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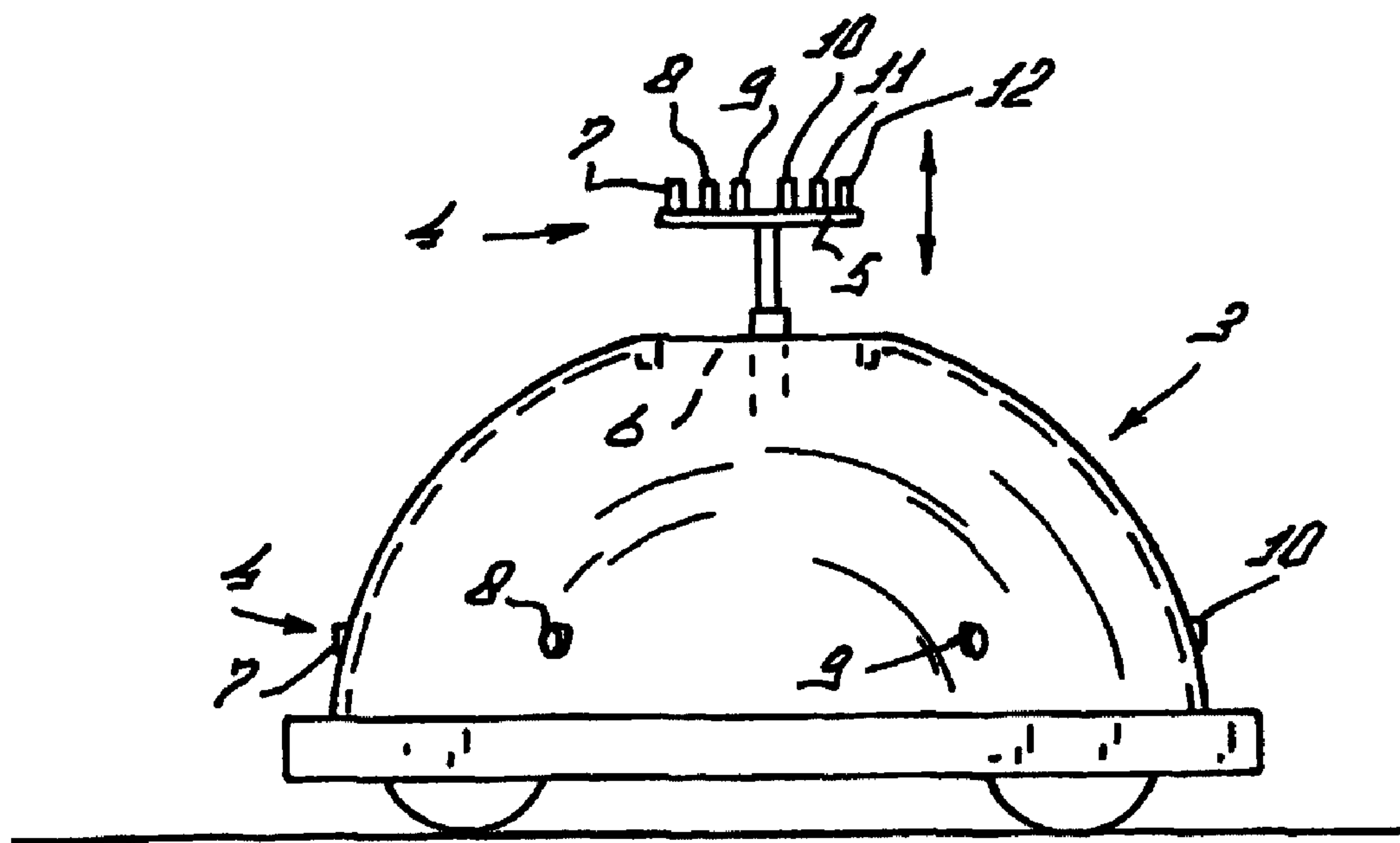
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(54) VEHICULE PERMETTANT DE DETERMINER LE CLIMAT

(54) A VEHICLE FOR DETERMINING THE CLIMATE



(57) The invention relates to an unmanned vehicle (3) which is adapted to be used in a stable (1), such as a cowshed. The vehicle (3) is provided with detection means (4) for determining the climate in the stable (1). The detection means (4) comprise a temperature sensor (7) and/or an air velocity sensor (8) and/or a gas sensor (9) and/or an air humidity sensor (10) and/or a light intensity sensor (11) and/or an air pressure sensor (12).

