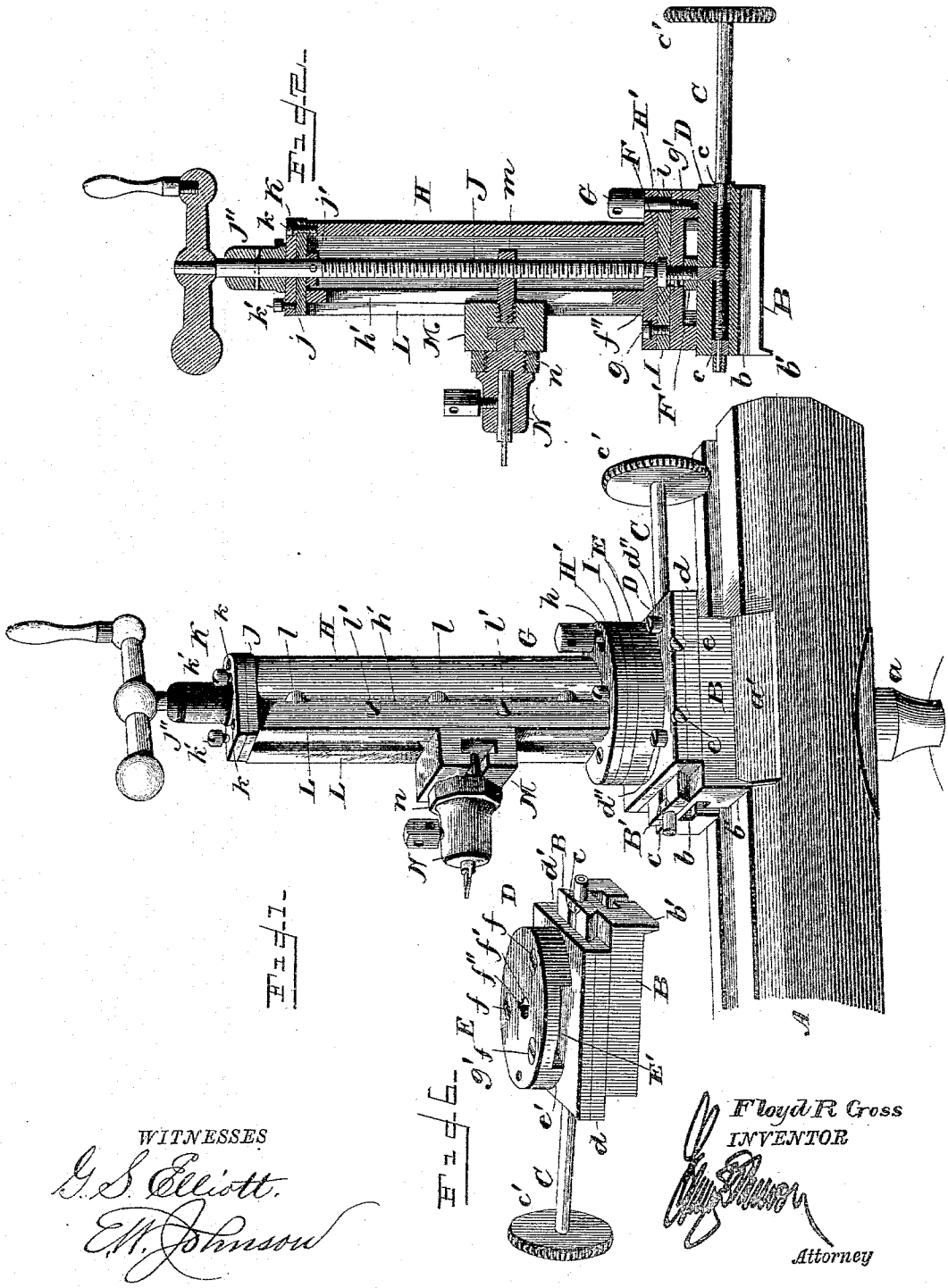
(No Model.) 2 Sheets—Sheet 1.

F. R. CROSS.

SLIDE REST.

