

Fig. 1

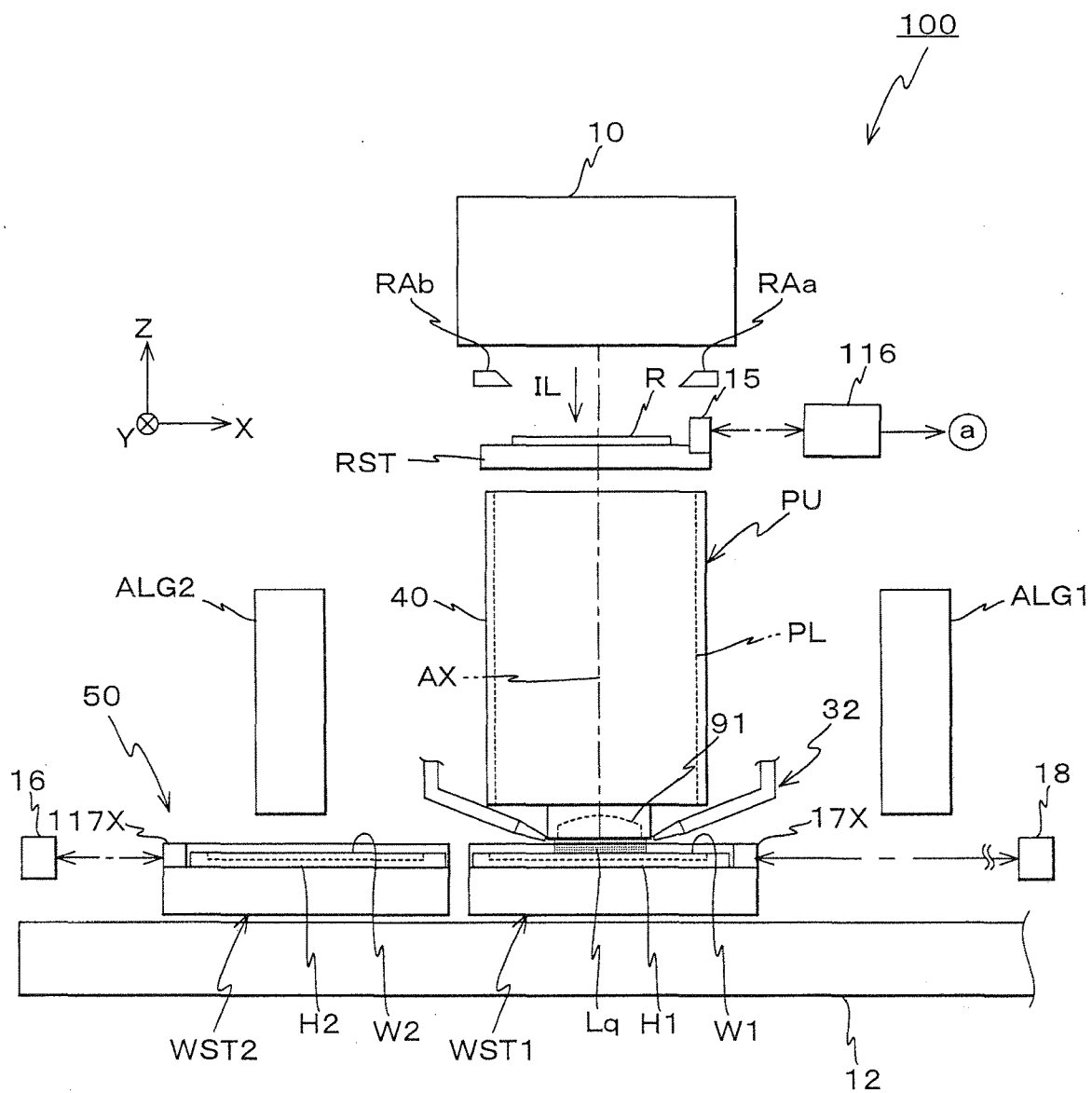


Fig. 2

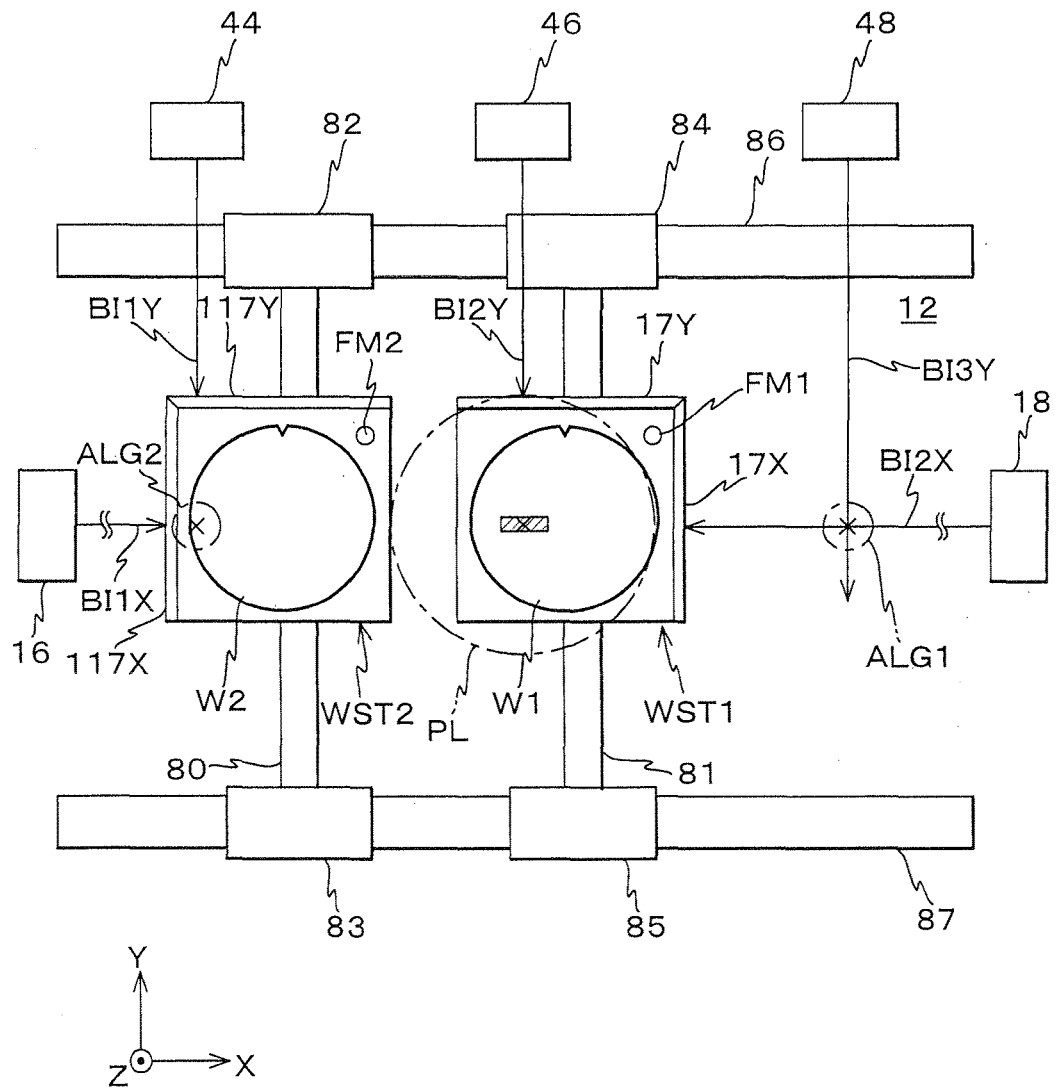
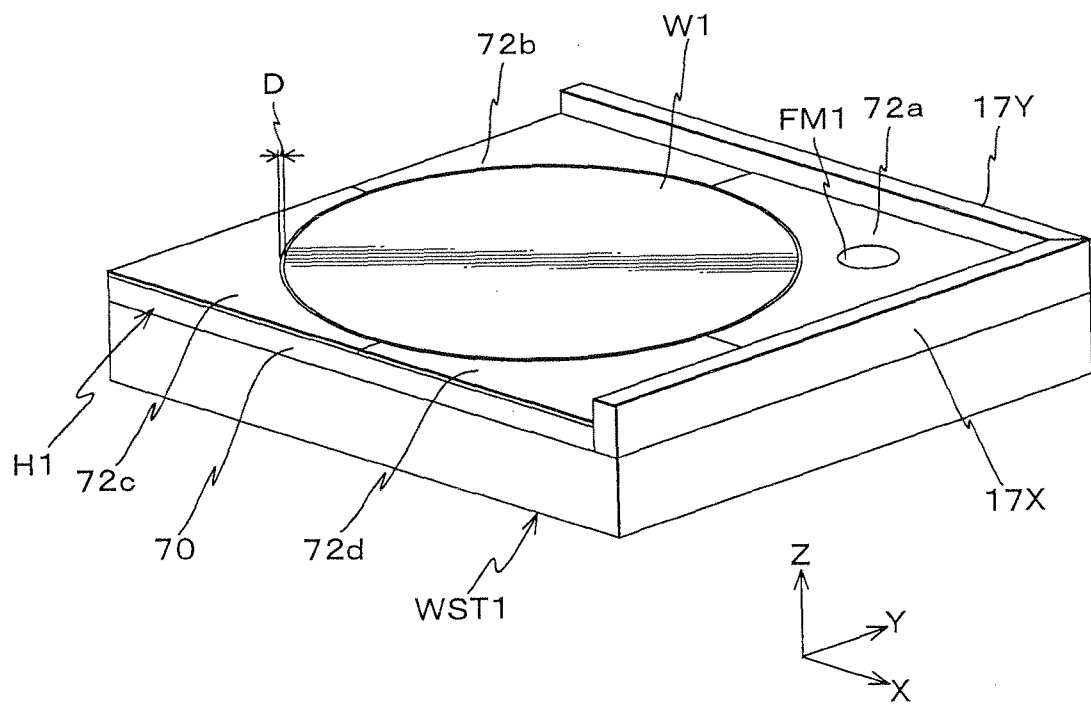


Fig. 3



F i g. 4

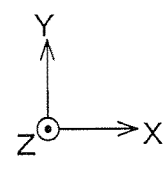
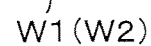


