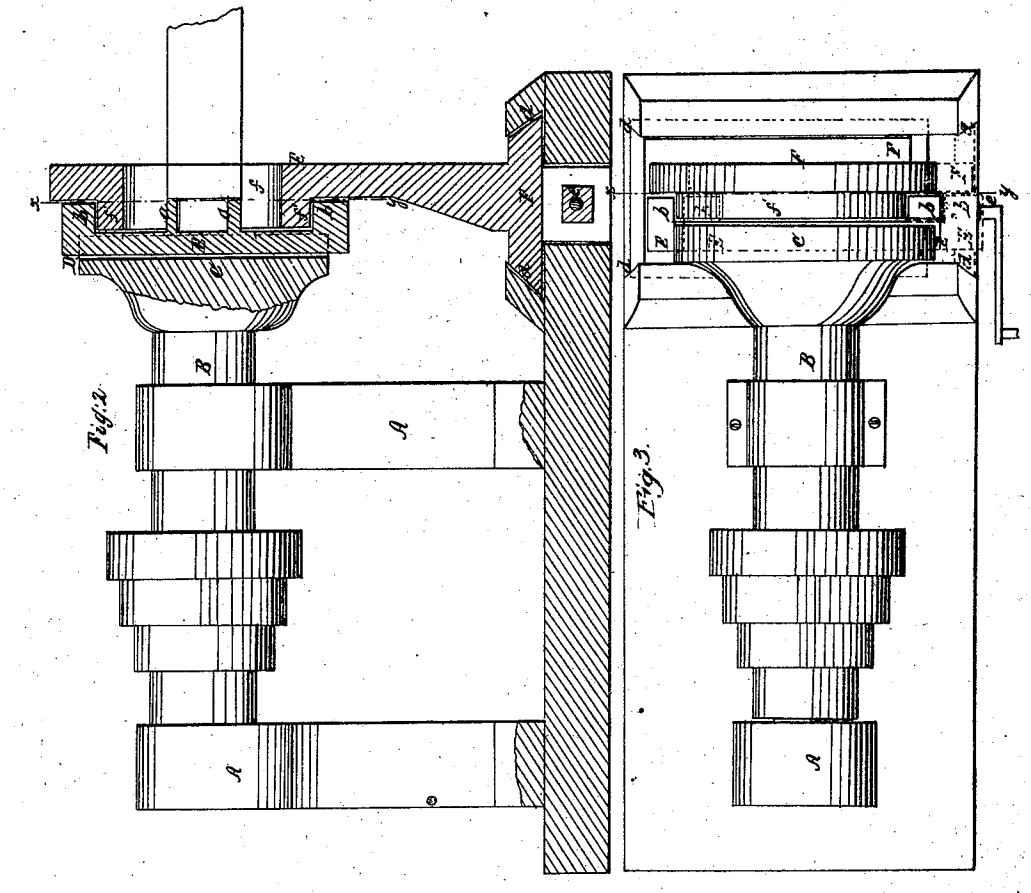
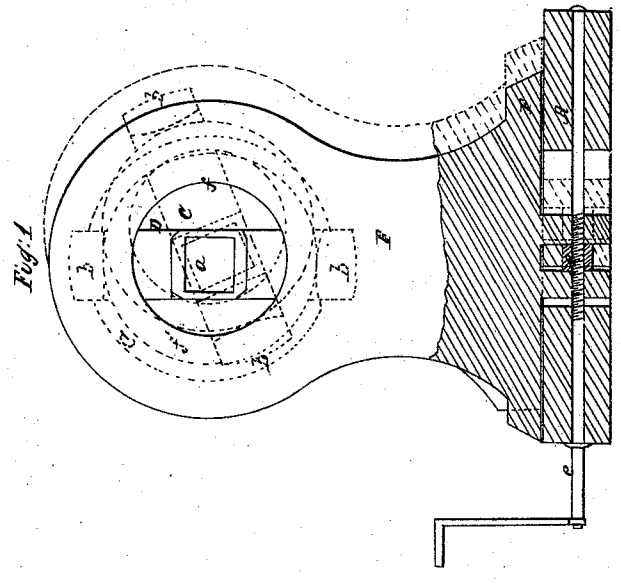
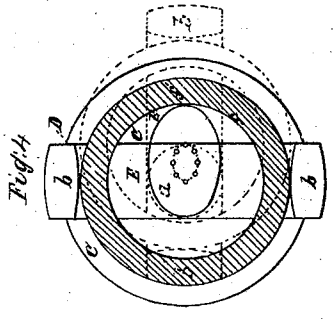
Cahoon & Ross.

Turning Lathe.

No. 12,180. Patented Jan. 2, 1855.







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UNITED STATES PATENT OFFICE.

