

C. WALTER.
SLIDE RESTS FOR LATHES.

No. 176,102.

Patented April 11, 1876.

FIG. 1.

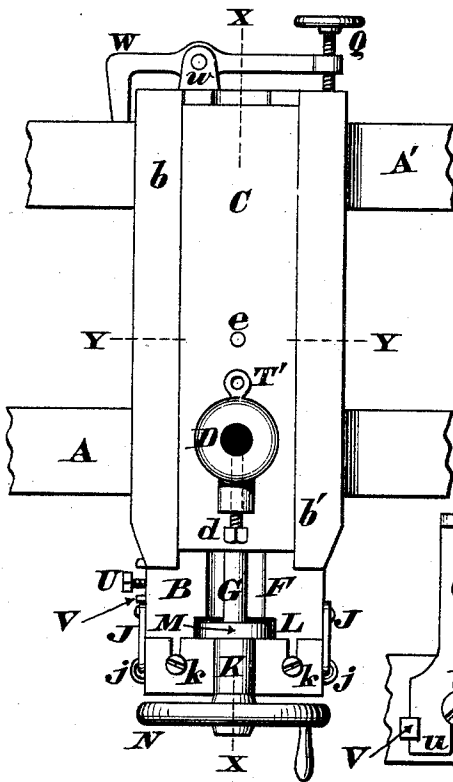


FIG. 2.

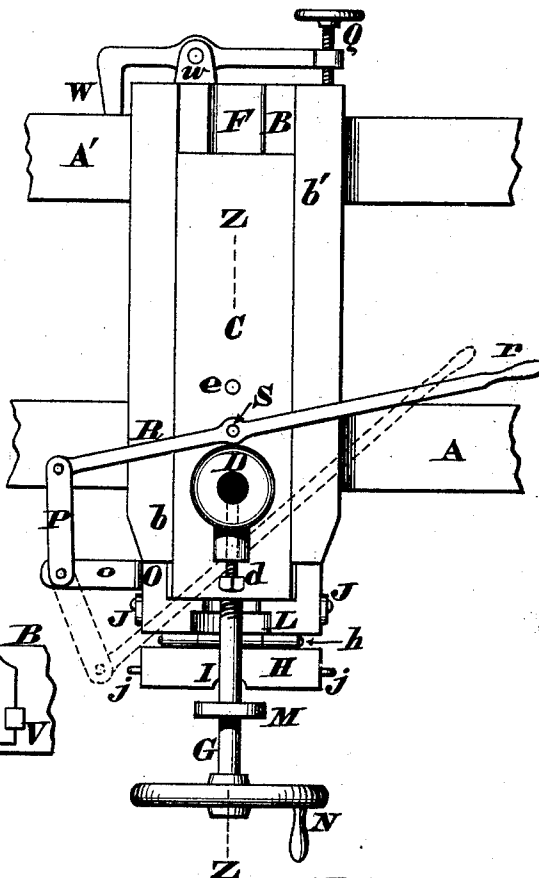


FIG. 3.

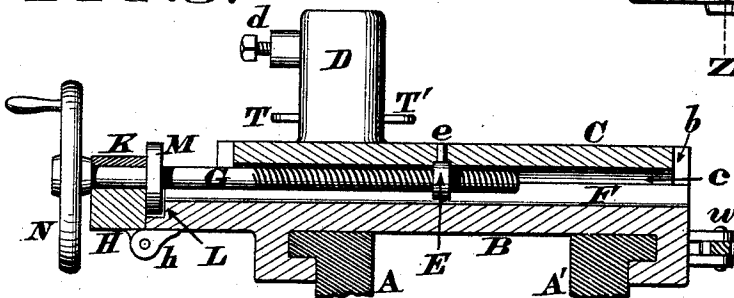


FIG. 4.

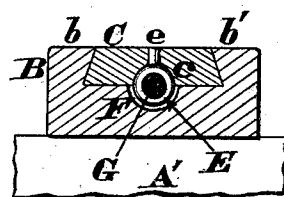


FIG. 5.

