

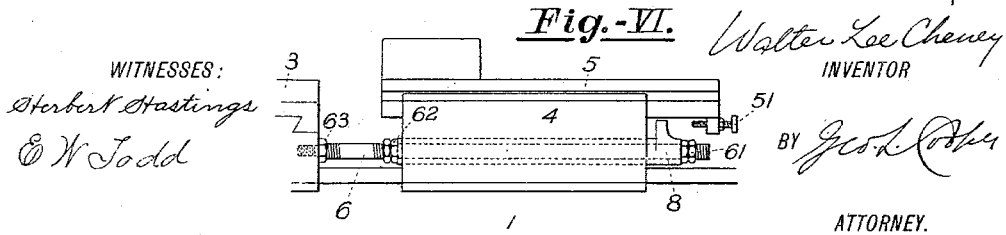
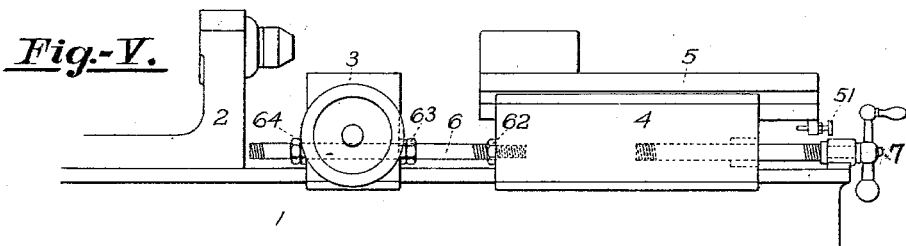
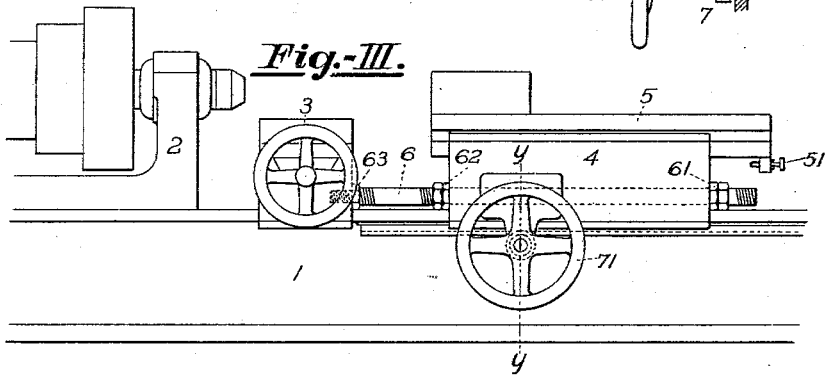
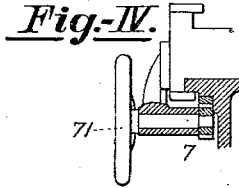
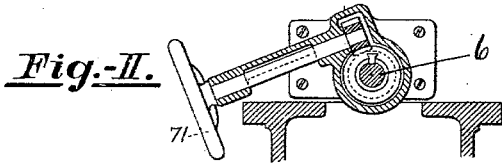
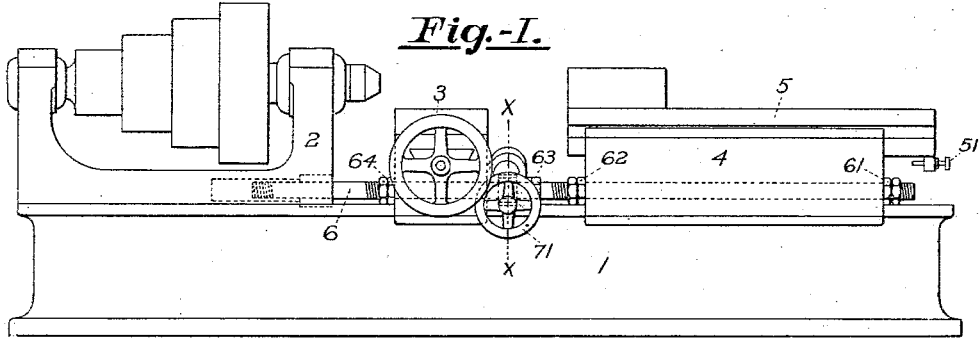
No. 656,318.

Patented Aug. 21, 1900.

W. L. CHENEY.
LATHE.

(Application filed Dec. 30, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

WALTER LEE CHENEY, OF MERIDEN, CONNECTICUT.

LATHES

SPECIFICATION forming part of Letters Patent No. 656,318, dated August 21, 1900.

Application filed December 30, 1898. Serial No. 700,776. (No model.)

To all whom it may concern:

Be it known that I, WALTER LEE CHENEY, a citizen of the United States, residing at Meriden, Connecticut, have invented a new and useful Improvement in Lathes, of which the following is a specification.

My invention relates to that class of lathes in which a plurality of slides—*e. g.*, a turret-slide and a forming or cut-off slide—are used. It is intended to secure more exact coöperation between such slides.

In the accompanying drawings, Figure I represents in elevation a lathe embodying my device. Fig. II is an enlarged cross-section on the line *xx*, Fig. I. Fig. III shows a modification. Fig. IV is a cross-section through the line *yy*, Fig. III. Figs. V and VI, in elevation, show further modifications.

1 designates a lathe-bed; 2, a head; 3, a cross-slide; 4, a longitudinal slide-base; 5, a turret-base; 51, a set-screw; 6, a connecting-rod provided with nuts 61 62 63 64; 7, an actuating device provided with handle 71; 8, Fig. VI, a sleeve.

