

Oct. 8, 1935.

L. E. BROWN

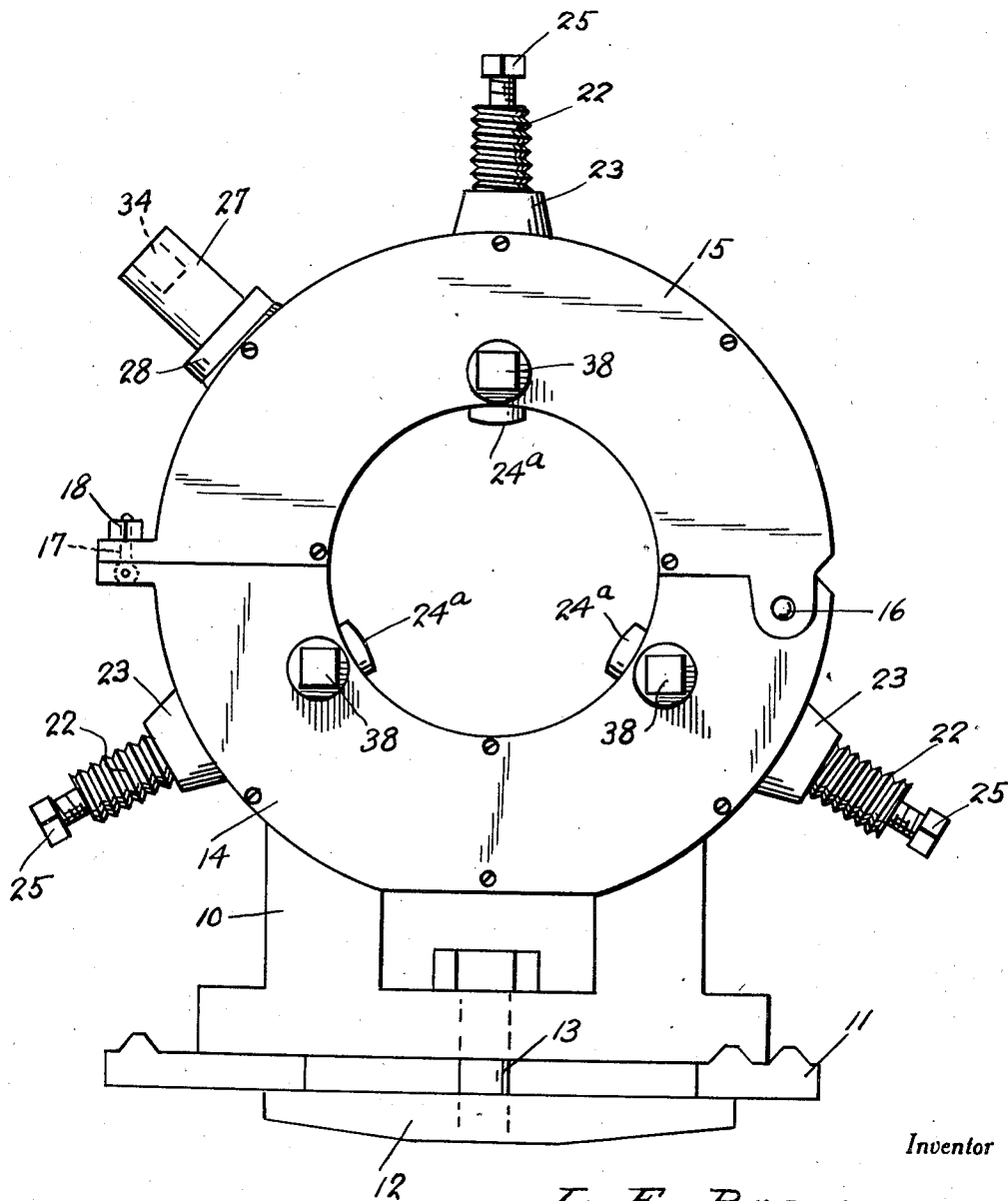
2,016,482

REST

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Fig. 1.



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Fig. 2.

