

No. 798,125.

PATENTED AUG. 29, 1905.

W. N. AGER.
TOOL HOLDER.

APPLICATION FILED JULY 21, 1904.

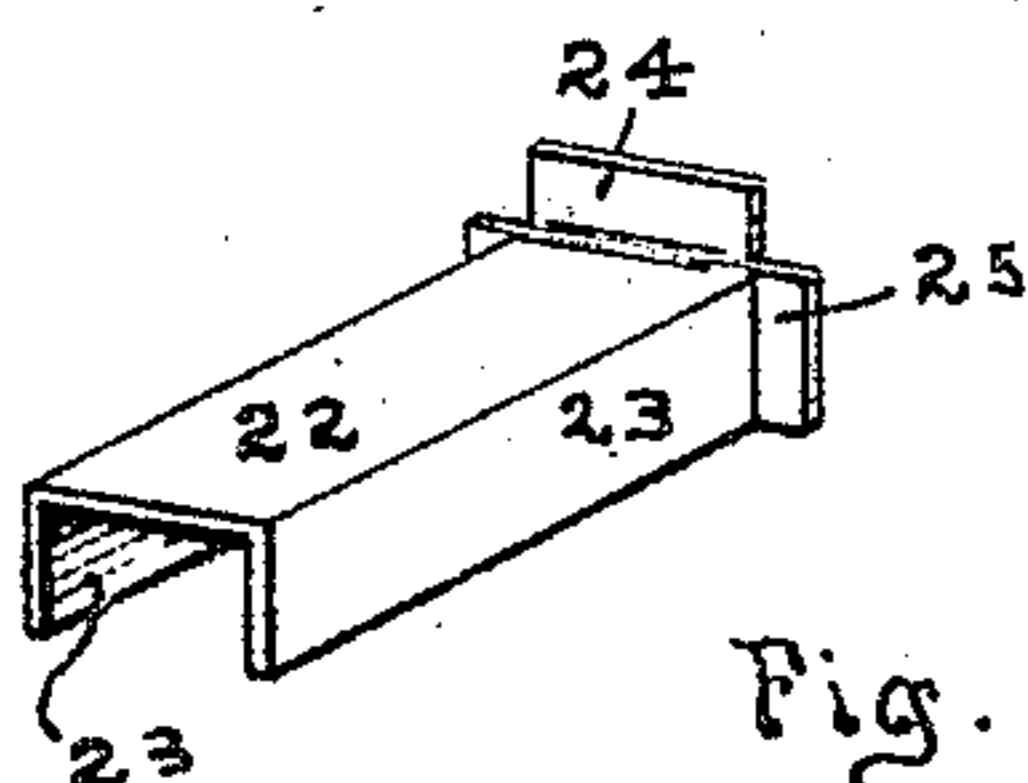
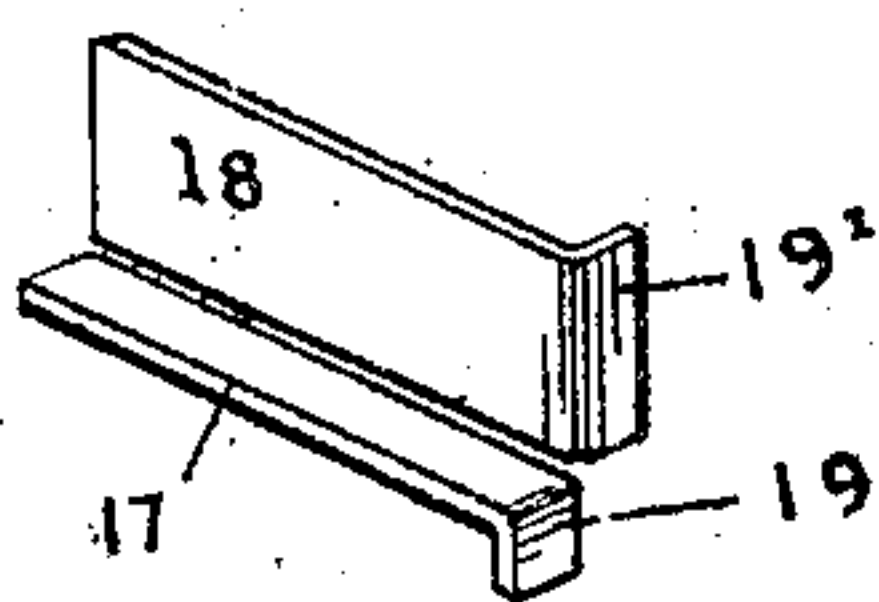