Fig. 5

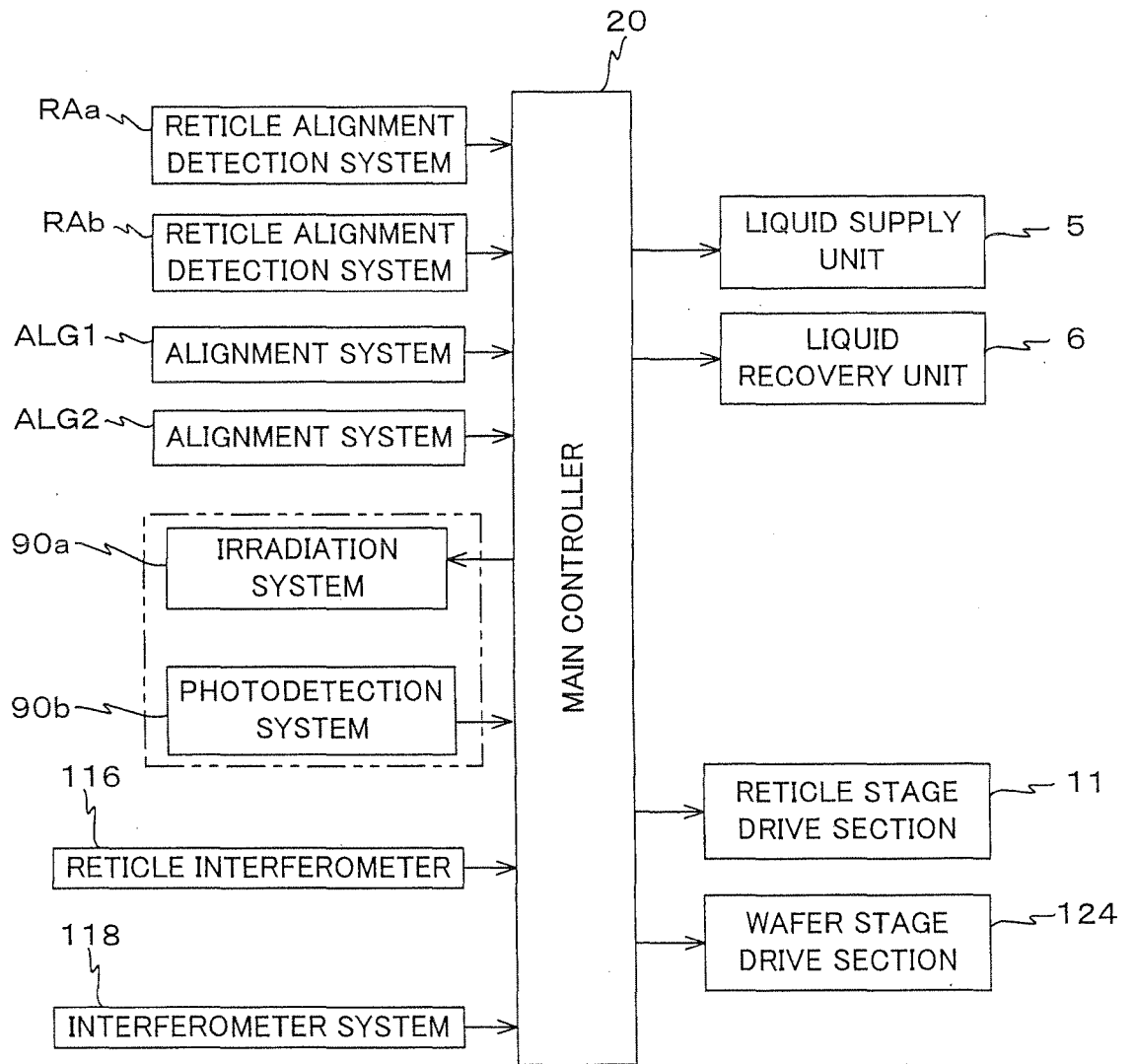


Fig. 6

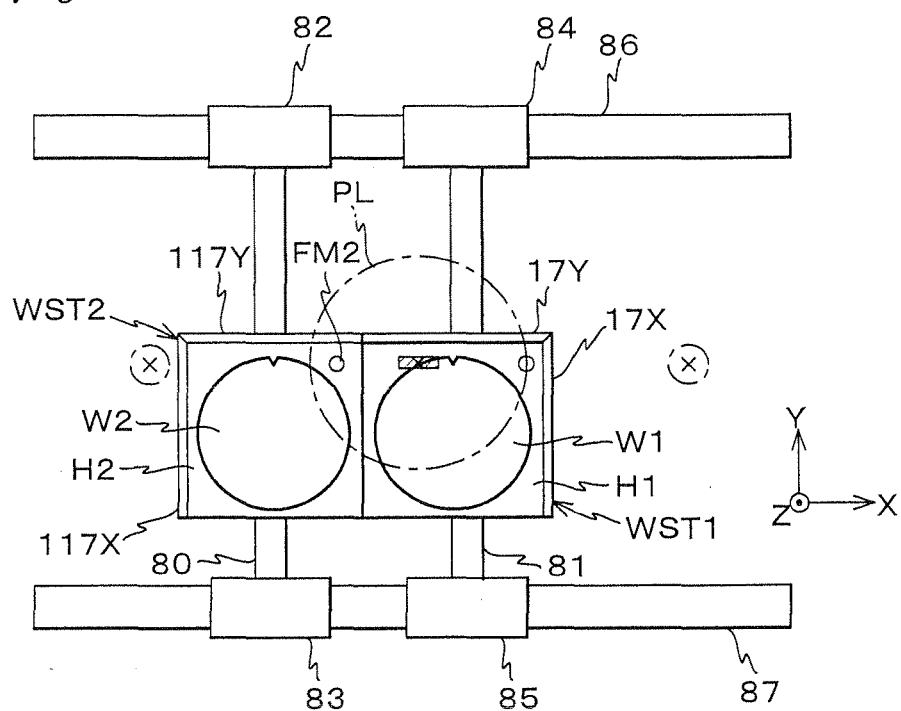


Fig. 7

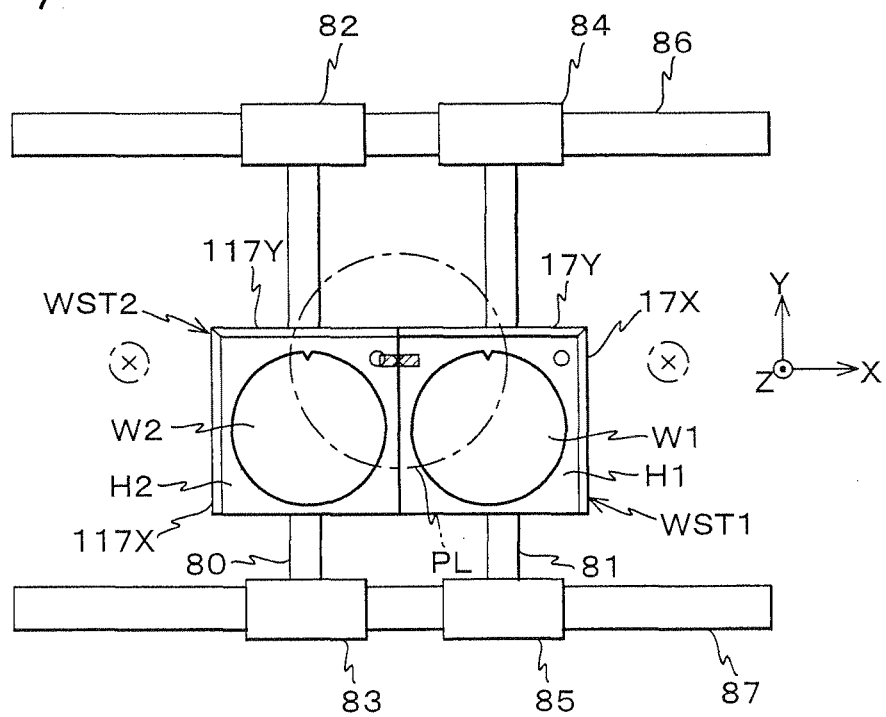


Fig. 8

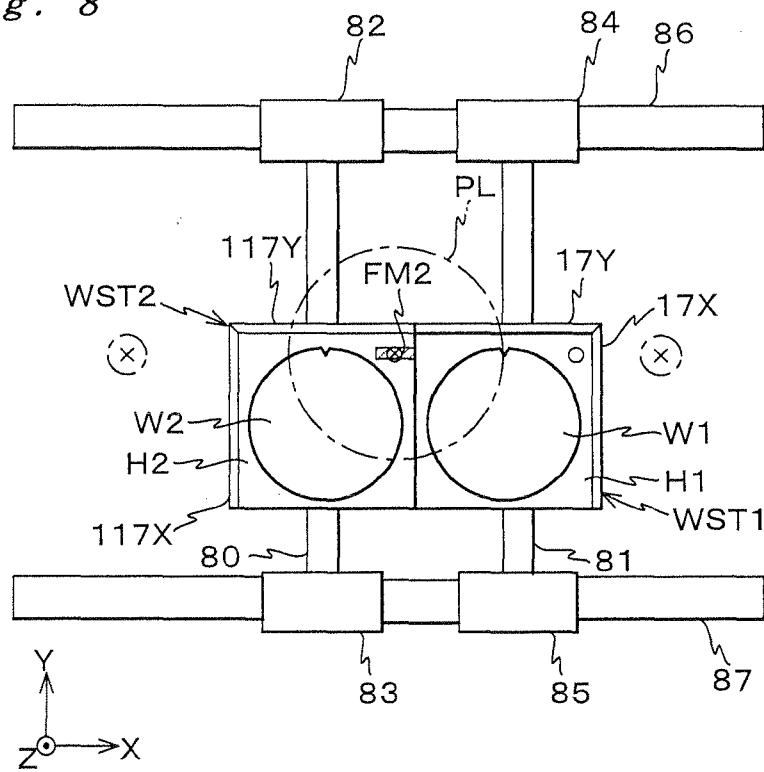


Fig. 9

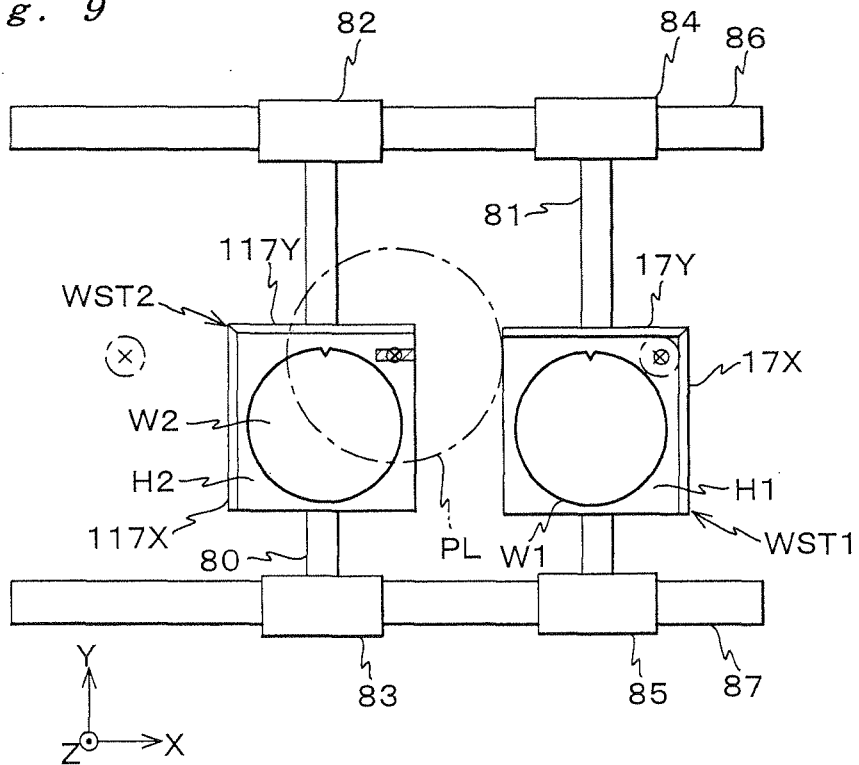


Fig. 10

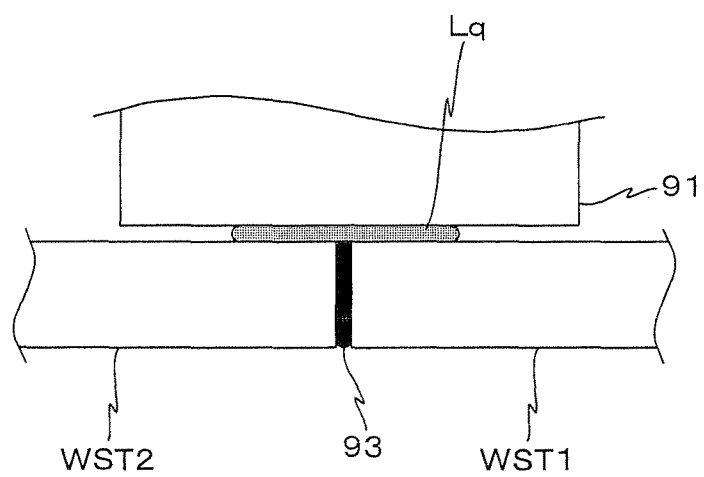


Fig. 11

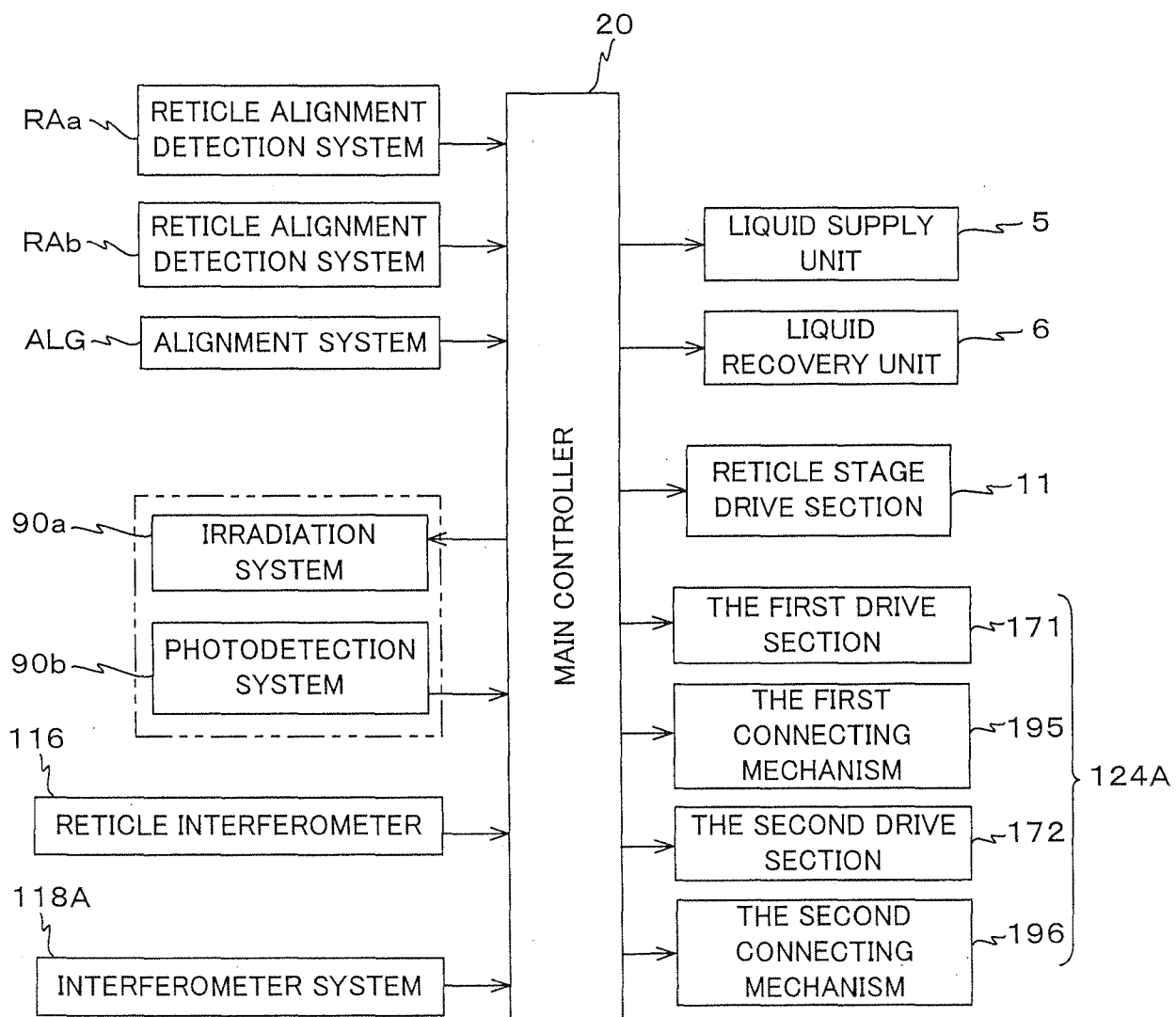


Fig. 12

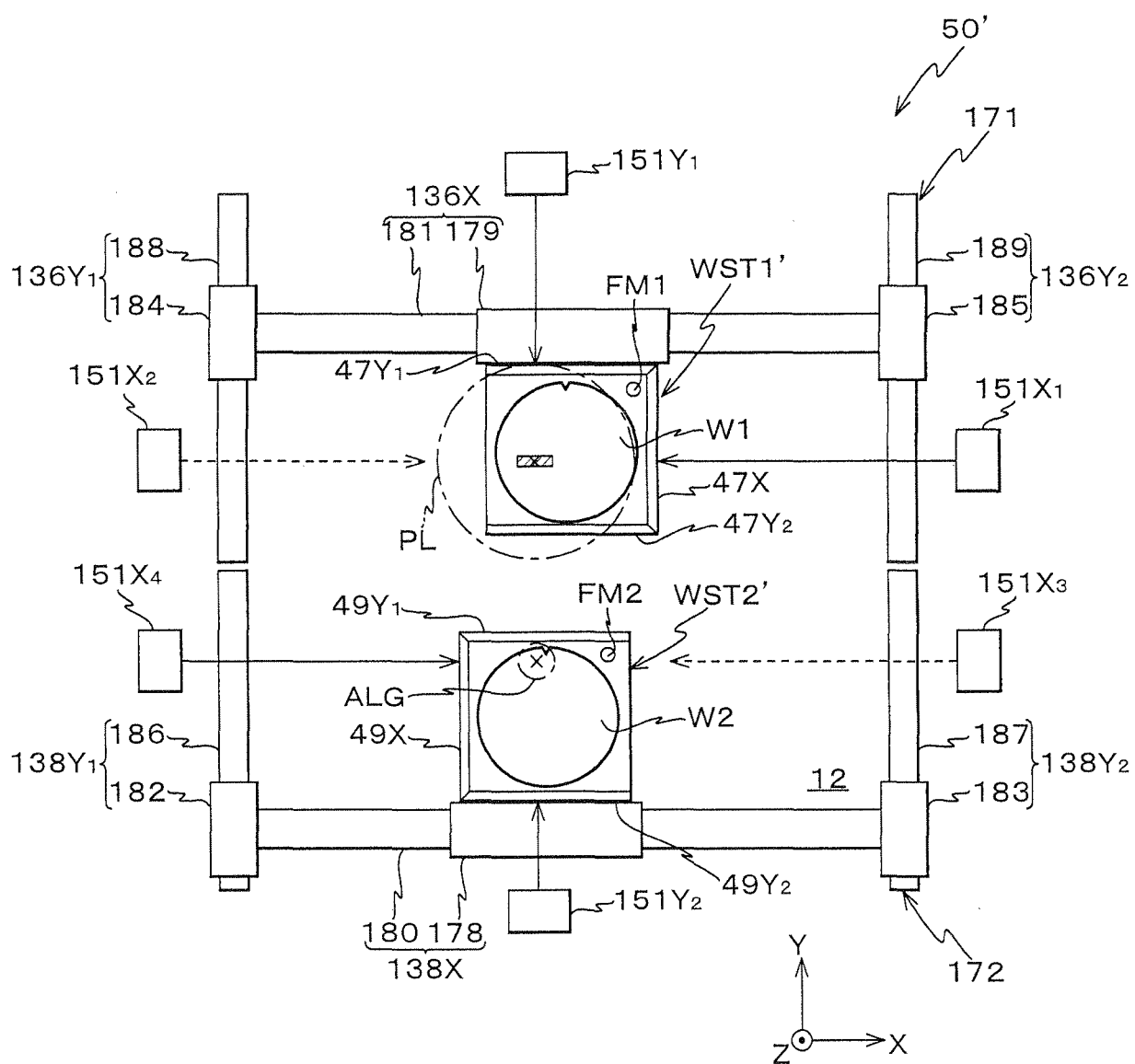


Fig. 13A

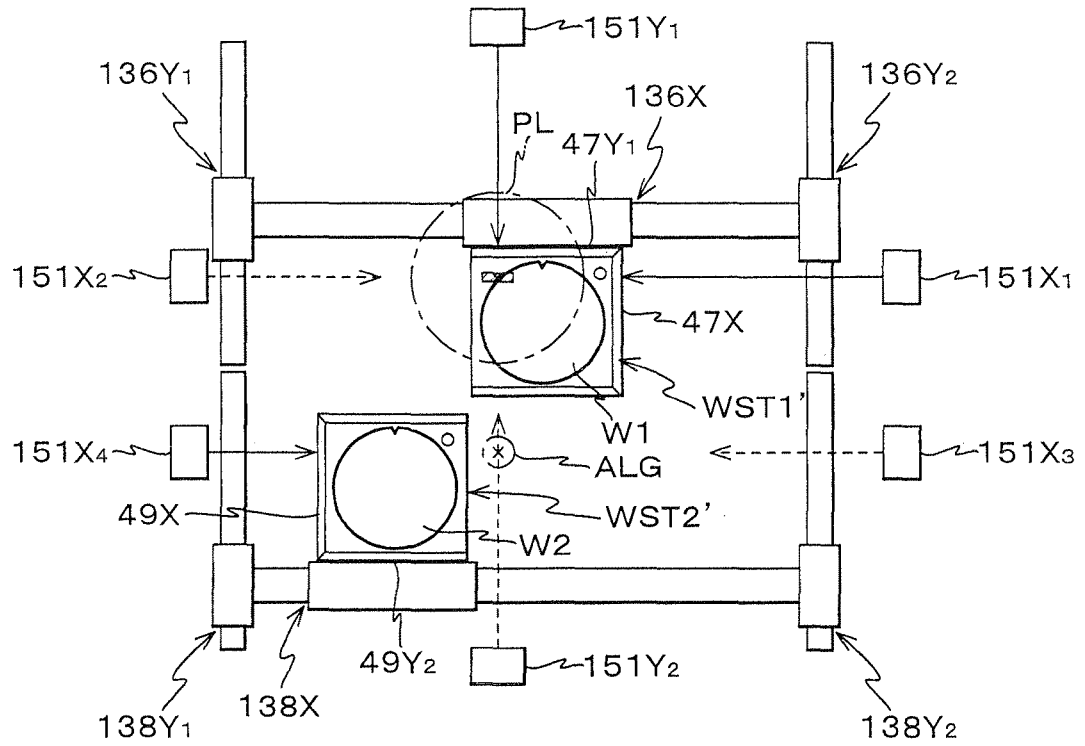
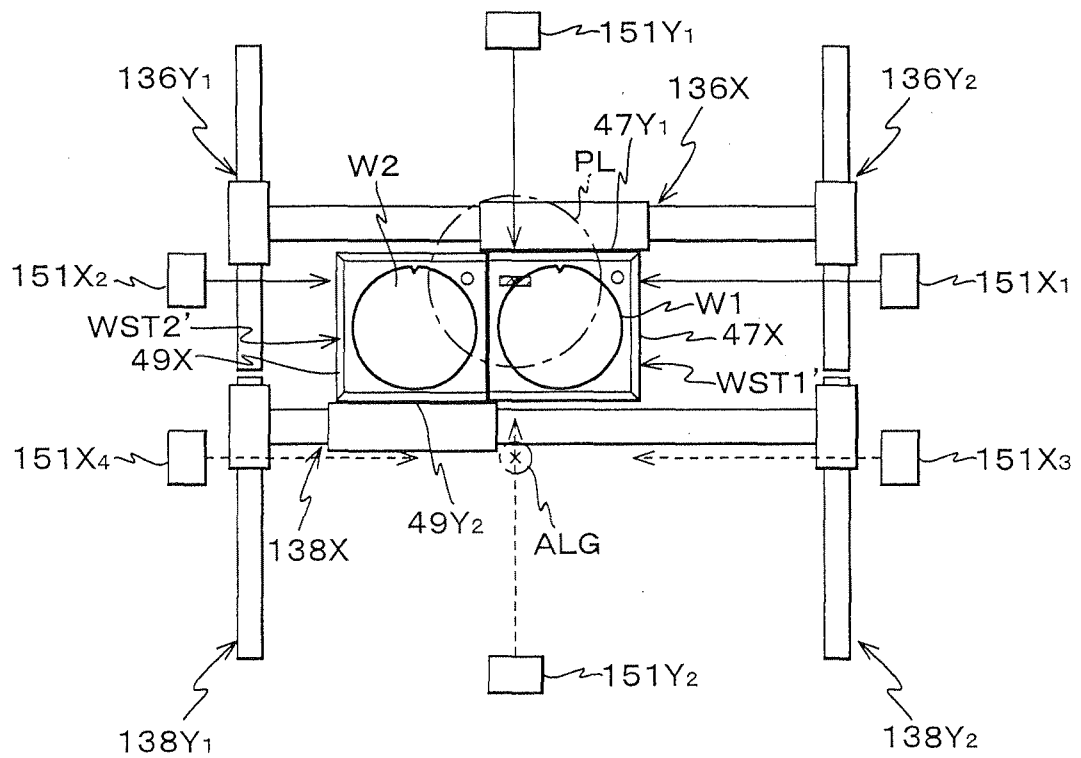


Fig. 13B



A schematic diagram of an optical system. It features two lenses, labeled 47Y₁ and 47X, positioned side-by-side within a common frame 49X. Light rays are shown entering from the left through a vertical rod 136Y₁, passing through lens 47Y₁, and exiting to the right through another vertical rod 136Y₂. Similarly, light enters from the bottom through a horizontal rod 138Y₁, passes through lens 47X, and