

Nichols & Abbe.

Lathe for Turning Ornamental Nail-Heads.

N<sup>o</sup> 49, 139.

Patented Aug. 1, 1865.

Fig 1

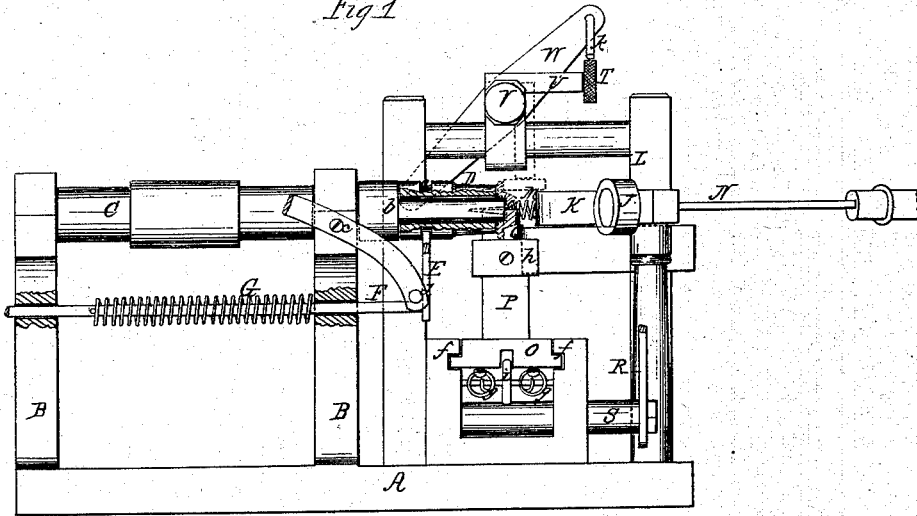


Fig 2

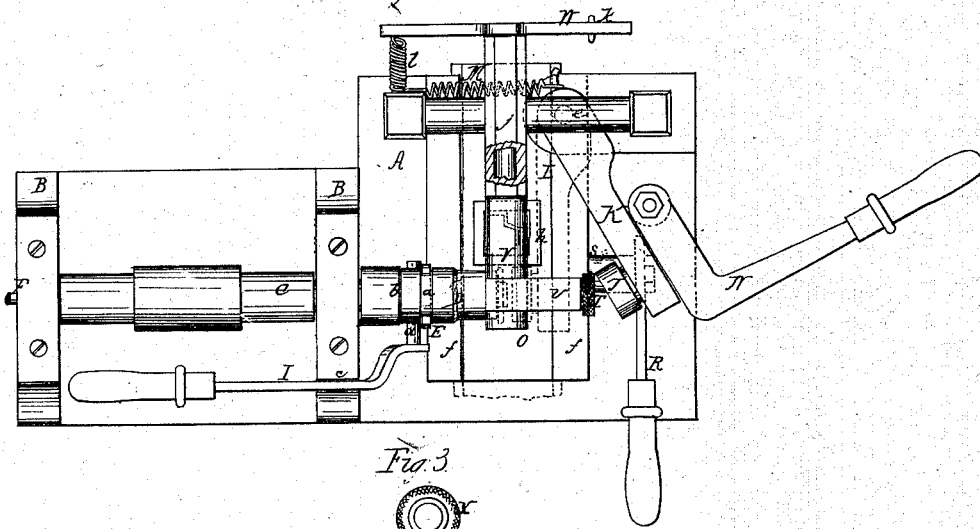


Fig 3



Witnesses:  
J. F. Mc Namara  
J. P. Hull

Inventors  
Wm Nichols  
J. Abbe  
per J. M. H. Co  
attorneys

# UNITED STATES PATENT OFFICE.

WM. H. NICHOLS AND HORATIO H. ABBE, OF CHATHAM, CONNECTICUT.

## IMPROVED LATHE FOR TURNING HEADS OF NAILS, TACKS, &c.

Specification forming part of Letters Patent No. 49,139, dated August 1, 1865.

