J. B. Gayle.

Turning Lathe.

No. 67,288. Patented Jul. 30, 1867.

Fig. 3.

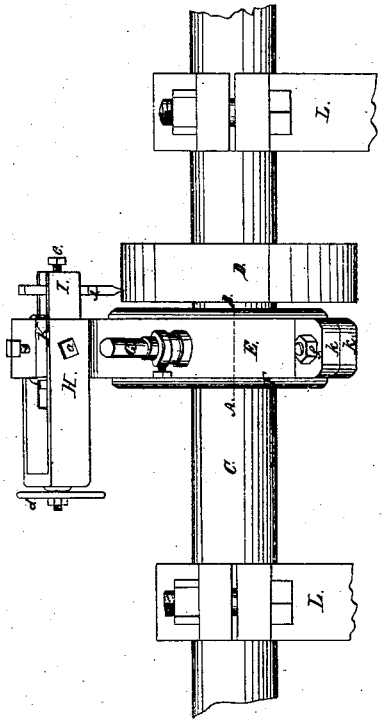


Fig. 4.

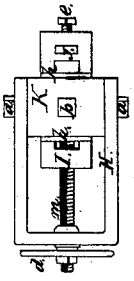


Fig. 2.

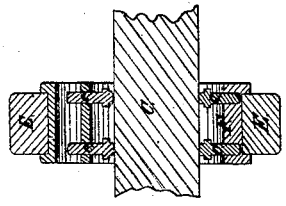
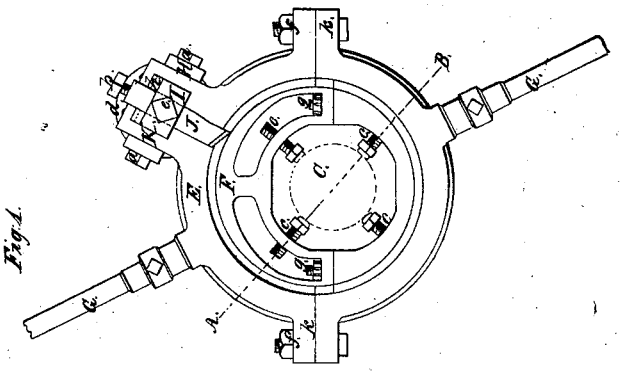


Fig. 1.



Witnesses:

R. R. Moore

Wm. H. Baines

Inventor:

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United States Patent Office.

J. B. GAYLE, OF PORTSMOUTH, VIRGINIA.

Letters Patent No. 67,288, *dated July* 30, 1867.

IMPROVEMENT IN LATHES FOR TURNING ECCENTRICS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. B. GAYLE, of Portsmouth, Norfolk county, Virginia, have invented a new and useful Improvement in Eccentric Lathes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in an arrangement which enables me to turn eccentrics for steam engines in a much more complete and perfect manner than it has hitherto been done, and the device is intended especially for that and similar purposes.

Figure 1 represents a side view of the arrangement, showing the set-screws, by which the eccentric which guides the cutting-tool is adjusted.

Figure 2 is a section of fig. 1 through the line A B.

Figure 3 is a front view of the lathe, showing the shaft in place, and also the tool-holder and turning-tool, as they appear when in operation; and

Figure 4 is a top view of the tool-holder.

Similar letters of reference indicate corresponding parts.

C represents the shaft, which is properly secured in head-block marked L, by nuts on the outside of the blocks, or it may be secured on a pillow-block in the frame with cap, as represented in the drawing, but it does not revolve with the tool. F is an eccentric which is adjusted to the shaft by set-screws *c*, as seen in fig. 1, and which supports and guides the moving portion of the machine. F is placed upon the shaft eccentrically, the same or similar to the eccentric of a steam engine, and the periphery is provided with flanges to accommodate the eccentric band, the same as though it was to work a valve-rod of a steam engine. E is the eccentric ring or band. This band is formed of two parts, which are bolted together in the usual manner, as seen at *f k*. H represents a portion of the tool-holder, which is attached to the band E, and revolves with it around F. The tool is attached to a slide, I, to which it is fastened by the set-screw *e*. K is a block cast on the band, through which the slide passes, and by which it is guided. There is a feed-screw, *m*, seen in fig. 4, and *d* is a hand-wheel on the screw. The screw *m* passes into the slide I by a screw-thread or nut formed in the slide, so that by revolving the screw the tool is moved back and forth as desired. J is the tool. *b* is a set-screw on the top of the block K, to fasten the slide. D is an eccentric blank or casting, which is fitted or adjusted to the shaft, ready for turning. It is first bored out in the same way that it would be to go on to the shaft of an engine, and it is fastened to the shaft C by a set-screw or key in the same manner that it would be to an engine-shaft. It is placed eccentrically on the shaft C, with the throw required for the engine-valve. The eccentric F is now adjusted to it by the set-screws *c*. When this is done the eccentric band E, with the tool-holder, is revolved around the shaft and around the two fixed eccentrics, cutting and turning off the one to be turned, D, while it is guided by the other. The tool revolves instead of the article to be turned. G represents levers, which are attached to the eccentric band E by sockets and set-screws, and by which the band is revolved when the turning is done by hand. But the band may be driven by any kind of power, through gearing or by a belt, as may be desired.

By this arrangement an eccentric can be turned off and completed in the most perfect manner, without moving it, or turning it round and re-chucking it, as is the usual method. It will be noticed that the set-screws give plenty of lee-way for adjusting the cutting-tool to eccentrics of different throw. But the same device is adapted to eccentrics of all sizes. The size or diameter of the parts can of course be made to correspond with the work to be performed.

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

The combination of the adjustable eccentric support F, carriage E, ways H, and sliding tool-stock I, arranged as described for the purpose specified.

The above specification of my invention signed by me this 28th day of January, 1867.

J. B. GAYLE.

Witnesses:

EDWARD KEARNS,

JAMES W. ALEXANDER.