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(54) **METHOD FOR CONTROLLING AIR CONDITIONER**

STEUERUNGSVERFAHREN FÜR EINE KLIMAANLAGE

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Description

Technical Field

[0001] The present disclosure relates to an air conditioner and, more particularly, to a method for controlling an air conditioner.

Background Art

[0002] An air conditioner is an appliance that cools or heats an indoor space. The air conditioner includes a compressor, an expanding device, an indoor heat exchanger, and an outdoor heat exchanger that constitute a heat-exchange cycle. The indoor space is cooled or heated by the heat exchange between a refrigerant and indoor or outdoor air passing through the indoor and outdoor heat exchangers.

[0003] FIG. 1 is a view illustrating a typical air conditioner.

[0004] Referring to FIG. 1, an indoor heat exchanger for air-conditioning an indoor space is provided in an indoor unit 1. The indoor unit 1 is provided with an air inlet 2 for introducing indoor air and an air outlet 3 for discharging the air introduced through the air inlet 2 and heat-exchanging with the indoor heat exchanger. An input unit 4 for receiving manipulation signals for the air-conditioning of the indoor space is provided in the indoor unit 1.

[0005] Meanwhile, components for air-conditioning the indoor space, such as a compressor and an outdoor heat exchanger, are provided in the outdoor unit 7.

[0006] GB 2 260 830 A discloses that an air source discharges air to a plurality of users. In detail, the document discloses that the air source blows gentle intensity airflow to a user who is close to the air source and strong intensity airflow to a user who is far from the air source.

Disclosure of Invention

Solution to Problem

[0007] An object of the present invention is to provide a method for controlling an air conditioner, which can enhance learning efficiency of a learner.

[0008] The above object is achieved with the features of the claims.

Advantageous Effects of Invention

[0009] According to the embodiment, the power of concentration of the learner is enhanced and thus the learning efficiency can be improved.

Brief Description of Drawings

[0010]

FIG. 1 is a view of a typical air conditioner.

FIG. 2 is a diagram of an air conditioner that is controlled by an air conditioner controlling method of an embodiment.

FIG. 3 is a graph illustrating a temperature variation of an indoor space according to an embodiment.

FIG. 4 is a flowchart illustrating an air-conditioning process by an air conditioner controlling method of an embodiment.

Best Mode for Carrying out the Invention

[0011] The details of one or more embodiments are set forth in the accompanying drawings and the description below. Other features will be apparent from the description and drawings, and from the claims.

[0012] Reference will now be made in detail to the embodiments of the present disclosure, examples of which are illustrated in the accompanying drawings.

[0013] FIG. 2 is a diagram of an air conditioner that is controlled by an air conditioner controlling method of an embodiment, and FIG. 3 is a graph illustrating a temperature variation of an indoor space according to an embodiment.

[0014] Referring first to FIG. 2, an air conditioner includes an air-conditioning unit 10, an input unit 20, a location detecting sensor 30, and a control unit 40. The air-conditioning unit 10 functions to control indoor air. The input unit 20 receives manipulation signals of the air-conditioning unit 10 and the location detecting sensor 20 detects a location of a user (i.e., a learner) located in the indoor space. In addition, the control unit 40 controls the air-conditioning unit 10 according to the signal input to the input unit 20 and the learner s location detected by the location detecting sensor 30.

[0015] In more detail, the air-conditioning unit 10 includes a variety of components for controlling the indoor air. That is, the air-conditioning unit 10 includes components constituting a heat exchange cycle, such as a compressor, an indoor heat exchanger, and an outdoor heat exchanger. As shown in FIG. 1, the indoor and outdoor units may be separately provided or integrated with each other, the air-conditioning unit 10 for cooling the indoor air further includes a blower fan (not shown) for directing the indoor air heat-exchanging with the refrigerant circulating the evaporator to the indoor space and a wind direction controller (not shown) such as a louver for adjusting a blowing direction of the air directed to the indoor space by the blower fan.

[0016] The input unit 20 receives manipulation signals such as, for example, a signal for setting a cooling temperature and a signal for controlling an amount of air. In this embodiment, the input unit 20 receives at least a signal for selecting a learning mode. The learning mode is a mode different from general operational modes of the air-conditioning unit 10. The terminology learning mode is simply given for the descriptive convenience, not limiting the present invention.

[0017] The location detecting sensor 30 may be installed at, for example, a side of the air-conditioning unit 10. Accordingly, when the air-conditioning unit 10 includes the indoor and outdoor units, the location detecting sensor 30 may be installed in the indoor unit. Needless to say, the location detecting sensor 30 may be installed at other places rather than the air-conditioning unit 10.

