W. SCHELLENBACH & W. LODGE.

MULTIPLE TOOL HOLDER.

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1,098,688. Patented June 2, 1914.

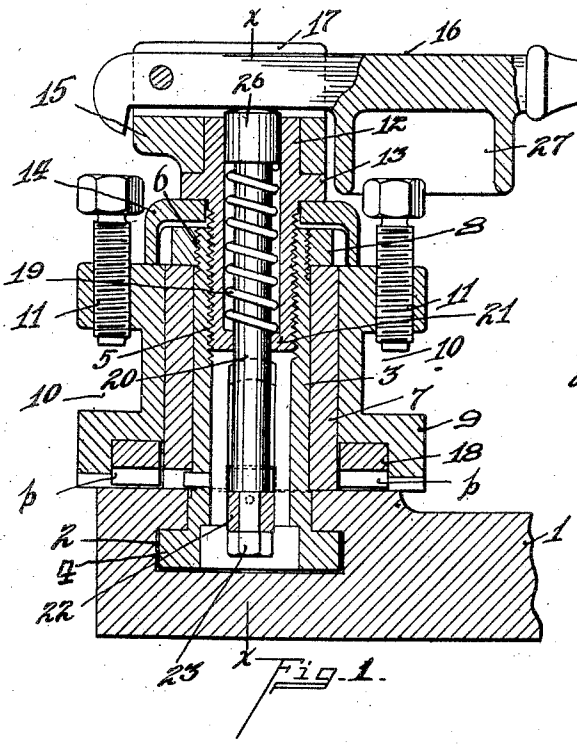


Fig. 1.

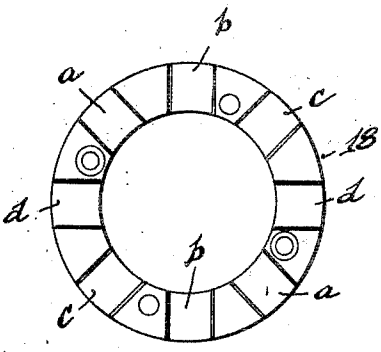


Fig. 4.

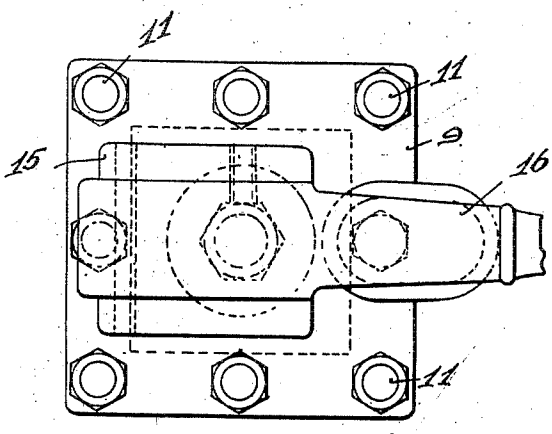


Fig. 2.

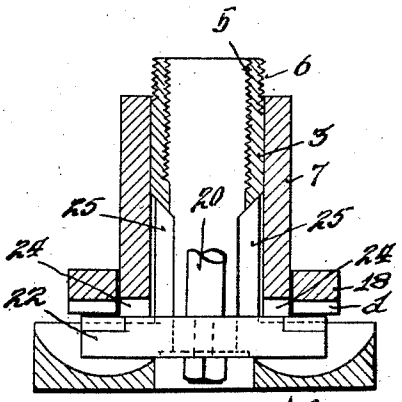


Fig. 3.

Witnesses

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MULTIPLE-TOOL HOLDER.

1,098,688. Specification of Letters Patent. Patented June 2, 1914.

Application filed August 8, 1913. Serial No. 783,723.

To all whom it may concern:

Be it known that we, WILLIAM SCHELLENBACH and WILLIAM LODGE, both citizens of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Multiple-Tool Holders, of which the following is a specification.

Our invention relates to a multiple-way tool-holder.

The object of the invention is to provide an efficient device of this nature, having convenient provision for effectively clamping the tool-holder on its support; rotatably adjusting the holder relative to the tool-holder support and column; adjusting the holder to predetermined positions; automatically latching and manually unlatching the holder relative to its operative positions; these manipulations being preferably effected through the agency of a single lever.

The features of our invention will be more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which:—

Figure 1 is a central vertical section. Fig. 2 is a top plan view. Fig. 3 is a section of a portion of the device on line x, x, Fig. 1. Fig. 4 is a bottom plan view of the latch plate.

The tool post support 1, of a compound or simple rest, has the conventional T-slot 2. I provide a central supporting column 3, centrally bored longitudinally and formed with the foot 4, slipping endwise into the T-slot and holding said column against rotation. Column 3 is provided with the upper internal screw threads 5 and external threads 6. A bushing 7 surrounds the column and is supported upon the upper face of the support 1. It is securely clamped in place by a nut 8, engaging threads 6.

