Nov. 2, 1948. J. D. BROWN 2,452,988

WORK INDEXING ATTACHMENT FOR LATHES

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Fig. 1.

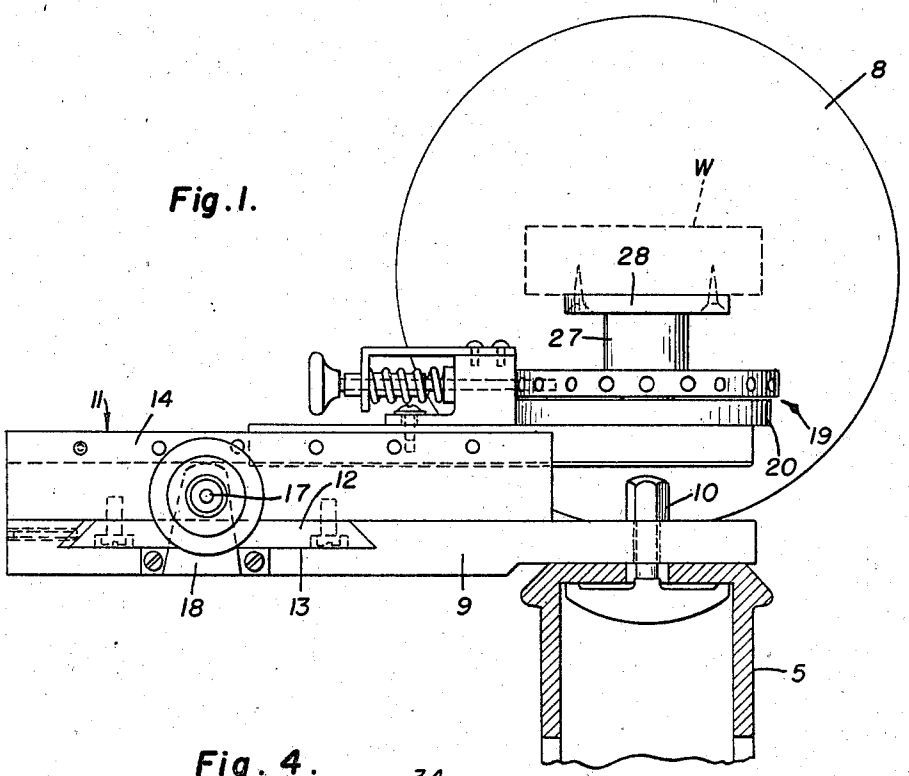
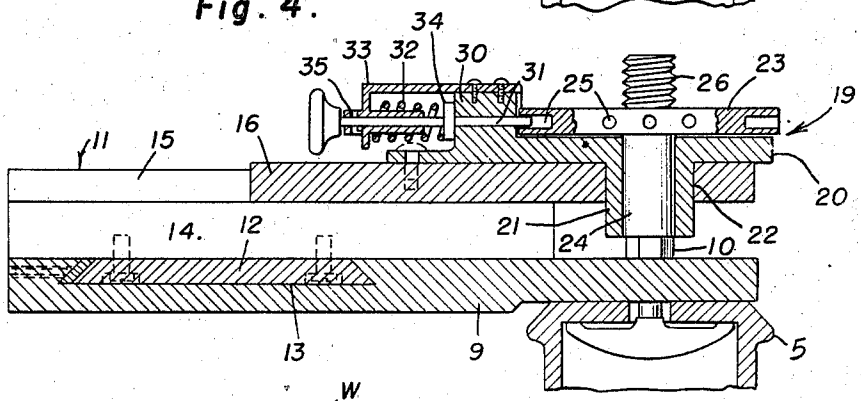


Fig. 4.



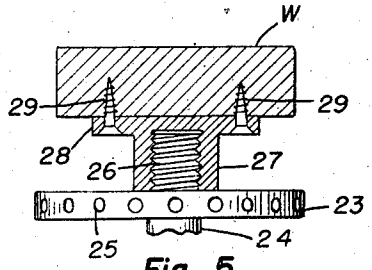


Fig. 5.