[0018] The control unit 40 controls the air-conditioning unit 10 such that the indoor space is cooled in response to a cooling temperature and air volume input to the input unit 20. Particularly, the control unit 40 controls the air-conditioning unit 10 such that the indoor space is air-conditioned to enhance power of concentration of the learner located in the indoor space when a study mode is selected.

[0019] In more detail, referring to FIG. 3, when the input unit 20 receives a signal selecting the learning mode, the control unit 40 controls the air-conditioning unit 10 to perform a learning preparation step E, a learning step B, a break step C, a learning step D, and a learning finish step E. At this point, the control unit 40 controls the air-conditioning unit 10 such that the leaning steps B and D and the break step C can be alternately repeated by the predetermined number of time in accordance with the learner s selection.

[0020] In the learning preparation step A, the control unit 40 controls the air-conditioning unit 10 such that the indoor space is air-conditioned at a preset learning preparation air-conditioning temperature T1 for a preset learning preparation air-conditioning time t1. In the learning steps B and D, the control unit 40 controls the air-conditioning unit 10 such that the indoor space is air-conditioned at a preset learning air-conditioning temperature T2 for respective preset learning air-conditioning time t2 and t4. In the break step, the control unit 40 controls the air-conditioning unit 10 such that the indoor space is air-conditioned at a preset break air-conditioning temperature T3 for a preset break air-conditioning time t3. In the learning finish step E, the control unit 40 controls the air-conditioning unit 10 such that the indoor space is air-conditioned at a preset learning finish air-conditioning temperature T5 for a preset learning finish air-conditioning time t5.

[0021] Here, the learning air-conditioning temperatures T2 and T4 and the break air-conditioning temperature T3 are set to be less than the learning preparation air-conditioning temperature T1. Here, the learning finish air-conditioning temperature T5 is set to be equal to or greater than the learning preparation air-conditioning temperature T1. In addition, the break air-conditioning temperature T3 is set to be less than the learning air-conditioning temperatures T2 and T4. The relationship between the temperatures T1, T2, T3, T, and T5 can be expressed as follows:

$$(1)\ T2, T3, T4 < T1$$

$$(2)\ T5 >= T1$$

$$(3)\ T3 < T2, T4$$

[0022] For example, the learning preparation air-conditioning temperature T1 is set to be equal to or greater than 24°C and less than 28°C. The learning preparation air-conditioning temperature T1 may be set to e 26°C. The learning air-conditioning temperatures T2 and T4 are set to be less than the learning preparation air-conditioning temperature T1 by 2°C, i.e., to be equal to or greater than 23°C and less than 26°C. The learning air-conditioning temperatures T2 and T4 may be set to be 26°C. The break air-conditioning temperature T3 is set to be less than the learning preparation air-conditioning temperature T1 by 1°C, i.e., to be equal to or greater than 23°C and less than 27°C. The break air-conditioning temperature T3 may be set to be 25°C. The learning finish air-conditioning temperature T5 may be set to be equal to the learning preparation air-conditioning temperature T1.

[0023] Meanwhile, the respective learning preparation air-conditioning time t1, break air-conditioning time t3, and learning finish air-conditioning time t5 are set to be equal to or greater than 10 minutes and less than 30 minutes. The respective learning preparation air-conditioning time t1, break air-conditioning time t3, and learning finish air-conditioning time t5 may be set to be less than 20 minutes. The learning air-conditioning times t2 and t4 are set to be equal to or greater than 20 minutes and less than 40 minutes.. The learning air-conditioning times t2 and t4 may be set to be 30 minutes. Here, the learning preparation air-conditioning time t1 is a time from a point where the learner seats at his/her desk to a point where the learner starts concentrating. Further, the learning air-conditioning times t2 and t4 and the break air-conditioning time t3 are a time for the learner keeps concentrating or a time or a mean break time of the learner.

[0024] The control unit 40 controls the air-conditioning unit 10, in more detail, a wind direction adjusting member in the learning preparation step A, learning steps B and D, break step C, and learning finish step E such that the air for cooling the indoor space, i.e., cool air is generated in the form of a direct wind that is directly directed toward the learner who is detected by the location detecting sensor 30 or an indirect wind that is indirectly directed toward the learner. In more detail, the control unit 40 controls the wind direction adjusting member such that the direct wind is generated in the learning preparation step A and learning steps B and D. The control unit 40 controls the wind direction adjusting member such that the indirect wind is generated in the break step C and learning finish

step E. By directly directing the air toward the learner in the learning preparation step A, the learner can quickly feel that the indoor space is cooled. By indirectly directing the air toward the learner in the learning steps B and D, the learner can feel comfort and thus the power of the concentration of the learner can be enhanced. In the break step C and learning finish step E, the indirect wind can allow the learner to take a break or finish the learning in a state where the power of the concentration is relatively reduced.

