component separated by gas chromatograph with a liquid sample and weigh out specimens. This method allows liquid specimens to be weighed out and taken directly in the mouth for evaluation, and therefore, it is suitable for evaluation of retronasal aromas.

PRIOR ART DOCUMENTS

PATENT DOCUMENTS

[0007]

Patent document 1: Japanese Unexamined Patent Publication (Kokai) No. 2003-107067

Patent document 2: Japanese Unexamined Patent Publication (Kokai) No. 2007-163198

NON-PATENT DOCUMENTS

[0008]

Non-patent document 1: Fragrance Journal, 1997-6, 12, 1997

Non-patent document 2: Nippon Nogeikagaku Kaishi, Vol.78, No.6, pp.572-574, 2004

SUMMARY

PROBLEMS TO BE SOLVED

[0009]

The method proposed in Patent document 2 has the disadvantage that when a plurality of components coexists in a weighed specimen, the intended component cannot be identified easily. In addition, the intervals of weighing out specimens may have to be increased to obtain them in required amounts for evaluation, but this allows the volatile components separated by gas chromatography to be mixed more easily.

MEANS OF SOLVING THE PROBLEMS

[0009a] In an aspect, there is provided an apparatus having a first flow channel connected to the gas release channel of a gas chromatograph to send at least a volatile component separated by the gas chromatograph into the mouth, a container to store a non-gaseous flowable specimen having fluidity, and a second flow channel to send the flowable specimen into the mouth.

[0009b] In another aspect, there is provided an apparatus having a first flow channel connected to the gas release channel of a gas chromatograph to send at least a volatile component separated by the gas chromatograph into the mouth, a container to store a non-gaseous flowable specimen having fluidity, a second flow channel to send the flowable specimen into the mouth, a container to store an odor specimen emitting gas having an odor, and a third flow channel to send into the mouth the odor gas emitted from the odor specimen in the container.

[0009c] In yet another aspect, there is provided a volatile component evaluation method characterized in that a volatile component separated by the gas chromatograph and a flowable specimen are separately sent continuously and directly into the mouth by using an apparatus as defined above.

[0009d] In yet another aspect, there is provided a volatile component evaluation method

characterized in that a volatile component separated by the gas chromatograph, a flowable specimen, and an odor gas are separately sent continuously and directly into the mouth by using an apparatus as defined above.

[0009e] In yet another aspect, there is provided a volatile component evaluation method characterized in that a gas mixture of a volatile component separated by the gas chromatograph and an odor gas, and a flowable specimen are separately sent continuously and directly into the mouth by using an apparatus as defined above.

[0010]

The present disclosure, which aims to solve the above problems, has the following examples from (1) to (10):

(1) An apparatus having a first flow channel connected to the gas release channel of a gas chromatograph to send at least a volatile component separated by the gas chromatograph into the mouth, a container to store a non-gaseous flowable specimen having fluidity, and a second flow channel to send the flowable specimen into the mouth.

(2) An apparatus having a first flow channel connected to the gas release channel of a gas chromatograph to send at least a volatile component separated by the gas chromatograph into the mouth, a container to store a non-gaseous flowable specimen having fluidity, a second flow channel to send the flowable specimen into the mouth, a container to store an odor specimen emitting gas having an odor, and a third flow channel to send into the mouth the odor gas emitted from the odor specimen in the container.

(3) An apparatus as set forth in the paragraph (2), further having a fourth flow channel to combine the first flow channel and the third flow channel and send the volatile component and the odor gas into the mouth.

(4) An apparatus as set forth in any one of the paragraphs (1) to (3), where the discharging

ends of the flow channels are combined.

[0011]

(5) A volatile component evaluation method characterized in that a volatile component separated by the gas chromatograph and a flowable specimen are separately sent continuously and directly into the mouth by using an apparatus as set forth in either paragraph (1) or (4).

(6) A volatile component evaluation method characterized in that a volatile component separated by the gas chromatograph, a flowable specimen, and an odor gas are separately sent continuously and directly into the mouth by using an apparatus as set and forth in either paragraph (2) or (4).

(7) A volatile component evaluation method characterized in that a gas mixture of a volatile component separated by the gas chromatograph and an odor gas, and a flowable specimen are separately sent continuously and directly into the mouth by using an apparatus as set forth in either paragraph (3) or (4).

(8) An evaluation method as set forth in any one of the paragraphs (5) to (7), wherein the discharge flow rate of the flowable specimen is 0.5 to 10 ml per minute.

(9) An evaluation method as set forth in either paragraph (6) or (7), wherein the discharge flow rate of the odor gas is 50 to 1,500 ml per minute.

(10) An evaluation method as set forth in any one of the paragraphs (5) to (9), wherein the flowable specimen contains a gustatory component.

ADVANTAGEOUS EFFECTS

[0012]

The use of the apparatus according to the present disclosure allowed a volatile component separated by gas chromatography and a flowable specimen to be separately sent continuously and directly into the mouth for evaluation, leading to the solution of the above problems. The volatile component evaluation method according to the present disclosure serves for simple evaluation of the influence of an odor component on the sensation during eating and drinking. It also allows an effective odor component to be identified more easily than by the conventional techniques. In addition, it serves for easy determination of the retention time of a useful component, and therefore, it serves for easy identification of that component.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

[Fig. 1] Fig. 1 is a schematic diagram illustrating the apparatus used for the evaluation method according to the present invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

[0014]

The apparatus according to the present invention is an apparatus for oral evaluation of a