

J. H. WESTCOTT.

CHUCKS.

No. 187,438.

Patented Feb. 13, 1877.

Fig. 1.

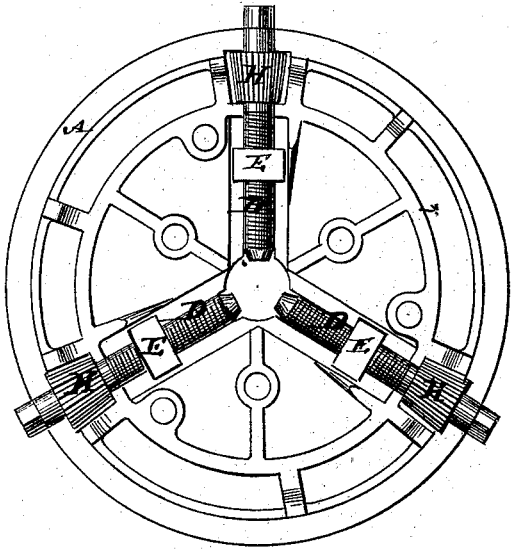


Fig. 2.

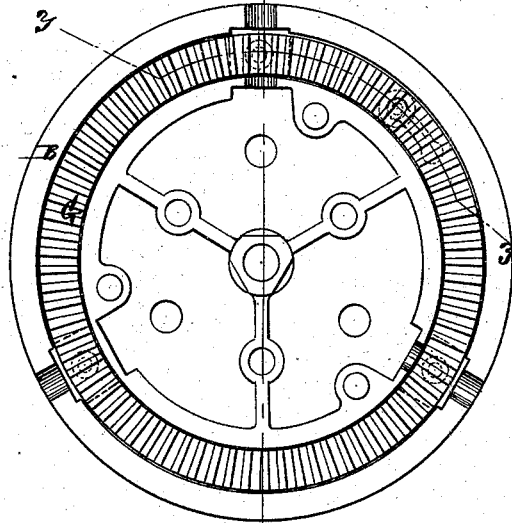


Fig. 3.

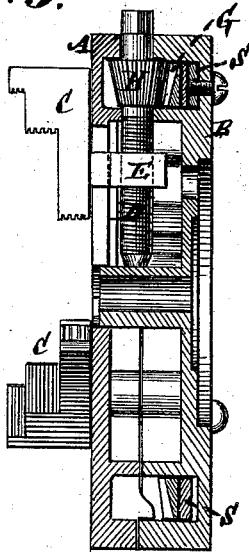


Fig. 4.

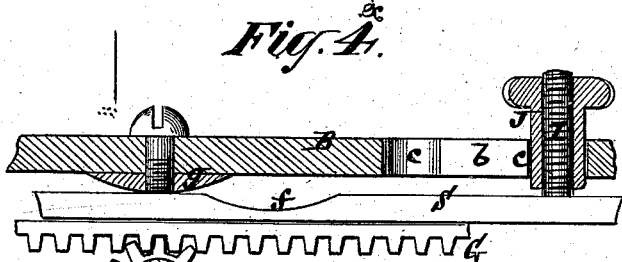
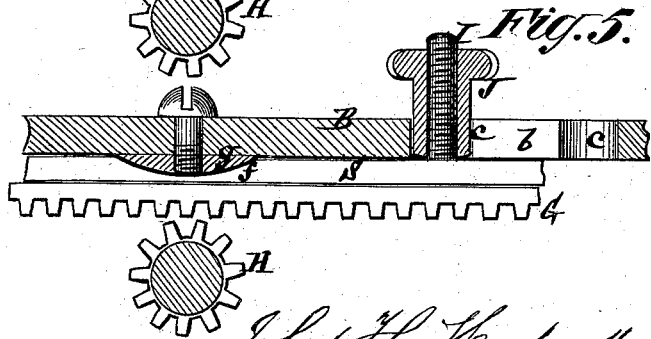


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. WESTCOTT, OF ONEIDA, NEW YORK.

IMPROVEMENT IN CHUCKS.

Specification forming part of Letters Patent No. 187,438, dated February 13, 1877; application filed January 12, 1877.

