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C. COULTER

2,823,682

BEARING CLEANING APPARATUS

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Fig. 1.

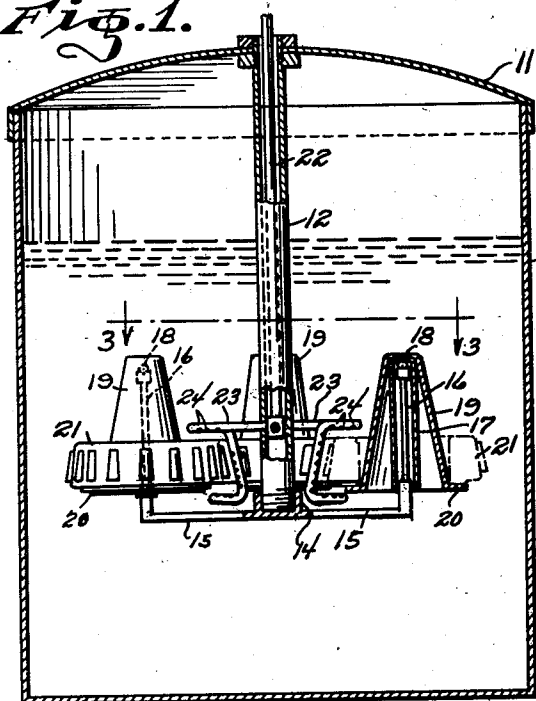


Fig. 2.

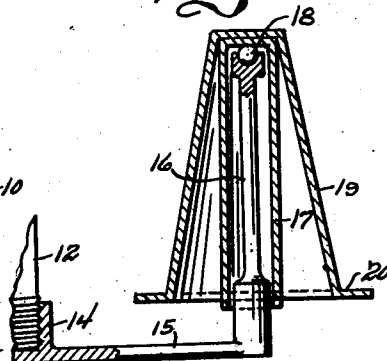


Fig. 3.

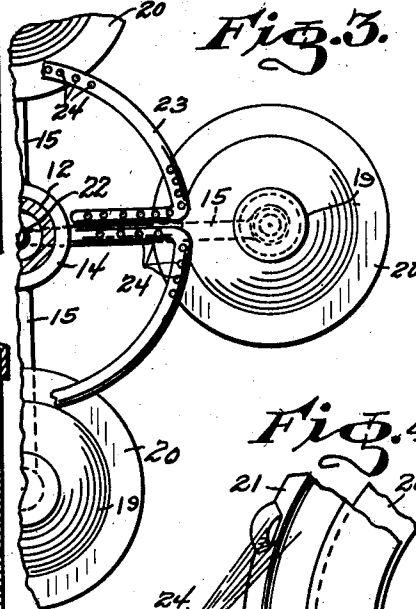


Fig. 5.

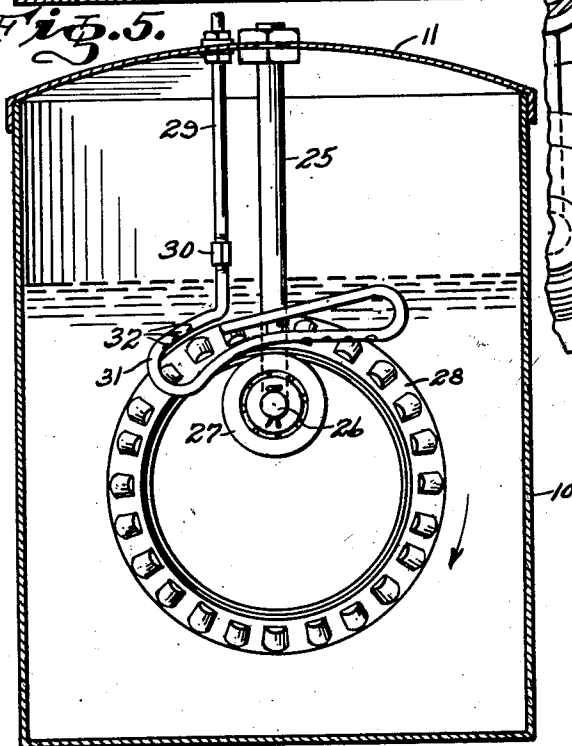
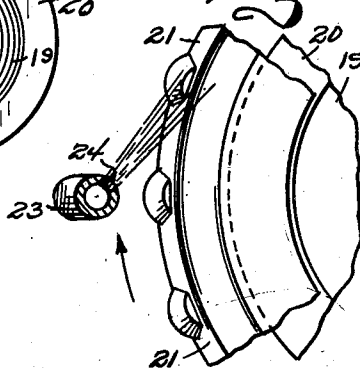


Fig. 4.



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BEARING CLEANING APPARATUS

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2 Claims. (Cl. 134—94)

This invention relates to a cleaning method and apparatus, and more particularly to a means for cleaning bearings.

The object of the invention is to provide an apparatus for thoroughly and quickly cleaning a plurality of bearings of various sizes and types.

Another object of the invention is to provide an apparatus for cleaning bearings wherein the bearings to be cleaned are immersed in a container having cleaning fluid therein whereby air under pressure can be supplied or directed onto the bearings to rotate the bearings so that used grease and the like can be quickly and efficiently removed from the bearings.