In the example of my invention illustrated in Figs. I and II of the drawings the lathe-bed 1, head 2, cross-slide 3, longitudinal slide-base 4, and turret or "monitor" base 5 may be of any well-known or desired form. The slides 3 and 4 are gibbed to the bed 1 instead of being clamped, as usual. If desired, the turret-base 5 may be omitted or removed and a tool secured to the slide-base 4 in any customary manner. A connecting-rod 6, which may advantageously be screw-threaded, passes freely through the slides 3 and 4 and engages with an internal screw-thread in the head 2. Pairs of jam-nuts 61, 62, 63, and 64 serve to permit relative longitudinal adjustment of the slides 3 and 4 and when set home to firmly couple them together as regards such longitudinal movement without checking the rotation of the rod 6 therein. An actuating device 7 is shown as a pinion gearing with a worm keyed on the rod 6. To the shaft of the pinion, which, as shown, journals on the slide 3, is secured a handle or hand-wheel 71.

The operation of my device will be clearly understood from an examination of the drawings. Lathes of this general type are largely

used to finish castings of brass or any other alloy or of metal. These castings in practice vary in size and shape. It is necessary that the finished pieces should be as exactly similar as possible. Because of the imperfection of the rough castings it is frequently necessary to move the turret slide-base 4 toward or from the lathe-head 2. As one or a plurality of the tools used to finish the piece—*e. g.*, a knurl and a cutting-off tool—are carried on the cross-slide 3, this slide must have a movement in direction and distance corresponding to that of the forming-slide 4. In using a lathe provided with my device the operator by means of the hand-wheel 71 screws the rod 6 more or less into the head 2, and thereby adjusts both the slide 3 and slide-base 4 simultaneously and similarly by a single and simple operation.

It will of course be understood that the turret-base 5 is longitudinally adjustable by any usual means (not shown in the drawings) on the slide or base 4. The tools on the turret or on the base 5 are thus brought up to and retracted from the work. The slide-base 4 serves as a stop to limit the forward movement of the turret-base 5 by means of a set-screw 51, which strikes against the rear end of the base 4.

When the cross-slide and turret-tools are set to finish a particular pattern of casting or the like, the distance between the slides 3 and 4 is permanently adjusted. The depth of cut of the turret-tools is also limited once for all by means of the set-screw 51. If thereafter one of the castings should fail to enter the usual distance into the chuck-jaw, the operator, by rotating the hand-wheel 71, is able to adjust every tool on both cross-slide and turret without altering their coaction on the piece to be turned.

In the form of my device shown in Figs. III and IV of the drawings the connecting-rod 6 may pass, as before, freely through the slide 4, but has threaded engagement with the cross-slide 3, nuts 62 63 64 being used to adjust and secure the slides. The actuating device 7 is in this case a pinion journaled in the slide 4 and engaging with a rack on the lathe-bed 1.

It is obvious that the turning of the hand-

wheel 71 will act, as explained above, to simultaneously move both slides 3 and 4 toward or from the head 2 of the lathe.

Fig. V shows the slides 3 and 4 connected by a rod 6, passing through the slide 3 and threaded into the slide-base 4. The actuating device 7 is here shown as a threaded rod at the rear end of the lathe-bed 1 engaging with the slide-base 4 and provided with a handle 71.

In Fig. VI the slide-base 4 may be clamped to the bed 1 in the usual manner. The connecting-rod 6 may be threaded into the slide 3 and adjustably secured in a sleeve 8, which passes longitudinally through the slide 4. The set-screw 51 on the turret-base 5 strikes against a stop on the sleeve 8 instead of striking the slide-base 4. It is clear that, as before, the limit of forward movement of the turret-base 5 is longitudinally adjusted synchronously and equally with the cross-slide 3.

I have shown several modifications of my device to indicate that I am not limited in the application of my invention to a particular form of construction.

It will of course be understood that the longitudinal adjustment of the slides or stop contemplated is an adjustment relative to the head of the lathe. Thus either of the parts described as "longitudinally adjustable"—*e. g.*, the out-off slide—may be clamped to the bed and the head gibbed to adjust on the bed. The form of construction shown in Fig. I of the drawings is susceptible of this modification.

What I claim is—

1. In a lathe in combination two longitudinally-adjustable tool-carrying portions, a stop by which the movement of one of said portions is limited and means as a rod for ad-

justably coupling together as to longitudinal movement said stop and the other of said tool-carrying portions, substantially as described.

2. In a lathe in combination two longitudinally-adjustable tool-carrying portions, a stop by which the movement of one of said portions is limited and means as a detachable threaded rod provided with nuts for adjustably coupling together as to longitudinal movement said stop and the other of said tool-carrying portions, substantially as described.

3. In a lathe in combination a cross-slide, a second tool-carrying slide adapted to manual longitudinal adjustment, a stop by which the forward movement of said second slide is limited, means as a rod for adjustably coupling together said cross-slide and said stop and means substantially as described for the longitudinal adjustment of said coupled portions.

4. In a lathe in combination a cross-slide, a second tool-carrying slide adapted to manual longitudinal adjustment, a stop by which the forward movement of said second slide is limited, means as a detachable threaded rod provided with nuts for adjustably coupling together said cross-slide and said stop and means substantially as described for the longitudinal adjustment of said coupled portions.

5. In a lathe in combination a cross-slide, a turret, a slide-base on which said turret is mounted, means as a detachable rod for adjustably coupling said cross-slide and said slide-base and means substantially as described for the manual longitudinal adjustment of said coupled portions.

WALTER LEE CHENEY.

Witnesses:

GEO. L. COOPER,

RICHARD I. NEITHERCUT.