(No Model.)

C. TESKE.

POLISHING AND FILING ATTACHMENT FOR LATHES.

No. 516,779. Patented Mar. 20, 1894.

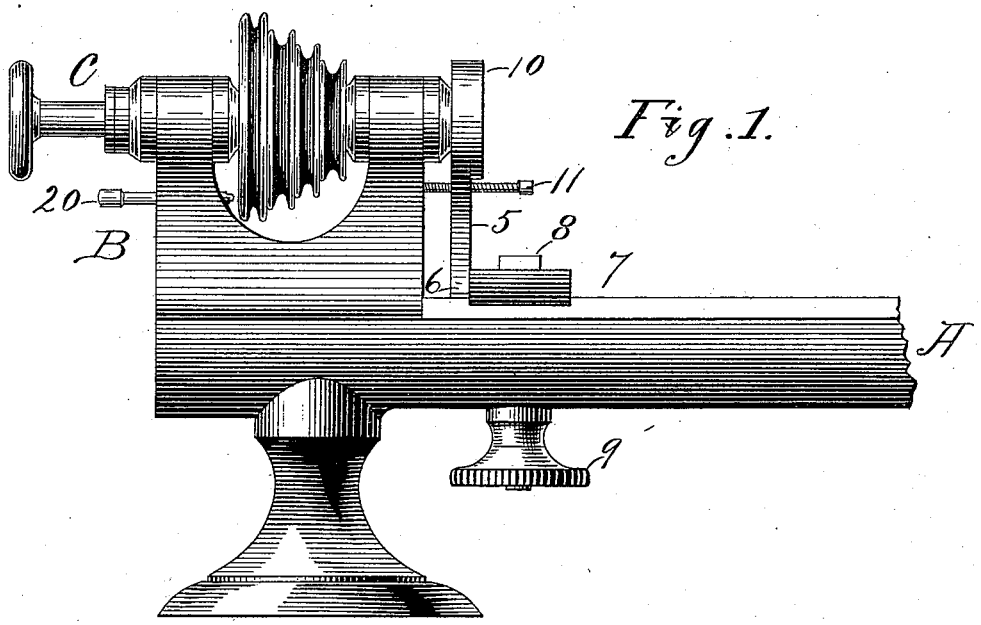


Fig. 1.

Fig. 2.

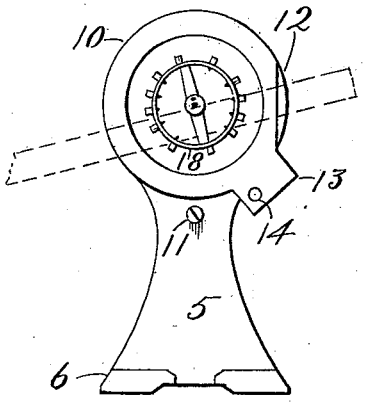


Fig. 3.

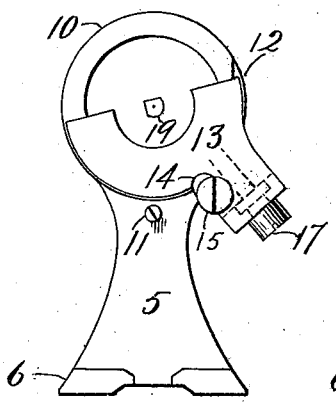


Fig. 4.

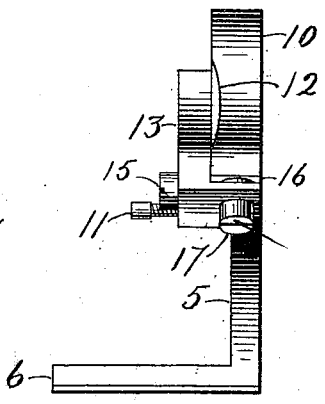
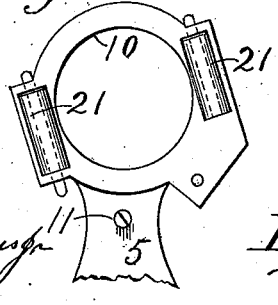


Fig. 5.



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POLISHING AND FILING ATTACHMENT FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 516,779, dated March 20, 1894.

Application filed June 16, 1893. Serial No. 477,805. (No model.)

To all whom it may concern:

Be it known that I, CHARLES TESKE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Polishing and Filing Attachments for Lathes, of which the following is a specification.

My invention relates to improvements in polishing and filing attachments for lathes, and the object of my improvement is to furnish convenient attachments for lathes by means of which polishing and filing can be rapidly and accurately done.

In the accompanying drawings: Figure 1 is a side elevation of a lathe with my polishing attachment applied thereto. Fig. 2 is a side elevation of said attachment together with a balance wheel in the position which it would occupy when held by the lathe chuck. Fig. 3 is a like view of said polishing attachment with my filing attachment applied thereto together with a partially finished screw head in the position that it would occupy when held in the lathe. Fig. 4 is a rear elevation of the attachments shown in Fig. 3, and Fig. 5 is a side elevation of my polishing attachment in a slightly modified form.

I have represented my attachment as applied to a watchmaker's lathe for watchmakers' use, but it may also be applied to other lathes for the use of other artisans if desired.

A designates the bed of the lathe, B its head block provided with any ordinary spindle C.