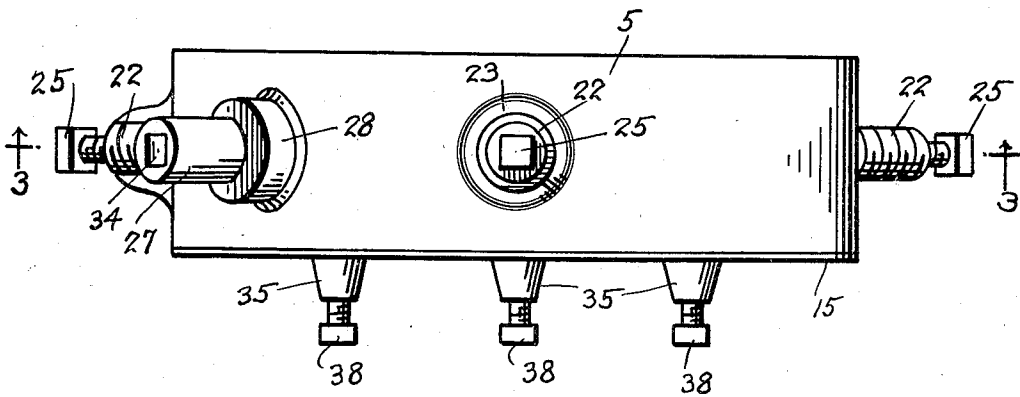


Fig. 4.

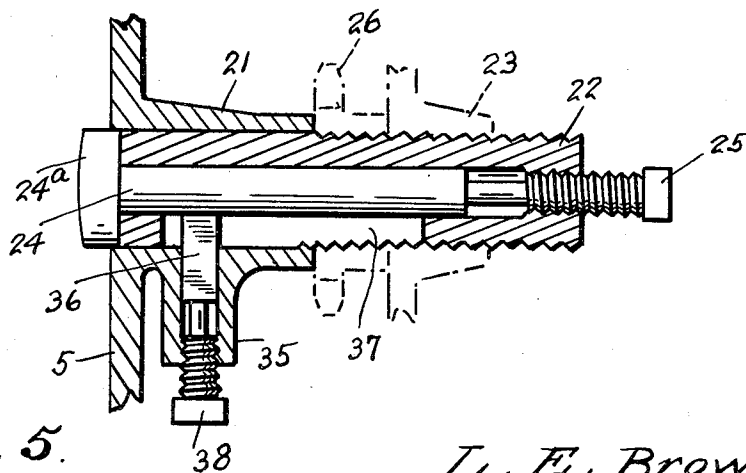
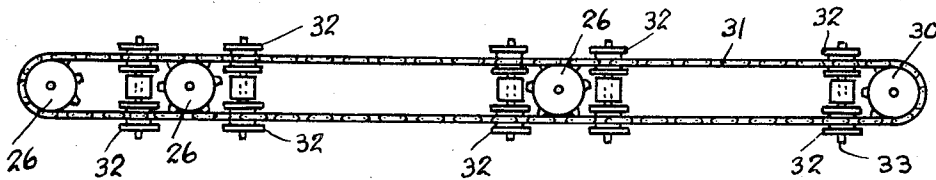


Fig. 5.

