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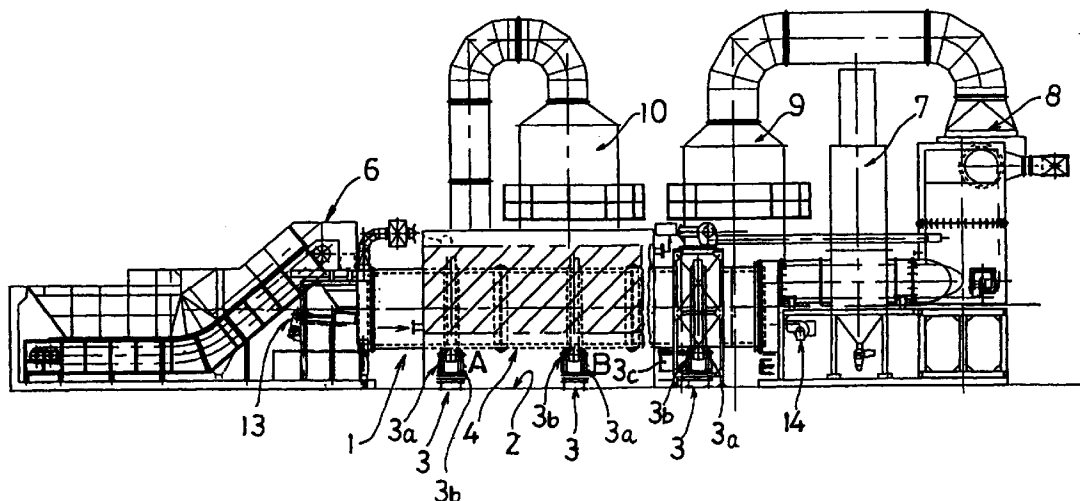
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(54) Linked rotary kiln incinerator

(57) A rotary kiln incinerator (1) with a cylindrical structure in which a waste material introduced through one side of a furnace body (4) is combusted while being gradually transported to the other side of the furnace body by the rotation of the furnace body. The furnace body is obtained by aligning along a straight line a plurality of drums (D₁ to D₅) that have openings on the right and left sides and rotatably linking the openings of the

adjacent drum. Internal temperatures of the drums are set to predetermined temperatures. Each drum is rotated by a rotation driving assembly (3a) installed on the outer periphery of the drum. Each of the rotation driving assembly is driven and controlled by a rotation control unit (3c) equipped with furnace temperature sensors each provided to the drum.



F I G. 2

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a linked rotary kiln incinerator capable of continuous and efficient incineration of large volumes of mixed waste containing low-calorie waste and high-calorie waste. The low-calorie waste is fruit juices, sludge, effluent, foul solution, waste liquor, kitchen waste, or other types of high-moisture waste having a high water content, and the high-calorie waste is for example macromolecular waste, waste oil, waste paper, and wood chips.

Description of Related Art

The term "incineration" refers to a process to burn something completely. The term "combustion" refers to a phenomenon in which the organic matter in a waste material reacts with the oxygen in the air (undergoes an oxidation reaction) and burns while generating heat and light.

In a so-called vertical type of dry distillation furnace or pyrolysis furnace, control air is commonly introduced through the bottom portion, the materials at the bottom are partially combusted and the adjacent portions are heated by the resulting heat, whereupon the organic matter starts decomposing and vaporizing. When the entire bottom portion is transformed into a hearth (red-hot layer), the portion above it is subsequently decomposed and vaporized (fluidized layer). The upper layer portion thereof is then absorbed (heat-transfer layer), the uppermost portion is transformed into a decomposition gas (gas layer). In this way, the combustion gradually moves upward over time.

Dry distillation ends when the pyrolysis of the organic matter is completed. Subsequently, a carbonization reaction starts and the decomposition gas drawn from the dry distillation furnace are heated by auxiliary burning in a gas incineration furnace. The necessary air is then fed to the gas combustion furnace to complete the combustion.

The organic matter contained in high-moisture waste or other materials combusted in a conventional dry distillation furnace is gradually combusted in the direction from bottom top. This process thus needs to be improved in a variety of ways because it is not suitable for the incineration of, for example, mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, foul solution, waste liquor, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, wastepaper, and wood chips.

Conventional incineration of low-calorie waste such as high-moisture waste needs various methods of acceleration of combustion. For example, dehydration

equipment or a hydroextractor is installed in the upstream of a line to feed the low-calorie waste into a dry distillation furnace to minimize the moisture content of the waste before the combustion of the waste. Alternatively, combustion accelerators or the like are added to the waste in order to improve the combustion efficiency. The temperature of the gas burner is set higher than usual. On the other hand, conventional incineration of mixed waste containing high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips does not require that low-calorie waste be pretreated or the furnace temperature be set at a high level. Accordingly, incineration equipment for incinerating low-calorie waste and incineration equipment for incinerating high-calorie waste are required to be separately installed for different types of waste, and the equipment cost increases.

