C. L. LIBBY.

TOOL POST FOR LATHES.

APPLICATION FILED FEB. 6, 1908.

939,722.

Patented Nov. 9, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

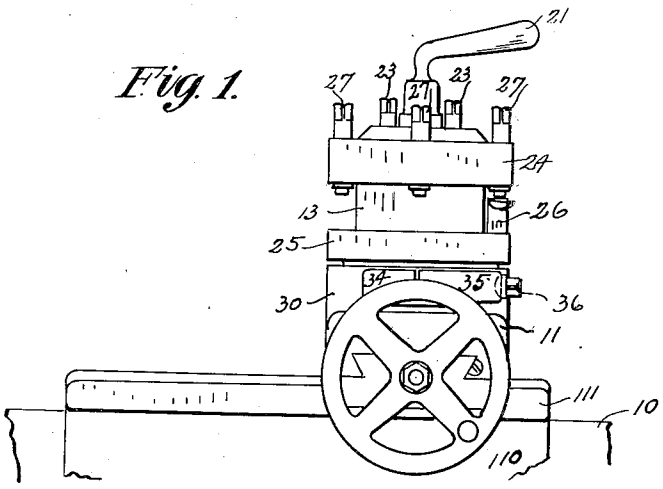


Fig. 2.

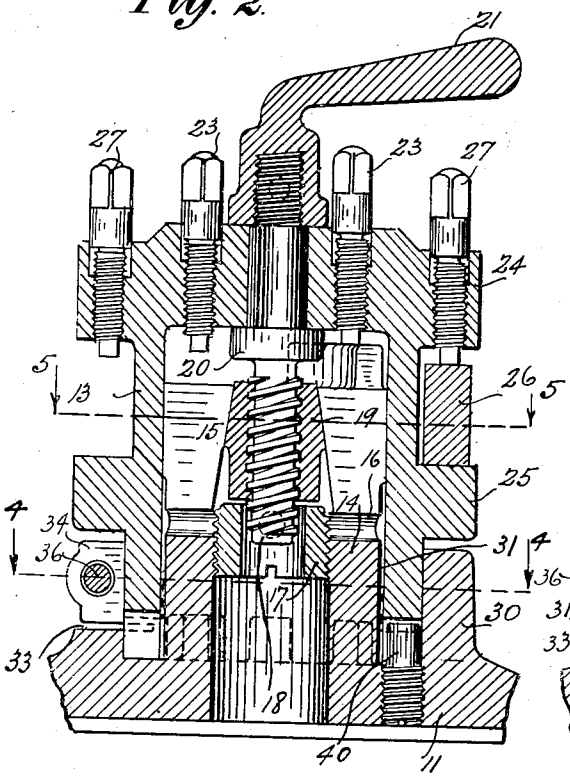
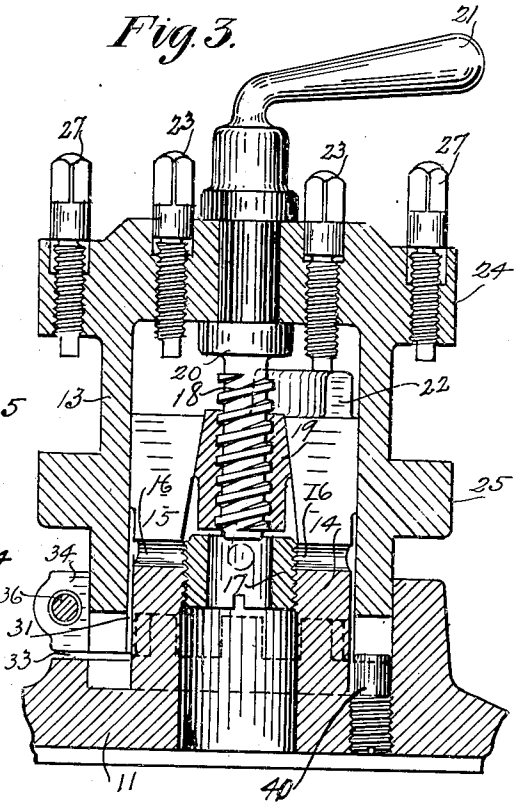


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

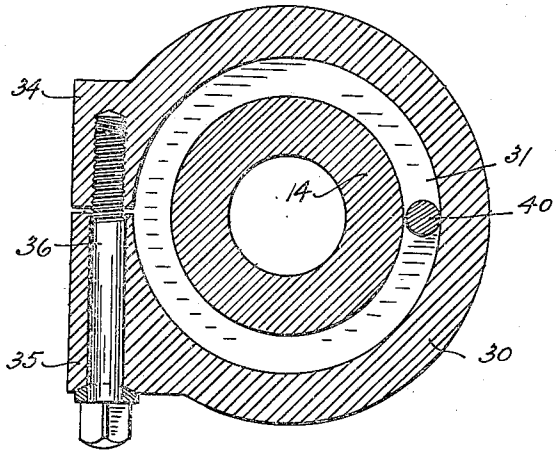


Fig. 6.

