No. 776,669. PATENTED DEC. 6, 1904.

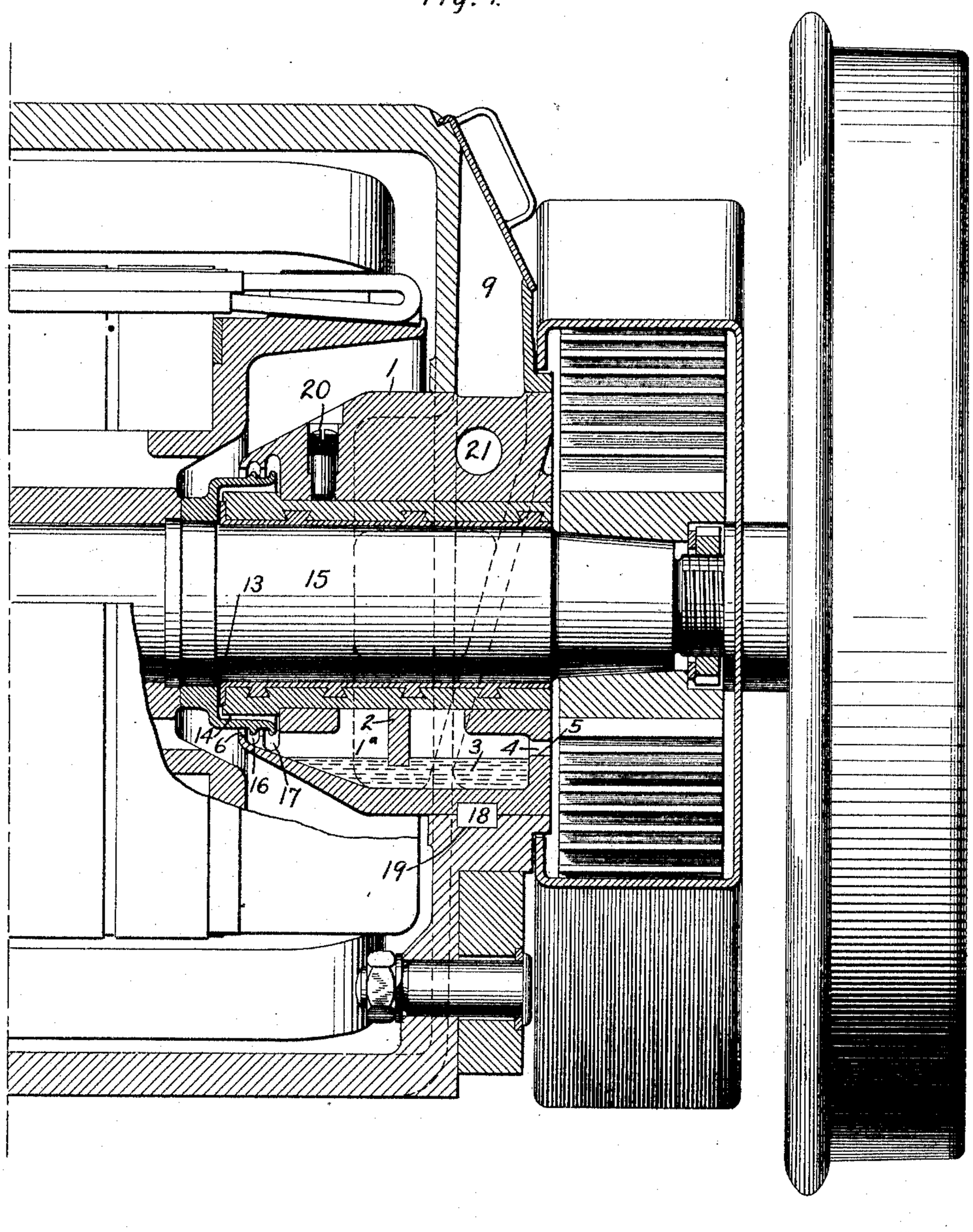
A. M. MATTICE.

BEARING HOUSING.

