

(No Model.)

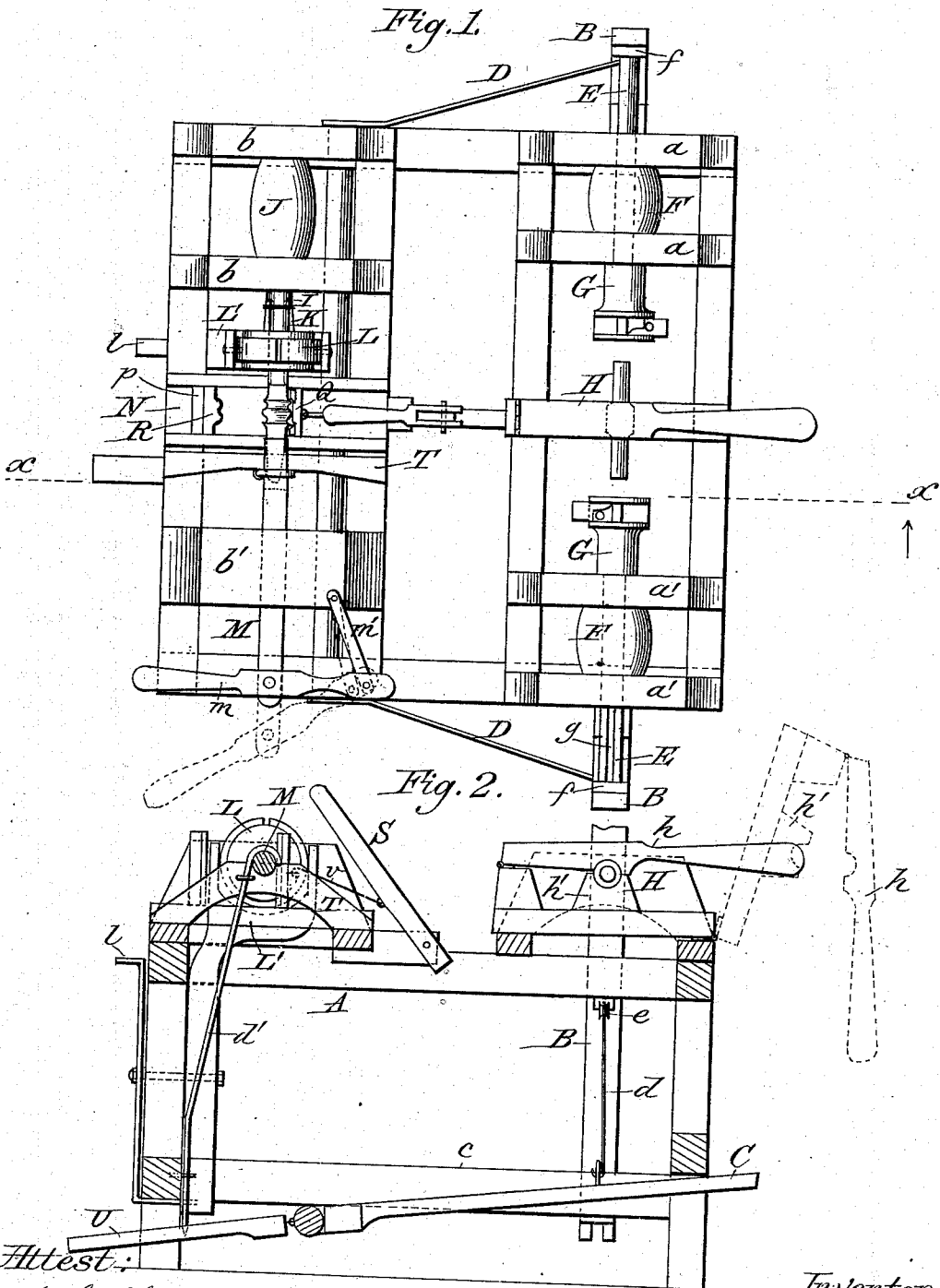
2 Sheets—Sheet 1.

