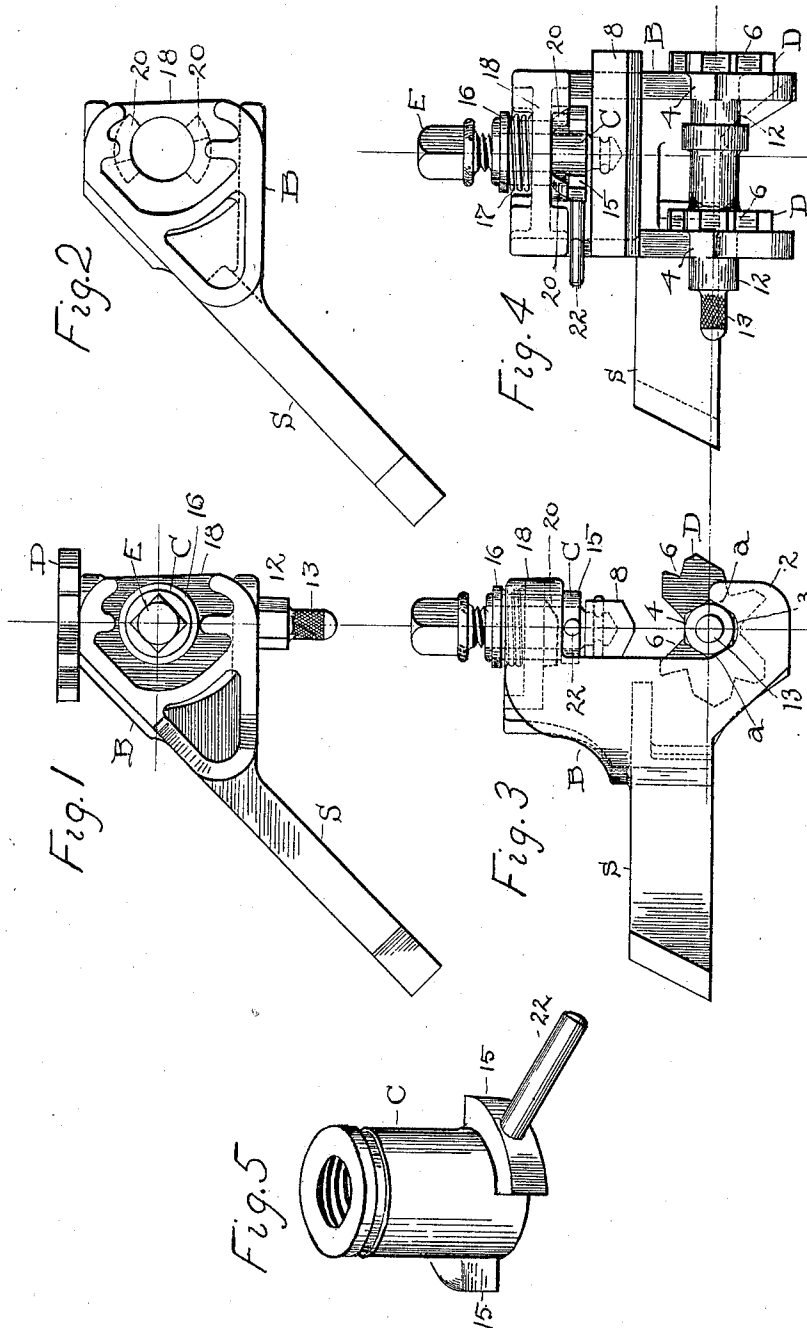


W. PARKER.  
 TOOL HOLDER.  
 APPLICATION FILED JULY 18, 1910.

1,036,693.

Patented Aug. 27, 1912.

2 SHEETS—SHEET 1.



ATTEST

E. M. Fisher  
 F. C. Morrison

INVENTOR

William Parker  
 BY Fisher & Most ATTS.

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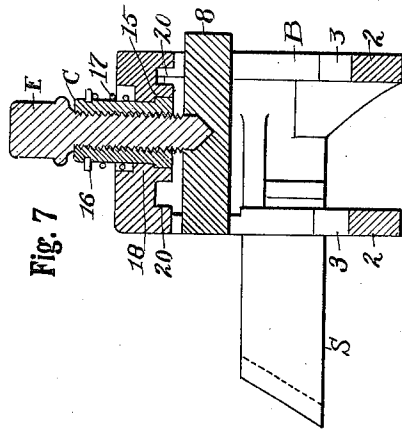