Particular drawbacks of the conventional incineration equipment for incinerating low-calorie waste are that dehydration equipment must be installed in addition to the incineration equipment, and the fuel cost is extremely high because combustion accelerators must be additionally purchased, and because the temperature inside the furnace body must be set higher than usual.

Another reason that conventional vertical types of incineration furnaces need improvement in a variety of ways is that because high-moisture waste and other types of waste are introduced through the top of the incineration furnace and, while descending inside the furnace, are incinerated by a gas burner installed at the bottom of the furnace, it is very difficult to control the combustion rate and the amount in which the waste is introduced, and hence to achieve complete incineration. In addition, very complicated post-treatments are needed because large amounts of residues are generated.

In view of the above mentioned drawbacks, a lateral rotary kiln incinerator as shown in Fig. 1 has been proposed in the past, and disclosed in Japanese Published Unexamined Utility Model Application H06-14730 which was published on February 2, 1994 in Japan.

As shown in Fig. 1, the lateral rotary kiln incinerator 20 is constructed by mounting a rotation driving assembly 22 on top of a frame base 21 and rotatably installing a furnace body 23 composed of a single drum on top of the rotation driving assembly 22. The rotation driving assembly 22 is provided with an electric motor 22a and is configured in such a way that barrel gear 23a formed on the outside wall of the above mentioned furnace body 23 engages with the output gear 22b of the electric motor 22a, allowing the furnace body 23 to roll. The rolling furnace body 23 is configured in such a way that right and left flanges 23b, 23b formed on the outside wall of the furnace body 23 are accepted by rotary free rollers 22c, 22c provided on the right and left sides of the frame base 21, allowing the furnace body 23 to roll smoothly.

The above mentioned single-drum furnace body 23 is roughly shaped as a tapered bottomed cylinder such that the bottom portion 23c (located in the rear section) is provided with an opening 23d, and the furnace body 23 is tapered toward the bottom portion 23c and flared toward the larger opening 23e (located in the front section). The side of the larger opening 23e is provided with a gas burner 24 that faces the flame port inside the furnace body 23, with an exhaust unit 25 (including a dust collector), and with an enclosure 28 comprising a blast unit 27 and a slag tapping hole 26 that opens downward. The side of the bottom portion 23c is provided with a waste feed assembly 29 integrated with a screw 29a that passes through the opening and faces the feed port inside the furnace body 23. Because the waste feed assembly 29 feeds each time a predetermined amount of the waste from a hopper to the furnace body for incineration, the incineration efficiency is much higher than in the conventional dry distillation furnaces or vertical types of incineration furnaces described above, and there is no need to dehydrate the waste before introducing it to the furnace in a manner similar to that adopted for dry distillation furnaces, to admix combustion accelerators into the waste in order to improve the combustion efficiency, or to set the temperature of the gas burner higher than is usual under normal conditions. The technology has numerous other advantages, such as the fact that it is very easy to control the combustion rate and the amount in which the waste is introduced and that very little residue remains because, unlike a vertical type of incineration furnace, this technology does not use a process in which the waste is introduced through the top of an incineration furnace and, while descending inside the furnace, is combusted by a gas burner installed at the bottom.

However, the furnace body 23 of the lateral rotary kiln incinerator with the above-described structure comprises only a single drum, and is thus disadvantageous in that the combustion temperature of the furnace must be set high, that the process must be adjusted to allow the furnace body 23 to be rotated at a slower pace and to allow the materials to be thoroughly dried when low-calorie waste such as macromolecular waste is to be incinerated, and that the incineration efficiency drops precipitously if the combustion temperature of the furnace is not set low and the furnace body 23 is not rotated faster when high-calorie waste such as macromolecular waste, waste oil, wastepaper, or wood chips is to be incinerated. Another persisting problem that is requested to be resolved in the future is that because low-calorie waste must be incinerated completely during the incineration of mixed waste containing high- and low-calorie waste materials, the furnace must be rotated at a low speed by the rotation driving assembly 22, but such slow rotation impedes the combustion of admixed high-calorie waste, makes it extremely difficult to set the rotational speed and the furnace temperature to a level that would ensure optimum incineration of the mixed

waste containing high- and low-calorie waste materials being introduced, and makes it impossible to achieve ideal combustion.

