July 16, 1929. G. J. DRAEGER 1,721,378

FLOATING TOOL HOLDER

Filed April 30, 1928

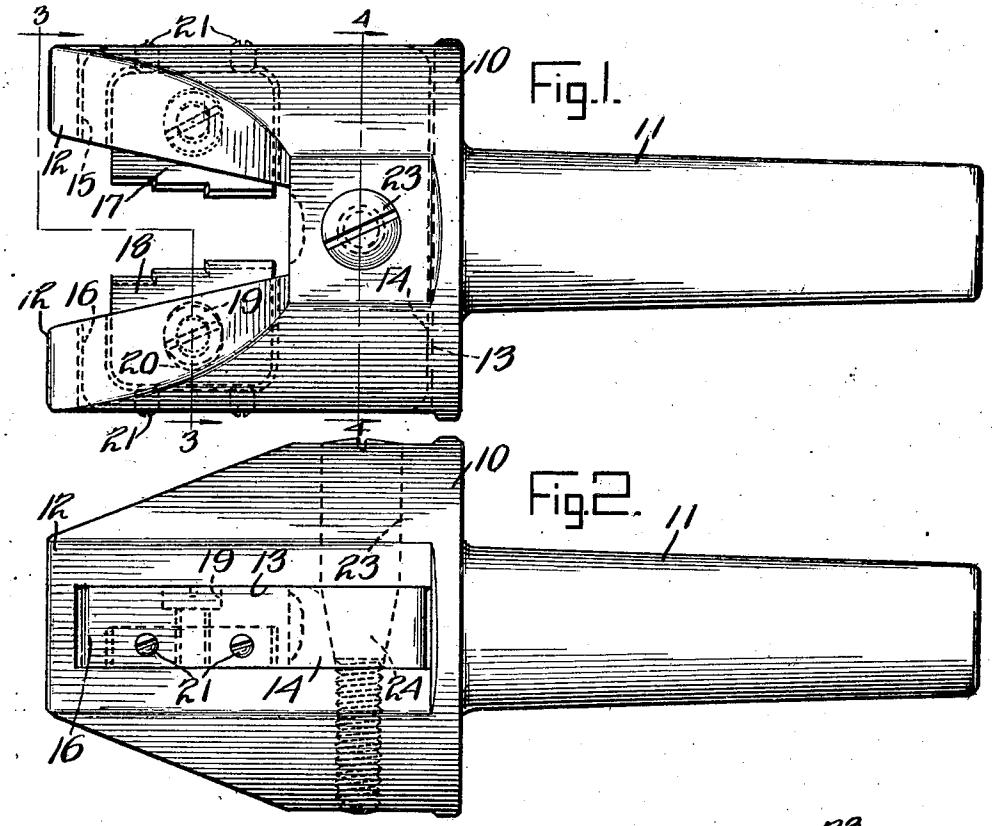


Fig. 1.

Fig. 2.

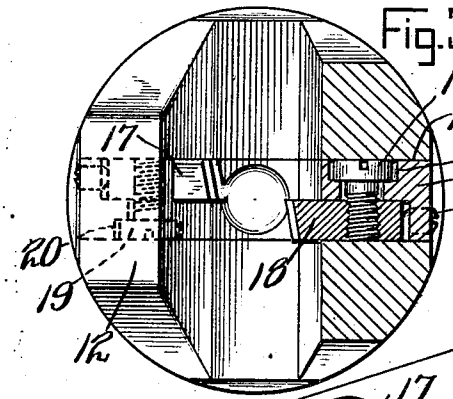


Fig. 3.

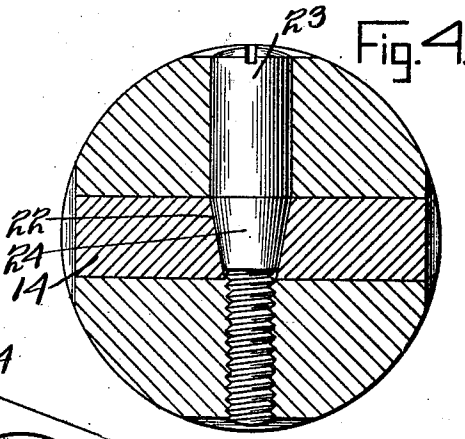


Fig. 4.

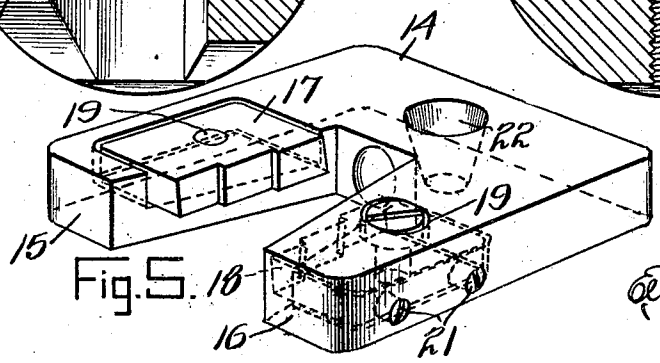


Fig. 5.