Fig. 7

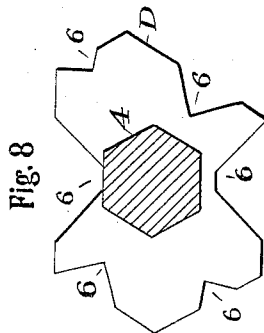


Fig. 8

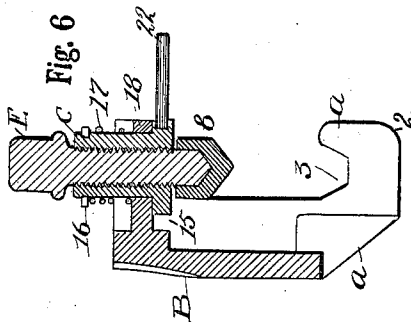


Fig. 6

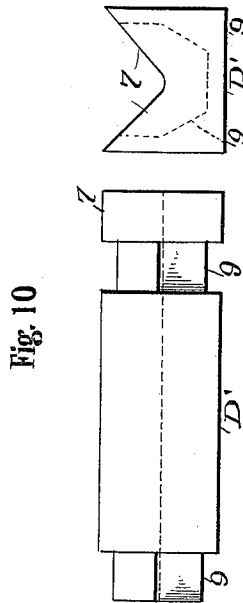


Fig. 10

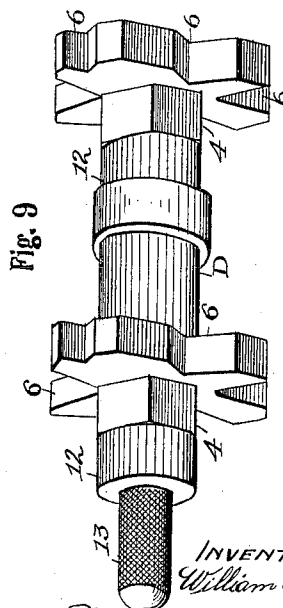


Fig. 9

ATTEST  
E. M. Fisher  
F. C. Museum.

INVENTOR  
William Parker  
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# UNITED STATES PATENT OFFICE.

WILLIAM PARKER, OF CLEVELAND, OHIO.

## TOOL-HOLDER.

1,036,693.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed July 18, 1910. Serial No. 572,437.

*To all whom it may concern:*

Be it known that I, WILLIAM PARKER, a subject of Great Britain, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tool-Holders, of which the following is a specification.

My invention relates to tool holders adapted to be employed in connection with the tool posts of lathes for securing, boring, centering, facing and other tools, and the object of the invention is to provide a holder in which the objectionable practice of screw adjustment in the fastening of tools in such devices is reduced to the minimum and whereby much valuable time and labor are saved in the operation of a machine, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved holder with all the operating parts therein, and Fig. 2 is a plan view of the body of the holder itself and with the operating parts shown in Fig. 1 and separately in Figs. 5 and 9 removed. Fig. 3 is a side elevation of Fig. 1, and Fig. 4 is a front elevation of the holder as seen looking in from the right of Fig. 2. Fig. 5 is an enlarged perspective view of the adjusting thimble or nut carrying the set screw as hereinafter fully described. Fig. 6 is a vertical sectional elevation of the body of the holder and the said thimble and adjusting screw therein, and Fig. 7 is an elevation of the same parts at right angles to Fig. 6. Fig. 8 is a cross section of the turret for engaging the tool shown in Fig. 9, and Fig. 9 is a perspective view of the said turret. Fig. 10 shows a side and end view respectively of a modified form of turret adapted more particularly to a single tool of possibly special pattern or size.

The nature of the invention will be apparent from the foregoing illustrations, and the invention comprises four several essential elements represented respectively in or by the body B of the holder, the rotatable thimble or nut C, the turret or saddle D and the adjusting or set screw E. The said body or supporting embodiment B is provided with a shank or stem S for engaging the same in the tool post or other part of a power driven machine, and the special

and original features of construction of said body are such as adapt the same to operatively receive the three other leading parts above mentioned and comprising the thimble or nut C slidably mounted within limits in a web in the upper part of said body, the set or locking screw E threaded into said thimble or nut and exclusively carried thereby, and the rotatable turret D resting in substantially V shaped notches 3 in the said projections 2 on body B. The turret has hexagonal or angular portions 4 adapted to rest in said notches 3 and to be locked therein. That is any two faces of the said angular portions 4 which have an intervening face between them will seat in the said notches 3 and prevent rotation of said turret and the tool therein when pressure from the opposite side is produced and as occurs when a tool is gripped in the holder under pressure from the parts C and E. The recess or notch 3 in the said arms 2 therefore has its inclined sides *a* at an angle corresponding to the sides of the hexagonal faces 4 and which are spaced apart by a single side. Hence also the sides *a* of the recesses 3 are correspondingly spaced apart at their bottom as seen in Fig. 6, and thus the turret or saddle D is adapted to give six distinct and different positions for as many different tools by its rotation in the seat or rest thus provided. That is six different sets of notches 6 therein for engaging tools are brought into position according as one or another set is rotated to the top, and these notches are so related to the angles of the hexagonal faces 4 that they come into right working position in respect to set screw E and the presser bar 8 in which the point of said screw is rotatably confined and which bar is adapted to bear upon the tool and hold it firmly in or upon said notches 6. If only a single notch be used as at 7 in saddle D, Fig. 10, no rotatable adjustment of the turret need be provided for, and the angular bearing portions 9 therein suffice.

