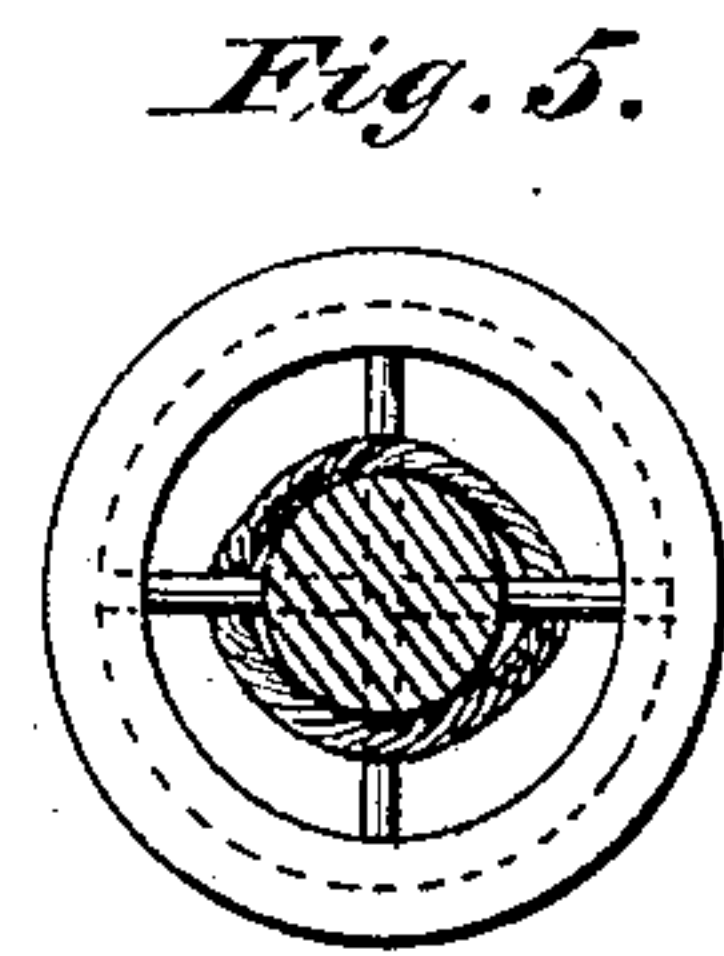
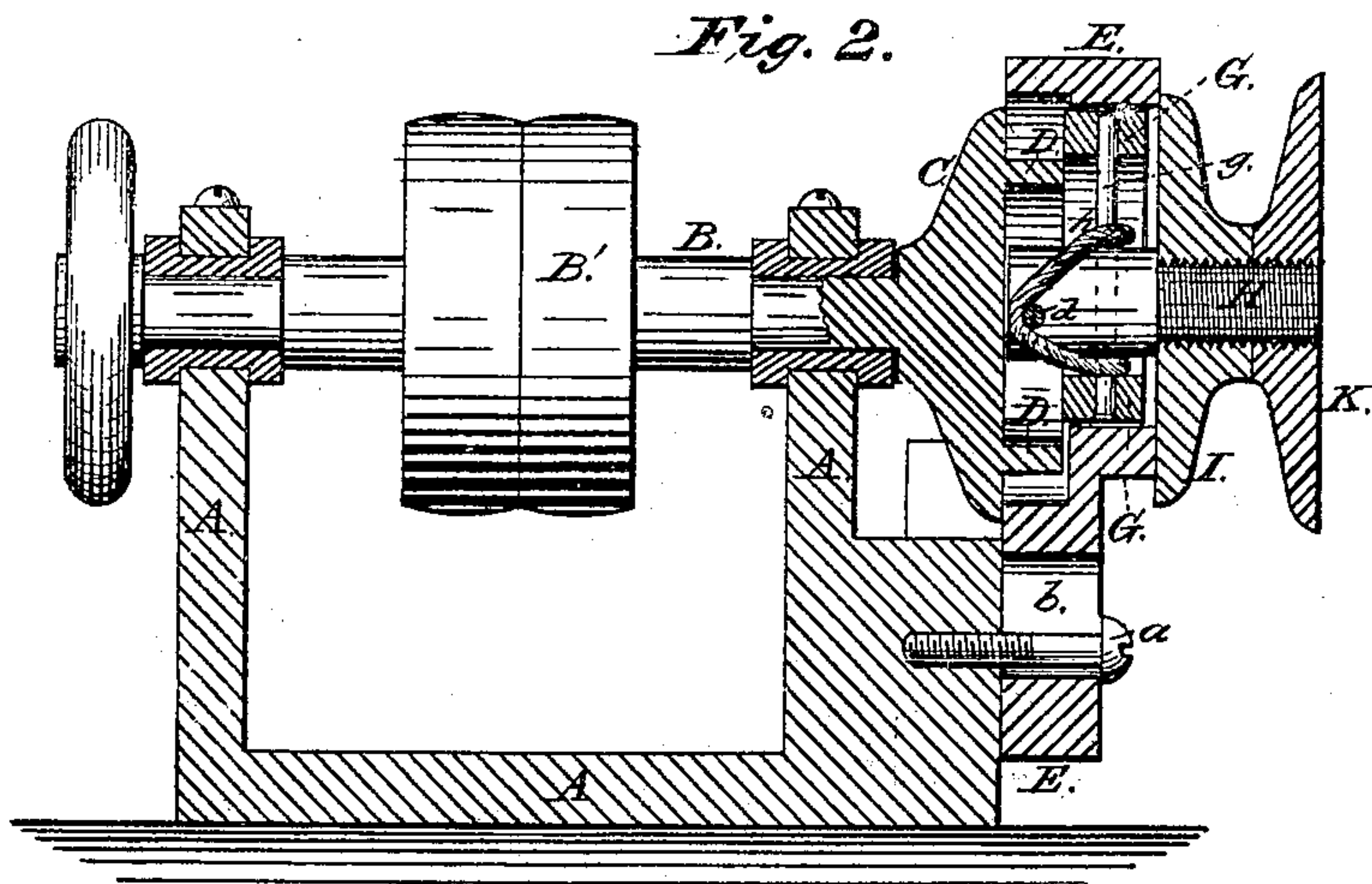
