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(54) **Housing piglets**

(57) A pig pen which comprises a main housing portion (1) seated on an exchangeable floor portion (13) and closed at the top by a domed cover portion (3) in which heating means and heating control elements are disposed, the cover also having beneath the operational element a safety grille (24) which shields and protects the piglets.

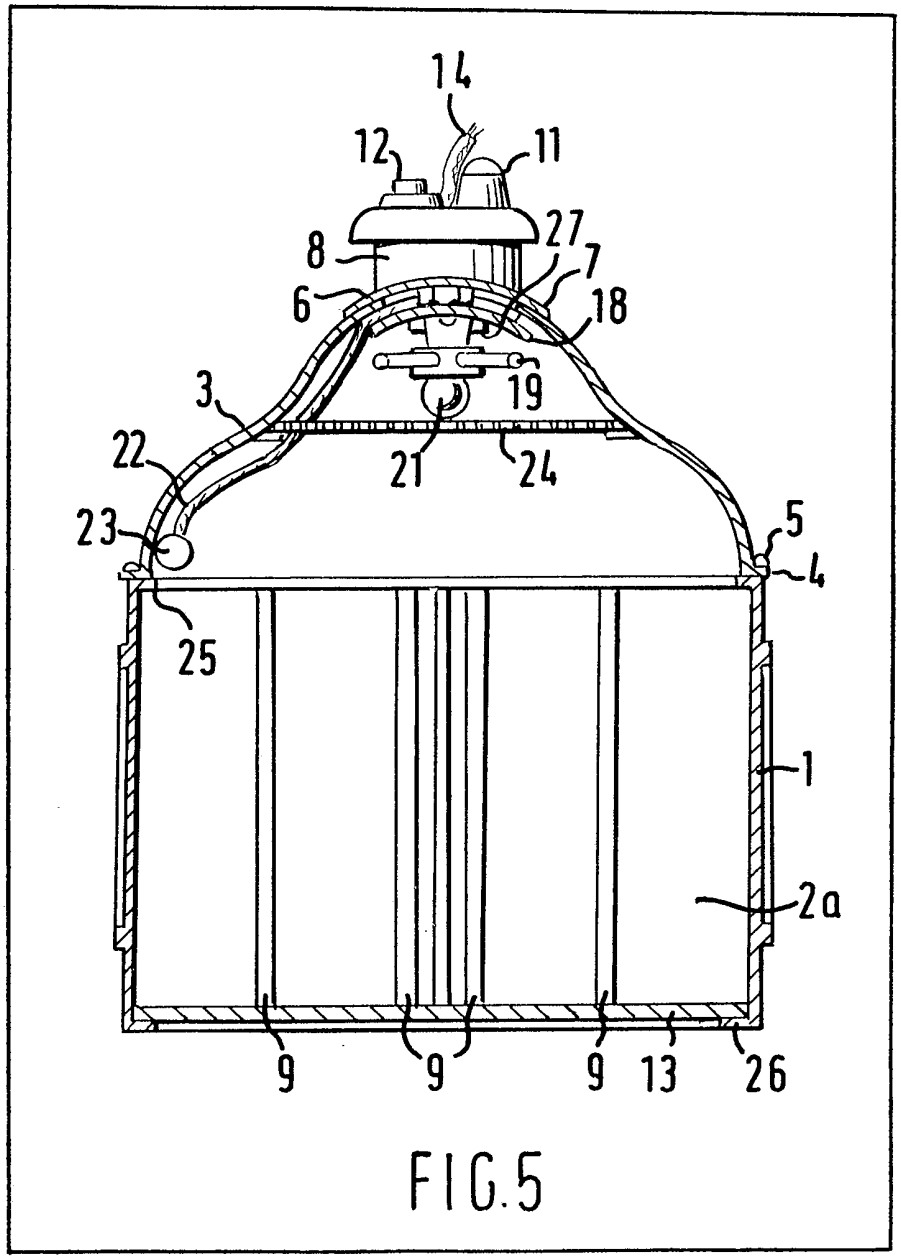


FIG.5

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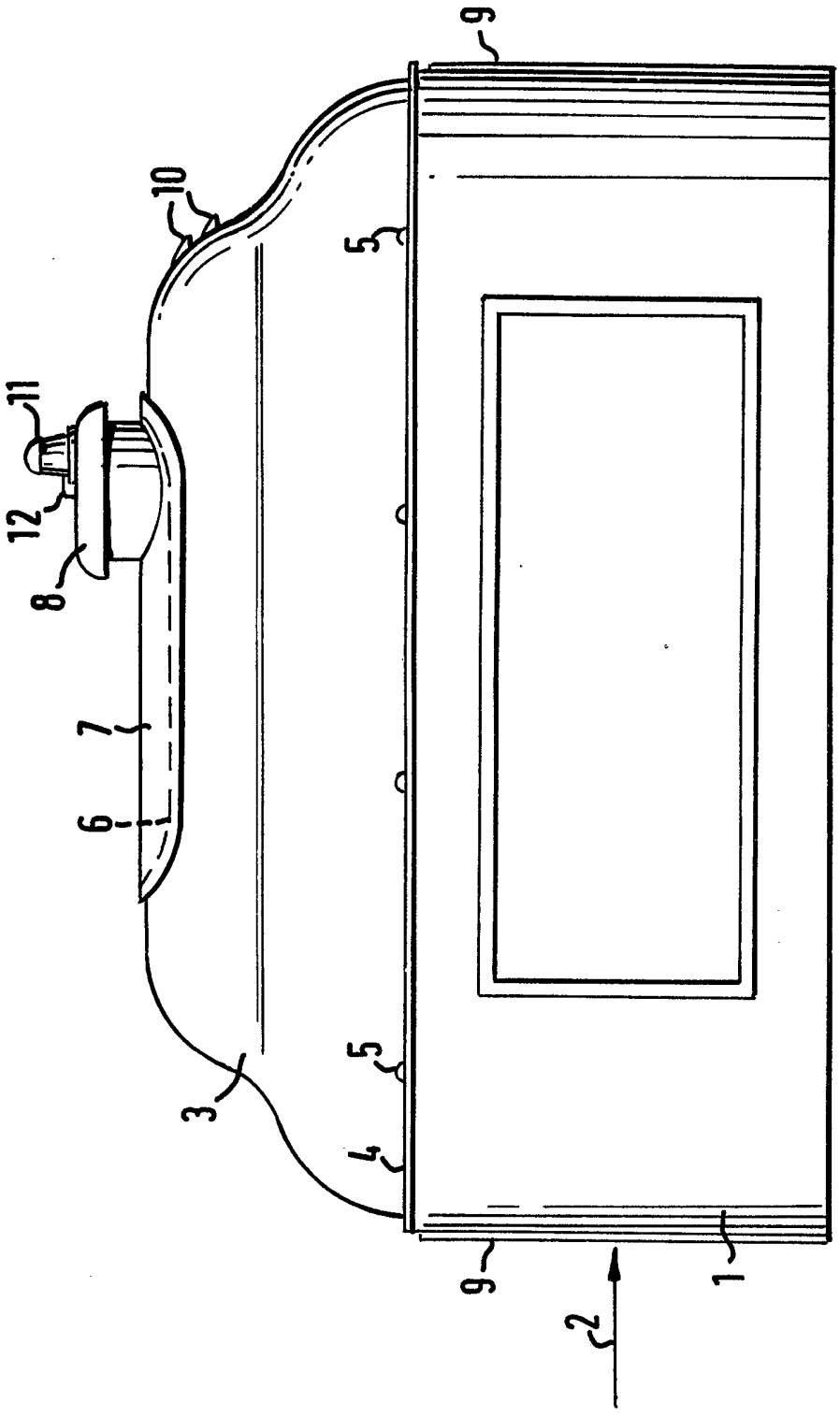