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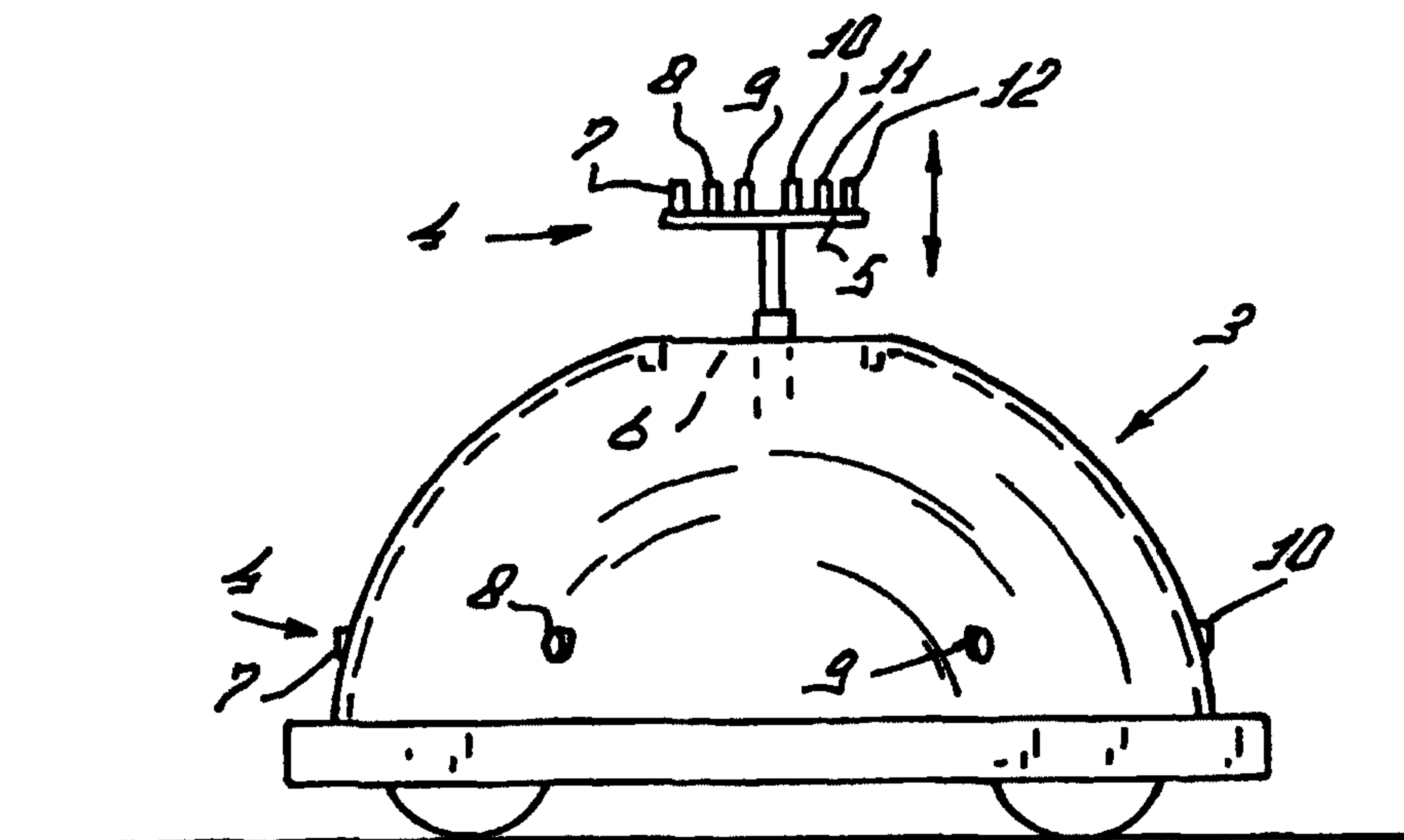
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(54) Title: A VEHICLE FOR DETERMINING THE CLIMATE



(57) Abstract: The invention relates to an unmanned vehicle (3) which is adapted to be used in a stable (1), such as a cowshed. The vehicle (3) is provided with detection means (4) for determining the climate in the stable (1). The detection means (4) comprise a temperature sensor (7) and/or an air velocity sensor (8) and/or a gas sensor (9) and/or an air humidity sensor (10) and/or a light intensity sensor (11) and/or an air pressure sensor (12).

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A VEHICLE FOR DETERMINING THE CLIMATE

The invention relates to an unmanned vehicle which is adapted to be used in a stable, such as a cowshed.