H. A. MILES.

MACHINE FOR TURNING CARRIAGE SEAT SPINDLES.

No. 272,073.

Patented Feb. 13, 1883.



Attest:  
H. H. Schott  
A. R. Brown.

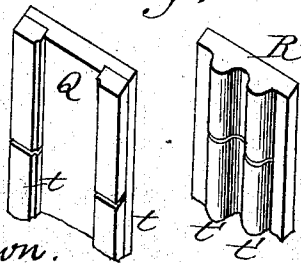
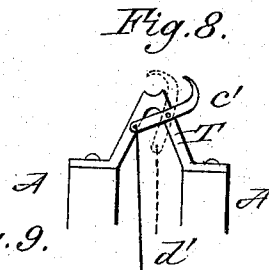
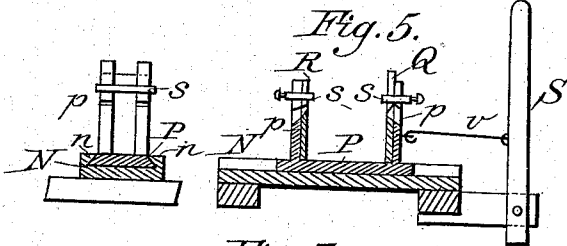
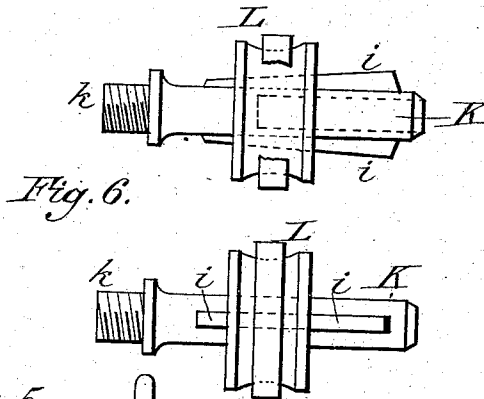
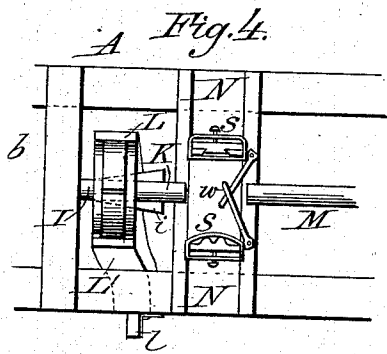
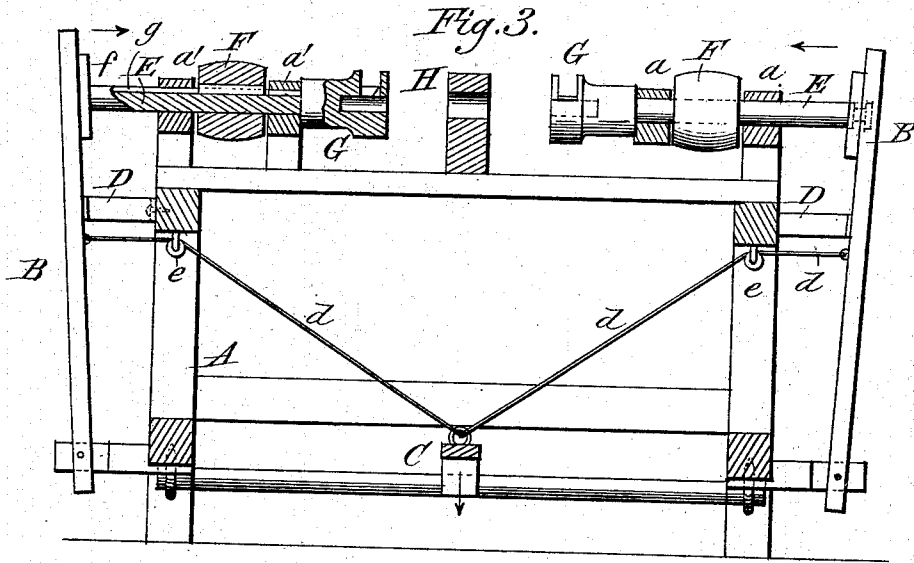
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 Harmon A Miles  
 per J. C. Tasker-Lath

# UNITED STATES PATENT OFFICE.

HARMON A. MILES, OF CONCORD, NEW HAMPSHIRE.