FIG.1

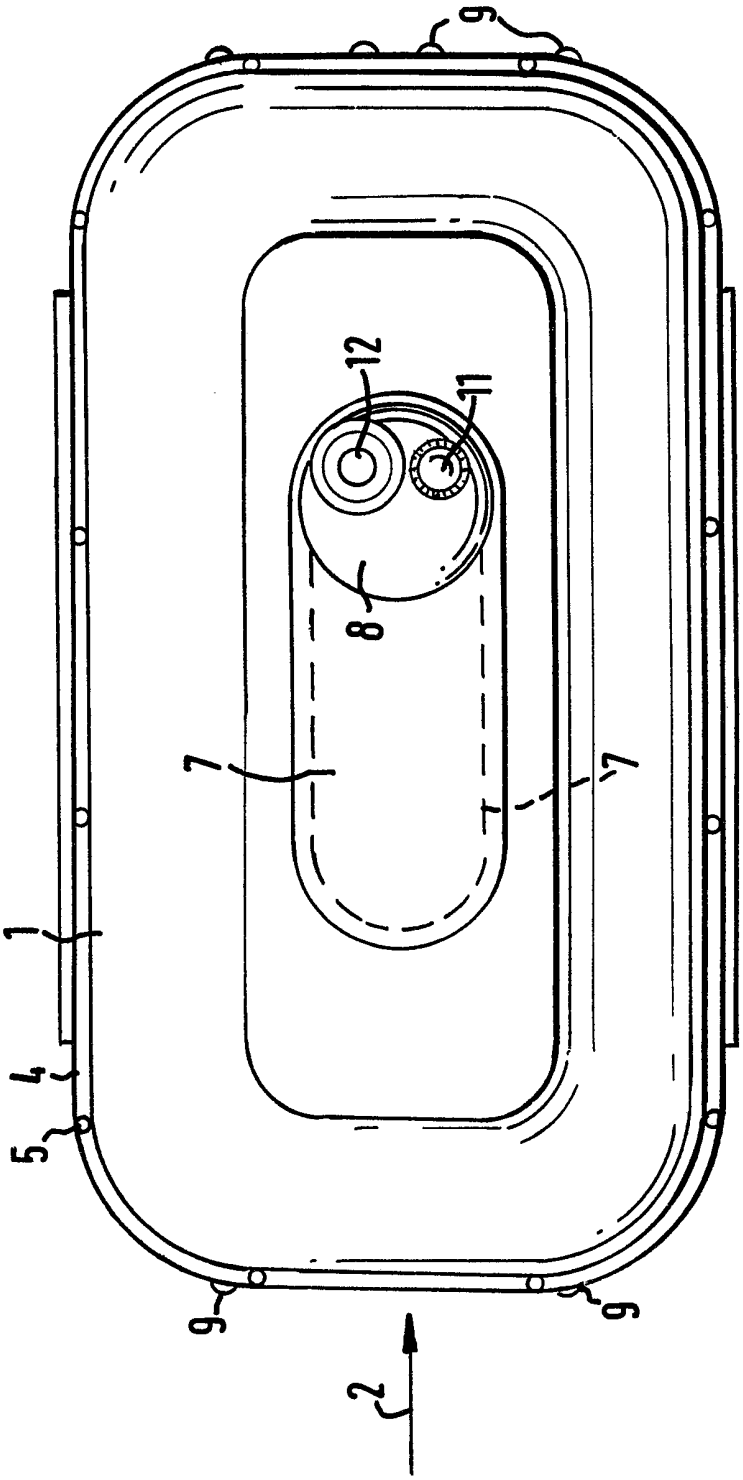
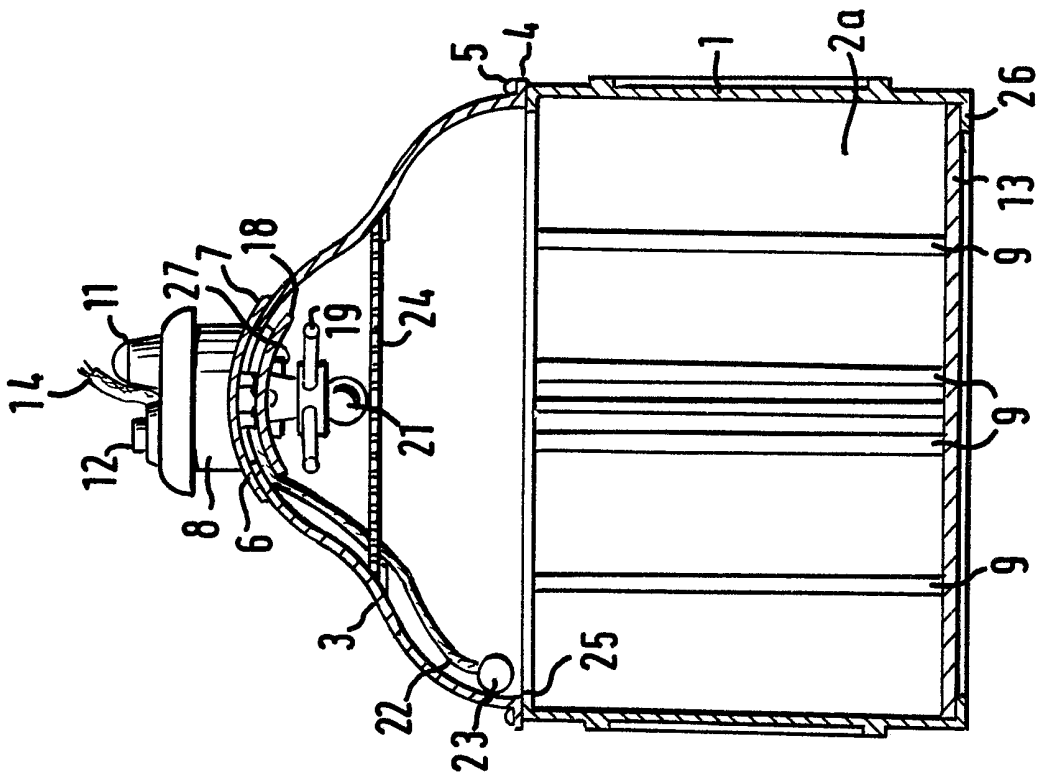



