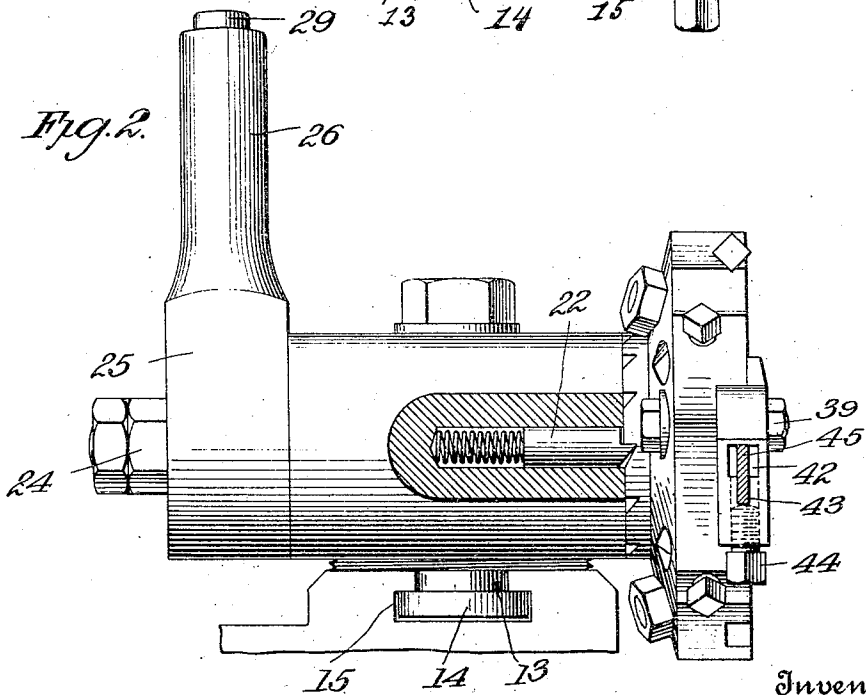
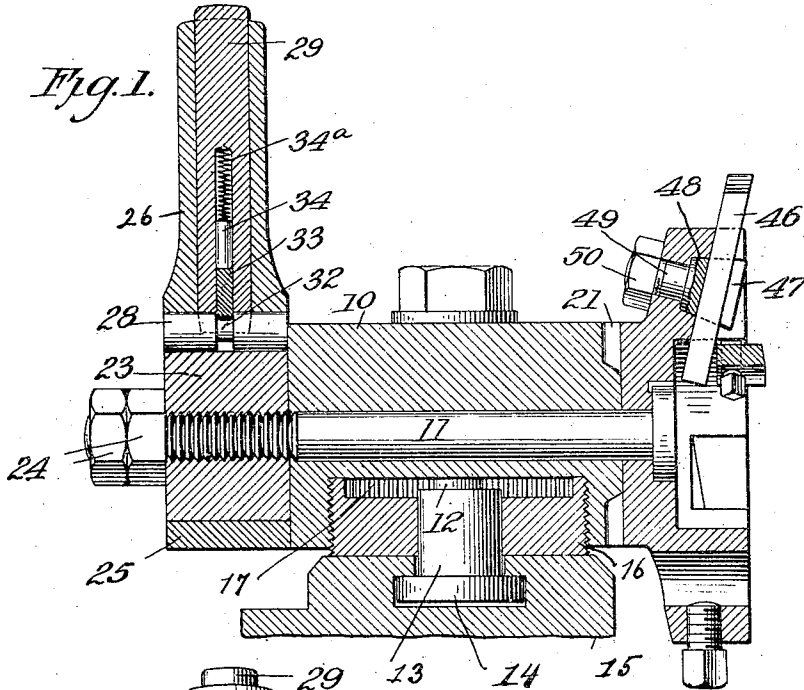


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TURRET TOOL POST FOR ENGINE LATHES.
APPLICATION FILED DEC. 23, 1916.

1,250,490.

Patented Dec. 18, 1917.
2 SHEETS—SHEET 1.