[0025] The following will describe an air-conditioning process by a method of controlling an air conditioner of an embodiment in more detail.

[0026] FIG. 4 is a flowchart illustrating an air-conditioning process by an air conditioner controlling method of an embodiment.

[0027] Referring to FIG. 4, when a user inputs the learning mode to the input unit 20, the learning mode is selected (S11). Then, the control unit 40 controls such that the air-conditioning unit 10 operates for an initial step A (S13). Therefore, the indoor space is air-conditioned by the direct wind of the learning preparation air-conditioning temperature T1, i.e., a temperature equal to or greater than 24°C or less than 28°C, preferably 26°C, by the air-conditioning unit 10.

[0028] Next, the control unit 40 determines if the learning preparation air-conditioning time t1 has elapsed after the initial step A starts (S15). When it is determined that the learning preparation air-conditioning time t1 has elapsed, the control unit 40 controls such that the air-conditioning unit 10 operates for the learning step B (S17). Accordingly, the indoor space is air-conditioned by the direct wind of the learning air-conditioning temperature T2, i.e., a temperature equal to or greater than 22°C and less than 26°C, preferably 24°C, by the air-conditioning unit 10.

[0029] The control unit 40 determines if the learning air-conditioning time t2 has elapsed after the learning step B starts (S 19). When it is determined that the learning air-conditioning time t2 has elapsed, the control unit 40 controls such that the air-conditioning unit 10 operates for the break step C (S21). Accordingly, the indoor space is air-conditioned by the indirect wind of the break air-conditioning temperature T3, i.e., a temperature equal to or greater than 23°C and less than 27°C, preferably 25°C, by the air-conditioning unit 10.

[0030] Next, the control unit 40 determines if the break air-conditioning time t3 has elapsed after the break step C starts (S 15). When it is determined that the break air-conditioning time t3 has elapsed, the control unit 40 controls such that the air-conditioning unit 10 operates for the learning step D (S25).

[0031] Meanwhile, the control unit 40 determines if the learning air-conditioning time t4 has elapsed after the learning step D of Step 25 starts (S27). When it is determined that the learning air-conditioning time t4 of Step 27 has elapsed, the control unit 40 determines if the repetition number of the learning step-break step-learning step exceeds the preset number (S29).

[0032] When it is determined that the repetition number of the learning step-break step-learning step exceeds the preset number, the control unit 40 controls such that the air-conditioning unit 10 operates for the learning finish step E (S31). Further, the control unit 40 determines if the learning finish air-conditioning time t5 has elapsed after the learning finish step E starts. When it is determined that the learning finish air-conditioning time t5 has elapsed, the learning mode is finished. However, when it is determined that the repetition number of the learning step-break step-learning step does not exceed the preset number in Step 29, the control unit 40 controls the air-conditioning unit to repeat Steps 21 to 27.

[0033] Although embodiments have been described with reference to a number of illustrative embodiments thereof, it should be understood that numerous other modifications and embodiments can be devised by those skilled in the art that will fall within the scope of the claims of this disclosure. More particularly, various variations and modifications are possible in the component parts and/or arrangements of the subject combination arrangement within the scope of the disclosure, the drawings and the appended claims. In addition to variations and modifications in the component parts and/or arrangements, alternative uses will also be apparent to those skilled in the art.

Industrial Applicability

[0034] According to the embodiment, the direct and indirection winds are alternately repeated and thus the force of the concentration of the learner is enhanced. Therefore, it can be expected that the learner can more efficiently learn.

Claims

1. A method of controlling an air conditioner comprising an air-conditioning unit (10) having a plurality of components constituting a heat exchange cycle, a location detecting sensor (30) detecting a location of a learner in an indoor space, and a control unit (40) controlling the air-conditioning unit, **characterized in** the method comprises:

   allowing the location detecting sensor to detect a location of the learner in a location detecting step;
   allowing the control unit to control the air-conditioning unit such that cool wind used for the air conditioning is generated in the form of a direct wind that is directly directed toward the learner in a learning preparation step (A);
   allowing the control unit to control the air-conditioning unit such that cool wind used for the air conditioning is generated in the form of a direct

wind that is directly directed toward the learner_in a first learning step (B);
allowing the control unit to control the air-conditioning unit such that cool wind used for the air conditioning is generated in the form of an indirect wind that is indirectly directed toward the learner in a break step (C) after the first learning step (B); and
allowing the control unit to control the air-conditioning unit such that cool wind used for the air conditioning is generated in the form of a direct wind that is directly directed toward the learner in a second learning step (D) after the break step (C), and
wherein the first learning step (B), the break step (C) and-the second learning step (D) are repeated by a preset number.