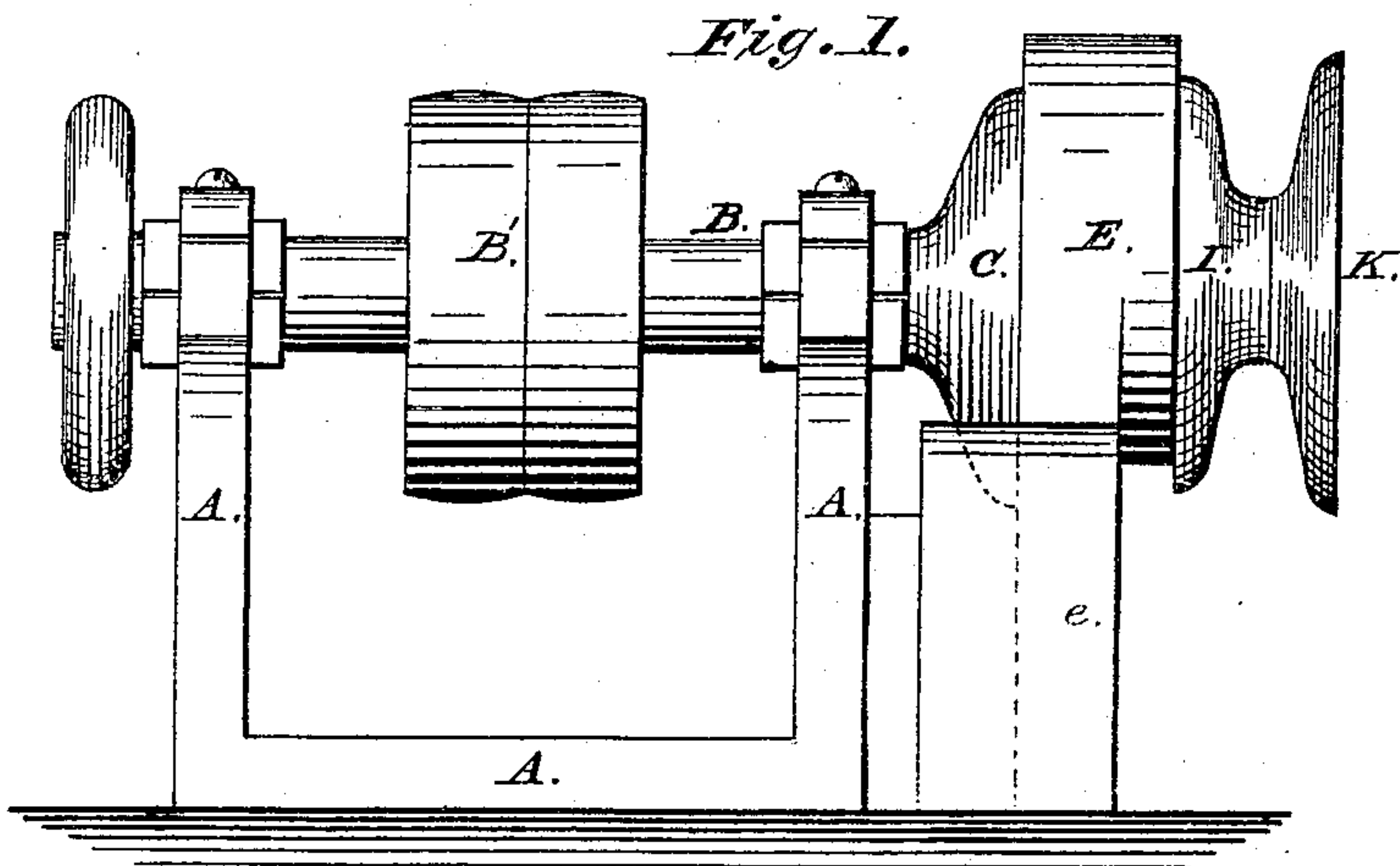


