CLAIMS

WHAT IS CLAIMED IS:

1. A resin molding apparatus, comprising:

a) an upper mold having a holding surface configured to hold a molding object on a lower side thereof,

b) a lower mold disposed to face the upper mold and having a cavity,

c) a molding object suctioning mechanism provided on the holding surface,

d) a jaw portion provided in the upper mold to extend downward from a lateral side of the molding object held by the holding surface,

e) a jaw portion moving mechanism configured to move the jaw portion located below the molding object held by the holding surface to an outer side of the molding object when the upper mold and the lower mold come within a jaw portion movement starting distance from each other at the time of clamping of the upper mold and the lower mold,

a pressing portion, and an urging mechanism configured to urge the jaw portion to the lower side of the molding object held by the holding surface,

wherein the jaw portion comprises a substantially horizontal rotating shaft, and a pressed portion provided at a lower portion of the holding surface closer to an outer side than the rotating shaft and pressed by the pressing portion when the upper mold and the lower mold come within the jaw portion movement starting distance from each other,

wherein the jaw portion further comprises a second pressed portion at a position of the holding surface which is closer to the outer side than the rotating shaft and is different from the pressed portion, and

a molding object conveying mechanism comprising:

a molding object placement table on which the molding object is placed,

a first lifting mechanism configured to lift and lower the molding object placement table,

a second lifting mechanism on which the first lifting mechanism is placed and configured to lift and lower the first lifting mechanism,

a second pressing portion provided on both sides of an upper end of the second lifting mechanism with the molding object placement table interposed therebetween to correspond to a lateral position of the second pressed portion, and

a lateral movement mechanism configured to move the second lifting mechanism in a lateral direction so that the molding object placed on the molding object placement table moves between a position directly below the holding surface between the upper mold and the lower mold and a position away from a space between the upper mold and the lower mold.

2. The resin molding apparatus according to claim 1, wherein the jaw portion moving mechanism also moves the jaw portion to an upper side of a lower end of the molding object held by the holding surface when the upper mold and the lower mold come within the jaw portion movement starting distance from each other.

3. The resin molding apparatus according to claim 1 or 2, wherein the jaw portion moving mechanism also moves the jaw portion to a lower side of the molding object held by the holding surface when a distance between the upper mold and the lower mold are larger than a distance of a second jaw portion movement starting distance at the time of opening of the upper mold and the lower mold.

4. A resin molding apparatus, comprising:

a) an upper mold having a holding surface configured to hold a molding object on a lower side thereof,

b) a lower mold disposed to face the upper mold and having a cavity,

c) a molding object suctioning mechanism provided on the holding surface,

d) a jaw portion provided in the upper mold to extend downward from a lateral side of the molding object held by the holding surface,

e) a jaw portion moving mechanism configured to move the jaw portion located below the molding object held by the holding surface to an outer side of the molding object when the upper mold and the lower mold come within a jaw portion movement starting distance from each other at the time of clamping of the upper mold and the lower mold,

a pressing portion, and an urging mechanism configured to urge the jaw portion to the lower side of the molding object held by the holding surface,

wherein the jaw portion comprises a substantially horizontal rotating shaft, and a pressed portion provided at a lower portion of the holding surface closer to an outer side than the rotating

shaft and pressed by the pressing portion when the upper mold and the lower mold come within the jaw portion movement starting distance from each other, and wherein the resin molding apparatus further comprises a lower mold pushing portion configured to extend downward from the upper mold and of which a lower end is in contact with an upper surface of the lower mold when the upper mold and the lower mold come within the jaw portion movement starting distance from each other and in which the pressing portion is installed, and an elastic member provided between the upper mold and the lower mold pushing portion.

5. A method for manufacturing a resin molded product using the resin molding apparatus according to any one of claims 1 to 4, comprising:

causing the jaw portion to extend downward from the molding object in a state in which the molding object is suctioned on the holding surface by the molding object suctioning mechanism,

supplying a resin material into the cavity,

moving the jaw portion to an outer side of the molding object by the jaw portion moving mechanism when the upper mold and the lower mold approach each other and the upper mold and the lower mold come within the jaw portion movement starting distance from each other,

clamping the upper mold and the lower mold, and

heating the resin material at a temperature at which the resin material in the cavity is softened or melted and then curing the resin material.

6. A method for manufacturing a resin molded product using the resin molding apparatus according to any one of claims 1 to 4, comprising:

causing the jaw portion to extend downward from the molding object in a state in which the molding object is suctioned on the holding surface by the molding object suctioning mechanism,

moving the jaw portion to an outer side of the molding object by the jaw portion moving mechanism when the upper mold and the lower mold approach each other and the upper mold and the lower mold come within the jaw portion movement starting distance from each other,

clamping the upper mold and the lower mold,

supplying a softened or melted resin material into the cavity, and

curing the resin material supplied into the cavity.