No. 776,250 PATENTED NOV. 29, 1904.

J. X. MATHIEU & J. F. PULLAN.

ADJUSTABLE TOOL HOLDER.

APPLICATION FILED AUG. 27, 1904.

NO MODEL.

Fig. 1.

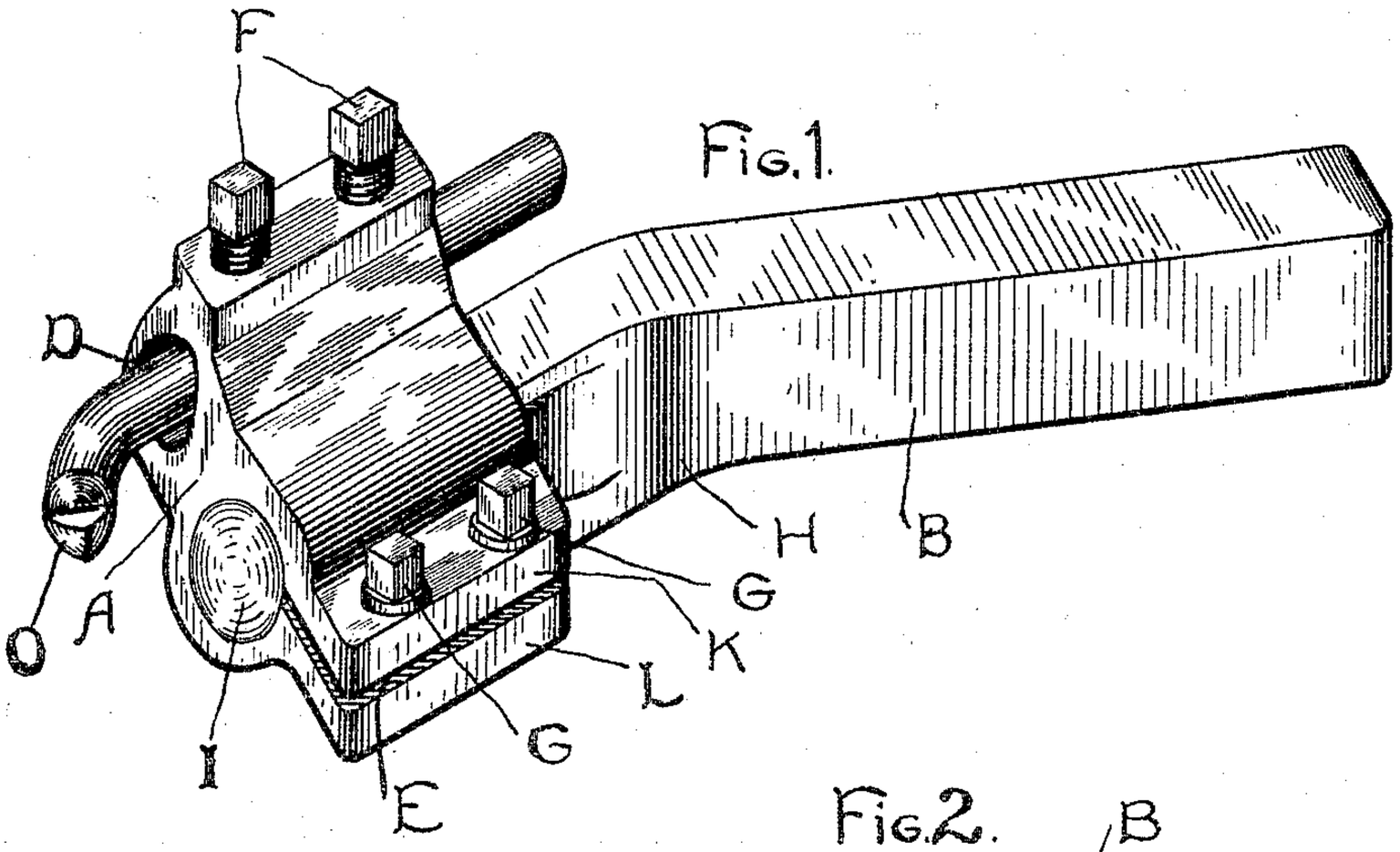


Fig. 2.