APPLICATION FILED APR. 14, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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APPLICATION FILED APR. 14, 1904.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

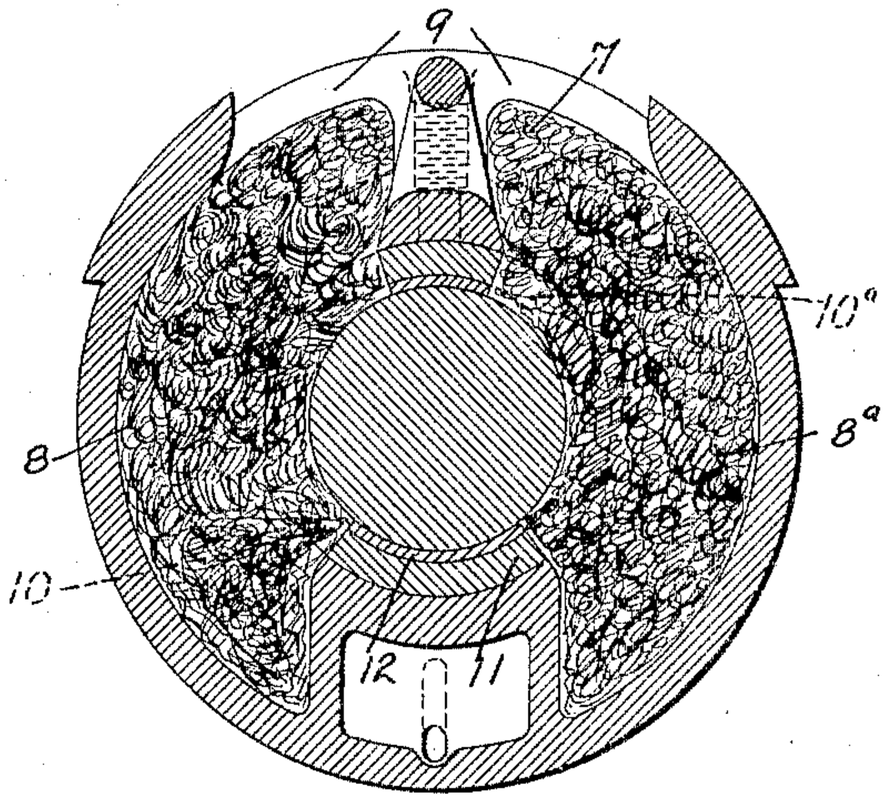
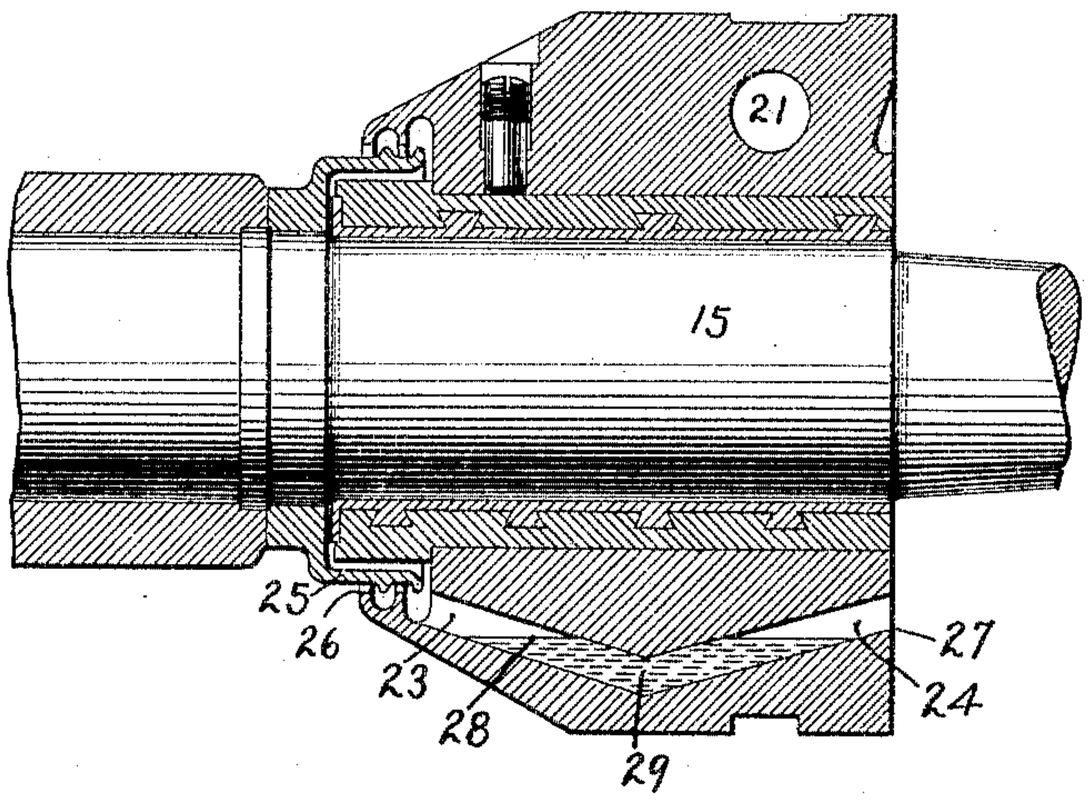


Fig. 3.



