

E. Briggs, Spoke Lathe.

No 31,006.

Patented Jan. 1, 1861.

Fig. 1.

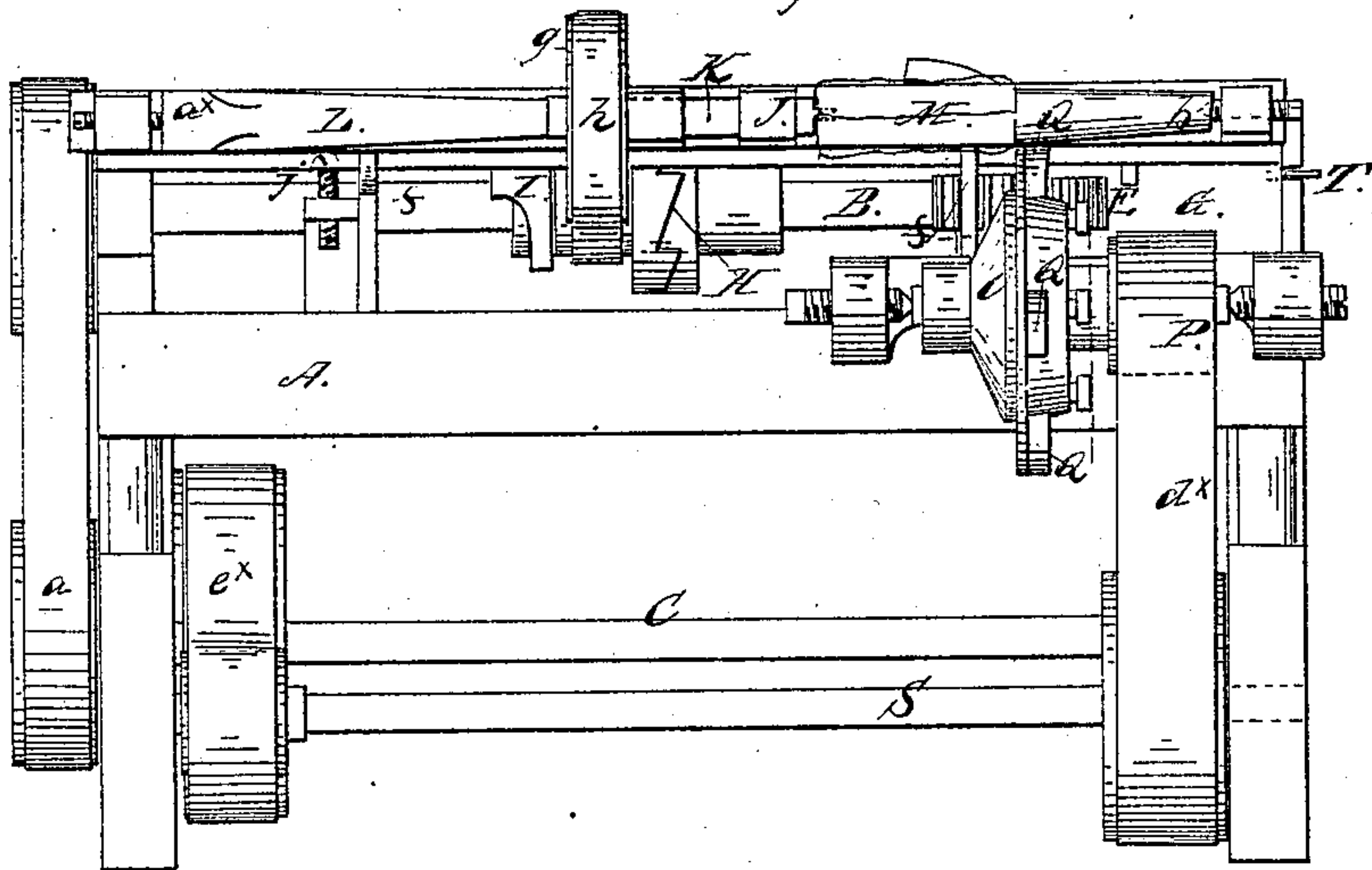


Fig. 2.