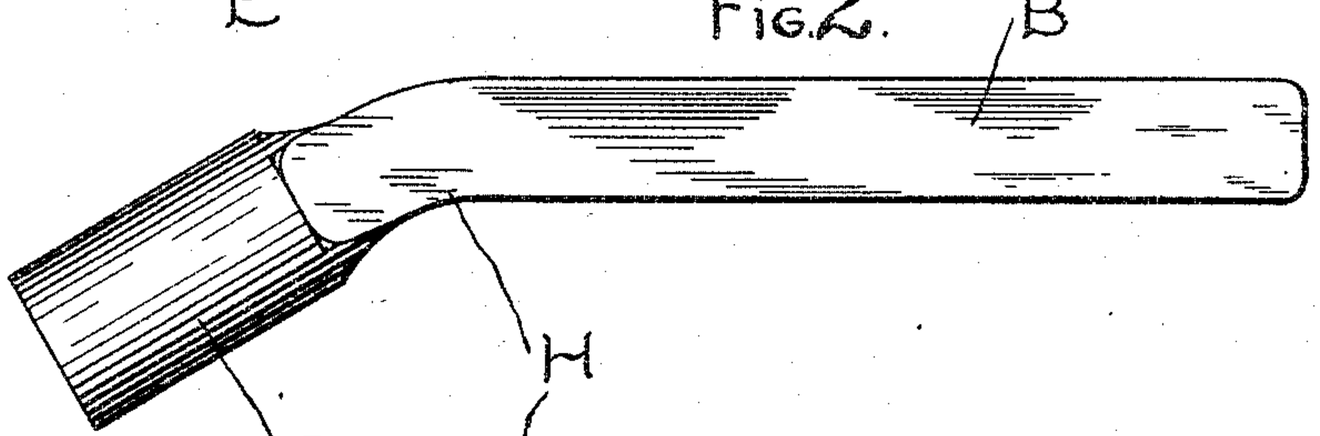


Fig. 3.

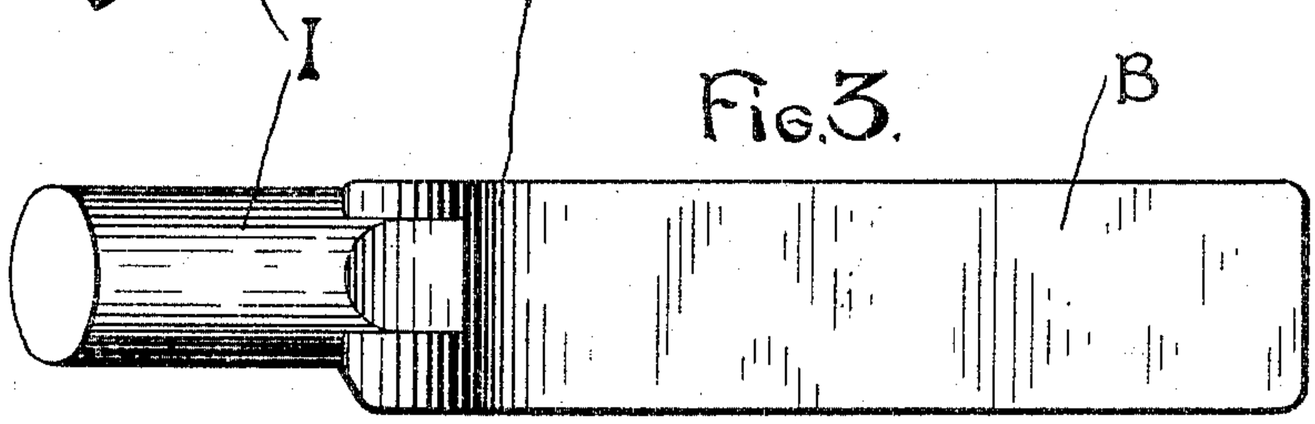
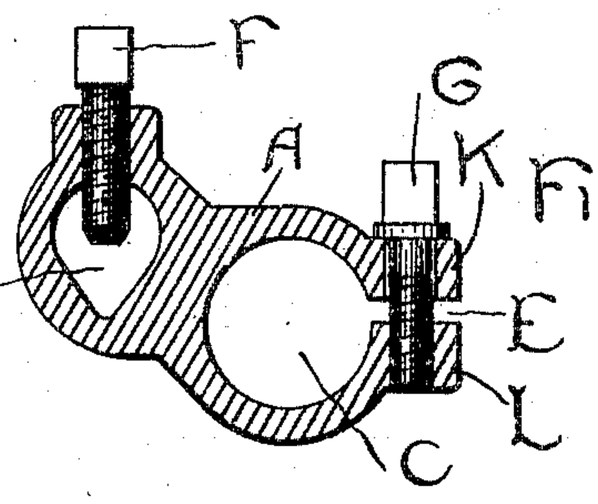


