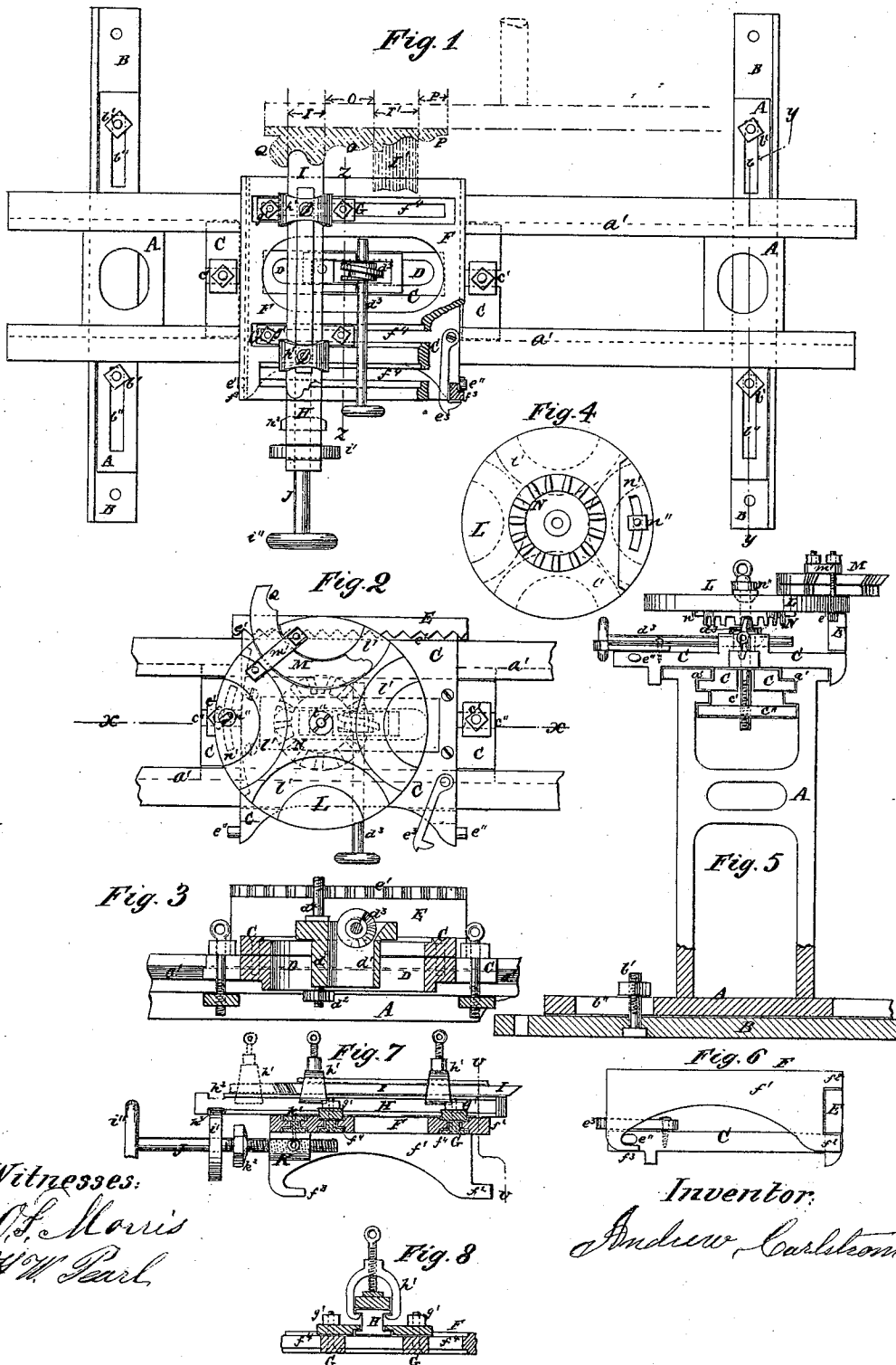


A. CARLSTROM.

Lathes.

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Witnesses:
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IMPROVEMENT IN LATHES.

Specification forming part of Letters Patent No. 151,471, dated June 2, 1874; application filed April 4, 1874.

To all whom it may concern:

Be it known that I, ANDREW CARLSTROM, of the city of New York, in the county and State of New York, have invented certain Improvements in Lathes, of which the following is a specification:

This invention consists in the construction and combination, with an adjustable bed or bed-plate, of detachable and interchangeable rests for holding sliding tools for turning front or face moldings, and a horizontally-revolving tool-rest for turning edge moldings, (or such moldings as are formed on a surface at right angles to the plane of the front moldings.)

The following is a full, clear, and exact description of my invention, reference being had to the accompanying drawings, in which—

Figure 1 represents a top view of a tool-rest and frame constructed according to my invention, with the sliding rest attached, for turning the face or front moldings of a picture-frame or similar article. Fig. 2 is a top view of the same, with the revolving tool-rest attached, for turning the edge moldings of a similar frame. Fig. 3 is a vertical section through the line *xx* of Fig. 2. Fig. 4 is a plan view of the under side of the revolving tool-rest. Fig. 5 is an end view, partly in section, through the line *yy* of Fig. 1, the revolving tool-rest being attached to the bed-plate. Fig. 6 is a detail end view of one of the rests for the sliding tools for turning face moldings, to illustrate my device for attaching it to the bed-plate. Fig. 7 is a longitudinal section of the said rest for turning face moldings, taken through the line *zz* of Fig. 1. Fig. 8 is a detail cross-section of a portion of the same, taken through the line *vv* of Fig. 7.

Similar letters of reference indicate corresponding parts.