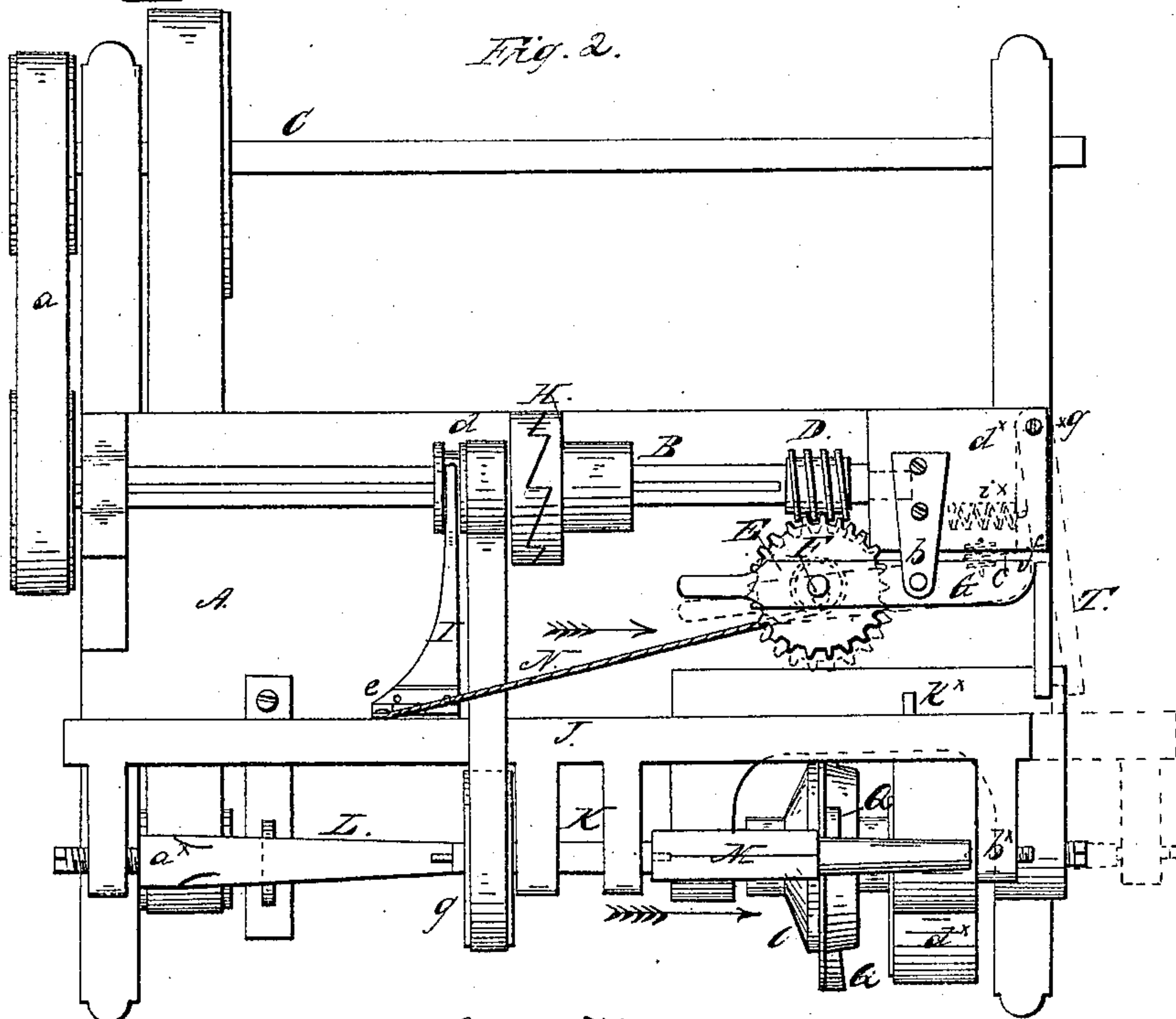
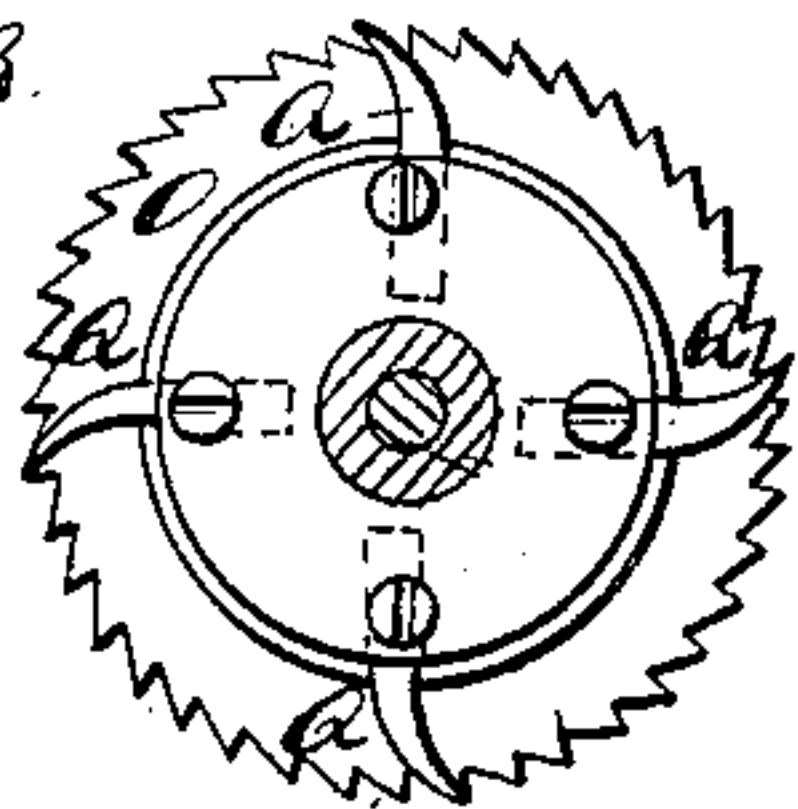


Fig. 3.



Witnesses

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ELIAKIM BRIGGS, OF SOUTH BEND, INDIANA.

