

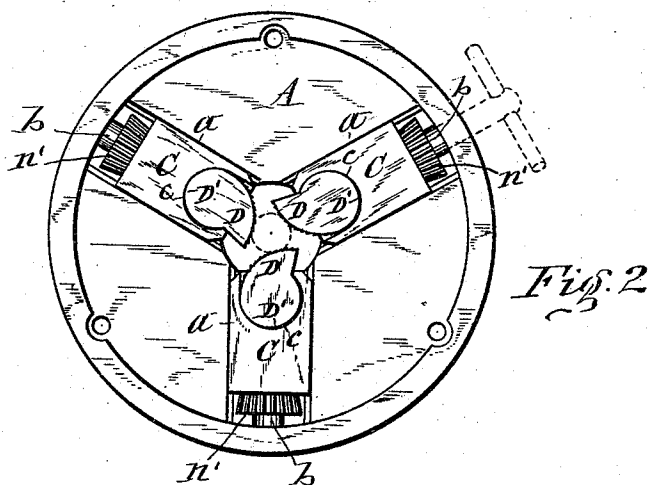
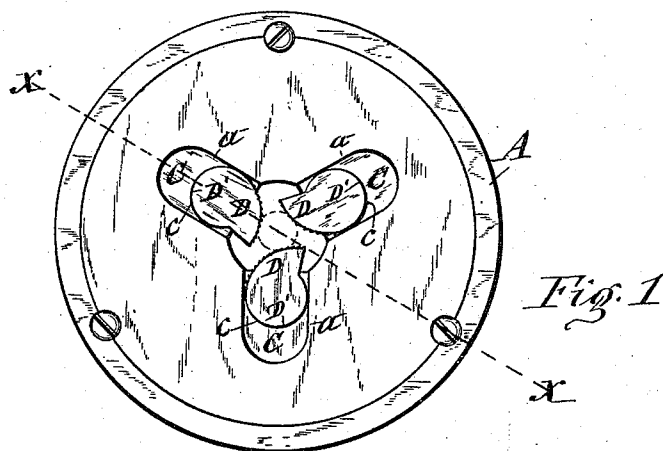
(No Model.)

4 Sheets—Sheet 1.

J. H. WESTCOTT.
LATHE CHUCK.

No. 470,370.

Patented Mar. 8, 1892.



WITNESSES:

C. L. Bendixon
H. M. Seaman

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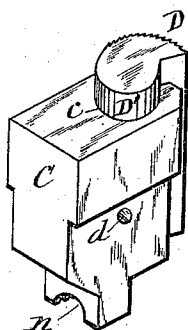
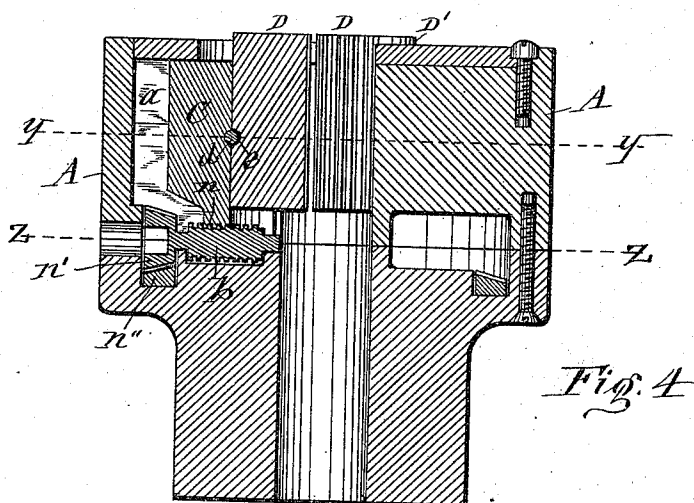
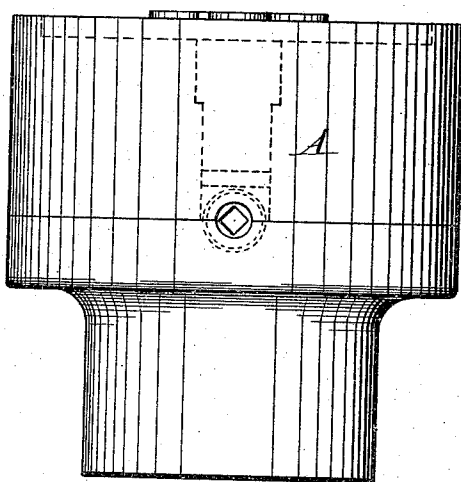
(No Model.)

J. H. WESTCOTT.
LATHE CHUCK.

4 Sheets—Sheet 2.

No. 470,370.

Patented Mar. 8, 1892.



WITNESSES:

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(No Model.)

J. H. WESTCOTT.
LATHE CHUCK.

4 Sheets—Sheet 3.

No. 470,370.

Patented Mar. 8, 1892.