FIG.2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2a
3
4
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6
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21
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26
27

FIG.5

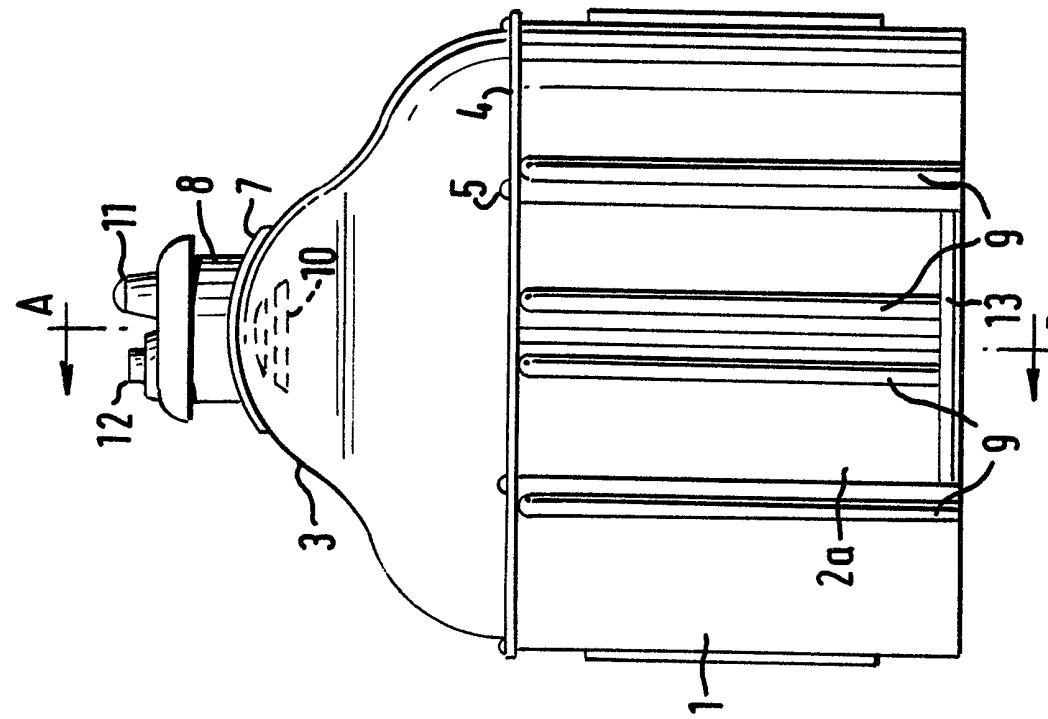

A
B
1
2a
3
4
5
7
8
9
10
11
12
13

FIG.3

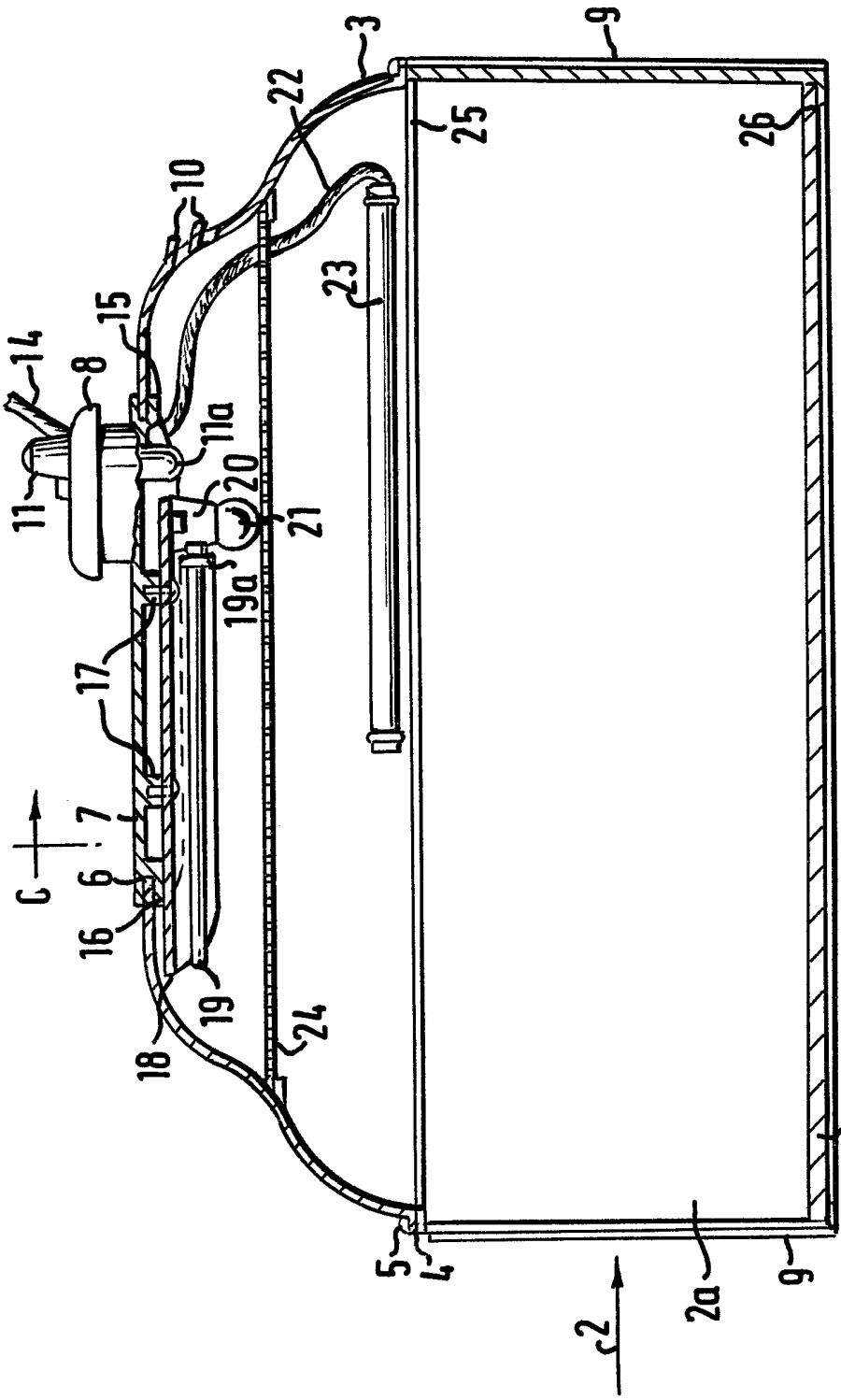
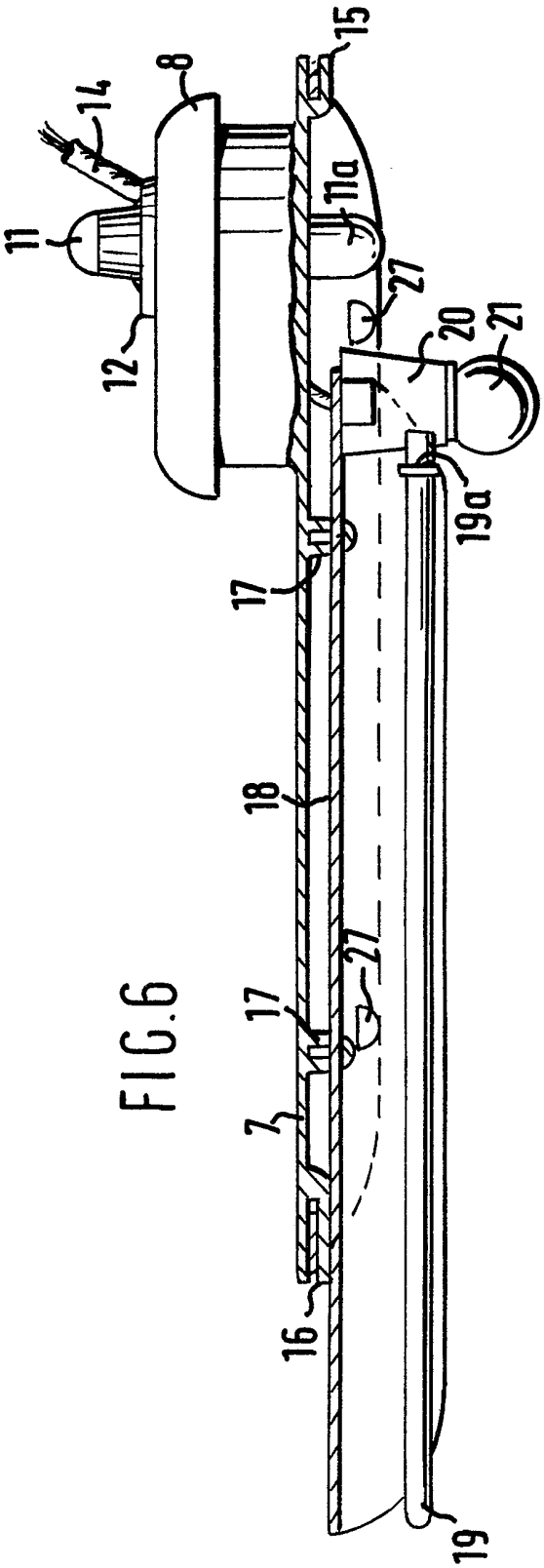

