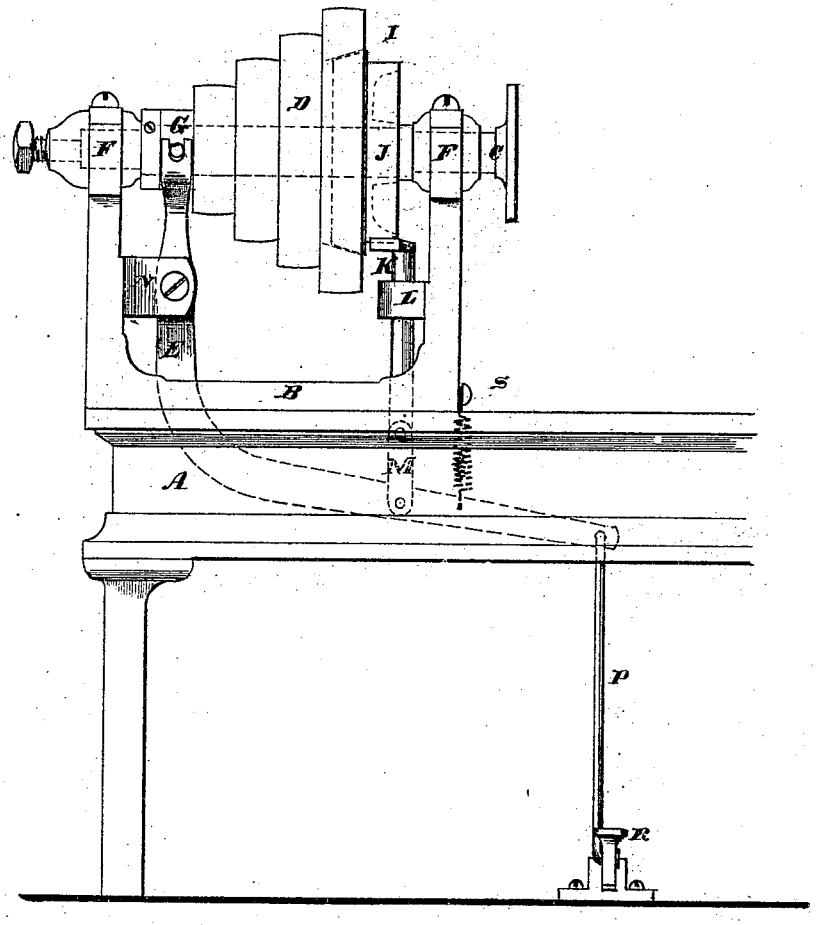
S. D. SHELDON.

TURNING LATHE.

No. 112,971. Patented Mar. 21, 1871.



Witnesses

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SAMUEL D. SHELDON, OF FITCHBURG, MASSACHUSETTS.

Letters Patent No. 112,971, dated March 21, 1871.

IMPROVEMENT IN TURNING-LATHES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SAMUEL D. SHELDON, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Lathes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which represents a front view of so much of a lathe as is necessary to illustrate my invention.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists in the combination, with the spindle of a lathe or chuck, of a movable cone-pulley, a friction-plate, an operating-lever, and a stopping-brake, as hereinafter described.

In the drawing—

A indicates the supporting-frame;

B indicates the head-block;

C indicates the lathe or chuck-spindle;

D indicates the pulley-cone; and

E, the operating-lever.

The lathe or chuck-spindle C is supported in bearings, F, upon the head-block B, and the pulley-cone D is hung loosely upon said spindle C.

A loose collar, G, is arranged on the small end of the pulley-cone, and projecting pins, *a*, at the side of said collar, engage with the upper forked end of the operating-lever E, whereby the pulley-cone D can be moved to the right and left to engage or disengage the friction-clutch device, by means of which the pulley-cone is locked to the spindle C, when desired.

The outer rim of the friction-clutch is formed within the large end of the cone D, as indicated by dotted lines, while the inner rim thereof is formed upon a plate or disk, I, which is rigidly secured to the spindle C, between the end of the cone and the right-hand bearing F.

The friction-plate or disk I is provided with an annular flange, J, and a brake, K, is arranged to press up against the under side thereof, for the purpose of stopping the motion of the lathe or chuck-spindle when the friction upon the plate or disk I is released.

The rod of the brake K is supported in a vertical position within a lug, L, cast upon the head-block B, and its lower end is joined, by means of suitable links, M, to the operating-lever E, whereby the brake K can be raised or depressed at the same time that the friction-clutch is operated.

The operating-lever E is fulcrumed between earpieces, N, upon the head-block B, and its lower end is joined, by a rod, P_2, or other suitable connection, to a treadle, R, by means of which the lever E can be actuated to throw in the friction-clutch and remove the brake K, while a suitable spring, S, is arranged, in connection with the lever E, for actuating the parts in the opposite direction, all of which are indicated in the drawing.

It will be observed that, by means of this construction, the cone-pulley D can be kept constantly in motion; and when it is desired to start the spindle C the operator has only to place his foot upon and depress the treadle R, when the pulley D will be moved up to the disk I, and the friction-rims engaging cause the spindle to revolve. The brake is also at the same time lowered away from the flange J.

Then, when it is desired to stop the motion of the spindle, the operator releases the treadle R, and the lever E, being drawn up by the spring S, disengages the friction-clutch and presses the brake K against the flange J, which immediately stops the motion of the spindle.

Any suitable catch device may be used for holding down the treadle R, as best suits the convenience of the operator.

In the ordinary lathes the belt which runs the counter-shaft requires to be shipped from the tight to the loose-pulley, and the motion of the spindle afterward stopped by placing the hand upon the pulley-cone. This occupies considerable time and is a matter of considerable inconvenience, especially when the work requires considerable changing.

It will be observed that, with my improvements, this inconvenience and delay are obviated; therefore it will readily be perceived by those skilled in the use of lathes that my improvements are of great utility and practical value, inasmuch as no time is lost in shipping the belt or stopping the motion of the spindle, while the operation of the clutch and brake being performed with the foot the operator has both hands free, so that he can conveniently attend to any requirements of the work.

Having described my improvements in lathes,

What I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

The combination, with the spindle C and movable cone-pulley D, of the flanged friction-plate I J, operating-lever E, and stopping-brake K, substantially as and for the purposes set forth.

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