J. P. SINGISER.

TOOL FOR BORING AND LIKE PURPOSES.

APPLICATION FILED JULY 8, 1911.

1,049,773. Patented Jan. 7, 1913.

FIG. 1

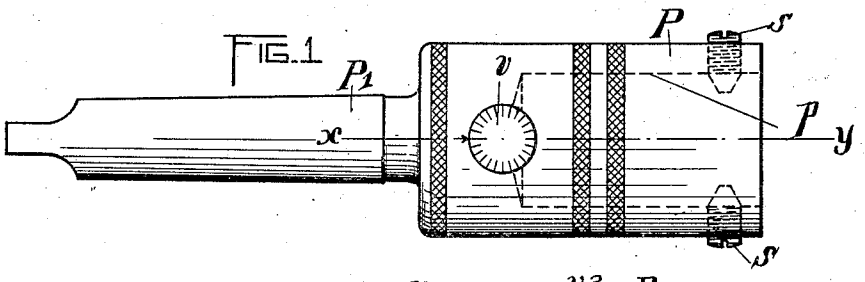


FIG. 2

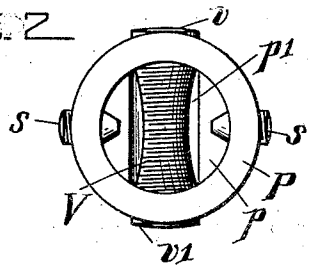


FIG. 3

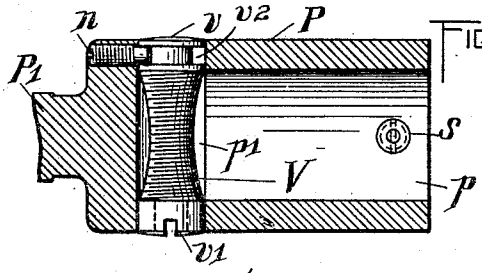


FIG. 4

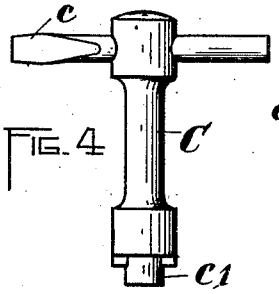


FIG. 5

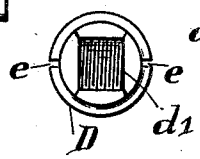


FIG. 6

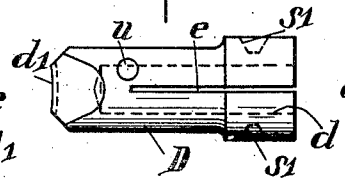


FIG. 7

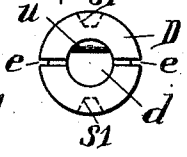


FIG. 8

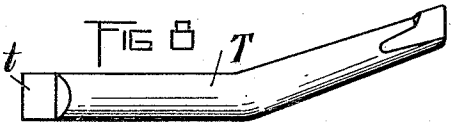


FIG. 9

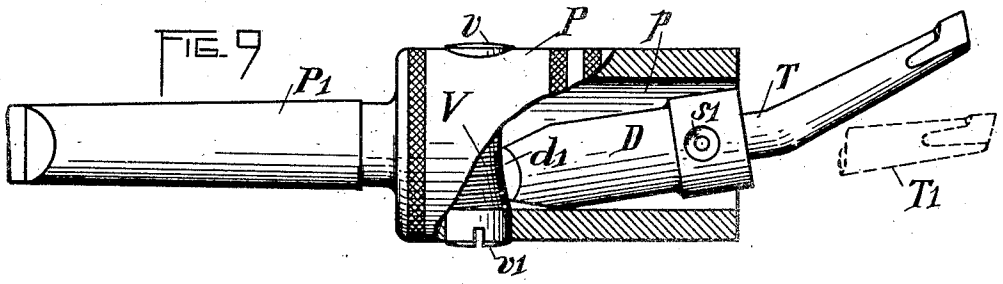
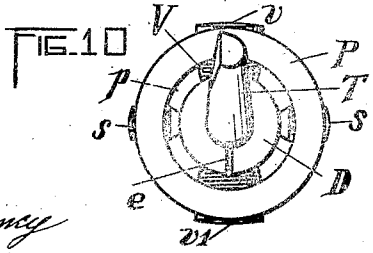


FIG. 10



WITNESSES:

Martha Wheelon

Osborne F. Gurney

INVENTOR:

John Percy Singiser

BY W. H. Cooley ATTY

UNITED STATES PATENT OFFICE.

JOHN PERCY SINGISER, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO WILLIAM P. WILLITS, OF ROCHESTER, NEW YORK.

TOOL FOR BORING AND LIKE PURPOSES.

1,049,773. Specification of Letters Patent. Patented Jan. 7, 1913.

Application filed July 8, 1911. Serial No. 637,401.

To all whom it may concern:

Be it known that I, JOHN PERCY SINGISER, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented a new and Improved Tool for Boring and Like Purposes, of which the following is a specification.

This invention relates to an adjustable tool and holder adapted to bore holes varying in diameter according to the adjustments thereof.

The object of my invention is to provide a tool of the character described of simple and cheap construction and adapted to a large range of work.

My invention comprises, a main body portion which may be called the socket holder and within which there is pivotally supported a tool socket into which latter in turn the tool proper is secured, and, by the adjustment of the socket in the socket holder, the tool is adapted to use in boring holes of different sizes.

