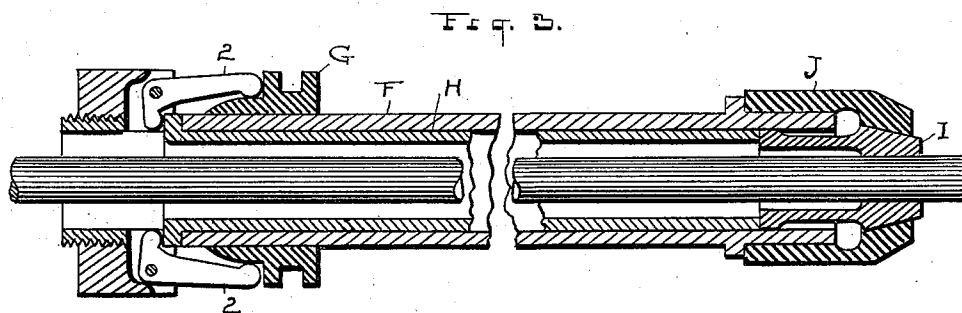
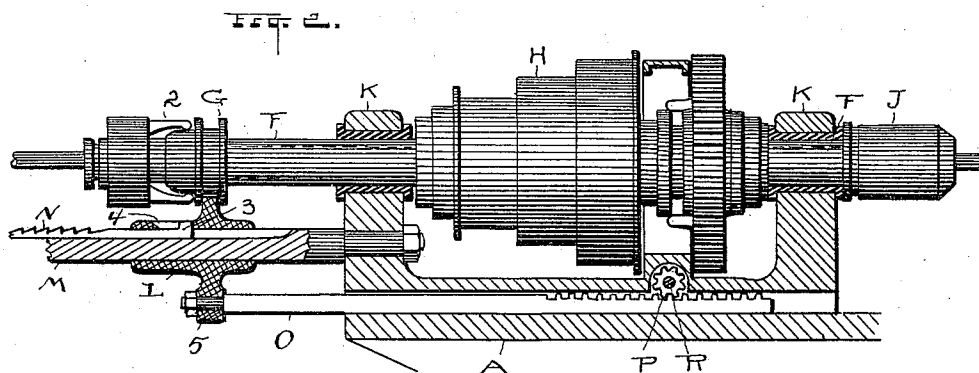
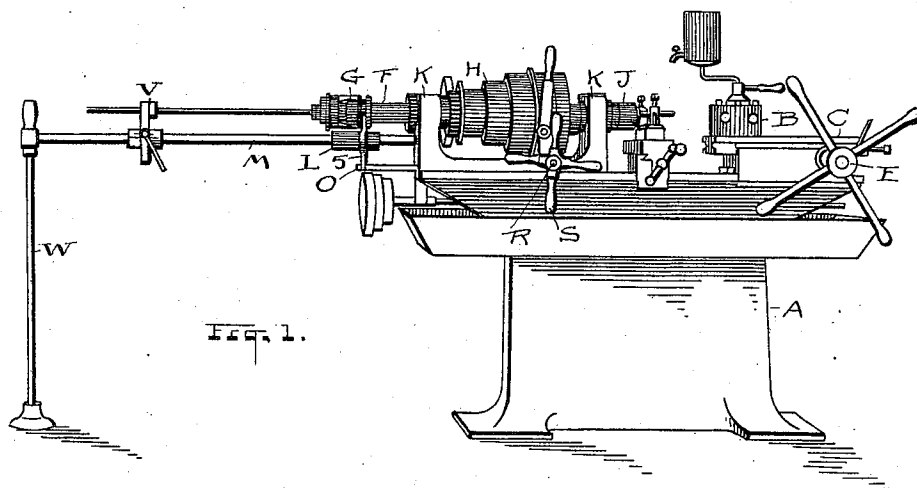


(No Model.)

G. C. BARDONS, J. G. OLIVER & G. W. DRAKE.
TURRET LATHE.

No. 575,094.

Patented Jan. 12, 1897.



ATTEST
T. B. Moser
H. C. Moser.

BY H. J. Fisher

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UNITED STATES PATENT OFFICE.

GEORGE C. BARDONS, JOHN G. OLIVER, AND GEORGE W. DRAKE, OF
CLEVELAND, OHIO.

TURRET-LATHE.

SPECIFICATION forming part of Letters Patent No. 575,094, dated January 12, 1897.

Application filed March 18, 1896. Serial No. 583,663. (No model.)

