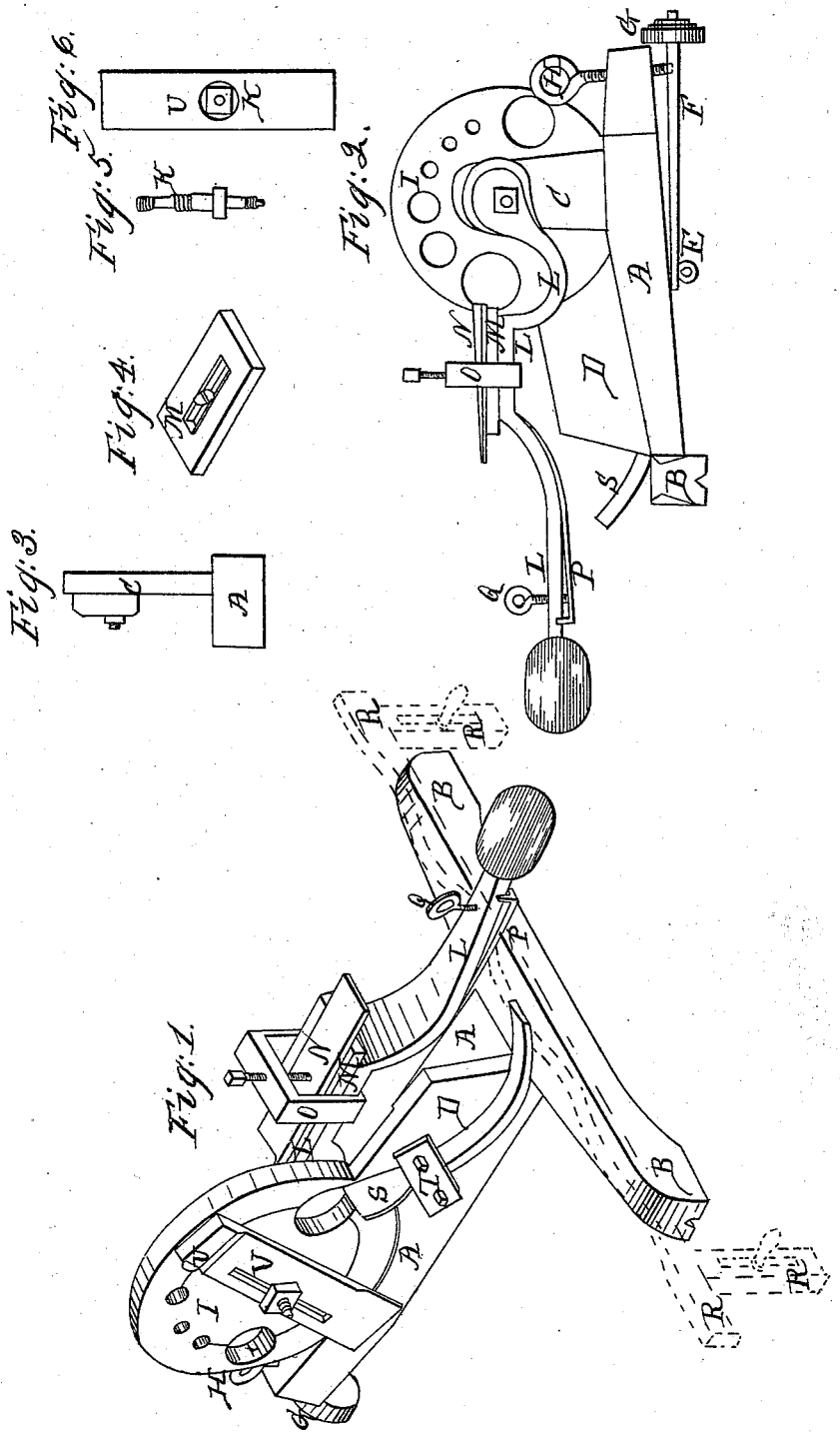
M. W. St. John,

Turning Regular Forms.

No. 4,049. Patented May 13, 1845.



UNITED STATES PATENT OFFICE.

MILTON W. ST. JOHN, OF PLAINFIELD, NEW YORK.

MACHINERY FOR TURNING WOOD.

Specification of Letters Patent No. 4,049, dated May 13, 1845.

To all whom it may concern:

Be it known that I, MILTON W. ST. JOHN, of Plainfield, in the county of Otsego, in the State of New York, have invented a new and useful Machine for Turning Wood of Various Shapes, called a "Self-Operating Engine for Turning Wood;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed or accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 a longitudinal elevation of the back side, or side opposite the sinister plane as shown in Fig. 1. Fig. 3 a transverse section of the post, and pad on the end of the graduating handle. Fig. 4 a perspective view of the supporting slide. Fig. 5 the center pin. Fig. 6 the feeding wedge, showing the square part of the center pin.

