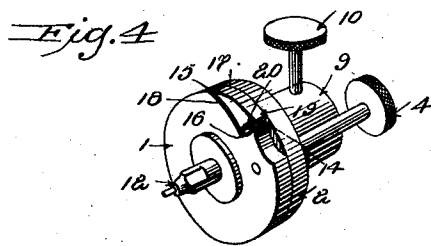
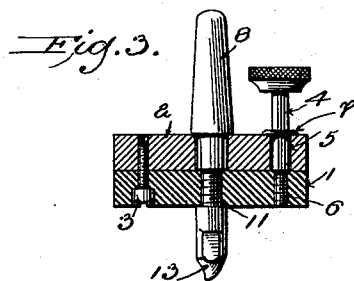
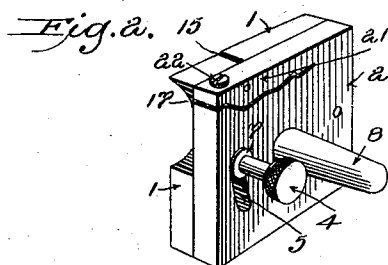
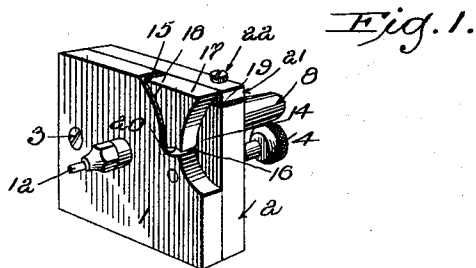


(No Model.)

J. J. JOHNSTON.
JEWEL SETTER.

No. 506,697.

Patented Oct. 17, 1893.



Inventor

Witnesses

Arthur Ashley
J. J. Johnston

By his Attorneys.

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UNITED STATES PATENT OFFICE.

JOHN J. JOHNSTON, OF PITTSFIELD, ILLINOIS.

JEWEL-SETTER.

SPECIFICATION forming part of Letters Patent No. 506,697, dated October 17, 1893.

Application filed June 16, 1893. Serial No. 477,845. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. JOHNSTON, a citizen of the United States, residing at Pittsfield, in the county of Pike and State of Illinois, have invented a new and useful Jewel-Setter, of which the following is a specification.

My invention relates to jewel setting devices, and has for its object to provide means whereby the drill or cutter can be positively set to form a seat corresponding in size to a given jewel whereby all necessity for experiment in fitting a jewel is avoided.

A further object of my invention is to provide simple and efficient means for adjusting the parts of the device to compensate for loss of material and irregularity in sharpening the drill or cutter.

Further objects and advantages of my invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings—Figure 1 is a perspective view of a jewel setter embodying my invention. Fig. 2 is a similar view showing the rear of the device. Fig. 3 is a sectional view thereof. Fig. 4 is a view of a slightly modified form of the setter in which the jaws are circular and in which the tubular socket is provided for attachment to a tail stock-spindle.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The improved setting device comprises, essentially, the pivotally-connected relatively-adjustable caliper jaws 1 and 2, which are connected for angular adjustment by means of a pivot-screw 3 and a set-screw 4, the latter extending through a curved slot 5 in the jaw 2, engaging a threaded perforation 6 in the jaw 1, and having a shoulder 7 to bear upon the surface of said jaw 2. Fixed permanently to the rear side of the jaw 2 is a central perpendicularly-disposed stem 8 which, in the drawings, is shown slightly tapered to fit in a socket in a tail stock-spindle. In Fig. 4 is shown a tubular socket 9 to engage said stock-spindle, this socket being provided with a setting-screw 10.

The face jaw 1 is provided with a central socket 11 adapted to receive the cutting or

burnishing tools 12 and 13, the former being shown in Fig. 1 and the latter in Fig. 3. Said face jaw is cut away at one of its outer angles remote from the pivotal point of the jaw to form an angular recess 14 having a curved face or side 15 which is concentric with said pivotal point, and an angularly-disposed concave face 16 which is arranged in alignment with the center of the socket for the cutting or burnishing tools.

