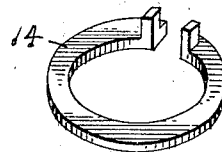
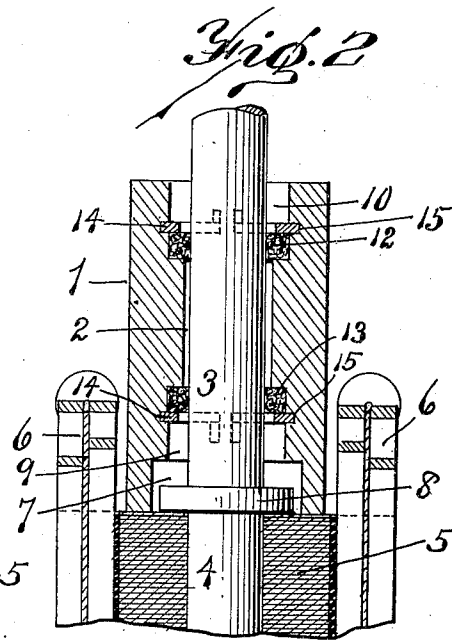
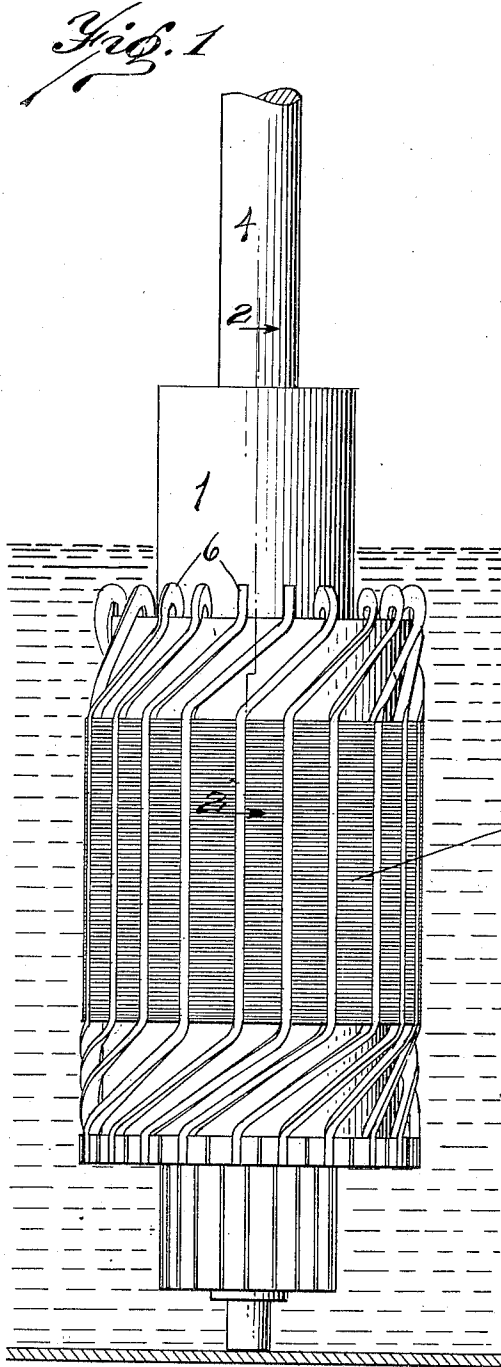


C. E. H. APPELT.
 BEARING PROTECTING SLEEVE.
 APPLICATION FILED JULY 23, 1920.

1,362,215.

Patented Dec. 14, 1920.



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UNITED STATES PATENT OFFICE.

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BEARING-PROTECTING SLEEVE.

1,362,215.

Specification of Letters Patent. Patented Dec. 14, 1920.

Application filed July 23, 1920. Serial No. 398,530.

To all whom it may concern:

Be it known that I, CHARLES E. H. APPELT, a citizen of the United States, and residing at Royal Oak, in the county of Oakland and State of Michigan, have invented a new and Improved Bearing-Protecting Sleeve, of which the following is a specification.

This invention relates to the manufacture of armatures for electric motors and generators, and its object is to provide means for preventing insulating liquid such as varnish or lacquer from coating the main journal of the armature shaft when the armature is dipped, and the invention consists in a sleeve adapted to slip over the journal and a washer to prevent the escape of the air within the sleeve, which air constitutes a seal to prevent the insulating liquid from rising and covering the journal.