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Fig. 2.

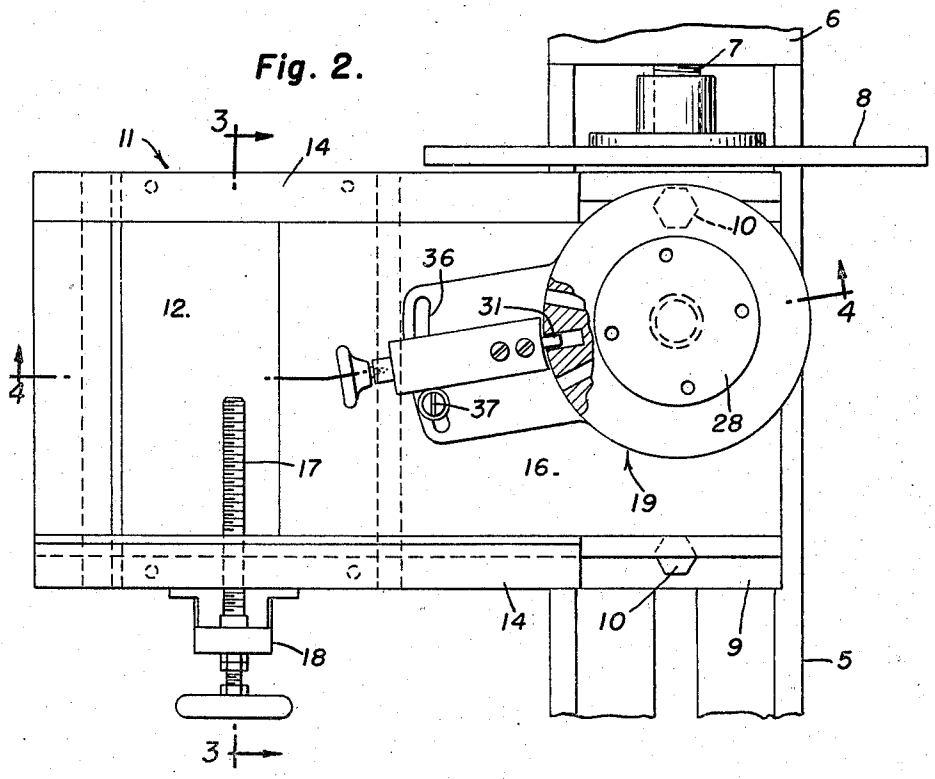
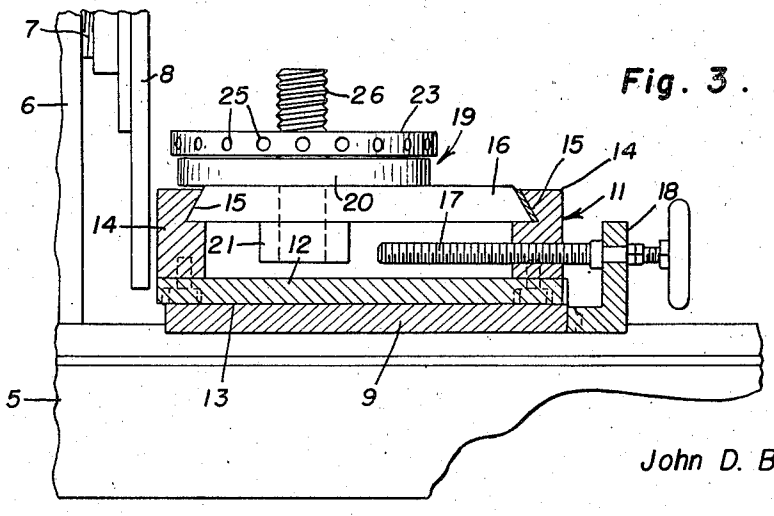


Fig. 3.