The jaw 2 is provided, upon its front surface and lying within the recess of the jaw 1, with a gage-plate 17 having a concave shoulder 18 to fit the convex face of the recess in the jaw 1, and the radially-disposed face 19 to agree with the concave face on the jaw 1. Said corresponding radially-disposed faces are slightly notched, as shown at 20, to receive a jewel.

When the jaws are in registration, as shown in Fig. 1, the cutter is located exactly at the center and in alignment with the axis of rotation, and the interval between the radially-disposed faces of the jaws is sufficient to receive a jewel of a size which will fit in a seat such as will be formed by the cutter rotating upon its axis. If, however, a larger jewel is to be set, the set-screw is loosened sufficiently to enable the jaws to be relatively adjusted whereby the jewel may lie between the radially-disposed faces, as described. When the adjustment is accurately accomplished the set-screw is again tightened and the jaws are locked together in the deflected position necessitated by the separation of the faces. This relative deflection of the jaws throws the cutter slightly out of alignment with the axis of rotation, the amount of deflection being proportionate to the size of jewel which has been gaged.

From the above description it will be understood that the seat is gaged and cut according to the size of the jewel which is to be arranged therein, and hence all supplemental fitting is avoided.

In order to compensate for irregular dressing of the cutting tool, the wearing of the parts, &c., I have provided adjusting devices to regulate the position of said cutting tool with relation to the spindle or axis of rotation, and such devices consist, essentially, of an adjustable arm 21 which may be formed in-

tegral with the jaw 2, as shown in the drawings, or may be secured thereto in any preferred manner, the gage-plate 17 being secured to the free end of this arm, and an adjusting screw 22 which is fitted in a perforation near the extremity of the arm and engages the body of the jaw 2. By means of this adjusting screw the free end of the arm 21 can be moved toward and from the jaw at will, thus regulating the position of the gage-plate. Thus, if in sharpening the cutting tool its point is turned slightly to one side the adjusting screw may be turned to bring the gage-plate in such a position that it will check the swinging movement of the jaw 1 when the tip of the cutter is in alignment with the axis of rotation.

In Fig. 4 I have shown a slightly modified form of setter, involving the same principle in a somewhat simpler form, in that the means for adjusting the gage-plate are omitted.

It will be noted that in Figs. 1, 2 and 3, the caliper jaws are shown angular in shape while in Fig. 4 they are shown circular, but it will be understood that the shape of the jaws is immaterial to my invention and may be varied as may be desired.

The manner of using the improved tool will be readily understood without a detailed description inasmuch as it is common to drill seats for jewels.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of my invention.

Having described my invention, what I claim is—

1. In a jewel setter, the combination of pivotally connected caliper jaws, 1 and 2 provided respectively with a tool socket and means for attachment to a stock-spindle, the pivotal point being eccentric with the tool-socket, and the jaw 1 being provided with a shoulder 16, a spring actuated gage-plate carried by the jaw 2 and having an extension which overlaps the jaw and terminates adjacent to the shoulder 16, whereby the jaw 2 closes one side of the interval between said shoulder and the gage-plate, and adjusting devices for said gage-plate, substantially as specified.

2. In a jewel setter, the combination of the pivotally connected jaws provided, respectively, with a tool socket and means for attachment to a stock-spindle, a gage-plate, an arm connecting said gage-plate to one of the jaws, and an adjusting screw engaging said arm, the gage-plate co-acting with an opposing face of the other jaw, substantially as specified.

3. In a jewel setter, the combination of a jaw provided with means for attachment to a stock-spindle, an adjustable gage-plate fixed to said jaw, a tool bearing jaw pivotally connected to the first named jaw and provided with a beveled face to co-act with said gage-plate, and locking devices to adjust the free ends of the jaws, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN J. JOHNSTON.

Witnesses:

JAS. OGDEN,
W. H. JOHNSTON.