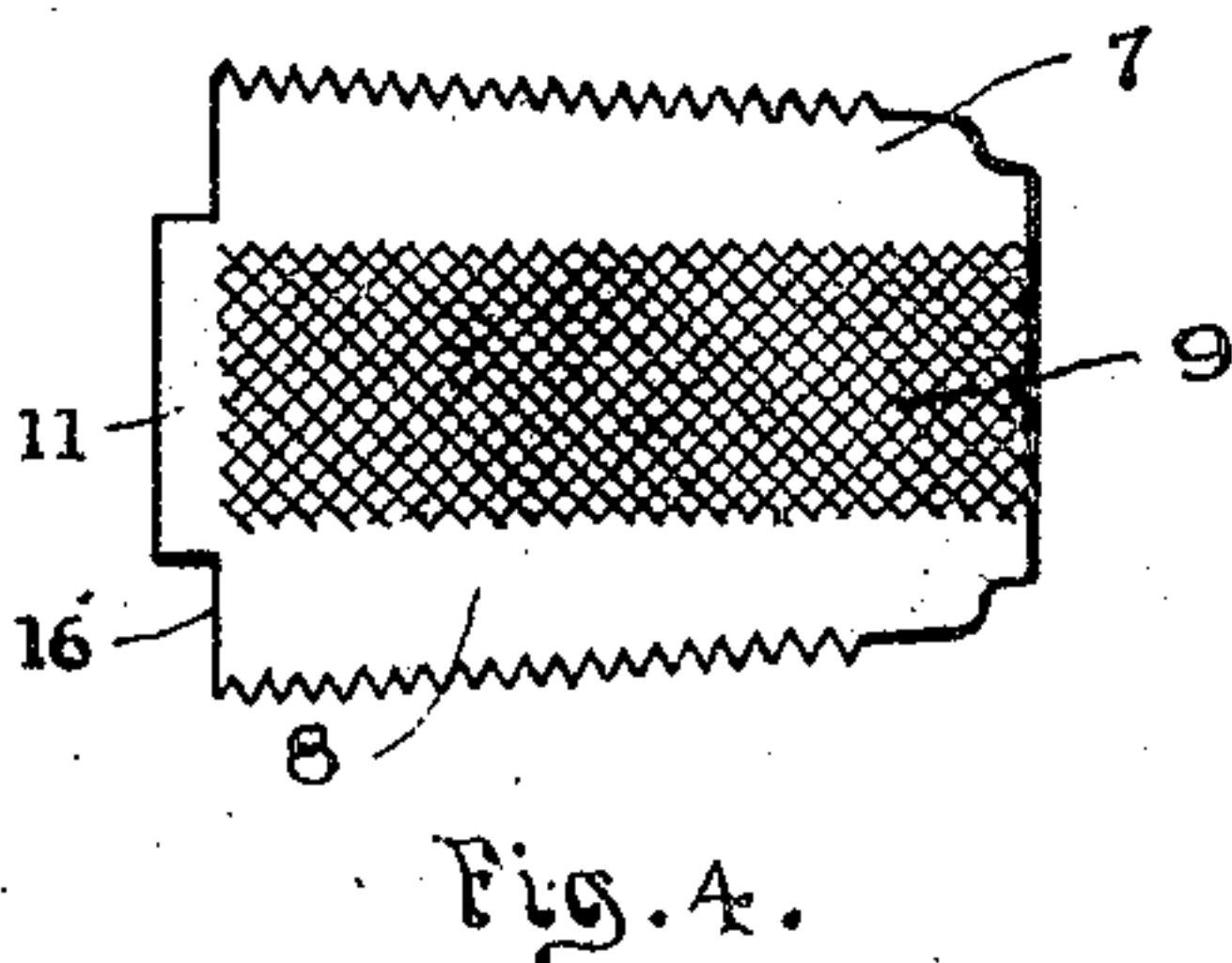
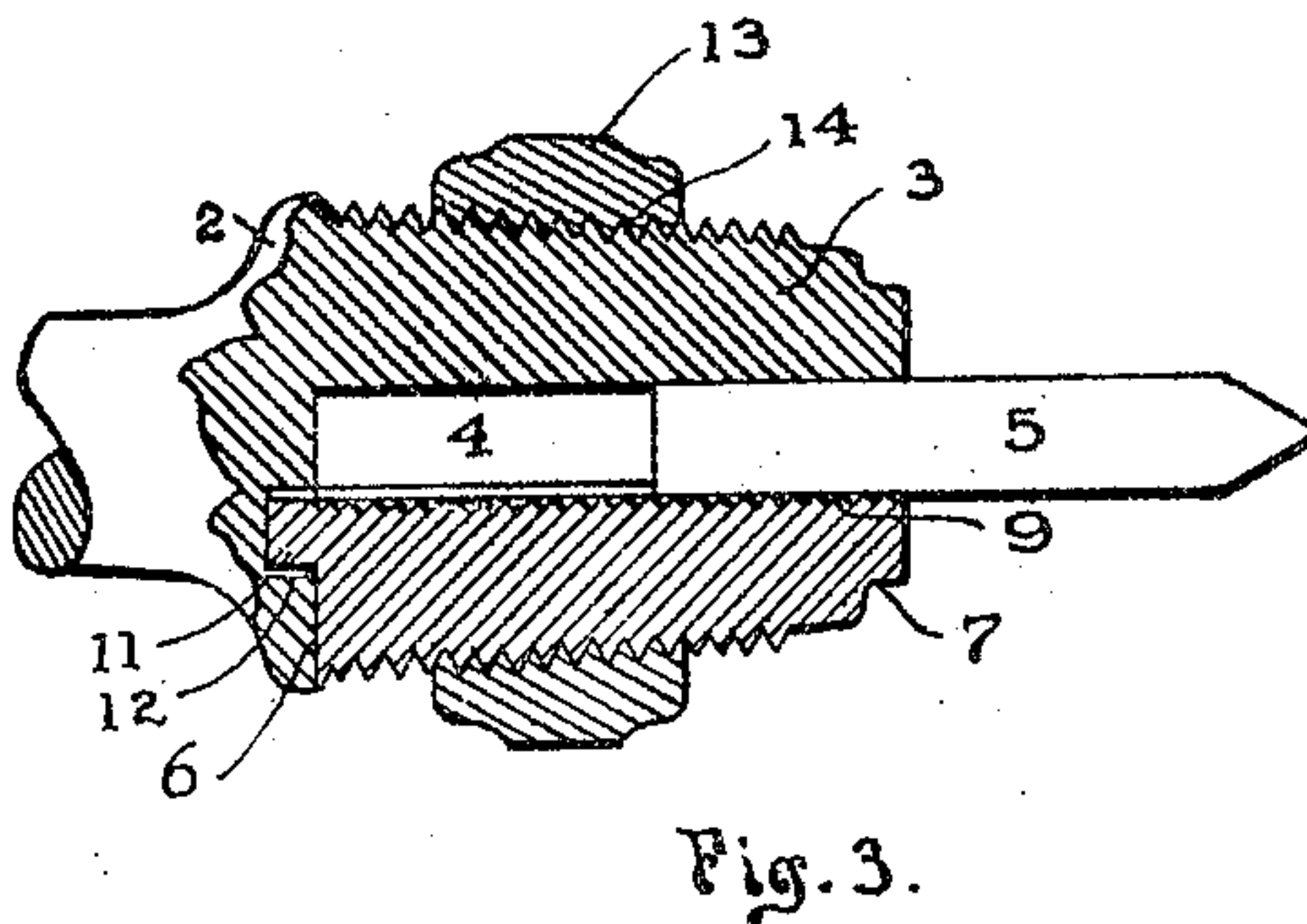
