

(No Model.)

E. S. STEHMAN.
WATCH MAKER'S LATHE.

No. 463,751.

Patented Nov. 24, 1891.

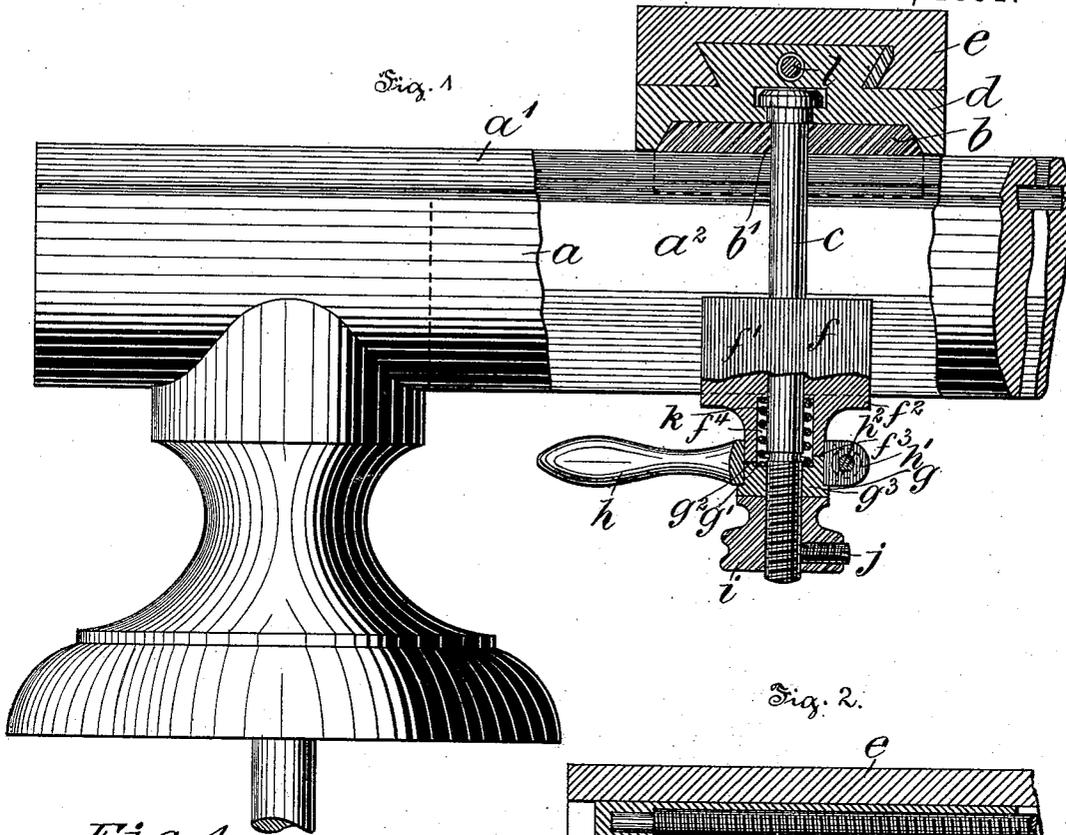


Fig. 1.

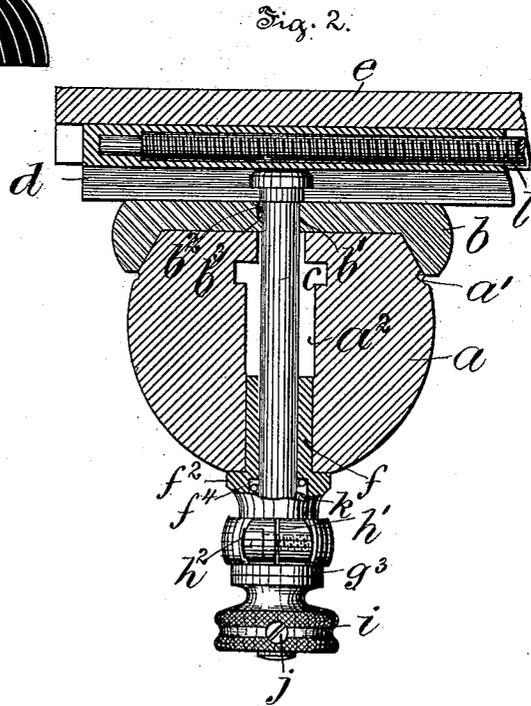


Fig. 2.

