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B. H. WHITING

VACUUM CLEANED RATTLE BARREL

Filed April 3, 1924

Fig. 1.

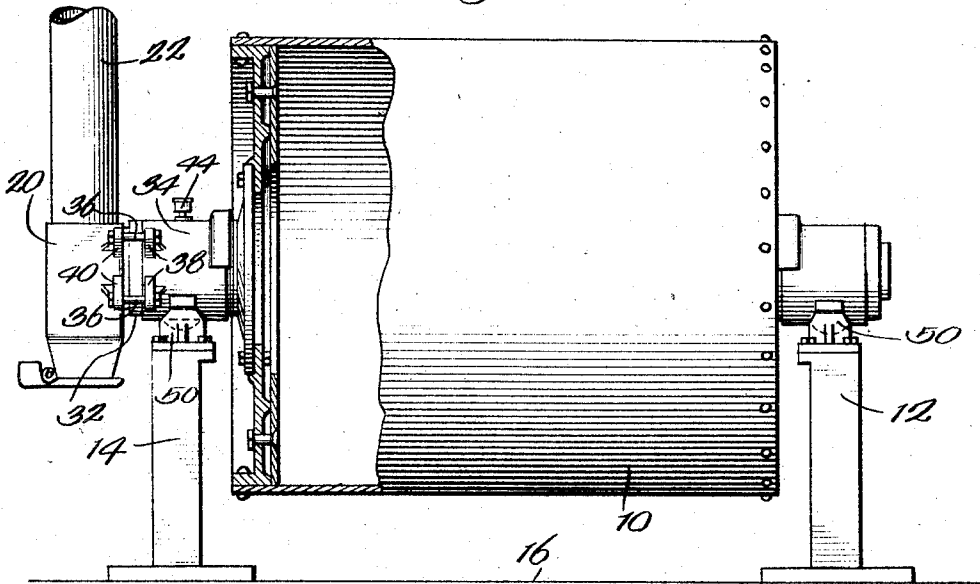


Fig. 2.

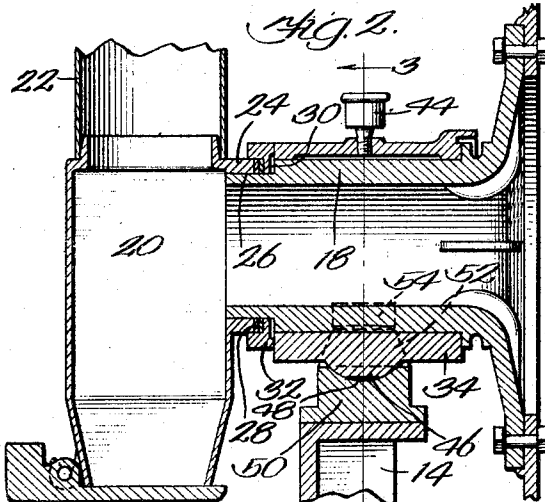


Fig. 3.

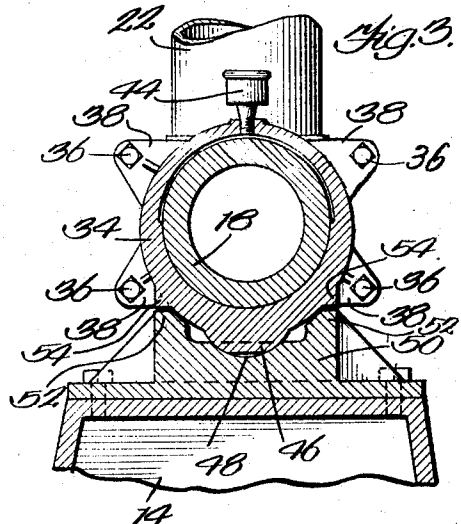
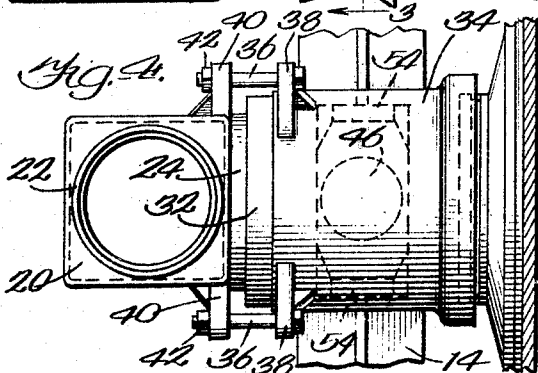


Fig. 4.



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UNITED STATES PATENT OFFICE.

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VACUUM-CLEANED RATTLE BARREL.

Application filed April 3, 1924. Serial No. 703,865.