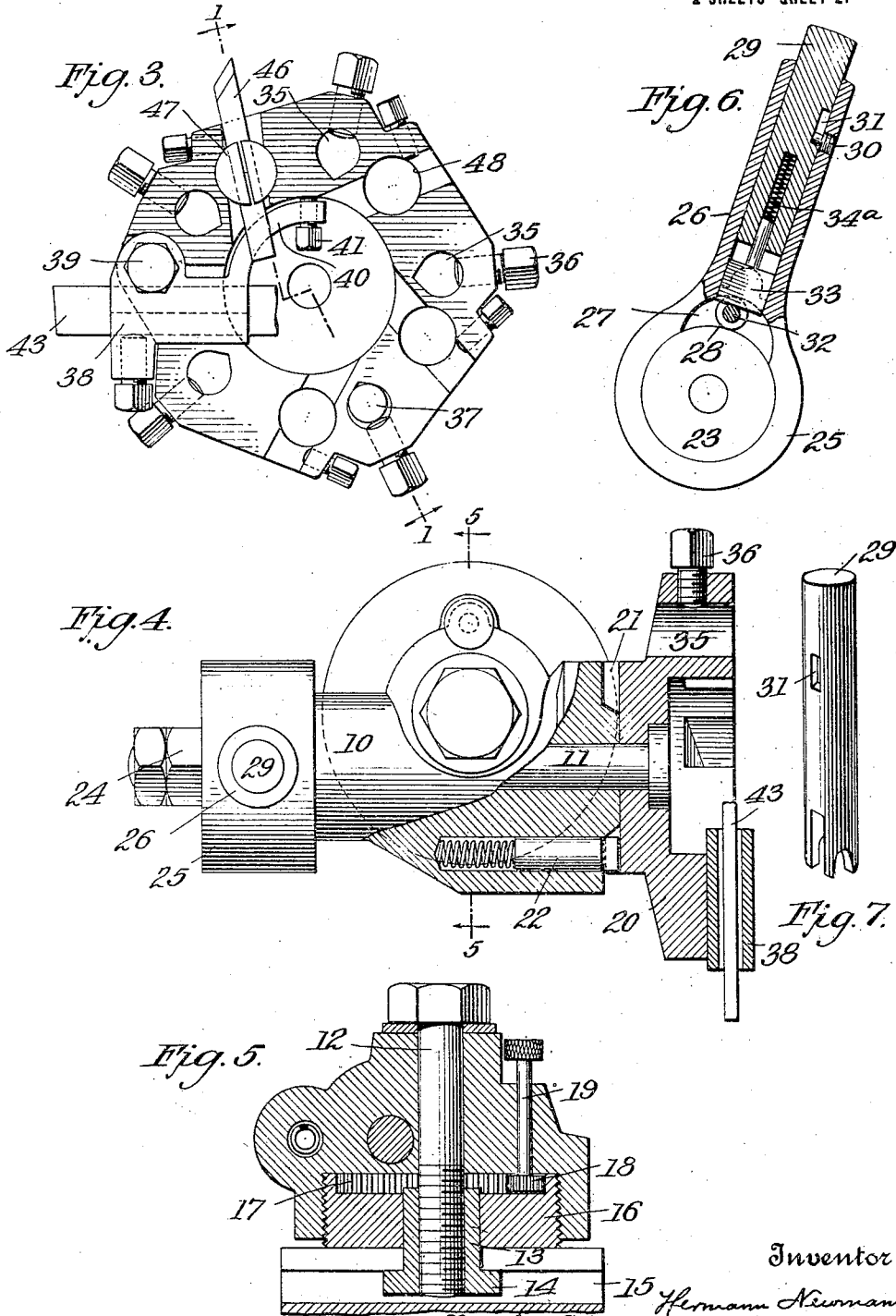
Inventor
Hermann Neumann
By his Attorney
Paul W. Friesen

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Paul O. Bieren

UNITED STATES PATENT OFFICE.

HERMANN NEWMANN, OF BROOKLYN, NEW YORK.

TURRET TOOL-POST FOR ENGINE-LATHES.

1,250,490.

Specification of Letters Patent.

Patented Dec. 18, 1917.

Application filed December 23, 1916. Serial No. 138,567.

To all whom it may concern:

Be it known that I, HERMANN NEWMANN, a citizen of the German Empire, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Turret Tool-Posts for Engine-Lathes, of which the following is a specification.

This invention relates to a turret tool post of novel construction, more particularly adapted to be secured to the slide rest of an engine lathe. The invention comprises novel means for centering the device, novel means for setting the tool head, and novel means for securing the tools to said head, all as more fully pointed out in the specification and appended claims.

In the accompanying drawing:

Figure 1 is a vertical longitudinal section on line 1—1 Fig. 3, of a turret tool post embodying my invention;

Fig. 2, a side elevation partly in section thereof;

Fig. 3, a right hand end view;

Fig. 4, a plan, partly in section;

Fig. 5, a vertical cross section on line 5—5 Fig. 4;

Fig. 6, a longitudinal section through the tool head setting means, and

Fig. 7, a detail of the plunger.

As more fully described in Patent 1195390 issued to me August 22, 1916, the cylindrical block 10 of the tool post is provided with an axial bore that accommodates a horizontal spindle 11, which is of a length to project a distance beyond both ends of the block. Vertically through the block extends a screw bolt 12; the lower threaded end of which is engaged by a nut 13, the head 14 of which in turn engages the slide rest 15. The shank of the nut is above the slide rest, encompassed by a tubular sleeve 16, counter-sunk into block 10, and threaded to the same.

In order to raise or lower block 10 so as to center spindle 11 opposite the lathe, it was heretofore necessary to slip the device off the slide rest, and thus expose sleeve 16, which was then turned by hand. By the construction which is the subject matter of this invention, this manipulation is obviated, the nut being adapted to be set without requiring the removal of the tool post from the slide rest. For this purpose, sleeve 16 is furnished on its upper side with a peripheral flange having an internal gear 17 which is engaged by a pinion 18, fast on the lower

end of a shaft 19, which is fitted in a vertical bore of block 10, and is headed on its upper exposed end.