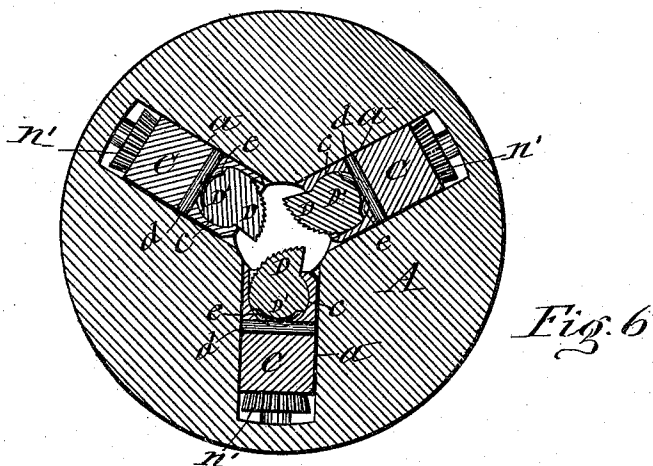


Fig. 6

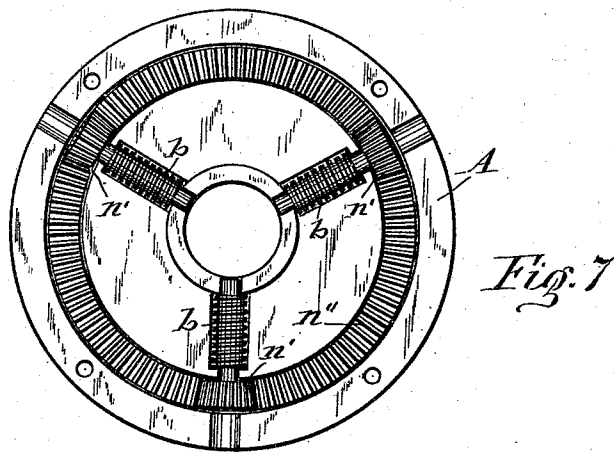


Fig. 7

WITNESSES:

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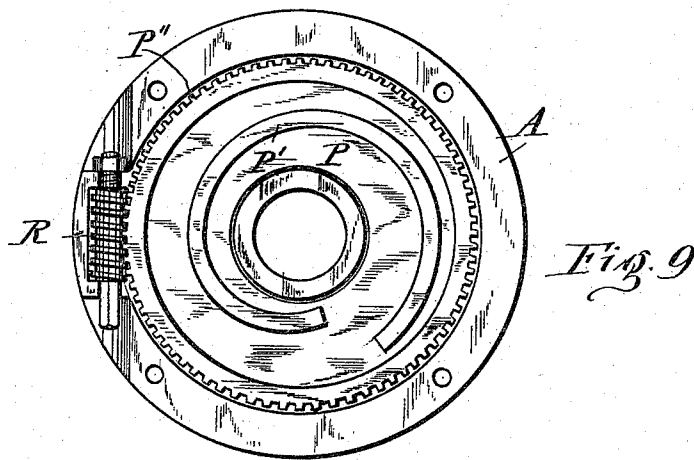
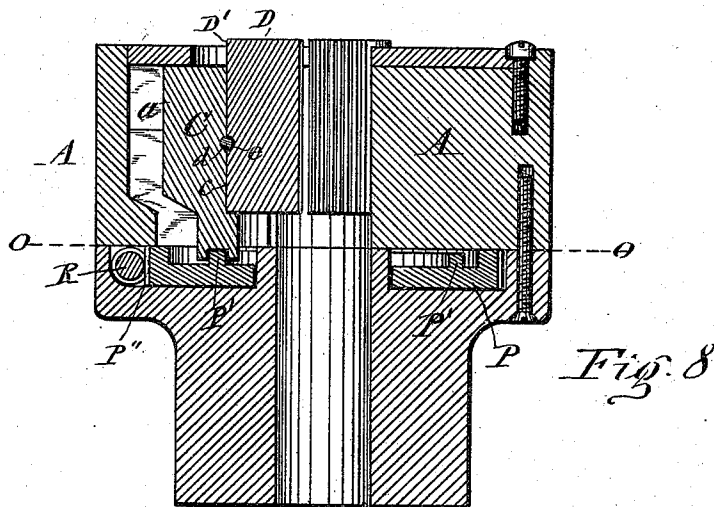
(No Model.)

4 Sheets—Sheet 4.

J. H. WESTCOTT.
LATHE CHUCK.

No. 470,370.

Patented Mar. 8. 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES H. WESTCOTT, OF ONEIDA, NEW YORK, ASSIGNOR OF ONE-HALF TO
THE WESTCOTT CHUCK COMPANY, OF SAME PLACE.

LATHE-CHUCK.

SPECIFICATION forming part of Letters Patent No. 470,370, dated March 8, 1892.

Application filed October 14, 1891. Serial No. 408,666. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WESTCOTT, of Oneida, in the county of Madison, in the State of New York, have invented new and useful
5 Improvements in Lathe-Chucks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of lathe
10 or drill chucks which have the jaws pivoted eccentrically, so that their hold on the drill or work is automatically strengthened according to the strain exerted on the drill or work.