Fig. 4.



WITNESSES:

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No. 776,250. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH X. MATHIEU AND JAMES F. PULLAN, OF GREAT BARRINGTON, MASSACHUSETTS.

ADJUSTABLE TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 776,250, dated November 29, 1904.

Application filed August 27, 1904. Serial No. 222,443. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH X. MATHIEU and JAMES F. PULLAN, citizens of the United States, residing at Great Barrington, in the county of Berkshire and Commonwealth of Massachusetts, have jointly invented a new and useful Adjustable Tool-Holder, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to holders for metal-working tools, and more especially for such tools as are commonly employed in connection with turning or boring lathes.

The object of this invention is to provide a means for securely holding small steel cutters as a substitute for forged tools which may be readily and accurately adjusted by the peculiar mechanism thereof to any desired position or removed and replaced, thereby reducing the cost and inconveniences incident to forged tools and enabling those skilled in the art to work with greater facility and precision, and a further object of said invention being to provide a mechanism for holding small steel cutters, whereby the latter may be readily raised or lowered and properly adjusted to the desired point of application without thereby losing their horizontal position or necessitating a change of position of the holder in the tool-stock of the machine or lathe.

The invention comprises a shank and a head constructed as hereinafter described and is fully disclosed in the following specification, of which the accompanying drawings form a part; but it will be apparent that changes in and modifications of the construction as herein described may be made without departing from the spirit of our invention.

The separate parts of our improvement are designated by the same reference characters in each of the views of the accompanying drawings, of which—

Figure 1 is a perspective view of a tool-holder made according to our invention and showing a cutter in position as adapted to be carried by the holder. Fig. 2 is an edge view of the shank. Fig. 3 is a side view of the same, and Fig. 4 is a cross-sectional view of the head intersecting the apertures for the set-screws F and clamp-screws G.

In the construction of our invention we provide a tool-holder comprising a head A and a shank B. In the head A we provide a longitudinal opening C, as shown in Fig. 4, circular in form and extending through the full width of the head, and leading into said opening C from the lateral surface of the head we provide a slot E. Within said opening C is inserted one end I of the shank B. Said end of the shank B is made cylindrical in form and of a size corresponding to that of the opening C, so as to form a firm and rigid axis for the rotation thereon of the head A. By reason of said slot E the said opening C is normally expanded, and its contraction may be effected by means of the rotation of the clamp-screws G. The jaws K and L of the head A are coupled by two clamp-screws G, which are screw-threaded on their lower ends only, extending through apertures of smooth bore in the jaw K and engaging at their threaded ends with screw-threaded apertures in the jaw L. The head A is also provided with an additional longitudinal opening D, obovate in shape, of uniform size, and extending through the full width of the head, being parallel with said opening C. Said opening D is provided for the reception of the tool-shank, as indicated by the letter O, as shown in Fig. 1, either end of which is allowed to extend through the opening D beyond the body of the head. Said opening D is made obovate in shape, the apex or wedge-shaped portion thereof being directed downward, affording an adaptive basis for the tool-shank O to rest upon. Two set-screws F, screw-threaded throughout and adapted to engage with screw-threaded apertures in the head, are projected downward by rotation thereof into said last-mentioned opening D and upon the tool-shank O, inserted therein, compressing the same firmly in the wedge-shaped portion of said opening.

