G. M. SHERMAN.

GRINDING ATTACHMENT FOR LATHES.

APPLICATION FILED SEPT. 28, 1920.

1,385,649. Patented July 26, 1921.

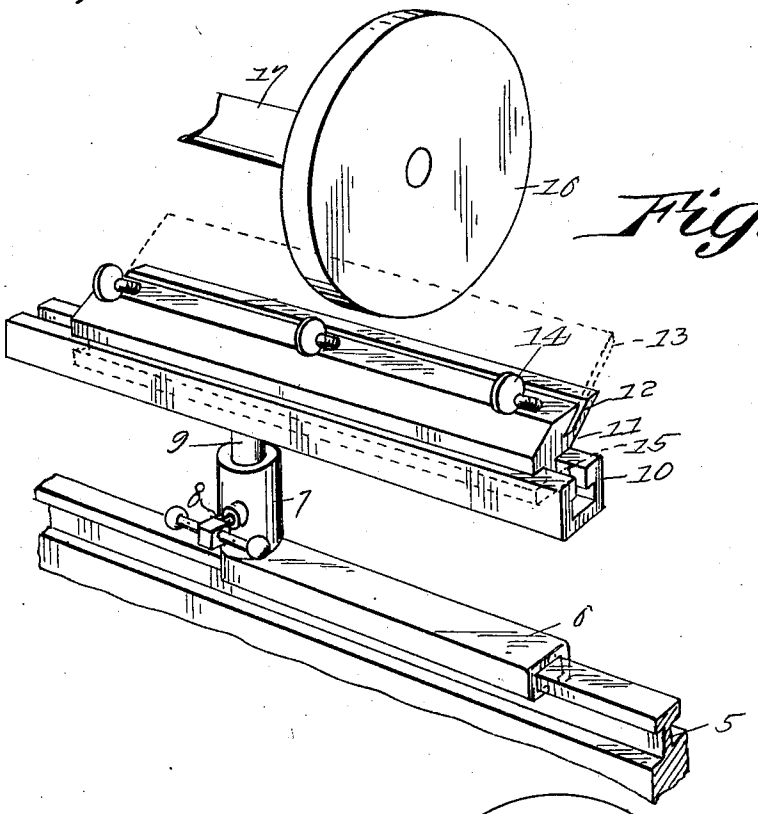


Fig. 1.

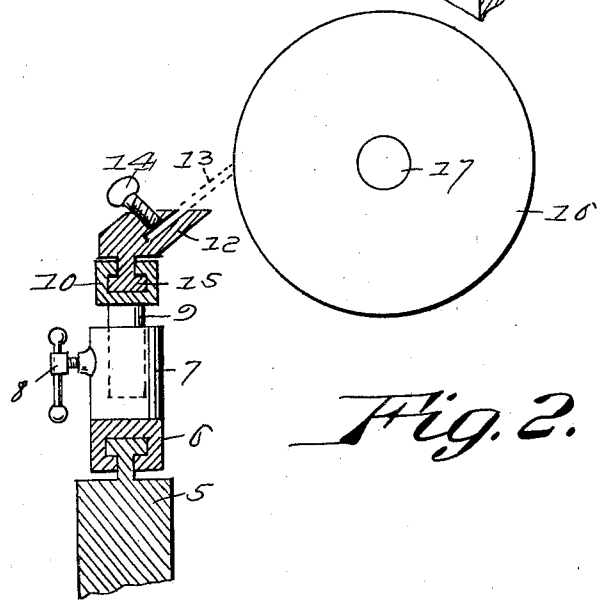


Fig. 2.

Inventor
George M. Sherman.
By Fred S. Ackerman
Attorney

UNITED STATES PATENT OFFICE.

GEORGE M. SHERMAN, OF TAHLEQUAH, OKLAHOMA.

GRINDING ATTACHMENT FOR LATHES.