The object of this invention is to afford to
15 the pivoted jaws greater range of adjustment by simple and efficient means; and to that end the invention consists, essentially, in the combination, with the chuck-body, of jaw-carriers arranged adjustably in their distance
20 from the axis of said body and jaws connected to said carriers revolubly on axes parallel with that of the body, and the invention also consists in novel features of the details of the
25 chuck, as hereinafter more fully described, and set forth in the claim.

In the annexed drawings, Figure 1 is a face
view of a chuck embodying my invention. Fig. 2 shows the same with the end cap removed. Fig. 3 is a side view of the chuck.
30 Fig. 4 is a longitudinal section on line *xx*, Fig. 1. Fig. 5 is a detached perspective view of one of the jaws and its carrier. Figs. 6 and 7 are transverse sections, respectively, on lines *yy* and *zz*, Fig. 4. Fig. 8 is a longitudinal section
35 of a modification of my invention; and Fig. 9 is a transverse section on line *oo*, Fig. 8.

Similar letters of reference indicate corresponding parts.

A represents the chuck-body, which is provided with the radial ways *a a*, in which are
40 seated and guided the carriers C C C, which are arranged adjustably in their distance from the axis of the body A. Said adjustment may be effected by means of screws *b*, journaled
45 in the body A parallel with the aforesaid carriers and engaging nuts or screw-threaded portions *n* on the carriers, as shown in Figs. 4 and 7 of the drawings, and in order to render the jaws universally adjustable the screws
50 *b* are provided with pinions *n'*, engaging an

annular rack *n''*, seated revolubly in a groove concentric with the axis of the body A. By turning one of the screws *b* the pinions and rack cause all the screws to turn simultaneously and the carriers C C C to move toward
55 or from the axis of the body.

Although I prefer the aforesaid devices for adjusting the jaws, yet I do not wish to be limited to the employment of the same, inasmuch as other well-known devices will answer
60 the purpose—as, for instance, an annular plate P, seated revolubly in a recess in the body A and formed with a scroll-shaped rib P' on its upper surface and with an annular rack P'' on its periphery, as shown in Figs 8 and 9 of
65 the drawings. The rib P' enters a groove in the bottoms of the carriers C C C, and by means of a worm-shaft R, journaled in the chuck-body A tangentially to the rack P''
70 and engaging the same, the plate P can be turned in either direction, and in this movement the engagement of the rib P' with the grooves in the carriers C C C causes the latter to approach or recede from the axis of the
75 body A.

Each of the aforesaid carriers C, I form with a groove *c* in its inner face, which groove is segmental-shaped in cross-section and larger than a semicircle, for the purpose hereinafter explained.
80

D D D represent the jaws by which the chuck grips the drill or work to be secured to the chuck. Each of these jaws I form with a segmental-shaped back D', corresponding to the groove *c* of the carrier, into which groove
85 the jaw is inserted endwise and is fitted revolubly therein. The wall of the said groove, embracing more than half of the segmental back of the jaw, serves to prevent the jaw
90 from falling out from the carrier toward the axis of the chuck. To restrain the jaw from moving endwise out of the carrier, I provide the back of the jaw with a transverse groove
95 *e* and drill transversely through the carrier a hole, into which I insert a pin *d*, which passes through the groove *e*, as shown in Figs. 4, 6, and 8.

In order to facilitate and cheapen the operation of forming in the end of the carrier C the groove *c*, in which the jaw D is seated, I 100

prefer to cut said groove from end to end of the carrier, as represented in Fig. 4 of the drawings.

5 The face of the jaw is formed eccentric in relation to the axis of the jaw and is serrated or formed with fine teeth to afford a secure hold on the drill or work to be secured to the chuck.

10 In operating the described chuck the jaws D D D are first turned to present to the drill the portions of the jaw-faces which are nearest to the axes of the jaws, and then the carriers C C C are moved in to bring the jaws in contact with the drill to be held. The lathe
15 being then set in motion and the drill brought to bear on the article to be drilled, causes the jaws D D D to be partly turned on their axes by the strain transmitted from the drill to the jaws, and the turning of the jaws carries more
20 eccentric portions of the faces thereof toward the drill, and thus strengthens the hold of the jaws on the drill.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

25 The combination, with the chuck-body provided with radial ways *a a a*, of the carriers C C C, seated in said ways and formed at the inner ends with the segmental grooves *c c c*, larger than a semicircle and extending from
30 end to end of the carriers, the jaws D D D, formed with correspondingly segmental-shaped backs and seated thereby in the afore-said grooves and provided with the transverse
35 grooves *e e e*, and the pins *d d d*, passing through the carriers and through the grooves in the jaws, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 6th day of October, 1891. 40

JAMES H. WESTCOTT. [L. s.]

Witnesses:

MARK W. DEWEY,
H. M. SEAMANS.