

受験番号 : 34IPM002

問 1 .

[0002] When displaying information to pedestrians and drivers of vehicles on the road, road surface markings, such as white lines, are often used to display information to pedestrians and drivers.

[0003] As such the road surface markings, for example, Patent Document 1 discloses a road surface marking paint, containing a solution or dispersion of a synthetic resin and a filler material, that forms a coating film by applying to the road surface, spraying retroreflective material such as glass beads and drying.

[0007] In the road surface markings such as disclosed in Patent Document 1 to 3, which are formed by applying the road surface marking paint, the paint film of the road surface marking paint is easy to disappear due to abrasion caused by contact with pedestrians and vehicles. Therefore, it is necessary to maintain the road surface markings by periodically applying the retroreflective material (e.g., glass beads) and the road surface marking paint in layers. Once maintenance for the road surface markings is performed, traffic control is required for a long time. Therefore, there is a need for a method of the road surface markings that requires less frequent maintenance.

[0008] At this point, it is conceivable to apply a thicker layer of the road surface marking paint to make it more difficult to disappear the road surface markings even if the road surface marking paint comes into contact with pedestrians or vehicles. However, when the road surface marking paint is applied thickly, forces received from contact with pedestrians and vehicles act strongly on the underside of the road surface markings. As a result, the road surface markings are more easily detached from the road surface due to peeling.

問 2 .

[0014] Here, according to the present invention, in order to adjust the backlash in the gear train of the reduction gear system 10 described above, the reference surface 8b is provided in the gearbox 8 as described above, and recess portions 18, 34 are formed as

described below. The reference surface 8b is provided so that the intermediate gear assembly 20 can be slidably displaced on the reference surface 8b before being fixed. The recess portion 18 is drilled substantially along an axis at a top of the input shaft 14 of the input gear assembly 10. The recess portion 34 is drilled substantially along an axis at a top of the intermediate shaft 26 of the intermediate gear assembly 20.

[0015] According to the present invention, a simple fixture is used to adjust the backlash in the gear train described above. As shown in Figs. 2 to 4, this fixture is formed as a restraining fixture 50 that fixes a distance L between the axis of the input shaft 14 of the input gear assembly 10 and the axis of the intermediate shaft 26 of the intermediate gear assembly 20, to restrain the input gear assembly 10 and the intermediate gear assembly 20. The restraining fixture 50 has a bar portion 52 and engagement pins 54, 56 protruding from both ends of the bar portion 52. And the distance L between both the engagement pins 54 and 56 in the bar portion 52 is designed and formed to be substantially equal to the sum of a pitch circle radius of the input gear 16 and a pitch circle radius of the first stage gear 22 of the intermediate gear assembly 20. The distance between the input gear 16 and the first stage gear 22 can be constrained by engaging the engagement pin 54 of the restraining fixture 50 with the above-described recess portion 18 drilled in the top of the input shaft 14 of the input gear assembly 10, and by engaging the engagement pin 56 of the restraining fixture 50 with the above-described recess portion 34 drilled in the top of the intermediate shaft 26 of the intermediate gear assembly 20. It would be obvious that a similar restraining action would be achieved by forming a pin-shaped protrusion corresponding to both pins 54 and 56 of the restraining fixture 50 on each top of the input shaft 14 and intermediate shaft 26 and, on the other hand, by providing recess portions corresponding to recess portions 18 and 34 on both ends of the bar portion 52 of the restraining fixture 50.

問 3 .

WHAT IS CLAIMED IS:

1. A sealing apparatus (A) comprising:  
an annular sealing plate (1) attached to a rotating side inner member (11) and a second annular sealing plate (2) attached to a static side outer member (12) in an annular space between the rotating side inner member (11) and the static side outer member (12), the annular sealing plate (1) being formed L-shaped in a cross section

view by comprising a vertical plate portion (1a) and a cylindrical portion (1b) that is fitted to the rotating side inner member (11), the second annular sealing plate (2) being formed L-shaped in a cross section view by comprising a vertical plate (2a) and a cylindrical portion (2b) that is fitted to the static side outer member (12), the annular sealing plate (1) and the second annular sealing plate (2) facing each other; and

a seal lip,

wherein the vertical plate portion (1a) is located on an axially outer side of the annular sealing plate (1) in a manner that a tip of the vertical plate portion (1a) and the cylindrical portion (2b) of the second annular sealing plate (2) face each other with a gap in a radial direction,

the second annular sealing plate (2) includes a side lip (3a) slidable against a flat inner side of the vertical plate portion (1a) of the annular sealing plate (1) and inclined radially outward toward a tip thereof, and radial lips (3b, 3c) slidable against the cylindrical portion (1b) of the annular sealing plate (1), and

the annular sealing plate (1) is a magnetic steel plate with elastomers mixed with magnetic powder vulcanized and bonded to an outer side of the vertical plate portion (1a) in a circumferential manner and with alternating magnetic poles.