

(No Model.)

3 Sheets—Sheet 2.

E. C. CLARK.
Hub Turning Machine.

No. 229,096.

Patented June 22, 1880.

Fig. 4.

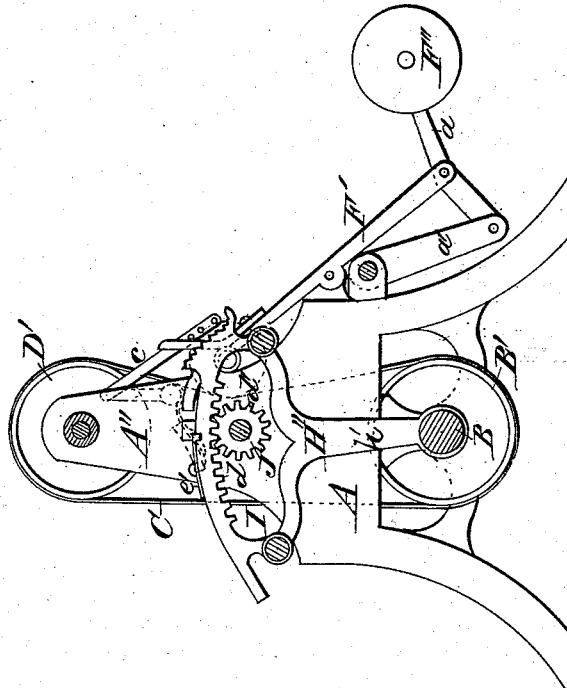
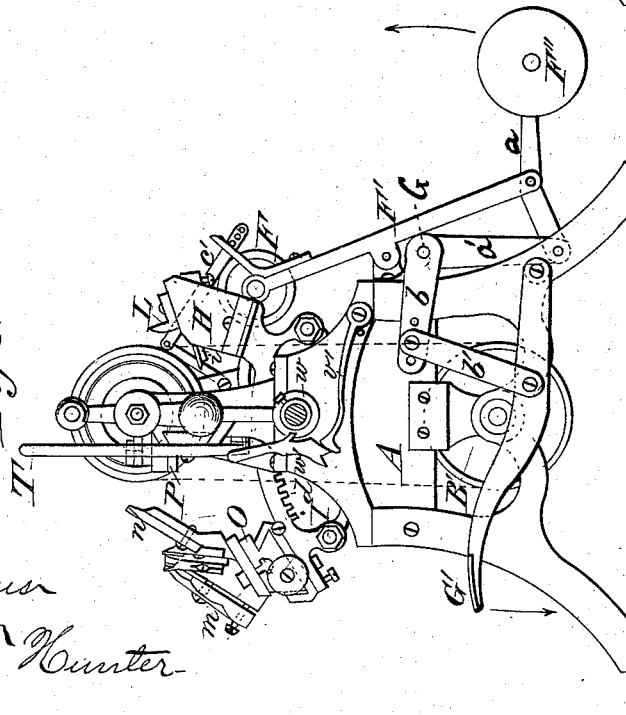


Fig. 3.



Attest:

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Charles F. Hunter

Inventor:
E. C. Clark
per S. S. Hunt
attorney

(No Model.)

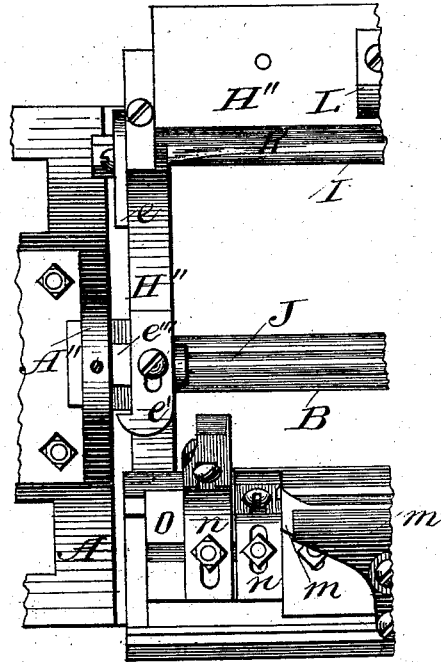
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Fig. 5.



WITNESSES
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E. C. Clark
per C. S. Smith
ATTORNEY

UNITED STATES PATENT OFFICE.

ELLERY C. CLARK, OF DE PERE, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO
A. J. WEBSTER, OF MENASHA, WISCONSIN.

HUB-TURNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,096, dated June 22, 1880.

Application filed April 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, ELLERY C. CLARK, of De Pere, in the county of Brown, and in the State of Wisconsin, have invented certain new and useful Improvements in Hub-Turning Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to lathes for turning hubs and like articles; and it consists in the device hereinafter fully described and claimed.