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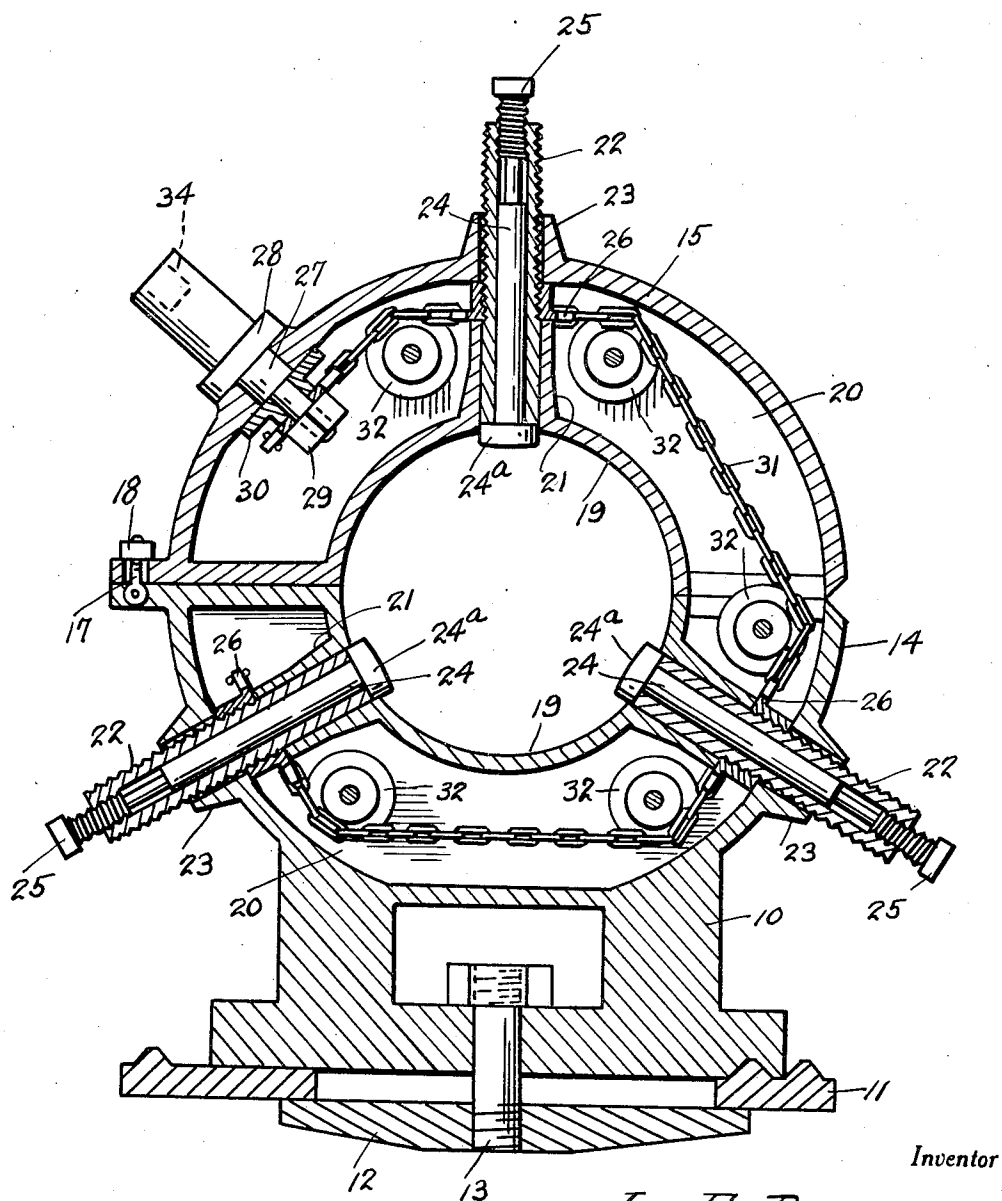
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Fig. 3.



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UNITED STATES PATENT OFFICE

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REST

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3 Claims. (Cl. 82—39)

This invention relates broadly to lathes and more particularly to a rest for use in conjunction therewith.

The invention, can be used on what is known in the art as "steady" rest or on what is known in the art as a "follow" rest, and aims to provide a steady rest for lathes which may be readily and easily associated therewith, and wherein improved means is provided for the simultaneous adjustment of the work engaging fingers.

Other objects and advantages of the invention will be apparent from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view of the rest.
Figure 2 is a top plan view thereof.
Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2.
Figure 4 is a diagrammatic view of the sprocket arrangement, and

Figure 5 is an enlarged fragmentary detail section showing the means for securing one of the clamping fingers against rotation.

Referring to the drawings by reference numerals it will be seen that the rest comprises a casting formed to provide a base 10 adapted to be clamped to the bed 11 of the lathes through the medium of a clamping block 12 and securing bolt 13 that extends through a suitable opening provided in the base 10 and has screw threaded engagement with the block 12 as clearly shown in Figure 3. When used as a follow rest the device would be clamped to the carriage.

Mounted on the block 10 is a circular casing transversely divided to provide a fixed casing section 14 that is integral with the base 10 and a swinging case section 15 that is hinged to the fixed case section 14 as at 16. For securing the casing closed the fixed section 14 is provided with a pivoted bolt 17 that is accommodated in an apertured ear provided on the casing section 15 and is equipped with a nut 18 all of which is clearly shown in Figure 3.

The casing sections 14, 15 at their meeting edges are provided with semi-circular recesses 19 to accommodate the work when the casing is closed, and each casing section is hollow as at 20. The inner walls of the casing sections have formed integral therewith guides 21, and as shown there are two guides 21 provided in the hollow of the casing section 14, and but a single guide 21 provided in the hollow of the casing section 15.

Operating in each of the guides 21 is a clamping finger, and each clamping finger includes an adjusting tube or sleeve 22 that is externally

threaded and passes freely through boss 23 provided on the external wall of the casing shown in Figure 3. A rod 24 has a sliding fit within the sleeve 22 and on its inner end is provided with a head 24a to engage the work. Suitably associated with the inner end of the rod 24 is an adjusting screw 25 that is screwed into the bore of the sleeve 22 at the outer end thereof and is engageable with the rod 24 to project the latter or retract the same as found desirable relative to the sleeve 22.