2. The method according to claim 1, **characterized in that** a temperature of the direct wind in the learning step is less than a temperature of the indirect wind in the break step.

3. The method according to any one of claims 1 and 2, **characterized in that** the control unit controls the air-conditioning unit such that the break step starts when a preset learning air-conditioning time has elapsed after the learning step initiates.

4. The method according to any one of claims 1 to 3, **characterized in that**
a temperature of the direct wind in the learning step is equal to or greater than 22°C and less than 26°C; and
a temperature of the indirect wind in the break step is equal to or greater than 23°C and less than 27°C.

5. The method according to any one of claims 1 to 4, **characterized in that** a temperature of the direct wind in the learning preparation step is equal to or greater than 24°C. and less than 28°C;
a temperature of the direct wind in the learning step is equal to or greater than 22°C and less than 26°C; and
a temperature of the indirect wind in the break step is equal to or greater than 23°C and less than 27°C.

6. The method according to any one of claims 1 to 5, **characterized in that** a temperature of the direct wind in the learning step is set to be less than a temperature of the direct wind in the learning preparation step by 2°C; and
a temperature of the indirect wind in the break step is set to be less than the direct wind of the learning preparation step by 1°C.

7. The method according to any one of claims 1 to 6, **characterized in that** a temperature of the direct wind in the learning preparation step is 26°C;
a temperature of the direct wind in the learning step is 24 °C; and
a temperature of the indirect wind in the break step is 25°C.

8. The method according to any one of claims 1 to 7, **characterized in that** the method further comprises allowing the control unit to control the air-conditioning unit such that cool wind used for the air conditioning is generated in the form of an indirect wind in a learning finish step (E).

9. The method according to claim 8, **characterized in that** a temperature of the direct wind in the learning preparation step is equal to or greater than 24°C and less than 28°C;
a temperature of the direct wind in the learning step is equal to or greater than 22°C and less than 26°C; and
a temperature of the indirect wind in the break step is equal to or greater than 23 °C and less than 27°C.

10. The method according to claim 8, **characterized in that** a temperature of the direct wind in the learning step is set to be less than a temperature of the direct wind in the learning preparation step by 2°C;
a temperature of the indirect wind in the break step is set to be less than the direct wind of the learning preparation step by 1 °C; and
a temperature of the indirect wind in the learning finish step is set to be same as a temperature of the direct wind in the learning preparation step.

11. The method according to claim 8, **characterized in that** a temperature of the direct wind in the learning preparation step is 26°C;
a temperature of the direct wind in the learning step is 24°C; and
a temperature of the indirect wind in the break step is 25°C.

Patentansprüche

1. Verfahren zur Steuerung einer Klimaanlage mit einer Klimatisierungseinheit (10), die mehrere Komponenten hat, die einen Wärmeaustauschzyklus bilden, einem Standortdetektionssensor (30), der einen Standort eines Lernenden in einem Innenraum detektiert, und einer Steuereinheit (40), die die Klimatisierungseinheit steuert, **dadurch gekennzeichnet, dass** das Verfahren aufweist:

Ermöglichen, dass der Standortdetektionssensor einen Standort des Lernenden in einem Standortdetektionsschritt detektiert;
Ermöglichen, dass die Steuereinheit die Klima-

tisierungseinheit so steuert, dass kühler Wind, der zur Klimatisierung verwendet wird, in Form eines direkten Winds erzeugt wird, der direkt zum Lernenden in einem Lernvorbereitungsschritt (A) gerichtet wird;
Ermöglichen, dass die Steuereinheit die Klimatisierungseinheit so steuert, dass kühler Wind, der zur Klimatisierung verwendet wird, in Form eines direkten Winds erzeugt wird, der direkt zum Lernenden in einem ersten Lernschritt (B) gerichtet wird;
Ermöglichen, dass die Steuereinheit die Klimatisierungseinheit so steuert, dass kühler Wind, der zur Klimatisierung verwendet wird, in Form eines indirekten Winds erzeugt wird, der indirekt zum Lernenden in einem Pausenschritt (C) nach dem ersten Lernschritt (B) gerichtet wird; und
Ermöglichen, dass die Steuereinheit die Klimatisierungseinheit so steuert, dass kühler Wind, der zur Klimatisierung verwendet wird, in Form eines direkten Winds erzeugt wird, der direkt zum Lernenden in einem zweiten Lernschritt (D) nach dem Pausenschritt (C) gerichtet wird, und wobei der erste Lernschritt (B), der Pausenschritt (C) und der zweite Lernschritt (D) mit einer voreingestellten Anzahl wiederholt werden.

