G. T. SHEARER.

TURRET ATTACHMENT FOR LATHES.

APPLICATION FILED OCT. 25, 1912.

1,135,329. Patented Apr. 13, 1915.

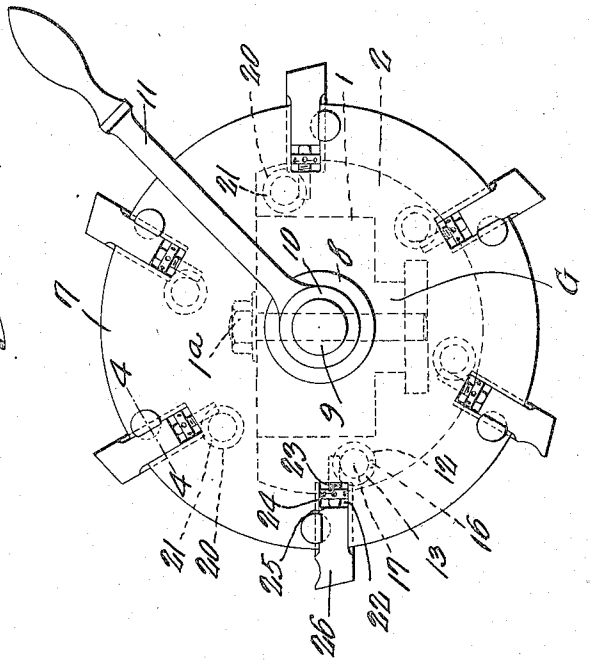


Fig. 2.

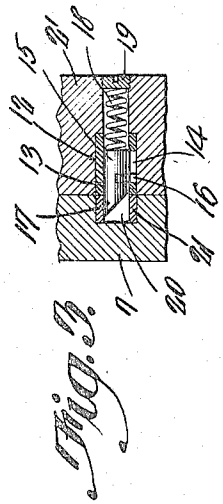


Fig. 4.

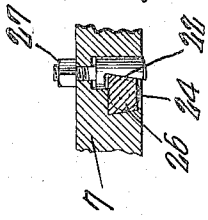


Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE T. SHEARER, OF AUGUSTA, GEORGIA, ASSIGNOR OF ONE-HALF TO JOSEPH S. REYNOLDS, OF AUGUSTA, GEORGIA.

TURRET ATTACHMENT FOR LATHES.

1,135,329. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed October 25, 1912. Serial No. 727,811.

To all whom it may concern:

Be it known that I, GEORGE T. SHEARER, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Turret Attachment for Lathes, of which the following is a specification.

The present invention relates to improvements in a turret attachment for lathes, the primary object of the present invention being the provision of a novel form of vertical turret attachment to be clamped securely to the tool post head of a lathe by a plurality of bolts.

The invention comprises a rotatably mounted tool carrying disk or turret which with the main carrying portion is provided with coöperable means for locking the turret against rotation, while manually operated means are provided for clamping the turret against longitudinal and rotary movements.

A further object of the present invention is the provision of a novel form of tool holding means carried by the turret of the attachment and whereby each of the respective tools may be individually adjusted for its respective work.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a view in top elevation of the complete attachment. Fig. 2 is a front elevation of the turret, dotted lines illustrating the position of the various parts. Fig. 3 is a section through the locking device to lock the turret against rotation. Fig. 4 is a section taken on line 4—4 of Fig. 2.

