

1,054,387.

2 SHEETS--SHEET 1.



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ATTACHMENT FOR TURNING LATHES.
APPLICATION FILED JUNE 22, 1911.

1,054,387.

Patented Feb. 25, 1913.

2 SHEETS-SHEET 2.

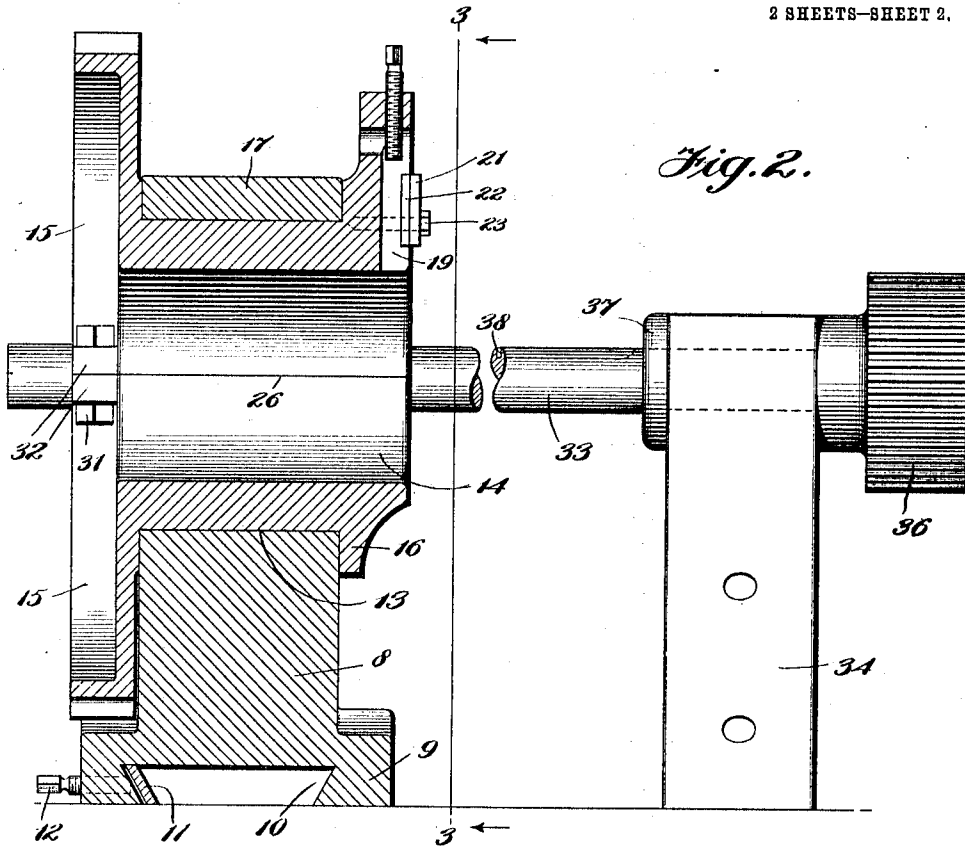
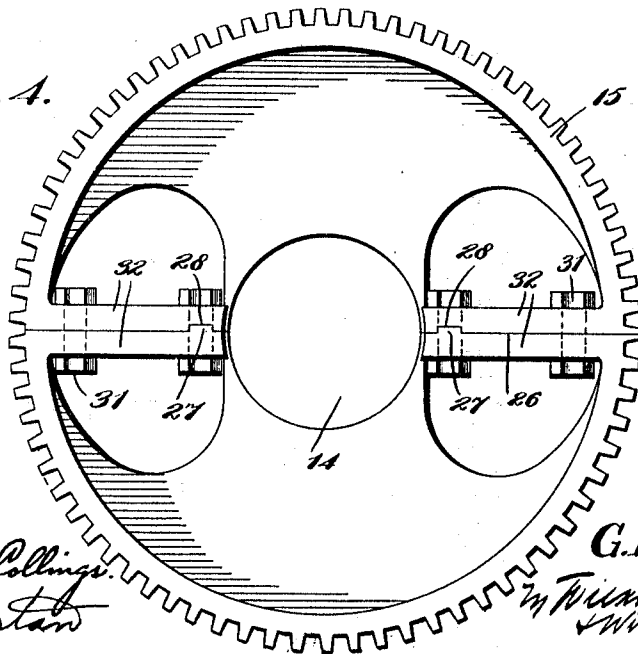


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR TURNING-LATHES.

1,054,387.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed June 22, 1911. Serial No. 634,745.

To all whom it may concern:

Be it known that I, GEORGE R. BENNETT, a citizen of the United States, residing at Whistler, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Attachments for Turning-Lathes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in attachments for turning lathes and is especially designed to be secured to the tool post guide of the carriage for the purpose of revolving a cutting tool around a shaft or similar part of a piece of work for turning or truing same.

The object of the invention is to provide an attachment which may be applied to an ordinary turning lathe to provide means for turning parts of large castings which could not be rotated in the lathe in the usual manner.

With the above and other objects in view, the invention consists in certain combinations and arrangements of the parts hereinafter described, and the novel features thereof will be particularly pointed out in the appended claims.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which like characters of reference indicate corresponding parts.