To all whom it may concern:

Be it known that I, BRADFORD H. WHITING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Vacuum-Cleaned Rattle Barrels, of which the following is a specification.

This invention relates to tumble or rattle barrels used in foundries or the like for taking the dirt and rough edges off from castings as they come from the molding sand, and particularly to that class of such devices in which vacuum is employed to remove the light dust and dirt as it accumulates in the rattle barrel.

In devices of this class, great difficulty has been experienced with the bearing of the barrel through which the vacuum apparatus sucks the dirt, because of the fact that in prior constructions, there was opportunity for atmospherically carried dirt—which is always present outside and around such a mechanism—to be drawn into and more or less through the bearing, thus ruining it.

The object of the invention is to construct a rattle barrel of this class, equipped with a bearing which overcomes all of the foregoing difficulty. The invention consists in mechanism for attaining the foregoing and other objects; which can be easily and cheaply made; which is satisfactory in use and is not readily liable to get out of order. More particularly, the invention consists in numerous features and details of construction which will be hereafter more fully set forth in the specification and claim.

Referring to the drawings in which like numerals designate the same part through the several views:

Figure 1 is a side view, partially in section, of the mechanism illustrating this invention in its preferred form.

Figure 2 is a longitudinal, vertical, sectional detail view through the bearing, appearing at the left hand end of Figure 1.

Figure 3 is a transverse, sectional, detail view on the line 3—3 of Figure 2.

Figure 4 is a plan view of the bearing of Figure 2.

The rattle or tumble barrel 10 to which the mechanism of this invention is applied is shown conventionally mounted on upright

supports 12 and 14 resting on the floor 16 or other support. The mounting for the left hand end of the barrel 10 is the only one of interest in connection with the present invention and includes a hollow trunnion 18 open at its right hand end to the interior of the barrel 10 and open at its left hand end into a conventional suction chamber 20 connected by a pipe 22 to a suction pump not shown. This chamber 20 is stationary and is provided on its right hand side, as viewed in Figure 2, with a bearing collar 24 enclosing and bearing upon the outer end of trunnion 18 along a cylindrical surface 26. In order to prevent the vacuum suction in chamber 20 drawing atmospherically carried dirt outside and around the device onto this surface 26, thus injuring it, packing rings 28 are inserted at the end of member 24 in a recess 30 provided for them, as shown in Figure 2, said packing rings being held in place by an annular collar 32 taking bearing as shown on the stationary casing 34 surrounding the trunnion 18 as clearly seen in Figures 2 and 3. The packing rings 28 are securely held in place by means of suitably disposed tension bolts 36 passing through suitably disposed lugs 38 on member 34 and lugs 40 on member 20. By securely tightening the nuts 42 on these bolts, a proper degree of compression may be obtained on the rings 28 to make sure of a tight joint along the surface 26 heretofore referred to, so that no amount of suction in the parts 20 and 22 can draw any outside dirt laden air onto the surface 26.

In actual practice, the result of this construction is that the bearing adjacent to the suction pipe lasts many times longer than has heretofore been the case with similarly disposed bearings.

Although it does not enter into the invention, it may be stated that oil may be supplied to the central exterior circumference portion of trunnion 18 from an oil cup 44 provided for the purpose.

Each bearing 34 has on its lower side a convex ball segment 46 resting and rocking in a corresponding recess 48 in the top of a bearing block or socket casting 50 carried by support 12 or 14 as the case may be. Each socket casting 50 has lugs 52 front and back arranged to contact with lugs 54

on the bearing 34 should the bearing start to move in either direction under action of driving mechanism not shown.

This arrangement allows of removal of
5 entire barrel from its stands without disturbing its main bearings. It is only necessary to swing exhaust pipe 22 to one side and pick up barrel with crane. When this
10 is done, barrels may be filled with castings at any desired point and also transported to any point for discharging their load. Extra barrels may be used and increased
15 production secured in small space.

Having thus described my invention,
15 what I claim as new and desire to secure by Letters Patent is:

In a device of the kind described, a rattle barrel having a hollow trunnion, a bearing

within which said trunnion is rotatable, a vacuum apparatus for drawing dirt laden
20 air from the rattle barrel through said hollow trunnion, a connection between said vacuum apparatus and said hollow trunnion consisting of a collar on the vacuum apparatus engaged over the hollow trunnion, an annular
25 member surrounding the trunnion between said bearing and said collar and engaged over the latter, packing material between said annular member and said collar, and
30 adjusting means between said bearing and said collar for drawing the two together to tighten said packing.

In witness whereof, I have hereunto subscribed my name.

BRADFORD H. WHITING.