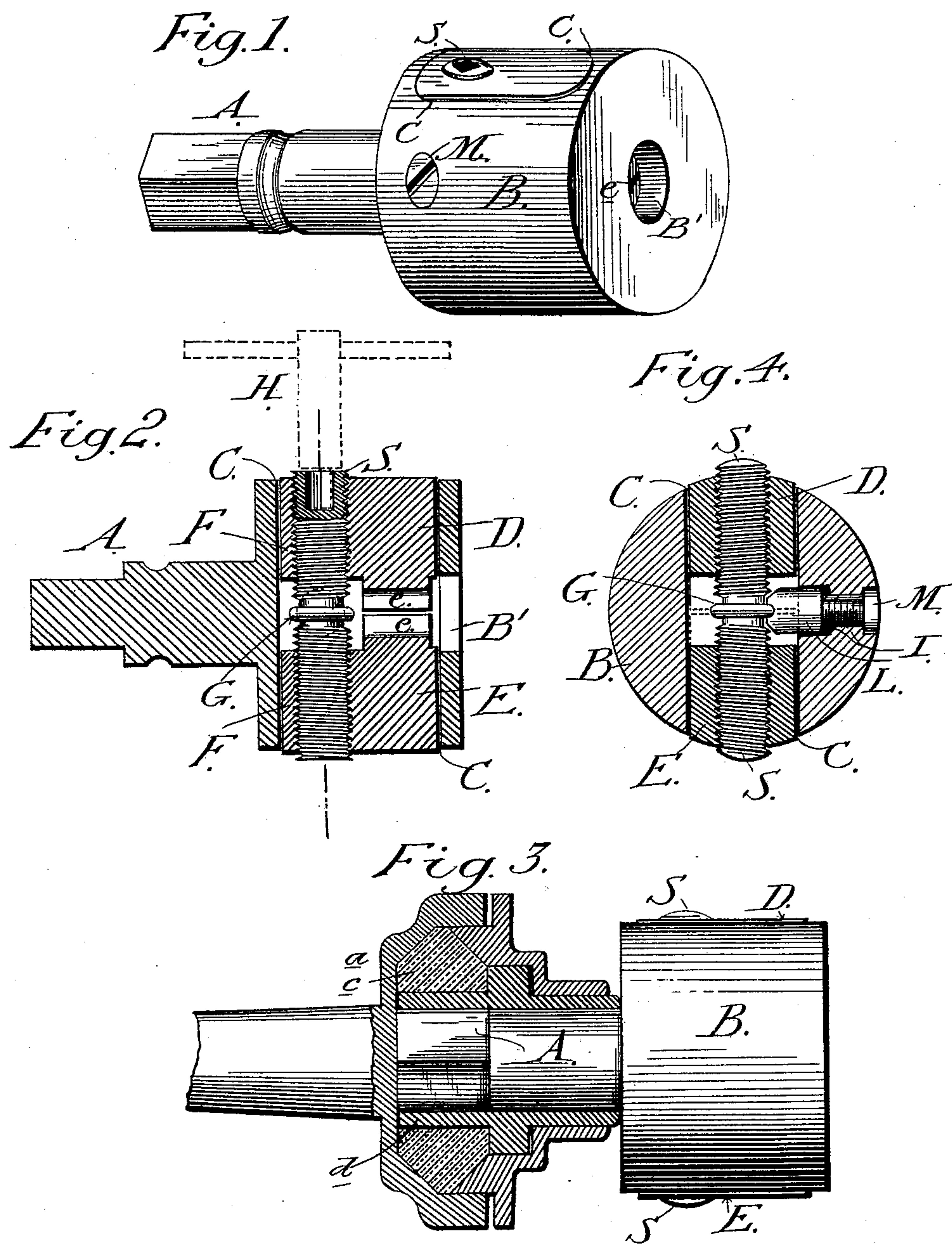


(No Model.)

W. G. NELSON.
TAP HOLDER.

No. 500,291.

Patented June 27, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM G. NELSON, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF
TO ALFRED A. FISHER, OF SAME PLACE.

TAP-HOLDER.

SPECIFICATION forming part of Letters Patent No. 500,291, dated June 27, 1893.

