CLAIMS

1. A two-way gate valve (1) comprising:

an upper housing (100) having openings that are respectively defined in a front surface and a rear surface thereof and in which first and second moving paths (110, 120) are defined;

a first blade (200) installed in the upper housing (100) to move upward from a lower side, thereby opening/closing the first moving path (110);

a first shaft (300) coupled to a lower portion of the first blade (200);

a lower housing (400) disposed below the upper housing (100), wherein a rotation guide groove (410) for guiding rotation of a L-motion block (500) at a fixed position while the first blade (200) moves in a close direction (C) is defined in each of both inner surfaces of the lower housing (400);

the L-motion block (500) installed in the lower housing (400) and coupled to a lower portion of the first shaft (300), wherein the L-motion block (500) comprises a first roller (510) inserted into the rotation guide groove (410) on each of both upper portions thereof and a coupling part (520) connected to a moving unit (600) on a lower portion thereof;

the moving unit (600) comprising a rotatable link (610) at a central portion thereof, wherein the link (610) has one side connected to the coupling part (520) and the other side connected to a first driving unit (700) to rotate the L-motion block (500);

the first driving unit (700) connected to the link (610) to vertically move the L-motion block (500);

a second blade (800) installed in the upper housing (100) to move downward from an upper side, thereby opening/closing the first and second moving paths (110, 120) at the same time, wherein, while the first and second moving paths (110, 120) are opened/closed, sealing plates (820) respectively disposed on both sides thereof are spread in outward directions to respectively seal the first and second moving paths (110, 120), the second blade (800) comprising a horizontal movement guide bar (810) comprising a second shaft coupling part (811) coupled to a second shaft (900) at a central

portion thereof and a plurality of spacing guide balls (812) rotatably provided on each of front and rear surfaces thereof; sealing plates (820) respectively provided on both sides of the horizontal movement guide bar (810) and each of which has a horizontal movement guide groove (821) contacting each of the spacing guide balls (812) to guide movement of each of the spacing guide balls (812) as the horizontal movement guide bar (810) vertically moves; and connecting members (830) provided between both inner sides of each of the sealing plates (820) to connect the sealing plates (820) to each other;

the second shaft (900) coupled to an upper portion of the second blade (800);

a second driving unit (1000) disposed above the upper housing (100) and coupled to the second shaft (900) to vertically move the second blade (800);

wherein the horizontal movement guide groove (821) comprises a horizontal expansion section (821a) recessed by a predetermined depth and a horizontal contraction section (821b) extending from the horizontal expansion section (821a) and recessed gradually to a depth greater than the recessed depth of the horizontal expansion section (821a) and wherein the sealing plates (820) are pushed outward to respectively seal the first and second moving paths (110, 120) in a state in which the spacing guide ball (812) is positioned in the horizontal expansion section (821a), and the sealing plates (820) move inward to respectively open the first and second moving paths (110, 120) in a state in which the spacing guide ball (812) is positioned in the horizontal contraction section (821b); and

wherein a movement restricting part (831) projecting from the outside of the second blade (800) is provided on a side surface of each of the connecting members (830), and

a support part (140) supporting the movement restricting part (831) of the second blade (800) while the second blade (800) descends to restrict vertical movement of the second blade (800) is provided on each of both inner surfaces of the upper housing (100).

2. The two-way gate valve (1) of claim 1, wherein a L-motion block moving groove (420) comprising a vertical movement groove (421) vertically defined and a closing groove (422) horizontally extending from an upper portion of the vertical movement groove (421) in the closing direction (C) is defined in each of both inner side surfaces of the lower housing (400), and

a guide link (530) is rotatably provided on each of both sides of the coupling part (520) and comprises a second roller (531) inserted into the vertical movement path (421) to adjust a distance between the L-motion block (500) and the moving unit (600).

3. The two-way gate valve (1) of claim 1, wherein a moving unit guide groove (430) guiding vertical movement of the moving unit (600) is defined in each of both inner side surfaces of the lower housing (400), and

a third roller (620) inserted into the moving unit guide groove (430) to guide the vertical movement of the moving unit (600) is provided on each of both sides of the moving unit (600).