

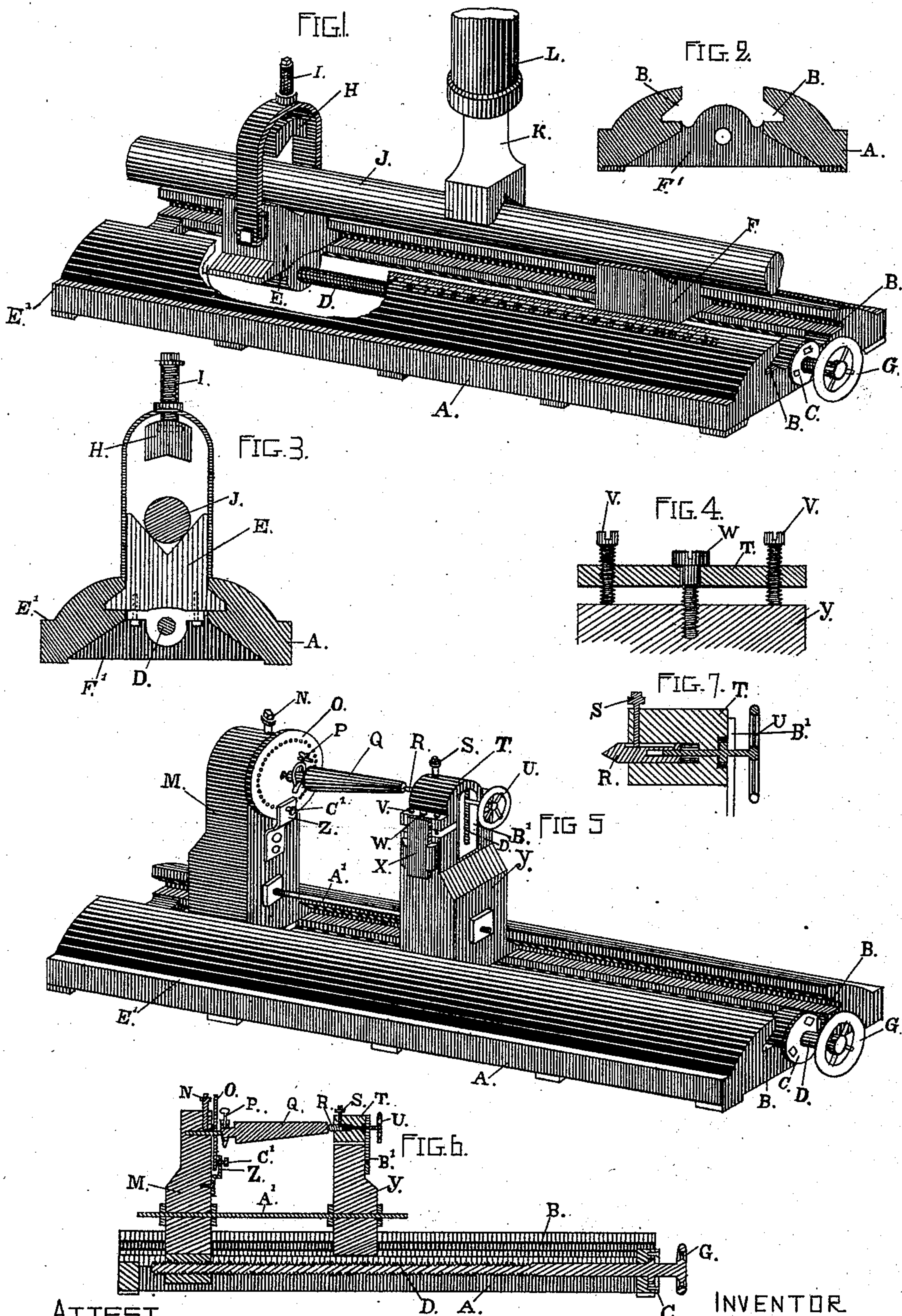
(No Model.)

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SUPPLEMENTAL BED PLATE, CENTERING DEVICE, AND WORK HOLDER  
FOR DRILLING OR SLOTTING MACHINES.

No. 355,679.

Patented Jan. 11, 1887.



ATTEST  
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# UNITED STATES PATENT OFFICE.

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SUPPLEMENTAL BED-PLATE, CENTERING DEVICE, AND WORK-HOLDER FOR DRILLING OR SLOTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 355,679, dated January 11, 1887.

Application filed October 1, 1886. Serial No. 215,063. (No model.)

*To all whom it may concern:*

Be it known that I, ADOLPH F. BREWER, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented a new and useful Combined Adjustable Bed-Plate Guide with Upper and Under Shaft-Centering V-Blocks for Drill-Presses, of which the following is a specification.

My invention relates to combined bed-plate guide-block with centering V-blocks for centering shafts and drilling the same, and head-blocks for milling and working tapering tools. It will be readily understood by reference to the accompanying drawings and the letters referring thereto.