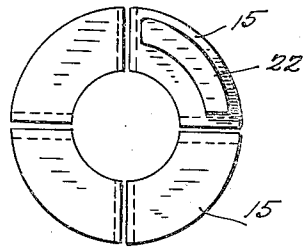


Fig. 5.

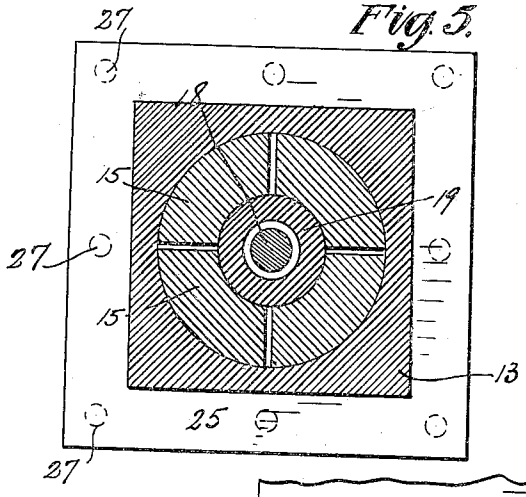


Fig. 7.

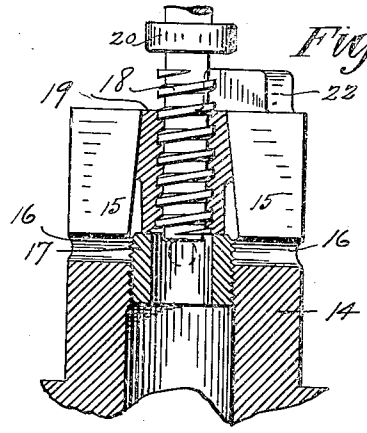
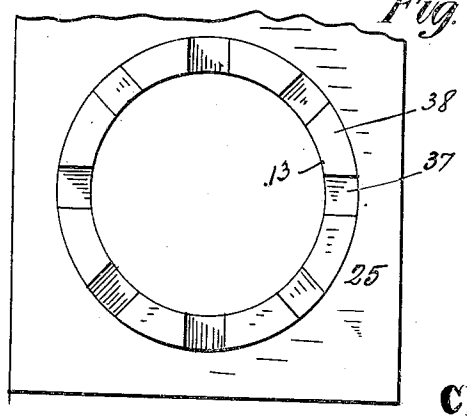


Fig. 8.



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TOOL-POST FOR LATHES.

939,722. Specification of Letters Patent. **Patented Nov. 9, 1909.**

Application filed February 6, 1908. Serial No. 414,499.

To all whom it may concern:

Be it known that I, CHARLES L. LIBBY, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Tool-Post for Lathes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to improve the construction and operation of tool posts for lathes.

One feature of the invention is the arrangement substantially as herein shown for both releasing the tool holder for the adjustment thereof to bring and hold the desired cutter or tool in position for operation and for clamping or securing said tool holder permanently in the adjusted position, and to accomplish this two-fold object very quickly by the simple operation of a single means.

Another feature of the invention consists in mounting the tool holder over a split head and providing a wedge-shaped clamping member within the head operable by external means, whereby the split head may be separated for clamping the tool holder in place thereon.

Another feature of the invention consists in providing means independently of the foregoing for the vertical adjustment of the tool holder.

Another feature of the invention consists in providing a revoluble adjustable tool holder, with its base cylindrical and notched at its lower end and a screw plug or tooth for engaging any of said notches for preventing the tool holder from having any revoluble movement after its position has been adjusted.

Still another feature of the invention consists in providing an annular boss upon the cross slide for receiving the cylindrical lower end of the tool holder, said boss being split so that the split ends thereof can be drawn more tightly by a screw bolt, whereby the tool holder can be caused to fit very snugly in its position on the slide.

The full nature of my invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Figure 1 is a front elevation of the tool holder and a portion of the lathe-bed and cross slide, the remainder of the latter parts being broken away. Fig. 2 is a central vertical section of the device, showing the tool holder down in operative position. Fig. 3 is the same showing the tool holder set at a higher elevation than in Fig. 2. Fig. 4 is a horizontal section on the line 4—4 of Fig. 2. Fig. 5 is a horizontal section on the line 5—5 of Fig. 2. Fig. 6 is a plan view of the stationary head of the slide. Fig. 7 is a vertical section of the central portion of Fig. 3. Fig. 8 is a bottom view of the revoluble tool holder detached.

In the drawings the lathe bed is indicated by 10 and the apron by 110.