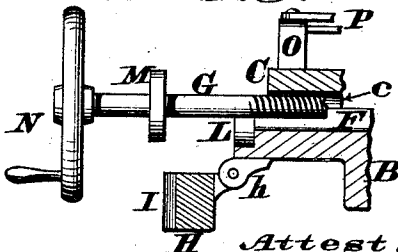
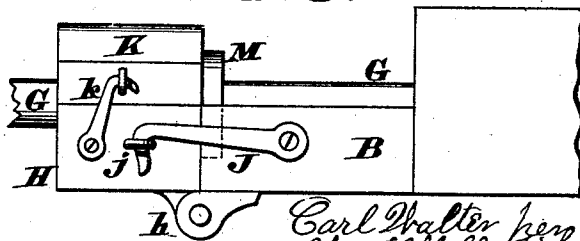


FIG. 6.



Attest.
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Charles Schmitt

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Wm. Hubbell Fisher
Att'y.

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FIG. 7.

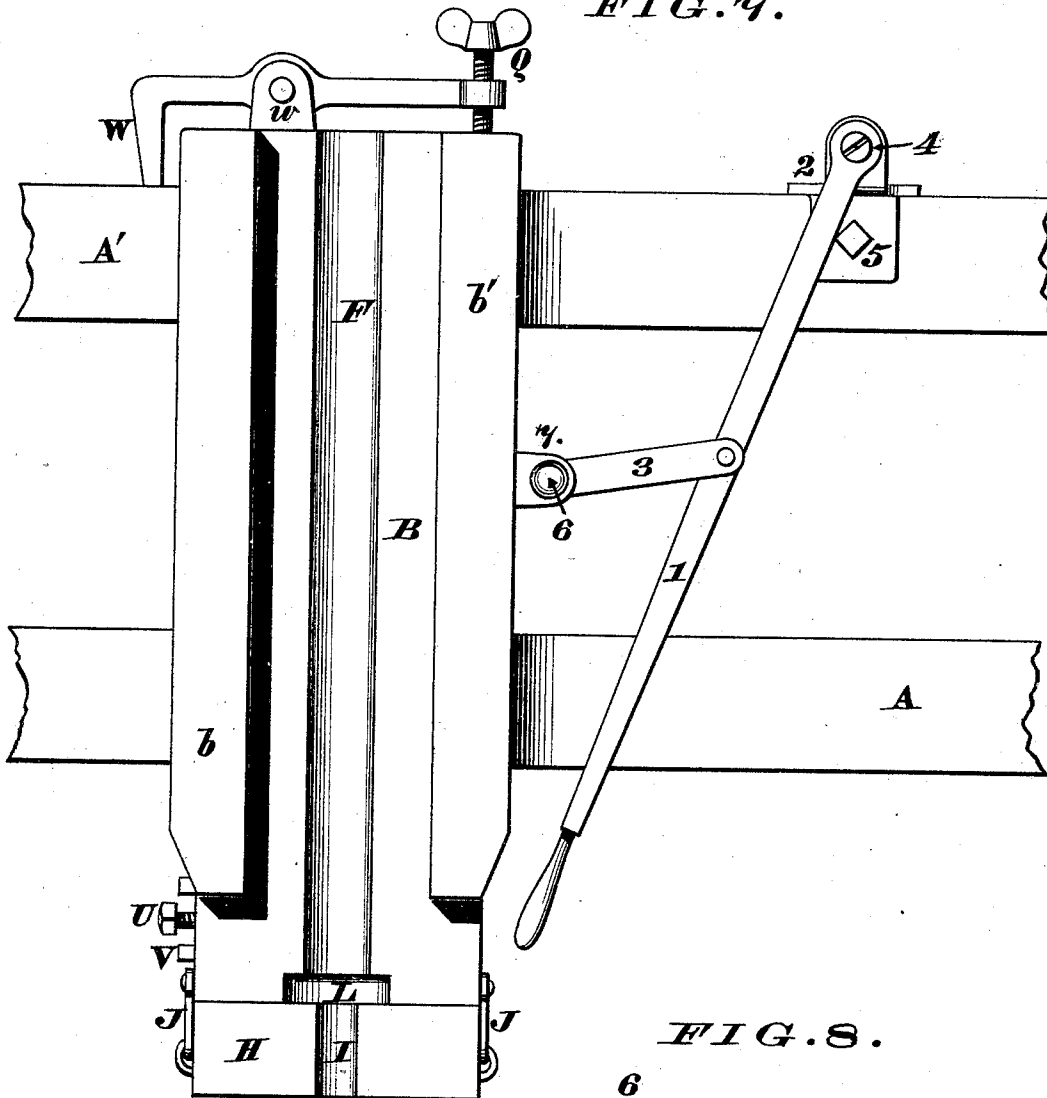
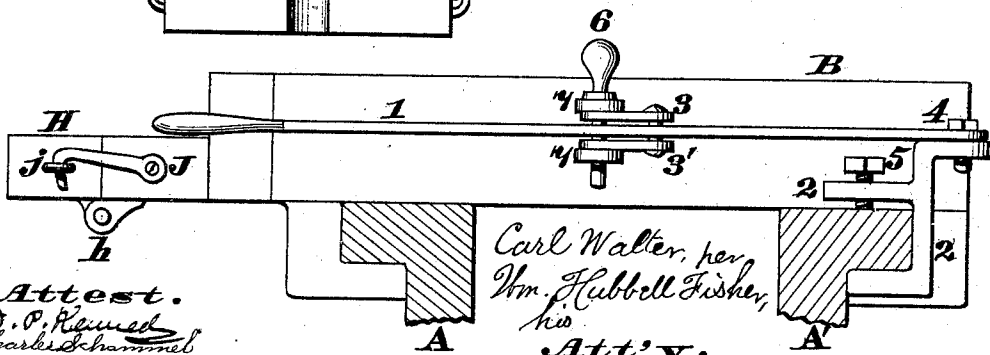