1,385,649. Specification of Letters Patent. Patented July 26, 1921.

Application filed September 28, 1920. Serial No. 413,255.

To all whom it may concern:

Be it known that I, GEORGE M. SHERMAN, a citizen of the United States of America, and resident of Tahlequah, in the county of Cherokee and State of Oklahoma, have invented certain new and useful Improvements in Grinding Attachments for Lathes, of which the following is a specification.

This invention relates to abrading or grinding devices and has relation particularly to an attachment whereby a lathe or other machine of like character may be utilized as a grinding machine.

An object of this invention is to provide novel means attachably connected to a bed plate or other element of a lathe or the like so that the attachment may be slid longitudinally of the bed plate for moving the blade or element being ground or sharpened into position so that the blade will be ground uniformly throughout its length.

The invention, therefore, includes a detachable tool clamp having means whereby the tool clamp may be reciprocated parallel to the axis of the grinding disk without liability of variation in the pressure of the tool against the grinding disk so that the cutting edge of the tool will be uniformly sharpened expeditiously and to better effect than can be done by hand operation.

A device made in accordance with this invention will prove economical in that a special grinder need not be installed in small shops but the invention makes it possible to convert a machine which is a part of the standard equipment of such shops into a grinder, the same being accomplished at comparatively small cost, especially when the cost of grinding machines is taken into account.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view in perspective of a fragment of a rail of a bed plate and a fragment of a driving spindle of a lathe, showing the grinding disk and the traveling tool clamp associated therewith, and

Fig. 2 illustrates a transverse sectional view of the traveling tool clamp.

One skilled in the art will, it is thought, understand that the usual guide or rail 5 of a lathe is of the general contour of that shown in the drawing, whereas the work holder comprises a base 6, which in cross section, has the contour of the element on which it is to slide. The base has an upstanding hollow boss 7 in which a set screw 8 is threaded for adjustably holding the pivot or pin 9 of the guide 10 in different positions of adjustment. The guide 10 in the present embodiment of the invention is of the general contour in cross section of the base 6 in an inverted position.

The work clamp proper, identified by the reference character 11, has a diagonally disposed seat 12 in its upper surface intended to receive the blade 13 which is to be sharpened, and the blade is held in the seat by clamping screws 14 which are threaded in the clamp. The clamp has a T-shaped flange 15 at its lower side which fits in the guide 10 and is adapted to travel therein, so that by reason of the adjustment of the base 6 on the bed plate and the travel of the clamp 11 in the guide 10, provision is made for rather wide range of movement of the blade with relation to the grinding disk 16 which may be secured on a shank or spindle 17 which may be connected to the head of the lathe (not shown.)

It is of course desirable that the joints between the reciprocating members be relatively tight or close to avoid lost motion or undue movement when pressure is applied during the grinding operation, but the attachment is, of course, removable so that the lathe may be used in the ordinary way after the grinding operation has been completed.

I claim:

1. A grinding attachment for machines including a lathe bed plate, a guiding element formed on the bed plate, a base mounted to move on the guiding element, a hollow boss on the base, a stationary guide having a groove and having a pivot pin positioned for adjustment within the hollow boss, means for holding the pin in its positions of adjustment, a work clamp having a T-head fitted in the groove to permit the work

clamp to be adjusted longitudinally of the stationary guide, said work clamp having a diagonally disposed seat, and clamping means for contacting with the blade positioned in the seat to hold the same against movement.

2. In a grinding attachment for lathes, the combination with a lathe bed plate having a guide extending longitudinally thereof, a grinding element mounted on a chuck shaft of the lathe, a detachable base slidably mounted on the guide of the bed plate in operative relation to the grinding element, a work clamp, a guiding element in which and with relation to which the work clamp is slidable, a member connected to the guide of the work clamp, and means for connecting the said member to the base, whereby the said member has rotary and vertical adjustment with relation to the base.

GEORGE M. SHERMAN.