The tool holder 13 is cap-like in shape with its lower end open and cylindrical so as to readily fit over the head or stationary part of the post which extends upwardly from and is integral with the cross slide 11 on the carriage 111. This head or stationary portion of the post consists of a lower cylindrical portion 14 which extends upwardly from the slide 11 and is tubular or provided with a central opening and at its upper end the head is vertically split into four sections 15, the splits extending upwardly from the radial holes or recesses 16, see Fig. 7. The bore of the upper part of the stationary member or head, within the split portions 15, tapers upwardly somewhat so that the diameter of the bore at the upper end is smaller than the diameter of the bore at the lower end. The lower portion of the stationary member or head is internally threaded to hold a hollow nut 17 into which the lower end of the screw 18 may extend, and the top of which may be engaged by the internally screw threaded conical clamp 19 on said screw. The screw 18 has a shoulder 20 under the top of the tool holder 13 and the upper part or stem of said screw projects through the top of said tool holder and has secured upon its upper end the handle 21.

The stationary part or head of the post has upon one of its split sections 15 an upward projection 22, quadrant-shaped, see Figs. 6 and 7, the top of which is adapted to be engaged by one of the screws 23 that pass through the top of the tool holder 13. By this projection 22 and one of the set screws 23 the vertical position of the tool holder is adjusted. There are preferably four of the adjusting screws 23 equidistant from each other in the top of the tool holder 13 and the tool holder has an outwardly extending flange 24 and also an outwardly

extending flange 25 between which the tool 26 is secured, each tool being clamped down upon the lower flange 25 by a screw 27 that passes through the upper flange 24. There are eight of these set screws 27, three in a row, as shown in Fig. 5, so that the tool holder may hold four tools.

I do not wish the invention limited to any particular number of tools or means for holding the tools.

There is an upwardly extending annular boss 30 from the slide 11 adapted to surround the lower part of the tool holder 13, as seen in Fig. 2, and to leave an annular recess 31, as seen in Fig. 4. A horizontal cut 33, see Fig. 2, at one side for a considerable distance inward renders the two parts 34 and 35 of the boss 30 movable toward each other by the screw bolt 26, whereby the boss 30 may be tightened somewhat about the lower end of the tool holder in order to make it fit snugly in the recess 31. The lower cylindrical end of said tool holder 13 is provided with upwardly extending notches 37 between the intermediate downward projections 38, there being eight in the form herein shown, see Fig. 8, and the pin or locking bolt 40 is adapted to project upwardly in the recess 31, see Figs. 2 and 4, and to project into one of the recesses 37, so as to firmly hold the tool holder from any revoluble movement or play.

The operation of the device will be understood from the following explanation. After the tool holder 13 is put in place on the head 14, the screw bolt 36, see Fig. 4, is tightened up so as to make the fit of the tool holder snug. By turning the handle 21 quickly to the left the screw 18 will force the clamping cone 19 downwardly upon the stationary nut 17, thereby permitting the split portions 15 of the head to contract and release the tool holder 13. A slight further movement of the handle 21 in the same direction elevates the tool holder to a higher position than that shown in Fig. 3, so as to disengage the pin 40, whereby the tool holder 13 may be revolved to bring the desired tool 26 into operative position. Then the handle 21 is quickly thrown to the right clock-wise to permit the tool holder 13 to settle in position. The set screw 23 is adjusted to give the tool holder and tool the desired elevation for operation. A further clock-wise movement of the handle 21 draws the clamping cone 19 upwardly to clamp the tool holder tightly upon the head. The device is then ready for duty. The tool post can, if desired, be clamped at any angle independently of the notches 37 or pin 40.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A tool post in a lathe including a tubular stationary member with an upper portion longitudinally split and having an internal bore tapering upwardly, a tool holder with a cylindrical portion fitting over and about said stationary member, a screw mounted in the top of said tool holder so as not to be vertically movable independently of the tool holder and with its threaded end extending down into the bore of said stationary member, a conical wedge mounted on the screw in the tapering bore of the stationary member, a handle for operating said screw, and a stop secured in the bore of said stationary member for limiting the downward movement of said conical wedge.

2. A tool post in a lathe including a cross slide with a circular upwardly extending portion, an annular boss surrounding said upwardly extending portion so as to leave an annular space between them, said boss being split at one side, means for drawing the split ends of the boss toward each other, a stationary upwardly projecting pin in said annular recess, a tool holder with a cylindrical lower end adapted to fit in said annular recess and provided with notches to receive said pin when the tool holder is adjusted to position, and means mounted in connection with said upwardly extending portion from the cross slide for elevating the tool holder for adjustment and lowering it to adjusted position and clamping it in place.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

CHARLES L. LIBBY.

Witnesses:
OLIVE BREEDEN,
V. H. LOCKWOOD.