3
9
22
25
26
10
23
15
14
8
11a
11
20
21
19a
17
7
6
16
19
18
24
C
D
5
4
2
2a
9
13

FIG.4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14
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11a
12
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20
21
19a
17
18
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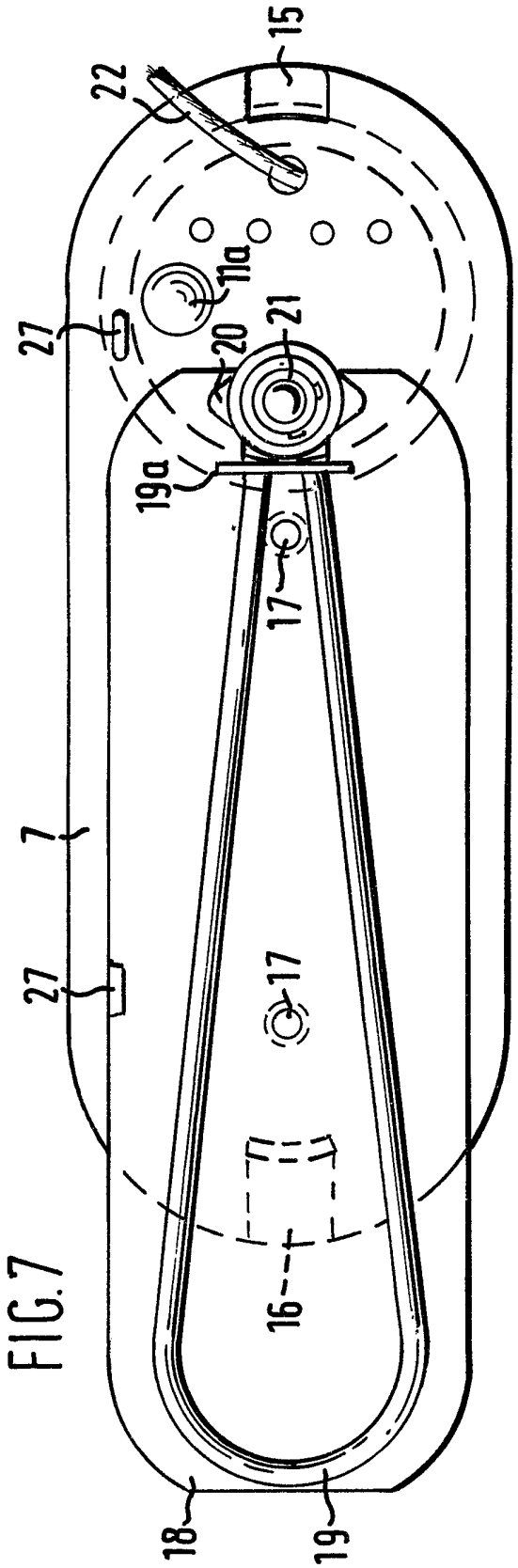
17
7
16
19

FIG.6


22
15
11a
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19a
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FIG.7

SPECIFICATION

**Pig pen**

This invention relates to a heated pig pen, especially for piglets.

It is known that it is necessary to pay careful attention to the rearing of piglets so that, during the first stage of their development, whilst they are being fully suckled, a suitable housing must be provided, when they are separated from the sow, this housing having a given maintained temperature in order to ensure the best possible development of the piglets.

As a general rule stoves, lamps, electrical screens and like devices which radiate heat are used for this purpose. However, with these devices it is not always the case that the piglets are warmed by the heat source or that they gather around it, but rather that they may move out of the effective range of the heater which, consequently, has a detrimental effect on the animals.

Bearing this aim in mind, and taking into account the prior art in this field, an improved type of rearing pen is proposed, having a particular construction whose configuration enables the achievement of several improvements.

The characteristic features of the pig pen of this invention are generally as follows:

1. A housing of characteristic shape which may be varied, provided that it is always used to contain piglets who enter therein and are located under heating elements which are located within the said housing and separated from the piglets by means of an insulating and safety means.

2. A light source which is located in the upper portion or roof of the housing and which is designed such that the piglets are grouped underneath it.

3. A heat source operating on electrical energy, or alternatively butane gas or hot water obtained using any method, including solar energy, also located in the upper portion or roof of the housing and suitably insulated from the piglets.

4. A thermostat which regulates the heat intensity.

5. An electrical safety device designed to maintain the desired temperature within the housing, independently of the heating elements.