The accompanying drawings illustrating my invention are as follows:—

Figure 1 is a plan view of the socket holder with the tool socket and tool removed. Fig. 2 is an end view, of the parts shown in Fig. 1 and as seen from the right but turned at an angle of ninety degrees from the position in which it is shown in Fig. 1. Fig. 3 is a sectional view taken along the line *x*—*y* of Fig. 1. Fig. 4 is a view of the combination tool used in adjusting the parts of the improved tool holder. Fig. 6 is a side view of the tool socket while Figs. 5 and 7 are end views thereof taken from the left and right respectively. Fig. 8 is a side view of a boring tool adapted to use with the tool holder. Fig. 9 is an assembled view of the tool holder and tool therein with a part of the holder broken away. Fig. 10 is an end view from the right of the parts seen in Fig. 9.

Similar parts are designated by similar reference characters throughout the several views of the drawings.

Referring to the drawings,—the socket holder comprises a cylindrical head member P having a tapered shank P^1 extending from one end thereof. The head member P is bored out at *p* for practically two thirds of its length and at the end of the bore *p* and at right angles thereto there is a smaller bore p^1 extending through the member P. The bore p^1 is adapted to receive a Hindley's screw V having a thread cut thereon extending across the diameter of the bore *p* and has a head *v* at one end and a head v^1 at the other end thereof journaled in the side walls of the cylinder P. The screw V is free to rotate, but is held from longitudinal movement by the screw *n* threaded into a hole therefor in the end of the member P and having an extension engaging within the groove or channel v^2 cut in the periphery of the head *v* of the screw V. The end v^1 is bored out and slotted to receive the end c^1 of the tool C shown in Fig. 4, by means of which the screw V may be rotated. The tool socket D is of the conformation shown in Figs. 5 to 7 inclusive and has tapered holes s^1 in the side walls thereof, at its forward end, located diametrically opposite each other and adapted to receive the tapered ends of the screws *s* located diametrically opposite each other in the side walls of the member P and near the open end thereof. The tool socket D is adapted to swing on the tapered ends of the screws *s* and is reduced in thickness and threaded at its inner end, as shown in Figs. 5, 6 and 9, to engage the thread on the Hindley's screw V. The member D is beveled off at its inner end to permit greater angular adjustment of such member within the bore of the holder P. The tool socket D is bored out at *d* for nearly its entire length to receive the boring tool T and the side walls thereof are split, as seen at *e*, to permit a clamping action thereof on the tool T which is held securely therein by tightening the screws *s*, one only of which may preferably be operated for this purpose.

The tool T is cut away at its inner end leaving an extension *t*, having a flat upper surface, which engages under a pin *u* extending across the bore *d* in the member D and this pin *u*, engaging the upper flat surface of the extension *t*, prevents any rotary movement of the tool T in the socket D. The boring tool T may preferably be bent with the exterior portion at an angle with the part engaging within the socket D, but such parts should preferably lie in a plane substantially at right angles to the axis of movement of the socket D.

The tool is assembled as follows:—A

Hindley's screw V is inserted in the bore p^1 therefor in the holder P and the locking screw n is screwed into place to prevent a longitudinal movement of the screw V, and the pivot screws s are adjusted by means of the screw driver c on the tool C so as to permit the insertion of the member D, the threaded end of which will engage the screw V as shown in Fig. 9, and the set screws s are then again adjusted to properly center the tool socket D. Then the boring tool T is inserted in place in the socket D and the screws s turned to cause the side walls of the socket D to grip and hold the tool securely therein.

The method of operating and using the tool is as follows:—The shank P^1 of the holder P is securely attached to the spindle or proper rotating element of the machine in which the tool is to be used and then the tool T is adjusted to the proper angle, which is determined by the diameter of the hole to be bored, and this is done by turning the screw V by means of the tool C, with the end c^1 engaging in the head v^1 of the screw V. Graduations on the head v of the screw V, as shown in Fig. 1, may be provided to aid in an accurate setting of the tool T. The tool T is seen in full lines in Fig. 9 and also at T^1 in dotted lines showing the amount of adjustment that can be given the tool T.

What I claim is:

1. A device for the purpose described comprising a main body portion and a tool socket pivotally supported near its lower or outer end therein to move angularly relative to and substantially in a plane containing the axis of the main body portion and with the lower end of the tool socket substantially coincident with the lower end of the main body portion; means for operating the tool socket and for holding the same in adjusted position and a tool adapted to be removably held in the tool socket and having the socket engaging portion thereof disposed at an angle with the external portion.

2. A device for the purpose described comprising a main body portion and a tool socket pivotally supported near its lower or outer end therein to move angularly relative to and substantially in a plane containing the axis of the main body portion and with the lower end of the tool socket substantially coincident with the lower end of the main body portion; means for operating the tool socket and for holding the same in adjusted position and a tool adapted to be removably held in the tool socket and having the socket engaging portion thereof disposed at such an angle with the external portion that for one extreme position of the tool socket the tool is adapted to work or cut at minimum diameter and to extend in a direction approximately coincident with the axis of the main body portion and for the other extreme position of the tool socket to cut at maximum diameter and to extend at a maximum angle outwardly away from the axis of the main body portion.

3. A device for the purpose described comprising a main body portion and a tool socket pivotally supported therein upon trunnions and means for swinging the tool socket upon such trunnions, such tool socket having a longitudinal slit or slits therein adapted to be closed by forcing the trunnions toward each other and means for forcing such trunnions relatively toward each other to clamp the tool in the socket.

JOHN PERCY SINGISER.

Witnesses:

MARTHA M. NELSON,

OSBORNE F. GURNEY.