To all whom it may concern:

Be it known that we, GEORGE C. BARDONS, JOHN G. OLIVER, and GEORGE W. DRAKE, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Turret-Lathes; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to turret-lathes; and the object of the invention is to improve the means which have hitherto been employed for controlling the stock feeding and locking mechanism, whereby the said means are brought close to the hand of the operator and all the parts which the operator is required to handle are placed within convenient and easy reach. Heretofore in machines of this kind having rack-and-pinion feed-controlling mechanism the said mechanism was at the rear extremity of the machine, so that the operator had to bodily leave his work and go to the said rear operating mechanism and make the necessary adjustments thereby and then step back again to the work, and thus he had to alternate from one position to the other and waste much valuable time, as well as take his attention wholly from his work while this shifting of position was going on. The inconvenience and objectionableness of this old construction are obvious from this statement of its requirements, and hence the present invention, which is designed to overcome and remedy the said objection and provide controlling mechanism which is within easy reach of the operator in his working position, so that he can concentrate all his attention on the work as he should.

To these ends the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 illustrates a perspective view of a lathe with our improved devices in working relation thereon. Fig. 2 is a vertical longitudinal sectional elevation of a part of the lathe, showing the operating parts of the device. Fig.

3 is an enlarged sectional view of the stock feeding and holding parts.

A represents one of our regular form turning lathes having a turret B and a turret-support C, operated by a turnstile or hand-feed E. The tubular shaft through which the stock is fed and controlled carries the collar G, pulleys H, and chuck J, and is supported in bearings K and driven by power in the usual way. Within shaft F is a tube H', through which the collet I is tightened on the stock and loosened, and elbow-levers 2, controlled by collar G, to force the said tube H' forward and thus cause the collet to engage on the stock and hold the stock temporarily, as usual. All these several parts are old in construction and operation, but are specified here so that the invention itself may be more clearly understood.

The collar G slides on tube F and is controlled by sleeve L, which in turn slides on the bar M and has a projection engaging the collar G. The ratchet feed-bar N slides in a groove in bar M and is engaged at its upturned end 3 in a slot 4 in sleeve L, thus allowing said sleeve a certain limited movement, first in one direction and then in the other, without affecting the ratchet-bar N. The said sleeve L has a projection 5 on its bottom, through or in which is engaged the outer extremity of the actuating rack-bar O. This bar is carried forward through the head of the machine to a point near the plane of the chuck, a suitable channel being made for this purpose if the construction of the machine does not otherwise provide the necessary room, and preferably over this bar instead of beneath it we place a pinion P and a laterally-extending shaft R, carrying said pinion. This shaft projects outward sufficiently to secure the hand-wheel S thereon, and this wheel, as seen in Fig. 1, is within convenient relation to the chuck J, where the work of the machine is done.

From the foregoing description the operation of the machine will be obvious, and it will also be seen that the feed-controlling mechanism connected with sleeve L and extending thence forward to the neighborhood of the chuck and having hand-wheel S

within easy reach works a decided improvement and advantage over a machine in which this latter mechanism does not appear, and the operator has to leave his work every time he wishes to bring a fresh supply of stock into working position.

Without our improvement the operator does not change position at all, but remains by his work and can give the work the attention of his eye at least and note its adjustments while one hand is engaged in manipulating the feeding and locking mechanism.

It should have been stated that the ratchet feed-bar N slides on the support M, which has a stand-rest W at its outer end, and that a pawl on the stock-carrying sleeve V takes up the feed as the parts are moved along.

The sleeve V is not affected by the return movements of the ratchet-bar N, sliding in the support M, but moves forward therewith to carry the stock the desired distance, the pawl on said sleeve engaging said rack and sleeve together only on their forward or feed movement. The slot 4 in sleeve L, in which the locking-lug 3 works, is long enough to permit the releasing of the collet J from the stock before ratchet-bar N is moved.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a form-turning machine, the stock securing and feeding mechanism substantially as described, comprising the collet and the tube bearing against the same, the elbow-levers to operate said tube and the collar to operate said levers, in combination with the

ratchet-bar and sleeve for feeding the stock, the sleeve L engaging said collar and said ratchet-bar, a rack-bar connected with said sleeve L and extending thence beneath the bed of the machine, and a pinion beneath the said bed engaging said rack-bar, substantially as described.

2. The mechanism described comprising the bed of the machine, the sliding sleeve L and the collar G and ratchet-bar N engaged by said sleeve, in combination with the rack-bar O projecting beneath the bed of the machine, the transverse shaft P, pinion R thereon engaging said rack-bar and hand-lever S, substantially as described.

3. The combination of parts as described, consisting of the fixed supporting-bar M, the ratchet-bar N therein, the sleeve L having a slot 4 engaged by said ratchet-bar and a sliding collar G engaged by said sleeve and the feed-controlling sleeve connected with said ratchet-bar and said support M, and the operating mechanism for said parts consisting of the rack-bar O fixed to sleeve L, the shaft and pinion R and P and the hand-wheel S, substantially as described.

Witness our hands to the foregoing specification on this 25th day of February, 1896.

GEORGE C. BARDONS.
JOHN G. OLIVER.
GEORGE W. DRAKE.

Witnesses:

M. MILLARD,
C. S. MALTBIE.