FIG. 8.



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UNITED STATES PATENT OFFICE.

CARL WALTER, OF CINCINNATI, OHIO.

IMPROVEMENT IN SLIDE-RESTS FOR LATHES.

Specification forming part of Letters Patent No. **176,102**, dated April 11, 1876; application filed March 16, 1876.

To all whom it may concern:

Be it known that I, CARL WALTER, a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Slide-Rests for Lathes, of which the following is a specification:

The first part of my invention comprises a peculiar combination of devices for reciprocating the slide-rest of a lathe transversely of the shears, the rest being arranged so as to be operated with a screw when a gradual and slow feed is required, while a rapid movement of the rest is effected with a hand-lever, as hereinafter more fully explained.

The second part of my invention comprises an instrumentality for shifting the slide-rest carriage longitudinally of the shears, the principal feature of this improvement being a hand-lever, whose rear end is pivoted to a shiftable fulcrum-clamp, which latter is capable of being secured at any desired position on one of the lathe-shears. This lever is coupled to the slide-rest carriage by connecting-rods that can readily be detached, when it is desired to move said carriage by the feed-screw of the lathe.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan of my improved slide-rest, in condition for use with a screw. Fig. 2 is another plan, but showing the rest arranged to be operated with a hand-lever. Fig. 3 is a vertical section of the rest at the line *x x*. Fig. 4 is a transverse section at the line *y y*. Fig. 5 is a vertical section of the forward end of the rest at the line *z z*. Fig. 6 is an enlarged elevation of the forward portion of the rest. Fig. 7 is a plan of the devices for shifting the carriage longitudinally of the lathe, the slide-rest being removed from said carriage; and Fig. 8 is a side elevation of said devices, the lathe-shears being shown in section.

A A' represent a portion of the shears or sides of a lathe of any approved form. Adapted to be shifted longitudinally of these shears is a bed-plate, B, whose undercut guides *b b'* confine to a rectilinear path the slide C, from which projects the tool-post D, the latter being provided with a customary set-screw, *d*, for retaining the tool securely in position. The

under side of this slide is provided with a longitudinal groove, *e*, within which is located a nut, E, which latter is secured to said slide either with a shank, *e*, or otherwise.

The bed-plate B is furnished with a similar longitudinal groove, F, and these two grooves form a channel for the reception of a screw, G, that engages with the aforesaid nut E. This screw is adapted to rotate within a box, H, hinged at *h*, to the forward end of bed-plate B, as more clearly shown in Fig. 6. The bearing or concavity I of this box is in line with the grooves *e F* when said box is maintained in its normal position by the hooks J, and staples *j* or their equivalent devices.