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No. 776,669. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

ASA M. MATTICE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

BEARING-HOUSING.

SPECIFICATION forming part of Letters Patent No. 776,669, dated December 6, 1904.

Application filed April 14, 1904. Serial No. 203,224. (No model.)

To all whom it may concern:

Be it known that I, ASA M. MATTICE, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bearing-Housings, of which the following is a specification.

My invention relates to shaft or axle bearing housings for inclosed electric motors and similar apparatus; and it has for its object to provide a simple and effective means for draining waste oil from such housings and preventing the entrance of air through the drainage-passages.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of one end of an electric motor provided with my improvement. Fig. 2 is a cross-sectional view of a housing, taken on a vertical plane at right angles to the motor-axis; and Fig. 3 is a longitudinal sectional view of a modified form of housing.

The housing 1 (shown in Figs. 1 and 2) contains a receptacle or reservoir 1^a, having an obstructing-partition 2, the lower end or edge of which is always immersed in oil 3. The hole 4, which leads to the outside of the motor, is drilled so that its lowest part 5 is at some suitable distance below the point 6 at the armature end of the housing. Since the oil cannot rise above the level of the point 5, it cannot flow toward the motor-armature, and air with particles of oil and moisture cannot be sucked into the armature, because the partition 2 is always partially immersed in the oil 3. The bearing is lubricated by packing oil-soaked wool or cotton-waste or other suitable absorbent material 7 in the spaces 8 and 8^a in the housing, which communicate with the shaft-surface through passages 10 and 10^a in the bushing 11 and the Babbitt bearing 12, the waste being introduced through hand-holes 9. Waste oil works out of the bearing at 13 and runs into the wiper-ring 14, which is secured to and rotates with the armature-shaft 15, said oil being thrown by centrifugal force from the drip-rings 16 into the corresponding grooves 17 in the bearing-housing. The bearing-housing is securely held in position by a key 18, which fits in a groove 19 in the motor-frame, and the bushing 11 is held in the housing by a dowel-pin 20. The housing may be lifted when desired, by means of a crane or other suitable device, by placing the hook in the hole 21, provided for that purpose.

Fig. 3 represents the essential features of a modification of the above-described housing, in which the reservoir is formed by two holes 23 and 24, drilled at angles to the horizontal and forming an obtuse angle, with the apex pointing downward. The wiper-ring 25 on the end of the armature drains into the upper part of hole 23, the point 26 of which is some distance higher than the point 27 of the hole 24, that opens to the outside of the motor. Hence the oil can never drain into the motor, and the air, which is likely to carry oil and moisture with it, cannot be sucked into the motor, because the level of oil 28 in the passages is always kept above the point 29. The remaining features of this modification are similar to those shown in Figs. 1 and 2.

From the drawings and the above description it is evident that I have provided a simple and effective means for draining a bearing by embodying in the bearing-housing a reservoir with a passage to the outside lower than that which brings the oil into the reservoir, the free access of currents of air being prevented by submerging in oil the lowest point of the roof of the reservoir, this point being lower than the openings to the outside of the housing. It is also evident that the reservoir and passages may assume widely-different forms without departing from the scope of my invention and that the invention is not limited to electric motors, but may be applied to many other classes of machinery.

I claim as my invention—

1. A bearing-housing for shafts provided

with a drainage-chamber having an opening at its outer end that is at a lower level than its inner end and having an intermediate projection from its roof or cover that terminates below the level of the outer opening.

2. A bearing-housing for shafts provided with a drainage-chamber below the shaft having an outlet-opening at its outer end at a lower level than the corresponding portion of the inner end opening and an intermediate bottom space that is below the level of both openings.

3. A bearing-housing for shafts provided with a drainage-chamber in its bottom part having openings at its respective ends, the one at the outer end being at a lower level than the other, and a roof or cover projection that terminates below the level of the outlet-opening.

4. A bearing-housing for an electric-motor shaft provided with a drainage-chamber below the bearing having an outlet-opening the level of which is below the corresponding portion of the opening at the inner end of the chamber and a downwardly-projecting, intermediate portion that terminates below the level of the outlet-opening.

In testimony whereof I have hereunto subscribed my name this 28th day of March, 1904.

ASA M. MATTICE.

Witnesses:

WESLEY G. CARR,

BIRNEY HINES.