maximum width (the width of the width expanded portions **16***b***3**) of the magnetic pole teeth **16***b*. In contrast to that, the spacing between the magnetic pole teeth **16***b* when the core segments **16** are in the expanded position is wider than the maximum width of the magnetic pole teeth **16***b*. Because of that, obtaining staggered straight row pairs of core segment linked bodies **15** can be easily achieved by manufacturing the core segment linked bodies **15** with the core segments **16** positioned in the expanded position.

[0071] Furthermore, even if the width dimensions of the width expanded portions **16***b***3** are increased, dimensions by which the core segments **16** displace between the expanded position and the contracted position relative to neighboring core segments **16** can be controlled by adjusting the width dimensions of the width reduced portions **16***b***2**. Because of that, materials yield can be improved when manufacturing the core segment linked bodies **15** with the core segments **16** positioned in the expanded position, enabling productivity to be improved.

[0072] Materials yield of the strip **25** is improved thereby, enabling manufacturing costs to be suppressed. Furthermore, by performing mounting of the insulators **14** and mounting (wincing) of the coils **13***a* when the spacing between the magnetic pole teeth **16***b* is widened, sufficient space can be ensured for each of the mounting operations, enabling workability to be improved.

[0073] In addition, because the shaft portions **19** of the core segments **16** that are linked to each other fit into the first or second interfitting apertures **20***a* or **20***b* and will not dislodge (will not separate), handling is facilitated.

[0074] In addition, because resistance to movement of the shaft portions **19** from the second interfitting apertures **20***b* toward the first interfitting apertures **20***a* is imposed by the spring portions **21**, the core segments **16** that are moved to the contracted position can easily be prevented from returning to the expanded position, enabling productivity to be improved.

[0075] Because orientation of the first and second core laminations **17** and **18** can be set in a constant direction relative to a drawing direction of the strip **25**, the influence of magnetic anisotropy in the strip **25** can be reduced compared to when pressed in a state in which the core laminations are arranged in a circular arc shape or an annular shape, and a 2f component of torque pulsation can be reduced. Moreover, the 2f component of torque pulsation is a component in which two peaks occur in one electrical angular period, and is a component that arises due to the armature **10** becoming irregular due to manufacturing errors.

[0076] Now, in Embodiment 1 above, as shown in FIGS. **16** and **17**, a relationship among an outside diameter D**0** of the shaft portions **19**, an inside diameter D**1** of the first interfitting apertures **20***a*, and an inside diameter D**2** of the second interfitting apertures **20***b* is approximately D**0**=D**1**=D**2**. In contrast to that, the relationship may alternatively be set to D**0**<D**2**<D**1**, as shown in FIG. **18**, for example. According to the configuration that is shown in FIG. **18**, the shaft portions **19** can be easily fitted into the first interfitting apertures **20***a* when laminating the first core laminations **17** and the second core laminations **18**. Because there is an allowance for the outside diameter D**0** of the shaft portions **19** in the inside diameter D**1** of the first interfitting apertures **20***a*, the influence of positioning errors between the shaft portions **19** and the first interfitting apertures **20***a* is reduced, enabling deformation of the shaft portions **19** and the first interfitting apertures **20***a* due to positioning errors to be suppressed. Positioning errors of the shaft portions **19** can also be reduced when the shaft portions **19** are fitted into the second interfitting apertures **20***b*. Consequently, the core segment linked bodies **15** can be manufactured precisely.

[0077] Furthermore, the shapes of the shaft portions **19** and the interfitting apertures **20** (including the spring portions **21**) are not limited to the shapes in Embodiment 1 above, and need only be shapes that enable the core segments **16** to be displaced relative to each other between a contracted position and an expanded position when the shaft portions **19** are fitted together with the interfitting apertures **20**, and that enable the respective core segments **16** to be rotated around the shaft portions **19** when positioned in the contracted position.

[0078] As shown in FIG. **15**, separate insulating members **14'** may be fitted into a space between the width reduced portions **16***b***2** and the insulators **14** instead of the insulators **14** that fit together with the width reduced portions **16***b***2**. If the insulators **14** do not have any strength problems, insulation performance of the coils **13***a* can also be maintained even if a space is disposed between the width reduced portions **16***b***2** and the insulators **14**.

[0079] Next, a relationship between the width reduced portions **16***b***2** and the width expanded portions **16***b***3** in the magnetic pole teeth **16***b* will be investigated from the viewpoint of torque pulsation and torque.

[0080] First, a relationship between $(te-tn)/\tau s'$ and a maximum value ratio of an fs component of torque pulsation is shown in FIG. **19**. Moreover, $\tau s'$ is a distance between center lines A of adjacent magnetic pole teeth **16***b* when the core segment linked bodies are opened out rectilinearly, te is a width dimension of the tooth main portions **16***b***1** that are positioned between the width reduced portions **16***b***2** and the width expanded portions **16***b***3** of the magnetic pole teeth **16***b*, and to is a width dimension of the width reduced portions **16***b***2**.

[0081] The fs component of torque pulsation is a component that is generated by the number of peaks in one mechanical angular period, which is equal to the number of magnetic pole teeth **16***b* in the armature **10**. In other words, the fs component of torque pulsation is a component that is generated due to the waveform of the magnetic flux density that arises due to the permanent magnets **5** of the rotor **2** becoming irregular due to manufacturing errors, etc. Because the rotary electric machine **100** according to Embodiment 1 has sixteen poles and eighteen slots, 2.25 (=18/(16/2)) peaks are generated in one electrical angular period, since eighteen peaks occur in one mechanical angular period.

[0082] From FIG. **19**, it was found that the fs component of torque pulsation becomes gradually smaller as $(te-tn)/\tau s'$ increases from zero.

[0083] This can be inferred to be because the magnetic pole teeth **16***b* are saturated magnetically, and the amount of magnetic flux that flows through the magnetic pole teeth **16***b* is reduced, if the core segment linked bodies **15** are produced so as to satisfy $(te-tn)/\tau s'>0$.

[0084] From FIG. **19**, it was also found that the fs component of torque pulsation can be reduced by greater than or equal to five percent if the core segment linked bodies **15** are produced so as to satisfy $(te-tn)/\tau s'\geq 0.07$.

[0085] Next, a relationship between the maximum value ratio of $(te-tn)/te$ and torque is shown in FIG. **20**.