disposed substantially in the horizontal direction between the bearing portion 24 and the second right bearing piece 23b, where one end thereof is inserted into a stopper pin insertion hole 23b3 of the second right bearing piece 23b and the other end thereof is inserted into a stopper pin insertion hole 24c1 of the bearing portion 24 exposed from the second left bearing piece 23a. The stopper pin 34a is coupled to a pedal link 35 and is movable in the vertical direction in the stopper pin insertion holes 23b3 and 24c1 with the movement in the vertical direction of the pedal link 35. The stopper pin 34a comes in contact with the concave portion 292 of the upper pedal 29 located at the initial position.

[0066] The pedal stopper pin 34b is an axial member which is disposed substantially in the horizontal direction between the bearing portion 24 and the second right bearing piece 23b, where one end thereof is inserted into a pedal stopper pin support groove 24c2 of the bearing portion 24 (which is a long groove extending in the vertical direction similarly to the stopper pin insertion hole 24c1, which is closed by a groove bottom which is a drawn portion denoted by a reference sign 24c1, and which is not illustrated in FIG. 6) and the other end thereof is inserted into a pedal stopper pin support groove 23b4 of the second right bearing piece 23b. The second right bearing piece 23b is provided with an insertion groove 23a4 so as to expose a pedal stopper pin ~~insertion hole~~ support groove 24c2. The pedal stopper pin 34b is coupled to the pedal link 35 and is movable in the vertical direction in the pedal stopper pin support grooves 23b4 and 24c2 with the movement in the vertical direction of the pedal link 35. The circumferential surface of the pedal stopper pin 34b slides in the pedal stopper pin support grooves 23b4 and 24c2 when

the pedal link 35 moves

details of a dispensing control process which is performed by the dispensing control unit 110. The operation of the product dispensing system 20 will be described below while describing the dispensing control process. In the following description, the product stored in the first product storage passage 13a is also referred to as "first product", and the product stored in the second product storage passage 13b is also referred to as "second product".

[0149] In the dispensing control process, when a command to discharge the first product is issued from the vending machine controller 100 (YES in step S101), the dispensing control unit 110 drives the motor 43 positively (step S102).

[0150] When the motor 43 is driven positively, the output gear 443 to which the driving force of the motor 43 is transmitted via the worm gear 441 and the intermediate gear 442 rotates clockwise in a front view.

[0151] When the output gear 443 rotates clockwise in a front view, the pressing piece 443b of the output gear 443 departs from the contactor 45a of the carrier switch 45. Accordingly, the contactor 45a of the carrier switch 45 is ~~opened~~ released from the pressed state and is switched to the OFF state.

[0152] When the cam portion 443a comes in contact with the base end 461a of the first link lever 461 from the upper side with the rotation of the output gear 443, the first link lever 461 rotates counterclockwise in the front view. When the first link lever 461 rotates counterclockwise, the tip portion 461b moves upward. When the tip portion 461b moves upward in this way, as illustrated in FIGS. 25 to 27, the tip portion comes in contact with the contact piece 351 of the pedal link 35, the pedal link 35 can move upward by a predetermined distance against the biasing force of the link spring 35a,

and the pedal link 35 can be held in the state in which the pedal link moves upward by the predetermined distance while the cam portion 443a comes in sliding contact with the base end 461a.

[0153] In this case, when the first link lever 461 comes in sliding contact with the cam portion 443a, the first link lever is adjusted such that the plane (A) including the portion coming in sliding contact with the cam portion 443a is substantially perpendicular to the plane (B) including its central axis (the central axis of the first link shaft 42e) and a ~~stop~~ central axis of the output gear 443.

[0154] With the upward movement of the pedal link 35, the stopper pin 34a moves upward from the bottom ends of the stopper pin insertion holes 23b3 and 24c1 and the pedal stopper pin 34b moves upward from the bottom ends of the pedal stopper pin support grooves 23b4 and 24c2.

[0155] At this time, since the stopper pin 34a moves upward while coming in contact with the edge wall of the concave portion 292 of the upper pedal 29, the upper pedal 29 moves forward from the initial position against the biasing force of the upper pedal spring. The forward movement of the upper pedal 29 is performed along with the upward movement of the stopper pin 34a. At the time at which the stopper pin 34a reaches the top ends of the stopper pin insertion holes 23b3 and 24c1, the stopper pin comes in contact with the stopper contact portion 293 to regulate the backward movement of the upper pedal 29.

