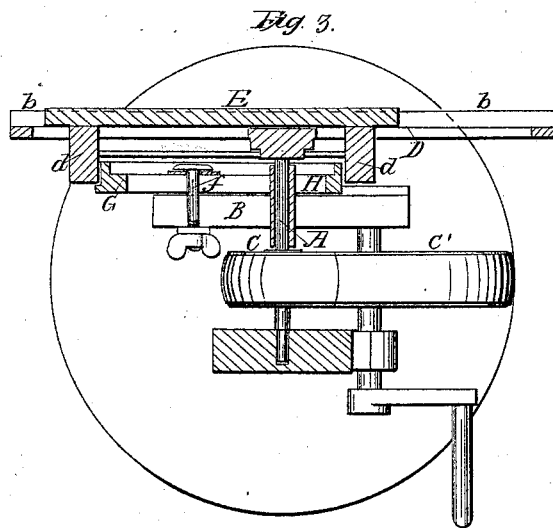
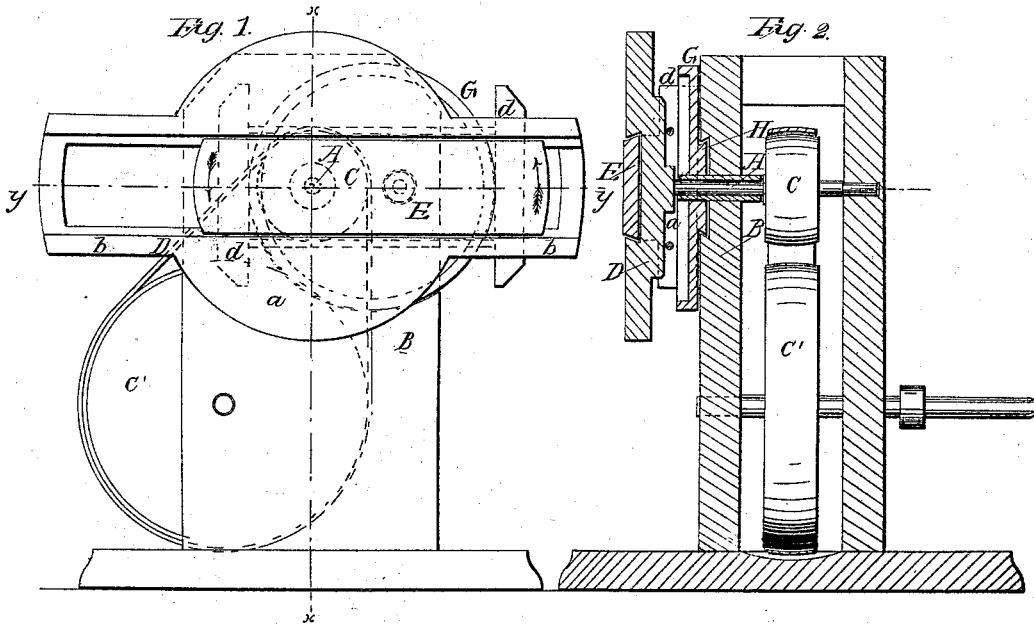


A. H. Brown,
Turning Orals.

N^o 33,334.

Patented Sep. 24, 1861.



Witnesses:
J. M. Coombs
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UNITED STATES PATENT OFFICE.

ALBERT H. BROWN, OF ALBANY, NEW YORK, ASSIGNOR TO JAMES BURTON,
OF SAME PLACE.

IMPROVED MACHINE FOR TURNING OVALS.

Specification forming part of Letters Patent No. 33,334, dated September 24, 1861.

To all whom it may concern:

Be it known that I, ALBERT H. BROWN, of Albany, in the county of Albany and State of New York, have invented a new and useful Improvement in Machines for Turning Ovals; and I 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 represents a face view of my invention. Fig. 2 is a longitudinal vertical section of the same, the line *x x*, Fig. 1, indicating the plane of section. Fig. 3 is a horizontal section of the same, taken in the plane indicated by the line *y y*, Fig. 1.

Similar letters of reference in the three figures indicate corresponding parts.

The object of this invention is to obviate the severe lateral strain consequent on the eccentric position of the slide which carries the work in eccentric lathes during the greater part of the revolution, and on the arrest of its momentum at each extremity of its stroke. This is accomplished by the arrangement of arms of considerable weight and length, extending on opposite sides from the face-plate which forms the guide for the said slide, in such a manner that a "balance-frame" is produced of much greater length and weight than the slide itself, and that the momentum of said frame, which rotates concentrically on the mandrel, deadens or absorbs the lateral strain consequent on the eccentric motion of the slide.

To enable those skilled in the art to make and use my invention, I will proceed to describe it.

The lathe-spindle A is arranged in the head B in the usual manner, and motion is imparted by means of a suitable belt running over the pulleys C C'. Rigidly secured to the end of the spindle is the balance-frame D, formed by the face-plate *a*, and arms *b*, extending from the same on opposite sides, and so arranged that all its parts are perfectly balanced round the center of the spindle, and that the same when rotated moves perfectly steady and without producing any lateral strain to the spindle. This frame forms

the guide for the slide E, which is intended to carry the work. The weight and length of this slide are considerably less than the weight and length of the balance-frame. For instance, in a large full-sized lathe which has been in successful operation for over a year the balance-frame is seven feet in length and it weighs four hundred pounds. The slide in the same machine is four feet in length and weighs forty pounds. The periphery of the balance-frame moves, therefore, nearly double the space of the slide in the same time, and owing to this circumstance and to the much greater weight of the balance the proportionate momentum of the slide is too slight to cause any perceptible jar. The eccentric motion of the slide E is governed by a ring G, which is firmly attached to a dovetailed slide H, moving in a recess in the front side of the head B. Lugs *d*, which extend from the under surface of the slide E, embrace the ring G. The slide H, with the ring, is adjusted in the desired position by a set-screw *f*. If the ring G is brought in such a position that its center coincides with the center of the lathe-spindle the slide E rotates concentrically with the spindle; but if the slide H, together with the ring G, is adjusted in such a manner that the center of the ring is at a greater or smaller distance from the center of the spindle the slide E is compelled to move eccentrically. By these means the eccentricity of the work is determined.

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

In combination with the driving-spindle A, slide E *d*, and adjustable ring G of an eccentric lathe, the arrangement of the arms *b*, extending on opposite sides from the face-plate *a*, and forming with the same the concentrically-rotating balance-frame D, considerably exceeding in length and weight that of the slide E, which carries the work, the whole being constructed and operating in the manner and for the purpose described.

ALBERT H. BROWN.

Witnesses:

WM. H. BURTON,
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