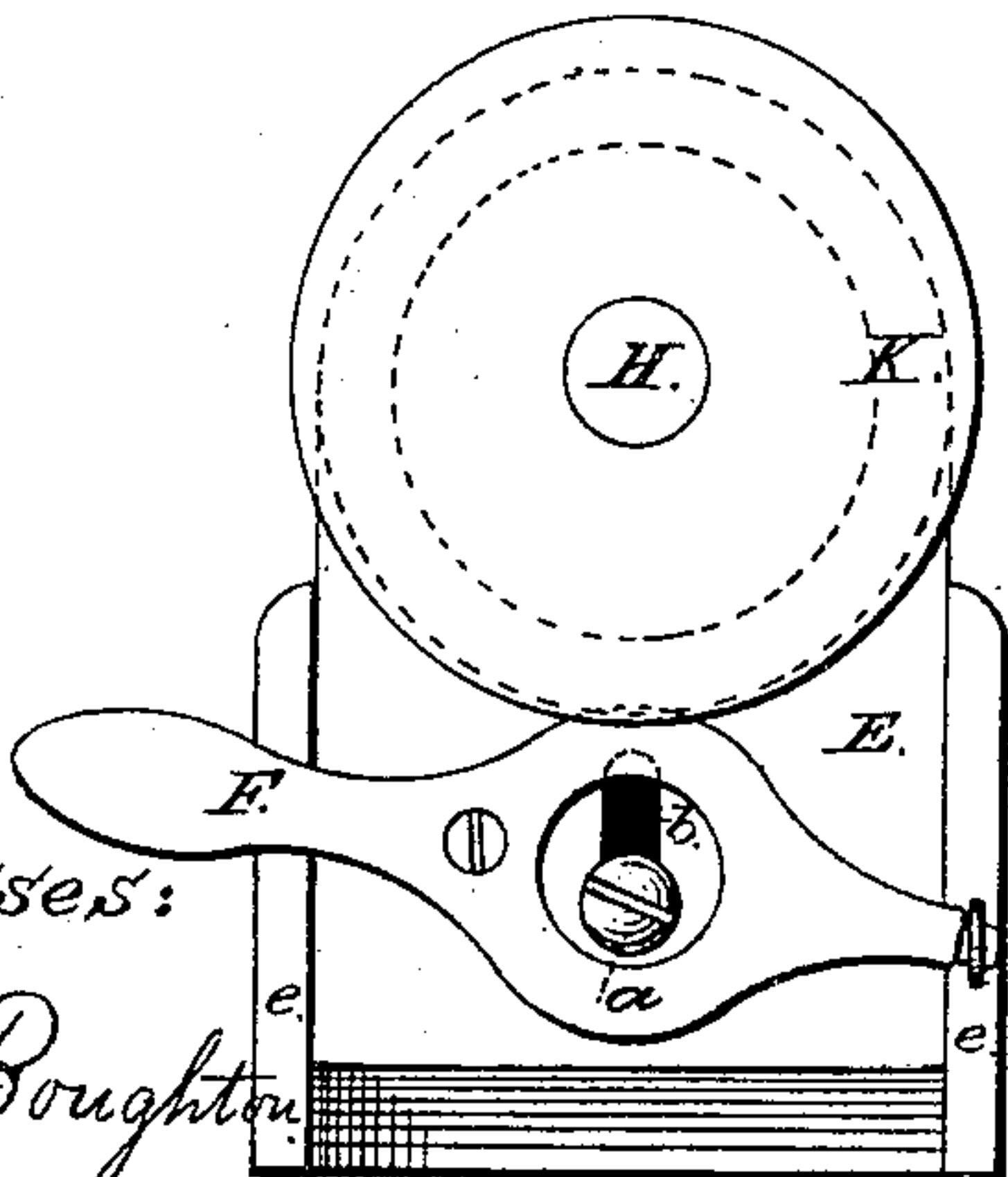
M. CHITTENDEN & W. A. LYON.  
Lathe for Turning Ovals.