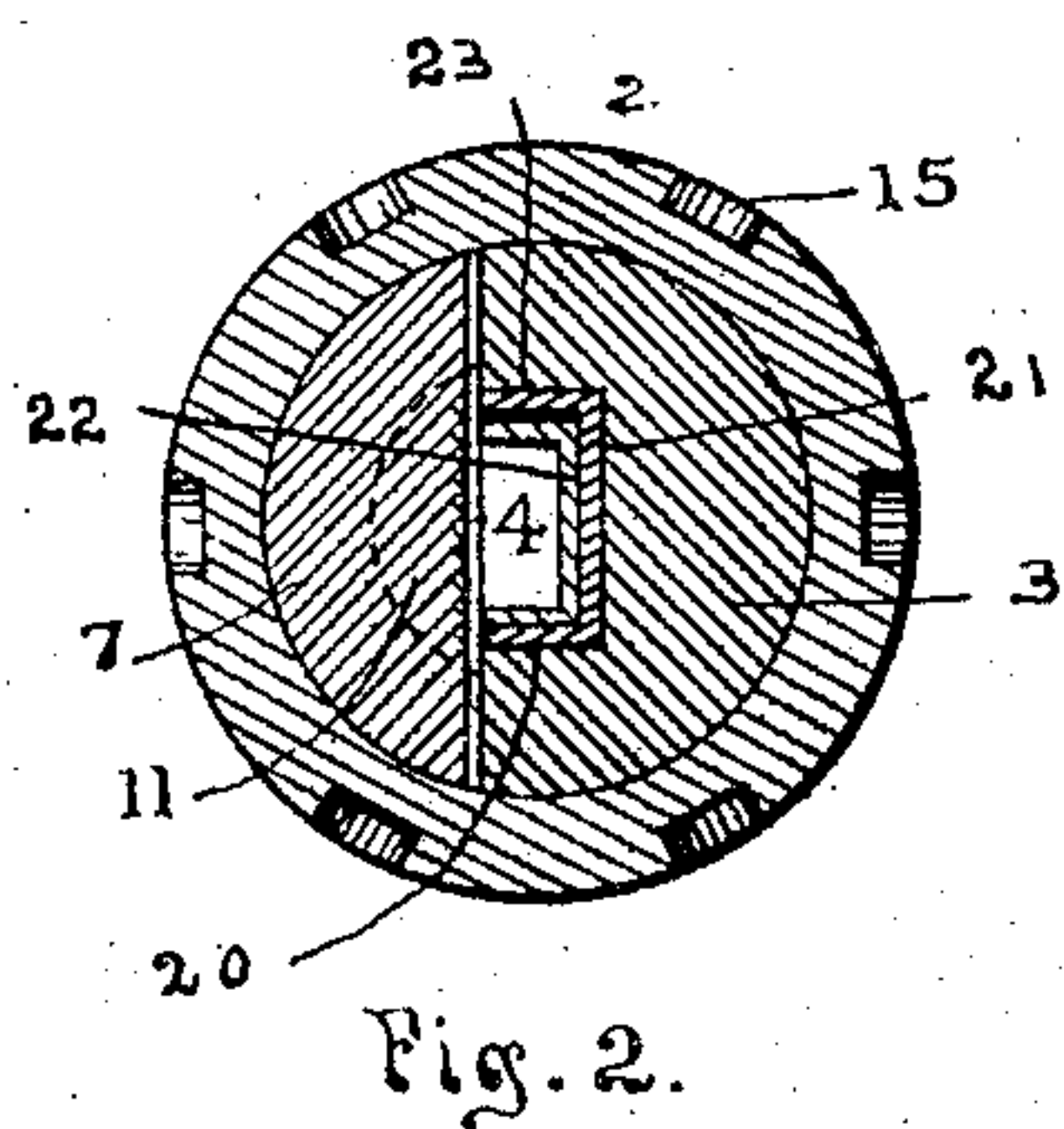
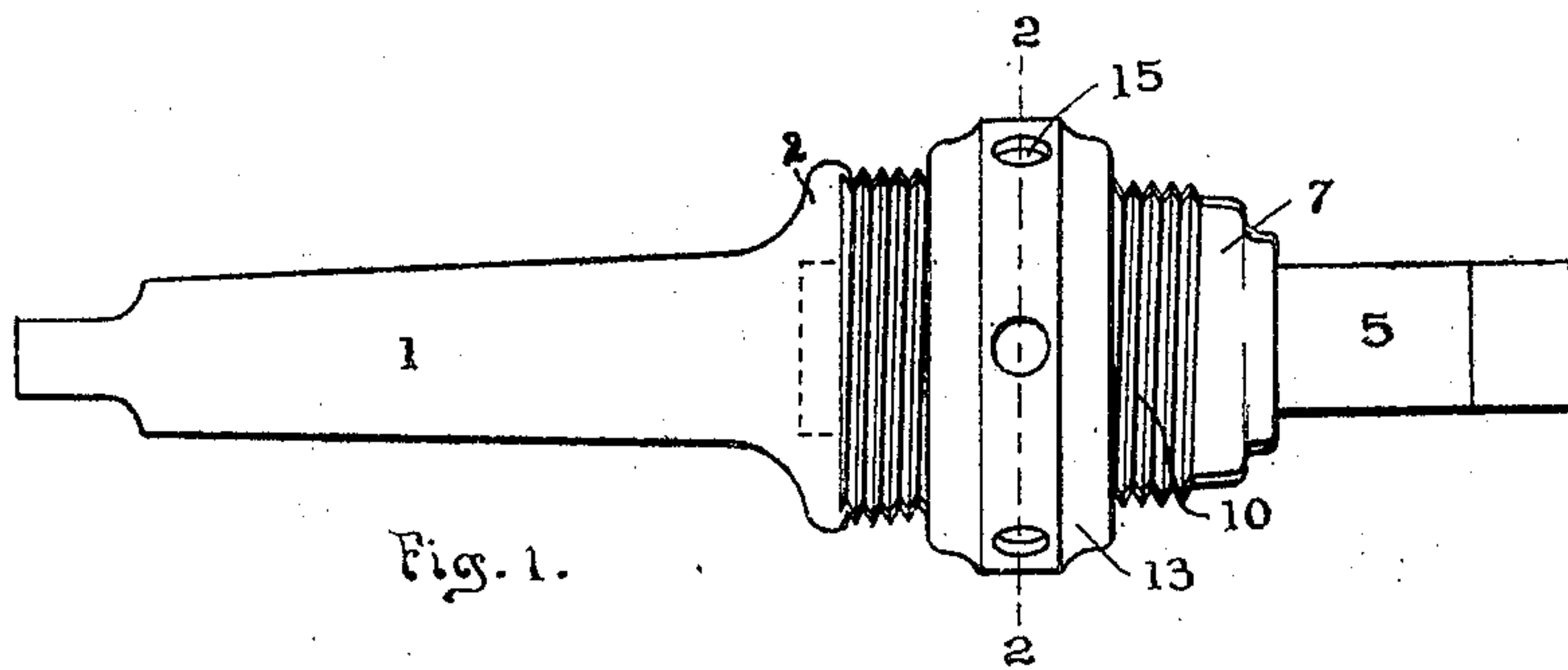


