G. W. COGSWELL.

Tool-Post for Lathes and Planers.

No. 211,378. Patented Jan. 14, 1879.

Fig. 1.

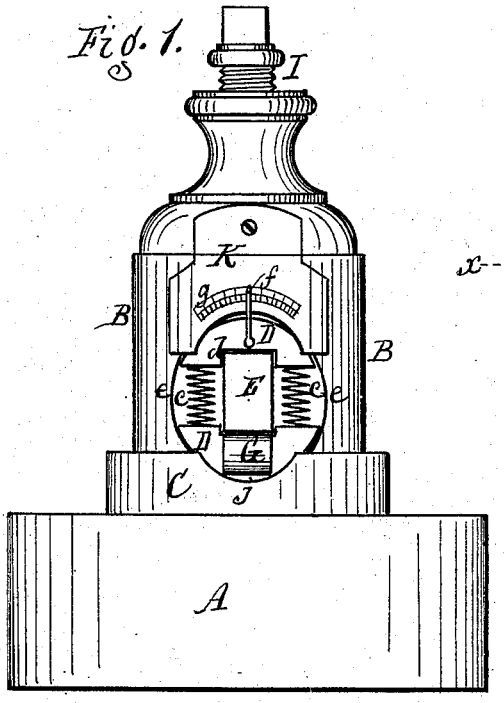



Fig. 2.

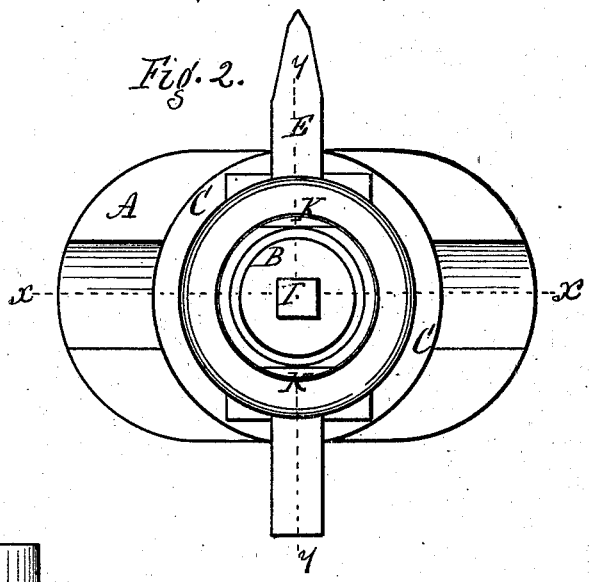



Fig. 3.

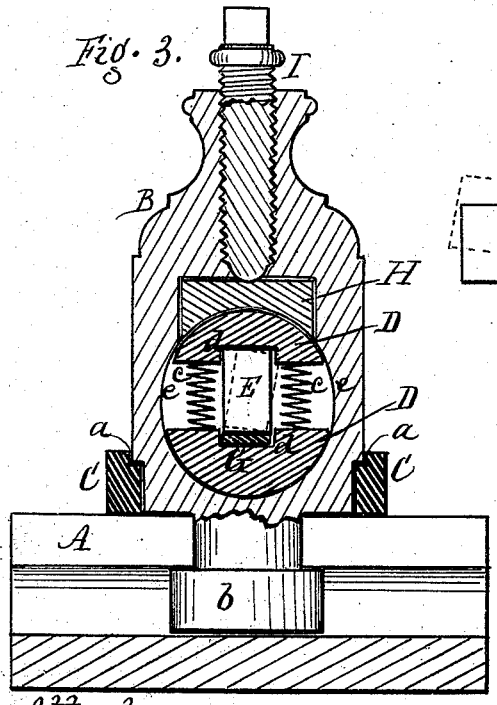
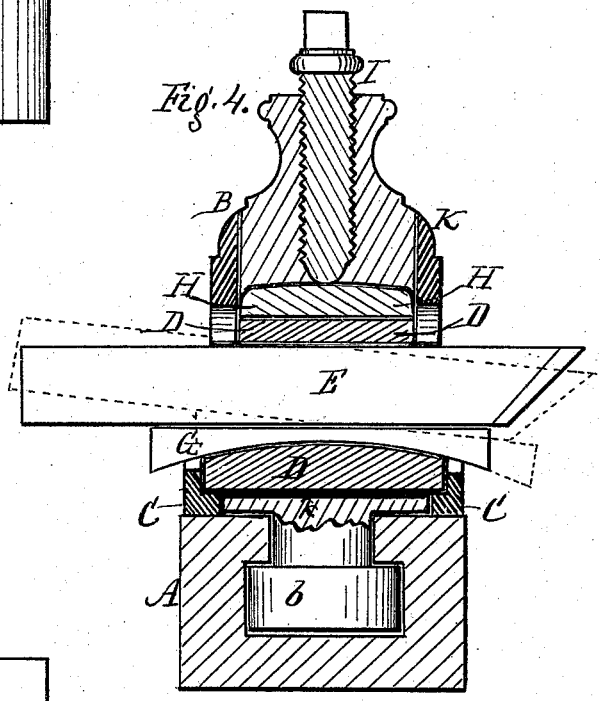



Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN TOOL-POSTS FOR LATHES AND PLANERS.