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WORK INDEXING ATTACHMENT FOR LATHES

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Application February 20, 1947, Serial No. 729,739

3 Claims. (Cl. 51—216)

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This invention relates to a novel work indexing attachment for wood lathes, and the primary object of the invention is to provide an efficient device of this kind particularly adapted for use in presenting the successive edges or edge portions of a piece of wood to the face of a sanding disk mounted on the lathe spindle, whereby to smooth said edges or edge portions.

A further object of the invention is to provide a device of the above kind which is comparatively simple in construction, easy to install on the lathe, easy to use, and efficient in use.

A still further object is to provide a device of the above kind which may be readily applied to the bed of a lathe and which includes a work holder providing for rotatable adjustment of the work about a vertical axis relative to the sanding disk to properly present the successive edges or edge portions of the piece of work to the face of the sanding disk, and which is movable horizontally parallel with the face of the sanding disk to present the work to different portions of the sanding disk face.

Another object of the invention is to provide a device of the above kind which permits adjustment of the work toward and from the sanding disk, whereby to accommodate work of different shapes and sizes.

Still another object is to provide means for initially rotatably adjusting the work relative to the sanding disk so as to bring about a predetermined initial relationship between the work and the sanding disk without requiring disposition of the work in a predetermined definite relationship to the rotatable index disk of the work holder.

The exact nature of the present invention, as well as more specific objects and features thereof, will become apparent from the following description when considered in connection with the accompanying drawings, in which:

Figure 1 is a side elevational view of a work indexing attachment embodying the present invention and applied to the bed of a lathe which is shown in transverse section.

Figure 2 is a top plan view thereof, partly broken away in section.

Figure 3 is a transverse section taken on line 3—3 of Figure 2.

Figure 4 is a longitudinal section taken on line 4—4 of Figure 2, with parts omitted.

Figure 5 is a fragmentary view, partly in elevation and partly in vertical section, showing the means for removably attaching the work to the rotatable index disk of the work holder.

Referring in detail to the drawings, 5 indicates

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the longitudinally slotted bed of a wood lathe, and 6 indicates the lathe head stock provided with the usual threaded spindle 7. A sanding disk 8 is suitably secured on the spindle 7 for use in smoothing the edges or edge portions of a piece of work presented to said sanding disk by means of the present indexing attachment.

As shown, the present attachment includes a main base plate 9 adapted to be rigidly bolted at one end upon the lathe bed 5 through the longitudinal slot of the latter, as at 10. At its other end portion, the base plate 9 is provided with a transversely movable slide 11 that moves in a direction parallel with the lathe spindle 7 and at right angles to the plane of the sanding disk 8. The slide 11 comprises a plate 12 having bevelled side edges and slidably fitted in a dove-tailed groove 13 provided in the upper face of the base plate 9, and upstanding guide rails 14 secured on and extending across the ends of the plate 12 parallel with the plane of the sanding disk. The upper edge portions of the guide rails 14 have undercut grooves 15 in the inner sides thereof to provide guideways which receive the bevelled edges of a second slide 16 that is movable in a direction parallel with the plane of the sanding disk 8. Adjustment of the slide 11 is effected by means of an adjusting screw 17 journaled in a bearing bracket 18 secured to an edge of the base plate 9, said adjusting screw extending through and having threaded engagement in the adjacent guide rail 14 of said slide 11.

The slide 16 carries a work holder 19 which includes a base plate 20 having a depending hollow boss 21 which is journaled in an opening 22 provided in the slide 16. The work holder further includes a rotatable index disk 23 having a depending stub shaft 24 which is journaled in the boss 21 of base plate 20. The index disk 23 has a series of uniformly spaced radially disposed peripheral sockets 25 for a purpose which will be presently explained. In addition, the index disk has a central upstanding threaded stud 26 onto which is adapted to be removably screwed the internally threaded sleeve 27 of a conventional lathe face plate 28. The piece of work W whose edges or edge portions are to be smoothed by the sanding disk 8 may be secured upon the face plate 28 by screws 29 or the like.