Figure 1 is a front elevation of a hub-lathe embodying my invention. Fig. 2 is a plan view. Fig. 3 is an end view. Fig. 4 is a vertical transverse section. Fig. 5 is a top view of a portion of the lathe, showing the stops for limiting the play of the knife-frame.

Like letters refer to like parts wherever they occur.

In the drawings, A indicates the lathe-bed, upon which, in suitable standards, A', are mounted the mandrel E' and tail-stock R, which support and rotate the hub-blank B. The mandrel E' is caused to revolve by a belt, C, which passes from a pulley, D', on the mandrel-stock to a pulley, B', on the main shaft B, which latter receives its power through pulley C'.

In order to tighten the belt C when the blank is to be revolved, tightening-pulley F is employed, said pulley mounted in a swinging frame, F', to the lower end of which a weight or counter-balance, F'', is attached by means of an arm, a, which latter is operated from a rock-shaft, G, by a treadle, G', and a series of intermediate levers, a' b b'.

As such devices form no part of the present invention, and as any of the well-known equivalents therefor may be employed instead, they need not be more specifically described herein.

I will now proceed to describe my improved devices, which pertain especially to the knife-frame and its operation.

Between hangers b² b², which afford central bearings for the pulley-shaft B, I place on said shaft a loose sleeve, h, from which extend the uprights h' h' of the swinging or oscillating frame H''. This frame H'', which carries the roughing and finishing knives, consists of end

pieces I, joined by cross-bars and provided with elliptical openings, from the upper part of which project cogs d, that engage with pinions d' on shaft J, by which the oscillating frame is operated.

On one side of the frame H'', I attach the roughing-knife K, which may be either continuous or in sections, and may be provided with spurs i, as shown in Fig. 3, for dividing the chips made by said knife. An adjustable stop, L, determines the depth of cut made by knife K. On a slide, O, on the opposite side of frame H'', I attach the ordinary finishing-knives m n.

To impart motion to the shaft J, which carries the pinion d', that operates frame H'', a hand-wheel, J'', is provided.

w', Figs. 1 and 3, indicates a pawl-lever, which is usually held by a spring, v', but which, when released from the spring, will engage with a wheel, w, on the shaft J, and thus lock the shaft, so that by said devices the frame H'' may be secured in any desired position.

Secured on the side of the oscillating frame H'' next the roughing-knife K is a stop, e, (see Fig. 5,) which, as the frame oscillates in one direction, comes in contact with a post or projection, e'', on the lathe-bed or on the upright A'', and limits the motion of the frame in that direction, while a second stop, e', secured to the top of the frame H'', is provided to engage with the stop e'' and limit the motion of the frame in the opposite direction.

These stops are preferably formed with slots and secured by set-screws, as shown, or otherwise rendered adjustable, so that they may be changed to alter the distance through which the frame H'' is permitted to move.

S indicates the end-finishing knife, which is mounted on a slide, P, operated by a lever, T, pivoted to the standard of the tail-stock R by a link, v.

The operation of these devices will be as follows: The hub-blank, having been clamped in the lathe, will be, when in position, between the roughing-knife K and the finishing-knives m n. The treadle G' may then be depressed to rotate rock-shaft G and elevate the counter-balance F'', which will bring the tightening-pulley F against the belt C and cause the

rotation of mandrel *E'* and the hub-blank *E*.
 If the hand-wheel *J''* is now turned to the left,
 the pinion *d'* will engage with rack *d* on frame
H'' and oscillate the frame so that the knife
 5 *K* will be carried up to the blank as the latter
 is rapidly revolved, and as the blank is re-
 duced the knife may be further advanced by
 the same means until the movement of the
 frame *H''* is arrested by the stop *e* striking
 10 post *e'''*. The blank will then be ready for
 finishing, and a reverse movement of hand-
 wheel *J''* will drive the frame *H''* in an oppo-
 site direction and bring the finishing-knives
m n into play. As soon as the limit of mo-
 15 tion in this direction is reached the stop *e'*
 will strike the post *e'''* and arrest the move-
 ment of frame *H''*.

The blank will now have become a finished
 hub and may be replaced by another blank.

Having thus described my invention, what 20
 I claim, and desire to secure by Letters Pat-
 ent, is—

In a hub-turning machine, the combination,
 with the roughing and finishing knives, of a
 frame by which they are carried, having ellip- 25
 tical openings in its ends, from which depend
 cogs for receiving the pinions by which the
 said frame is oscillated and stops for limiting
 its oscillation, substantially as set forth.

In testimony that I claim the foregoing I 30
 have hereunto set my hand this 2d day of
 April, 1880.

ELLERY C. CLARK.

Witnesses:

E. F. PARKER,
 AL ANDERSON.