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Kawashima

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(54) **ROLLING DEVICE AND USING METHOD THEREOF**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 450 days.

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See application file for complete search history.

(57) **ABSTRACT**
Intervals are provided between rolling elements in a load area to avoid jostling of rolling elements in a rolling device. A portion of a transfer groove has such a sectional shape as to form a contact point changing path for coming in contact with smaller diameter portions of the rolling elements than outer diameters of the rolling elements to thereby reduce revolution quantities of the rolling elements to bring rolling elements in contact with or close to each other at this portion. Then, when the rolling elements come out of the contact point changing path, the outer diameter portions of the rolling elements come in contact with the transfer groove to thereby increase the revolution quantities of the rolling elements to create intervals between the rolling elements entering the load area.

5 Claims, 11 Drawing Sheets

