(No Model.)

W. H. GRIPMAN.

LATHE ATTACHMENT.

No. 568,612. Patented Sept. 29, 1896.

Fig. 1.

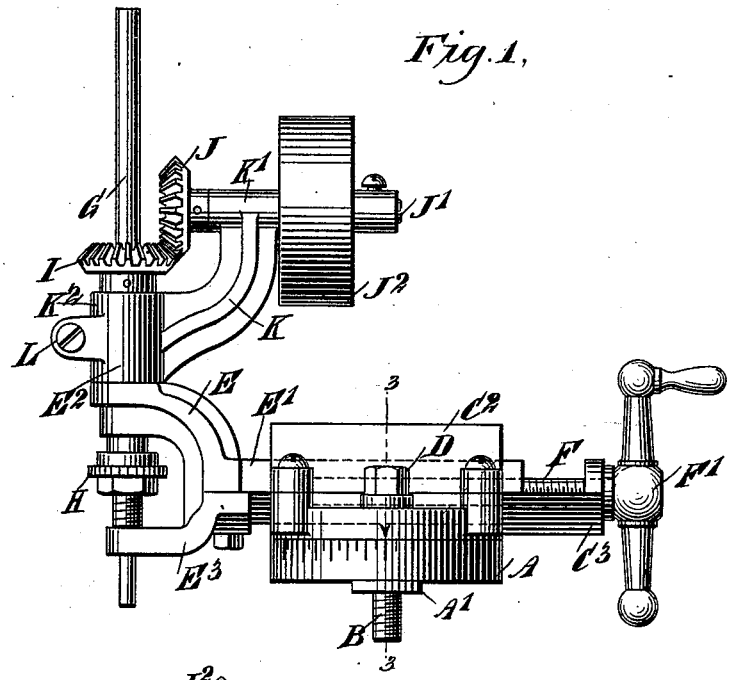


Fig. 2.

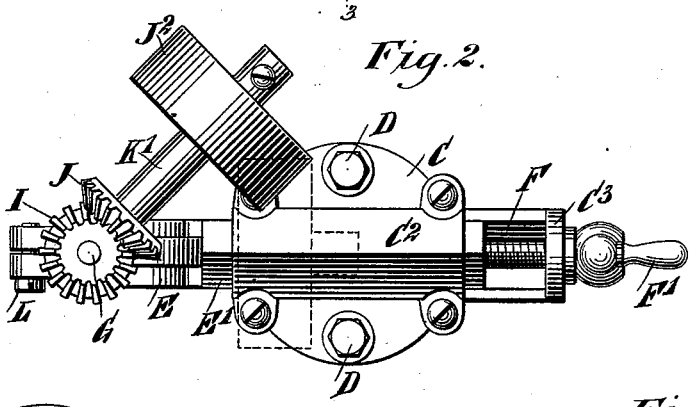


Fig. 4.

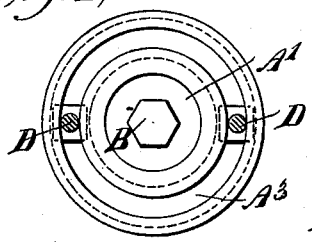


Fig. 3.

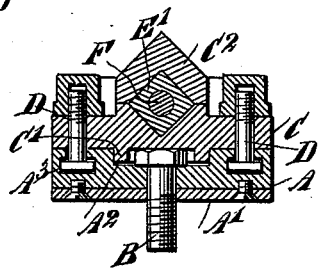
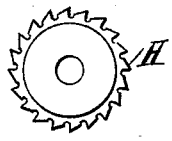


Fig. 5.



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LATHE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 568,612, dated September 29, 1896.

Application filed January 20, 1896. Serial No. 576,198. (No model.)

To all whom it may concern:

Be it known that I, WALTER H. GRIPMAN, of Sioux Falls, in the county of Minnehaha and State of South Dakota, have invented a new and Improved Lathe Attachment, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved lathe attachment which is simple and durable in construction, very effective in operation, and designed for cutting gears, grooving taps and reamers, splining shafts, cutting T-slots in chucks, and for various other work done on a milling-machine.

The invention consists principally of a base-plate adapted to be secured to the tool-block, a casing mounted to turn on said base-plate and adapted to be secured thereto, and a shaft-frame fitted to slide in said casing and provided with bearings for the milling-tool shaft.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement. Fig. 2 is a plan view of the same. Fig. 3 is a transverse section of part of the improvement on the line 3 3 of Fig. 1. Fig. 4 is a plan view of the base-plate, and Fig. 5 is an enlarged plan view of the milling-tool.

