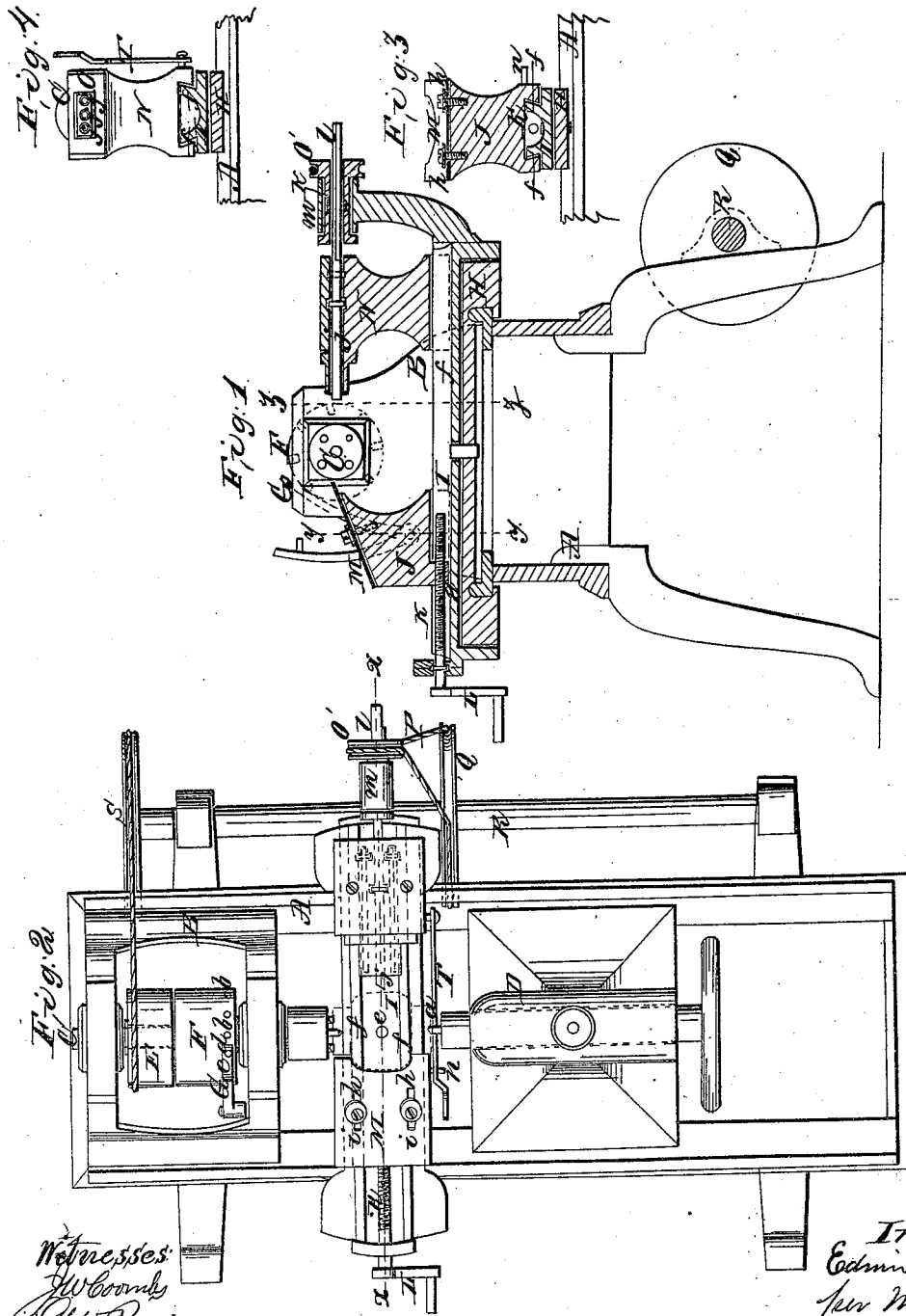


E. M. Scott,
Turning Regular Forms.
No 34,595. *Patented Mar. 4, 1862.*



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UNITED STATES PATENT OFFICE.

EDWIN M. SCOTT, OF AUBURN, NEW YORK.

IMPROVEMENT IN MACHINES FOR TURNING AND MORTISING HUBS.

Specification forming part of Letters Patent No. 34,595, dated March 4, 1862.