5 Such a vehicle is known.

The known vehicle is usually employed for cleaning the stable floor.

It is an objective of the invention to provide a multifunctional, unmanned vehicle.

10 According to the invention, this is achieved in that the vehicle comprises detection means for determining the climate in the stable. In this manner it is also possible to determine, in the absence of operators, whether there occur climatic changes in the stable.

15 In accordance with an inventive feature, the detection means comprise a temperature sensor and/or an air velocity sensor and/or a gas sensor and/or an air humidity sensor and/or a light intensity sensor and/or an air pressure sensor.

20 For the purpose of determining the climate in the stable very accurately, the detection means are disposed on the vehicle in such a manner that they are able to carry out measurements at different levels in the stable. This is realized in that the detection means are capable of being
25 disposed at different levels on a fixed carrier or in that the carrier is disposed so as to be adjustable in height relative to the vehicle. According to another inventive feature, the unmanned vehicle is provided with a data processing unit for storing the data from the sensors. According to again another
30 aspect of the invention, the signals emitted by the sensors are registered and/or processed by means of a processing unit and/or a control unit. When it appears that the climate in the stable has become or threatens to become uncontrollable, there are activated alarm means which emit an alarm signal to a
35 supervisor. According to another inventive feature, the unmanned vehicle comprises a transmitter unit with the aid of which the data from the sensors and/or the control signals derived from the data from the sensors are transmitted to a registration and/or control unit.

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In accordance with an aspect of the invention, the unmanned vehicle is provided with navigation means with the aid of which the unmanned vehicle is guided through the stable.

5 According to again another inventive feature, the unmanned vehicle comprises an animal identification system and/or a camera and/or a radar. This makes it possible to observe the behaviour and/or abnormal behaviour of the animals and to alarm the supervisor with the aid of the aforementioned
10 alarm means. Further it is possible to trace a specific animal.

According to a further inventive feature, the data collected by the unmanned vehicle are stored in a data management system.

15 In accordance with another inventive feature, the quantities of feed and/or the composition of the feed to be supplied to the animals are/is altered when the climate in the stable changes.

20 According to again another inventive feature, the quantity of feed to be supplied to the animals is increased when the temperature in the stable has fallen below approximately 4°C.

25 The invention will now be explained in further detail with reference to the accompanying drawings.

Figure 1 is a plan view of a stable with an unmanned vehicle accommodated therein, which vehicle is provided with detection means according to the invention, and

30 Figure 2 is a side view of the unmanned vehicle shown in Figure 1.

Figure 1 is a plan view of a stable 1 provided with a milking robot 2 for automatically milking animals and an unmanned vehicle 3 which is provided with detection means 4
35 for determining the climate in the stable 1. As shown in Figure 2, a part of the detection means 4 is disposed on a carrier 5 which is constituted by a telescopic carrier. When

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the telescopic carrier 5 is completely withdrawn, the platform on which the detection means 4 are disposed will be located in a recess 6 in the unmanned vehicle 3. Near the lower side of the unmanned vehicle 3 there are also disposed detection means 5 4. The detection means 4 depicted in Figure 2 comprise a temperature sensor 7, an air velocity sensor 8, a gas sensor 9, an air humidity sensor 10, a light intensity sensor 11 and an air pressure sensor 12.

CLAIMS

1. An unmanned vehicle which is adapted to be used in a stable (1), such as a cowshed, characterized in that the vehicle (3) is provided with detection means (4) for determining the climate in the stable (1).
2. An unmanned vehicle as claimed in claim 1, characterized in that the detection means (4) comprise a temperature sensor (7).
3. An unmanned vehicle as claimed in claim 1 or 2, characterized in that the detection means (4) comprise an air velocity sensor (8).
4. An unmanned vehicle as claimed in any one of claims 1 to 3, characterized in that the detection means (4) comprise a gas sensor (9).
5. An unmanned vehicle as claimed in claim 4, characterized in that the gas sensor (9) is constituted by an ammonia sensor.
6. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the detection means (4) comprise a sensor (11) for determining the light intensity.
7. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the detection means (4) comprise an air pressure sensor (12) and/or an air humidity sensor (10).
8. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the detection means (4) are disposed at different levels on a carrier.
9. An unmanned vehicle as claimed in any one of claims 1 to 7, characterized in that the detection means (4) are disposed on a carrier (5) which is adjustable in height relative to the vehicle.
10. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) is provided with a data processing unit for storing the data from the sensors (7 to 12).