exits upwards through a horizontal rod 138Y₂. The rods are connected by horizontal bars 136X and 138X. Various components are labeled with reference numerals: 151Y₁ and 151Y₂ at the top and bottom; 151X₁, 151X₂, 151X₃, and 151X₄ at the corners; WST2' and WST1' near the lenses; PL above the lenses; ALG below them; and 179 and 178 indicating specific points or regions. Dashed lines represent optical axes.

This schematic diagram illustrates a four-axis force sensor assembly. It features a central square frame with two circular force sensors, labeled 49X and 49Y1, positioned horizontally and vertically. The sensors are connected to a central processing unit, labeled 178, which is also connected to a central control unit, labeled 179. The assembly is supported by four vertical rods, labeled 136X and 136Y2, which are connected to a central horizontal bar, labeled 138X. The rods are further connected to a central horizontal bar, labeled 138Y1, which is connected to a central control unit, labeled 151Y2. The assembly is also connected to a central control unit, labeled 151X1, which is connected to a central control unit, labeled 151X2. The assembly is further connected to a central control unit, labeled 151X3, which is connected to a central control unit, labeled 151X4. The assembly is also connected to a central control unit, labeled 151Y1, which is connected to a central control unit, labeled 151Y2. The assembly is further connected to a central control unit, labeled 151X1, which is connected to a central control unit, labeled 151X2. The assembly is also connected to a central control unit, labeled 151X3, which is connected to a central control unit, labeled 151X4. The assembly is further connected to a central control unit, labeled 151Y1, which is connected to a central control unit, labeled 151Y2.