For each clamping finger there is provided a sprocket 26 having a hub portion screw threadedly engaged with the guide sleeve 22 and confined between the free end of the guide 21 and the outer wall of the casing. It will thus be seen that by rotating the sprocket in the proper direction the guide sleeve 22 with its rod 24 may be shifted radially with respect to the axial center of the casing and into and out of clamping engagement with the work.

For simultaneously actuating the adjusting fingers there is provided an operating stem 27 that is journaled in an apertured boss suitably provided on the outer wall of the casing section 15 and confined in position through the medium of a fixed collar 28 and a nut 29. Secured to the inner end of the stem 27 to rotate therewith is a sprocket 30. Trained over the sprockets 26 and 30 is an endless sprocket chain 31, and said chain 31 is also trained over suitable guide pulleys 32 mounted on shafts 33 arranged within the hollows 20 of the casing sections. At its outer end the operating stem 27 is provided with a socket 34 to accommodate a wrench or other suitable tool for rotating the stem 27 and thus operate the chain and sprocket means for projecting or retracting the clamping fingers as found desirable.

To retain the sleeves 22 of the guide fingers against rotation, each guide 21 is provided with a lateral formation 35 forming a housing for a sliding key 36 operating in a way 37 provided in the sleeve 22. For projecting and retracting the key 36 there is provided a screw 38 that is suitably engaged with the key 36 and is screwed into the outer end of the formation 35 as shown in Figure 5.

It will be apparent that in actual practice the rods 24 of the gripping fingers may be adjusted relative to their respective sleeves 22 as found desirable and necessary in view of the size of the work, or to compensate for wear. For projecting the clamping fingers into engagement with the work the stem 27 is rotated in one direction, 55

and to retract the fingers the stem 27 is rotated in a reverse direction, the movement of the stem 27 being transmitted to the sleeves 22 of the clamping fingers through the medium of the chain and sprocket connection between said stem and the clamping fingers.

It will be apparent from the above that I have provided a rest that is characterized by economy of construction and efficiency of operation and that the same may be used on a regular engine lathe or analagous machine where a rest is needed.

Having thus described my invention, what I claim as new is:

1. A rest for lathes and analogous machinery comprising a substantially circular casing consisting of two hingedly connected semi-circular sections, clamping fingers movable radially through the sections into and out of clamping position, and internal means operating within the sections and connected with the clamping fingers for projecting and retracting the latter, said means including sprockets screw threadedly engaged with the fingers for causing the fingers to move axially relative to the sprockets upon rotation of the latter, a rotatably mounted control stem provided with a sprocket, and an endless chain engaging the sprockets for transmitting movement of the stem to the sprockets associated with the guide finger for projecting and retracting the latter.

2. A rest of the character described comprising a substantially circular casing divided transversely into a pair of substantially semi-circular sections hingedly connected together, each section being hollow and provided with one or more radial guides, and a clamping finger operating through each guide, each clamping finger including a tubular sleeve, a rod having a sliding fit in the sleeve and provided at one end with a clamping head and at a relatively opposite end with an adjusting screw having threaded engagement

with the sleeve for axially adjusting the rod relative to the sleeve, and means for simultaneously projecting and retracting the clamping fingers including a sprocket screw threadedly engaged with the sleeve of a finger and confined between one end of the guide and a wall of a casing section against longitudinal movement relative to the sleeve of the finger, a stem journaled in the outer wall of one of the casing sections and provided at its outer end with means for the application thereto of an operating tool, and at its inner end with a sprocket, and an endless chain engaging the sprockets.

3. A rest of the character described comprising a substantially circular casing divided transversely into a pair of substantially semi-circular sections hingedly connected together, each section being hollow and provided with one or more radial guides, and a clamping finger operating through each guide, each clamping finger including a tubular sleeve, a rod having a sliding fit in the sleeve and provided at one end with a clamping head and at a relatively opposite end with an adjusting screw having threaded engagement with the sleeve for axially adjusting the rod relative to the sleeve, and means for simultaneously projecting and retracting the clamping fingers including a sprocket screw threadedly engaged with the sleeve of a finger and confined between one end of the guide and a wall of a casing section against longitudinal movement relative to the sleeve of the finger, a stem journaled in the outer wall and one of the casing sections and provided at its outer end with means for the application thereto of an operating tool, and at its inner end with a sprocket, and an endless chain engaging the sprockets, and pairs of rollers journaled in the hollow of the casing sections and over which are trained the runs of the endless chain.

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