The present invention was made in order to solve the above mentioned problems and an object thereof is to provide a linked rotary kiln incinerator capable of continuously and efficiently incinerating mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips.

SUMMARY OF THE INVENTION

In order to achieve the above mentioned object, there is provided the following features to an elongated rotary kiln incinerator with a cylindrical structure in which a waste material introduced through one side of a furnace body is combusted while being gradually transported to the other side of the furnace body by the rotation of the furnace body. The furnace body is obtained by aligning along a straight line a plurality of drums that have openings on the right and left sides and rotatably linking the adjacent drums at the openings. Each drum is rotated by a rotation driving assembly installed on the outer periphery of the drum, and each of the rotation driving assembly is driven and controlled by a rotation control unit equipped with furnace temperature sensors each provided to the drum. A fixed temperature difference is assigned between the internal temperature of a first set of drums linked at positions close to the side of waste introduction and the internal temperature of a second set of drums linked at positions away from the side of waste introduction, and the rotational speed of each drum is controlled in accordance with this temperature difference. Preferably, the internal temperature and the rotational speed of the first set of drums linked at the positions close to the side of waste introduction are respectively set to a temperature and a rotational speed necessary to combust high-calorie waste, and the internal temperature and the rotational speed of the second set of drums at the positions away from the side of waste introduction are respectively set to a temperature necessary and a rotational speed necessary to combust low-calorie waste. Further preferably, the internal temperature of the first set of drums linked at the positions close to the side of waste introduction is set to a temperature necessary to combust high-calorie waste, and the introduction of the high-calorie waste is suspended if the interior of the drums is heated above the set temperature due to the continuous introduction of waste, and no waste is introduced until the temperature inside the drums drops to the set temperature. Still further, the rotational speed of the drums in which high-calorie waste is combusted is preferably higher than that of the drums in which low-calorie waste is combusted.

Because a structure such as that described above is adopted in the present invention, when mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips is introduced into the furnace body, then, high-calorie waste such as macromolecular waste, waste oil, waste paper, or wood chips is first completely incinerated in the drums that are rotated at a high speed and that are linked at positions close to the side of waste introduction, and admixed low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content is passed while rotated through the rapidly rotating drums of the first stage, and is thus thoroughly dried while moving through the rapidly rotating drums. After that the waste reaches the slowly rotating drums linked at positions away from the side of waste introduction and undergoes complete incineration there.

In summary, the adoption of the linked rotary kiln incinerator pertaining to the present invention allows a mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips to be processed continuously and in large quantities.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a diagram illustrating the structure of a conventional rotary kiln incinerator;
Fig. 2 is a side view of the linked rotary kiln incinerator according to the present invention; and
Fig. 3 is a plan view of the linked rotary kiln incinerator according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

An embodiment of the linked rotary kiln incinerator according to the present invention will now be described with reference to Figs. 2 and 3.

Fig. 2 is a side view depicting the entire structure of the linked rotary kiln incinerator according to the present invention, and Fig. 3 is a plan view depicting the entire structure of the linked rotary kiln incinerator according to the present invention.

In the drawings, a linked rotary kiln incinerator 1 comprises a rotation driving assembly 3 (blocks A, B, C, D, and E) mounted on top of a frame base (base) 2. The rotary kiln incinerator 1 also comprises a furnace body 4 rotatably installed on top of the rotation driving assembly 3. The furnace body 4 comprises a plurality of drums. In the present embodiment, the furnace body 4 comprises five drums D_1 , D_2 , D_3 , D_4 , and D_5 (for example, the length of one drum is 8 meters, and the total

length is 40 meters).

The rotation driving assembly 3 installed on each of the above mentioned blocks (A through E) is provided with an electric motor 3a. The rotation driving assemblies 3 are configured in such a way that barrel gears 4a formed on the outside wall of the furnace body 4 mesh with the output gears 3b of the electric motors 3a, allowing the furnace body 4 to roll. A rotation control unit 3c is provided for controlling the rotational speeds of the drums D_1 , D_2 , D_3 , D_4 , and D_5 forming the furnace body 4. More specifically, a fixed temperature difference is assigned between the internal temperature of the plurality of drums D_1 , D_2 , and D_3 linked at positions close to the side of waste introduction and the internal temperature of the plurality of drums D_4 and D_5 linked at positions away from the side of waste introduction. The rotational speed of each drum can be controlled in accordance with the temperature difference. In the preferred embodiment, the internal temperature of the drums D_1 , D_2 , and D_3 is $500^{\circ}\text{C} \pm 100^{\circ}\text{C}$ while the internal temperature of the drums D_4 and D_5 is $850^{\circ}\text{C} \pm 100^{\circ}\text{C}$. The rotational speed of the drums D_1 , D_2 , and D_3 in this embodiment is designed to be set to for example one revolution per minute and that of the drums D_4 and D_5 , for example, to one revolution every two minutes.