2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernschritt kleiner als eine Temperatur des indirekten Winds im Pausenschritt ist.

3. Verfahren nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** die Steuereinheit die Klimatisierungseinheit so steuert, dass der Pausenschritt beginnt, wenn eine voreingestellte Lernklimatisierungszeit abgelaufen ist, nachdem der Lernschritt beginnt.

4. Verfahren nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernschritt gleich oder größer als 22 °C und kleiner als 26 °C ist; und
eine Temperatur des indirekten Winds im Pausenschritt gleich oder größer als 23 °C und kleiner als 27 °C ist.

5. Verfahren nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernvorbereitungsschritt gleich oder größer als 24 °C und kleiner als 28 °C ist;
eine Temperatur des direkten Winds im Lernschritt gleich oder größer als 22 °C und kleiner als 26 °C ist; und
eine Temperatur des indirekten Winds im Pausenschritt gleich oder größer als 23 °C und kleiner als 27 °C ist.

6. Verfahren nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernschritt so eingestellt ist, dass sie um 2 °C niedriger als eine Temperatur des direkten Winds im Lernvorbereitungsschritt ist; und
eine Temperatur des indirekten Winds im Pausenschritt so eingestellt ist, dass sie um 1 °C niedriger als der direkte Wind des Lernvorbereitungsschritts ist.

7. Verfahren nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernvorbereitungsschritt 26 °C beträgt;
eine Temperatur des direkten Winds im Lernschritt 24 °C beträgt; und
eine Temperatur des indirekten Winds im Pausenschritt 25 °C beträgt.

8. Verfahren nach einem der Ansprüche 1 bis 7, **dadurch gekennzeichnet, dass** das Verfahren ferner aufweist: Ermöglichen, dass die Steuereinheit die Klimatisierungseinheit so steuert, dass kühler Wind, der zur Klimatisierung verwendet wird, in Form eines indirekten Winds in einem Lernabschlussschritt (E) erzeugt wird.

9. Verfahren nach Anspruch 8, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernvorbereitungsschritt gleich oder größer als 24 °C und kleiner als 28 °C ist;
eine Temperatur des direkten Winds im Lernschritt gleich oder größer als 22 °C und kleiner als 26 °C ist; und
eine Temperatur des indirekten Winds im Pausenschritt gleich oder größer als 23 °C und kleiner als 27 °C ist.

10. Verfahren nach Anspruch 8, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernschritt so eingestellt ist, dass sie um 2 °C niedriger als eine Temperatur des direkten Winds im Lernvorbereitungsschritt ist;
eine Temperatur des indirekten Winds im Pausenschritt so eingestellt ist, dass sie um 1 °C niedriger als der direkte Wind des Lernvorbereitungsschritts ist; und
eine Temperatur des indirekten Winds im Lernabschlussschritt so eingestellt ist, dass sie gleich einer Temperatur des direkten Winds im Lernvorbereitungsschritt ist.

11. Verfahren nach Anspruch 8, **dadurch gekennzeichnet, dass** eine Temperatur des direkten Winds im Lernvorbereitungsschritt 26 °C beträgt;
eine Temperatur des direkten Winds im Lernschritt 24 °C beträgt; und
eine Temperatur des indirekten Winds im Pausen-

schritt 25 °C beträgt.

Revendications

1. Procédé de commande d'un climatiseur comprenant une unité de climatisation (10) comprenant une pluralité de composants constituant un cycle d'échange de chaleur, un capteur de détection d'emplacement (30) détectant un emplacement d'un apprenant dans un espace intérieur, et une unité de commande (40) commandant l'unité de climatisation, **caractérisé en ce que** le procédé comprend :

   le fait de permettre au capteur de détection d'emplacement de détecter un emplacement de l'apprenant dans une étape de détection d'emplacement ;
   le fait de permettre à l'unité de commande de commander l'unité de climatisation de sorte que le vend froid utilisé pour la climatisation soit généré sous la forme d'un vent direct qui est dirigé directement vers l'apprenant dans une étape de préparation d'apprentissage (A) ;
   le fait de permettre à l'unité de commande de commander l'unité de climatisation de sorte que le vent froid utilisé pour la climatisation soit généré sous la forme d'un vent direct qui est dirigé directement vers l'apprenant dans une première étape d'apprentissage (B) ;
   le fait de permettre à l'unité de commande de commander l'unité de climatisation de sorte que le vent froid utilisé pour la climatisation soit généré sous la forme d'un vent indirect qui est dirigé indirectement vers l'apprenant dans une étape de rupture (C) après la première étape d'apprentissage (B) ; et
   le fait de permettre à l'unité de commande de commander l'unité de climatisation de sorte que le vent froid utilisé pour la climatisation soit généré sous la forme d'un vent direct qui est dirigé directement vers l'apprenant dans une seconde étape d'apprentissage (D) après l'étape de rupture (C), et
   dans lequel la première étape d'apprentissage (B), l'étape de rupture (C) et la seconde étape d'apprentissage (D) sont répétées un nombre prédéfini de fois.