Fig. 15A

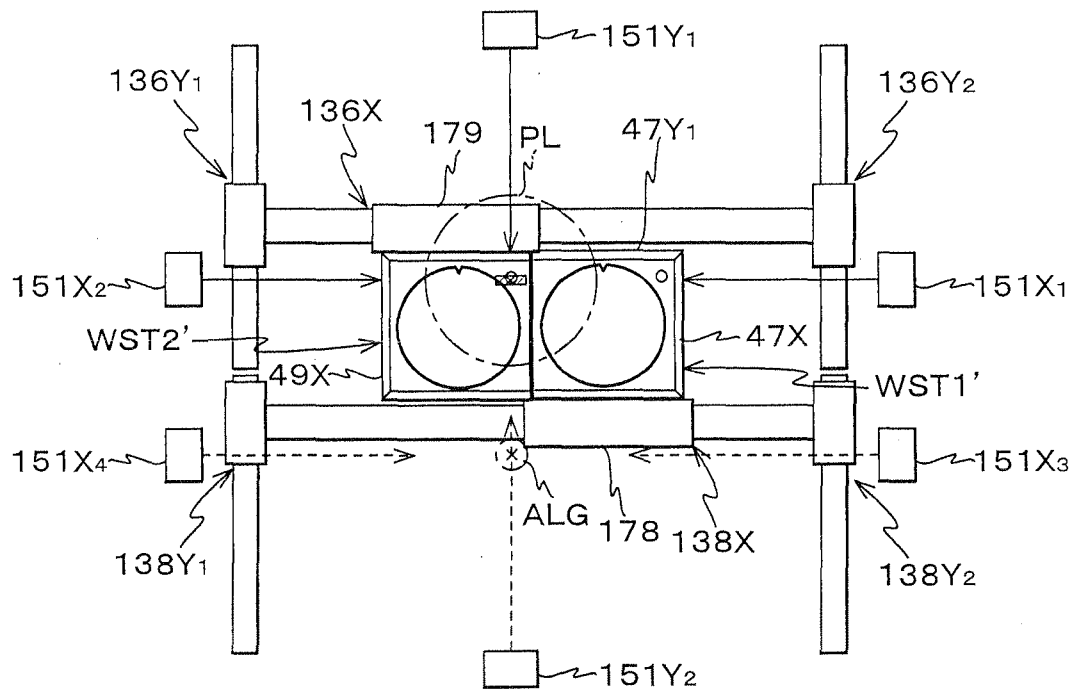


Fig. 15B

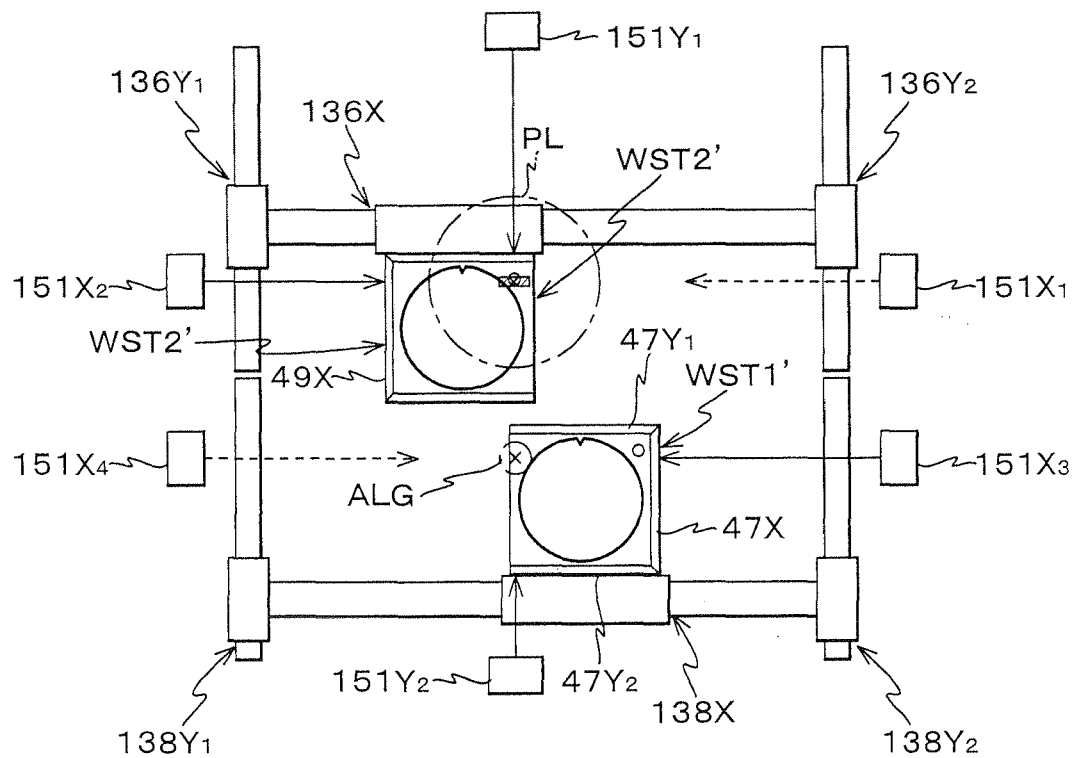


Fig. 16

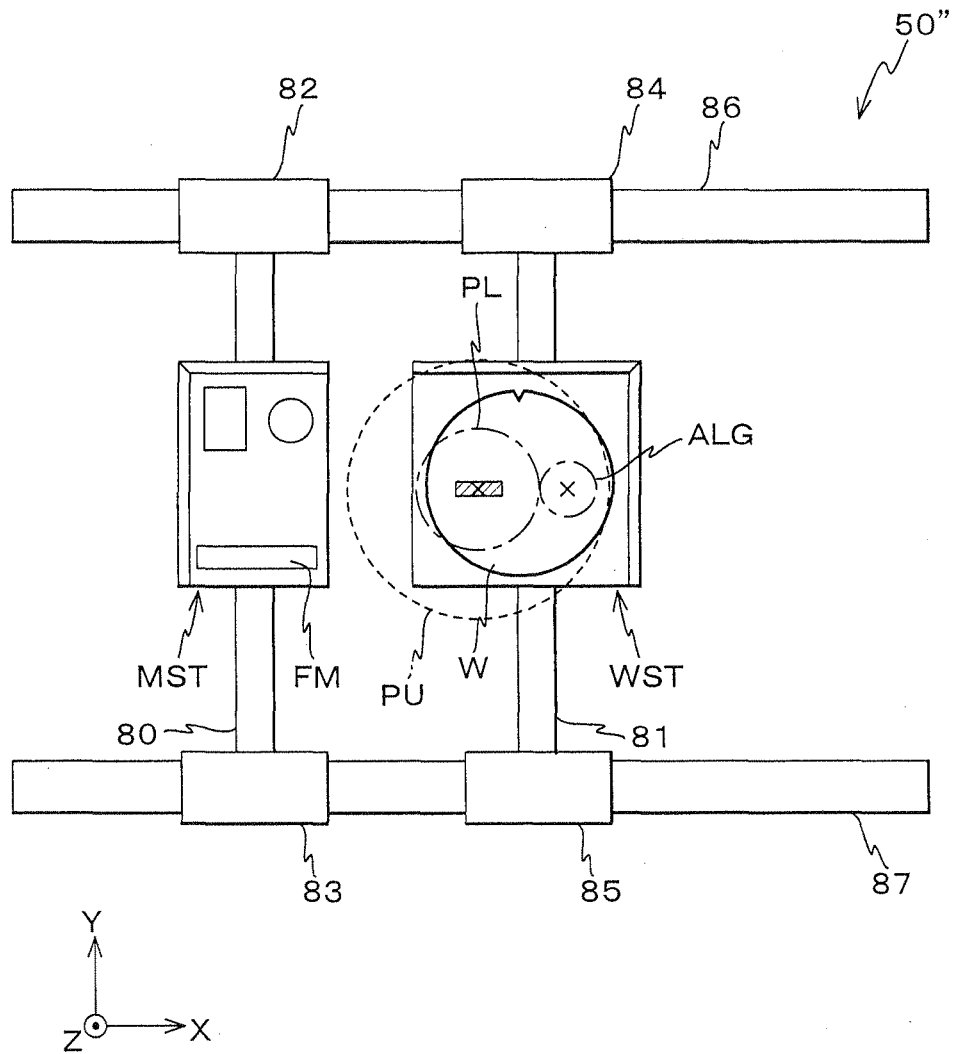


Fig. 17A

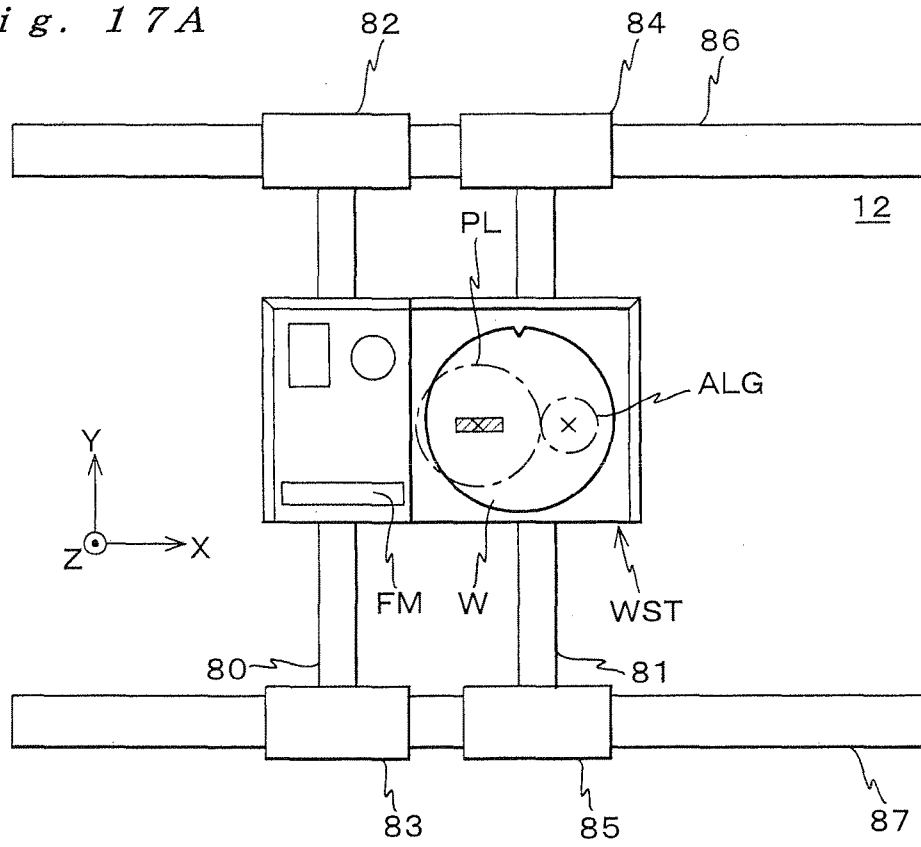


Fig. 17B

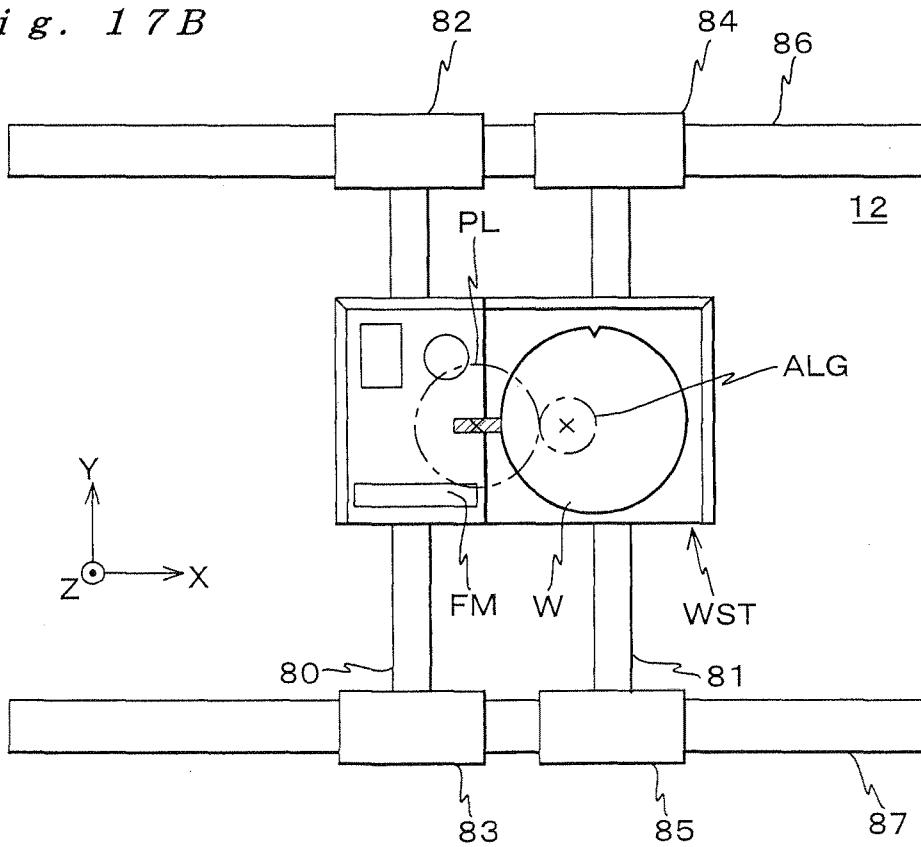