In addition, the overall structure of the drums D_1 , D_2 , D_3 , D_4 , and D_5 comprising the above mentioned furnace body 4 is such that each of the drums remains cylindrical between its two openings (4c and 4d), the drums D_1 , D_2 , D_3 , D_4 , and D_5 are aligned along a straight line, and the facing openings 4c and 4d of the adjacent drums D_1 , D_2 , D_3 , D_4 , and D_5 fit into each other, yielding a rotatably linked furnace body 4.

The links between the above mentioned drums D_1 , D_2 , D_3 , D_4 , and D_5 are equipped with a suitable number of an oxygen feed unit 5 to allow the temperature inside the furnace body 4 to be maintained at the set levels at all times.

A waste feed unit 6 for feeding mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips is installed near one of the openings of the above mentioned drum D_1 . A desalination/desulfurization apparatus 7, a dust collector (in the embodiment in question, a cyclone type of dust collector) 8, a cooling device 9, a wet scrubber 10, and an exhaust unit 11 are installed in the order indicated near the opening of the drum D_5 .

In addition, lifting protrusions (not shown) of prescribed height are provided to the internal walls of the drums D_1 , D_2 , D_3 , D_4 , and D_5 forming the furnace body 4 to allow the waste being introduced to be transported with high efficiency from one side to the other during rolling. Furthermore, a heat-exchange apparatus X is provided on the outer periphery of the above mentioned

furnace body 4, as is a heat reuse system Y containing a hot-water supply apparatus or a power generator that utilizes heat released by the furnace body 4.

Moreover, the above mentioned drums D₁ and D₅ are equipped with a first burner 13 and a second burner 14, respectively.

The flame temperature of the above mentioned first burner 13, second burner 14, and oxygen feed unit 5 is controlled by a rotation control unit 3c (comprising a proportional controller, furnace temperature sensors and other circuitry; not shown), allowing mixed waste or other types of waste introduced into the furnace body 4 to be combusted in a controlled manner with high efficiency. The mixed waste contains low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips.

Although the internal temperature of the drums D₁, D₂, and D₃, which are linked at positions near the above mentioned waste feed unit 6, is set to a temperature necessary to combust high-calorie waste, the introduction of the high-calorie waste is suspended if the interior of the drums D₁, D₂, and D₃ is heated above the set temperature due to the continuous introduction of the waste, and no waste is introduced by the waste feed unit 6 until the temperature inside the drums D₁, D₂, and D₃ drops to the set temperature. An overview of the incineration of waste in the linked rotary kiln incinerator according to the present invention will now be given based on the above-described structure.

The linked rotary kiln incinerator 1 according to the present invention is such that a plurality of drums D₁, D₂, D₃, D₄, and D₅ constituting a furnace body 4 are rotatably driven by the rotation driving assembly 3 provided to each of the drums D₁ through D₅ while the rotational speed is controlled by rotation control unit 3c. Moisture and other components contained in waste must be thoroughly dried when incineration involves low-calorie waste alone, as in the case of low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content to be incinerated. Accordingly, control involves gradually increasing the rotational speed in the direction from the drum D₁ on the side of the waste feed unit 6 toward the drums D₂, D₃, D₄, and D₅ in the order indicated. More specifically, the waste introduced into the first drum D₁ contains a large amount of moisture or the like, and is therefore incinerated by slow rotation (most of the moisture is evaporated and dried by the first burner 13), ultimately moving to the last drum D₅. The low-calorie waste that has reached the last drum D₅ can be combusted relatively easily because the moisture has already been vaporized and dried in a sequential manner at the preceding stage. The waste is therefore transported to the last drum D₅ while this drum is made to rotate faster than the drum D₄ and a prescribed incineration procedure is performed. If there

are signs that the combustion temperature inside the furnace body 4 is decreasing, the material is subsequently incinerated while the oxygen feed unit 5 provided to the links between the drums D₁, D₂, D₃, D₄, and D₅ are actuated to prevent a reduction in combustion efficiency. Any residue that has remained without being incinerated in the drums D₁, D₂, D₃, or D₄ of the first stage is ultimately transferred to the drum D₅, burned by the flame of the second burner 14, and completely incinerated in the drum D₅. The last drum D₅ rotates even faster than the preceding drum D₄ because the drum D₅ is used to incinerate only the waste not incinerated in the preceding drum D₄. Thus, the linked rotary kiln incinerator 1 according to the present invention has a larger furnace capacity than a conventional rolling type of rotary kiln incinerator because the furnace body 4 is composed of a plurality of drums D₁, D₂, D₃, D₄, and D₅ linked together, and the drums can be rollably driven and waste materials incinerated in a prescribed manner while the rotational speed of the furnace body 4 is controlled, with the result that the amount in which the waste materials can be processed is increased dramatically in comparison with the conventional rolling type of rotary kiln incinerator, and the combustion efficiency can be markedly improved as well.

