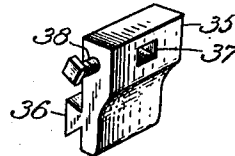
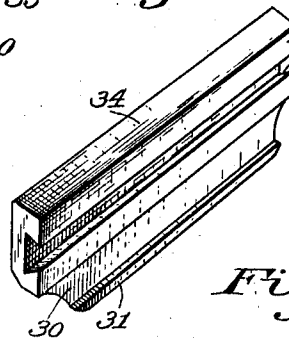
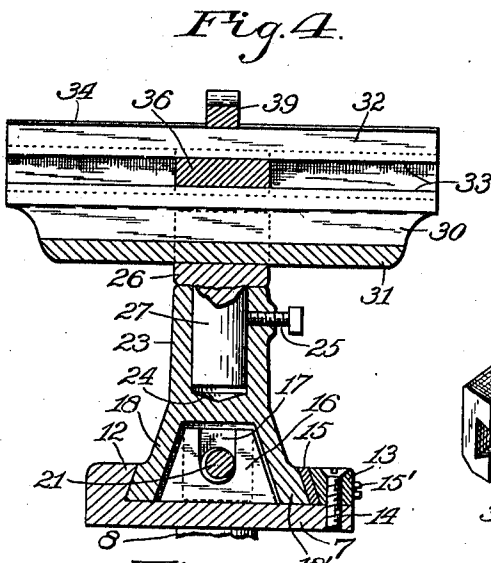
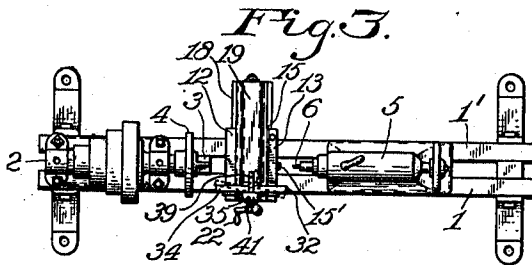
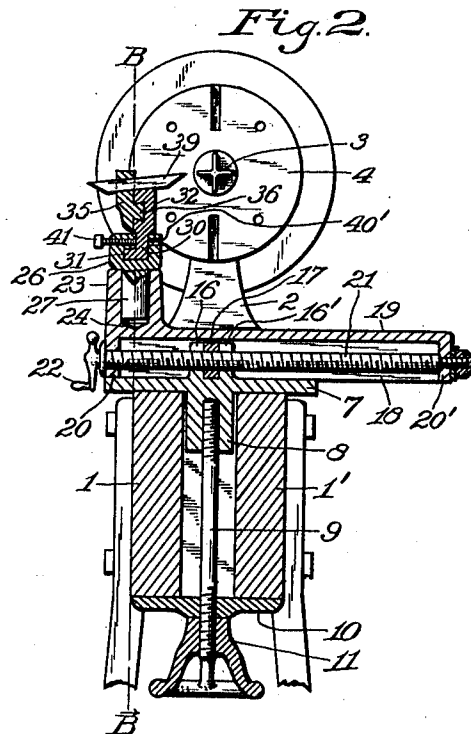
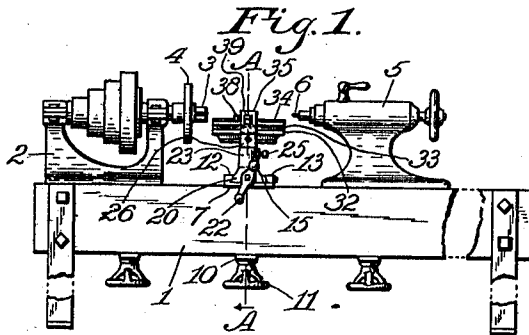


H. C. DIEDERICH.
WOOD TURNER'S TOOL REST.
APPLICATION FILED MAY 23, 1910.

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WITNESSES: 35 31

J. H. Gardner.
H. B. Woddell.

INVENTOR:
Henry C. Diederich,
BY
E. T. Silvius.
ATTORNEY.

UNITED STATES PATENT OFFICE.

HENRY C. DIEDERICH, OF INDIANAPOLIS, INDIANA.