2. Procédé selon la revendication 1, **caractérisé en ce qu'**une température du vent direct dans l'étape d'apprentissage est inférieure à une température du vent indirect dans l'étape de rupture.

3. Procédé selon l'une quelconque des revendications 1 et 2, **caractérisé en ce que** l'unité de commande commande l'unité de climatisation de sorte que l'étape de rupture commence lorsqu'un temps de climatisation d'apprentissage prédéfini s'est écoulé après le début de l'étape d'apprentissage.

4. Procédé selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que**

   une température du vent direct dans l'étape d'apprentissage est égale ou supérieure à 22 °C et inférieure à 26 °C ; et
   une température du vent indirect dans l'étape de rupture est égale ou supérieure à 23 °C et inférieure à 27 °C.

5. Procédé selon l'une quelconque des revendications 1 à 4, **caractérisé en ce qu'**une température du vent direct dans l'étape de préparation d'apprentissage est égale ou supérieure à 24 °C et inférieure à 28°C ;

   une température du vent direct dans l'étape d'apprentissage est égale ou supérieure à 22 °C et inférieure à 26 °C ; et
   une température du vent indirect dans l'étape de rupture est égale ou supérieure à 23 °C et inférieure à 27 °C.

6. Procédé selon l'une quelconque des revendications 1 à 5, **caractérisé en ce qu'**une température du vent direct dans l'étape d'apprentissage est définie pour être inférieure à une température du vent direct dans l'étape de préparation d'apprentissage de 2 °C ; et une température du vent indirect dans l'étape de rupture est définie pour être inférieure à celle du vent direct de l'étape de préparation d'apprentissage de 1 °C.

7. Procédé selon l'une quelconque des revendications 1 à 6, **caractérisé en ce qu'**une température du vent direct dans l'étape de préparation d'apprentissage est de 26°C ;

   une température du vent direct dans l'étape d'apprentissage est de 24 °C ; et
   une température du vent indirect dans l'étape de rupture est de 25 °C.

8. Procédé selon l'une quelconque des revendications 1 à 7, **caractérisé en ce que** le procédé comprend en outre le fait de permettre à l'unité de commande de commander l'unité de climatisation de sorte que le vent froid utilisé pour la climatisation soit généré sous la forme d'un vent indirect dans une étape d'achèvement d'apprentissage (E).

9. Procédé selon la revendication 8, **caractérisé en ce qu'**une température du vent direct dans l'étape de préparation d'apprentissage est égale ou supérieure à 24 °C et inférieure à 28 °C ;
   une température du vent direct dans l'étape d'ap-

prentissage est égale ou supérieure à 22 °C et inférieure à 26 °C ; et
une température du vent indirect dans l'étape de rupture est égale ou supérieure à 23 °C et inférieure à 27 °C.