Figure 1 is a perspective view showing a shaft centered in position to be clamped and held in line for working, as will be fully explained. A part is broken out to show the feed-screw attachment with the V-block. Fig. 2 is a cross-section cut through the center of the guide-block, designed to show the form of the same. Fig. 3 is a cross-section of the same as Fig. 2, with the clamping V-block in position for clamping a shaft. Fig. 4 is a cross-section showing the arrangement for the adjustment of the head-block. Fig. 5 is a perspective view showing the head-blocks with a tapering tool or tap in position to be milled. Fig. 6 is a longitudinal section of Fig. 5 upon a reduced scale. Fig. 7 is a longitudinal section of the back head-block cut through the back center.

The following is a description of the construction and operation of the device. The metal employed is similar to that employed in the manufacture of that class of construction.

A represents the main frame forming the body of the guide-block.

B represents the guide-grooves of the guide-block.

C represents the end piece in which the feed-screw operates.

D represents the feed-screw.

E represents the clamping V-block.

F represents the rear V-block.

G represents the hand-wheel for the feed-screw.

H represents the upper V-block for co-operating with the clamping V-block.

I represents the clamping set-screw.

J represents the shaft as it is centered in the lathe.

K represents the clamping-block of a drill-mandrel.

L represents the drill-mandrel.

In Fig. 5, M represents the head-block. N represents the set-screw for the mandrel of the face-plate. O represents the gage face-plate. P represents the dog. Q represents the taper tool. R represents the tail-block mandrel. S represents the set-screw. T represents the adjustable bearing-block on the tail-block. U represents the hand-wheel for adjusting the mandrel; V, the adjusting-screws; W, the raising and lowering set-screw. X represents the guide on the tail-block. Y represents the tail-block. Z represents the bent standard or frame for the set-point; C', the set-point for the face-plate. A' represents the rod which connects the head and tail block, (shown in Figs. 5 and 6;) B', the guide-plate; D', the guide-groove in the guide-plate; E', the ledge designed to receive the clamping bar or hook for clamping the guide-block A to the plate of the machine with which it is used. F' represents the chip-chamber.

I sometimes employ two clamping V-blocks for holding the shaft in position while drilling; but for ordinary work one is sufficient, as shown in Fig. 1.

When drilling a shaft, I place it in the position shown in Fig. 1, bringing the drill-mandrel L down so that V-block K brings the center of the shaft J directly under the center of the mandrel L. I then clamp the guide-block A firmly to the bed-plate of the drill, and as each hole is drilled I move the clamping V-block E forward until the distance which is drilled is sufficient to form the required slot; or, where a slot or groove is required to be finished at a single operation, the clamping V-block E is fed regularly along by the feed-screw D. As the feed-screw draws the shaft perfectly in line with its axis and insures the perfect line of the cut and forms a smooth slot or groove, it is finished at a single cut of the



milling-tool. When the cutting-edges of a tool are to be formed, I place the head-block M and tail-block Y in the guide-block and support the tool between the head and tail centers, as shown in Fig. 5. I raise the bearing-block T of the tail-block until the upper line of the tool Q is brought to a position parallel with the guide-grooves of the block A by means of the raising and lowering screw W. I then set the bearing-block T fast, and perfectly adjust the same by means of the adjusting-screws V.

Any tool or article to be worked must be centered by the same means as the shaft J—that is to say, by bringing the V-block K down upon the same and setting it perfectly under the center of the mandrel. Then the feed-screw D being operated insures a perfectly-longitudinal movement corresponding with the line of the guide-grooves B, and the tool is cut in a line parallel with the same; or by revolving the tool Q at a regular rate of speed a spiral groove or cut may be formed. The chip-chamber F' is of sufficient capacity to hold all the chips or borings liable to result from any ordinary job of cutting, milling, or boring in working a single piece of shafting, a tool, or other article. It is formed by simply hollowing out the under side of the block A, without impairing the strength of the same.

I do not confine myself to the exact form of

construction, as the form may be changed without changing the principle of the invention; but

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

1. In guide-blocks for drill-presses, the guide-block A, having the guide-grooves B and feed-screw D, in combination with the V set-blocks E and the V-block F, to operate in connection with the mandrel L, for the purpose of centering the shaft J and feeding the same so as to cut a true longitudinal slot, constructed and operated substantially as and for the purposes set forth.

2. The guide-block A, having the guide-grooves B, in combination with the V-blocks E and F, for the purpose of centering a shaft under a drill-mandrel, constructed and operated substantially as and for the purposes set forth.

3. The guide-block A, having the guide-grooves B and the feed-screw D, in combination with the head-block M, having the gage face-plate O, and the tail-block Y, with the adjustable journal-box or head T, for the purpose of working tapering pieces of metal, constructed and operated substantially as and for the purposes set forth.

ADOLPH F. BREWER.

Witnesses:

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