

(No Model.)

2 Sheets—Sheet 1.

I. STRATTON & J. K. ROBERTS.
CENTERING TOOL.

No. 589,872.

Patented Sept. 14, 1897.

FIG. 1.

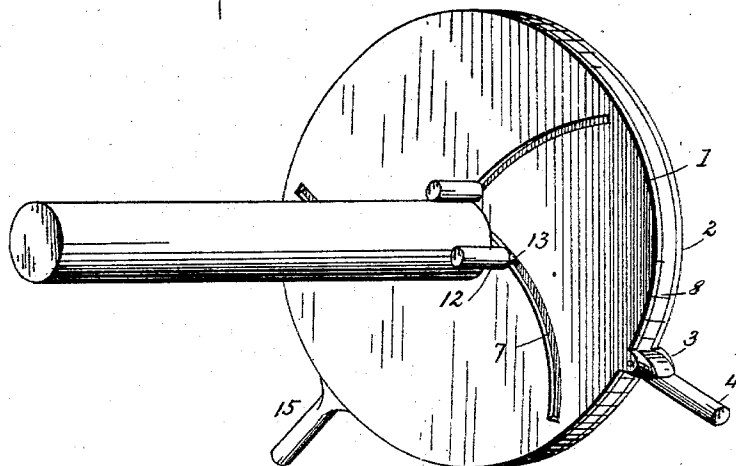
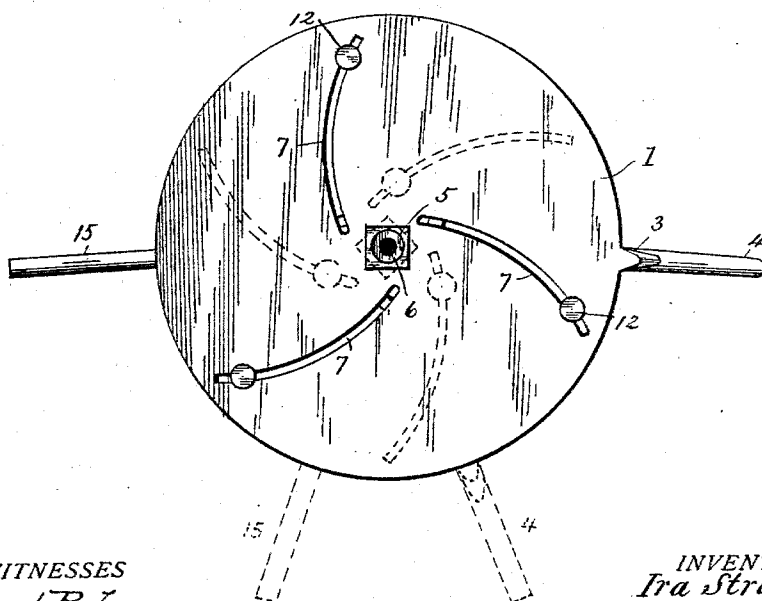


FIG. 2.



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FIG. 3.

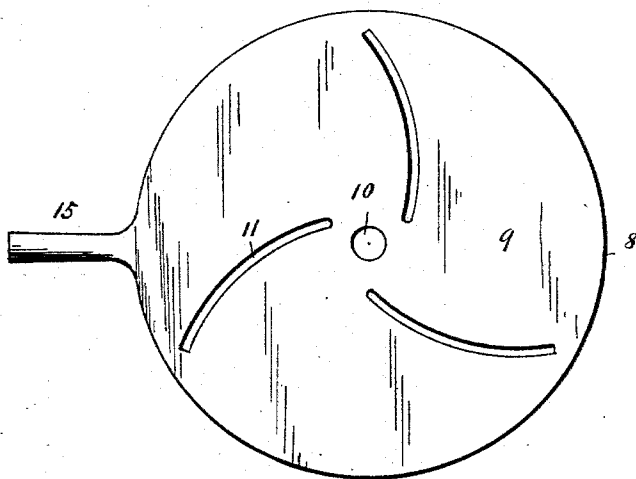


FIG. 4.

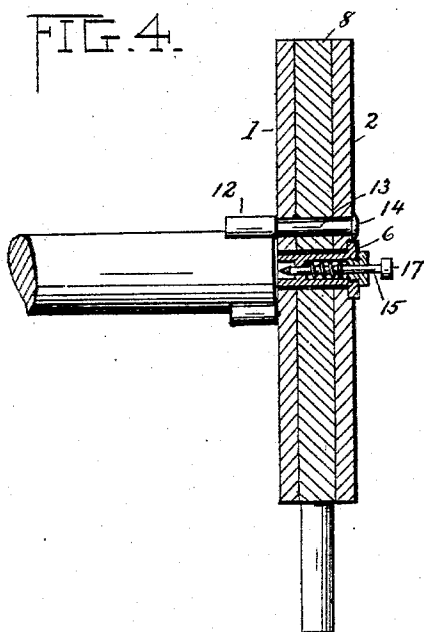
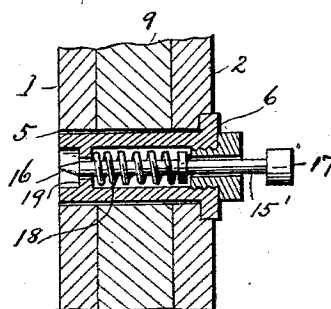


FIG. 5.



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UNITED STATES PATENT OFFICE.

IRA STRATTON AND JAMES K. ROBERTS, OF BEATTYVILLE, KENTUCKY.