Application filed December 20, 1892. Serial No. 455,798. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. NELSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Tap-Holders; 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 ap-
10 pertains to make and use the same.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1, is a perspective view of my improved tap holder. Fig. 2, is a longitudinal sectional view of the same. Fig. 3, is a part elevation and part sectional view showing the tap holder attached to a chuck. Fig. 4, is a transverse sectional view on the line $x-x$ of Fig. 2.

20 My invention relates to means for securely holding taps and tools of a similar nature, and it consists of the constructions and combinations of devices which I shall hereinafter fully describe and claim.

25 In carrying out my invention I prefer to use it in connection with the form of chuck described and claimed in a former application filed by me August 12, 1892, Serial No. 442,924, in which the inner end of the drive spindle is
30 provided with an enlarged head a suitably recessed to receive the inner end of the chuck; which latter has a friction piece c , and is made preferably of hard rubber, paper or fibrous material secured to the squared-end of the
35 socket-piece, and having edges beveled or V-shaped in cross section and adapted to be frictionally held against corresponding seats on the two main parts of the chuck; the two parts being united in a manner similar to
40 what is disclosed in said former application. Into the socket-piece d of said head a the square stem or shank A of the body portion of the present tap holder is adapted to be inserted, said shank having at its outer end an
45 enlarged head B with smooth and unbroken outer face, except that the central portion of it is pierced at B' to permit the insertion and withdrawal of the tap.

At points between the front and rear faces
50 of the head B an opening C is made through the head and opens through the walls thereof

in planes at right angles to the tap opening B' . This opening C is elongated and occupies the major portion of the head between its front and rear faces, but it terminates 55 short of said faces whereby the outer face preserves its smooth unbroken appearance, and a longer seat is provided for the shank or stem of the tap. The opening has straight parallel side walls and rounded ends, and 60 within it the jaws D and E are inserted so that when the jaws are in their normal closed condition, with the tap removed, the outer top walls of the jaws are flush with the exterior sides of the head. The jaws correspond 65 with the shape of the opening C and the inner faces at one end are cut away or reduced to form the offsets or bearings F for the operating screw, and the portions of the inner faces of the jaws forward of these bearings or 70 offsets are formed with V-shaped grooves e adapted to securely grip the angular corners of the stem or shank of the inserted tap.

The operating screw S passes entirely through the rear portions of the jaws, is 75 threaded through the entire thickness of the extensions F of the jaws to form a long and strong bearing and it has at its middle portion the collar or flange G upon one side of which are right hand threads while upon the 80 opposite side are left hand threads, whereby when the screw is turned by means of a suitable tool such as H , the jaws close or open toward each other to adjust themselves to the size of the shank or stem of the inserted tap, 85 or to permit the latter to be removed.

Through one side of the body portion B , a hole I is made to intersect the opening C in a plane at right angles to its major axis and the axis of the screw, and within this open- 90 ing a bearing block L is inserted having a grooved inner face adapted to receive the collar or flange G ; and upon the back of this block L a screw M is adapted to bear to adjust the grooved face of the block against the 95 flange or collar G , to form a close bearing therewith and to be adjusted to take up any wear between the collar or flange and block. When the jaws are closed their reduced rear ends receive the inwardly projecting block L 100 which enables the jaws to close tightly without obstruction.

A tap holder of the form described and shown is very simple in its construction dispensing with all face grooving, and as the opening in which the jaws slide is made wholly within the exterior walls of the head, the jaws have a long and secure bearing and are prevented from being injuriously affected by any twisting movement applied to the point or front end of the tap. As the jaws are located wholly between the front and rear faces of the head, and the front face of the head which receives the tap is solid and closed, except for the center opening for the shank of the tap, it is evident the holder is made much stronger than if the jaws projected or were mounted in openings in said face, as in the former construction the liability of the head breaking at the points where it is weakened by said openings when a great strain is applied, (as when using a heavy tap) is reduced to a minimum.

Having thus described my invention, what

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

The combination with a chuck having a friction piece provided with a socket piece, of a tap holder having a head portion, and a rearwardly extending stem or shank adapted to fit said socket piece, jaws movable in said head at points between its front and rear faces, a screw passing through said jaws and having right and left threads by which the jaws are operated, said screw having a collar or flange at its middle portion, and a block adjustably fitted in the head and engaging the collar or flange, substantially as herein described.

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

WILLIAM G. NELSON.

Witnesses:

S. M. TUTTLE,

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