All the several notches 6 in the turret D are alike marked 6, but no two are alike or rather said notches vary more or less in size or space according to the widely different sizes of tools or tool shanks to be accommodated.

Ordinarily, it is not planned to remove

the turret or member D from its rests but to rotate it therein to bring different notches 6 into position. In that case the turret is moved axially to bring its cylindrical or round bearing portions 12 into the recesses 3, and then it can be easily turned or rotated until the desired notch 6 is obtained when the turret is moved back axially and the angles 4 are reseated in the recesses 3.

10 A milled hand grip 13 at the end of turret D serves as a means through which it can be adjusted.

The said thimble or nut C is slidably mounted in body B as above described and has segments 15 oppositely about its inner end serving as a stop for the thimble as well as other purposes hereinafter described and an inserted collar 16 about its outer end. A spiral spring 17 is placed about said thimble between said collar and the web 18 on body B and by which said thimble is normally held open. Hence the said thimble comes into closing or locking relation only as it is rotated and the side segments 15 thereon engage beneath and are depressed by the two cams 20 on body B. The said cams are formed on the bottom of the said web 18 and are of sufficient depth to make the difference between loosening a tool shank for removal and the perfect fastening of the shank in the holder, less possibly a slight rotation of set screw E in either case. That is, assuming that the turret D is turned aright for a given tool and that the thimble and screw are adjusted to fasten the tool thereon the depth of the cams is such that by rotating the thimble one way the tool will be locked, and turning it the other way the tool will be released, plus a slight rotation of screw E in either case. By this I mean that when the tool is locked and release is desired, first give a slight reverse turn to the screw which will relieve the thimble enough to turn the same by its handle or lever 22 and loosen the tool.

45 Being thus released the tool may in like manner be again inserted and fastened, giving screw E a slight fastening turn again as this is done.

It has been observed that the notches 6 have inclined sides while the tools have cylindrical shanks, so that a shank will bear at but two points in the notch while the screw actuated bar 8 provides a third bearing point. This bar has a substantially V shaped edge for this purpose. In this way a tool is effectually locked in place for work.

It should be observed that the notches 6 for gripping or holding the tool in turret or saddle D are adapted to receive tool shanks ranging from 3/16 to 12/16 in size, and the arrangement of said notches is such that when a given size of tool has found its place it will be the same distance radially from the center of the turret as other tools of other sizes, or, in other words, that all the tools

will come to the same radius alike and hence sustain the same relation to the other securing means represented by thimble C, screw E, and the screw actuated bar 8. Said bar or part is of a length to bridge across from recess to recess in the substantially hook shaped supports 2.

What I claim is:

1. A tool holder comprising a body with inwardly opening recesses having inclined sides, in combination with a turret having angular portions adapted to be rotatably seated in said recesses and provided with substantially V shaped notches in parallel series about its sides, said notches located at different distances from the axis of said turret.

2. A tool holder having a body and a rotatable nut therein and a screw axially through said nut, in combination with a rotatable turret removably supported in said holder and provided with two series of substantially V shaped notches near its respective ends and angular seating portions thereon adapted to be engaged in the body of said holder.

3. A tool holder having a body with recesses having inclined sides, a turret provided with seating portions having inclined faces corresponding to the said sides in said recesses and substantially V shaped notches in series about the same, said notches having varying depths as to the center of said turret, and means adapted to fasten a tool in said notches.

4. A support for tools having parallel series of notches disposed about the same near its ends and at varying depths from the axis of the said support and the said notches matching in depth in said series, whereby tools of different thickness of shanks are adapted to be fastened in said support.

5. A support for tools in a tool holder, said support having two series of substantially V shaped notches about the same near its ends, said notches varying in size, and having angular portions adjacent to said notches, whereby said support is adapted to be held against rotation in substantially V shaped recesses.

6. The combination of the holder body, the turret therein, a nut rotatable and slidable in said body, a set screw in said nut and a bar carried on the point of said screw having a substantially V shaped edge, said body being provided with cams and said sleeve having segments engaging said cams, whereby when said nut is rotated it is also moved axially.

7. A tool holder having two projections provided with angular recesses, in combination with a tool rest having angularly disposed faces adapted to be locked in said recesses and provided with two series of notches of varying depths about the same,

and a screw in said holder for the stock relatively opposite said recesses.

8. A tool holder having a body portion provided with projections at one end and a rotatable nut slidably mounted in said body and having segments at its side and end and a locking screw through said nut and cams on said body engaged by said segments, in

combination with a tool support adapted to be held in said projections on said body. 10

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

WILLIAM PARKER.

Witnesses:

E. M. FISHER,

F. C. MUSSUN.

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

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