P. S. CAHOON AND S. F. ROSS, OF LA GRANGE, MISSOURI.

CHUCK FOR TURNING ELLIPTICAL CYLINDERS.

Specification of Letters Patent No. 12,180, dated January 2, 1855.

To all whom it may concern:

Be it known that we, PULASKI S. CAHOON and SAMUEL F. ROSS, of La Grange, in the county of Lewis and State of Missouri, have invented a new and useful Improvement in Oval-Turning Lathes; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is an end elevation of our improved lathe. Fig. 2, is a side view, showing the same partly in section and partly in elevation. In this view a spoke is shown turned. Fig. 3, is a plan or top view. Fig. 4, is a vertical transverse section through the line *x*, *y*, in Figs. 2 and 3. This view illustrates plainly the operation of the lathe; a spoke being shown turned.

This improvement relates to lathes for turning spokes and other articles of oval shape, and is designed to simplify their construction, and render them more utile and perfect in their operation.

The nature of said improvement consists in providing the face plate of the spindle with a sliding box or rest for one end of the wood, while being turned, to fit in, and so combining the same with a sliding standard, that its axis can be moved with great facility out of line with the axis of the spindle or made to stand eccentric thereto; and the axis of the wood, as it revolves, made to describe an oval instead of a circle, and the wood consequently, as it comes in contact with a stationary cutter, to be reduced and shaped to the form of a spoke.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A, B, represent the ordinary turning lathe.

C, is the face plate of the spindle B.

D, is a groove cut directly across the center of the same, and extending from one edge of the face plate to the other.

E, is a slide fitted in the groove D;—this slide is provided with a box or socket *a*, at the center of its length for the article being turned to fit in, as shown in Fig. 2; it is also provided with two lips *b*, *b*.

F, is the sliding standard by which the box *a*, is moved eccentric to the spindle B. This standard is secured to the frame A, of the lathe by a dovetail *d*, and is made to slide back and forth horizontally by the screw *e*, shown clearly in Fig. 1.

f, is a circular hole cut in the standard F; the axis of this hole always stands in the same horizontal line with the axis of the spindle, no matter to what extent it stands eccentric to the same.

f', is a ring or flanch cast around the hole *f*, on the back side of the standard F. This ring or flanch serves for the lips *b*, *b*, of the slide E, to lap over and move around as the spindle revolves, as will be evident from the drawing. It is by means of this flanch and the lips, that the slide E, is combined with the standard, and that the standard is enabled, when moved to the right or left to effect the desired change in the relative positions of the axes of the slide and spindle with one another.

The operation is as follows:—The stick of wood to be turned is secured in the box *a*, as shown in red in Fig. 2. The screw *e* is turned, and standard and ring moved horizontally, until it assumes the position shown in black in Fig. 3, and in blue in Fig. 1, or sufficiently out of center with the lathe spindle to give the required oval shape to the stick of wood. By moving the standard as just stated, the slide is caused to assume the position shown in red in Fig. 4, and the wood to stand eccentric to the lathe spindle, and concentric (before the operation commences) with the hole *f*, of the standard.

All being properly arranged, the workman sets the spindle in motion, and adjusts and guides his cutter as the operation proceeds. As the spindle, with its face plate, revolves, it carries the slide and box with it, and owing to the ring of flange *f'*, to which the slide is connected by the lips *b*, *b*, being eccentric to the axis of the spindle, the axis of the slide is caused gradually to change its position, and in doing so, to describe a small oval as illustrated by small circles in Fig. 4, and the wood consequently, as it comes in contact with the cutter, to be reduced and shaped to the form of a spoke as shown in Fig. 4.

By having the axis of the slide stand very eccentric to the spindle, the major axis of the oval will be lengthened, and the minor axis shortened; and vice versa, by having

the axis of the slide stand but slightly eccentric to the spindle.

By arranging the slide E, between the face plate and the sliding standard F, instead of attaching it to an adjustable ring arranged on the front support of the lathe spindle, which is back of the face plate, its box *a*, will be supported and steadied at the same time that it is guided, and very little chance for it and the spindle to vibrate, allowed. In oval turning lathes now used, owing to the slide not having any other support besides the front bearing of the spindle, it is caused, as the spindle vibrates, to also change its position to a considerable extent, and thus render the lathe imperfect in its operation.

What we claim as our invention, and desire to secure by Letters Patent, is:—

1. The arranging of the ring *f'*, upon the sliding standard F, and combining it with the lathe spindle B, by means of the slide E, substantially as, and for the purpose set forth.

2. Arranging the slide between the face plate and the standard F, instead of attaching it to a ring situated back of the face plate, substantially as, and for the purposes set forth.

PULASKI S. CAHOON.
SAMUEL F. ROSS.

Witnesses:
WM. HAGOOD,
V. M. SMITH.