(No Model.)

H. H. TAYLOR.

SHAFT TURNING LATHE.

No. 438,032. Patented Oct. 7, 1890.

Fig. 1

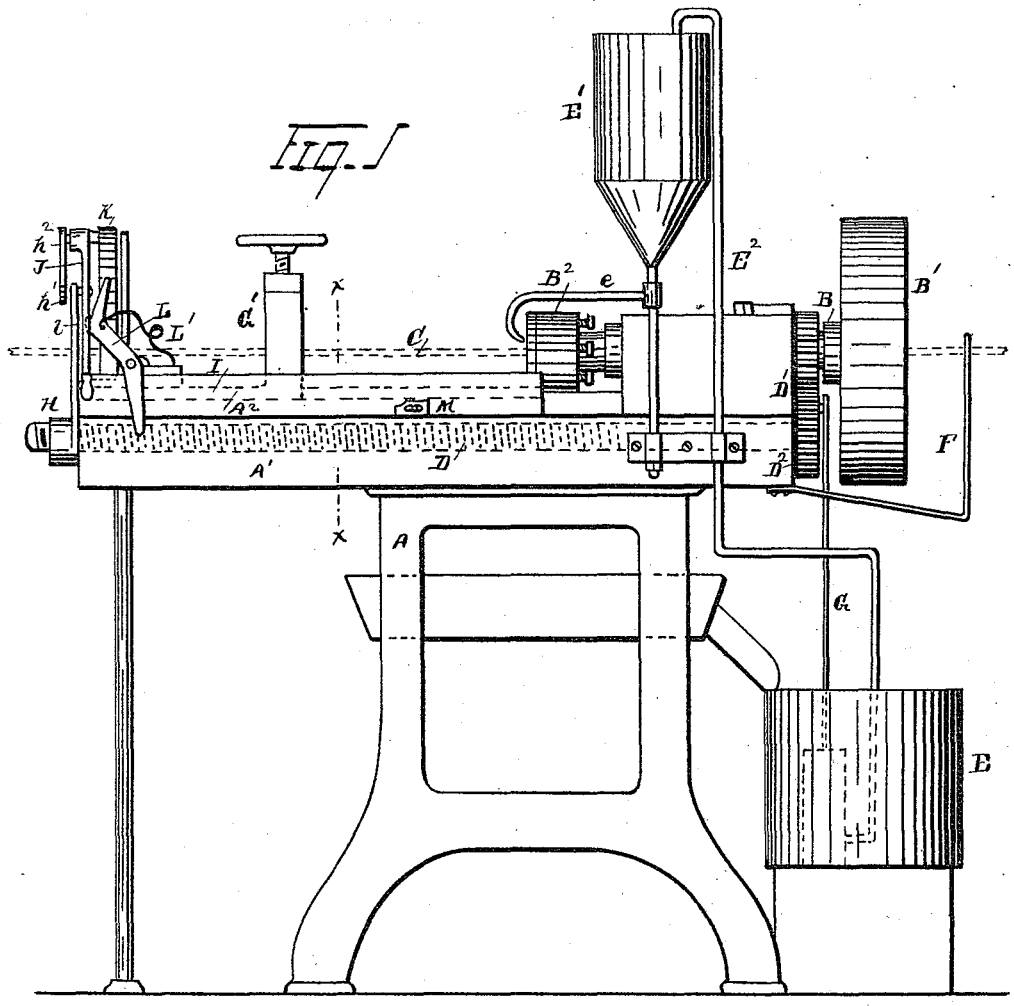


Fig. 2

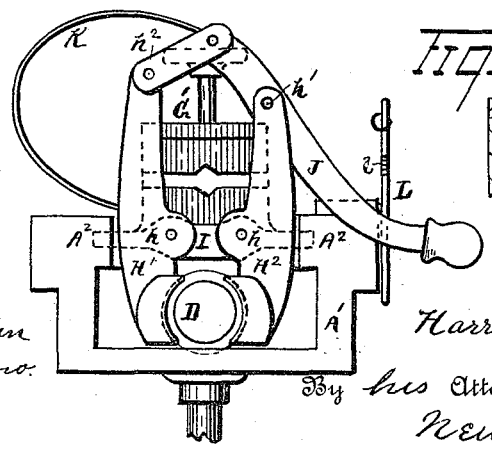
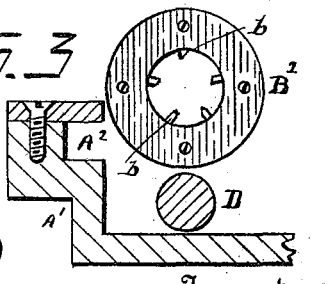


Fig. 3



Witnesses
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By his Attorney
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UNITED STATES PATENT OFFICE.

HARRISON H. TAYLOR, OF DETROIT, MICHIGAN, ASSIGNOR TO THE DETROIT MACHINE SCREW WORKS, OF SAME PLACE.

SHAFT-TURNING LATHE.