The tool-holder 9 turns upon bushing 7 and column 3, and is to be clamped upon the upper face of the support 1, said holder having the tool holding ways 10 and tool clamping bolts 11. Engaging threads 5, of column 3, is a counterbore clamp 12, having an annular clamping surface 13, bearing downwardly upon clamping ring 14, which rests upon the upper face of the tool-holder 9. When member 12 is turned appropriately the tool-holder will be clamped between the ring 14, column 3, and support 1, and when released the tool-holder may be rotatably adjusted. The upper end of clamp 12 is fitted to a socket piece 15, the lever 16 being pivoted in one end of a slot 17, formed on the top of said socket piece, the lever bridging the center bores of clamp 12 and column 3. Fitted into the bottom of tool-holder 9 is an anuular latch-plate 18, having the pairs of diametrical slots a—a, b—b, c—c, d—d, downwardly facing, the latch-plate turning with the tool-holder, to present the respective pairs of slots in positions appropriately corresponding to the four ways of the tool support. A plunger 20 is inserted into the center bores of clamp 12 and column 3, which is normally urged upwardly by spring 19, acting between the plunger head 26 and the internal flange 21 of the clamp 12.

On the lower end of plunger 20 is a transverse latch bar 22, secured thereto by nut 23, as shown in Fig. 3, and in section Fig. 1. The foot end of column 3 and bushing 7 are milled out, as shown in Fig. 3, for bar 22, and it is vertically guided by slots 24, 25 in the bushing 7 and column 3.

Preferably the handle end of lever 16 is formed with socket 27 for engaging the heads of screws 11 for easily and conveniently rotating the tool-holder.

As shown in Fig. 1, the tool-holder is unclamped and the plunger depressed to release latch-bar 22 from engagement with latch-plate 18. The tool-holder may be then turned to bring a selected tool into operative position, the lever 16 will then be raised, the plunger rising to latch the tool-holder to cutting position, and by an appropriate turn of lever 16 in raised position, the clamp 12 will be operated to relatively clamp-lock together the tool-holder, column and support into the position determined by the engagement of the latch-bar and plate.

This multiple tool-way holder is efficient, easily and conveniently operated, and is adapted to be applied to any conventional tool-holder support, particularly the compound rest type wherein four-way tool-holders are most commonly in requisition.

Having thus described our invention, we claim:—

1. In combination with a support, a longitudinally bored supporting column non-rotatably secured to said support, a multiple tool-holder on the support, rotatable relative to the column, a center-bored clamp piece

screw-threaded to said column, means enabling the turn of said piece to relatively clamp together the support, column and tool-holder, a latch-plate for the bottom of the tool-holder, a spring-plunger concentric with the clamp piece and column, having a latch-bar normally engaging the latch-plate and interlocking therewith when in appropriate relative positions, a lever for clamping and unclamping the tool-holder, rotatably adjusting the support and operating the plunger.

2. In combination with a support, a longitudinally bored supporting column non-rotatably secured to said support, a multiple tool-holder on the support rotatable relative to the column, a latch-plate between the support and tool-holder, movable with the latter, a counter-bored clamp piece screw-threaded to the column and formed with a transverse slotted head, a lever pivoted in the slot of the clamp piece and bridging the center bore, means whereby the rotation of said clamp piece clamps or unclamps relatively the support, column and tool-holder together, a spring-plunger passing through said clamp piece and column, a latch-bar on the lower end of the plunger coöperating with the latch-plate, said bar being vertically guided in the walls of the lower end of the column, the upper end of the plunger being engageable by the lever to effect the unlatching, the spring automatically effecting the latching operation when the latch-plate is presented to the latch-bar in positions corresponding to operative tool positions of the holder, and means for securing tools to said holder.

3. In combination with a support, a column non-rotatably secured thereto, a multiple tool-holder rotatable on the column and support, means for relatively clamping the support, column and tool-holder, means automatically latching the tool-holder in predetermined positions on the support, adapted to be manually unlatched, and a lever rotatably movable in transverse planes for actuating the clamp and latch, and for rotatably adjusting the tool holder.

4. In combination with a support, a longitudinally bored column non-rotatably fixed to the support, a multiple tool-holder rotatable on the column and support, a center-bored clamp member screw-threaded on the column, a slotted head for said member, a lever pivoted therein and bridging the bores of the column and clamp member, the handle end of said lever when lying in the slot being adapted to engage the tool-holder to rotatably adjust the same, means whereby an appropriate turn of said member relatively clamps together said support, column and tool-holder, a latch-plate on the tool-holder, a spring-plunger within the clamp member and column, a latch-bar on said plunger coöperating with said latch-plate, said bar being vertically guided in the column, the plunger head projecting normally into the slot of the clamp member, and means for securing tools to said holder, the lever manipulations controlling the clamping, swiveling and latching operations.

5. In combination with a support, a fixed column thereon, a multiple tool-holder rotatively adjustable on the column and support, means for relatively clamping the support, column and tool-holder, means automatically latching the tool-holder in predetermined positions on the support, a lever adapted when raised to actuate said clamp and latch, and when depressed to release the clamp, unlatch the tool-holder and engage a portion thereof for adjusting the same, and means normally holding said lever in latching position.

6. In combination with a support, a fixed column thereon, a multiple tool-holder rotatively adjustable on the column and support, means for relatively clamping the support, column and tool-holder, spring actuated means automatically latching the tool-holder in predetermined positions on the support, a lever adapted when raised to actuate said clamp and latch, and when depressed to release said clamp and latch, and engage a portion of the tool-holder for adjusting the same, the latch spring mechanism normally holding the lever in position with the tool-holder latched to the support.

In testimony whereof, we have hereunto set our hands.

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Witnesses as to William Schellenbach:
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