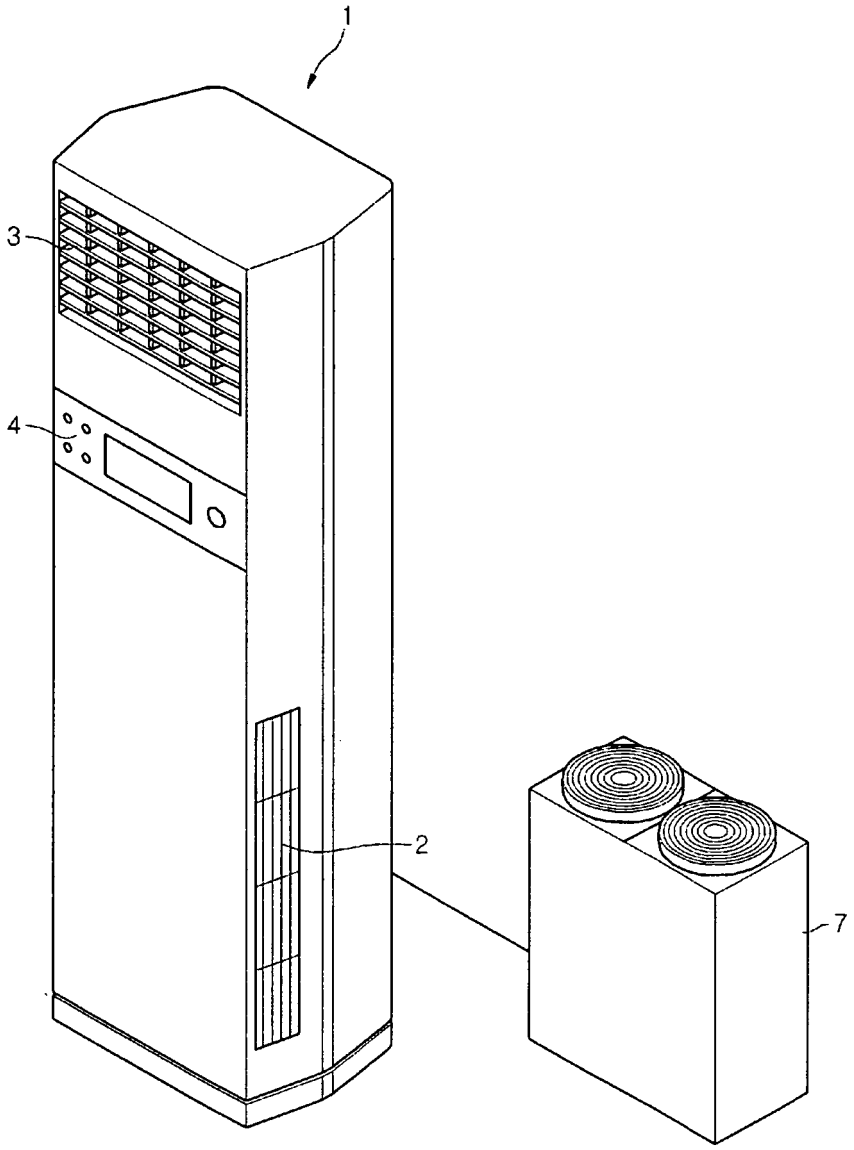
10. Procédé selon la revendication 8, **caractérisé en ce qu'**une température du vent direct dans l'étape d'apprentissage est définie pour être inférieure à une température du vent direct dans l'étape de préparation d'apprentissage de 2 °C ;

une température du vent indirect dans l'étape de rupture est définie pour être inférieure à celle du vent direct de l'étape de préparation d'apprentissage de 1 °C ; et
une température du vent indirect dans l'étape d'achèvement d'apprentissage est définie pour être la même qu'une température du vent direct dans l'étape de préparation d'apprentissage.

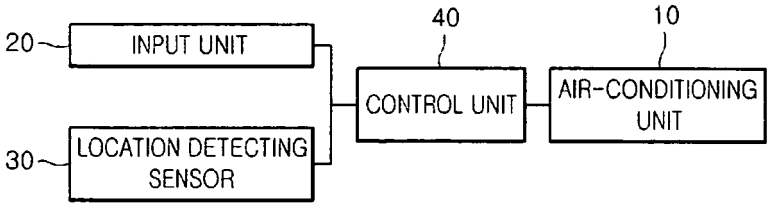
11. Procédé selon la revendication 8, **caractérisé en ce qu'**une température du vent direct dans l'étape de préparation d'apprentissage est de 26 °C ;

une température du vent direct dans l'étape d'apprentissage est de 24 °C ; et
une température du vent indirect dans l'étape de rupture est de 25 °C.

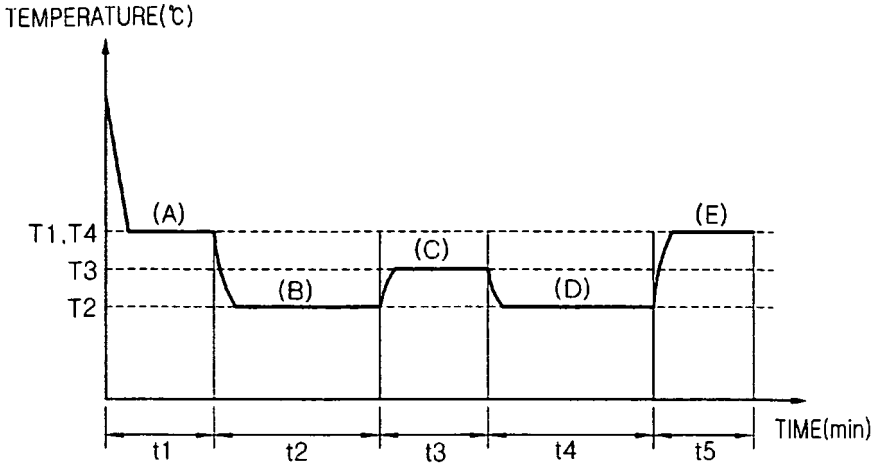
[Fig. 1]