No. 356,709. Patented Jan. 25, 1887.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

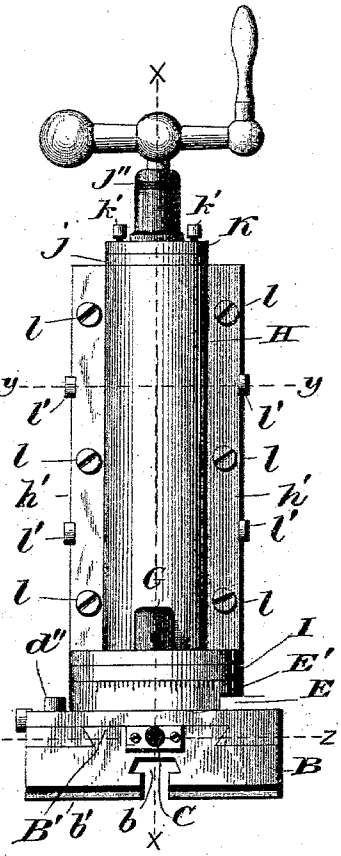


Fig. 4.

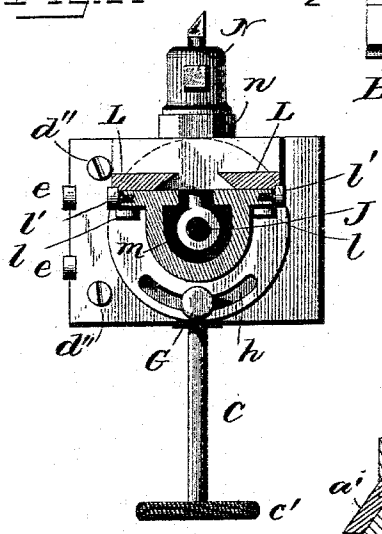


Fig. 5.

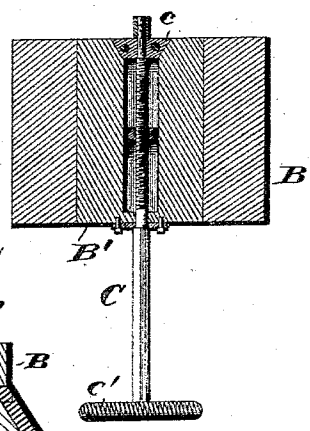
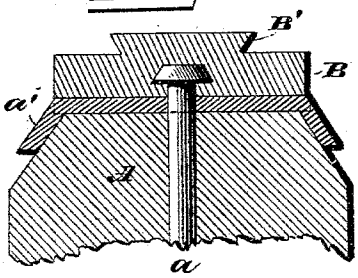


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

FLOYD R. CROSS, OF MAPLE RAPIDS, MICHIGAN.

SLIDE-REST.

SPECIFICATION forming part of Letters Patent No. 356,709, dated January 25, 1887.

Application filed October 28, 1886. Serial No. 217,468. (No model.)

To all whom it may concern:

Be it known that I, FLOYD R. CROSS, a citizen of the United States of America, residing at Maple Rapids, in the county of Clinton and State of Michigan, have invented certain new and useful Improvements in Slide-Rests for Lathes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in slide-rests for watchmakers' lathes, the object of my improvement being to provide a slide-rest which can be adjusted by means of set-screws to any angle or position that the work may require; and to this end my invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of a slide-rest constructed in accordance with my improvement. Fig. 2 is a vertical sectional view. Fig. 3 is a rear view. Fig. 4 is a transverse sectional view taken through the line *y y* of Fig. 3. Fig. 5 is also a transverse sectional view taken through the line *z z* of Fig. 3, and Fig. 6 is a detail perspective view of the base of the slide-rest separated from the upper portion. Fig. 6ª is a section, on a larger scale, taken across the bed and base of the slide-rest.

A refers to the lathe-bed, to which the base B of the slide-rest is secured by a bolt, the head of which will lie within the T-headed recess *b*, said bolt *a* passing through the longitudinal slot in the lathe-bed and through the bed-piece *a'*, which rests under the base B, above the lathe-bed, (see Fig. 6ª,) this plate or block *a'* having depending side pieces which embrace the outer edges of the lathe-bed and serve to hold them from spreading at the point where the base B of the slide-rest is attached. The base B is provided at its front edge with a depending web, *b'*, which will contact against one edge of the plate *a'*, so that the base when moved rearwardly will carry the plate *a'* with it. The upper portion of the base B, immediately above the slot *b*, is provided with a dovetailed projecting portion, B', which is provided centrally with a longitudinal slot, within which lies the screw-threaded end of a bar, C, said bar being secured within the recess by blocks *c*, which are secured to the dovetailed portion B', adjacent to the ends of the longitudinal recess, so that the rod C can be turned in said bearings. The rod C is provided at one end with a hand-wheel, *c'*.