## MACHINE FOR TURNING CARRIAGE-SEAT SPINDLES.

SPECIFICATION forming part of Letters Patent No. 272,073, dated February 13, 1883.

Application filed June 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, HARMON A. MILES, a citizen of the United States, residing at Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Wood-Turning Machines, of which the following is a specification.

My invention relates to wood-turning machines of the class employed for turning carriage-seat spindles and analogous articles; and it consists in the construction, arrangement, and combination of parts, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a top view of my improved wood-turning machine. Fig. 2 is a cross-section on the line  $x x$  of Fig. 1. Fig. 3 is a sectional side view. Figs. 4 to 8 are details hereinafter referred to. Fig. 9 represents views of a carriage-seat spindle.

Like letters of reference are used to designate like parts in the several views.

A represents the frame of the machine, which is supported on suitable legs, and provided at each side, at the top, with bearings  $a a' b b'$ , for the purpose hereinafter explained. To the cross-pieces  $c c$ , connecting the legs at each end of the machine, are hinged the upright arms or levers B B. These levers are connected to a treadle, C, by means of cords, wires, or chains  $d d$ , that pass through rings or over pulleys  $e e$ , attached to the under side of the frame, so that by pressing the treadle down the upper ends of the levers will be caused to approach the ends of the frame. D D are springs that are attached to the ends of the frame and made to bear against the inner sides of the levers B B, so as to force their upper ends outward when the treadle is released.

In the bearings  $a a$  and  $a' a'$  are journaled the arbors E E, the outer ends of which are also loosely journaled in bearings  $f f$ , that are formed in the upper ends of the levers B B. These arbors are each provided with a pulley, F, that is carried on the arbor between the bearings  $a a$  and  $a' a'$  respectively, the pulley being connected to the arbor by means of a pin or feather engaging a longitudinal groove,  $g$ , that is formed in the arbor, so that the arbors, which are arranged in the same line, are capable of longitudinal movement toward and

from each other independent of their pulleys and without disturbing or effecting the rotation of the latter. The arbors E E are each hollow at the end, and each arbor carries a hollow cutter-head, G, for receiving the ends of the spindle or similar article to be turned.

A clamp, H, for holding the work operated upon, is hinged to the frame A, so as to be capable of being turned down between the cutter-heads G G, or turned outward, as shown by dotted lines in Fig. 2. This clamp consists of two jaws,  $h h'$ , that are hinged together at one end, the lower jaw being hinged by its opposite end to the frame, and the upper jaw having a handle by which it is opened to receive or remove the work.

A shaft, I, carrying a pulley, J, is journaled in the bearings  $b b$ , and carries at its inner end a hollow arbor, K, the sides of which are slotted longitudinally for the reception of wedge-shaped fingers  $i i$ , that are pivoted or otherwise secured therein at one end, so as to bear against and hold the article operated on. The inner end of the shaft I is hollow, and the hollow arbor K has one end reduced and screw-threaded, as shown at  $k$ , Fig. 6, for connection with the hollow end of said shaft, so that the arbor can be detached and another substituted, if desired, without disturbing the shaft.

A clutch, L, surrounds the arbor K, and is capable of being moved thereon by a lever,  $l$ , so as to bear against the fingers  $i i$  and press them in contact with the end of the spindle or other similar article that is introduced into the hollow arbor. This clutch is supported in a frame, L', Figs. 1, 2, and 4, to which the lever  $l$  is attached.