Fig. 18A

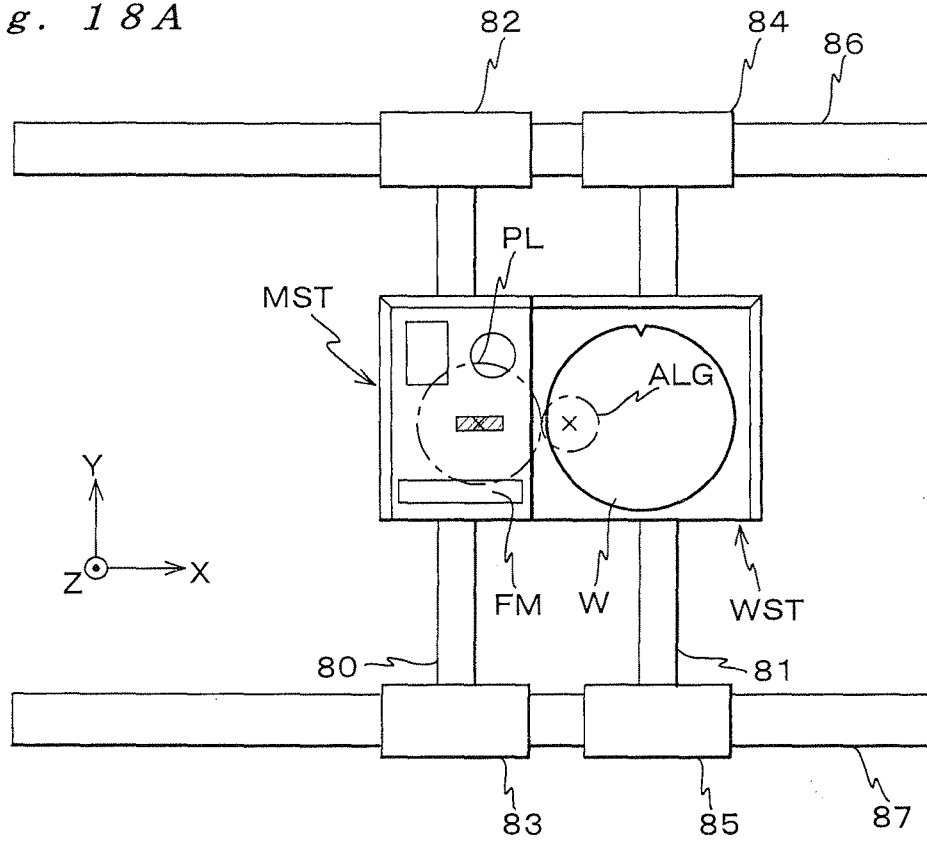


Fig. 18B

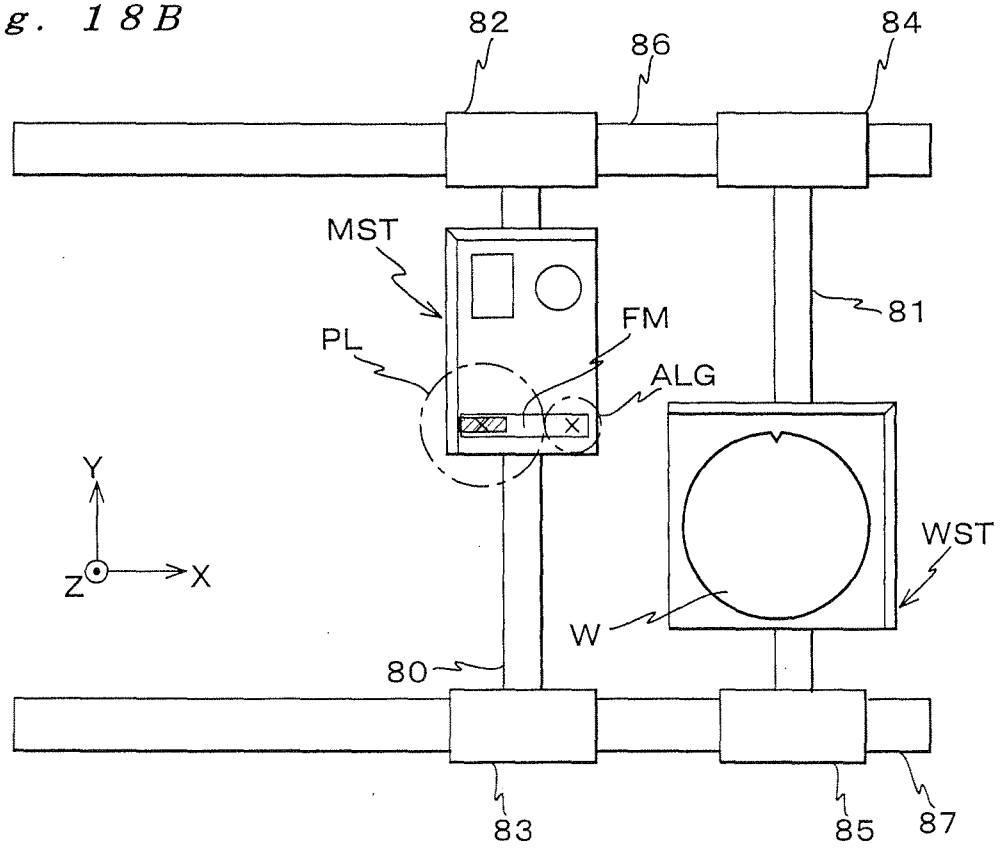


Fig. 19A

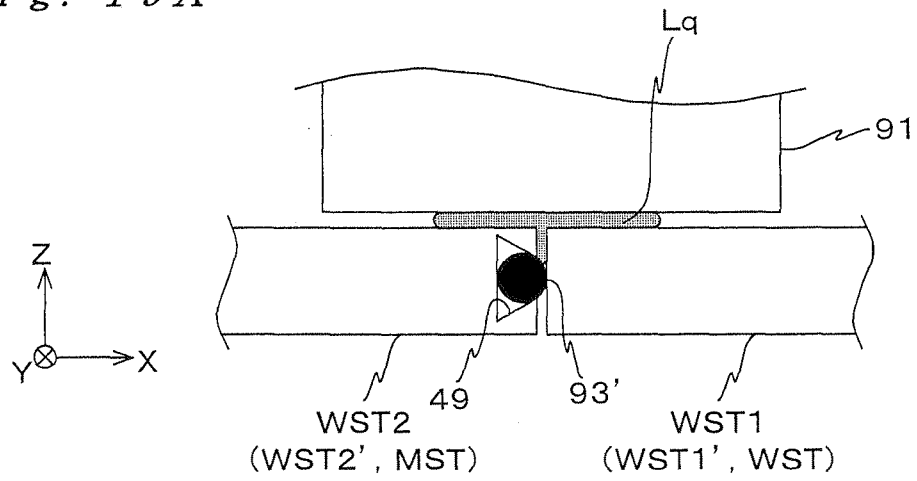


Fig. 19B

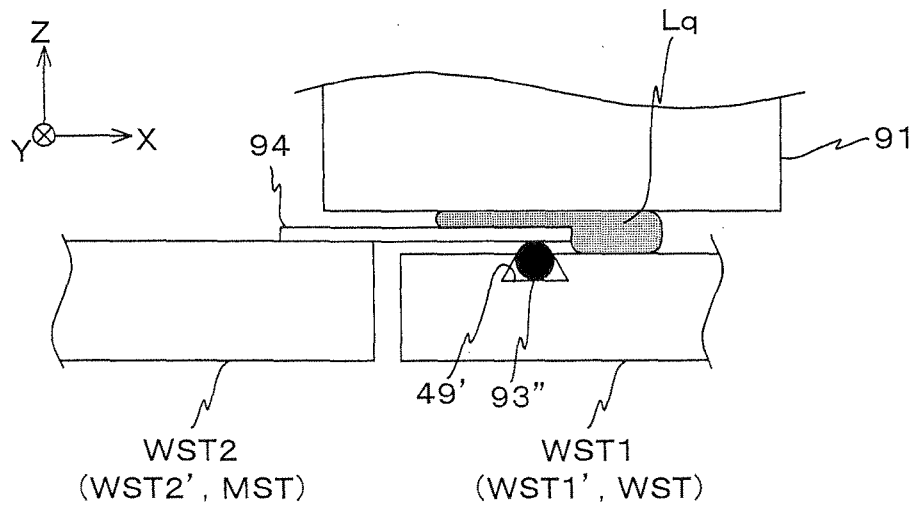
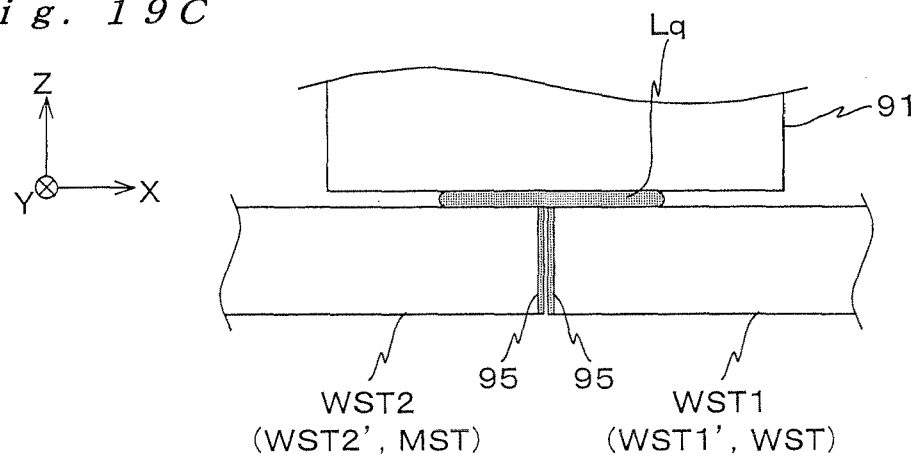


