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DEVICE FOR REMOVING END PLAY FROM ELECTRIC MOTORS

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Fig. 1.

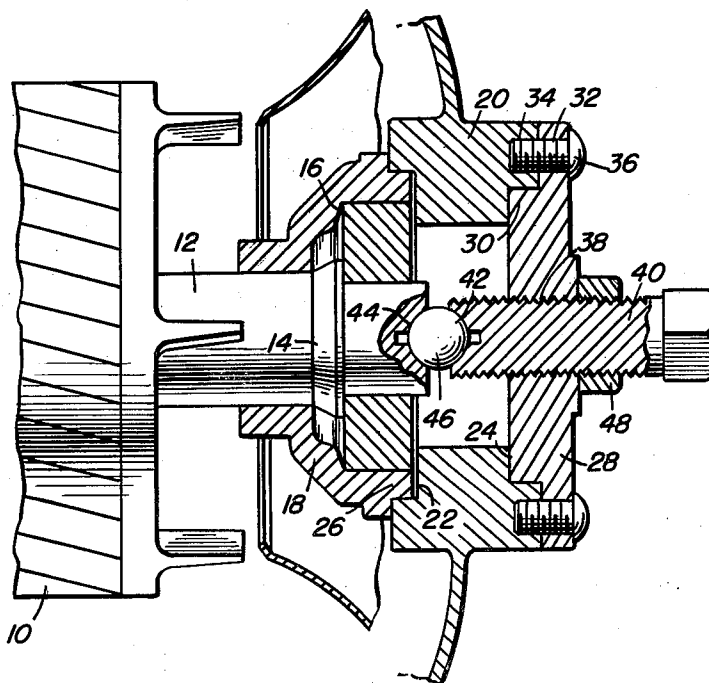


Fig. 2.

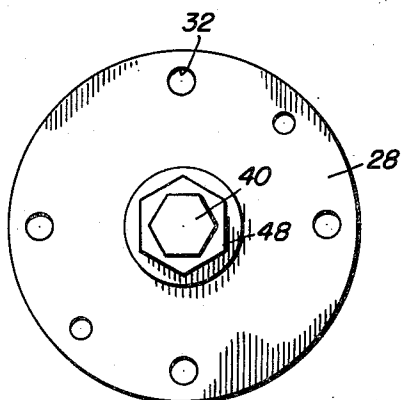
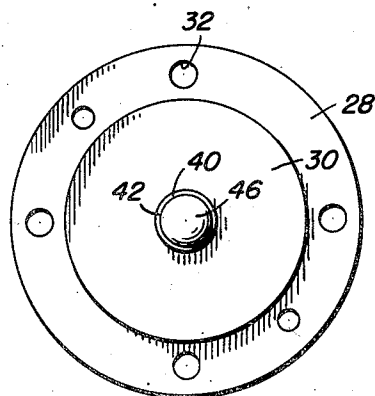


Fig. 3.



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DEVICE FOR REMOVING END PLAY FROM
ELECTRIC MOTORS

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2 Claims. (Cl. 308—233)

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This invention relates to new and useful improvements in electric motors and the primary object of the present invention is to provide an attachment for electric motors that will remove end play from the motor on which the same is applied.

Another important object of the present invention is to provide an adjusting screw disposed in longitudinal alignment with a drive shaft and connected to the drive shaft through the medium of a bearing.

A further object of the present invention is to provide a device for removing end play from electric motors, that is quickly and readily applied to end bell of a motor and which is so constructed as to replace the end dust cap associated with the end bells of certain well known electric motors such as a Westinghouse motor.