To all whom it may concern:

Be it known that we, WILLIAM H. NICHOLS and HORATIO H. ABBE, of Chatham, in the county of Middlesex and State of Connecticut, have invented a new and Improved Lathe for Turning the Ornamental Heads of Tacks, Nails, &c.; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front view of our invention; Fig. 2, a plan or top view of the same; Fig. 3, a view of a head turned and ornamented by our invention.

Similar letters of reference indicate like parts.

This invention relates to a new and improved means for chucking the heads to be turned and ornamented.

A represents the base of the machine, and B B two uprights thereon, in which a mandrel, C, is fitted. On one end of this mandrel there is fitted loosely a thimble, D, which is allowed to slide freely, the mandrel being allowed to turn freely within the thimble. This thimble has a groove, *a*, made circumferentially in it to receive a fork at the upper end of a vertical plate, E, which is attached to a horizontal slide, F, having a spiral spring, G, upon it, which spring has a tendency to keep the thimble H drawn back in contact with a shoulder, *b*, on the mandrel C.

I is a lever, which is attached by a fulcrum-pin, *e*, to the inner upright, B, and has a rod, *d*, at its front end which projects behind the plate E, as shown clearly in Fig. 2.

J represents a cap at the end of an arm, K, which is attached by a fulcrum-pin, *e*, to a framing, L, on the base A. This lever K works in a horizontal plane, and it is placed in such relation with the mandrel C that when shoved toward the latter the cap J will be brought in line with the end of the mandrel. The back end of the lever K has a spiral spring, M, attached to it, which has a tendency to keep the cap J out from the mandrel.

N is a lever, of bent form, by which the arm K is operated.

O is a slide, which is fitted between guides *f f* on the base A, and has spiral springs *g*

connected to it at its under side. The slide O has an upright, P, attached to it, said upright having a collar, *h*, on its upper part, by which a cutter, Q, is secured to it. The cutter Q is made of such a form that it will turn the head in proper shape at one operation, the cutter being brought to the head by actuating a lever, R, which is attached to a shaft, S, below the slide O, said shaft having a pin, *i*, projecting radially from it, and which is fitted in the under surface of the slide O. The springs *g* have a tendency to keep the cutter Q back from the head on the end of the mandrel.

We give the mandrel of our lathe a backward motion, applying the cutting-tool to the back side of the object to be cut or turned, so that said cutting-tool may be out of the way of the operator and afford the best possible arrangement of all the parts in combination, in order to avoid all interference between any of those parts, and to enable the operator to perform his work with great rapidity and ease, either in a sitting or standing posture.

T is a milling-tool, which is composed of a wheel having a serrated periphery, and fitted loosely on the end of an arm, U, which is attached at right angles to a shaft, V, the bearing *j* of which is on the framing L. On the back or outer end of the shaft V there is fitted an arm, W, one end of which is connected by a rod, *k*, with a treadle, and the opposite end having a spiral spring, *l*, attached to it, said spring having a tendency to keep the milling-tool up free from the mandrel.

The heads X to be turned and ornamented are cast on the tacks or nails, and the latter are shoved into a hole in the end of the mandrel C, the head fitting over the end of the mandrel, as shown in red in Fig. 1, and pressed thereon by means of the cap J, which is forced or pressed against the cap by actuating the lever N. When the head X is thus adjusted on the mandrel the slide O is actuated through the medium of the lever R, and the cutter Q is brought in contact with the head, which rotates with the mandrel and is turned in proper form by the cutter. The shaft V is then turned so as to bring the wheel or milling-tool in contact with the lower part or flange of the head, and said part or flange is milled and the head finished. The lever I is then actuated so as to throw the thimble H outward on the mandrel,

and the finished head is discharged from the mandrel.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. The employment or use of the cap J, attached to the arm K, arranged, substantially as shown, in such relation with the mandrel C to admit of the head being readily adjusted on the mandrel, as set forth.

2. The combination of the cap J, milling-tool T, cutter Q, and thimble H, all arranged and combined with a mandrel, C, to form a new and improved lathe, for the purpose specified.

WM. H. NICHOLS.  
HORATIO H. ABBE.

Witnesses:

CLARK STRONG,  
ALEXANDER H. MARKHAM.