WOOD-TURNER'S TOOL-REST.

988,630.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY C. DIEDERICH, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Wood-Turners' Tool-Rests; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to wood turning lathes and has reference particularly to an improved tool-rest comprising also a guided holder for the turning tools.

The object of the invention is to provide an improved tool-rest and holder combined whereby wood-turners' tools may be guided accurately so that wood or the like may be turned expeditiously, especially cylindrical forms, and whereby disks or plates may be accurately faced, a further object being to provide a tool-holder for wood-turning lathes that will enable the turning to be done without danger of the tool being hurled off by the work and injuring the operator, as sometimes occurs with the use of hand tools.

With the above-mentioned and other objects in view the invention comprises a combined tool-rest and holder for wood-turning lathes, the tool-holder being adapted to be guided on the tool-rest and controlled at the will of the operator; and the invention consists further in the parts and combinations and arrangements of parts as hereinafter particularly described and claimed.

Referring to the drawings, Figure 1 is a front elevation of a wood-turning lathe partially broken away to which the improved tool-rest is applied; Fig. 2, a transverse sectional view on the line A A in Fig. 1; Fig. 3, a top plan of the lathe and the tool-rest; Fig. 4, a fragmentary vertical section approximately on the line B B in Fig. 2; Fig. 5, a perspective view of the guide-bar of the tool-rest; Fig. 6, a perspective view of the guide-bar support; Fig. 7, a perspective view of the tool-holder; and Fig. 8, a front elevation of the guide-bar and tool-holder thereon.

Similar reference characters in the different figures of the drawings indicate like

parts or features of construction herein referred to.

In the drawings a wood-turning lathe of familiar construction is shown in which 1 and 1' indicate the two beams of the bed or shears on which the head stock 2 is mounted and supports the live-center 3 and face-plate 4, the tail stock 5 being mounted on the shears and supporting a dead-center 6, and it will be understood, of course, that work may be placed on the centers to be turned, or other work may be secured to the face plate to be turned.

The invention comprises a base plate 7 which normally rests upon the two beams 1 and 1' and has a boss 8 on the under side thereof that extends between the beams and serves to guide the base-plate when shifted along the beams, there being a rod 9 connected to the boss and extending downward beyond the plane of the bottoms of the beams and having a bearing plate or washer 10 thereon and also a nut 11 below the plate or washer, for clamping the base-plate 7 in the desired position. A tool carriage is mounted adjustably and movably upon the base-plate, the base-plate having two guideways 12 and 13 on the upper side thereof, one of which is secured detachably to the base-plate by means of screws 14 and is provided with a gib 15 adapted to be adjusted by means of screws 15' to compensate for lost motion as between the carriage and its supporting base. The upper side of the base-plate 7 has two slotted abutments 16 and 16' thereon between the guideways, and a nut 17 is normally held between the abutments. The carriage comprises two slides 18 and 18' formed integral with a top plate 19 and opposing ends 20 and 20', and the slides are supported movably upon the base plate and guided by the guideways 12 and 13. A screw 21 is mounted in the ends 20 and 20' and extends through the nut 17, the forward end of the screw having an operating handle 22 thereon so that when the screw is operated the carriage is moved longitudinally upon the base-plate 7 and usually in the direction transverse to the shears, but it will be seen that the base plate 7 may be turned to different positions about the axis of the rod 9. The tool carriage comprises also a tool-post 23 on one end

thereof that has a socket 24 therein and is provided with a set-screw 25.

