

M. W. BECHTEL.
DIE OR CHASER FOR PIPE THREADING TOOLS.
APPLICATION FILED JUNE 7, 1910.

1,062,212.

Patented May 20, 1913.

FIG. 1.

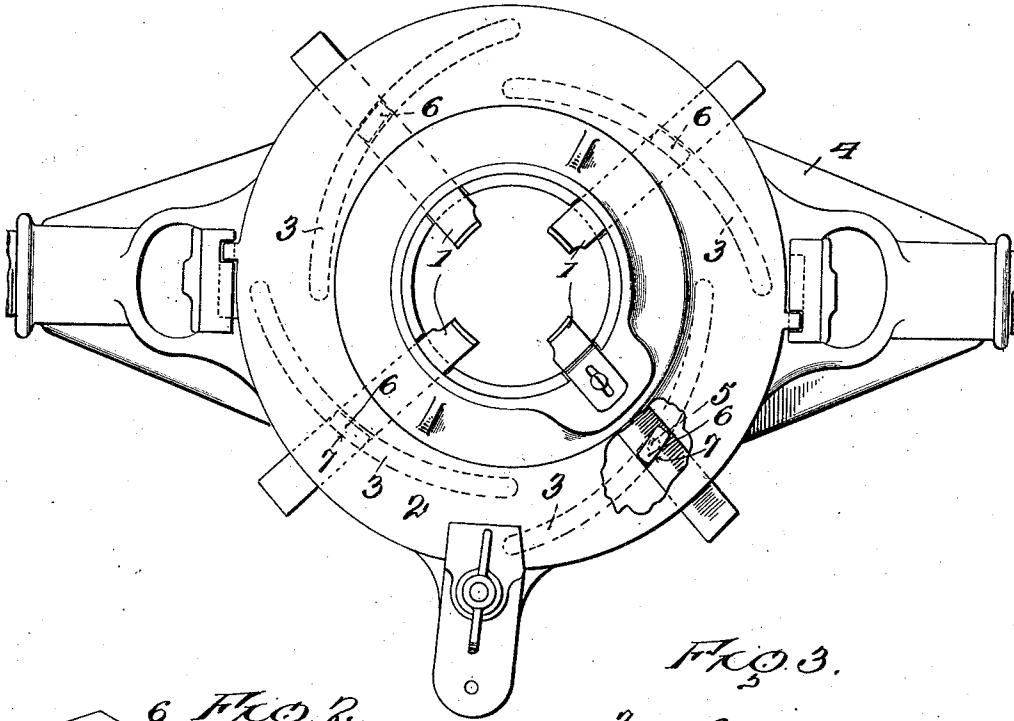


FIG. 2.

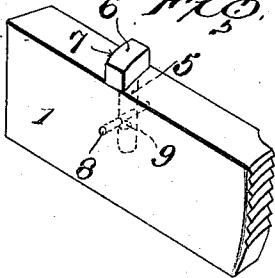


FIG. 3.

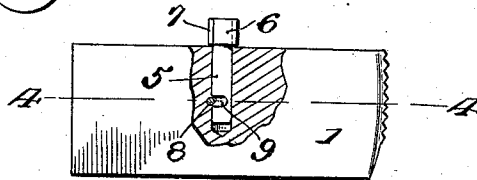


FIG. 5.

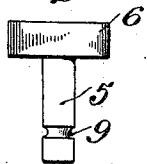


FIG. 6.

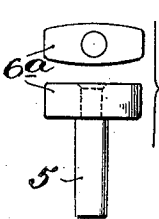
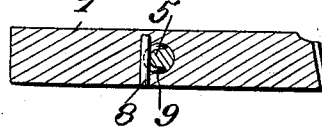


FIG. 4.



Inventor

Witnesses

W. A. Williams.
Francis S. Ferguson.

By

M. W. Bechtel.

[Signature]

Attorney

UNITED STATES PATENT OFFICE.

MILTON W. BECHTEL, OF WARREN, OHIO, ASSIGNOR TO THE BORDEN COMPANY, OF WARREN, OHIO, A CORPORATION OF OHIO.

DIE OR CHASER FOR PIPE-THREADING TOOLS.

1,062,212.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed June 7, 1910. Serial No. 565,486.

To all whom it may concern:

Be it known that I, MILTON W. BECHTEL, of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Dies or Chasers for Pipe-Threading Tools; and I do hereby 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.