CENTERING-TOOL.

SPECIFICATION forming part of Letters Patent No. 589,872, dated September 14, 1897.

Application filed January 23, 1897. Serial No. 620,366. (No model.)

To all whom it may concern:

Be it known that we, IRA STRATTON and JAMES K. ROBERTS, citizens of the United States, residing at Beattyville, in the county of Lee and State of Kentucky, have invented certain new and useful Improvements in Centering-Tools; and we 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 appertains to make and use the same.

Our invention relates to improvements in shaft-centering devices, and has for its object the production of a simple, durable, and highly-efficient centering-tool by means of which the exact center of a shaft or the like can be ascertained with accuracy and despatch.

To the accomplishment of this and other objects our invention consists in providing a plurality of relatively-movable disks having radial slots curved in opposite directions, through which project a plurality of shaft-centering jaws movable toward and from the center of the centering-tool by the movement of the disks and the employment of means for ascertaining and marking the shaft-center.

Referring to the drawings, Figure 1 is a perspective view of our device as applied to the end of a shaft. Fig. 2 is an elevation of the device, showing the shaft-centering jaws at one extremity of the slots and showing the jaws at the inner extremity of the slots in dotted lines. Fig. 3 is a detail view of the jaw-actuating disk. Fig. 4 is a central transverse section of Fig. 1. Fig. 5 is a detail sectional view of the centering-plunger and its casing.

Referring to the numerals of the drawings, 1 and 2 indicate a pair of disks retained in parallel relation at a suitable distance apart by means of one or more brackets or lugs 3, projecting from their peripheries, one of which is preferably provided with a suitable handle 4. The disks 1 and 2 are provided, respectively, with axial apertures 5, designed to receive a centering-plunger casing 6, and with a plurality of correlative curved slots 7, disposed substantially tangentially with respect to the apertures 5, or the slots 7 may be disposed radially with respect to the axes of the disks.

The elements described constitute what we

shall term a "centering member," designed to coöperate with a second centering member in a manner to be described for the purpose of actuating a plurality of shaft-centering jaws.

8 indicates the second shaft-centering member, which consists of a disk 9 intermediate the disks 1 and 2, provided with an axial aperture 10 correlative with the apertures 5 of the disks 1 and 2 and likewise designed for the reception of the casing 6, upon which it revolves. The disk 9 is provided with a plurality of curved slots 11, similar in all respects to the slots 7, but disposed in the opposite direction, whereby when the disk 9 is rotated between the disks 1 and 2 the points of intersection of the slots 7 and 11 will gradually approach or recede from the inner ends of the slots for the purpose of causing the shaft-centering jaws 12, provided with reduced spindles 13, passing through the apertures 7 and 11 in the three disks, to move in the same degree toward or from the center of the tool.

The extremities of the spindles 13 opposite the jaws 12 are preferably provided with caps 14, designed to impinge against the outer surface of the disk 2 and designed to retain the jaws within the slots.

15 indicates a handle projecting from the periphery of the disk 9 for the purpose of rotating it upon the casing 6 for the purpose of causing the jaws 12 to approach the center and clamp the periphery of the shaft to be centered. It will be observed that by this means the shaft is secured directly concentric with the axis of the centering-tool, and for the purpose of ascertaining and marking the exact center of the end of the shaft we provide a center-indicating plunger 15', provided with a pointed end 16 and with a head 17. A spring 18, surrounding the plunger, is provided in the casing and impinges against a shoulder 19 upon the former, serving to retain said plunger in its normal position. When, however, the shaft has been centered by the centering-jaws, the plunger 15' is forced in the direction of the shaft by a blow upon the head 17 or by any other means, and its pointed end 16 will mark the exact center or axial line of the shaft.

The operation of our device is as follows: The operator by grasping the handles 4 and

15 causes the centering members to be rotated with respect to each other, causing the centering-jaws to be separated in the manner described. The tool is now placed against the
5 extremity of the shaft to be centered and the centering members are again rotated in the opposite direction to bring the centering-jaws against the periphery of the shaft and causing the centering-tool to assume a position
10 concentric to said shaft. The center-indicating plunger is now actuated in the manner described and its pointed end will leave a minute mark, indicating the exact center of the shaft.

15 We do not desire to limit ourselves to the details of construction herein shown and described, but reserve to ourselves the right to change, vary, or modify them at will within the scope of our invention.

20 What we claim is—

1. The combination, with a plurality of disks united by peripheral brackets and provided with correlative substantially radial curved slots, of a disk intermediate the disk afore-
25 said and provided with substantially radial slots curved in the direction opposite the curvature of the slots in the first-named disks, shaft-centering jaws provided with spindles

passing through the slots in the several disks, and a spring-actuated center-indicating plunger disposed axially with respect to the disks, substantially as specified. 30

2. The combination, with a pair of disks in fixed relation and provided with correlative curved slots and with a handle, of a plunger-casing located axially with respect to said
35 disks, an intermediate disk revoluble upon said casing and provided with slots curved in a direction opposite to the curvature in said first-named disks and with a handle, shaft-centering jaws provided with reduced spin-
40 dles passing through the slots in the several disks and provided with caps upon their extremities, and a spring-actuated plunger within the casing and provided at its opposite ends
45 with a head and point respectively, substantially as specified.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

IRA STRATTON.
JAMES K. ROBERTS.

Witnesses:

J. L. HOWELL,
J. K. HARRIS.