Provided on the base plate 20 of the work holder 19 at one side of index disk 23 is an upstanding boss 30 through which is slidable a locking pin 31 which is normally projected by spring 32 to engage in the socket 25 of the index disk 23 which is registered therewith, whereby to releasably

hold the index disk in any of its rotatably adjusted positions. This of course provides for holding the work W stationary during each sanding operation with respect to the successive edges or edge portions of the work. The pin 31 also extends through a bracket 33 secured to the boss 30, spring 32 being interposed between the bracket 33 and a collar 34 secured on the pin 31 inwardly of the part of bracket 33 through which pin 31 extends. Any suitable provision may be made as generally indicated at 35, for releasably holding the pin 31 in retracted position so as to permit free rotation of the index wheel and the work when desired.

The base plate 20 of the work holder is provided at one end with an arcuate slot 36 which is concentric with the axis of boss 21 about which said base plate 20 is rotatably adjustable. A clamping screw 37 passes through the slot 36 and is threaded into the slide 16 for securing the base plate 20 in its different rotatably adjusted positions. The purpose of this adjustment of base plate 20 is to effect predetermined relationship between the work and the sanding disk without calculating a predetermined relationship between the work and the face plate 28 before attaching the work to the latter.

In using the attachment, the work W is secured upon the face plate 28, whereupon the face plate 28 is threaded onto the stud 26 of the index disk. The slides 11 and 16 are then adjusted relative to each other and the main base plate 9 so as to bring the work into engagement with the sanding disk 8. After each edge or edge portion of the work is sanded, the index disk 23 is rotatably adjusted to bring the successive edge or edge portion of the work into position for being acted upon by the sanding disk. Of course, when smoothing the edges or edge portions of non-circular work, the slides must be adjusted to provide sufficient clearance so that rotary adjustment of the work may be effected. By moving the slide 16, the work may be shifted relative to the sanding disk parallel with the plane of the latter so as to utilize the different portions of the sanding disk surface.

From the foregoing description, it is believed that the construction, operation and advantages of the present invention will be readily understood and appreciated by those skilled in the art. Modifications and changes in details of construction are contemplated, such as fairly fall within the scope of the invention as claimed.

What I claim is:

1. A work indexing attachment for a wood lathe including a longitudinally slotted bed and having a sanding disk secured on the head stock spindle thereof, comprising an elongated main base plate, a nutted bolt extending through an end portion of said main base plate and the slot of said bed for rigidly securing said base plate to and upon the lathe bed adjacent the sanding disk so that said main base plate projects laterally from said bed, a slide movable transversely of the other end portion of said base plate, and parallel with said bed manually operable adjusting means for said slide, a second slide mounted on the first named slide for movement in a direction at right angles to the direction of movement of said first named slide and parallel with the plane of the sanding disk, a work holder carried by the second named slide and including a horizontal index disk mounted for rotation about a vertical axis and having means for securing a piece of work thereon, and manually releasable means for securing said index disk in different positions of rotary adjustment.

2. The construction defined in claim 1, wherein the means for securing the piece of work on the index disk includes a central upstanding threaded stud carried by said index disk and adapted to have a conventional lathe face plate secure thereon with the piece of work attached thereto.

3. The construction defined in claim 1, wherein said work holder further includes a second base plate having a depending tubular stud journaled in the second named slide for permitting rotary adjustment of said second base plate relative to the second named slide about the axis of the index disk, and means for securing said second named base plate in different positions of rotary adjustment relative to the second named slide, said index disk having a series of peripheral sockets, said manually releasable means including a locking pin carried by said second-named base plate and spring-projected into any one of the sockets registered therewith.

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