

UNITED STATES PATENT OFFICE.

EDWARD S. M. FERNALD, OF SACO, MAINE.

TOOL-REST.

SPECIFICATION forming part of Letters Patent No. 440,146, dated November 11, 1890.

Application filed January 24, 1890. Serial No. 337,931. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. M. FERNALD, a citizen of the United States, residing at Saco, in the county of York and State of Maine, have invented a new and useful Improvement in Tool-Rests; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the drawings accompanying and forming a part of this specification.

The object of my invention is to provide a tool-rest especially for drills or reamers for use in the process of chucking or centering, applicable alike to engine-lathes or ordinary chucking-lathes; a rest which shall be cheaply constructed, simple in operation, and readily as well as permanently adjustable for the use of tools of varying caliber.

In the accompanying drawings, Figure 1 is a front view of my improved rest, designed for application to the tool-post of a lathe, showing in the dotted lines some of the outlines covered by the uppermost parts, the parallel jaws being open. Fig. 2 is a top view with jaws open, as in Fig. 1, having stock broken off. Fig. 3 is a front view with jaws closed, having stock broken off, showing in the dotted lines the opening in the stock. Fig. 4 is a sectional view on line *v w*, Fig. 3. Fig. 5 is a sectional view on line *x y*, Fig. 1. Fig. 6 is a front view of a modified form of rest, attached to a carriage resting and moving on the ways of an ordinary chucking-lathe, having jaws partly closed, with parts broken out.

Similar letters indicate similar parts.

a is the stock, having an opening *h* to receive the tool.

b b are disks attached to the stock by means of the studs *c c* and moving freely thereon. *d d'* are two parallel bars or jaws attached to the disks by means of the studs *e e e e* and moving freely thereon. The bar *d'* is constructed with a boss having a curved slot *f*. A boss on the stock carries a cap-bolt and washer *g*.

In the modified form of rest shown in Fig. 6 the carriage *m* rests upon the latheways *n n*. The stock *a' a'*, having slots *k k*, is secured to the carriage by means of the cap-bolts and washers *i i*, the elevation or depression of the stock being controlled by the adjusting-screw *l*.

My improved tool-rest is constructed as follows: The stock *a* is formed to fit in the tool-post of a lathe or on a lathe-carriage, and is secured therein by any known method. The size of the stock, as well as the dimensions of the opening, and its several parts vary in rests to suit varying work. The disks *b b* are attached to the stock by means of the studs *c c* on a line longitudinal with the center of the opening *h* and move freely on the studs. The parallel bars *d d'* are connected with the disks by means of the studs *e e e e* near the periphery of the disks, and are in line with the center stud, thus securing a conjoint movement of the bars analogous to that of a parallel rove. The jaw or bar *d'* is formed with a boss having a slot *f*, and is secured at any desired point by means of the cap-bolt and washer *g*, attached to a boss on the stock.

In the practical application of my improved rest the stock is placed in the tool-post of the lathe or on the carriage *m* and secured therein or thereon by any known method. (By means of the cap-bolts *i i*, as shown in Fig. 6.) By the elevation or depression of the tool-post, or by the action of the adjusting-screw *l*, the line of demarkation of the closed parallel bars is adjusted horizontally with the lathe centers, the work to be chucked, drilled, or otherwise operated upon being mounted on the head-stock. The jaws are readily opened by the hand after releasing the tension of the cap-bolt *g*. The tool is then inserted in the rest and its centers adjusted. The parallel jaws are closed upon it and secured by a reversed movement of the cap-bolt. As the parallel bars or jaws move conjointly, it will be readily seen that the center bearing of the tool is preserved, although frequent changes in the size and style of the tool may be required.

I do not wish to limit my mode of securing the parallel bars or jaws in position to the use of the cap-bolt and washer *g*, as various mechanical devices are obviously suggested.

I am aware that tool-rests having parallel sides or slots are in common use, and do not, broadly, claim this as my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An open stock, in combination with duplicate disks centrally pivoted thereon, and

parallel bars eccentrically pivoted on said disks, and a cap-bolt for securing said bars in position, substantially as herein shown and described, and for the purposes specified.

- 5 2. A tool-rest for lathes, consisting of the open stock $a' a'$, carrying centrally-pivoted disks $b b$, in combination with parallel bars $d d'$, eccentrically pivoted on the disks, with

cap-bolts g and $i i$ and adjusting-screw l , substantially as shown, and for the purposes set forth.

EDWARD S. M. FERNALD.

Witnesses:

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S. C. PARCHER.