No. 205,474.

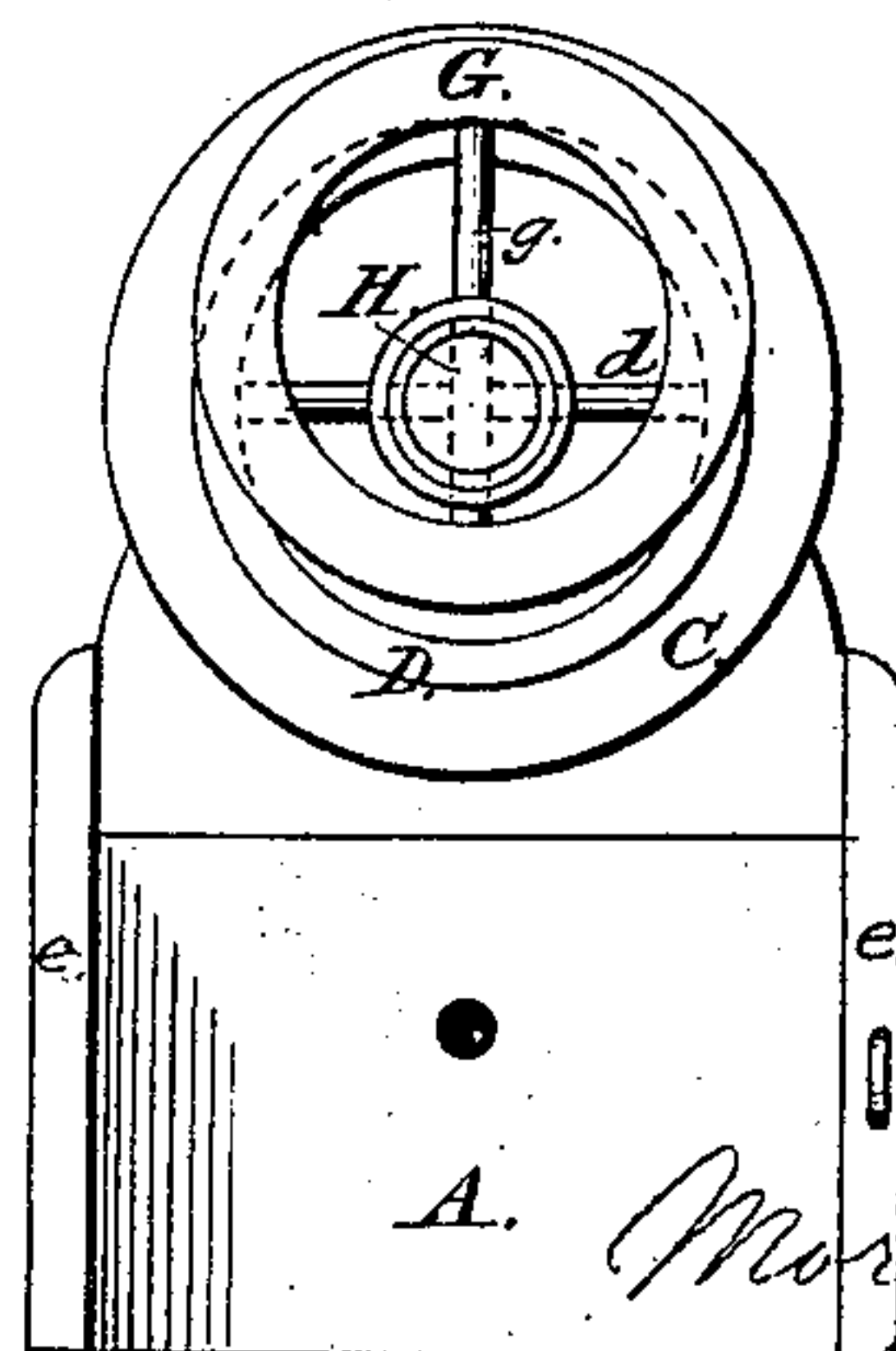
Patented July 2, 1878.