Fig. 5

Fig. 6.

WITNESSES:

Brennans
C. M. E. Crox.

William N. Ager, INVENTOR.

BY Fouts & Hull
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM N. AGER, OF CLEVELAND, OHIO.

TOOL-HOLDER.

No. 793,125.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed July 21, 1904. Serial No. 217,594.

To all whom it may concern:

Be it known that I, WILLIAM N. AGER, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Tool-Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to tool-holders for use with lathes, drill-presses, or other instruments wherein large tools are used for drilling or cutting, and has for its object the construction of a tool-holder of this kind which will permit of the convenient and easy application thereto and removability therefrom of the tool, which shall, without the employment of a multiplicity of parts liable to derangement, effectively retain the tool in position during the operation of the same, and which shall be simple, durable, and economical in construction.

The invention may be defined as consisting generally of the combinations of elements embodied in the claim hereto appended.

Referring to the drawings, Figure 1 represents an elevation of my tool-holder with a tool in place therein. Fig. 2 represents a sectional view on the line 2 2 of Fig. 1, showing one form of bushing in place. Fig. 3 represents a sectional detail of a portion of the tool-holder with the tool therein. Fig. 4 represents an elevation of the removable member of the tool-clamping part of my invention, and Figs. 5 and 6 are details of bushings to be employed in the holder.

