Fowler,

Cutter Holder,

No. 78,520. Patented June 2, 1868.

Fig. 1

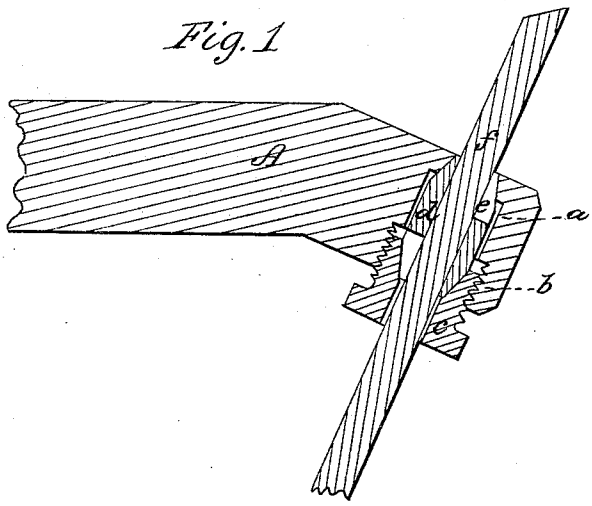


Fig. 2

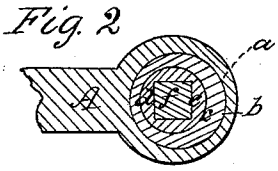


Fig. 3

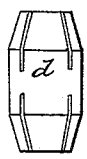
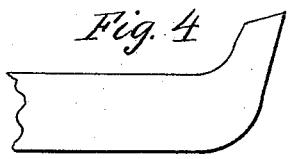


Fig. 4



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CHARLES H. FOWLER, OF ROXBURY, MASSACHUSETTS.

Letters Patent No. 78,520, *dated June* 2, 1868.

IMPROVEMENT IN LATHE-TOOL HOLDER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, CHARLES H. FOWLER, of Roxbury, in the county of Norfolk, and State of Massachusetts, have invented a new and useful Improvement in Cutting-Tools for Machinists' Lathes; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a longitudinal section, and

Figure 2 a horizontal section of my invention.

Figure 3 is a side elevation of its chuck or tool-holding thimble, to be hereinafter referred to.

My invention may, in some respects, be considered as a combined tool and tool-holder, and relates to means for applying the tool of a metal-turning or "engine" lathe in such manner as to obviate the necessity of reforging the tool, which, under the present form of construction, must be done at short intervals of time.

The invention consists in a metallic bar, having its inner end enlarged and recessed, and carrying a tapering or double cylindro-conical tube, the tapering portions of such tube being split in the manner of ordinary small drill-chucks used in most machine-shops, the bore of such cylinder being square or rectangular, and carrying a cutting-tool or bar, constituting the turning-tool, substantially as hereinafter explained.

In the drawings above mentioned, A denotes a metallic bar, of suitable size and shape, according to the proportions of the piece of metal to be turned or reduced, this bar A, when in use, being inserted in a horizontal position within the slide-rest of the lathe, in the same manner that the ordinary turning-tool is now applied.

As usually constructed, this ordinary tool has its cutting portion forged upon one end of it, as shown in fig. 4 of the drawings, and as often as the cutting-tool requires renewing it must be reforged.

In carrying out my invention, I form, in the inner end of the bar A, a vertical cylindrical passage or opening, *a*, the upper portion of which is contracted in diameter, and tapering, the lower portion thereof being formed with a female screw, *b*, into which is screwed a male screw, formed upon the circumference of a sleeve or hollow nut, *c*, the upper portion of the bore of this sleeve for about one-half its length being tapering, but in an inverse direction from that of the passage *a* before mentioned; that is, the passage *a* is contracted toward its top and the bore of the sleeve *c* toward its bottom, this being for the purpose of receiving between them a hollow plug or chuck, *d*, which is a cylindrical tube, tapering at each end, and having a rectangular bore, *e*, for receiving a steel rod, *f*, which constitutes the cutting-tool of the device.

The plug *d* is split upon each end, after the manner of ordinary small drill-chucks, or so that when it is compressed within or between the bores of the bar A and the screw *c*, it shall take a firm gripe of the cutting-tool *f*, and retain it firmly in position while performing its work.

As the tool is reduced or worn down, the screw-sleeve or hollow nut *c* is to be loosened, and the tool raised to the desired height.

By means of my invention above described, frequent reforging of the tool is avoided, this economy of time being directly dependent upon the length of the cutting-bar employed.

Another advantage of my invention is the fact that whereas, in the old mode of forging the tool, a much larger piece of steel is wasted, as it is gradually reforged and worn out, and a much larger number are also wasted than in my mode, it will be seen that a great economy of metal is effected.

I claim, as an improved tool-holding device for metal-turning lathes, &c., the combination and arrangement of the bar A, screw-sleeve or hollow nut *c*, and double tapering tube *d*, the whole being arranged and operating as herein shown and described.

CHARLES H. FOWLER.

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