[0156] The upper pedal 29 moving forward comes in contact with a second lowest piece of first product (hereinafter, also referred to as a next product) to regulate downward movement of the next product.

[0157] On the other hand, since the weight of the

product coming in contact with the lower pedal 28

storage passage 13a is sold out (step S108), then returns the control flow, and ends the process. Accordingly, it is determined that the first product is sold out, and thus a sold-out lamp or the like can be lighted to stop vending of the first product.

[0178] On the other hand, when a command to discharge the second product is issued from the vending machine controller 100 (NO in step S101 and YES in step S109), the dispensing control unit 110 drives the motor 43 reversely (step S110).

[0179] When the motor 43 is driven reversely in this way, the output gear 443 to which the driving force of the motor 43 is transmitted via the worm gear 441 and the intermediate gear 442 rotates counterclockwise in a front view.

[0180] When the output gear 443 rotates counterclockwise in a front view, the pressing piece 443b of the output gear 443 departs from the contactor 45a of the carrier switch 45. Accordingly, the contactor 45a of the carrier switch 45 is ~~opened~~ released from the pressed state and is switched to the OFF state.

[0181] When the cam portion 443a comes in contact with the base end 462a of the second link lever 462 from the upper side with the rotation of the output gear 443, the second link lever 462 rotates clockwise in the front view. When the second link lever 462 rotates clockwise, the tip portion 462b moves upward. When the tip portion 462b moves upward in this way, the tip portion comes in contact with the contact piece 351' of the pedal link 35', the pedal link 35' can move upward by a predetermined distance against the biasing force of the link spring 35a', and the pedal link 35' can be held in the state in which the pedal link moves upward by the predetermined distance while the

cam portion 443a comes in sliding contact with the base end 462a.

[0182] In this case, when the second link lever 462 comes in sliding contact with the cam portion 443a, not clearly illustrated in the drawing, the second link lever is adjusted such that the plane including the portion coming in sliding contact with the cam portion 443a is substantially perpendicular to the plane including its central axis (the central axis of the second link shaft 42f) and the ~~stop~~ central axis of the output gear 443.

[0183] With the upward movement of the pedal link 35', the stopper pin moves upward and the pedal stopper pin 34b' also moves upward.

[0184] At this time, since the stopper pin moves upward while coming in contact with the edge wall of the concave portion 292' of the upper pedal 29', the upper pedal 29' moves forward from the initial position against the biasing force of the upper pedal spring. The forward movement of the upper pedal 29' is performed along with the upward movement of the stopper pin. At the time at which the stopper pin reaches the top end of the stopper pin insertion hole, the stopper pin comes in contact with the stopper contact portion 293' to regulate the backward movement of the upper pedal 29'.

[0185] The upper pedal 29' moving forward comes in contact with a second lowest piece of second product (hereinafter, also referred to as a next product) to regulate downward movement of the next product.

[0186] On the other hand, since the weight of the product coming in contact with the lower pedal 28' maintained at the forward-moved position is applied to the rotation stopper 36', the rotation stopper 36' starts its backward movement by releasing the regulation of the

device is sold out when the product discharging device which is alternatively selected and supplied with a driving force by the driving force applying unit ~~is not activated~~ discharges no product within a predetermined time.

2. The product dispensing system according to claim 1, wherein the control unit performs a retry process of performing the operation of causing the driving force applying unit to select the product discharging device and to apply the driving force to the selected product discharging device again when the product discharging device which is alternatively selected and supplied with a driving force by the driving force applying unit ~~is not activated~~ discharges no product within the predetermined time.

3. The product dispensing system according to claim 2, wherein the control unit causes the product discharging device to return to a predetermined standby position and performs the retry process when the product discharging device which is alternatively selected and supplied with a driving force by the driving force applying unit ~~is not activated~~ discharges no product within the predetermined time.

4. The product dispensing system according to claim 1, wherein the driving force applying unit includes:

an output gear that is disposed to be rotatable positively and reversely about its own axis, rotates positively when the discharge command is issued to the one product discharging device, and rotates reversely when the discharge command is issued to the other product discharging device; and

a link lever that is disposed to be rotatable about its own axis in correspondence with the product discharging