★★★ ＜第32回知的財産翻訳検定試験【第17回和文英訳】＞ ★★★
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【問 1】
Background Art
[0004]
Incidentally, there is a crucial concern to be considered when attempting to make the ultra-low temperature freezing technique readily available in ordinary homes, i.e., when promoting wide-spread use of ultra-low temperature freezers in ordinary households.
Specifically, the concern pertains to the refrigerants used in domestic ultra-low temperature freezers.

[0005]
Envisaging wide-spread use of ultra-low temperature freezers in general households, a serious concern exists that accidental release of the refrigerant into the environment leads to a greenhouse gas problem.
It is therefore desirable that refrigerants used in household ultra-low temperature freezers, i.e., refrigerant used in the refrigerators of such freezers, have minimum global warming potential.
However, refrigerants used in existing ultra-low temperature freezers are chlorofluorocarbons (CFC, HCFC) and fluorocarbons, as seen from Patent Document 1, for example.
Among such refrigerants, those suitable for ultra-low temperature freezing undesirably exhibit global warming potential values on the order of several thousands. These refrigerants must be said to be unsuitable for use in household ultra-low temperature freezers which are expected to be widely used.

[0006]
As a solution, it is worth considering the use of carbon dioxide which can be used to implement ultra-low temperature freezing while exhibiting global warming potential value as low as 1.
Household ultra-low temperature freezers which are used in household daily life are required to have high degree of quietness and energy saving performance. Use of carbon dioxide as a refrigerant is inadequate when

such requirements are considered.

【問 2】
Embodiment
[0029]
As will be seen from Figs. 1 and 2, the isolation installation 1 described heretofore employs a transparent barrier sheet 20 which lies over and is spaced a certain distance from the upper body of a patient 200 facing up and lying on a dental chair 100.
The lock mechanism 40 is operable to allow adjustment of the height of the barrier sheet 20 to enable the barrier sheet 20 to be set to an optimal position.

[0030]
The barrier sheet 20 has an opening 22 through which a hand of the dentist or the dental hygienist can access the patient's oral cavity for treatment or diagnosis using various instruments.
During treatment, any water droplet matter or breathing air which may be splashed or dispersed is blocked by the barrier sheet 20, thus eliminating problems such as a risk of infection.
In particular, splashing of droplets from one to another dental chair 100 arranged side by side can effectively be prevented.

[0031]
The holder 7 is supported by a swivel mechanism 60 for horizontal swiveling motion over a predetermined angle. Therefore, the holder 7 can be set to an optimal position regardless of the state of the stantion 4. This allows the stantion 4 to be oriented in any desired direction, without being limited by the space around the dental chair 100.
The barrier sheet 20, owing to its light weight, can be stably used regardless of the position of the holder 7.

[0032]
The holder 7 is supported by the aforementioned hinge mechanism 50 for rotation about a horizontal axis. Therefore, the barrier sheet 20 together with the rod 6A can be swung upward to avoid interfering with the patient

when the patient is attempting to sit up.

【問 3】
Claims
1. A polymerase chain reaction system for amplifying nucleic acids contained in a reaction liquid in a container,
the system comprising:
lower and upper electrodes which are vertically spaced from each other;
an electric field generator:
a first heating unit and a second heating unit for heating, respectively, the side of the container adjacent to the upper electrode and the side of the container adjacent to the lower electrode, when the container is positioned between the lower and upper electrodes: and
a controller,
wherein the container is filled with the reaction liquid and a liquid having a specific gravity less than that of the reaction liquid, and being immiscible with the reaction liquid,
and
wherein the control unit drives and controls the first heating unit and the second heating such that a portion of the liquid in an upper part of the container and a portion of the liquid in a lower part of the container reach, respectively, a first temperature and a second temperature lower than the first temperature, while driving and controlling the electric field generator such that an electric field generated between the lower and upper electrodes produces a Coulomb force which causes repetitive upward and downward movement of the reaction liquid spheroidized in the liquid.

2.
The polymerase chain reaction system according to claim 1,
wherein the controller drives and controls the electric field generator such that, when a first electric potential is imparted to the lower electrode, an alternating electric potential which swings between the first electric potential and a second electric potential higher than the first electric potential is imposed on the upper electrode, when the reaction liquid is positioned in the upper part of the container.

3.
The polymerase chain reaction system according to claim 2,
wherein the controller drives and controls the electric field generator such that an electric field is generated between the lower electrode and the upper electrode so as to develop a third temperature in a region between the upper portion and the lower portion of the container.