D refers to a plate, which has attached or formed integral therewith adjacent to one edge a second plate, *d*, which forms one side of a dovetailed recess, the opposite side of said dovetailed recess being formed of a similar-constructed plate, *d'*, which is attached to the plate D by means of screws *d''*, which pass through slotted openings in the plate D and enter screw-threaded perforations in the plate *d'*, so as to permit the last-named plate to be adjusted, the sidewise adjustment being made by screws *e e*, which are attached to the edge of the plate D, their heads lying in recesses formed therefor, so that a portion of the heads will abut against the outer edge of the plate *d'* and move the same inwardly when it is desired to take up the wear caused by the movement of the parts upon each other.

Above the plate D is attached a circular plate, E, which is provided on its lower edge with a downwardly-projecting flange, *e'*, one edge of which is slotted, as shown at E'. The plate E is rigidly secured to the plate D, beneath the same, by means of bolts or screws *f*, and said plate is provided centrally with a circular opening, *f'*, one side of which is provided with a recess, *f''*, as shown in Fig. 6 of the drawings, through which extends a bolt, F, which is provided with a projecting pin, *g*, which prevents the same turning in the perforation *f'*. The plate E is also provided near its rear end with a screw-threaded perforation, *g'*, for the reception of the end of a set-screw, G. The plate E is provided with a series of gage-marks, as shown in Fig. 3. H refers to the vertical upright portion of the slide-rest, the base of which is provided with a horizontal projecting flange, H', which has at its rear portion a segmental slot, *h*, above which is located the head of a set-screw, G. To the under side of the flange H' is bolted a circular

plate, I, which is provided with a curved slot, *i*, which will be located immediately under the slot *h* in the flange immediately above. Centrally the plate I is provided with a recessed opening, through which passes a bolt, F, said bolt having a nut, F′, which lies within the recess under said plate, and said nut is turned or tightened by a suitable wrench, which can be inserted in the slot E′, so as to tighten or loosen said nut, so as to secure the parts to each other.

The base of the vertical upright portion H is provided centrally with a recess or perforation, within which lies the lower end of a vertical screw-threaded bar, J, said screw-threaded bar extending through the top plate, *j*, beneath which said screw-threaded bar J is provided with a ring, *j′*, which is rigidly secured thereto. The top plate, *j*, has an opening therein, through which the upper portion of the screw-threaded bar passes, and is of slightly larger diameter than said bar, and the plate K, which forms the upper bearing for bar J, is positioned immediately above the plate *j*, and is secured to the vertical walls of upright H by means of bolts *k*, and it is also provided with adjusting-screws *k′*, to enable the piece K to be so adjusted that the bar J may be rotated freely in the bearing without binding or undue wear.

The screw-threaded bar immediately above the plate K has attached thereto a bearing-cap, J″, the lower portion of which bears upon the upper edge of the plate K, and the extreme upper end of said bar has a crank handle or arm keyed thereon for turning the screw-threaded bar J.

The front of the vertical upright portion H has attached to the side projecting flanges, *h′ h′*, vertical bars L L, the inner edges of which are beveled so as to provide a dovetailed recess. These bars L L are adjustably secured to the side projecting flanges, *h′*, by means of bolts *l l*, which pass through horizontal slots in the side flanges, *h′*, and the inward adjustment of the bars L is secured by means of screws *l′*, which are secured to the vertical edges of the side flanges, so that their heads will bear upon the vertical bars L, thus providing a means for adjusting the same inwardly.

M refers to a sliding block, which is provided with an inwardly-projecting dovetailed portion, which lies between the plates L L and the front edge of the vertical upright portion H, and centrally this dovetailed portion has attached thereto a screw-threaded eye, *m*, through which passes the screw-threaded bar J, for moving the sliding block M vertically. This sliding block has formed in its face a transverse slot, to which the tool-holder N is secured, said tool-holder having a T-shaped end, and a nut, *n*, for binding the same to the sliding block, as well as a recess and binding-screw to hold the tool in place.