*Fig. 3.*



*Fig. 4.*



Witnesses:

M. C. Boughton  
L. J. Boughton

Inventor:

Morgan Chittenden  
W. A. Lyon



# UNITED STATES PATENT OFFICE.

MORGAN CHITTENDEN AND WILLIAM A. LYON, OF DANBURY, CONN.

## IMPROVEMENT IN LATHES FOR TURNING OVALS.

Specification forming part of Letters Patent No. **205,474**, dated July 2, 1878; application filed November 13, 1877.

*To all whom it may concern:*

Be it known that we, MORGAN CHITTENDEN and WILLIAM A. LYON, both of Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Lathes for Turning Ovals; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to lathes for turning ovals; and the object is to produce a lathe by which ovals of different sizes and shapes can be perfectly and regularly turned in an expeditious manner.

The invention consists in a chuck-plate, to which the object—such as picture-frames, &c.—to be turned is secured; and it is operated by two rings sliding against each other in recesses in an adjustable head-plate, so that they can be varied for different sizes of ovals. Each ring is provided with a central rod, which rods pass through a shaft at right angles to each other. The inner ring is attached to a head-plate on the driving-shaft, while the outer ring revolves loosely in an opening in the adjustable head-plate.

To more readily and regularly lubricate the rods, so that they will slide more easily through the short shaft, a wick is passed crosswise over one and then the other rods, all of which will be more definitely described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of our lathe. Fig. 2 is a longitudinal section of the same. Fig. 3 is an end view of the same. Fig. 4 is an end view with the head-plate removed. Fig. 5 is a detail view of the rings, showing the lubricating-wick and rods.

In the drawing, A is a frame, with suitable bearings for a shaft, B, the inner end of which is provided with a plate, C, upon the face of which a ring, D, is secured, and this has a central transverse rod, *d*. To the lower part of the inner end of frame A an adjustable head-plate, E, is secured by a set-screw, *a*, and

moves up and down between guides *e e*, and has a slot, *b*, for adjusting it. It is operated by a pivoted lever, F, having a suitable opening through it, so that the set-screw *a* can be easily manipulated. The head-plate E is recessed on its rear side, so as to slide up and down over the ring D, while its outer or front side has an opening corresponding in size to the outer ring G, which is also provided with a central transverse rod, *g*. The rods *d* and *g* pass through a short shaft, H, at right angles to each other, and around them a wick, *h*, is arranged in reverse direction, so that the rods are constantly lubricated, and thus will more easily slide through the shaft H, and are prevented from sticking. The end of the shaft H is provided with a screw-thread, upon which a washer, I, is first screwed to close the opening in the head-plate, and then the chuck-plate K, upon which the object to be turned oval is secured in any well-known manner.

The operation is as follows: The object to be turned oval being first secured to the chuck-plate, the head-plate is adjusted to the size of oval required, and motion is then imparted to the shaft B by means of the pulleys B'. The shaft B then revolves the shaft H by means of the ring G, which moves in the opening of the head-plate E; and said ring G, with shaft H and chuck-plate K, being eccentric to the ring D and shaft B, is, by the rods *d* and *g*, moved in an elliptical or oval direction, and, the cutting-tool being stationary, the oval is made perfect.

The advantages of our improved lathe are, that it is very simple in its construction; not liable to get out of order; it can be readily adjusted for different sizes of ovals; it makes the ovals perfect and uniform; it can be furnished at a very small cost, and can be made of any size and material.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a lathe for turning ovals, the shaft B, plate C, ring D, and rod *d*, in combination with the ring G, rod *g*, shaft H, and head-plate E, arranged substantially as shown and specified.

2. In a lathe for turning ovals, the combi-

nation of the shaft H, rings D and G, rods *d* and *g*, and the lubricating-wick *h*, arranged as shown, and for the purpose specified.

3. The combination of the adjustable head-plate E, lever F, rings D G, and shafts B and H, all arranged as shown, and for the purpose set forth.

4. The lathe herein described, consisting of the frame A, shaft B, plate C, rings D G,

shaft H, adjustable head-plate E, and chuck-plate K, all constructed and arranged substantially as shown and herein described.

MORGAN CHITTENDEN.  
WM. A. LYON.

Witnesses:

MARY C. BOUGHTON,  
LOTTIE S. BOUGHTON.