C. H. SCHMINKE.

LATHES FOR TURNING IRREGULAR SURFACES.

No. 175,766. Patented April 4, 1876.

FIG. I.

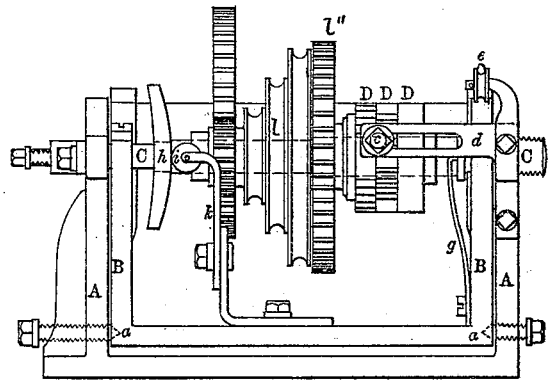


FIG. II.

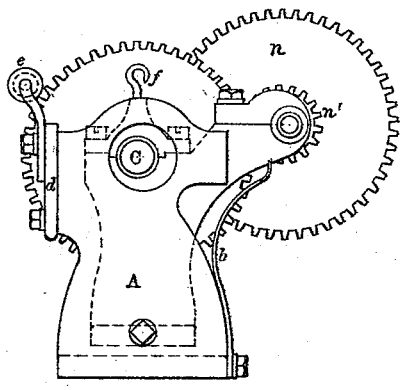


FIG. III.

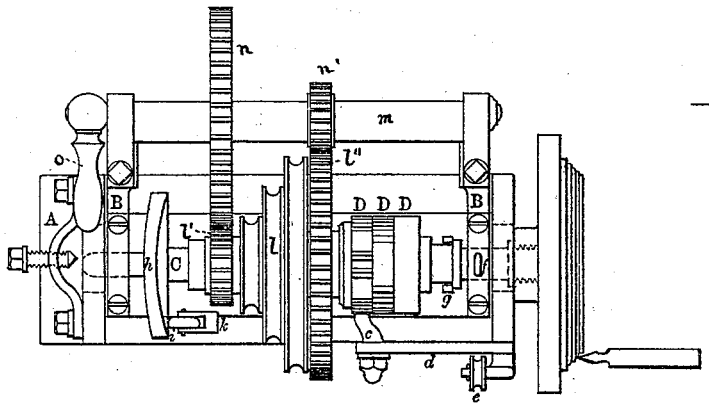
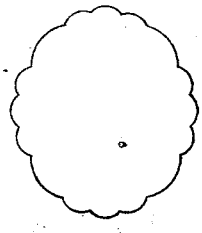


FIG. IV.



WITNESSES:

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UNITED STATES PATENT OFFICE

CHARLES HENRY SCHMINKE, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN LATHES FOR TURNING IRREGULAR SURFACES.

Specification forming part of Letters Patent No. **175,766**, dated April 4, 1876; application filed September 3, 1875.

To all whom it may concern:

Be it known that I, CHARLES HENRY SCHMINKE, of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Lathes for Turning Irregular Surfaces, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

My invention relates specially to the lathe-head, which consists of a stand, in which is pivoted a frame carrying a revoluble spindle, and adapted to vibrate independently of the stand, the vibratory movement of the frame and spindle being governed by the engagement of certain irregularly-shaped formers secured to the spindle with a fixed portion of the stand, or an independent projection bolted rigidly thereto. In addition to the vibratory movement of the frame and spindle alluded to, a longitudinal motion of the spindle without the frame is effected by means of a roller connected to the extremity of a fixed arm projecting from the aforesaid frame, and which roller bears against a disk revolving with the said spindle, having a face of the desired shape.

In the drawing, forming a part hereof, Figure 1 is a side view of a lathe-head embodying my invention. Fig. 2 is an end view of the same. Fig. 3 is a plan of the lathe-head; and Fig. 4, a face view of an ornamental disk, which, to be turned, requires, in combination with the lathe-head proper, the use of a former having a corresponding outline, as aforesaid.

Similar letters of reference represent similar parts in all the figures.

A is the stand, and B the vibratory frame, pivoted to the stand at *a*. C is the spindle, confined within bearings in the frame B. The ends of the spindle pass through openings in the stand, which are sufficiently large to allow of the vibration of the spindle therein. D D are the formers, constructed with different outlines, and secured to the spindle, with one of them in contact with an arm, *c*, held firmly within a slot in the bar *d*, extending from the stand A. The spring *b*, which serves to retain the former in contact with the arm *c*, may be assisted in its action by means of a weight attached to a cord leading over a pulley, *e*, to the hook *f*. The longitudinal movement of the spindle C, and which is independent of the frame B, is caused by the resiliency of the spring *g*, and the contact of the roller *i* in the arm *k* with the disk *h*. Upon the spindle is a cone pulley, *l*, attached to a spur-pinion, *l'*. The formers D are made to revolve independently of the cone-pulley and pinion *l'*, with a spur-wheel, *l''*. A shaft, *m*, provided with a spur-wheel and pinion, marked *n n'*, and which engage, respectively, with the pinion *l'* and wheel *l''*, is placed in eccentric bearings upon the vibrating frame B, and can be moved so as to cause the wheels to engage or be ungeared at will by means of the handle *o*.

The piece of material to be turned is secured to a chuck screwed to the end of the spindle, which is adapted for that purpose, and an ordinary tool clamped to a slide-rest used as a cutter. During the revolution of the spindle its movement toward and from the arm *c* is regulated by the shape of the former; consequently the outline or shape of the molding or article turned conforms to that of the former used. During this operation a convex or concave general surface may be given to the molding by using, in connection with the former and its attachments, a disk, *h*, having the desired shape.

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

The vibratory frame B, spindle C, loose cone-pulley *l*, pinion *l'*, wheel *l''*, formers D, disk *h*, roller *i*, and eccentrically-movable shaft *m*, with its wheel and pinion *n n'*, combined substantially as and for the purposes specified.

In testimony whereof I have hereunto subscribed my name this 23d day of August, in the year of our Lord 1875.

CHARLES HENRY SCHMINKE.

Witnesses:
WM. T. HOWARD,
GEORGE A. HOWARD.