A slide-rest constructed as hereinbefore described can be cheaply constructed, and the wear of the parts upon each other can be readily taken up.

To assemble the parts upon each other, as shown in the accompanying drawings, the screw-threaded bar J is first placed upon the top portions of the vertical upright H and secured thereto. The sliding block M is then placed between the plates L L and the screw-threaded rod passed through the eyebolt *m*. The top plates are then bolted to the vertical upright H. After the bolt F is passed through the plate I, said plate is secured to the flange H′, and the nut F′ is placed under the center of the plate E, and a suitable wrench is inserted in the slot under the same, so as to engage with said nut and turn the same, thus securing the parts to each other, so as to permit the vertical upright portion of the slide-rest to be turned or rotated, and after the same has been adjusted the parts can be bound upon each other by the set-screw G, which passes through the segmental slots and enters the perforation *g′*. The longitudinal adjustment of the slide-rest upon its base is made by turning the screw-threaded bar C, which engages with a depending screw-threaded stud attached to the plate D, this adjustment being for the more delicate adjustment of the slide-rest, the slide being adjusted approximately upon the lathe-bed by the set-screw *a*.

By means of the slide-rest hereinbefore described the tool may be set at any desired angle, and the tool-holder can be advanced toward the work by turning the rod C, which is located at the lower portion of the slide-rest, so that when the same is turned the whole upper portion of the slide-rest will be moved without disturbing the adjustments of the other portion of the slide-rest.

I claim—

1. In a slide-rest for lathes, the combination of a bed-plate, provided on its under side with a longitudinal T-headed slot and on its upper side with a dovetailed projecting portion, the plate D, having attached thereto beveled side pieces, and a central downwardly-projecting stud which engages with a screw-threaded bar for adjusting the parts longitudinally upon each other, a circular support, E, attached above the plate D, and an upright portion, H, provided with means for vertically adjusting the tool-holder, and a segmental slotted flange through which passes the set-screw for adjustably clamping the parts to each other, substantially as shown, and for the purpose set forth.

2. In a slide-rest for lathes, a vertical upright portion, H, provided at its top with plates which are bolted thereto, the upper plate having set-screws for adjusting the same at an angle with the vertical upright portion, in combination with the vertical screw-threaded bar J, means for operating the same, and a sliding block, M, substantially as shown, and for the purpose set forth.

3. In a slide-rest for lathes, a vertical upright portion, H, having a screw-threaded bar, J, secured within the same, beveled side plates, L, attached to the front edge thereof, and pro-

vided with bolts *l*, for clamping the same to the vertical flange of the upright portion H, and set-screws *l'*, for adjusting the bars L inwardly, plates *j* and K, attached to the upper portion of the upright, so that the angles of the upper plate may be varied, and a sliding block, M, with a screw-threaded eye, *m*, which engages with the bar J, the parts being organized substantially as shown, and for the purpose set forth.

4. In a slide-rest for lathes, a base provided at its front portion with a downwardly-projecting flange, *b'*, in combination with a plate, *a'*, having downwardly-projecting side pieces, which are adapted to lie over the edges of the lathe-bed, the downwardly-projecting flange *b'* engaging with the front edge thereof, substantially as shown, and for the purpose set forth.

5. In a slide-rest for lathes, the combination of a base constructed substantially as shown, a plate, D, adapted to be moved longitudinally thereon, said plate having side pieces, *d* and *d'*, one of said side pieces being provided with bolts and set-screws *d''* and *d'*, for adjusting the same inwardly, substantially as shown, and for the purpose set forth.

6. The combination, in a slide-rest, of a base adapted to be secured to a lathe-bed substantially as described, a plate, D, arranged to be moved longitudinally upon the base, said plate having attached thereto a plate, E, with slotted side flange forming a central recess, a plate, I, having a central bolt with which a nut located within the recess of the plate E engages, whereby that portion which carries the tool-holder can be rotated, and means for clamping the parts together.

In testimony whereof I affix my signature in presence of two witnesses.

FLOYD R. CROSS.

Witnesses:
A. T. CROSS,
W. E. WARNER.