My polishing attachment consists of a standard 5 having a base 6 that is fitted to the lathe bed and designed to be held thereon in any suitable manner, as for example by means of the shoe or slide 7, bolt 8 and nut 9, the same being the parts that are used for holding the ordinary tool carriage or rest upon the lathe. At the upper part of the standard 5 is a guide 10 which is preferably in the form of a ring arranged at such height on the standard that when the standard is attached to the lathe bed as shown, the ring will be concentric with the lathe spindle and its front face at right angles to the axis of the spindle. I make this guide of a size large enough to receive within it the parts that are to be operated upon. The standards may be made with different sized rings or guides if desired. I also provide the standard 5 with an adjusting screw 11 which is designed to extend through the standard 5 to the face of the head block B. I prefer to bevel off one corner of the guide 10 as at 12, Figs. 2, 3 and 4.

For the purpose of grinding and polishing only, the standard as described is complete, but for the purpose of providing a filing attachment, I provide the guide 10 with a lug 13 having a screw hole 14, Fig. 2, for receiving a fastening screw and a radial hole (not shown) for receiving an adjusting screw for radially adjusting the filing attachment. The filing attachment 13 consists of a segmental plate having a notch 14 for receiving the body of the fastening screw 15 which passes into the hole 14 to secure the filing attachment in place. This filing attachment is also provided with a lateral arm or lug 16 which engages the grooved neck of the radial adjusting screw 17 which passes into the radial hole of the lug 14 before described.

My attachment may be used in various ways and for different purposes, a few of which I will proceed to describe. For grinding or polishing a pivot or the head of a screw, the standard will be fixed squarely on the lathe bed as shown in Fig. 1. The work to be polished will be secured in the lathe chuck in the ordinary manner. If it is not projected the proper distance from the face of the guide 10, the head block may be loosened and moved along until the work is properly positioned with reference to the face of the guide 10 when the head block will be again secured in place. In Fig. 2 I have represented a balance wheel 18 of a watch in the position that it would occupy if held in the lathe spindle. A straight edge may be applied across the face of the guide 10 to ascertain if the pivot projects the proper distance. If not, the adjusting set screw 11 may be turned in until it strikes the end of the head block and then upon loosening the head block or the standard the screw may be turned out or in to properly adjust the work to the face of the guide. By the employment of the screw 11 this adjustment can be made to a great nicety. For polishing pivots or other cylindrical parts a right angular grinder or polisher of any suitable material can be placed with one face squarely against the face of the guide 10, while the

face of the polisher which is at right angles thereto is held against the pivot of the balance wheel and the polisher moved back and forth as the work is revolved and other polishers substituted therefor from time to time until the work is complete. This will not only polish the work accurately but the guide serves as a protector or guard to enable the polisher to be used up to any desired point without coming in contact with or injuring any other part. Thus the pivot of a wheel may be polished closely up to its shoulder without marring or otherwise injuring the face of the wheel or parts attached thereto. For polishing the face or end of a piece, as for example the top of a screw head, the parts are adjusted in the same manner and the face of the polisher that is parallel to the face of the guide will be used instead of the face that stands at an angle thereto. For polishing a pointed head or a beveled corner of a head, as for instance of a screw, the screw may be held in the chuck so as to project a proper distance beyond the face of the guide 10 and the polisher drawn back and forth while resting upon the head of the screw at one part and upon the beveled face 12 at another part.

My filing attachment is designed for squaring angular articles, as for instance a screw head or winding arbor. The screw head blank 19 which is represented in proper position in Fig. 3 as if held in the chuck, may be adjusted so as to project properly beyond the face of the guide 10 and the lathe spindle fastened against rotation by any suitable means, as, for example, by means of the index pin 20 which may take into one of the holes of the division plate which is usually formed on the pulley of the lathe spindle. A file is then placed with one edge against the face of the guide 10 and its flat side in front of the ends of the filing attachment 13 and the screw head filed down until it is brought into alignment with the end faces of the filing attachment. If the screw head is to be square the index pin 20 is removed, the lathe spindle turned a quarter of the revolution and again secured in place and another face filed off in the manner before described and so on until all the faces are squared. If a hexagonal head is desired, the lathe spindle would be moved a corresponding distance after filing each face. If it is found that the screw head when filed off does not have its faces quite meet because they are not filed deep enough to remove all of the original round surface of the blank, the fastening screw 15 may be loosened and the adjusting screw 17 turned to move the filing attachment radially a little for filing a deeper face after which the fastening screw will be again tightened and the various faces dressed down to form full sharp corners on the screw head or other article squared. It is of course evident that the ring and filing attachment may have their wearing faces properly hardened. If desired the guide may be recessed on two opposite sides and hard rollers 21 inserted therein on any suitable and durable bearings, the rollers serving as the bearing faces of the guide, or in lieu of rollers any very hard blocks may be inserted in the recesses to serve as guiding faces.

I claim as my invention—

1. The herein described polishing attachment consisting of the standard adapted to be clamped to the lathe bed, the guide 10 at the upper end of said standard and the adjusting set screw 11 arranged within said standard for projecting its end against the end of the head block, substantially as described and for the purpose specified.

2. The herein described polishing and filing attachment to the lathe consisting of the standard 5 and guide 10 adapted to be secured upon the lathe bed and the filing attachment adapted to be secured to the face of said guide for gaging the depth of the faces filed, substantially as described and for the purpose specified.

3. The herein described polishing and filing attachment consisting of the standard 5, the guide 10, the filing attachment secured to said guide and a screw adjusting device for radially adjusting said filing attachment on the face of said guide, substantially as described and for the purpose specified.

4. The herein described polishing and filing attachment consisting of the standard 5, the guide 10, adjusting screw 11, filing attachment 13 and devices for securing and adjusting it upon the face of said guide, substantially as described and for the purpose specified.

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