

B. M. W. HANSON.
WEAR COMPENSATING JOURNAL BOX.
APPLICATION FILED MAR. 20, 1909.

989,003.

Patented Apr. 11, 1911.

Fig. 1.

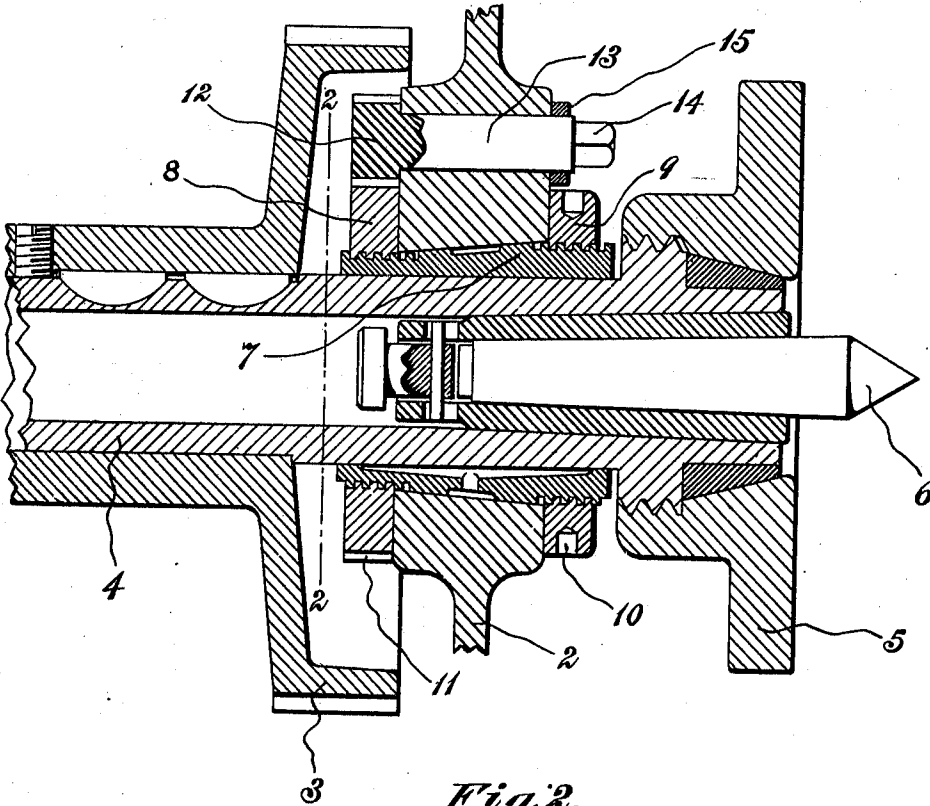
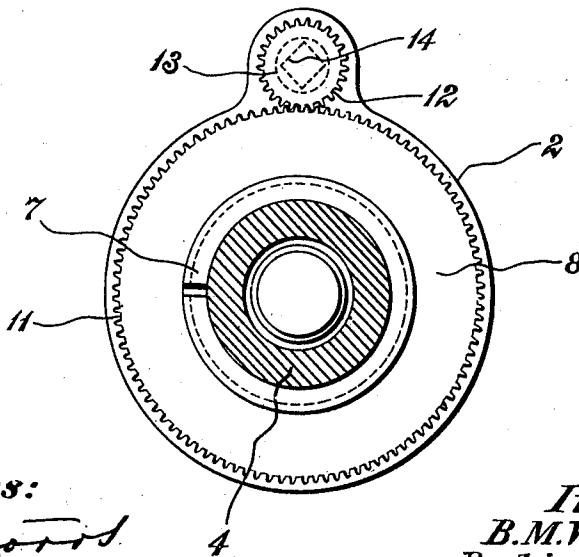


Fig. 2.



Witnesses:

[Handwritten signatures of witnesses]

Inventor:

B. M. W. Hanson
By his Attorneys,

[Handwritten signature of attorneys]

UNITED STATES PATENT OFFICE.

BENGT M. W. HANSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO PRATT & WHITNEY COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF NEW JERSEY.

WEAR-COMPENSATING JOURNAL-BOX.

989,003.

Specification of Letters Patent.

Patented Apr. 11, 1911.

Application filed March 20, 1909. Serial No. 484,782.

To all whom it may concern:

Be it known that I, BENGT M. W. HANSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wear-Compensating Journal-Boxes, of which the following is a specification.

This invention relates to wear-compensating journal boxes and a box involving my invention is adapted for advantageous use in many different connections.

The object of the invention is to provide simple and effective means of the character set forth which can be easily and quickly operated without disassembling any of the parts of the apparatus with which said mechanism is associated.

In the accompanying drawings I have shown one convenient form of embodiment of the invention which to enable those skilled in the art to practice the invention will be set forth in detail in the following description while the novelty of the invention will be included in the claims succeeding said description.

