CLAIMS

1. A resin molded product manufacturing apparatus comprising:

a first platen;

a pair of press frames fixed to the first platen so as to extend vertically below the first platen and be spaced in a horizontal direction;

a second platen spaced from and facing the first platen in a vertical direction;

an intermediate plate between the first platen and the second platen;

an ascending and descending mechanism configured to move the second platen in the vertical direction;

a first mold chase provided on the intermediate plate and a second mold chase provided on the second platen; and

an arm extending in one direction and having one end coupled to the second platen,

the arm having attached thereto from the one toward the other ends thereof a first bearing member followed by a second bearing member followed by a third bearing member,

the arm having the one end with a first block attached thereto via the first bearing member,

the first bearing member being disposed movably within a first opening of the first block,

the first block being coupled to the second platen and allowing the one end of the arm to move to draw an arc between a top dead center and a bottom dead center with a center of the third bearing member of the other end of the arm serving as a fulcrum as the second platen moves in the vertical direction,

a second block being attached between the one end of the arm and the other end of the arm via the second bearing member,

the second bearing member being disposed movably within a second opening of the second block,

a ganging mechanism being coupled between the intermediate plate and the

second block so as to cause the intermediate plate to gang with the second block,

the intermediate plate being movable in the vertical direction via the ganging mechanism along with an operation of the arm.

2. The resin molded product manufacturing apparatus according to claim 1, wherein

the ganging mechanism includes a lifter plate fixed to the intermediate plate so as to extend vertically below the intermediate plate, and a linear motion guide attached between the lifter plate and the press frame and including a linear motion rail extending in the vertical direction and a linear motion block movable in the vertical direction with respect to the linear motion rail,

the second block is coupled to the lifter plate, and

the intermediate plate is movable in the vertical direction via the lifter plate along with an operation of the arm.

3. The resin molded product manufacturing apparatus according to claim 2, wherein when the one end of the arm moves between the top dead center and the bottom dead center, the lifter plate moves a distance and the second platen moves a different distance.

4. The resin molded product manufacturing apparatus according to any one of claims 1 to 3, further comprising a coupling member configured to couple the first block and the second platen.

5. The resin molded product manufacturing apparatus according to any one of claims 1 to 4, wherein

the ascending and descending mechanism includes a first ball screw and a second ball screw configured to move the second platen in the vertical direction, and a first servomotor configured to drive the first ball screw and a second servomotor configured to drive the second ball screw,

a direction in which the first ball screw and the second ball screw are aligned traverses the direction in which the arm extends, and

the first servomotor and the second servomotor are positioned on a same side with respect to the second platen.

6. The resin molded product manufacturing apparatus according to any one of claims 1 to 5, wherein the arm extends in the horizontal direction at a midpoint between the top dead center and the bottom dead center.

7. The resin molded product manufacturing apparatus according to any one of claims 1 to 6, wherein

the first opening and the second opening extend in the horizontal direction, and

while the one end of the arm moves between the top dead center and the bottom dead center, the first bearing member moves within the first opening in the horizontal direction and the second bearing member moves within the second opening in the horizontal direction.

8. The resin molded product manufacturing apparatus according to claim 7, wherein when the one end of the arm moves between the top dead center and the bottom dead center, the first bearing member moves a larger distance within the first opening in the horizontal direction than a distance that the second bearing member moves within the second opening in the horizontal direction.

9. The resin molded product manufacturing apparatus according to any one of claims 1 to 8, wherein while the one end of the arm moves between the top dead center and the bottom dead center, a movement of the first bearing member within the first opening is reversed.

10. A resin molding system comprising a resin molded product manufacturing apparatus according to any one of claims 1 to 9.

11. A resin molded product manufacturing method using a resin molded product manufacturing apparatus according to any one of claims 1 to 9, comprising:

attaching the first mold chase to the intermediate plate;

attaching the second mold chase to the second platen; and

clamping the first mold chase and the second mold chase together.