are opposed to each other. The second arm member 60 closes the opening defined by the inner surfaces of the arm guides 27. The second arm member 60 also serves as a lid that closes the bottom side of the first arm member 20. In the initial position of the first arm member 20, the second arm member 60, excluding the second end 62, is accommodated in the first arm member 20.

[0041] As shown in Fig. 6 and Fig. 7, only a slight gap that allows the second arm member 60 to change its position is formed between side surfaces 60a of the second arm member 60 in the transverse direction and the corresponding inner surfaces of the first guide piece 35, between the side surfaces 60a of the second arm member 60 and the corresponding inner surfaces of the guide pieces 23b, and between the side surfaces 60a of the second arm member 60 and the corresponding inner surfaces of the second guide pieces 39. The "slight gap" refers to a gap that the human finger cannot enter.

[0042] As shown in Fig. 5, a rotation joint 17 is connected to the support plate 13a of the second frame 13 of the first arm-type support device 11. The rotation joint 17 supports the base plate 12a of the first frame 12 of the second arm-type support device 11 by a bearing (not shown). The second arm-type support device 11 is shorter than the first arm-type support device 11 in the axial direction and includes the first arm member 20 (tube 22) that has a smaller diameter than the first arm-type support device 11.

[0043] A second air supply pipe P2 that supplies and discharges air to and from the second arm-type support device 11 extends through the space between the first shaft supports 12b of the first frame 12 and the space between the first guide pieces 35 of the first member 31 in the first arm-type support device 11, and is drawn into the first arm member 20. The ~~first~~ second air supply pipe ~~P1~~P2 extends through the wiring space 45, the space between the second flanges 37 of the second member 36, and the second frame 13 inside the first arm member 20, and is then drawn into the first frame 12 of the second arm-type support device

11. The second air supply pipe P2 extends through the space between the first shaft supports 12b of the first frame 12 and the space between the first guide pieces 35 of the first member 31, and is drawn into the first arm member 20. The second air supply pipe P2 inside the first arm member 20 extends through the wiring space 45 and the space between the second flanges 37 of the second member 36, and is connected to the supply-discharge port 56a. The pilot air pipe P is drawn from the first arm-type support device 11 into the second arm-type support device 11, and then connected to the on-off valve 58.

[0044] The operation of the arm-type support device 11 will now be described.

As shown in Fig. 1, the arm-type support device 11 in the initial position includes the piston chamber S supplied with compressed air to balance weight and holds the first frame 12 and the second frame 13 substantially at the same height.

[0045] When the operator operates the balancer arm 10 so that the height and the radius of movement of the arm-type support device 11 are changed, the position of the parallel link is changed and the piston 57 is moved by the link member 53 and the actuating rod 52. Then, the capacity of the piston chamber S is changed to cause a pressure change. The controller 16 operates the compressor 15 and the pneumatic unit 14 for pressure control in accordance with the pressure change caused by the movement of the piston 57. This maintains weight balance and reduces a weight load on the operator.

[0046] In this case, the first end 32 of the first arm member 20 pivots about the first shaft supports 12b of the first frame 12 as shown in Fig. 2 and Fig. 8. The first end 32 of the first arm member 20 and the first frame 12 have only a slight gap in the axial direction of the first arm member 20 and between the two end surfaces of the first end 32 in the thickness direction and the inner surfaces of the first shaft supports 12b. The second frame 13 pivots about the second ends 38 of the first arm member 20. The second ends 38 of the first arm member 20 and the second frame 13 have only a slight gap in the axial direction of the first