A further object of the invention is to provide a bearing cleaning apparatus which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a vertical sectional view taken through the bearing cleaning apparatus, constructed according to the present invention.

Figure 2 is an enlarged sectional view showing one of the support members.

Figure 3 is a sectional view taken approximately on the line 3—3 of Figure 1.

Figure 4 is a fragmentary elevational view showing the air being directed onto the bearings for rotating the latter.

Figure 5 is a vertical sectional view showing a modified bearing cleaning assembly.

Referring in detail to the drawings, the numeral 10 designates a container or receptacle which is adapted to hold a quantity of cleaning fluid therein, and detachably mounted on the top of the container 10 is a lid or cover 11. Depending from the lid 11 is a vertically disposed hollow standard 12, and a bushing 14 is arranged in engagement with the lower end of the standard 12. Extending radially from the bushing 14 is a plurality of horizontally disposed arms 15, and extending upwardly from the outer end of each of the arms 15 is a vertically disposed finger 16, Figures 1 and 2. A sleeve 17 is rotatably mounted on each of the fingers 16, and a ball bearing 18 is interposed between the top of the finger 16 and the sleeve 17 in order to minimize friction. A frusto-conical shaped support member 19 is supported by each of the sleeves 17, and the support members 19 each have a lower horizontal circular lip 20 which provides a support for the bearing 21 being cleaned.

Extending down through the hollow standard 12 is a conduit 22 which is adapted to be connected to a source of air under pressure. Pipes 23 communicate with the lower end of the tube 22, and the pipes 23 are each provided with a plurality of apertures or openings 24 for the egress therethrough of air under pressure. This air from the pipes 23 is directed onto the bearings 21 being cleaned as shown in Figure 4 whereby the cleaning fluid will be

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thoroughly sprayed over the bearings 21 and at the same time the bearings 21 will be rotated due to the onrushing air whereby the bearings will be quickly and thoroughly cleaned of grease and the like.

Referring to Figure 5 of the drawings, there is shown a slightly modified cleaning apparatus wherein the vertically disposed standard is indicated by the numeral 25. A transverse bracket 26 is secured to the lower end of the standard 25, and a ball member 27 may be secured to the bracket 26. A bearing 28 to be cleaned may be supported on the ball 27. The numeral 29 indicates the conduit for conveying air from a source of supply to the interior of the tank 10, and a fitting or bushing 30 serves to detachably connect a pipe 31 to the conduit 29. The pipe 31 may be provided with a plurality of apertures 32 whereby air will be sprayed onto the bearing 28 to rotate the bearing 28 and insure that the bearing will be thoroughly cleaned of all foreign matter. Due to the provision of the bushing 30, the pipe 31 can be detached and replaced when it is desired.

From the foregoing it will be seen that an apparatus has been provided for use in cleaning bearings such as the bearings 21 or the bearings 28. In use the lid 11 may be removed from the container 10 and the container 10 can be supplied with the proper quantity of cleaning fluid. Then, the bearings 21 can be supported on the members 19 as shown in Figure 1 so that when air is directed through the conduit 22 under pressure, this air will issue through the apertures 24 to spray cleaning fluid on the bearings 21 and at the same time cause rotation of the bearings 21 whereby the bearings will be thoroughly and effectively cleaned. In Figure 5 the bearings 28 may be supported on the ball 27 and air will issue from the apertures 32 to cause rotation of the bearing as well as circulation of the cleaning fluid onto the bearing to be cleaned. By means of the fitting 30, different shapes or sizes of pipe sections 31 can be attached to the air conduit 29.

A suitable exhaust pipe may be connected to the tank 10 whereby fumes can be discharged from the container and the sleeve 17 maintains the parts in their proper aligned positions. The air that is passed into the container blows cleaning fluid through and over the bearing being cleaned washing out the old grease. Various sizes and shapes of bearings can be cleaned.

I claim:

1. An apparatus for cleaning bearings, comprising a container for holding a quantity of cleaning fluid, a lid mounted on the top of said container, a vertically disposed hollow standard depending from said lid, a conduit extending down through said standard and adapted to be connected to a source of supply of air under pressure, a plurality of horizontally disposed arms secured to the lower end of said standard, a vertically disposed finger extending upwardly from the outer end of each of said arms, a sleeve, rotatably supported by each of said fingers, a frusto-conical support member supported by each of said sleeves and provided with a lower annular lip for supporting a bearing to be cleaned, and a plurality of apertured tubes connected to said conduit for supplying air onto the bearings, said air being directed tangentially onto the bearings being cleaned.

2. In an apparatus for cleaning bearings, a container for holding a quantity of cleaning fluid, a lid detachably mounted on the top of said container, a vertically disposed hollow standard depending from said lid, a bushing on the lower end of said standard, a conduit extending down through said standard and adapted to be connected to a source of supply of air under pressure, a plurality of horizontally disposed arms secured to the bushing on the lower end of said standard, a vertically disposed finger extending upwardly from the outer end of each of said arms, a sleeve rotatably supported by each of said fingers,

a ball bearing interposed between the top of the finger and sleeve, a frusto-conical support member supported by each of said sleeves and provided with a lower annular lip for supporting a bearing to be cleaned, and a plurality of apertured tubes connected to the lower end of said conduit for supplying air onto the bearings, said air being directed tangentially onto the bearings being cleaned.

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