Referring to the drawings, the numeral 1 designates the tool post engaging portion of the attachment which is in the form of a block and is provided with a plurality of bolts 1^a for connecting the same to the tool post of the lathe, said tool post engaging portion carrying a disk 2 provided with an offset portion 2′, the purpose of which will presently appear. The block is provided upon its lower face with a depending guide rib G forming, as well, a brace for the disk or foot 2. A concentrically disposed recessed portion 3 is provided in the face of the disk 2 and threaded therein is the threaded end 4 of a journaling post 6, for the rotating disk or turret 7. The post or stud 6 is independent of the disk 2 and is located adjacent the geometrical center of the block 1. A washer 5 is placed between the turret mounting portion of the stud or post 6 and the threaded end 4 while mounted upon the outer end of the same adjacent to the outer face of the turret 7 is a washer 8, the threaded end 9 of the stud 6 being projected beyond and concentrically of the turret 7 and providing a means for the reception of the locking nut 10 operated and connected to the handle 11. By this means the disk or turret 7 may be locked against longitudinal movement relatively to the outer face of the carrying disk 2, but in order that the turret may be locked against rotation and the respective tools 26 carried thereby be placed in position for engagement with the work, the projection 2′ is provided with the bore 12 in whose enlarged portion is mounted a sleeve 13 provided with a slot 14, and in this sleeve is slidably mounted a bolt 15 provided with a pin 16 which fits in the slot 14 and is thus retained against rotation, the reduced locking end 17 being normally projected beyond the outer face of the disk 2 by means of the spring 18 and its adjusting screw 19. This is clearly illustrated in Fig. 3. The adjacent face of the turret is provided with a plurality of sockets 20 in each of which is mounted a steel sleeve 21, there being a similar number of sockets 20 and sleeves 21 to tools 26. By releasing the nut 10 through the medium of the handle 11, the turret 7 may be rotated, such rotation causing the depression of the locking bolt 15 due to the riding of the adjacent face of the turret there against, but as soon as one of the sleeves 21 are placed in registration with the locking bolt 15, the bolt will be snapped forwardly into the sleeve 21 and thus the operator will be notified that the tool is in proper work engaging position so that the handle 11 may be operated to cause the nut 10 to lock the disk 7 against longitudinal movement upon the supporting stud 6.

Opening to the outer face of the turret 7

and also through one edge of the periphery thereof, are a plurality of dove-tailed in cross-section recesses or tool receiving slots 22, and in each one of these slots is an adjusting screw 23 provided with an operating disk 24, so that the tool abutting end 25 may be placed in engagement with the inner end of its respective tool 26 and thus limit the inward movement of the tool, while in order to lock the tool against movement during the operation thereof upon the work, a bolt 27 is provided and is readily accessible from the rear of the turret 7. The foot or disk 2 is cut away flush with the upper face of the block 1 to give ready access to the securing elements 27, so that the same may be rotated by means of a wrench or the like.

As the respective recesses 23 are open upon the outer face of the turret 7, the adjusting disks 24 are readily accessible to permit the retraction or projection of its respective tool 26 when it is desired to adjust the same according to the cut necessary upon the work. The thickened or offset portion 2′ of the foot 2 acts as a reinforcement for the disk 7 when one tool thereon is in operation. The portion 2′, further, exercises a double function, in that it houses the locking bolt 15.

From the foregoing description, taken in connection with the drawings it is evident that with a vertical turret attachment constructed according to and embodying the present invention, that the tools may be presented in the proper position by the releasing of the locking nut 10 and the coacting locking means constituting the bolt 15 and sleeve 21 of the respective supporting disk 2 and turret 7, thus providing a means to indicate to the operator, as the disk 2 or turret 7 is rotated to move from one tool to the next, by the snapping of the bolt 15 into the sleeve 21, the exact alining and positioning of the desired tool before the locking nut 10 is tightened to lock the turret against rotation and longitudinal movement. By providing the adjusting screw 23 and the locking screw 27, the various tools are readily adjusted, inserted and removed as desired.

What is claimed is:

In a tool carrier for a lathe, a block provided at one end and adjacent its geometrical center with a stud; a vertical turret disk journaled adjustably on the stud; means for holding the turret disk against rotation; cutting tools removably carried by the periphery of the disk; securing elements carried by the disk and engaging the tools, the securing elements projecting from the rear face of the disk; the block being provided with a depending foot extended at right angles to the axis of the block and independent of the stud, the foot bearing against the rear face of the disk, the foot corresponding in peripheral outline to the disk but being cut away flush with the upper surface of the block to give ready access to the securing elements, the block being provided upon its lower face with a depending guide rib forming a brace for the foot, the foot being thickened adjacent the inner edge of the block to form a reinforcement for the disk when one tool thereon is in operation; and a disk-engaging means movably mounted in the thickened portion of the foot.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of witnesses.

GEORGE T. SHEARER.

Witnesses:
H. H. Bell,
M. E. Goldsby,
Burt O. Miller.