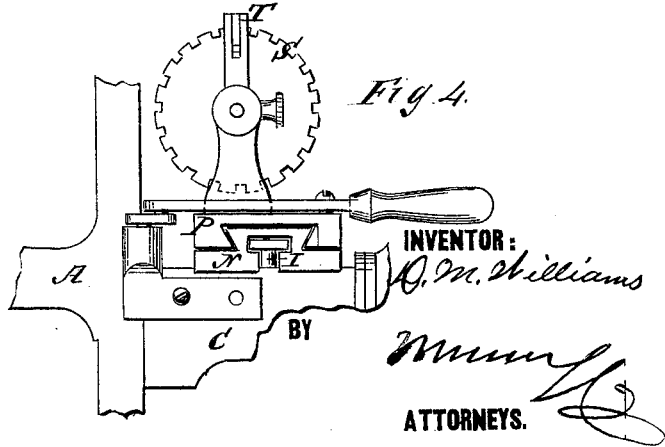
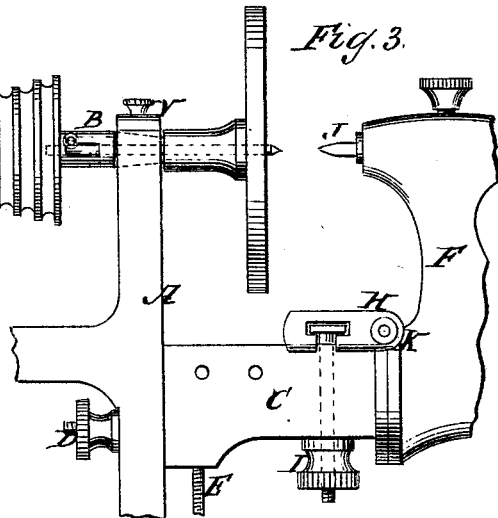
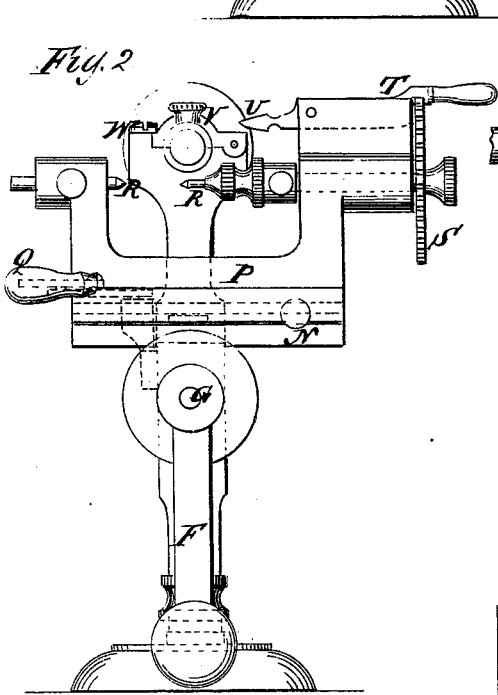
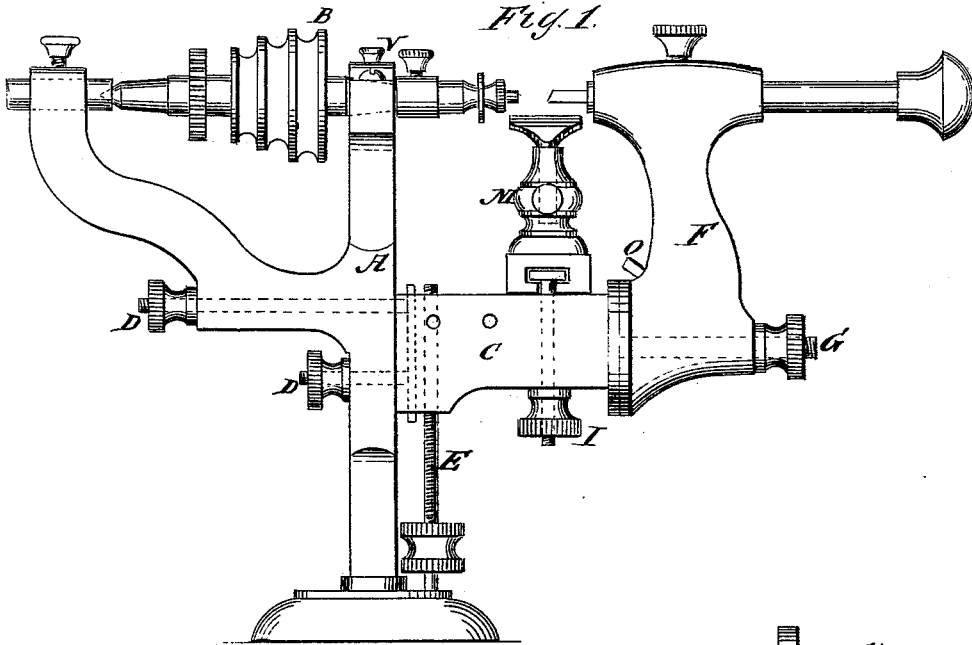