In that class of pipe or bolt threading tools employing a series of radially movable dies or chasers and cam plates for cooperating with the dies or chasers, it has been customary to effect the engagement between the cam plate and the chasers by means of round pins projecting rigidly from the chasers and extending into eccentrically arranged slots or grooves in the cam plate. These pins while being of as great diameter as the slots or grooves will permit, are necessarily limited in diameter, and in consequence present a very narrow bearing surface to the walls of the cam grooves, with the result that such walls are frequently roughened or indented at different points, especially after a tool has been subjected to much use. This destroys the accuracy of the tool, and as the indentations increase in depth it is difficult to obtain slight adjustments, as the round pins have a tendency to slip back or to cause the cam plate to slip until the pins reach the indentations or recesses formed in the walls of the grooves. Roughened or indented cam grooves are particularly objectionable in that class of threading tools wherein the uniform recession of the chasers during the threading operation is controlled by the revolution of the cam plate relatively to the chaser-carrier. In some instances it has been sought to overcome these serious difficulties by flattening the opposite sides of the projecting ends of the fixed pins of the chasers, but as they bear against the walls of the eccentric grooves it is impossible to obtain other than a one point bearing, since the cam plate travels around the pin, so to speak, when set or being moved to adjust the chasers.

The object of my invention is to obviate all the difficulties hereinbefore noted and to secure a wide or extended bearing or contact between the chaser pins and the walls of the cam grooves of the adjusting plate in whatever position the latter may be placed.

And further objects are to always maintain the lugs in proper position and prevent them from being disengaged from the dies or chasers when the latter are removed from their carrier.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an end view of a threading tool of the type having means for effecting the gradual recession of the chasers during the threading operation. Fig. 2 is an enlarged view of one of the dies or chasers. Fig. 3 is a sectional view showing the means for fastening the chaser pin. Fig. 4 is a section on line 4-4, Fig. 3. Fig. 5 shows the groove in the chaser pin encircling the shank thereof. Fig. 6 shows a slight modification.

Referring to the drawings, 1 designates a die or chaser which may be of any preferred form of construction, and 2 a cam plate which is shown as having a series of eccentric grooves 3 for cooperating with the chasers in effecting the uniform radial adjustment thereof in the housing or chaser-carrier 4.

In the present instance, the chaser pin for effecting the interlocking engagement between the chasers and the cam plate is shown in the form of a shank or post 5 rotatably mounted in a suitable opening in the chaser and having on its outer projecting end a lug 6. The latter is preferably curved on its outer side, as at 7, to conform throughout its length to the curvature of the outer wall of one of the cam grooves of plate 2, but the opposite side of this lug may also be curved to conform to the curvature of the opposite wall of such groove. Ordinarily, the rotation of the lug and its shank is limited by a dowel pin 8 projecting through and fitting loosely within a recess 9 which partially encircles the post near its inner end. It is necessary to limit the rotation of the lug only when but one side of the latter conforms to one of the walls of the groove, but if both sides be made true then complete rotation would be permissible. In that event the recess in the post will encircle the latter as shown in Fig. 5.

It is obvious that changes may be made without departing from the spirit of my in-

vention. For instance, the post may be fixed or non-rotary, while the lug 6^a may be swiveled thereon, but this calls for the lug being similarly curved on both sides, as shown in Fig. 6. But in each instance the lug although rotatable is permanently secured to the chaser.

The advantages of my present improvement will be readily appreciated by those skilled in the art. It will be seen that by means thereof all danger of roughening or indenting the walls of the cam grooves is obviated, and hence the accuracy of the tool will not be impaired as heretofore by slipping between the chasers and the cam plate. A broad and uniform bearing is provided between each chaser and the cam plate, and hence unequal wear of the walls of the grooves is avoided. Likewise I save the expense and trouble of case hardening which has heretofore been resorted to in some instances to prevent the formation of indenta-

tions in the groove walls by the pressure of the pins or lugs thereon.

I claim as my invention:—

1. A die or chaser having a lug extending transversely thereof, such lug having a post fitted in an opening in the die or chaser, and means engaging such post for limiting its axial rotation.

2. A die or chaser having a lug extending transversely thereof, such lug having a post fitted in an opening in the die or chaser, such post having a groove extending partially therearound, and a retaining pin projecting through said groove.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

MILTON W. BECHTEL.

Witnesses:

A. J. SUTCLIFFE,
I. B. TAYLOR.

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