A is an ordinary frame-work, provided with horizontal guides *a'*, parallel with the plane of the work, the latter revolving in a lathe on which the molding is to be formed by turning. This frame A is further placed upon ways B on the floor, so that it may be moved at a suitable distance from the work, and is secured in any desired position by the bolts and nuts *b'* fastened in the ways B, and working in the slots *b''* in the frame A. C is the

bed-plate for the different tool-rests. This bed-plate is adjustable laterally to the work by sliding in the horizontal guides *a'*, and can be secured in any desired point in the said guides by the bolts *c'* and cross-bars *c''* or their equivalents. D is a slot, formed lengthwise in the bed-plate C, for receiving the pivot-stud *d'*, for the revolving tool-rest. This stud *d'* is secured in any position in the slot D by a bolt and nut, *d''*. The stud *d'* is slotted for the reception of the worm or screw *d³*, the shaft of which has its bearings in the stud *d'*. On either side of the slot *d³* is the pivot for the revolving tool-rest. On the fore part of the bed-plate C is an upright flange, E, provided with notches *e'*, or serrated on the inside. On either side of the rear end of the bed-plate C is a projection or stop, *e''*, and pivoted to the top of the plate C is a hook, *e³*. The stud *d'* is reversible in the slot D, so as to bring the pivot *d⁴* to either end of the slot D, for greater range, if required. F is one of the detachable rests for the sliding tools for turning front or face moldings. It consists, simply, of a horizontal top-plate, open at its center, and having vertical side flanges *f'*, the forward ends of which are cut out so as to form a jaw between their upper and lower corners *f''*, of the exact size to fit and grasp (when the rest F is placed and pushed forward on the bed-plate C) the extreme ends of the upright flange E. When in this position, the projections *e''* on the bed-plate C are also grasped by the hooks *f³*, formed on the rear ends of the side flanges *f'*, thus preventing any forward or upward movement of the rest F. To lock it securely against any backward movement, the hook *e³* on the bed-plate C is then hooked onto the rear end of one of the side flanges *f''*, and the rest F is in position for work.

In the top plate of the rest F are three slots or ways, *f⁴*, running parallel with the work. G are guide-clamps working in the ways *f⁴*, and which may be secured in any position in the said ways or slots by the nuts and bolts *g'*. H is the tool-slide, (one or more,) flanged on both sides all along its upper and lower edges, the lower flanges working in the guides of the guide-clamp G, while the upper flanges serve

as stops or supports for the screw-clamps k' by which the turning-tool or steel I is secured to the slide H in the usual manner.

In Fig. 7 is shown in dotted lines another screw-clamp, k^1 , used to hold a cleat or stop to gage the tool I to its proper position before clamping it to the slide H. The rear end of the slide H is notched at k^2 for the reception of the face of a collar, i' , fastened on the screw J, by which the tool I is fed to the work. The feed-screw J is operated by a hand-wheel, i'' , and works in a nut, K, secured by a slide-clamp, k^1 , in the rearmost slot f^1 in the rest F, in a position always directly underneath the center line of the tool-slide H. k^2 is a stop-nut on the feed-screw J, to gage the depth of the cut of the tool I. L is the horizontally-rotating tool-rest for turning edge moldings, and consists of a disk provided with circular grooves l' , in which the curved tool M is fitted, and held in the desired position by the clamp m' . The disk L has a hole in its center, by which it, when in use, is pivoted on the pivot d^1 of the reversible stud d^1 , and secured by a nut, l'' , on top. On the under side of the disk L is a cog-ring, N, which, when the disk is fastened on the pivot d^1 , comes into gear with the screw or worm d^3 , by which latter the tool M is fed to its work to turn the edge molding. n' is a slotted stop-plate, adjustable by the bolt and nut n'' . As the disk L is revolved, the forward end of the stop-plate n' will finally come in contact with one of the notches e' on the upright flange E of the bed-plate C for the rests, thereby determining the depth of the cut of the tool M.

To illustrate the operation of my device, let the dotted section, shown in Fig. 1, represent a cross-section of a number of picture-frames to be molded, as shown. Let the curves marked I O I' P represent four sections of the face molding, and Q the edge molding. I attach to the bed-plate C, in the manner described, one of the rests F, having attached and adjusted the two tools I and I', (the latter, I', being attached to a slide, H, working in guides G, which are secured in the slots f^1 in

the same manner as the tool I,) ground to the corresponding curves I I', and turn to the depth gaged by the nuts k^2 . I then remove the said rest and attach another one exactly similar, having attached and adjusted the tools for turning the intervening curves O and P. The face molding being thus completed, I remove this latter rest and attach to the pivot d^1 on the stud d^1 , in the slot D of the bed-plate C, the disk L having attached and adjusted the tool M, ground to correspond with the curve Q of the edge molding, and revolve the disk L by the feed-screw d^3 until turned to the depth gaged by the stop-plate n' .

The same operation is repeated for turning every subsequent molding of the same pattern.

By thus employing sets of detachable tool-rests, interchangeable on the same bed-plate, and capable of carrying several tools for turning different sections of the form of the molding simultaneously, a great deal of time is saved as compared with other methods, and exact uniformity of the work attained, aside of the fact that the whole frame can be molded from the rough at once, instead of being put together piecemeal of previously-made sections of ready moldings.

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

1. The sliding tool-rest F, provided with the slots f^1 , side flanges f^1 , jaws f^2 f^2 , and hooks f^3 , in combination with the adjustable bed-plate C, provided with the upright flange E, projections e' , and pivoted hooks e^3 , substantially as and for the purpose specified.

2. The revolving tool-rest L, provided with the circular grooves l' , cog-ring N, and stop-plate n' , in combination with the reversible pivot-stud d^1 , screw d^3 , and bed-plate C, provided with the slot D and notched flange E.

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Witnesses:

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