The shank B of the holder is made rectangular in shape and rounded at one end, I, which is projected into said opening C, and is

also bent centrally at the point H, by which latter device the extension, if any, of the tool-shank O, or that end thereof opposite the working end, beyond the body of the head will be thrown clear of the tool-stock of the lathe or machine to which said holder is adapted and the head A will be allowed to rotate without the interference of other parts of the holder.

The operation of our improved adjustable tool-holder is as follows: The cylindrical end I of the shank B is first inserted within the expanded opening C of the head A and firmly confined therein by the contraction of the jaws K and L, induced by the downward rotation of the clamp-screws G. The tool O is then inserted in the opening D and firmly secured in the apex thereof by the downward rotation of the set-screws F. The extended end of the shank B is then fastened in the tool stock or chuck of the lathe or machine to which said holder is adapted.

By means of the construction above described we provide a shank adjustment and a tool adjustment, each independent of the other. In practice the accurate adjustment is effected by the rotation of the head upon the shank and by the regulation of the projection of the tool-shank.

Having fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination in a holder for turning or boring lathe tools of a shank, B, bent centrally, a cylindrically-shaped end, I, to said shank B, adapted to engage with the head, A, a head, A, secured thereon, a clamping-recess, C, in said head adapted to receive said shank end, I, a slot, E, opening laterally into said clamping-recess, clamp-screws, G, adapted to engage with threaded apertures in said head, A, for contracting or expanding said clamping-recess, C, a wedge-shaped recess, D, in said head, A, adapted to receive the tool-shank, O, set-screws, F, adapted to engage with threaded apertures opening into said last-mentioned recess and by the downward rotation thereof to secure the tool-shank in said recess, all substantially as shown and described and for the purpose herein set forth.

2. In a tool-holder, the combination of a shank bent centrally, one end thereof being cylinder-shaped and adapted to engage with a head, a head provided with a circular clamping-recess adapted thereby to receive and revolve upon said shank end, and further provided with a longitudinal wedge-shaped recess adapted to receive and retain the tool shank or cutter, substantially as shown and for the purpose hereinbefore set forth.

3. A tool-holder, for cutting or boring lathe tools, consisting of a shank bent centrally having one end shaped in the form of a cylinder and adapted to engage with a head, a head having a longitudinal opening passing through it and adapted thereby to receive and revolve upon said shank end, a slot opening laterally into said opening in the head, clamp-screws passing transversely through said slot and adapted to engage with threaded apertures in said head for contracting or expanding said opening, a longitudinal wedge-shaped recess passing through said head and adapted to receive the tool-shank, and set-screws adapted to engage with screw-threaded apertures opening into said recess and by the downward rotation thereof to bear against the tool-shank, substantially as shown and for the purpose herein set forth and described.

In testimony that we claim the foregoing as our invention we have hereunto signed our names, in the presence of the subscribing witnesses, this 13th day of August, 1904.

JOSEPH X. MATHIEU.
JAMES F. PULLAN.

Witnesses as to the signature of Joseph X. Mathieu:

JAMES DACEY,
JULES DEUDREBY.

Witnesses as to the signature of James F. Pullan:

NEWELL L. GRAY,
EDWARD A. NEW.