To all whom it may concern:

Be it known that I, JOHN H. WESTCOTT, of Oneida, in the county of Madison and State of New York, have invented certain new and useful Improvements in Chucks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to chucks for lathes and other purposes, constructed so that either a universal or independent action may be obtained for them—that is, so that their holding-jaws may either be collectively and simultaneously adjusted, or each jaw be separately and independently adjusted, as circumstances require.

The invention consists in a novel construction and combination of parts, including a loose ring inserted within the shell of the chuck under cover thereof, and having a series of recesses corresponding with the screws by which the jaws are adjusted for operation in relation with fixed inclines in the shell under or at the back of the pinions, by which the jaws are adjusted to provide for setting a circular rack under cover of the shell in or out of gear with said pinions. Said loose ring has attached to it a stud, which projects through a slot in the back of the chuck, which slot is provided with enlarged end openings, for a nut screwing onto said stud to enter within and hold the ring in or out of gear with the pinions on the jaw-screws.

By this construction and combination of parts there is virtually no exposure of the working parts, the circular rack is supported when in gear with the pinions which operate the jaw-adjusting screws immediately under or at the back of said pinions, and the weight and thickness of the chuck is reduced, over or as compared with other universal and independent chucks employing a circular rack put into or out of gear, as required, with the pinions which operate the jaws of the chuck.

Figures 1 and 2 represent interior face views of the two halves of the chuck, in transverse relation with the latter, as detached from each other. Fig. 3 is a section, mainly on the line $x x$, in a longitudinal direction with the axis

of the chuck; and Figs. 4 and 5, sections upon an enlarged scale, in direction of the line $y y$, of certain of the working parts, showing respectively the circular rack in and out of gear with the pinions by which the jaws are operated.

A is the one half-shell of the chuck, and B the other half thereof, united in the usual or any suitable manner. C C are the holding-jaws, of which there may be three or more, and which are set in or out by means of screws D D, working through nuts or sliding boxes E E.

To effect the independent adjustment of the jaws C C, a wrench is applied to the outer ends of either of the screws D D, when not coupled to work together.

To provide for a simultaneous adjustment of said jaws, a circular rack, G, is put into gear with the pinions H on the screws D D.

The circular rack G is fitted to freely turn within the back half-shell B, and is free to be adjusted in or out in an axial direction, with said shell within the latter, and under cover thereof.

At the back of said circular rack G, and within and under cover of the half-shell B of the chuck, is a thin loose ring, S, which is fitted at its back with a screw-threaded stud, I, having a nut, J, which, when sufficiently unscrewed, is free to move over the back of the chuck, to allow of the stud I being adjusted in a circular or concentric direction along a slot, b , in the half-shell B of the chuck, to put the rack G in or out of gear with the pinions H H, and after either of such adjustments has been effected, the nut J is screwed down or entered within one or other of enlarged recesses $c c$ at the ends of the slot b , to hold the circular rack G in or out of gear with the pinions H H. To accomplish this in a simple, light, efficient, and durable manner, the ring S is milled at its back, or constructed with a series of recesses, f , corresponding with the number of screws D D, by which the jaws are adjusted, and the interior surface of the shell portion B, over or against which the ring S works, is constructed or provided with a series of fixed convex or inclined projections, g , under or at the back of the pinions H, whereby the pinions are firmly held in position.

When the ring S is adjusted by the stud I or nut J in a circular direction relatively to the axis of the chuck, to bring those portions of its back which are not recessed over the convex or inclined projections *g*, then the circular rack G is put in gear with the pinions H of the jaw-adjusting screws D, as shown in Fig. 4, to provide for the universal adjustment of the chuck through the circular rack G, by wrench applied to either one of the outer ends of the screws D. When, however, said ring S is adjusted to bring its milled or recessed portions *f* over or in line with the projections *g*, then the circular rack G is free to clear it-

self of the pinions H, as shown in Fig. 5; so that the several screws D may be separately operated to provide for an independent adjustment of the holding-jaws C.

I claim—

The shell portion B, constructed with a slot, *b*, in its back, having enlarged ends *c c*, in combination with the screw-stud I, fast to the ring S and the nut J, essentially as and for the purpose herein set forth.

JOHN H. WESTCOTT.

Witnesses:

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THEODORE F. HAND.