The more essential parts of the invention comprises a guide-bar support 26 of novel construction having a shank 27 inserted in the socket 24 adjustably and secured therein by a set-screw 25, the support having a vertical slot 28 therein extending downward from the top thereof and a groove 29 extending laterally from the lower end of the slot, forming a guide-way that is substantially L-shaped in cross-section. A guide-bar is provided of suitable length to correspond with the size and character of the work usually done in the lathe and the guide-bar has a shank plate 30 having a lateral rib 31 thereon and adapted to fit closely in the L-shaped guide-way in the guide-bar support, so that the guide-bar may be supported in a substantially rigid manner and yet be driven longitudinally so as to project farther in one direction than the other beyond the guide-bar support. The body part 32 or tool-rest proper has a guide-groove 33 in the forward side thereof that is broader at its bottom than at its forward portion, and the upper side 34 which constitutes the guide for the cutting-tool is slightly inclined with the forward edge lower than the opposite edge that is normally toward the work, in order to elevate the cutting edge of the tool above the rear end thereof, as is usually desired. A tool-holder 35 is provided on the inner side thereof with a horizontal rib 36 that is fitted closely in the guide-groove 33, the rib being broader at its extremity than at its base, so as to hold the body of the tool-holder close against the forward side of the body part 32 of the guide-bar, the tool-holder being adapted to be moved horizontally along the guide-bar by hand, and it has a socket 37 therein and is provided with a set-screw 38 whereby a cutting tool 39 is secured in the socket, the set-screw being in contact with one of the vertical sides of the tool, and the tool extends across the upper side 34 of the guide-bar and may be held solidly thereon by the operator when in use. It is preferable that the guide-bar support 26 be provided with screw-holes 40 and 40' in one of which a set-screw 41 is inserted and forced against the shank part 30 of the guide-bar for securing it to the guide-bar support, which in some cases is desirable.

It will be clear from the foregoing that the tool may be raised or lowered with respect to the tool-post and may be moved quickly along the guide-bar, and that when it is desired the operator may use hand-tools temporarily on the unoccupied portions of the guide-bar or tool rest.

In practical use the tool is moved toward or from the work in the lathe centers by means of the screw 21 and also when facing

work on the face-plate, the guide-bar, of course, being adjusted for the latter operations, so as to be parallel to the face-plate or nearly so, the tool being held by the operator in relatively fixed position on the guide-bar while the tool carriage is moved by the screw in making straight cuts. The guide-bar, of course, may be set at various angles as when turning true cones or work with similar contours, and it will be observed that while the screw 21 may be operated with one hand the operator may with his other hand move the tool along the guide-bar so that irregular contours may be expeditiously turned, and the tool being secured in the tool-holder is not liable to gouge into the work and can not be thrown out accidentally to the injury of the operator.

Having thus described the invention, what is claimed as new, is—

1. A tool-rest including a guide-bar having a vertical guiding face and also a relatively narrow approximately horizontal guiding face, a tool-holder slidably guided against the vertical guiding face and having a horizontal socket therein whose lower side is as low relatively as the top of the horizontal guiding face, and a device for securing a cutting tool against a vertical side of the socket.

2. A tool-rest including a guide-bar having a vertical guiding face and also a relatively narrow approximately horizontal guiding face, a tool-holder slidably guided against the vertical guiding face and having a horizontal socket therein whose lower side is as low relatively as the top of the horizontal guiding face, and a set-screw arranged horizontally in the tool-holder and extending into the socket opposite a vertical side thereof.

3. A tool-rest comprising a guide-bar support, a guide-bar mounted slidably on the guide-bar support and having an undercut groove in a vertical side thereof extending horizontally, a tool-holder mounted slidably on the vertical side of the guide-bar and having a horizontal rib on one side thereof that has a relatively broad extremity, the rib being movable in the groove, said tool-holder having a horizontal socket therein whose lower side is in the plane of the top of the guide-bar, and a set-screw in a vertical side of the tool-holder and extending horizontally into the socket therein.

4. A tool-rest comprising a base-plate, a carriage mounted movably on the base-plate, a screw mounted on the carriage and connected with the base-plate, a tool-post on the carriage having a socket therein, a guide-bar support having a shank extending into the socket, a device for clamping the shank in the socket, a guide-bar mounted slidably on the guide-bar support, a device for clamp-

ing the guide-bar to the support, a tool-holder mounted slidably on the guide-bar and having a socket therein with its bottom in the plane of the top of the guide-bar, and
5 a set-screw in the tool-holder parallel with the guide-bar and extending into the socket in the tool-holder, with a tool in the tool-holder socket engaged by the set-screw last-

described and extending across the guide-bar and movable thereon.

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

HENRY C. DIEDERICH.

Witnesses:

E. T. SILVIUS,

J. H. GARDNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
