受験番号：34IPM014

問 1

[0002]

Pedestrians and vehicle drivers on roads receive road information usually from road markings such as white lines on the road surface.

[0003]

PTL 1, for example, discloses as a paint for such road markings a road marking paint containing a synthetic resin solution or dispersion and a filler. The road marking paint is applied to a road surface, followed by spraying a retroreflective agent such as glass beads onto the road surface and drying the paint, to form a coating.

...

[0007]

Road markings formed by applying a road marking paint such as those disclosed in PTLs 1 to 3 are easily worn off through contact with pedestrians and vehicles, causing the coating of the road marking paint to be lost. This necessitates regularly applying the retroreflective agent (such as glass beads) and the road marking paint on the existing coating to maintain road markings. Such maintenance requires an extended time period of traffic regulation thereafter. There has thus been a demand for a technique for road markings that need maintenance less frequently.

[0008]

A road marking paint may be applied to form a thicker coating so that road markings are less likely to be lost through contact with pedestrians and vehicles. In such a case, however, road markings, in particular their lower portions, receive a larger force through contact with pedestrians and vehicles, making it more likely that road markings come off from the road surface to be lost.

問 2

[0014]

The present invention is arranged such that for adjustment of backlash in the gear train of the reduction gear device 10, the gear box 8 has a reference surface 8b on which the intermediate gear assembly 20 can be slid before fixation as described above and that the input and intermediate shafts 14 and 26 of the input gear assembly 10 and the intermediate gear assembly 20 have, at respective top portions, respective recesses 18 and 34 described later that recede substantially along the respective axes.

[0015]

The present invention uses a simple jig for adjustment of backlash in the above gear train. The jig is, as illustrated in FIGs. 2 to 4, a restricting jig 50 that fixes the distance L between the central axis of the input shaft 14 of the input gear assembly 10 and the central axis of the intermediate shaft 26 of the intermediate gear assembly 20. The restricting jig 50 includes a bar-shaped portion 52 and engagement pins 54 and 56 protruding from the opposite ends of the bar-shaped portion 52. The restricting jig 50 is designed and shaped such that the engagement pins 54 and 56 on the bar-shaped portion 52 have respective centers separated from each other by a distance L substantially equal to the sum of the respective pitch radiuses of the input gear 16 and the first-stage gear 22 of the intermediate gear assembly 20. Engaging the engagement pins 54 and 56 of the restricting jig 50 with the respective recesses 18 and 34, described above as receding at the respective top portions of the input and intermediate shafts 14 and 26 of the input gear assembly 10 and the intermediate gear assembly 20, allows the distance between the two gears 16 and 22 to be fixed. As will be obviously understood, a similar restricting effect is achieved if the input shaft 14 and the intermediate shaft 26 have respective tips provided with respective pin-shaped protrusions equivalent to the pins 54 and 56 of the restricting jig 50, whereas the bar-shaped portion 52 of the restricting jig 50 have, at opposite ends, recesses equivalent to the recesses 18 and 34.

問 3

Claim 1

A sealing device (A), comprising, in an annular space between a rotation-side inner member (11) and a fixed-side outer member (12):

a first sealing plate (1) having an annular shape and attached to the rotation-side inner member (11);

a second sealing plate (2) having an annular shape and attached to the fixed-side outer member (12); and

a sealing lip unit (3),

the first sealing plate (1) including a standing plate portion (1a) and a cylinder portion (1b) fitted on the rotation-side inner member (11) to have an L-shaped cross section,

the second sealing plate (2) including a standing plate portion (2a) and a cylinder portion (2b) fitted on the fixed-side outer member (12) to have an L-shaped cross section,

the first and second sealing plates (1, 2) facing each other,

the standing plate portion (1a) of the first sealing plate (1) being on an axially

outer side and having a tip that faces the cylinder portion (2b) of the second sealing plate (2) and that is separated from the cylinder portion (2b) of the second sealing plate (2) by a gap in a radial direction,

the sealing lip unit (3) being in contact with the second sealing plate (2) and including a side lip (3a) and radial lips (3b, 3c), the side lip (3a) being slidably in contact with a flat inner side surface of the standing plate portion (1a) of the first sealing plate (1) and inclined radially outward increasingly toward a tip of the side lip (3a), the radial lips (3b, 3c) being slidably in contact with the cylinder portion (1b) of the first sealing plate (1),

the first sealing plate (1) being in a form of a magnetic steel sheet,

the standing plate portion (1a) of the first sealing plate (1) having an outer side surface to which an elastomer containing magnetic powder is bonded through vulcanization in a circumferential pattern and on which magnetic poles are disposed alternately.

※翻訳者コメント：原文中の「(字数調整)」の表している意図が分かりませんでした。誤記と判断しました。