To all whom it may concern:

Be it known that I, EDWIN M. SCOTT, of Auburn, in the county of Cayuga and State of New York, have invented a new and Improved Machine for Turning and Mortising Hubs; 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, making a part of this specification, in which—

Figure 1 is a transverse vertical section of my invention taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, a vertical section of a portion of the same taken in the line *y y*, Fig. 1; Fig. 4, a vertical section of a portion of the same taken in the line *z z*, Fig. 1.

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

The object of this invention is to obtain a machine by which hubs may be turned and then mortised to receive their spokes, the turning and mortising being performed at one operation and with the greatest facility.

The invention consists in combining with an ordinary turning-lathe a slide-rest provided with a cutter and also with a mortising-tool, the parts being so arranged that the cutter may, by a simple manipulation, be first made to act against the work and turn the hub in proper form and the mortising-tool then made to act and mortise the hub.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the bed of a turning-lathe, which may be supported at any desired height by legs or a suitable framing.

B is the stationary head, which contains the revolving mandrel C, and D the sliding or adjustable head, which contains the adjustable center-point *a*. These parts being of ordinary construction, do not require a minute description.

The mandrel C has a loose or idle pulley E upon it and a working pulley F, the latter having a series of holes *b* made in it at equal distances apart, corresponding to the distance required between the spokes designed for the hub to be turned.

G is a stop, which is secured in the head B of the lathe. This stop is formed of a bar *c*,

pivoted at one end in the head B and provided at its opposite end with a pin *d*, which may be fitted in any of the holes *b* by adjusting the bar *c* toward the working-pulley.

On the bed A there is placed transversely a bar H, and to this bar H there is secured by a pivot *e* a bar I, on which there are two longitudinal and parallel guides *f f*, the guides extending the whole length of the bar I.

On the guides *f f* there is placed a head J, which is allowed to slide freely on the guides, and is operated by a screw K, which passes through a nut *g* at the under side of the head. (See Figs. 1 and 3.) The outer end of the screw K is provided with a crank L, and the top of the head J is inclined and has a cutter M attached to it by screws *h h*, which pass through oblong slots *i i* in the cutter, as shown clearly in Fig. 2. The cutter M is made in the precise form of a longitudinal profile of the hub to be turned.

On the guides *f f* there is placed a head N, which has a hollow rectangular chisel O secured to its inner side, said chisel containing three augers *j' j' j'*, which are connected by gearing *k*. The central auger *j'* has its shank *l* extending entirely through the head N, said shank also passing loosely through a pulley O', which is connected with the shank *l* by a feather and groove, so that the pulley may rotate the shank *l*. The pulley O' is fitted in a bearing *m*, attached to the back end of the bar I, and around the pulley O' a band P passes, said band also passing around a pulley Q on a shaft R, which is fitted in suitable bearings attached to the framing which supports the bed A of the latter.

The shaft R is driven by a belt S from the idle pulley E of the mandrel C.

The head N has a bar T attached to it at one side by a pivot *m*, and this bar is notched near its opposite end to catch on a pin *n* at the lower part of the head J.

The operation is as follows: The operator or attendant places a bolt and properly centers it between the mandrel C and point *a*, the head J being drawn back or outward on its ways or guides *f f*, and the head N being shoved back to its fullest extent on said ways or guides. The stop G is thrown outward from the working-pulley F, and the driving-belt adjusted on the working-pulley F, and the

belt thereby rotated. The operator or attendant, by turning the screw, forces the head J, and consequently the cutter M, toward the bolt, and the latter will be turned in the desired form. After the hub is turned, the operator throws the driving-belt from the working to the idle pulley and secures the former or prevents it from casually turning by adjusting the stop G. The bar T is then connected to the head J, and the latter moved backward or outward from the hub, and the head N consequently moved toward it, a mortise being made in the hub by the chisel O and augers *j' j' j'*. The head N is then shoved outward from the hub and the latter turned the distance of a space between the holes *b* in the pulley F. The operation is then repeated, and a succeeding mortise made, and so on until the hub is fully mortised all around.

It will be understood that the augers *j' j' j'* are rotated from the shaft R when the driving-belt is adjusted on the idle pulley E. In

case it is required to mortise the hub obliquely for disk-shaped wheels, the bar I is moved or adjusted obliquely or angularly with the bar H, the pivot-connection *e* admitting of such result.

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

The pivoted bar I, provided with the parallel guides *f f* and sliding heads J N, the heads being provided one with the cutter M and the other with the chisel O, and augers *j'*, and the head J operated by a screw K and connected with the head N by a bar T, when required, all being arranged and combined with a turning-lathe to operate as and for the purpose set forth.

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Witnesses:

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