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UNITED STATES PATENT OFFICE.

GUSTAVE J. DRAEGER, OF RACINE, WISCONSIN.

FLOATING-TOOL HOLDER.

Application filed April 30, 1928. Serial No. 274,147.

My invention relates to a floating tool holder, and it is an object of the invention to provide a simple and inexpensive device of this character which will conform to a slight misalignment of the work and perform satisfactorily cutting operations, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a top plan view, illustrating one application of my invention,

Figure 2, a side elevation,

Figure 3, a view taken on a line 3—3 of Figure 1,

Figure 4, a transverse section taken on line 4—4, Figure 1, and

Figure 5, a perspective of the tool holder.

In the drawings, reference character 10 indicates a head having an integrally formed shank 11 adapted to be engaged by the machine in which the device is detachably carried. The head 10 is provided with a transverse tapered slot at its front end which forms a pair of opposed projecting members 12 between which is adapted to be inserted the end of a rod not shown, which is adapted to be operated upon. The head 10 tapers to the forward extremities of each of the members 12 on the top and bottom of the same, and said head is provided with a slot 13 disposed at right angles to the members 12 for the reception of the floating tool holder 14, shown in Figure 5. This floating tool holder is recessed or slotted in the center to provide side members 15 and 16, having tapered inner edges, said side members being also provided with recesses for the reception of loosely mounted, or floating, cutters 17 and 18, which are held in place by screws 19. The heads of the screws 19 are located in transverse depressions or recesses 20 in the side members 15 and 16, such depressions 20 being slightly elongated to permit a slight sliding movement of the cutters. Adjusting screws 21 are threaded through the back of the members 15 and 16 for engaging the rear edge of the cutters for holding them in proper adjusted position. The holder 14 is provided with a tapered opening 22 for the reception of a screw 23 for holding the member 14 in position in the head 10, said screw having a tapered portion 24 for cooperation with the tapered opening 22 for holding the parts in the proper assembled relation, said screw having its reduced portion threaded into one side of the head as shown. With the above construction the cutters 17 and 18 are maintained in the proper fixed spaced relation by their holder, which is permitted to slightly pivot on its holding screw 23 to thus perform accurately the operation of cutting the work to the proper size.

It will be understood from the above that I have provided a head, the shank of which is adapted to be firmly secured in a rotating support, and between the opposed members 12 is adapted to be inserted the extremity of a rod which is intended to be cut to three different diameters the smaller of which is adapted to be threaded. In order to form the cutting operation accurately no matter if the parts are slightly out of alignment the cutters are carried in fixed relation in the transverse member 14 which may rock on the screw 23 as a pivot which screw extends through the tapered opening 22, the cutters being of course adjustable toward and from each other as described, for varying the diameters cut, the inner portion of the member 22 serving as a stop for terminating the cutting operation.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention, and I, therefore, do not limit myself to what is shown in the drawings and described in the specification, but only as set forth in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a device of the class described the combination of a head adapted to be mounted on a rotary support said head having a work receiving recess, an opening through the head disposed transversely of the work receiving recess, a cutter holder pivotally disposed in said transverse recess and adapted to move about its pivot in order to conform to the work and forming opposed jaws on opposite sides of the work, and cutters pivoted in opposed relation on said jaws of the cutter holder said cutters having inwardly extending cutting edges, substantially as set forth.

2. The combination of a cutter head adapted to be mounted in a rotary support said head being formed with a recess for receiving the work operated upon, an opening through the head substantially at right angles to the work receiving recess for accommodating a

floating cutter holder, a cutter holder pivoted in said opening movable about its pivot in order to conform to the work said cutter holder having a work receiving recess and inwardly projecting opposed cutters carried by the cutter holder on opposite sides of the recess for operating upon the exterior of work presented in said recesses, substantially as set forth.

3. The combination of a cutter head adapted to be mounted in a rotary support said head being formed with a recess for receiving the work operated upon, an opening through the head substantially at right angles to the work receiving recess for accommodating a floating cutter holder, a cutter holder pivoted in said opening movable about its pivot in order to conform to the work said cutter holder having a work receiving recess and inwardly projecting opposed cutters carried by the cutter holder on opposite sides of the recess for operating upon the exterior of work presented in said recesses, said cutters being provided with stepped cutting portions, substantially as set forth.

4. The combination of a cutter head, a cutter holder carried by said head and pivoted to swing in a plane passing through the axis of the head said holder being provided with a centrally disposed tapered opening located forwardly of its pivot, forming jaws for disposal on opposite sides of the work said jaws being provided with recesses disposed on opposite faces of the holder, and opposed cutters disposed in said recesses and provided with stepped cutting portions, the bottom of the recess between the opposed jaws being adapted to limit the movement of the work between the cutting portions, substantially as set forth.

In witness whereof, I have hereunto set my hand at Racine, Wisconsin, this 23rd day of April, A. D. nineteen hundred and twenty-eight.

GUSTAVE J. DRAEGER.