Figure 1 shows an ordinary lathe with my attachment applied thereto; Fig. 2 is a longitudinal section of the attachment; Fig. 3 is a sectional elevation taken on line 3-3 of Fig. 2; and Fig. 4 is an elevation of the gear wheel.

In the drawings 1 represents the frame of an ordinary lathe provided with the usual longitudinally sliding carriage 2 having a transverse guide 3 for the slide carrying the tool post.

4 represents the head stock, 5 the head center and 6 the drive gear of the lathe. The drive gear 6 is rotated by means of a belt passing around the stepped pulley-7 in the usual manner.

My improved attachment consists of a support 8 having a base 9 which is provided with a guideway 10, corresponding to but somewhat wider than the guide 3 of the carriage to allow for a key 11. The support 8 is mounted on the guide 3 and se-

cured in place by means of a suitable number of binding screws 12 threaded in the base 9 and bearing against the key 11. The support 8 is provided with a bearing 13, in which is rotatably mounted a hollow member 14 having at its outer end a large gear wheel 15 and at its inner end a flange 16, which parts engage the sides of the support and also a bearing cap 17 secured to the support by bolts 18. The flange 16 is recessed as at 19 for receiving a turning tool 20 which is held in the recess by the pressure of a clamping plate 21 having a longitudinal projection 22 for fitting into said recess, and the clamping plate is adjustably secured to the flange 16 by means of tap bolts 23, and extending from the flange is a boss 24 in which is threaded an adjusting screw 25 for engaging the inner end of the tool. The hollow member 14 is preferably divided longitudinally as at 26 for facilitating application to the part to be turned, one of the parts being provided with tongues 27 and the other with corresponding grooves 28, and said parts are rigidly secured together by bolts 29 passing through lugs 30 and bolts 31 through flanges 32.

The hollow member 14 is rotated from the drive gear 6 of the lathe through the medium of a shaft 33 rotatably supported at one end by a bracket 34 removably secured to the head stock 4 of the lathe by bolts 35, and having fixed to its projecting end a pinion 36 which meshes with said drive gear 6. A collar 37 fixed on the shaft and engaging the bracket 34 prevents longitudinal movement of the shaft. The shaft 33 is provided with a key-way 38 in which slides a feather key 39 of a sleeve carrying a pinion 40 at its outer end, which meshes with the large gear wheel 15 for driving same and a flanged nut 41 at its inner end. Said sleeve is rotatably mounted in a bearing of an extension 43 of the support with the pinion and flanged nut engaging the sides thereof.

In order to apply my attachment to a lathe, the slide carrying the tool post is removed from the guide 3 of the carriage 2 and the attachment secured thereto as described. A casting having a part to be turned, which is too large to permit the revolving of the casting in the lathe in the usual manner, is centered by the head center 5 and tail stock center in the ordinary way, the part to be operated upon passes

through the hollow member 14 and the casting remains stationary while the turning tool 20 is revolved around said part. As the carriage of the lathe carries the turning tool backward and forward it is readily seen that said part of the casting may be turned or trued.

Although the elements set forth and described are well adapted to accomplish the purposes for which they are intended, it is to be understood that slight changes in the minor details of construction and arrangements of the parts may be resorted to without sacrificing any of the advantages or departing from the spirit of the invention.

Having fully described my invention, what I claim is:—

1. In a lathe attachment, the combination of a support adapted to be secured to the carriage of the lathe, the support being provided with a bearing, a hollow member formed of two longitudinal sections fitted together by means of tongues and grooves, means for removably securing the sections together, the hollow member being formed with a flange at one end, a gear wheel fixed to the hollow member, a cap for the hollow member removably secured to the support, a tool adjustably secured to the flange and projecting inwardly, and means for driving the gear wheel from the drive gear of the lathe, substantially as described.

2. In a lathe, the combination of a support adapted to be secured to the tool-post slide guide of the lathe carriage, a hollow member rotatably mounted in the support, the hollow member being provided at one end

with a recess, a tool in the recess, means for clamping the tool in the recess, a gear wheel fixed to the hollow member, a rotatable shaft, a pinion on the shaft and meshing with the gear wheel, and means for slidably connecting the pinion and shaft, substantially as described.

3. In a lathe attachment, the combination of a support adapted to be secured to the tool-post slide of the lathe carriage, the support being provided with a bearing, a hollow member formed of two sections removably secured together and rotatably mounted in the bearing, a cap for the hollow member removably secured to the support, the hollow member being formed with a flange at one end and having a gear wheel at its other end, a tool adjustably secured to the flange and projecting into the hollow portion thereof, a bracket removably secured to the head stock of the lathe, a shaft journaled in the bracket and driven from the drive gear of the lathe, the shaft being provided with a longitudinal groove, a sleeve mounted on the shaft, a key fixed in the sleeve and slidably mounted in the groove of the shaft, the sleeve being rotatably mounted in the support, and a pinion fixed to the sleeve and meshing with said gear wheel, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

GEORGE R. BENNETT.

Witnesses:

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F. T. PERKINS.