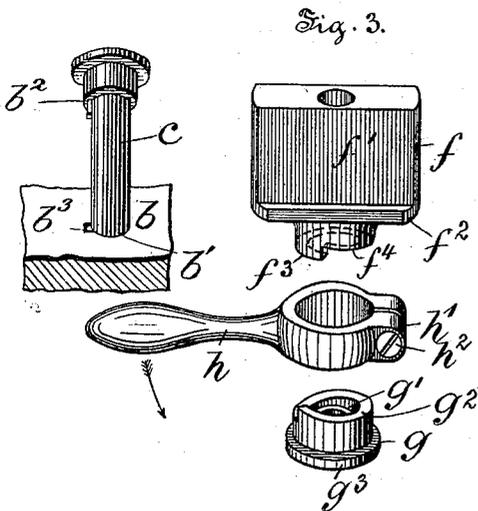


Fig. 3.

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UNITED STATES PATENT OFFICE.

EDWARD STEWART STEHMAN, OF LANCASTER, PENNSYLVANIA, ASSIGNOR
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WATCH-MAKER'S LATHE.

SPECIFICATION forming part of Letters Patent No. 463,751, dated November 24, 1891.

Application filed June 16, 1891. Serial No. 396,434. (No model.)

To all whom it may concern:

Be it known that I, EDWARD STEWART STEHMAN, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Jewelers' or Watch-Makers' Lathes, of which the following is a specification.

My invention has relation in general to watch-makers' and jewelers' lathes, and more particularly to the construction and arrangement of the parts of certain devices for clamping the tool-rest and tool-rest carrier to position upon the lathe-bed.

The principal object of this invention is to provide simple, efficient, durable, and comparatively-inexpensive devices for clamping the tool-rest and tool-rest carrier to position upon the ways of a lathe-bed.

In the present invention use is made of a thumb-nut mounted on a spindle ranging transversely of the lathe-bed and engaging the tool-rest and the tool-rest carrier, a jaw provided with a crown-cam and movable end-wise of and on said spindle to engage and disengage said lathe-bed, a rotatable gasket loosely mounted on said spindle and provided with a crown-cam, and means for normally separating said jaw and gasket, the construction being such that said crown-cams cause said jaw and tool-rest to be drawn together or separated, thereby causing said jaw and carrier to clamp or unclamp the lathe-bed, and also causing the tool-rest to be clamped or unclamped upon the carrier by the rotation of the gasket, as is hereinafter more fully set forth.

The invention consists of the improvements hereinafter fully described, and particularly pointed out in the claims.

The nature and characteristic features of the present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is an elevation, partly in section, of a lathe-bed and tool-rest carrier, showing clamping devices embodying features of the invention in application thereto. Fig. 2 is a transverse sectional view taken through the

center of the tool-rest carrier. Fig. 3 is a detached view of the jaw and gasket, showing the crown-cams; and Fig. 4 is a perspective view showing a slot-and-feather connection between the shank of an actuating-spindle and the side wall of an aperture in the tool-rest carrier.

In the drawings, *a* is the bed of a lathe, provided with ways *a'* and with a longitudinally-ranging slot *a²*, for purposes to be presently fully described.

b is a tool-rest carrier adapted to slide freely on the ways *a'* and provided with an aperture *b'* for receiving a spindle *c* in such manner that the same is allowed a slight range of end play therein. The head of the spindle *c* engages the lower plate *d* of the tool-rest *e*, and the spindle itself is prevented from turning in the aperture *b'* by means of the feather *b²* engaging in a slot *b³* in the side wall of the aperture *b'*, Fig. 4, so that when the spindle *c* is drawn downward the plate *d* is forced into close contact with the carrier *b* and the latter is pressed upon the ways *a'*, whereby the carrier *b* and the plate *d* are clamped together, and the carrier *b* is also clamped to place upon the ways *a'* through the instrumentality of a movable jaw *f*. This movable jaw *f* is provided with cheeks *f'*, adapted to slide upon the lower portion of the faces of the slot *a²*, and with lips *f²*, adapted to engage the bed of the lathe on opposite sides of the slot *a²*. The jaw *f* is mounted on the shank of the spindle *c*, and is also provided with a crown-cam *f³* and recess *f⁴*, for purposes to be presently described.

g is a gasket loosely mounted on the spindle *c* and provided at one extremity with a recess *g'* and a crown-cam *g²* and at the other extremity with a flange *g³*.