Referring to said drawings, Figure 1 is a section of a wear-compensating box involving my invention and showing the same in conjunction with a machine of known construction which will be hereinafter briefly described, and, Fig. 2 is a cross section on the line 2—2 of Fig. 1.

Like characters refer to like parts in both figures.

In Fig. 1 of the drawings I have shown a portion of a casing 2 which is adapted for inclosing gearing one member of which is illustrated and is denoted by 3. This gearing and casing may be such as is common in grinding and metal working machines of various kinds. The gear 3 is illustrated as fastened to a spindle 4. The only part of the casing 2 which is shown is the front wall thereof and this wall presents a suitable support for said spindle although the latter is not directly sustained by said casing or wall thereof. The said spindle is provided with the customary face plate 5 and center 6 but it is unnecessary to describe these parts in detail as they form no part of the present invention and I refer to them only because they are shown.

The spindle 4 is represented as directly sustained by a bushing 7 which is shown

as split or divided and which is also externally tapered to fit a correspondingly tapered hole or opening in the wall 2 and I provide means of an effective nature for compensating for wear between said spindle and bushing so that said parts will at all times run smooth and even. It will be apparent that the taper of the bushing 7 is inward and it therefore follows that when said bushing is drawn inward or toward the interior of the casing said bushing will be caused to closely hug the spindle.

I have shown as inclosed within the casing 2 and as threaded onto the inner portion of the split bushing 7 a nut 8 while a nut 9 is shown as threaded onto the outer end or portion of said bushing said last mentioned nut having peripheral openings or sockets as 10 to receive a wrench or like implement to effect the rotation of said nut 9 which it should be stated acts as a check nut the first mentioned nut constituting a feed nut as it is adapted when turned to draw the said bushing inward to seat the same more closely in its seat or opening in the casing 2 and for also taking up wear between said bushing and spindle 4.

It will be assumed that it is necessary to take up wear in either said bushing or said spindle. To accomplish this the nut 9 is first turned to the left and afterward the nut 8 is turned to feed or draw the said bushing inward the necessary distance at which time said nut 9 is firmly set up to securely hold the parts. I provide means whereby the adjusting or feed nut 8 can be operated exteriorly of the casing 2 so that by the construction described it is unnecessary to take off the top of the casing or to remove any part of said casing. The means whereby said nut 8 is operated are positive and effective in action and those shown will now be described. I wish to state, however, that I do not restrict myself to the mechanism now to be described for operating said feed nut although the same is quite advantageous and for this reason I have preferred to employ the same in practice.

The nut 8 has peripheral teeth 11 whereby said nut is made into a gear and said teeth 11 are adapted to mesh with a pinion 12 which is shown as being rigid with the shaft 13. A simple way of uniting said gear or pinion 12 and said shaft is to make the two integral as shown. Said shaft is shown as

supported for rotation by the casing 2 the pinion 12 being as will be obvious at the inner end thereof while the opposite end of said shaft is accessible exteriorly of the casing 2. Said shaft 13 may be operated in any desirable manner; for instance by a wrench and to receive such a device the forward or outer end of the shaft is shown as polygonal. On applying a wrench to said head 14 it is a simple matter to turn the shaft 13 and thereby through the intermediate parts, the feed nut 8 for the purpose of drawing the split bushing 7 in an inward direction. Said shaft is shown as equipped with a stop collar 15 which bears against the casing 2 to thereby limit inward movement thereof outward movement being prevented by the abutment of the pinion 12 against the inner surface of said casing 2.

I desire to call attention to the fact that the gear 3 is hollow and that the gears 11 and 12 are inclosed therein thereby providing a construction which is very compact.

What I claim is:

1. The combination of a wall having an opening which is inwardly tapered, an exteriorly tapered bushing fitted in said opening, a shaft supported by and extending through said wall the outer end of the shaft being accessible from the outer side of said wall, a gear on the inner side of said wall having a feed connection with said bushing, a pinion on the inner end of said shaft in mesh with said gear, and a nut on the outer

end of said bushing adapted to engage against the outer face of said wall.

2. The combination of a wall having an inwardly-tapered opening, an exteriorly tapered bushing fitted in said opening, a shaft supported by and extending through said wall the outer end of the shaft being accessible from the outer side of said wall, a gear on the inner side of said wall, the gear being internally threaded and the bushing having threads engageable by those on said gear whereby when the gear is turned the bushing will be advanced, a pinion rigid with said shaft at the inner end thereof, and a nut on the outer end of said bushing, for engaging the outer side of said wall.

3. The combination of a wall having an inwardly tapered opening, an exteriorly tapered split bushing fitted in said opening and having threads cut directly thereinto at the opposite ends thereof, a gear having a threaded connection with the threads at the inner end of the bushing, a nut having a connection with the threads at the outer end of the bushing, a rotary shaft supported by said wall, and a pinion rigidly connected with the inner end of said shaft and in mesh with said gear.

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

BENGT M. W. HANSON.

Witnesses:

W. M. STORRS,

H. W. MILBOURNE.