The improved lathe attachment is provided with a base-plate A, adapted to be fastened on the tool-block of the lathe, said base-plate being provided for this purpose with a bolt B, extending centrally from the base-plate to engage the nut held on the tool-block. On the under side of the base-plate A is arranged a guiding-shoulder A′, fitting into a slot in the tool-block. On the top of this base-plate A is mounted a casing C, having a central integral pivot C′, fitting into a correspondingly-shaped central recess A^2, formed in the top of the base-plate A, as is plainly shown in Fig. 3. This recess A^2 is also adapted to receive the head of the bolt B.

In the top of the base-plate A is formed an annular T-slot A^3, engaged by the heads of the bolts D, engaging the casing C, to permit of securely fastening the casing to the base-plate after the casing is turned to the desired position. The casing C is provided with a longitudinally-extending bearing or guide-way C^2, in which is fitted to slide an arm E′, extending from the frame E, the outer end of said arm being tapped for engagement with a screw-rod F, collared in an extension C^3, projecting from the casing C. On the extreme outer end of the screw-rod F is secured a suitable handle F′ to permit the operator to turn the screw-rod F, so as to move the arm E′, and consequently the frame E, inward or outward, according to the position of the work held between the centers of the lathe.

The frame E is provided with a suitable bearing for the shaft G, carrying the milling-tool H, said shaft being also provided with a beveled gear-wheel I, in mesh with a beveled gear-wheel J, secured on a shaft J′, journaled in a bearing K′, secured on a bracket K, having a split hub K^2, engaging a projection E^2, formed on the frame E and being part of the bearing for the shaft G. A clamping-screw L on the split hub K^2 serves to clamp the latter in place on the projection E^2.

On the shaft J′ is secured a pulley J^2, adapted to be connected by a belt with an overhead pulley, for imparting a rotary motion to the shaft J′, and by the gear-wheels J and I to the shaft G, carrying the milling-tool H. The lower reduced end of the shaft G is preferably journaled in a bearing E^3, removably held on the frame E.

The peripheral surface of the base-plate A is preferably provided with a graduation, and the casing is provided with a graduation-mark in the form of an arrow to permit of setting the said casing to a desired degree, according to the work under treatment.

Now it will be seen that by the arrangement described a desired feed can be given to the milling-tool H by the operator turning the handle F′ accordingly, it being understood that the entire attachment is adjustable on the lathe in a transverse direction and moves with the feed-carriage in the usual manner.

In cutting a beveled gear the attachment may be set at any desired angle, and the bracket K may be turned on the projection

E^2, so as to bring the pulley J^2 in alinement with the pulley above. For cutting T-slots in base-plates or chucks the cutter-shaft G may be placed parallel with the center of the lathe. The pulley J^2 may be taken off the shaft J′ and fastened on the shaft G in case it is convenient to drive said shaft G directly from the overhead pulley. When the attachment is used for cutting gears, then the bearing E^3 is not needed, and thus permits of conveniently removing the cutters or milling-tools.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A lathe attachment, comprising a base-plate adapted to be secured to a tool-block, a casing mounted to turn on the base-plate and having means for securing it in position thereon, a shaft-frame fitted to slide in the casing, a screw-shaft carried by the casing and arranged to engage the shaft-frame, a tool-shaft journaled transversely on the shaft-frame, a gear-wheel carried by the tool-shaft, a bracket mounted adjustably on the shaft-frame, and a shaft journaled in the bracket and provided with a gear-wheel meshing with the gear on the tool-shaft, substantially as set forth.

2. A lathe attachment, comprising a circular base-plate having means for securing it to the tool-block and provided with a series of peripheral graduations, a casing mounted to turn on the base-plate and provided with an index to traverse the graduations on the base-plate, said base-plate being provided in its upper surface with a central circular recess and said casing being provided on its under side with a projecting circular pivot to engage the recess in the base-plate, the base-plate being provided in its upper face with a circular T-groove, bolts carried by the casing with their heads engaging said T-groove, a bearing secured to the top of the casing, an arm fitted to slide in the bearing, a frame carried on the arm, a tool-shaft journaled in the frame, means for driving the tool-shaft, and a screw collared on the casing and connected to the arm, to move the same, substantially as set forth.

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