The construction and operation of said engine is as follows—The base A, and two arms B, B, with the main fastening post or standard C, Fig. 3, and the gouge supporting piece D, Fig. 1, may be constructed in one piece, and of cast iron, with grooves on the under side of the arms B, B, to fit a rail or way of iron fastened upon the lathe bench, on which the engine is to work or pass from one head of the lathe to the other. On the under side of the base A, and near its center is the loop headed screw E, Fig. 2, fastening the end of the spring axle F, by screwing into the base, and to the head of this screw is attached weights to steady the engine when the work is so heavy as to require it. On the end of the axle F, works the friction roller G, which is to support and carry this end of the base A on a smooth plate of iron fastened upon the top of said lathe bench for that purpose. Through the back end of the base A, is put the thumb screw H, Fig. 2, which is to adjust horizontally the centers of the holes in the wheel I, to the centers or burs of the heads of the lathe, which is effected by the thumb screw H, passing through the base A as a nut, into the countersink made in the axle F, to receive the lower end of the thumb screw H, thus preventing the axle from moving to the right or left of the center of the base, also elevating or depressing this end of the base as the screw H is passed out or into the base, the result of which, is to throw the center of the gage hole in the wheel I, to the right or left of the lathe centers—or placing them to correspond, which must be the case before it can be used. The wheel I, is constructed of cast iron with the sides and edge faced true with circular mark strick at an equal distance from the center of the wheel and corresponding with its edge, on which is placed the centers of the different gage holes, which vary in size and number, according to the variety of business to be done with the engine. In the center of this wheel is a hole through which the center pin K, Fig. 5, passes and screws into the post C, Fig. 3, there being a shoulder or square place on the pin which faces against the outside of the wheel I, and to which is applied a wrench to screw in the pin and draw the wheel up to the post, which is to remain fast while in use. But when another sized hole is to be used the pin is unscrewed, which unfastens the wheel so that it is free to turn on the center pin until the center of the hole to be used will correspond in a perpendicular line with centers of the heads of the lathe—the wheel is then fastened for use by screwing up the center pin. The office of the gage hole in the wheel I, is merely to steady or prevent the piece being turned from a tremulous motion,—the gouge sizing it to fit the hole. The center pin K, is to continue through the fastening post C, sufficiently on which to hang the graduating handle L, Fig. 2 and to receive a nut which is to screw against the pad of the handle which faces to and against the fastening post C, and by the broadness of the pad prevents a sidewise or rocking motion to the handle. This handle is constructed of cast iron with the supporting slide M, Fig. 4, which is fastened to the plane surface of the handle L, by a slit headed screw which passes through a slide mortise into the handle, with the head of the screw sunk below the surface of the slide by applying a screwdriver to the slit in the head of the screw. On this slide is placed the finishing chisel N, which is fastened to its place by a screw which passes through the top of the band O, onto the chisel, which is supported and prevented from springing in turning small pieces (where it becomes necessary to slide the chisel in to the piece to the turned) by passing in the slide on which the chisel rests— and thus fastening it.

The finishing chisel may be constructed

as represented in Fig. 1, or the circular or gouge part may be made separate from the plain or chisel part, as the business of the engine may require. On the under side of the handle L, is placed the spring P, which is worked or operated upon by the thumb screw Q, which passes through the handle L, onto the spring P, which rests and moves on the former or rest R, Fig. 1 represented by dotted lines, and which is attached to the side of the lathe by hand screws—represented also by dotted lines—which gives the piece to be turned its shape or form corresponding with the shape of the former as indicated by the dotted curved and waved lines. The thumb screw Q, regulates the size of the piece by its passing through the handle L, onto the spring—thus elevating or depressing the handle to which the finishing knife or chisel N is attached. To the gouge supporting piece D, is attached the sizing gouge S, by means of the cross bar T and the two screws that pass through it, which screw into the piece D. On the under side of the gouge, and between the gouge and lower screw may be forced a wedge of wood which will serve to keep the gouge from moving while in use. The gouge S, is that which reduces the piece to a proper size for the gage hole through which it is to pass. The center pin K, is to extend out beyond the shoulder or square part sufficiently to admit of the feeding wedge of wood U, on which depends the feed or run of the engine by its being wedging, or the surface on which the feeding knife V, Fig. 1 rests or faces to, being more or less inclined as may be desired, for more or less feed or motion to the engine, which motion depends wholly upon the obtuseness of the feeding wedge U. The feeding or motive knife V, is constructed with the edge or cutting part to extend nearly the whole length, with a slit or long mortise corresponding in length with the edge or cut of the knife, and is fastened to its place by the center pin passing through the slits or mortises, on which it is moved or slid along as the edge becomes too dull for use, and on the end of the pin is a large nut screwing up and facing against the plain side of the knife, thus screwing the knife up to and against the inclined plain of the feeding wedge, which faces against the wheel by having a hole in the center of the wedge of sufficient size to pass over the square part of the center pin, as represented by Fig. 6, thus, by the oblique position of the knife and a sufficiently deep insertion of the edge in the piece to be turned, the knife leaves a spiral incision which, by the revolving of the piece, is continued, thus drawing the engine along by the edge of this knife to the timber to be removed by the other respective knives.

What I claim as my invention and desire to secure by Letters Patent is—

1. The manner of feeding by means of the inclined feeding wedge U as before set forth, whether the operation be effected precisely in the same manner described or in any mode substantially the same.

2. I also claim the combination of the sizing gouge S with the wheel I and adjustable cutter N for the purpose and in the manner described.

M. W. ST. JOHN.

Witnesses:
DENNIS HARDIN,
SAMUEL DAVIS.