h is a handle provided with a split strap *h'* for engaging the gasket *g*.

h² is a screw engaging the terminal lugs or ears of the respective parts of the strap *h'*, so as to permit the same to be adjusted and then clamped to place upon the gasket *g*.

i is a thumb-nut screwed onto the lower threaded extremity of the spindle *c* and adapted to serve as a seat for the flange *g³* of the gasket *g*.

j is a set-screw for retaining or locking the thumb-nut *i* to place after it has been adjusted upon the spindle *c*.

k is a spiral spring interposed between the crown-cams *f*³ and *g*² and having the respective extremities thereof fitted into the recesses *f*⁴ and *g*¹, so as to force the crown-cams normally apart.

In use the jaw *f* may be adjusted so as to be forced into close contact with the lathe-bed *a*, through the operation of the crown-cams, by screwing the thumb-nut *i* toward or away from the lower extremity of the spindle *c*, whereupon the nut *i* may be clamped to place by means of the set-screw *j*.

The mode of operation of the hereinabove-described apparatus is as follows: When the handle *h* is turned in the direction indicated by the arrow in Fig. 3, the high portions of the crown-cams *f*³ and *g*² are brought into contact with each other, so that the jaw *f* and gasket *g* are separated, and this movement of the jaw and gasket causes the jaw *f* to clamp the under side of the lathe-bed *a*, and also causes the gasket *g* to force the nut *i* and spindle *c* downward. The downward motion of the spindle *c* draws the plate *d* into close contact with the carrier *b*, and also forces the latter into engagement with the ways *a'* of the lathe-bed *a*, thus clamping the carrier to place upon the lathe-bed, and also clamping the plate *d* to place upon the carrier, so that the tool (not shown) may be adjusted or fed with a slow motion transversely of the lathe by means of the feed-screw *l* or in any other preferred manner.

The carrier *b* and plate *d* may be released or unclamped from each other and from the lathe-bed *a* in order to permit of adjustment of the carrier longitudinally of the lathe and of the rapid adjustment of the plate *d* upon the carrier *c* by the simple operation of turning the handle *h* in a reverse direction, whereby the high part of one of the crown-cams *f*³ and *g*² is brought into contact with the low portion of the other cam, thereby permitting the spindle *c* to be shifted slightly upward into its normal position.

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

1. In combination, a longitudinally-slotted lathe-bed, a tool-rest, a tool-rest carrier, a spindle ranging transversely of the lathe-bed and having the head thereof in engagement with the tool-rest and the shank thereof work-

ing in an aperture in the tool-rest carrier, a jaw loosely mounted on said spindle and provided with a crown-cam and with lips and cheeks for engaging and disengaging the slot in the lathe-bed, a gasket rotatably mounted on said spindle and provided with a crown-cam, and means for actuating said crown-cam, substantially as and for the purposes set forth.

2. The combination, with a lathe-bed, tool-rest, and tool-rest carrier, of a spindle ranging transversely of the lathe-bed and having the head thereof in engagement with the tool-rest and the shank thereof working in an aperture in the tool-rest carrier, a slot-and-feather connection between said carrier and spindle, and means for shifting said spindle with reference to the lathe-bed, substantially as and for the purposes set forth.

3. The combination, in a lathe, of a lathe-bed, a tool-rest, a tool-rest carrier, a tool-rest spindle having the head thereof in engagement with the tool-rest and the shank thereof working in an aperture in the tool-rest carrier, a jaw movable on said spindle and adapted to engage and disengage the under side of the lathe-bed, a nut on said spindle, crown-cams interposed between said nut and jaw, and means for rotating one of the crown-cams, substantially as and for the purposes set forth.

4. In a lathe, a clamping device comprising a movable jaw provided with a crown-cam and recess, a rotatable gasket having a crown-cam and recess, a spring having the extremities thereof fitted into said recesses, and a handle provided with a two-part strap and set-screw for engaging said gasket, substantially as and for the purposes set forth.

5. In a lathe, the combination of an end-wise-movable tool-rest spindle, a jaw mounted on said spindle and provided with a crown-cam, a gasket mounted on said spindle and provided with a crown-cam, means for normally separating said crown-cams, a handle on said gasket, and a thumb-nut provided with a set-screw connected with said spindle, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

EDWARD STEWART STEHMAN.

Witnesses:

THOMAS M. SMITH,
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