In addition, during the incineration of mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips, the rotation of the drums D₁, D₂, and D₃ is controlled at each stage in such a way that their speed is set to one revolution per minute, that is, above the speed of the subsequent drums D₄ and D₅. The reason is that the incineration involves a mixture containing high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips, rather than only the above mentioned high-moisture waste or other such low-calorie waste.

More specifically, the waste introduced into the first drum D₁ contains admixed high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips, making it easier to ignite the first burner 13 and to evaporate and dry up the contained moisture or the like, with the result that the waste is incinerated at each step of the drums D₁, D₂, and D₃ in such a way that these drums are rotated faster than the drums D₄ and D₅, which are used to incinerate only the above mentioned low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, that the unburned low-calorie waste that has passed through the drums D₁, D₂, and D₃ is transported to the second stage, that is, to the drums D₄ and D₅ set to perform one revolution every two minutes (the waste is dried as it is being transported), and that all the waste is ultimately incinerated in the drums D₄ and D₅ of the second stage.

In particular, a merit of the linked rotary kiln incinerator 1 according to the present invention is that while the above mentioned remarkable effects can be obtained when incineration involves only the above mentioned low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, it is even more remarkable that a higher incineration capacity per unit of time can be achieved than with a conventional rolling type of rotary kiln incinerator during the incineration of mixed waste containing low-calorie waste such as high-moisture waste, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips, that is, superb incineration capacity can be achieved by increasing the furnace capacity and rollably driving the furnace and incinerating the waste in a prescribed fashion while controlling the rotational speed of the furnace body 4, thereby providing a radical solution for the incineration of household waste, an important issue of future waste disposal.

In addition, the furnace wall surfaces of the drums D_1 , D_2 , and D_3 , which are linked at positions near the above mentioned waste feed unit 6, are protected from unnecessary damage or the like because while the internal temperature of the drums D_1 , D_2 , and D_3 is set to a temperature necessary to combust high-calorie waste, the introduction of the high-calorie waste is suspended if the interior of the drums D_1 , D_2 , and D_3 is heated above the set temperature due to the continuous introduction of the waste, and no waste is introduced by the waste feed unit 6 until the temperature inside the drums D_1 , D_2 , and D_3 drops to the set temperature.

Furthermore, chlorine gas, dioxins, and other hazardous substances emitted due to the combustion of industrial waste are efficiently removed because the present invention envisages installing the desalination/desulfurization apparatus 7, the dust collector (in the present embodiment, a cyclone type of dust collector) 8, the cooling device 9, the wet scrubber 10, and the exhaust unit 11 in the order indicated at the second stage of the furnace body 4. In addition, heat generated by the combustion of such waste can be efficiently utilized because a heat-exchange apparatus X is provided on the outer periphery of the above mentioned furnace body 4, as is a hot-water supply apparatus, power generator, or other reuse system Y that utilizes heat released by the furnace body 4.

As described in detail above, the present invention relates to an elongated rotary kiln incinerator with a cylindrical structure in which a waste material introduced through one side of a furnace body is combusted while being gradually transported to the other side of the furnace body by the rotation of the furnace body. The furnace body is obtained by aligning along a straight line a plurality of drums that have openings on the right and left sides and rotatably linking the adjacent drums at the openings. Each drum is rotated by a rotation driving assembly installed on the outer periphery of

the drum, and each of the rotation driving assembly is driven and controlled by a rotation control unit equipped with furnace temperature sensors each provided to the drum. A fixed temperature difference is assigned between the internal temperature of a first set of drums linked at positions close to the side of waste introduction and the internal temperature of a second set of drums linked at positions away from the side of waste introduction, and the rotational speed of each drum is controlled in accordance with this temperature difference. Preferably, the internal temperature and the rotational speed of the first set of drums linked at the positions close to the side of waste introduction are respectively set to a temperature and a rotational speed necessary to combust high-calorie waste, and the internal temperature and the rotational speed of the second set of drums at the positions away from the side of waste introduction are respectively set to a temperature necessary and a rotational speed necessary to combust low-calorie waste. Further preferably, the internal temperature of the first set of drums linked at the positions close to the side of waste introduction is set to a temperature necessary to combust high-calorie waste, and the introduction of the high-calorie waste is suspended if the interior of the drums is heated above the set temperature due to the continuous introduction of waste, and no waste is introduced until the temperature inside the drums drops to the set temperature. Still further, the rotational speed of the drums in which high-calorie waste is combusted is preferably higher than that of the drums in which low-calorie waste is combusted.

