

(No Model.)

J. D. SILBERZAHN.
LATHE.

No. 443,335.

Patented Dec. 23, 1890.

Fig. 1.

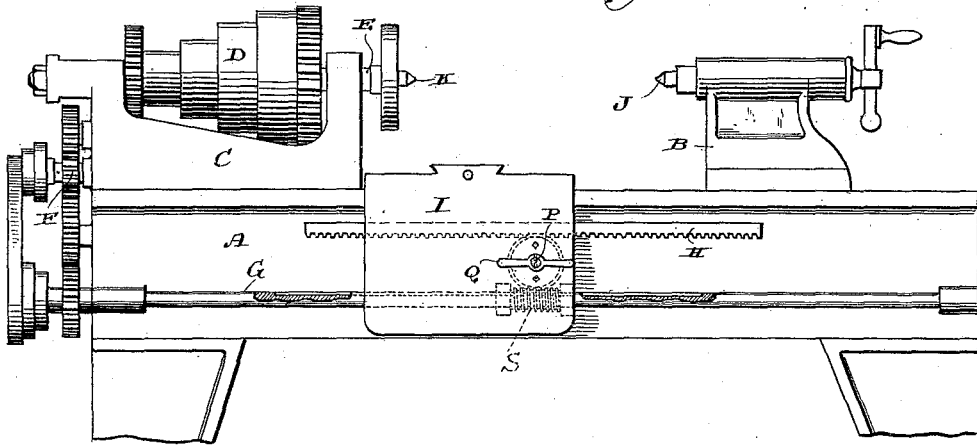


Fig. 2.

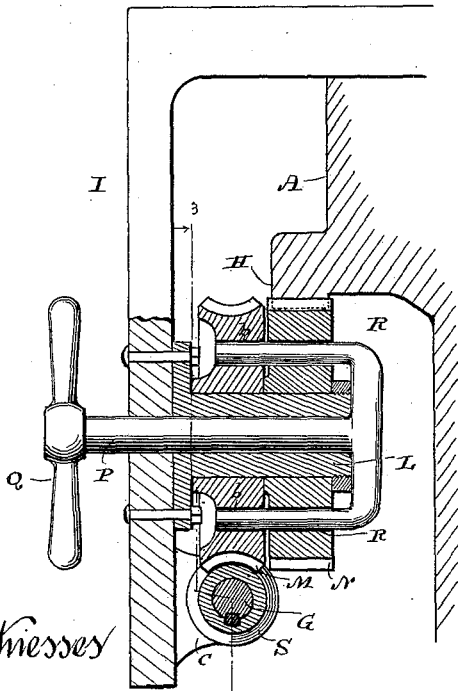
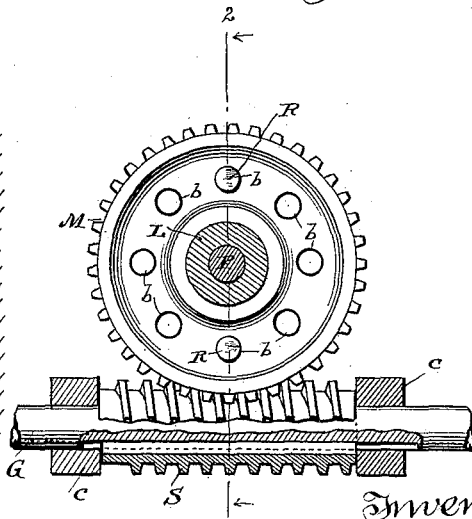


Fig. 3.



Witnesses
Geo. W. Lundy.
N. E. Oliphant

Inventor
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UNITED STATES PATENT OFFICE.

JOHN D. SILBERZAHN, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO FREDERICK J. MEIER, OF SAME PLACE.

LATHE.

SPECIFICATION forming part of Letters Patent No. 443,335, dated December 23, 1890.

Application filed August 18, 1890. Serial No. 362,312. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. SILBERZAHN, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Lathes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates more particularly to screw-cutting lathes; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a front elevation of a lathe provided with my improvements; Fig. 2, a section on line 2 2 of Fig. 3, and Fig. 3 a section on line 3 3 of Fig. 2.

Referring by letter to the drawings, A represents the bed, B the tail-stock, C the head-stock, D the cone-pulley on the live-spindle E, that has its bearings in said head-stock, F the gearing, G a power-driven spindle, H the rack, I the tool-carriage, J the tail center, and K the head center, of a metal-working lathe as ordinarily constructed.

Bolted or otherwise secured to the tool-carriage is a lateral stud L, and loose on this stud is a worm-wheel M and pinion N, the latter being in mesh with the rack H on the lathe-bed. Extended through the stud L is a slide-rod P, provided at its outer end with a handle Q, and the inner end of the rod has one or more (preferably two) right-angle arms R, that extend toward the front in openings cut in the pinion above described. The worm-wheel M has at least one opening *b* for each arm of the slide-rod, and I prefer to provide said worm-wheel with a series of such openings arranged at regular intervals apart. In the latter case the number of openings correspond to the number of inches on the pitch-line of the worm-wheel, each opening being on a line radial with an even inch of said wheel. A lead-screw in the form of a worm S is splined onto the spindle G between collars *c*,

that extend in from the tool-carriage I and slide on said spindle, and said worm is always in mesh with the worm-wheel M above described. When the rod P is drawn out, its arms R clutch the worm-wheel M and pinion N, and the tool-carriage I feeds forward; but when said rod is pushed in its arms come out of engagement with said worm-wheel, and thus said pinion is out of clutch, and said tool-carriage may be run back without stopping the lathe, while at the same time I am enabled to do away with the mechanism ordinarily employed for performing the latter operation.

By having a number of openings *b* in the worm-wheel, as above described, the pinion N may be clutched with said worm-wheel at shorter intervals, and by having said openings in line with inch-divisions on the pitch-line of the aforesaid worm-wheel the machine will always start on the even inch, and thus the tool will always follow the thread that has been partly cut.

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

In a lathe, the combination, with the bed-rack, tool-carriage, and a power-driven spindle, of a worm-screw splined on the spindle and movable with the carriage, a stud laterally extended from said carriage, a worm-wheel and pinion loose on the stud and respectively in mesh with the worm-screw and rack, a slide-rod extended through the stud, and one or more arms on the slide-rod for engagement with openings in said worm-wheel and pinion, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOHN D. SILBERZAHN.

Witnesses:

N. E. OLIPHANT,
WM. KLUG.