In order to center the block, bolt 12 is slackened; and then shaft 19 manipulated, to turn sleeve 16 by means of pinion 18, so that in this way, the desired vertical adjustment of the block relatively to the slide rest may be accomplished in a simple and accurate manner.

To the exposed right hand end of spindle 11, there is fitted the tool head 20, which is furnished on its inner face with a toothed rim 21, adapted to be engaged by a spring-controlled bolt 22 housed within block 10, the position of the teeth on rim 21 corresponding to the position of the tool holders carried by the head. In order to turn spindle 11 axially and thus present the tool desired to the work, there is threaded on the exposed left hand end of spindle 11, a nut 23, which in turn is engaged by jam nuts 24. Nut 23 is encompassed by the eye or annulus 25 of a hollow handle 26, said annulus being furnished with an arched groove 27 which is eccentric to nut 23. This groove accommodates a roller or clutch member 28, which is adapted to be straddled by the forked inner end of a plunger 29, axially movable within hollow handle 26, the movement of said plunger being defined by a pin 30 and groove 31.

The plunger protrudes from handle 26, and by depressing the plunger, and oscillating the handle, roller 28 will be jammed against nut 23, to turn the same, and to thereby impart a corresponding turn to spindle 11.

In order to hold roller 28 axially in position, it is provided with a central contracted section or neck 32, engaged by a stop 33 fast on a pin 34, which is accommodated within a bore of plunger 29. This pin is depressed by a spring 34^a housed within the plunger, the spring likewise tending to normally throw the latter outward and thus out of engagement with the roller.

Tool head 20 is furnished with novel means for securing thereto a plurality of differently constituted tools. Thus for accommodating tools that extend from the head in parallelism with its axis, the head is furnished with a plurality of apertures or seats 35, the walls of which are straight along the inner moiety of the seat, and here converge toward a sharp edge. The wall

on the outer moiety of the seat is semi-circular, and is tapped for the accommodation of a set screw 36. The circular shank 37 of the tool will be forced by the set screw against the two straight rear walls, so that in this way, the shank will be tangentially engaged by said faces and be thus securely clamped in position at three points.

For the purpose of securing to head 20, a tool that extends radially therefrom, there is sunk into the outer face of the head, a holder 38 which is pivoted to the head by bolt 39. This holder is furnished with an arched resilient tail piece 40 extending along the inner wall or eye of the head and carrying a set screw 41, which engages said eye, and enables the dip of the holder to be adjusted. In order to accommodate tool shanks of different cross sections the bore of the holder is enlarged or squared along one side as at 42 (Fig. 2) and contracted or oblongish along the other side as at 43, the oblong section opening into the squared section. Thus a set screw 44 threaded into the holder, may clamp thereto, an oblong tool shank 45, while a somewhat longer set screw, may clamp thereto a squared tool shank.

In order to secure a cut off tool 46 to head 20, there is provided a split clamp, formed of a pair of resilient tapering jaws 47, that are adapted to be drawn against a correspondingly tapered seat 48 of the head. For this purpose, there extends rearwardly from jaws 47, a bolt 49 on which is threaded a nut 50, that engages the back of the head, so that by manipulating the nut, the jaws may either be relaxed or drawn toward each other.

I claim:

1. A turret tool post, comprising a block, a horizontal spindle journaled therein, a tool head carried by the spindle, a vertical screw bolt extending through the block, a nut carried by the bolt, a threaded sleeve engaging the block and encompassing the bolt, and a shaft rotatable within the block and intergeared with the sleeve.

2. A turret tool post, comprising a block,

a horizontal spindle journaled therein, a tool head carried by the spindle, a vertical screw bolt extending through the block, a nut carried by the bolt, a threaded sleeve engaging the block and encompassing the bolt, said sleeve being provided at its upper face with an internally toothed flange, a shaft rotatable within the block and protruding therefrom, and a pinion carried by said shaft and engaging said flange.

3. A turret tool post, comprising a block, a spindle journaled therein, a tool head carried by one end of the spindle, a nut threaded on the other end of the spindle, an eyed handle encompassing the nut, a clutch member engaging the nut, and a plunger axially movable within the handle and adapted to engage said clutch member.

4. A turret tool post, comprising a block, a spindle journaled therein, a tool head carried by one end of the spindle, a nut threaded on the other end of the spindle, an eyed handle encompassing the nut, a clutch roller having a neck and engaging the nut, a forked plunger axially movable within the handle and adapted to engage the clutch roller, and a spring-controlled stop carried by the plunger and engaging the roller neck.

5. A turret tool post comprising a block, a spindle journaled therein, a head carried by the spindle, a tool holder pivoted to the head, said holder having a tail piece, and a set screw tapped into said tail piece and engaging the head.

6. A turret tool post comprising a block, a spindle journaled therein, a head carried by the spindle, a tool holder pivoted to the head, said holder having a resilient tail piece, and a set screw tapped into said tail piece and engaging the head.

7. A turret tool post comprising a block, a spindle journaled therein, an eyed head carried by the spindle, a tool holder pivoted to the head, said holder having an arched tail piece that extends along the eye of the head, and a set screw tapped into said tail piece and engaging the eye.

HERMANN NEWMANN.

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