1
3
4
2
7

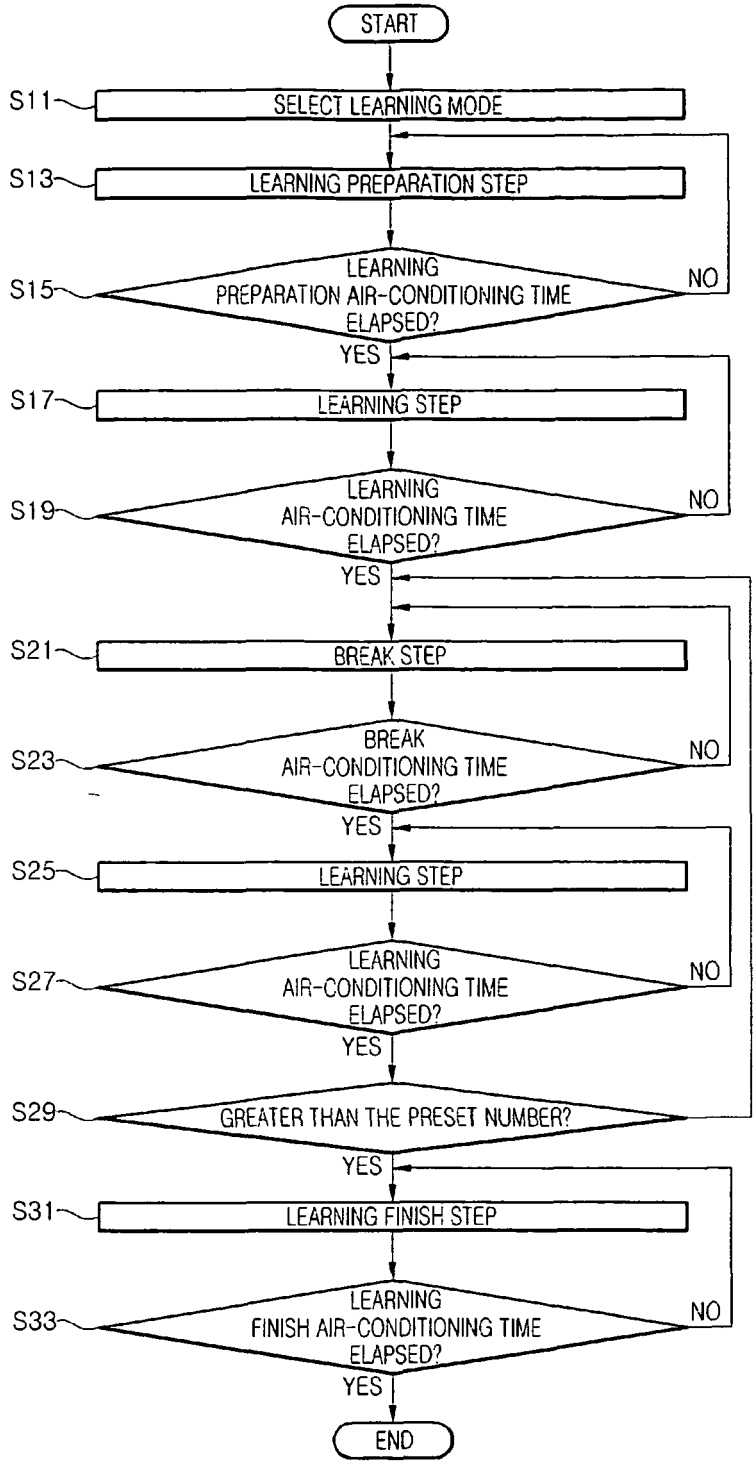
[Fig. 2]


20
INPUT UNIT
30
LOCATION DETECTING SENSOR
40
CONTROL UNIT
10
AIR-CONDITIONING UNIT

[Fig. 3]



[Fig. 4]


START
S11
SELECT LEARNING MODE
S13
LEARNING PREPARATION STEP
S15
LEARNING PREPARATION AIR-CONDITIONING TIME ELAPSED?
NO
YES
S17
LEARNING STEP
S19
LEARNING AIR-CONDITIONING TIME ELAPSED?
NO
YES
S21
BREAK STEP
S23
BREAK AIR-CONDITIONING TIME ELAPSED?
NO
YES
S25
LEARNING STEP
S27
LEARNING AIR-CONDITIONING TIME ELAPSED?
NO
YES
S29
GREATER THAN THE PRESET NUMBER?
YES
S31
LEARNING FINISH STEP
S33
LEARNING FINISH AIR-CONDITIONING TIME ELAPSED?
NO
YES
END

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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