According to the above configuration, when mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips is introduced into the furnace body, then, high-calorie waste such as macromolecular waste, waste oil, waste paper, or wood chips is first completely incinerated in the drums that are rotated at a high speed and that are linked at positions close to the side of waste introduction, and admixed low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content is passed while rotated through the rapidly rotating drums of the first stage, and is thus thoroughly dried while moving through the rapidly rotating drums. After that the waste reaches the slowly rotating drums linked at positions away from the side of waste introduction and undergoes complete incineration there.

Thus, the remarkable merits of adopting the linked rotary kiln incinerator pertaining to the present invention include the fact that a mixed waste containing low-calorie waste such as fruit juices, sludge, effluent, kitchen waste, and other types of high-moisture waste with a high water content, and high-calorie waste such as macromolecular waste, waste oil, waste paper, and wood chips can be processed continuously and in large

quantities in a single linked rotary kiln incinerator.

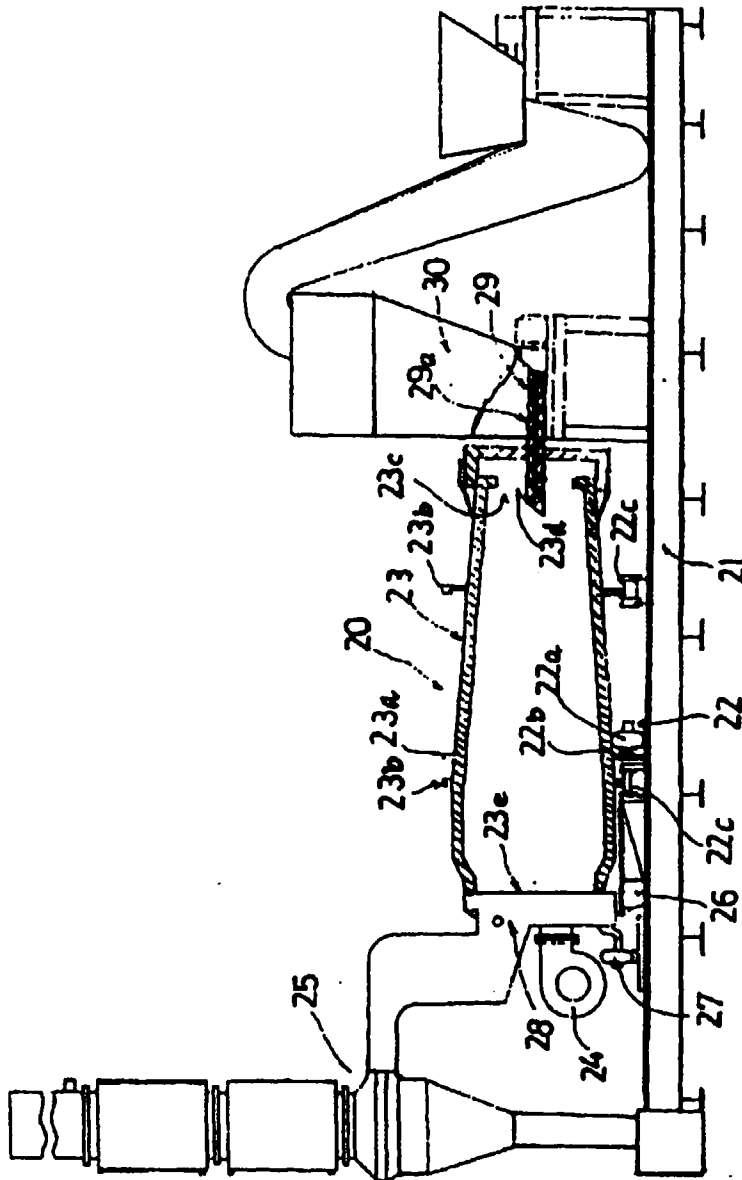
The features disclosed in the foregoing description, in the claims and/or in the accompanying drawings may, both separately and in any combination thereof, be material for realising the invention in diverse forms thereof.