SPECIFICATION forming part of Letters Patent No. 438,032, dated October 7, 1890.

Application filed May 5, 1890. Serial No. 350,650. (No model.)

To all whom it may concern:

Be it known that I, HARRISON H. TAYLOR, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in a Shafting-Turning Machine; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a new and useful shafting-turning machine; and it consists of the devices and appliances, their combinations and arrangements, as more fully hereinafter specified and claimed, and more fully disclosed in the accompanying drawings, in which—

Figure 1 is a side elevation embodying my invention. Fig. 2 is an end view of features of my invention; and Fig. 3 is a cross-section on the line *x x*, Fig. 1, looking toward the cutter-head.

I carry out my invention as follows:

A represents any suitable supporting-frame provided with a supporting-bed A′.

B denotes a spindle provided with a driving-pulley B′ and a cutter-head B^2, having a suitable number of cutter blades or knives *b* and through which the shafting C passes to be turned. I do not confine myself to any particular construction of the cutter-head, as it may be constructed in any suitable manner to do the work without departing from my invention.

D denotes the feed-screw geared with the spindle B, as shown at D′.

E is a lubricant-supply tank, and E′ an auxiliary tank located above the bed A′ and provided with a feeding-pipe *e* to supply the lubricant to the work adjacent to the cutter-head.

E^2 is a supply-pipe leading from the tank E to the tank E′.

G is a rod forming a part of a pump mechanism eccentrically engaged with the gear D^2 upon the feed-screw spindle D, whereby the lubricant is pumped from the tank E to the tank E′.

F is a supporting-bracket to uphold the outer end of the shafting.

G′ denotes a work-supporting device, shown in this instance as a vise for engaging the shafting, said vise having a movable engagement upon the bed A′.

H denotes a clamping device, which may, as shown in the accompanying drawings, consist of an open feeding-nut constructed to engage the feeding-screw and to be automatically disengaged therefrom.

I is the carriage connecting the feeding-nut and the vise. It will be seen that when the feeding-nut is closed upon the feeding-screw the carriage, with the vise, will be carried forward toward the cutter-head to feed the shafting thereto. The carriage, it will be understood, travels in a suitable way A^2 in the bed A′ and carries with it in said groove the vise. This construction is, however, immaterial, as I reserve to myself the right to engage the vise and carriage to the bed of the machine in any manner so that they may slide thereon. The parts or jaws H′ H^2 of the divided nut are each pivoted upon the carriage, as shown at *h*.

J is an operating-lever, to which one of the jaws is pivoted, as shown at *h*′, while the other jaw is preferably engaged with the lever by a link-connection h^2. With the upper end of the lever is engaged a spring K, which may bear at its opposite end upon the carriage to open the jaws, when the lever J is free to move. The spring may, however, be arranged in any suitable manner to release the nut from the feeding-screw.

L denotes a tripping-lever notched, as shown at *l*, to engage the operating-lever when the nut is closed. The tripping-lever is pivotally engaged upon the carriage and provided with a retracting-spring L′.

Upon the bed is located a stationary tripping arm or lug M, which may, however, have an adjustable connection thereupon. As the carriage is fed toward the cutter-head, the tripping-lever finally comes into contact with the tripping-arm, by which it is sprung out of engagement with the operating-lever J, which is then free to be moved by the spring K, and thus the nut is automatically opened, allowing the carriage to be run back toward the end of the bed to re-engage the shafting by a new grip in the vise to feed it forward

another length of the travel of the carriage. When it is desired to close the nut again upon the feeding-screw, the operating-lever is lifted to re-engage it with the tripping-lever in the manner already described.

It will be seen that since the carriage is automatically fed thus and automatically thrown out of operation a large number of such machines can be run by a single operator.

Where the words "movable part" appear in the claims I would have it understood as covering a feed-screw or any other movable device which will advance the work-support toward the cutter-head, as the same comes within the scope of my invention.

What I claim as my invention is—

1. In combination, a supporting-bed, a traveling device to engage the work, two rotatable spindles, one provided with a cutter-head, the other screw-threaded and provided with a feeding-nut moving in unison with said traveling device, and means for disengaging said nut from the screw-threaded spindle, substantially as set forth.

2. In combination, a supporting-bed, a traveling device to engage the work, two rotatable spindles, one provided with a cutter-head, the other screw-threaded and provided with a feeding-nut moving with said traveling device, and means for automatically disengaging said nut from the screw-threaded spindle, substantially as set forth.

3. The combination of a work-supporting device, a clamping device connected therewith, a cutter-head, and a movable part which is engaged by the clamping device to advance it (the clamping device) and the work-supporting device toward the cutter-head, substantially as set forth.

4. In combination, a supporting-bed, a traveling vise to engage the work, two rotatable spindles, one provided with a cutter-head, the other screw-threaded and provided with a feeding-nut connected with said vise, and means for automatically disengaging said nut from the screw-threaded spindle, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

HARRISON H. TAYLOR.

Witnesses:
N. S. WRIGHT,
CHARLES F. SALOW.