The bearing  $b'$  supports a hollow sliding arbor, M, which is arranged in line with the rotating arbor K, and is provided with levers  $m m'$ , by which it may be moved toward and from the rotating arbor K.

To the top of the frame A, between the arbors K and M, is secured a grooved bed-piece, N, provided with beveled ways  $n n$  for receiving the beveled edges of a plate, P, that is adapted to slide therein. This plate P carries at each end a standard,  $p$ , Fig. 5. To these standards  $p p$  are secured by means of grips  $s s$ , Fig. 4, the plates or tool-holders Q R, which are provided with knives or cutters  $t t'$ , as shown in

Fig. 7. These knives are so formed and arranged as to finish the central portion of the spindle, the ends of which are held by the arbors K and M.

5 While the spindle is rotated by the arbor K, the plate P, carrying the knife-standards, is moved back and forth, so as to bring the knives *t* and *t'* alternately in contact with the spindle for the purpose of finishing its central part. This back-and-forth movement of the plate P may be effected by means of a lever, S, connected to the plate P by a link, *v*; or any other means of moving the sliding plate may be employed.

10 On the top of the bed-piece N are pivoted two stops, *w w*, for regulating the cutting of the body of the spindle. Opening them diminishes and closing them enlarges the extent of cut, and varies the size of the spindle accordingly.

20 A rest, T, is attached to the top of the frame A, parallel with the bed-piece N, for the purpose of supporting the inner end of the hollow sliding arbor M when moved inward to receive one end of the spindle.

25 In order to hold the arbor M securely in position, a hook or dog, *c'*, is employed. This dog may be pivoted to the rest T, as shown in Fig. 8, and connected by a rod, *d'*, to a treadle, U; or the rod *d'* may have a hooked end for engagement with the arbor, as shown in Fig.

30 2. By depressing the treadle U the hook will be pressed down over the arbor, thereby holding it securely against the rest.

35 The operation of the machine is as follows: In making a carriage-seat spindle or similar article I take a piece of wood of the proper dimensions and place it in the clamp H. The arbors E E, carrying the hollow cutter-heads G G, are put in motion by means of belts passed around the pulleys F F, and the foot is placed on the treadle C so as to depress the same, thereby causing the cutter-heads to approach and act upon the ends of the wood, which is thus turned down to the form shown at *y*, Fig. 9. By releasing the treadle C the tension of the springs D D will force the levers B B out-

ward, thus withdrawing the cutter-heads G G from the spindle, which may then be removed from the clamp. One end of the spindle *y* is then placed in the hollow rotating arbor K. The clutch L is made to bear on the fingers *i i* by means of the lever *l*, so as to hold the spindle firmly, and the hollow sliding arbor M is brought over the other end of the spindle by moving the levers *m m'*, as shown in Fig. 1. The arbor M is held securely in the rest T by pressing the treadle U so as to bring the hook or dog *c'* over said arbor. The arbor K, in which the spindle is securely held, being rotated by means of a belt passing over the pulley J, the knives *t* and *t'* on the plates Q R are now brought alternately against the revolving spindle, and the same is thus turned down into the finished form shown at *y'*, Fig. 9, the stops *w w* having been adjusted to regulate the thickness of the central part of the spindle.

By means of this machine the spindles while being formed are under perfect control, and can be readily made symmetrical and of uniform size.

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

1. The combination of the clamp H, arbors E E, having grooves *g g*, and carrying pulleys F F and hollow cutter-heads G G, the levers B B, springs D D, treadle C, and connections *d d*, substantially as described.

2. The combination of the frame A, rest T, hollow arbor M, and a hook or dog for holding the arbor in the rest, substantially as described.

3. The combination of the rotating hollow arbor K, sliding hollow arbor M, grooved bed-piece N, having pivoted stops *w*, the plate P, adapted to slide in said bed-piece, and having standards *p p*, and the knife-carrying plates Q R, attached to said standards, substantially as described.

HARMON A. MILES.

Witnesses:

J. H. BALLARD,  
G. P. CONN.