

Patented July 1, 1851.

UNITED STATES PATENT OFFICE.

T. R. BAILEY, OF LOCKPORT, NEW YORK.

LATHE.

Specification of Letters Patent No. 8,196, dated July 1, 1851.

To all whom it may concern:

Be it known that I, T. R. BAILEY, of Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in a Turning-Lathe; 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, forming part of this specification, in which—

Figure 1, is an isometrical view of the lathe. Fig. 2, is a front view of the contrivance for bringing up and throwing back the puppet center. Fig. 3, is section showing the centering apparatus.

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

My improvements relate, First, to certain devices, by the aid of which, sticks, rods, or any pieces of material can be inserted between the centers for turning so as to bring them at once in the center of motion, without the trouble uncertainty of what is commonly called centering by the eye. These devices consist in two mouth pieces the insides of which are of conical or cup shape placed concentric to the line of motion; one attached to the mandrel head by means of rods parallel with the mandrel, sliding through guides on the head, and having a weight or spring applied to it in such a manner as to impel it forward beyond the mandrel, being provided with a hole through which the mandrel passes, when it, the cone, is pushed back; and the other attached to the front of a sliding cutter block, and having a hole through which the back or puppet center passes. Second, to a contrivance for throwing back the puppet center at the instant the stick or piece of material has been turned along the whole length. This contrivance consists, in connecting the puppet center by a lever, with a sliding bar on which there is a ratchet into which takes a pawl or catch attached to the bed or frame. When the center is moved up to the work it is kept in place by the ratchet and catch, the catch projects above the bed so that it is struck by the cutter head when it reaches its most forward position, and released from the ratchet, when the sliding bar in connection with the center is immediately carried back by a weight or spring, removing the center from the work, and leaving the work free to drop from the lathe. Thirdly, to a

contrivance for throwing the work out of the lathe after the puppet center is removed, consisting in a spring arm, in connection with which is a lever, which is struck by the cutter head at the same time as the center is withdrawn, and caused to throw down the spring arm upon the work and throw it out of the lathe.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, is the bed of the lathe.

B, B, are the sides.

C, is the mandrel head; *c* the mandrel.

D, is one of the mouth pieces, the interior of which is of conical form, it has two ears *d*, *d*, one on each side, to each of these is attached a rod E, passing through guides *e*, *e*, on the mandrel head. The two rods are connected at the back of the mandrel head.

F, is a cord attached to the rod E, at the back of the mandrel head, it passes over a pulley G, supported by the bed, and has a weight H, suspended at its end, which has a tendency to pull forward the mouth piece D.

I, is the cutter head, which is intended to be moved by hand or otherwise along the sides B, B, on which it rests. At its front is the other mouth piece D¹, which is cast on it, or otherwise secured to it, in a position concentric to the line of motion. The cutter head itself and the cutters may be of any suitable form, but as they form no part of my improvements, need no particular description. K, is the puppet head. L, its movable center.

M, is a lever whose fulcrum is in a link *m*, attached to the back of the puppet head; it is connected by a pin at *l*, a short distance from its fulcrum with the puppet center L.

N, is the sliding bar sliding along the front of the bed between a stationary rib O, and two guide pieces P, P; it is connected by a rod *n*, to the end of the lever M.

Q, is a lever having its fulcrum at *q* in a bar R¹, attached to one of the holding down bars R, of the puppet head; it is connected by a rod S, to the sliding bar N.

T, is a ratchet, secured to the inner face of the sliding bar N.

t, is a catch, hung on a pin *u*, in a recess in the face of the stationary bar O, its point takes into the ratchet T; attached to it there is an arm *v*, whose end stands up above the bar O.

U, is a cord attached to the sliding bar N,

near its back end; it passes over a pulley V, hung in the bed, and has a weight W, suspended at its end, which has a tendency to draw back the bar.

- 5 X, is the spring arm for the throwing out the work; it has its end forked or bent so as to embrace any stick that may be in the lathe; it is always raised by its own spring
10 some distance above the work when not depressed by other means.

Y, is a lever hung near the center of its length on a fulcrum y, on the back of the bed.

- 15 Z, is a pattern secured to the top of the stationary bar O, upon this pattern the end or handle z, of the cutter lever rests and travels.

- The operation of my improvements are as follows: Before inserting the material in
20 the lathe, the cutter head I, is first moved back close to the puppet head, and the stick or piece of material to be turned is taken by the operator, who inserts one end in the mouth piece D, and holds the other opposite
25 to that D¹, and then moves up the center head toward it, by which D, is pushed back until the end of the material comes in contact with the chucks, the lever Q, is then pulled toward the mandril head and the
30 puppet center moved up to the work. The catch t, always falls by its own weight into the rack T, and holds the puppet center secure while the turning is performed. The cutter head is moved toward the mandril by
35 the operator who holds the handle i, and as soon as the piece is turned the whole length, the handle will strike the arm v, and move it to the position shown in red lines in Fig. 2, raising the catch from the rack T, and leaving
40 the bar N, free, when it will be instantly carried back by the weight W, drawing back the lever M, and withdrawing the puppet

center from the work. At the same instant that the handle i, strikes the arm v, the opposite side of the cutter head comes in contact with the forward arm of the lever Y, throwing it back, and causing its backward end to bear on the spring arm X, and throw it forward and downward until it strikes the piece of work, and throws it from the lathe
50 to the floor. In most instances the stick will drop of its own weight after the puppet center is removed, but the spring arm X, will insure its fall, in case it should be held by the chuck. 55

This lathe is adapted for turning handles of brooms or any handles or balustrade rails, or any articles of which it is desired to turn a large number of the same pattern, and will turn a larger number of sticks in a given
60 time than any lathe in use, as they can be inserted as quickly as the operator can receive them or take them up and insert them, the cones D, and D¹, ensuring a perfect centering, each being thrown out the instant it
65 is finished, when the cutter head can be rapidly moved back ready for inserting the next.

What I claim as my invention and desire to secure by Letters Patent is— 70

Controlling the puppet center L, so that it releases itself after the turning is finished by connecting it with a sliding bar N, having a weight W, or its equivalent attached, and carrying a ratchet T, which is held by a
75 catch t, attached to the stationary bed, the said catch having an arm v, attached which is struck by part of the cutter head after the cut is finished, and released from the ratchet, substantially as herein shown.

THOMAS R. BAILEY.

Witnesses:

L. A. SPALDING,
CHARLES EVANS.