In the accompanying drawing, Figure 1 is an elevation of an armature in a bath of insulating liquid. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a perspective of a resilient retainer.

Similar reference characters refer to like parts throughout the several views.

The varnish, lacquer or other liquid into which the armatures of electric motors and generators are dipped preparatory to baking is quite difficult to remove from the journals, especially where the windings of the armatures extend out over such journals. It is at present customary after the armatures are dipped, drained and baked, to place them in a proper lathe chuck and remove the coatings from the journals by means of an abrasive such as sand or emery paper or cloth. As a result, the highly polished journals often become scratched and otherwise injured.

To prevent the coating liquid from covering the journals, the device shown in the drawing has been devised. It consists of a sleeve 1, preferably of metal, having a central bore 2 of sufficient size to freely admit the journal 3 of the shaft 4 of the armature 5, and its external diameter is sufficiently small to permit the sleeve to extend within the windings 6 of the armature. The sleeve is formed with a counterbore 7 of sufficient size to admit the collar 8 on the shaft so that the lower end of the sleeve may engage the upper disk of the armature core.

The sleeve is preferably formed with two

additional counterbores 9 and 10 to receive the resilient washers 12 and 13 of felt, leather or rubber, or other material which may close air-tight the space between the shaft and sleeve. When felt or leather washers are employed, they are preferably filled with a heavy oil to prevent the passage of air. Their normal internal diameter is less than the diameter of the journal 3 so that the possibility of leakage is reduced to a minimum. A resilient retainer 14 is sprung in position. It will be understood that only one of these washers is necessary to form the air seal, but two hold the sleeve in better alinement.

One of these sleeves with its washers is slipped down onto each journal 3 before the armature and its shaft is dipped. As the air can not escape from the counterbores 7 and 9, the liquid of the bath can not rise within these counterbores above the collar 8 and the journal 3 will not be coated. The time required to apply and afterward to remove the sleeve and its washers is much less than that now generally required to remove the coating from the journal and the danger of injuring the polished journal by the abrasive employed is entirely obviated. The resilient retainers 14 hold the washers in position, while the sleeves are being slipped onto and off the shafts.

The sleeves 1 may be of metal, fiber, wood or any other suitable material and are removed from the shaft before the armature is baked after the dipping. The sizes and proportions of these sleeves may be varied as may be found necessary by those skilled in the art without departing from the spirit of my invention as set forth in the following claims.

I claim:—

1. In combination, a sleeve adapted to be slipped over a journal of the shaft of an armature of an electric machine, which sleeve is provided with a counterbore and a circumferential groove in the wall of the counterbore, a washer within the counterbore adapted to fill air-tight the space between the sleeve and journal, and a resilient retainer seated in the groove to hold the washer in position.

2. In combination, a sleeve adapted to be slipped over a journal of the shaft of an armature of an electric machine, and a resilient washer within the sleeve to prevent

the passage of air through the sleeve around the journal.

3. In combination, a sleeve adapted to be slipped over a journal of the armature shaft of an electric machine, a resilient washer within the sleeve at each side of the middle thereof to aline the sleeve on the journal and prevent the passage of air through the sleeve around the journal.

10 4. In combination, a sleeve adapted to be slipped over a journal of the armature shaft of an electric machine, a resilient washer within the sleeve at each side of the middle thereof to aline the sleeve on the journal and
15 prevent the passage of air through the sleeve around the journal, and resilient means to hold the washers in position.

5. In combination, a sleeve adapted to be slipped over a journal of the armature shaft

of an electric machine, said sleeve having a counterbore at each end, a resilient washer within each counterbore to aline the sleeve on the journal and to prevent the passage of air through the sleeve around the journal.

6. In combination, a sleeve adapted to be
25 slipped over a journal of the armature shaft of an electric machine, said sleeve having a counterbore at each end, a resilient washer within each counterbore to aline the sleeve on the journal and to prevent the passage of
30 air through the sleeve around the journal, said sleeve being formed with internal circumferential grooves adjacent the outer ends of said washers, and resilient retainers
35 mounted in said grooves to hold the washers in position.

CHARLES E. H. APPELT.