The invention claimed is:

1. An article supporting device comprising:

a support section for supporting a support-target portion provided in a top end portion of a support object; and

a pair of support members that are provided in the support section and support both end portions of the support-target portion in a first direction along the horizontal direction from below,

wherein the pair of support members are configured to be movable close to and away from each other in the first direction,

the support object has an insertion space, below the support-target portion, into which the pair of support members are insertable by the movement of the pair of support members close to each other,

the support object comprises either a lightweight article or a heavyweight article heavier than the lightweight article, wherein the insertion space of the lightweight article is formed to be narrow in the vertical direction compared with the insertion space of the heavyweight article,

each of the pair of support members includes a lightweight-article support portion that is insertable into the insertion space of the lightweight article and supports the support-target portion of the lightweight article from below and a heavyweight-article support portion that is insertable into the insertion space of the heavyweight article and supports the support-target portion of the heavyweight article from below,

the heavyweight-article support portion is formed to be thick in the vertical direction compared with the lightweight-article support portion, and

the lightweight-article support portion is provided at a position that is located in the insertion space of the heavyweight article when the heavyweight-article support portion is inserted into the insertion space of the heavyweight article, and formed integrally with the heavyweight-article support portion.

2. The article supporting device of claim 1, wherein

the support-target portion of the heavyweight article is formed to be wide in a second direction perpendicular to the first direction as viewed from top compared with the support-target portion of the lightweight article, and

the heavyweight-article support portion is constituted by a first portion located on a first side that is one side in the second direction with respect to the lightweight-article support portion and a second portion located on a second side that is the other side in the second direction with respect to the lightweight-article support portion, the first portion and the second portion being lined in the second direction.

3. The article supporting device of claim 2, wherein

each of the pair of support members includes a plate-like body having a top surface on which a downwardly recessed portion is formed in an intermediate portion in the second direction, and

the lightweight-article support portion is formed of the recessed portion, and the first portion and the second portion are formed of portions located on both sides of the recessed portion in the second direction.

4. The article supporting device of claim 2, wherein

the lightweight article includes a protrusion located on the first side in the second direction with respect to the support-target portion of the lightweight article,

the protrusion is formed so that a top end is located above a bottom end of the insertion space of the lightweight article, and the first portion is formed to be short in the second direction compared with the second portion, and

the first portion is located closer to the second side in the second direction than the protrusion is in the state where the support-target portion of the lightweight article is supported by the lightweight-article support portion.

5. The article supporting device of claim 1, wherein

the support-target portion of the heavyweight article is formed to be wide in the first direction compared with the support-target portion of the lightweight article,

the device further comprises a first spacing switching drive section that moves the pair of support members close to and away from each other horizontally in the first direction to switch the spacing between the pair of support members in the first direction, and

the first spacing switching drive section is configured to be able to switch the spacing between the pair of support members in the first direction among a lightweight-article support spacing that is narrower than the width of the support-target portion of the lightweight article in the first direction, a heavyweight-article support spacing that is wider than the lightweight-article support spacing and narrower than the width of the support-target portion of the heavyweight article in the first direction, and a retraction support spacing that is a spacing wider than the width of the support-target portion of the heavyweight article in the first direction.

6. The article supporting device of claim 5, further comprising:

a position detection section that detects the position of the pair of support members;

a first control section that controls the operation of the first spacing switching drive section so as to switch the spacing between the pair of support members among the lightweight-article support spacing, the heavyweight-article support spacing, and the retraction support spacing based on detection information from the position detection section; and

a first determination section that determines whether the support object supported by the pair of support members is the lightweight article or the heavyweight article based on the detection information from the position detection section.

7. The article supporting device of claim 1, wherein

the heavyweight article is formed to be large in contour compared with the lightweight article,

the support section is supported by a movable body that moves along a movement path, and

the device further comprises:

a hoisting drive section that lifts and lowers the pair of support members between a lifted height where the pair of support members support the support object staying at a support height and a lowered height that is lower than the support height and the same as the height of the insertion space of the support object staying at a transfer object position;

a size detection section that detects the size of the support object staying at the transfer object position;

a second spacing switching drive section that moves the pair of support members close to and away from each other in the first direction;

a second determination section that determines whether the support object staying at the transfer object position is the lightweight article or the heavyweight article based on detection information from the size detection section; and

a second control section that controls the operations of the second spacing switching drive section and the hoisting drive section so as to support the support object staying at the transfer object position with the pair of support members and lift the supported support object up to the support height based on determination information from the second determination section.