A still further aim of the present invention is to provide a device of the aforementioned character that is simple and practical in construction, strong and reliable in use, small and compact in structure, neat and attractive in appearance, relatively inexpensive to manufacture, and otherwise well adapted for the purpose for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary longitudinal vertical sectional view of an electric motor and showing the present invention in cross section applied thereto;

Figure 2 is an outside elevational view of the present invention, and;

Figure 3 is an inside elevational view of the present invention.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a conventional well known type of electric motor, such as a century motor or any sleeve type motor as is used on the Frick air conditioning machine. The motor includes a drive shaft 12, a stop shoulder 14 on the drive shaft, a bearing sleeve 16 on the drive shaft abutting the stop shoulder, a bearing support 18 embracing the bearing sleeve, and an end bell 20 having an inner recess 22 and an outer recess 24.

The inner recess 22 receives the reduced outer

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portion 26 of the bearing support 18 in a manner well known in the art.

The present invention does not attempt to claim the above motor construction but is merely an attachment therefor that will remove end play from the motor.

To accomplish the above desired results, there is provided an annular support or plate 28 having a reduced inner end portion 30 that is positioned in the recess 24 so that the inner face of the support 28 bears against the outer face of the hub for the end bell 20.

The support 28 is provided with a plurality of circumferentially spaced internally threaded openings 32 that oppose the usual internally threaded recesses 34 in the hub of the end bell 20.

The support 28 is provided with a plurality of circumferentially spaced internally threaded openings 32 that oppose the usual internally threaded recesses 34 in the hub of the end bell 20.

Fasteners 36 are received in the openings 32 and recesses 34 and retain the support 28 relative to the end bell 20.

The support 28 is provided with an internally threaded central opening 38 that receivably engages an adjusting screw or threaded member 40 the inner end portion of which is formed with a concaved recess 42 that registers with a concaved recess 44 provided in one end of the drive shaft 12. A spherical element or ball 46 is received in the recess 42 and 44 and permits rotation of the drive shaft although the drive shaft and motor are held against end play by the fastener 40 and the mounting for the said fastener 40.

Means is provided for holding the adjusting member or fastener 40 against rotation once the same has been adjusted a predetermined amount, and this means comprises a lock nut 49 receivably engaging the member 40 and bearing against the outer face of the support 28.

It should be noted, that some types of motors, for example Westinghouse motors, are provided with end bells having dust caps secured thereto. The support 28 is thereof of a diameter and shape to replace the said dust caps and therefore functions as a support for the adjusting member as well as a closure or dust cap for the end bell.

Although the present invention has been illustrated and described as being detachably secured to the end bell, it is obvious that the same could be an integral part of the end bell during the construction of the latter without deviating from its intended function.

In view of the foregoing description taken in

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conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In combination with an electric motor having a drive shaft, a bearing sleeve about the drive shaft, a bearing support embracing the sleeve and having a reduced end portion and an end bell having a recess receiving the reduced end portion of said support to retain the support and the sleeve in position to the drive shaft, a means for removing end play from the motor comprising, a plate detachably secured to the end bell, said end bell having an opening in registry with the shaft and closed by said plate, said plate having a threaded aperture in registry with the opening in said end bell and said shaft, a bolt threaded in said aperture and disposed in longitudinal alignment with the drive shaft, a lock nut threaded on said bolt and contacting the outer face of the plate, said bolt having a concaved recess, and a spherical element received in said concaved recess, said drive shaft having an outer end portion including a recess also receiving said spherical element.

2. In combination with an electric motor hav-

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ing a drive shaft, a bearing sleeve about the drive shaft, a bearing support embracing the sleeve and having a reduced end portion and an end bell having a recess receiving the reduced end portion of said support to retain the support and the sleeve in position to the drive shaft and also having an opening in registry with the drive shaft, a means for closing the opening in the end bell and for removing the end play from the motor comprising, a plate detachably secured to the end bell and having a threaded aperture in registry with the opening in the end bell and also in registry with said shaft, a bolt threaded in said aperture and disposed in longitudinal alignment with the drive shaft, a lock nut threaded on said bolt and contacting the outer face of the plate for retaining the bolt in longitudinally adjusted position, said bolt having an inner end including a concaved recess, said drive shaft also having a concaved recess in registry with the concaved recess in the inner end of said bolt, and a spherical member seated in said concaved recesses.

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