6. The arrangement of all these operational elements being in the internal portion of the cover of the housing, which cover is provided with the insulating means for these elements in such a way that the piglets may not come into direct contact with the operational elements.

7. A ventilation device, suitably disposed, in order to enable purification of the air within the housing.

8. A central portion of the housing, which defines the lateral and front walls of the housing, has a rectangular shape such as to correspond to the base of the cover housing the operational elements and in which, in a front wall, there is disposed the entrance of a suitable height for the piglets, this entrance being provided at its vertical edges with a device which enables vertical sliding of a cover which, when required, blocks access to the interior of the housing.

9. The floor of the housing is constituted by a sliding or interchangeable sheet which may be removed from the housing from its normal position therein at a level continuous with and parallel to the ground.

10. With respect to the materials to be used in the construction of the housing constituting the pen, this may be metal sheet of all types or any other suitable malleable material which may be accurately shaped to the required form.

Generally, therefore, the pig pen in accordance with the invention is constituted by a housing comprising three portions, the first being an upper portion or cover which also serves to accommodate the elements designed to produce a heating effect in the housing, for the temperature regulation, for the location of the reserve or emergency heat source and the light source which acts as a bait for the piglets to group themselves under the heat source and which also provides a support, on the outside of the cover, for the thermostat control and the pilot light which indicates when the heating device of the pen is in operation.

The second portion of the housing is constituted by what is termed the central portion for actually housing the piglets, which portion has a rectangular shape such that its lateral and front walls are smaller in height than the horizontal length of the lateral walls, this rectangular shape being adapted to receive the above-mentioned cover which is inserted rigidly in the upper portion of the rectangle which forms the central body or which is such that it may be pivoted about one of the longer sides of the rectangular central portion in order to enable suitable access to the interior of the central portion.

The third portion is constituted by the ground or floor whose upper face closes the central portion at the bottom, and on which the piglets are located. This portion is constituted by a rectangular sheet of material equivalent to that forming the central portion and may be slidable such that it may be interchanged or removed for cleaning, and for this purpose the lateral walls of the central portion can be provided with corresponding grooves for sliding of the sheet forming the floor, a grille being located on top of this floor in order to improve living conditions for the piglets.

An embodiment of pig pen in accordance with the invention will now be described by way of example, making reference to the accompanying drawings, in which:—

Figure 1 is a lateral elevation of the pen as assembled;

Figure 2 is a plan view of the pen;

Figure 3 is a front elevation showing the entrance to the pen which enables piglets to have access to its interior;

Figure 4 is a cross-section along the line A—D in Figure 3;

Figure 5 is a cross-section along the line C—D in Figure 4;

Figure 6 shows a detail in longitudinal section through an upper portion of the pen, showing a support for a thermostat and further additional elements for operation of the pen; and

Figure 7 is an underplan view of the upper portion of the pen shown in Figure 6.

Figure 1 shows at 1 a central rectangular pen portion with rounded corners and which constitutes the body proper of the pend. The pen entrance through which the piglets can pass is shown at 2, this entrance also being shown in Figure 3. The entrance is provided with lateral grooves for the insertion of a sliding cover enabling the piglets to be shut inside the pen should this be necessary.

Figure 1 also shows a roof or cover 3 which is disposed above the central portion 1 and which is provided with a polyurethane coating and which, with respect to its characteristic shape, has the general form of a flattened dome. The cover has a top central opening 6 closed by a support element 7 for a thermostat and other proportional elements housed just within the cover portion.

The assembly of the cover 3 may be by rivets 4 or any other convenient method on top of the central portion 1 at a rim 4. Alternatively, the cover may be laterally or pivotally displaceable in order to facilitate access to the central portion 1 for purposes required in this respect.

Figure 1 also shows the upper portion 8 of a thermostat housing which projects from the closure 7, shows at 11 an external pilot light indicating whether or not a heating element for the pen is in operation and shows at 12 a control switch for the thermostat.

Finally Figure 1 also shows ribs 9 which constitute reinforcements for the central portion 1 of the pen and a grille or vent 10 disposed in the rear portion of the cover 3 for ventilation of the interior of the pen.

In Figure 2, reference corresponding to those of Figure 1 are used for similar parts, and it can be clearly seen that the closure 7 is seated into the opening 6 disposed in the cover 3 of the pen.

Figure 3 also used the same references as used in Figures 1 and 2 for similar parts. It also shows a floor 13 which closes the bottom of the central portion 1 and which is provided with a grille on its upper face, which grille is slidable and interchangeable in order to enable cleaning by removing it from the pen through the front.

Figure 4 of the drawings is a cross-section along the line A—D of Figure 3, showing the interior of the cover 3 and the arrangement of all the operational elements of the latter.