Fig. 19C



F i g. 20

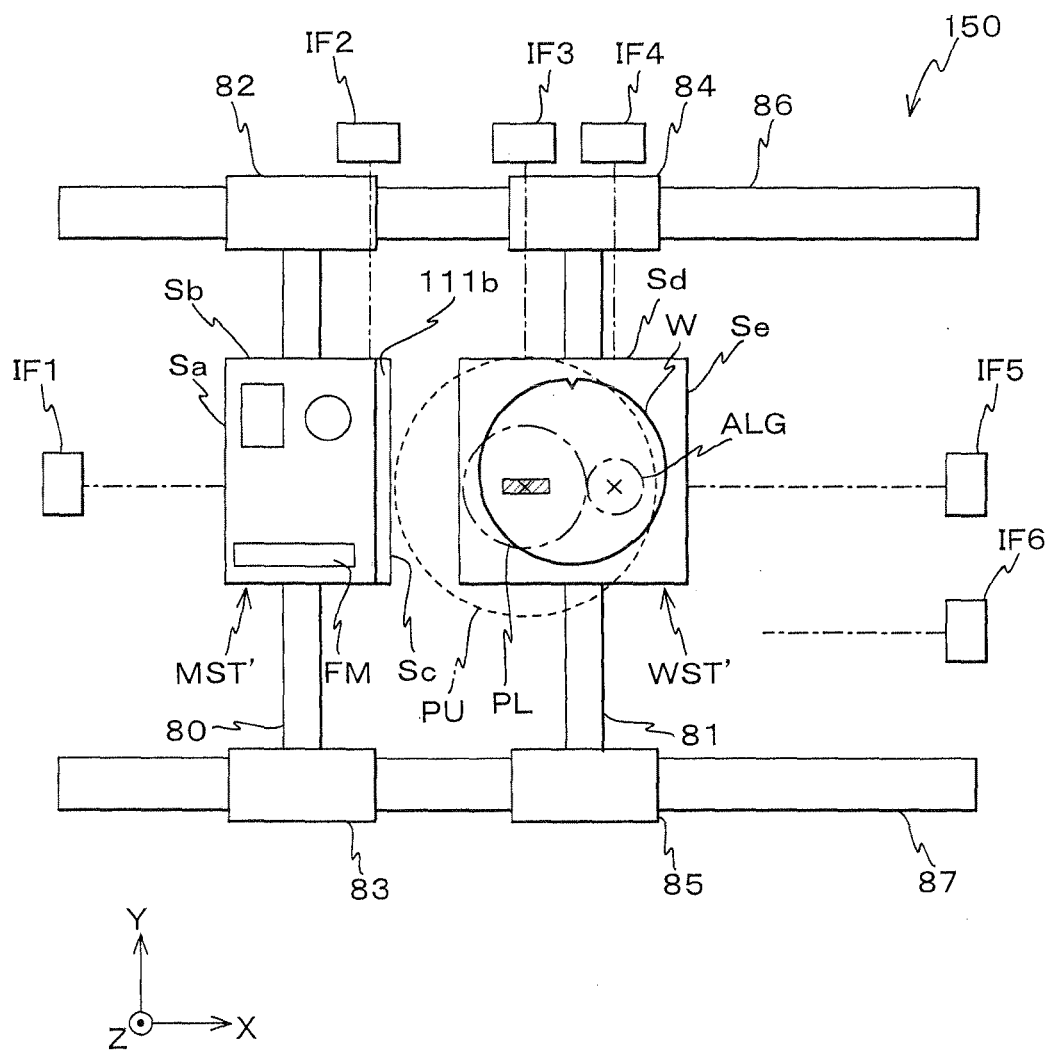


Fig. 21

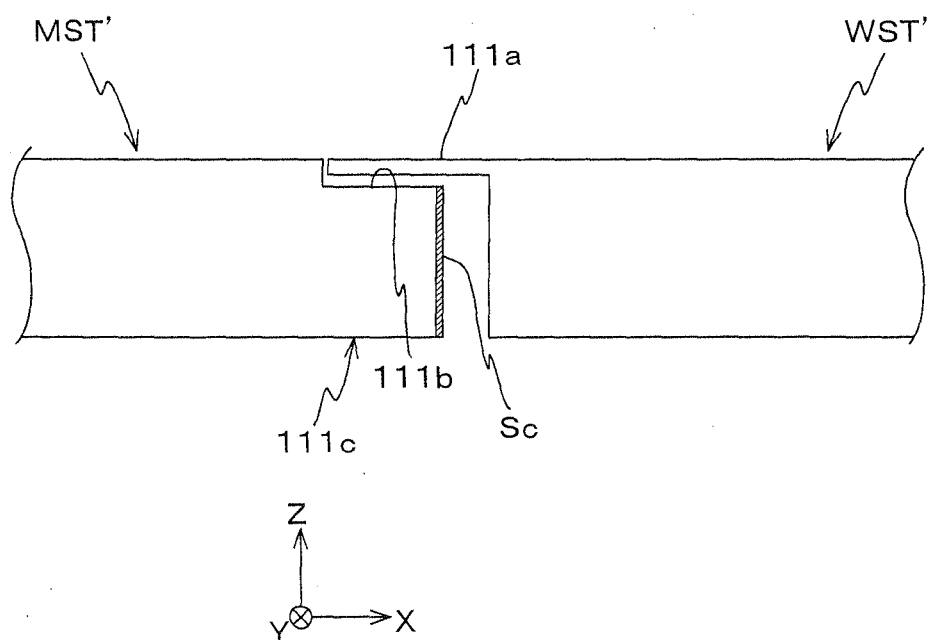


Fig. 22A

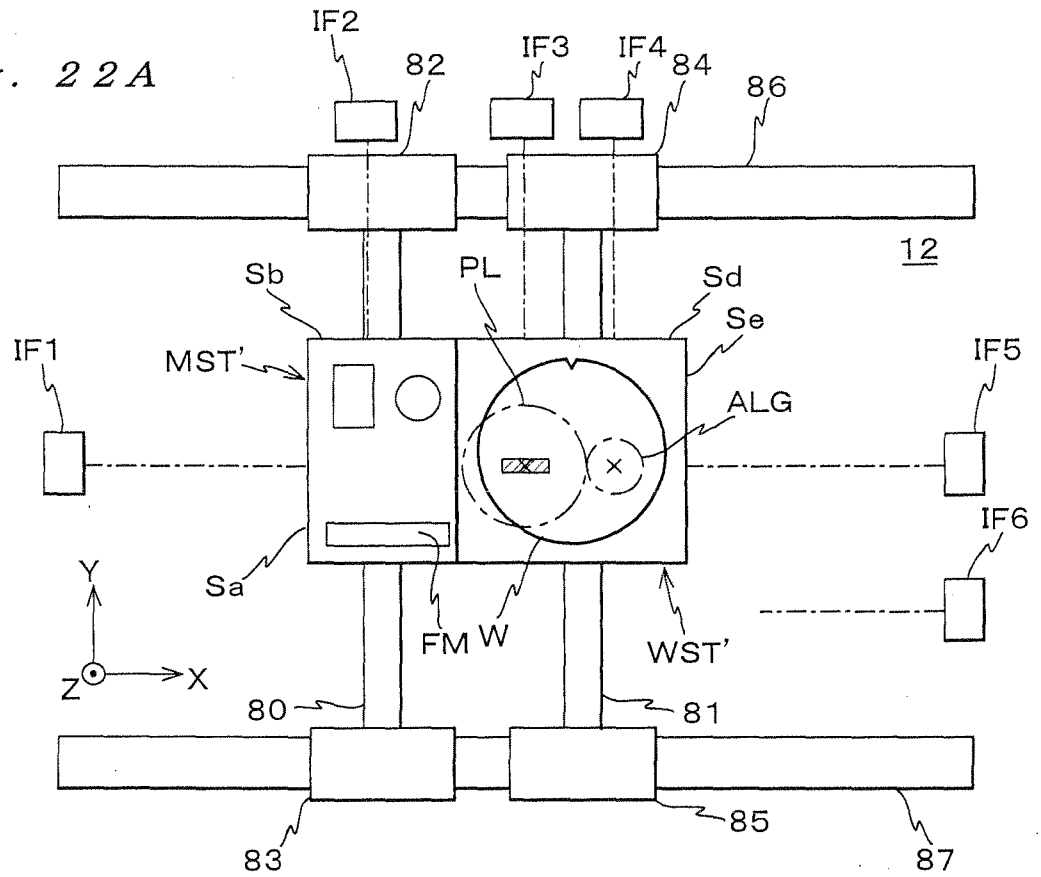


Fig. 22B

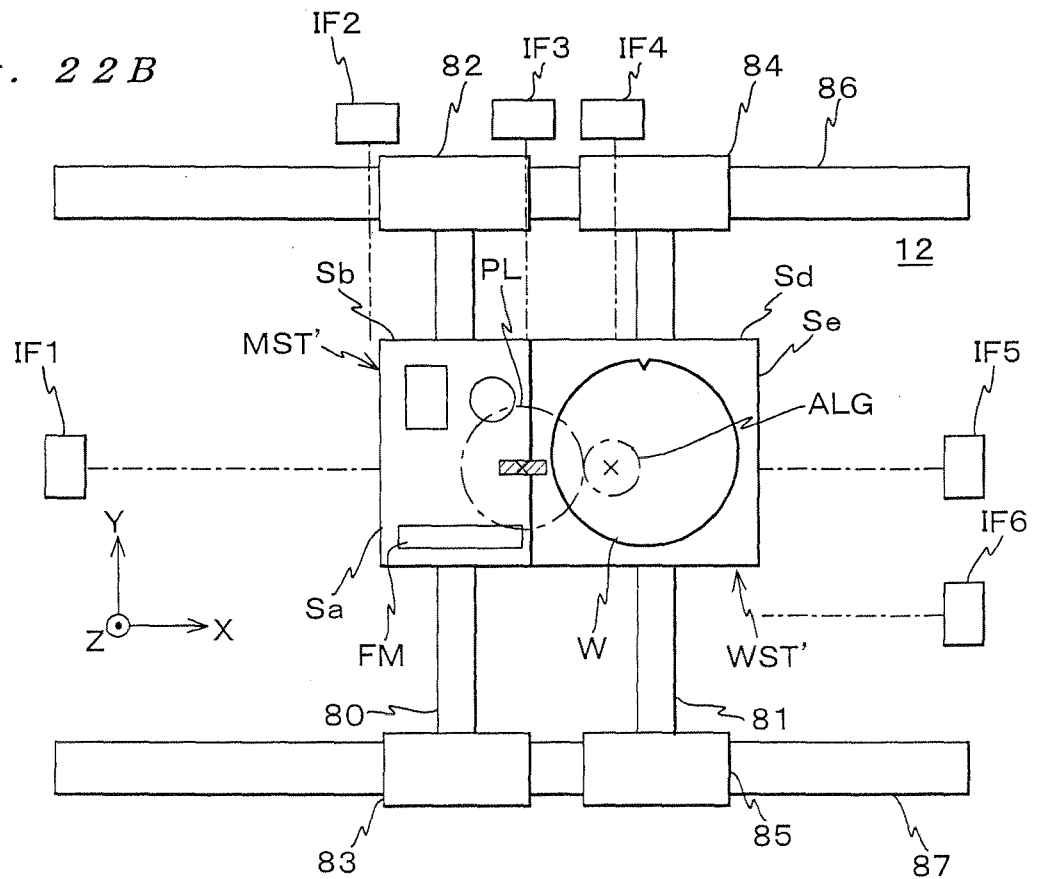


Fig. 23A

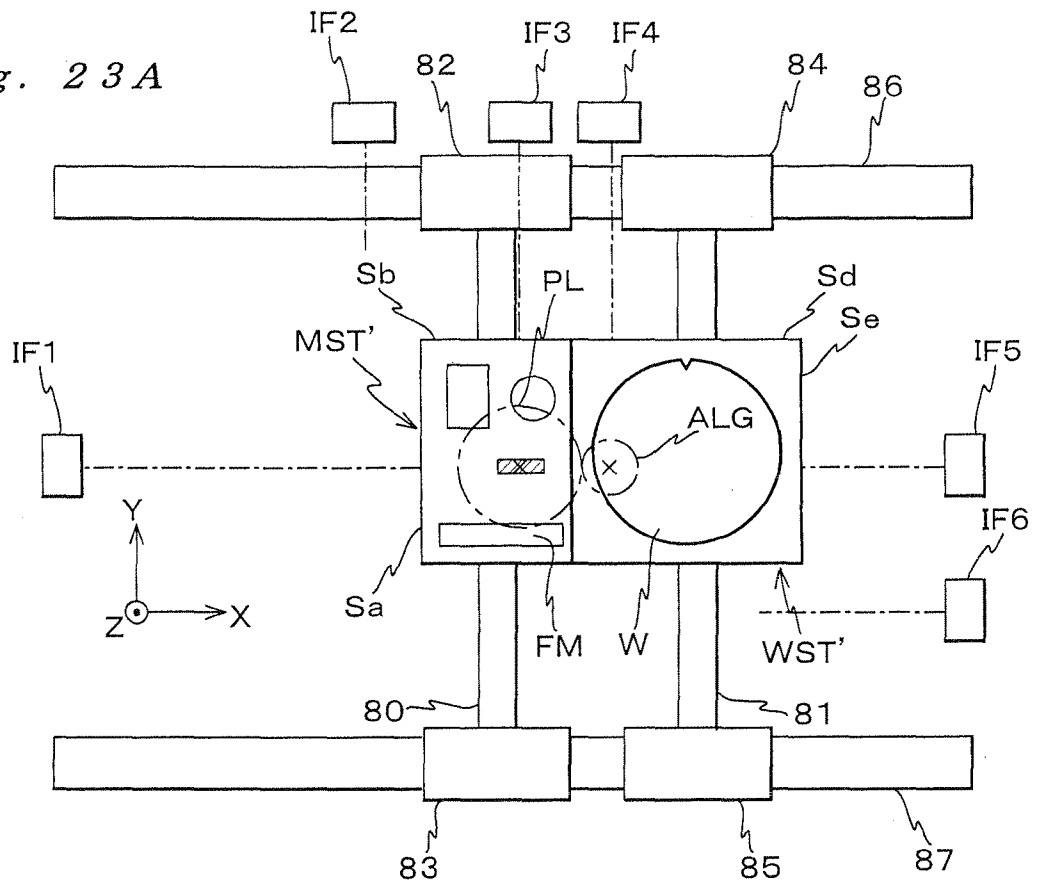