Claims

1. A rotary kiln incinerator with a cylindrical structure comprising a furnace body in which waste introduced through one side of the furnace body is combusted while being gradually transported to another side of the furnace body by the rotation thereof, said rotary kiln incinerator comprising:
 - a plurality of drums laterally arranged to form the furnace body, said drums having openings on right and left sides thereof and adjacent drums being rotatably linked with each other at the openings;
 - a plurality of rotation driving assemblies, each of said rotation driving assemblies being installed on an outer periphery of a corresponding drum to rotate said corresponding drum; and
 - rotation controller provided to said drums and equipped with furnace temperature sensors, for controlling each of said rotation driving assemblies,
 - wherein a fixed temperature difference is assigned between an internal temperature of a first set of drums linked at positions close to a waste introduction side of said furnace body and an internal temperature of a second set of drums linked at positions away from said waste introduction side, and the rotational speed of each of said drums is controlled in accordance with said temperature difference.
2. A rotary kiln incinerator as claimed in Claim 1, wherein the internal temperature and the rotational speed of said first set of drums linked at the positions close to the waste introduction side are respectively set to a temperature and a rotational speed necessary to combust high-calorie waste, and the internal temperature and the rotational speed of said second set of drums linked at the positions away from the waste introduction side are respectively set to a temperature and a rotational speed necessary to combust low-calorie waste.
3. A rotary kiln incinerator as claimed in Claim 1, wherein the internal temperature of said one first of drums linked at the positions close to the waste introduction side is set to a temperature necessary to combust high-calorie waste, and introduction of the high-calorie waste is suspended if interior of

said drums is heated above the set temperature due to continuous introduction of the waste, thereby no waste is introduced until a temperature inside said one first of drums drops to the set temperature.

4. A rotary kiln incinerator as claimed in Claim 1, wherein a rotational speed of one set of drums in which high-calorie waste is combusted is higher than that of another set of drums in which low-calorie waste is combusted.
5. A rotary kiln incinerator comprising:
 - a furnace body having a plurality of drums laterally arranged and supported such that the drums are rotatable independently of each other, each of the drums having openings at both ends thereof;
 - rotation driving means provided for each of the drums for rotating the each of the drums;
 - waste feeding means connected to one end of said furnace body for feeding waste into said furnace body;
 - burning means for burning the waste in said furnace;
 - internal temperature controlling means for controlling temperatures of at least two points in said furnace body, said two points are different in a lateral direction; and
 - rotation control means for controlling each of said rotation driving means.