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11. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) comprises a processing unit and/or a control unit for processing and/or registering data from the sensors.

5 12. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) is provided with alarm means for emitting an alarm signal when the climate in the stable has become uncontrollable.

10 13. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) comprises a transmitter unit for transmitting the data from the sensors and/or the control signals derived from the data from the sensors to a registration and/or control unit.

15 14. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) is provided with navigation means for guiding the unmanned vehicle (3) through the stable.

20 15. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the unmanned vehicle (3) comprises an animal identification system and/or a camera and/or a radar.

16. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the data collected by the unmanned vehicle are stored in a data management system.

25 17. An unmanned vehicle as claimed in any one of the preceding claims, characterized in that the quantities of feed and/or the composition of the feed to be supplied to the animals are/is altered when the climate in the stable changes.

30 18. An unmanned vehicle as claimed in claim 17, characterized in that the quantity of feed to be supplied to the animals is increased when the temperature in the stable has fallen below approximately 4°C.

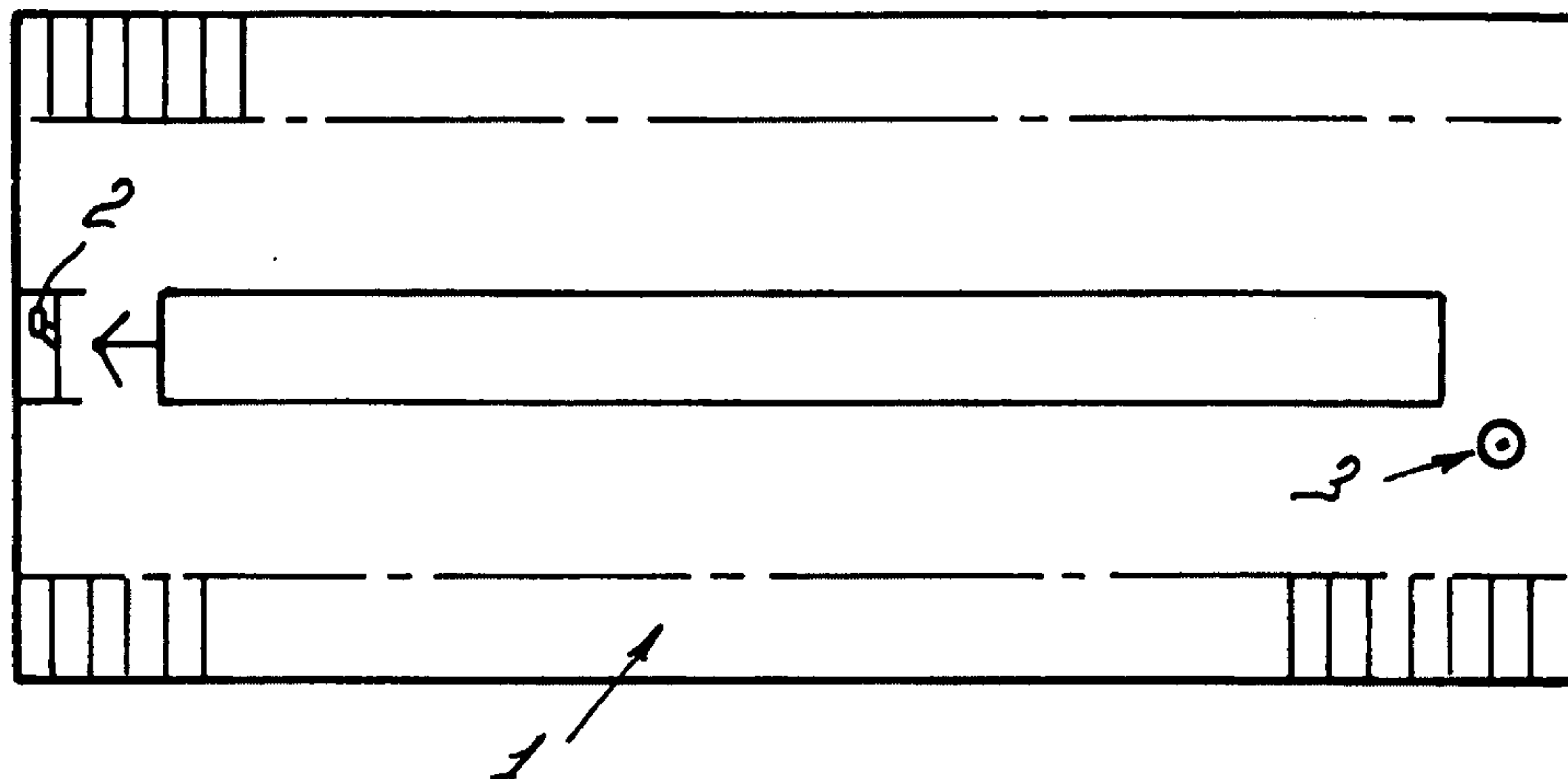


FIG. 1

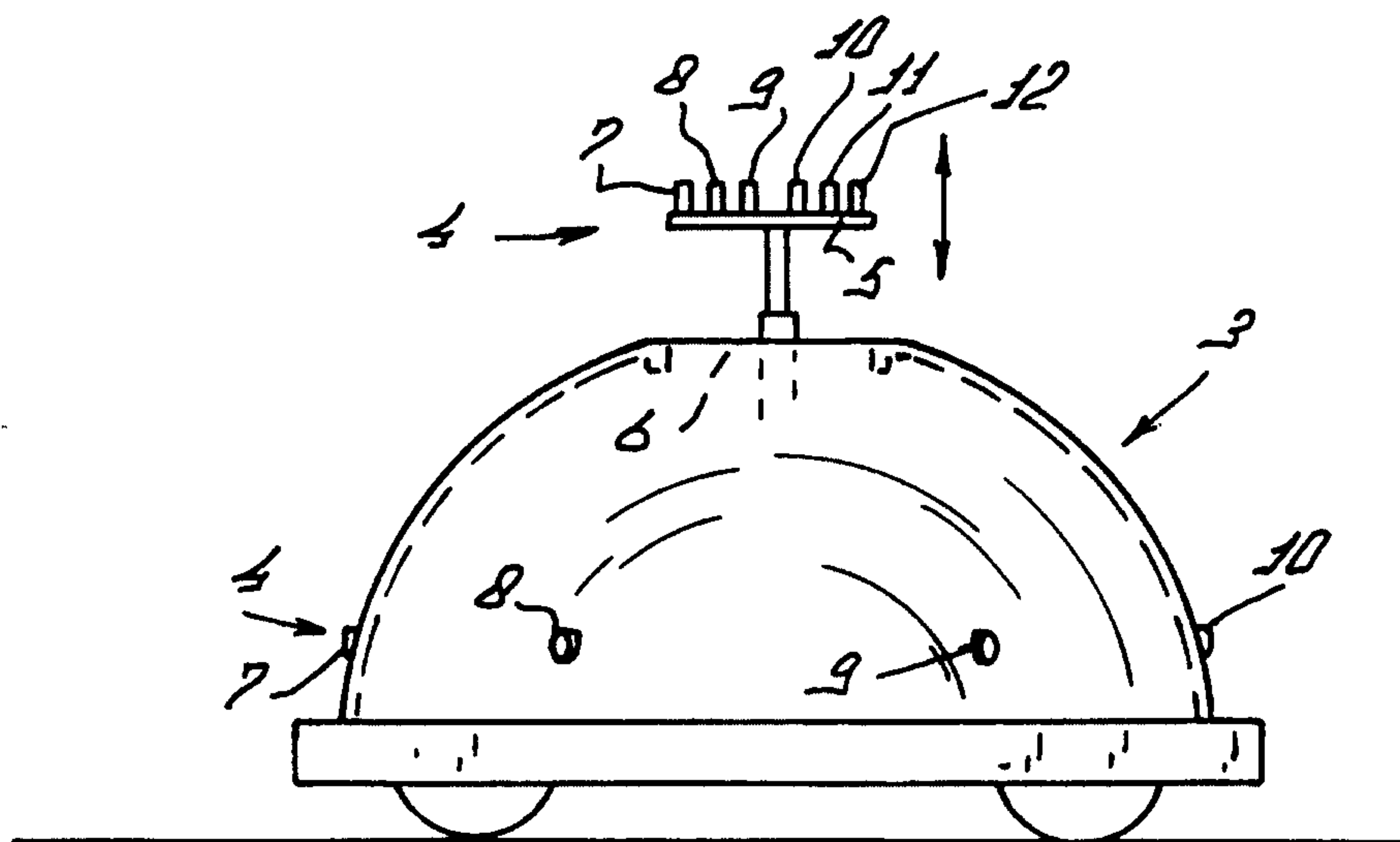


FIG. 2