The elements which are not described above and which complete these Figures are a power input cable 14 for the heating elements in the pen, a fastening device 15 with which the closure 7 is secured at one end to close the opening 6, which fastening is duplicated at 16 at the other end of the opening. 17 designates projections disposed for fastening a reflector plate 18 which is provided with a connection support for the power input, and the resistance which is supplied by the latter and which may be seen in detail in Figure 7. The above-mentioned resistance is designated 19 and the socket rigid with the resistance to enable it to be housed in the lamp support 20 is designated 19a.

Figure 4 also shows the infrared radiation bulb 21 which is disposed inside the container of the pen as a reserve heating element in case the energy supply to the heating resistance is discontinued. 22 designates the cable which connects the tube of the latter to the thermostat, and 24 designates a grille which is disposed below the above-described operational assembly and which shields the entire inner surface of the cover 3 to act as protection to prevent piglets within the pen from coming into contact with the operating elements.

Figure 5 is a cross-section on the line C—D in Figure 4 and corresponds to a front section of the interior of the pen seen through the front, the references, corresponding to those given in the previous Figure for similar parts.

Figure 6 is an expanded detail of the operational assembly of Figure 4 and in both these Figures reference 17 designates devices for fastening together the reflector plate 18 and the cover 7, in the opening 6 in which they are located.

Lastly, Figure 7 is a view through the lower portion of the assembly of Figure 6, showing the arrangement of the resistance 19 in the reflector plate 18.

Replacement of the heating element to be used for producing the adjustable heating within the pen is possible, for example by means heated by gas or even by hot water produced by the conventional methods or even by the action of solar radiation, and in the case of this substitution, it is sufficient to vary the access of these energy sources by methods of entry which are appropriate to the case in question and the arrangement and substitution of the heating screens or heating tubes in the reflector plate 18.

In use, once the light disposed in the interior of the pen in the manner described above is switched on, it attracts the piglets which group below it once they have entered the pen, so that in turn the heating element located in the reflector plate 18 radiates heat towards the piglets, the desired constant temperature being maintained by the regulator thermostat in such a way that the animals in the pen are maintained therein in a warm environment which is healthy. If necessary, the device for closing the aperture providing access to the interior of the pen may be closed by means of the sliding closure described above.

**Claims**

1. A pig pen comprising a housing which serves to accommodate piglets beneath heating means which are disposed within the said

housing, are carried by a characteristic domed cover of the housing and from which the piglets are shielded for safety reasons by means of insulation in the form of a grille carried in the cover at an intermediate height therein.

2. A pig pen as claimed in claim 1, characterised in that the housing is constituted by three portions, the first portion being the cover of the container which is designed to house the elements which enable heating to be effected within the pen, enable temperature regulation, provide a reserve or emergency heating element and provide a light source which acts as a bait for the piglets to group under the heat source, and in that externally to the said cover there is located a thermostat control and a pilot light indicating whether or not the heating means of the pen is in operation.

3. A pig pen as claimed in claim 1 or claim 2, characterised in that the cover has a flattened domed shape on a rectangular base, the flattened dome having an aperture closable by a closure formed by superposed metal sheets, the lower sheet being a curved reflector plate and the upper sheet being a smooth rectangular plate, and in that this closure is disposed to contain on the upper portion a control for a thermostat which is inserted in the cover in order to regulate the temperature produced by the heating means disposed beneath the curved reflector plate, in that also on the upper sheet there is disposed a pilot light indicating whether or not the heating means is operational, and in that the light source which acts as a bait for the piglets to group below the heat source is disposed on the lower sheet as well as an infrared radiation bulb which acts as a reserve heating element.

4. A pig pen as claimed in claim 2 or claim 3 when appendant to claim 2, characterised in that the second portion of the housing comprises the central body of the pen which is defined by walls in a rectangular shape with corners rounded into curves and strengthened with reinforcing ribs, the side and front walls having a height which is smaller than the length of the side walls, the second portion being adapted at the top to receive the cover, which cover is rigidly mounted or may be pivoted on one of the sides to enable ready access to the interior of the pen, and further characterised in that there is located at the bottom of this central portion the floor or base of the pen which may be removably slidable so that it may be interchanged.

5. A pig pen as claimed in claim 4, characterised in that the floor or base is made of wood of an absorbent type, having a generally rectangular shape matching the shape of the central portion, but disposed such that it may slide out to be changed, and in that it is provided with a grille.

6. A pig pen as claimed in any of claims 1 to 5, characterised in that in order to enable ventilation of the interior of the pen, the cover has a grille disposed in its closure.

7. A pig pen substantially as hereinbefore described with reference to the accompanying drawings.

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