K is the cap of the box, which cap is secured with bolts, thumb-screws or hooks K, or any other devices that will allow the ready detachment of said cap.

The extreme forward end of bed-plate B is furnished with a recess, L, that is adapted to receive a collar, M, of screw G, by which means any longitudinal shifting of said screw is prevented. N is a hand-wheel or crank wherewith the screw is rotated.

Projecting vertically from bed-plate B is a bracket, O, whose horizontal arm *o* has pivoted to it a pair of links, P, that are connected to a lever, R, having a handle, *r*, and a downwardly-projecting stud, S. This stud is adapted to engage with either of the perforated lugs T T', that project horizontally from the tool-post D.

The bracket O is slotted at the lower end to receive a screw or bolt, U, wherewith said bracket is secured to the bed-plate of the rest.

Lugs V or their equivalent devices may be employed for maintaining the bracket in a vertical position.

W is a dog, pivoted to bed-plate B at *w*, and provided with a screw, Q, whose inner end is adapted to bear against the rear end of plate B, and thereby force the dog so tightly against shear A as to prevent any shifting of the rest longitudinally of the shears.

The devices for shifting the bed-plate or carriage B longitudinally of the shears consist, essentially, of a hand-lever, 1, fulcrum-clamp 2, and a pair of connecting-rods, 3 3', said lever being pivoted to the clamp at 4. 5 is a set-screw, wherewith the fulcrum-clamp 2

is maintained at any desired point upon the shear A'. 6 is a removable pin, connecting the rods 3 and 3' with ears 7, that project horizontally from one side of the bed-plate B.

When the slide C is to be reciprocated transversely of the shears A A' the bracket O P and levers R r are dispensed with, and the collar M is retained in its socket L by means of the box H K, which is maintained in line with bed-plate B by the hooks J. By turning the wheel N either to the right or left the screw G causes the slide C to advance or retract along the guides b b' in the usual manner, the dog Q W serving to prevent any shifting of the slide transversely of shears A A'. This use of the screw serves to impart a slow and gradual transverse feed of the slide; but when it is desired to move the latter with greater rapidity the following changes are effected: The retaining devices K are first unslackened, so as to permit removal of cap K, after which hooks J are disengaged from staples j, and the box H turned down to the position shown in Figs. 2 and 5, so as to disengage the collar M from its socket L. The bracket O o is now applied to bed-plate B, and secured in position by the devices U V, the pin S of lever R being engaged with either of the perforated lugs T T', which act leaves the slide C free to be reciprocated as rapidly as may be desired when the operator grasps the handle r.

The bracket may be readily detached from the bed-plate, the box closed up, and the collar engaged within its socket, when it is again desired to employ the screw G for operating the slide.

The bed-plate B and its attachments can be shifted very quickly along the shears by employing the devices shown in Figs. 7 and 8,

the fulcrum-clamp 2 being first secured to the shear A' by set-screw 5, and the rods 3 3' connected to the ears 7. The carriage B C can now be shifted either to the right or left by simply grasping the handle of lever 1 and then throwing said lever in either direction, the dog W Q being first disengaged from shear A'.

As the fulcrum 2 can be clamped at any desired point on the shear A', it is evident that by shifting said fulcrum the lever 1 may be made effective at any part of the lathe.

This rapid movement of the slide-rest carriage longitudinally of the lathe will save much time that would be consumed in operating said carriage by the usual feed-screw.

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

1. A slide-rest for lathes, when adapted to have either a slow or a rapid movement transversely of the shears, substantially as herein described and set forth.

2. The combination of hinged box H h J j and removable cap K k, for engaging the collar M of feed-screw G with the recess L of bed-plate B, for the purpose specified.

3. The detachable bracket O o U V and links P, for permitting the engagement of lever R S with either of the perforated lugs T T', for the purpose designated.

4. The dog Q W, pivoted at w either to the front or rear end of bed-plate B, for the object stated.

5. The combination of lever 1, shiftable fulcrum-clamp 2 5, rod or rods 3, and attachments 6 and 7, as and for the purpose herein specified.

CARL WALTER.

Attest:

D. P. KENNEDY,
CHARLES SCHAMMEL.