D. M. WILLIAMS.
WATCHMAKERS' LATHE.

No. 176,568.

Patented April 25, 1876.



WITNESSES:

E. Wolff.
John Goethals

INVENTOR:

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BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL M. WILLIAMS, OF CALVERT, TEXAS.

IMPROVEMENT IN WATCHMAKERS' LATHES.

Specification forming part of Letters Patent No. **176,568**, dated April 25, 1876; application filed March 13, 1876.

To all whom it may concern:

Be it known that I, DANIEL M. WILLIAMS, of Calvert, in the county of Robinson and State of Texas, have invented a new and Improved Watchmaker's Lathe, of which the following is a specification:

My invention consists of a novel contrivance of an adjustable bed for varying the height of the bed relatively to the centers for different kinds of work; also, an adjusting tail stock, and an attachment for cutting gear-wheels and pinions, all as hereinafter described.

Figure 1 is a side elevation of the lathe adjusted for turning. Fig. 2 is an end elevation, showing the adjustment for gear-cuttings. Fig. 3 is another side elevation for turning, and Fig. 4 is a side elevation of the gear-cutting apparatus.

Similar letters of reference indicate corresponding parts.

A is the stationary part of the lathe carrying the live-spindle B and supporting the bed C, which is clamped to it by the T-headed bolts D, so as to shift up and down when the screws are loosened. The adjusting-screw E shifts the bed. The tail-stock F is pivoted to the end of the bed C by the clamp-bolt G, so that it can swing down out of the way, as in Fig. 2, when it is not required for use. When this stock is turned up in the working position a block, H, is screwed on the bed by the screw I, to adjust the center J in line with the live center, by the screw K in said block screwing against the stud O. The screw I also secures the tool-rest M, and also the bed N, for the slide P, which carries the gear-cutting centers R, to be worked forward and backward to feed the blank to the cutter running in the lathe-centers, the slide being worked

by the hand-lever Q. The index-plate S of the gear-cutting centers is fastened by the lever-latch T working into notches in the edge of the plate, and having a pointer, U, to gage the gear-holding centers R to the rotary cutter in setting the bed N and slide P. The cap V for holding the live-spindle in the bearing of the head-stock is hinged to the stock, and fastened with a single screw, W, to facilitate the changing of the mandrels, two or more, with different centers or attachments being employed for different kinds of work.

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

1. The bed C, adjustably connected to the head-stock A by clamp-bolts D, and provided with the adjusting-screw E for supporting interchangeable parts of the machine, substantially as specified.

2. The tail-stock F, pivoted to the bed C by clamp-screw G, substantially as specified.

3. The combination of block H and adjusting-screw K, with the bed C and the tail-stock F, substantially as specified.

4. The bed N, slide P, centers R, index-plate S, and hand-lever Q, combined with the bed C, and head and tail centers of a lathe, substantially as specified.

5. The lever-latch T, combined with the notched index-plate S, and having a gage, U, arranged relatively to centers R, for gaging them to the cutting-tool, substantially as specified.

DANIEL M. WILLIAMS.

Witnesses:

J. S. WALTON,
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