Fig. 23B

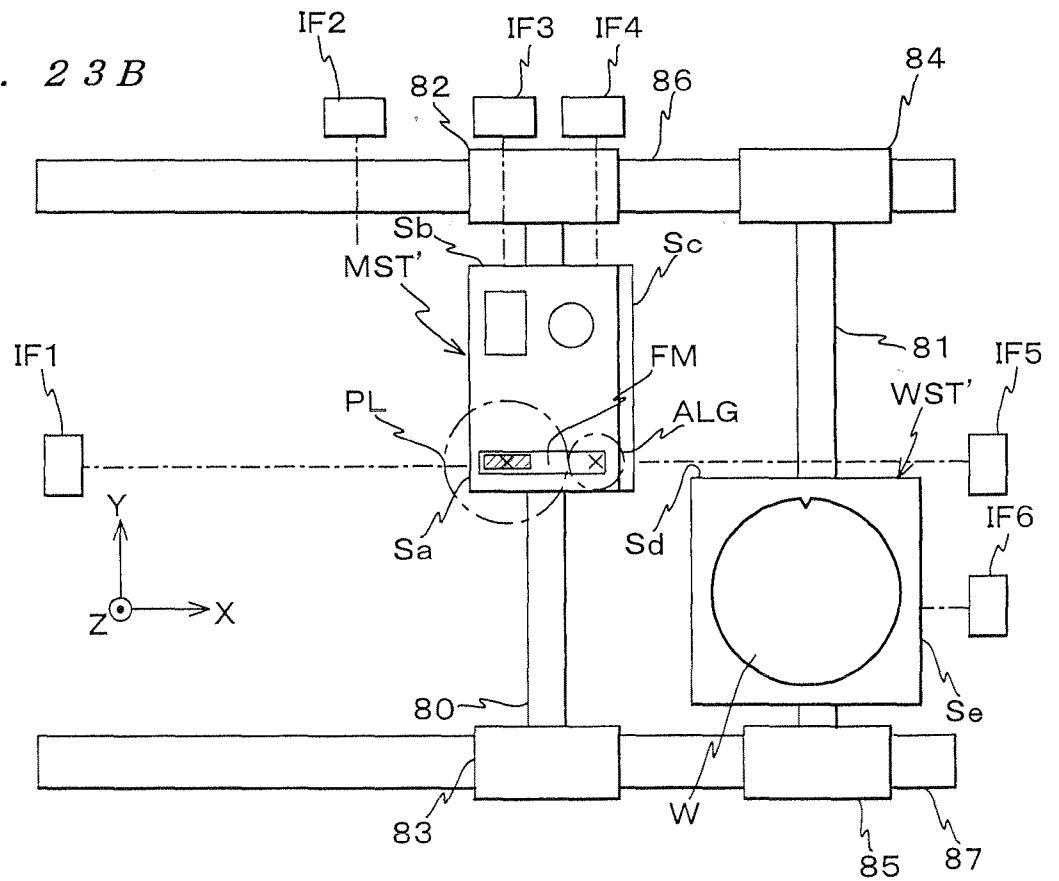


Fig. 24

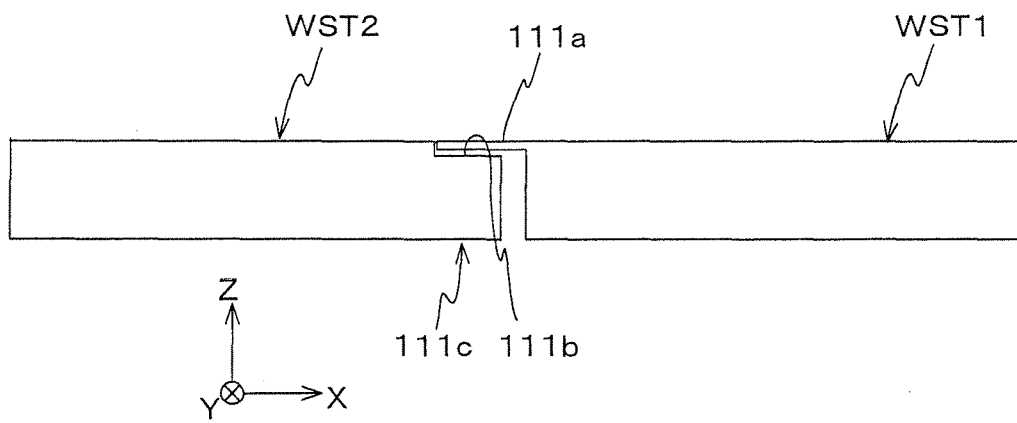


Fig. 25A

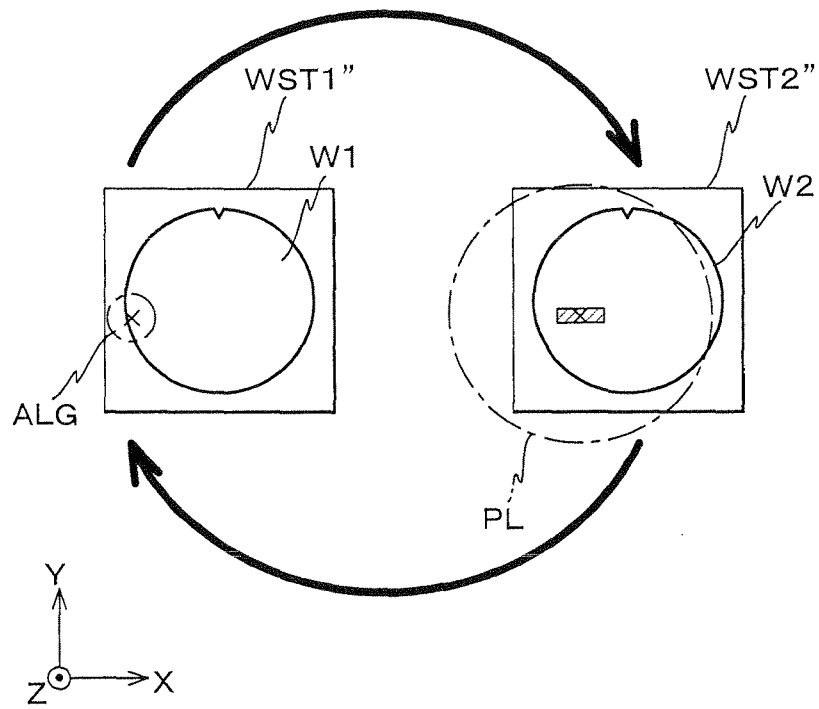


Fig. 25B

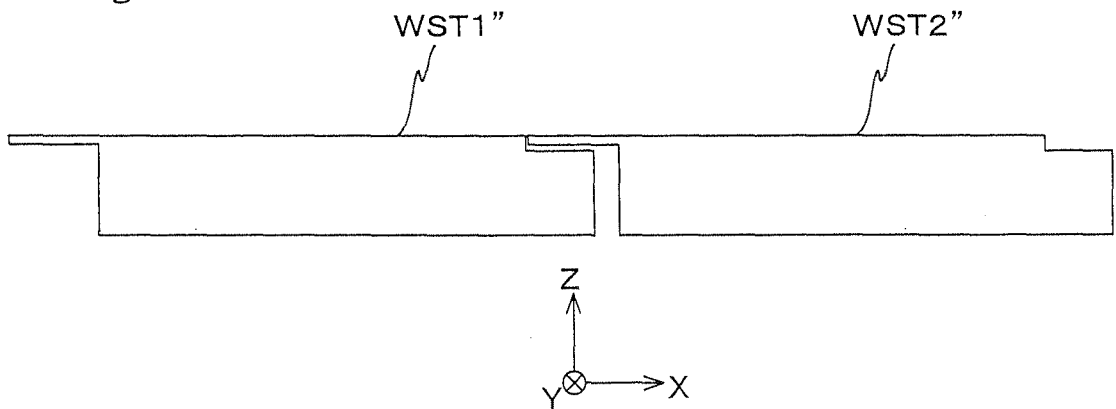


Fig. 26

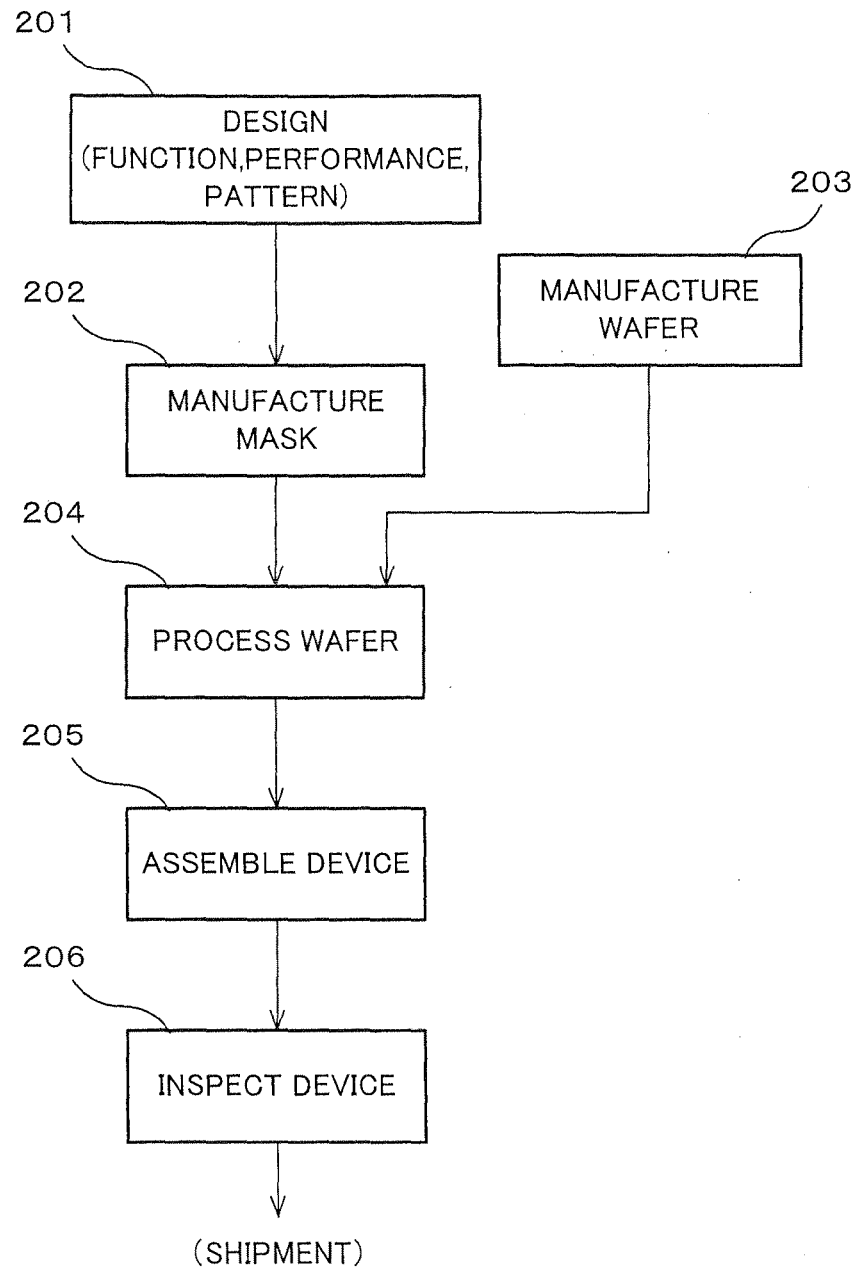


Fig. 27