PRIOR ART

FIG. 1

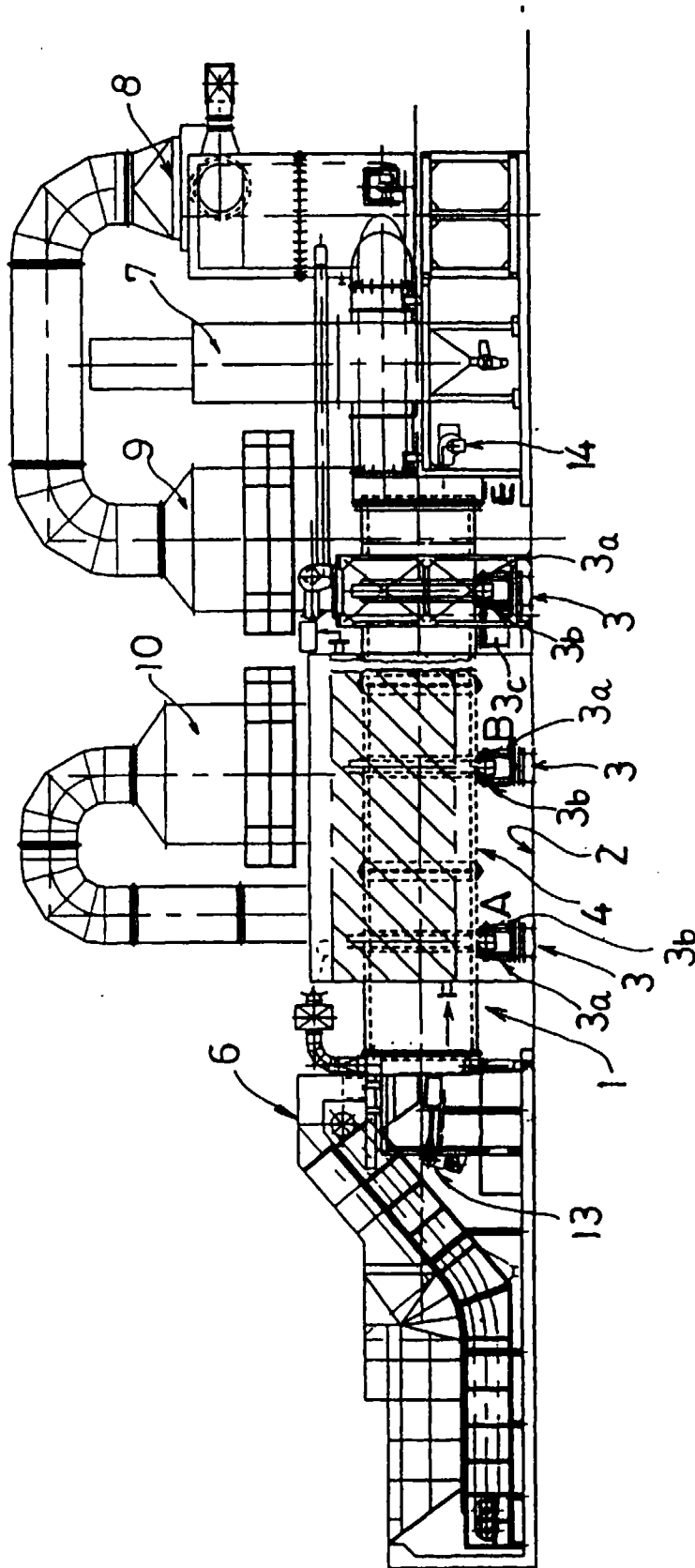


FIG. 2

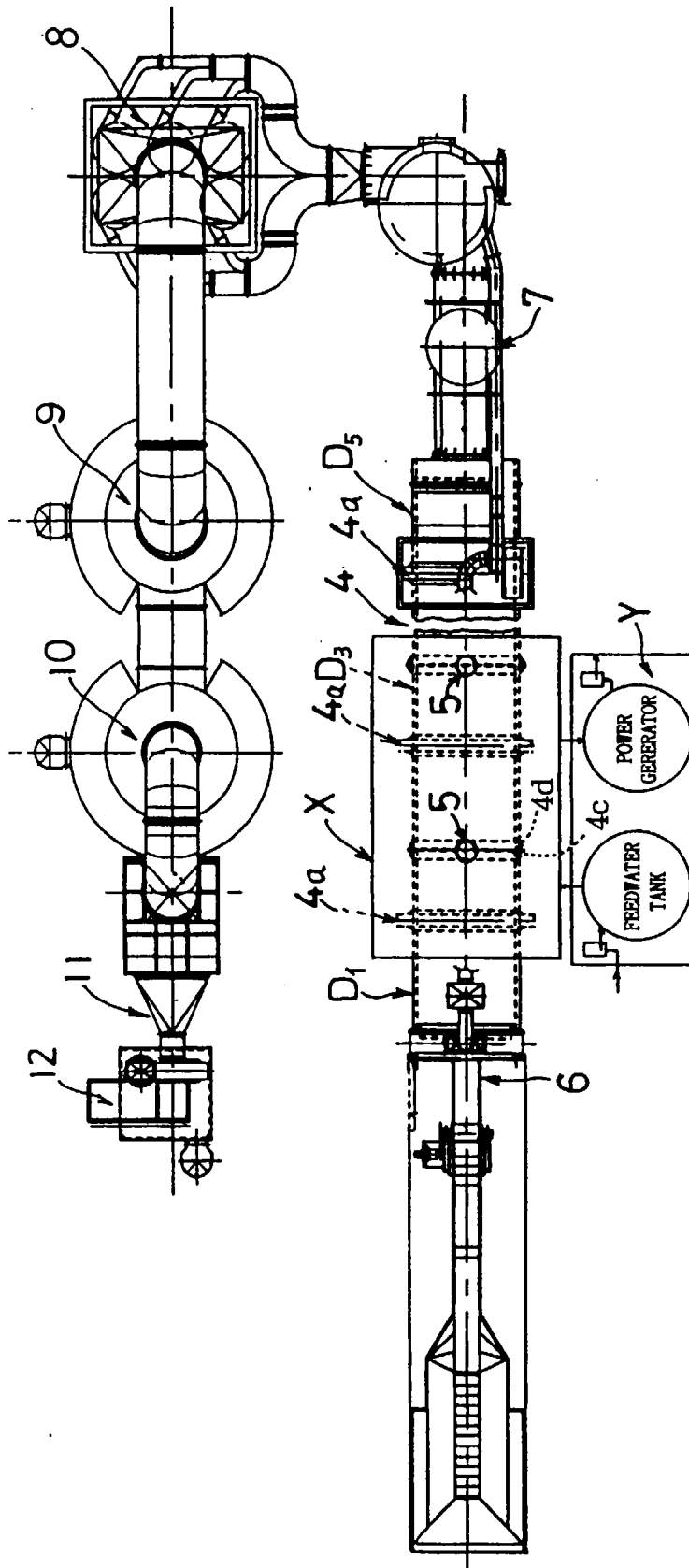


FIG. 3