Specification forming part of Letters Patent No. **211,378**, dated January 14, 1879; application filed September 5, 1878.

*To all whom it may concern:*

Be it known that I, GEORGE W. COGSWELL, of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Tool-Posts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation. Fig. 2 is a plan. Fig. 3 is a section in line *x x* of Fig. 2. Fig. 4 is a section in line *y y*.

My improvement relates to tool-posts for turning-lathes and planers, and the design is to so construct the parts which hold the tool that the latter can be adjusted both vertically and axially to suit different kinds of work.

To this end the invention consists in the construction and arrangement of parts hereinafter more fully described.

A represents the stock, and B the post, which are connected together as usual. The post rests in a hollow ring, C, upon a shoulder, *a*, and the ring in turn rests on top of the stock. The post is held in the stock by a shoulder, *b*, which rests in a dovetail or T groove of the stock.

Through the body of the post is made a large oblong or elliptical opening, *e*, in which rest two jaws, D D, separated some distance apart, and having coiled or other springs *c c* between them, which constantly force them asunder, and cause them to bear against the top and bottom of the opening. In the contiguous faces of these jaws are formed grooves or sockets *d d*, which receive the tool E. The groove in the lower jaw is made convex or rounding upon its upper surface, and upon this rests a gib or key, G, which is correspondingly concave on its under side, fitting the convexity of its seat, and capable of being moved endwise, by which its top surface is adjustable from a horizontal to an angular position in either direction. Over the top of the upper jaw, and between it and the top of the opening through the post, rests a gib or follower, H, and on top of this rests the clamping-screw I, which extends through the top of the post, and is operated by a suitable wrench or by hand.

In cross-section the jaws D D are circular, to fit the circular opening in which they rest; and the inner surface of the gib H is correspondingly concave, to receive the upper jaw, and allow the latter to turn, while itself is stationary. By this means the two jaws, with the tool between them, may be turned axially to any position to suit the lead of the work, and then be clamped by turning down the set-screw. This may be done either to the right or left, and a pointer, *f*, resting over a scale, *g*, on the outside of the post, may be used to indicate the degree of adjustment.

The gib H simply moves up and down in a square offset of the circular opening through the post.

In longitudinal section the top of the upper jaw and bottom of the lower jaw are straight; but the top of the gib or follower H has a degree of convexity, as shown in Fig. 4, to allow the angular adjustment of the tool in a vertical direction by the movement of the gib G endwise, as before described. The ends of the gib H and the upper jaw, D, are also slightly rounded off under the cap K for the same purpose. Two of the caps K are used, one on each side, secured by a screw or otherwise, so as to be removable. They cover the ends of the gib H and a portion of the ends of the upper jaw, to keep them in place. When taken off they allow said parts to be removed.

The ends of the lower jaw are elongated or extended, so as to rest over the flange of the ring C and in notches or cavities *j j* of the same, abutting against the shoulder *a*, which keeps them in place; and a space, *k*, is taken out of the post below the jaw, to allow the post to draw up to tighten to the stock when pressure is applied upon the screw.

To secure the tool between the jaws the screw I is simply turned down, which has the effect, in addition thereto, of drawing the post up to clamp the shoulder *b* against the flange of the groove in the stock. This is accomplished by the resting of the lower jaw, D, on the ring C and the leaving of the space *k*, as above described, in which case ring C acts as a fulcrum under the strain of the screw.

For ordinary straight work the tool may be placed in the vertical position indicated. When

it is desired to turn the tool to angular work, such as cutting threads, &c., the screw is turned back to relieve the jaws, and the jaws, together with the tool between them, can be turned either to the right or left to the proper lead, and then be tightened again. The concave follower H allows this to be done, and holds the tool at any necessary angle so tight and firm that it cannot get out of place. The springs between the jaws relieve the tool when it is desired to remove the same.

For inside work and for other purposes, the tool may be set at an angle vertically, either up or down, as indicated by dotted lines, Fig. 4, by simply moving the gib G forward or backward over the convex surface of the lower jaw, the curved top of the upper jaw allowing it to be done readily.

A great variety of adjustments are thus produced, which adapts the device to many uses, both in lathes and planers. The great facility for inserting and removing the tool and the great power with which it is clamped in all positions render it superior to the ordinary post, where the tool is held simply by the biting of the set-screw thereon. The indicator *f* and scale *g*, in addition to serving as a gage in setting the tool, is convenient in replacing the tool in the same position when removed for grinding or repairs.

Having thus described my invention, I claim—

1. In a tool-post such as described, the combination of the post B, provided with the circular socket *e*, the clamping-jaws D D, made circular to fit and turn in the said socket and provided with the reacting springs *c c*, and the follower H, provided with a concave face to receive the upper jaw, as shown and described, and for the purpose specified.

2. In a tool-post such as described, the combination of the two clamping-jaws D D, the follower H, made convex at the top, and the gib G, made concave on its under side, fitting a corresponding convex surface of the lower jaw, the whole arranged as described, so as to produce vertical adjustment of the tool by drawing said gib out endwise, as specified.

3. In a tool-post such as described, the combination of the jaws D D, the springs *c c*, the follower H, gib G, and ring C, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in presence of two subscribing witnesses.

GEO. W. COGSWELL.

Witnesses:
R. F. OSGOOD,
J. H. GREEN.