FEEDING MECHANISM FOR SPOKE-MACHINES.

Specification of Letters Patent No. 31,006, dated January 1, 1861.

To all whom it may concern:

Be it known that I, ELIAKIM BRIGGS, of South Bend, in the county of St. Joseph and State of Indiana, have invented a new and Improved Machine for Turning Spokes and Similar Articles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of my invention. Fig. 2 is a plan or top view of the same. Fig. 3 a detached side view of the cutting device of the same.

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

This invention relates to an improvement in that class of turning machines in which a pattern is used for giving the desired form to the work to be produced.

The invention although more especially designed for turning spokes is applicable for turning all articles having a curved longitudinal profile as well as those having an irregular form circumferentially.

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

A represents a rectangular frame on which a shaft B, is placed, said shaft being rotated from a driving shaft C, by means of a belt *a*. On one end of the shaft B, there is placed a screw D, into which a worm wheel E, gears, the wheel E, having its axis F, fitted in a block G, which is secured to the frame A, by a joint *b*, to admit of the wheel E, being thrown in and out of gear with the screw D. This will be fully understood by referring to Fig. 2, in which the wheel E, is shown in gear with the screw D, in black, and out of gear in red. A spring *c*, which is interposed between the block G, and an upright *d*^x, on the framing has a tendency to keep the wheel E, out of gear with the screw D.

On the shaft B, a clutch H, is placed said clutch connecting a pulley *d*, with the shaft B. The clutch and pulley are allowed to slide freely on the shaft B, and to the pulley *d*, an arm I, is connected, the front end of which is attached by a hinge or joint *e*, with a frame J, which is allowed to swing or work in bearings *f*, *f*, at its back end.

In the front part of the frame J, an arbor K, is placed, said arbor having a

pulley *g*, on it, around which and the pulley *d*, a belt *h*, passes. In the frame J, a pattern L, is placed one end of said pattern being attached to the arbor K, and the other end fitted against a center part *a*^x, and there is also placed in said frame the stick M, which is to be cut or turned in the form of the pattern, one end of said stick being attached to the opposite end of arbor K, and the other end fitted against a center point *b*^x. To the arm I, one end of a cord N, is attached said cord being attached at its opposite end to the axis F, of the worm wheel E.

O, is a circular saw which is placed on a mandrel P, below the stick M, and Q, are cutters which are placed or fitted in a box R, said cutters being adjusted farther in or out from said box as occasion may require, and secured in proper position by set screws *c*^x. This will be fully understood by referring to Fig. 3. The mandrel P, is driven by a belt *d*^x, from a shaft S, which is driven in turn by a belt *e*^x, from the shaft C.

T, is a bar provided with a shoulder *f*^x, and secured by a pivot *g*^x, in the upright *d*^x, to which the block G, is secured. The shoulder *f*^x, of the bar T, by means of a spring *i*^x, which is attached to said bar is kept between the outer end of block G, and the upright *d*^x, and retains the worm wheel E, in gear with screw D, as shown in black Fig. 2. To the upper surface of the frame A, a bearing *j*^x, is attached on which bearing the pattern L, rests.

The operation is as follows: The stick M, to be operated upon is placed in the frame J, and the latter moved to the left as far as it will go in order to bring the outer end of the stick M, at the edge of the saw O, and the corresponding end of the pattern L, on the bearing *j*^x. The shaft C, is then rotated by any convenient power, and the pattern L, and stick M, are rotated from shaft B, by means of the belt *h*. The saw O, and cutters Q, are rotated simultaneously with the pattern and stick, and the saw and cutters act upon the stick M, as it rotates the stick rising and falling while being rotated in consequence of the pattern L, as it rotates actuating the frame J. As the saw and cutters act upon the stick, the frame J, is fed along to the right or in the direction indicated by arrow 1 in consequence of the cord N, being wound on the axis or shaft F, of

the worm wheel E, and when the stick has passed over the saw and cutters and consequently been fully acted upon and finished a projection h^x , on frame J, strikes the
5 bar T, and throws the shoulder f^x , out from between the block G, on the upright d^x , and the spring c , throws the wheel E, out from the screw D. The feed motion therefore of frame J, is automatically stopped and the
10 operator moves backward the frame J, sufficiently to disconnect the pulley d , from the clutch H, and the pattern, and stick or work cease to rotate. The attendant then removes the finished stick, and a new one is fitted in
15 its place, the frame J, moved backward to the left as before, the wheel E, thrown in gear with screw D, and the operation repeated.

The saw O, serves as a roughing off tool
20 and the cutters Q, as finishers, the latter

leaving the work in a smooth state so as to require little after work or finishing.

I do not claim the employment or use of a revolving pattern placed in a swinging frame with the stick or work to be operated
25 on for the purpose of automatically turning articles such as spokes and the like, but;

I do claim as new and desire to secure by Letters Patent—

The arrangement of the screw D, wheel
30 E, attached to block G, the cord N, attached to arm I, and axis F, of wheel E, catch bar T, and sliding clutch H, all arranged for joint operation, as and for the purpose specified.

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Witnesses:

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