Describing the parts by reference characters, 1 represents the shank of my tool-holder, said shank being suitably shaped to permit of its ready insertion within the lathe, press, or other machinery with which it is to be used. The outer end of said shank is enlarged to form a shoulder 2 and is there constructed to receive and clamp the tool which is to be employed therewith.

The clamp proper consists of three members, one of which, 3, is integral with the shank. The said member 3 is in cross-section of the shape shown in Fig. 2, being sufficiently greater in area than a semicircle to receive in the recess 4 therein the tool 5 and tapering from the forward portion to the rear portion thereof, where it merges with the shoulder 2. The recess 4 extends from the front of the member 3 to the junction of said member with the shoulder 2, the front face 6 of said shoulder 2 being an extension of the bottom of the

recess 4. Coacting with the member 3 is a removable member 7, having a flat inner face 8, said face having a roughened surface 9, corresponding in width to the width of the recess 4 to engage the tool in said recess and prevent the slipping of said tool when in operation. The outer surface 10 of said removable member is in section somewhat less than a semicircle, a section through said members 3 and 7 when in operative position being a circle, as shown in Fig. 2. Both the members 3 and 7 taper from the front to the rear thereof and are provided with a screw-thread extending continuously around said members. As a convenient manner of applying the removable member to the fixed member the former may be provided with a lug or tongue 11, projecting from its base 16 and fitting loosely within a corresponding recess 12 in the face 6. In order to clamp the members 3 and 7 together to secure the tool 5 in place, a nut 13 is provided, having an internal thread 14, tapering to correspond to the taper of the external thread on the members 3 and 7. Said nut may be provided with any suitable adjusting means—as, for instance, holes 15—for the reception of a spanner-wrench.

By making the recess for the tool entirely within the fixed member 3 and by making the member 7 removable and of the form shown I am able to produce a very cheap, durable, effective, and convenient instrument which will prevent the slipping of the tool when in operation and will permit the ready removal of such tool and its substitution by another tool.

In Figs. 5 and 6 I have shown two forms of liners or bushings which may be employed with my tool-holder where small tools are to be used therein. In Fig. 5 these bushings consist of flat plates 17 and 18, of two sizes, each having an angular projection 19, adapted to engage the outer end of the fixed member 3. The former bushing is adapted to bear against either of the side faces 20 of the recess in the member 3, the latter against the broader end face 21 of the same. The bushings 17 are sufficiently narrow to prevent them from projecting beyond the recess and being engaged by the roughened surface 9 of the member 7. As many of these bushings may be employed as will be necessary to adapt the holder to receive the smallest tool which it is desirable to use in the holder. In Fig. 6 I have shown another form of bushing, consisting of a single member having an in-

intermediate flat portion 22 to engage the end face of the recess 4 and narrower flat portions 23, adapted to engage the side faces 20 of said recess. Angular flanges 24 25 are provided for engaging the outer end of the fixed member. A number of sizes of such bushings may be employed, adapted to fit or nest one within the other, as shown in Fig. 2, whereby tools of varying sizes may be fitted to the holder, care being taken to make the portions 23 sufficiently narrow to prevent their projecting beyond the recess and their engagement by the roughened surface 9 of the member 7.

It will be obvious that changes may be made in the details of my invention without affecting the spirit thereof. For instance, the tongue or lug 11 and recess 12 may be omitted without affecting the efficiency of some of the other features. I do not, therefore, propose to be limited to such details, except as the same may be positively included in the claims hereto annexed or rendered necessary by the prior state of the art.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

A tool-holder for use with drill-presses, lathes, and the like, said holder consisting of a shank, a shoulder on said shank, a fixed member formed with said shoulder, said member being in section somewhat greater than a semicircle and having a recess axially of the shoulder, to receive said tool, said shoulder having, between the inner face of the fixed member and its periphery, a recess, a removable member having an inner face adapted to engage said tool, the base of said removable member being provided with a lug or tongue engaging the recess in the shoulder, and means for clamping said removable member against the fixed member and the tool.

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

WILLIAM N. AGER.

Witnesses:

FANNIE H. COWIN,
HENRY T. COWIN,
MICHAEL H. NOLAN.