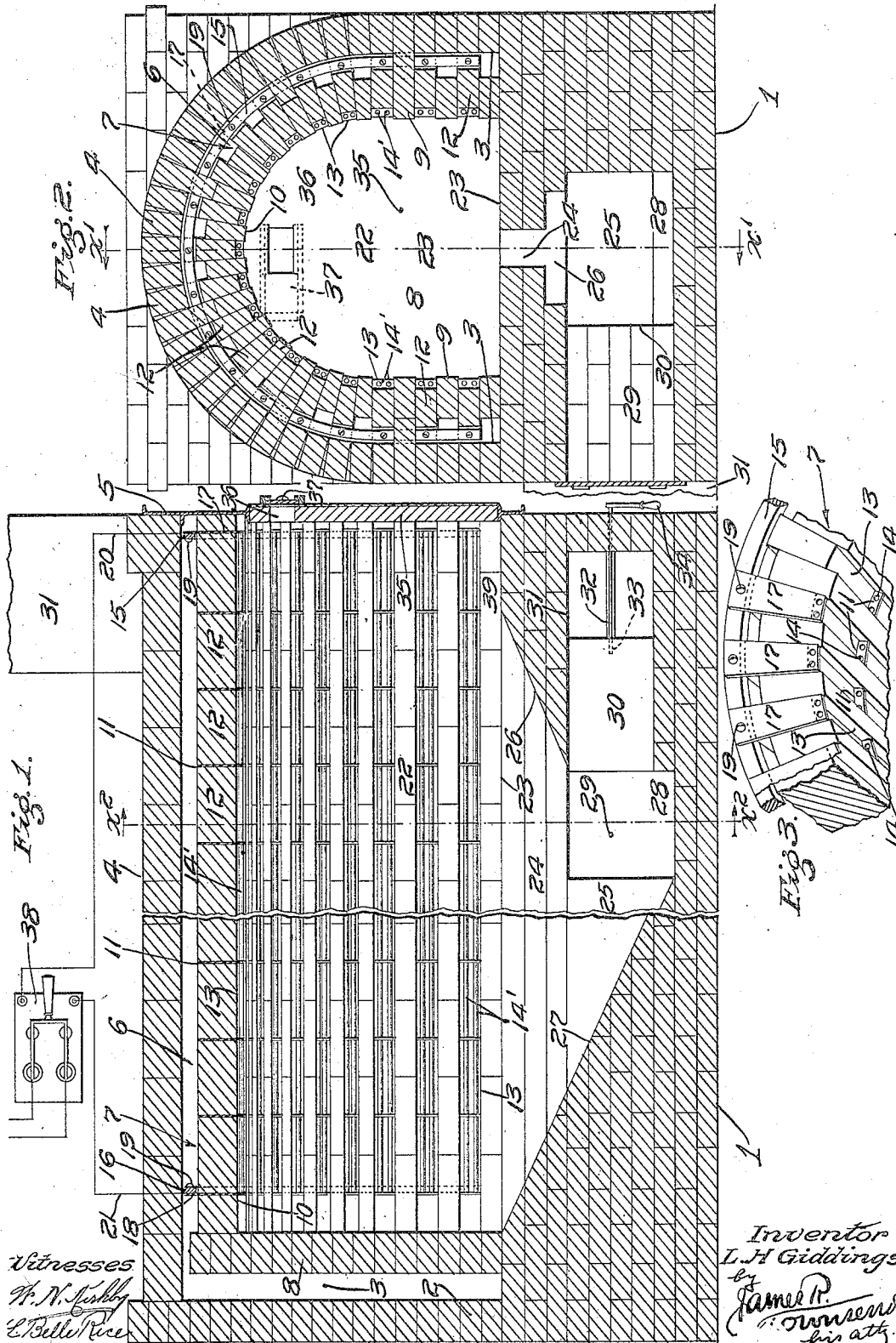


L. H. GIDDINGS.
ELECTRICAL CREMATORY.
APPLICATION FILED FEB. 3, 1910.

989,960.

Patented Apr. 18, 1911.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CREMATORY.

989,960.

Specification of Letters Patent.

Patented Apr. 18, 1911.

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To all whom it may concern:

Be it known that I, LAWSON H. GIDDINGS, a citizen of the United States, residing at Pasadena, in the county of Los Angeles and State of California, have invented a new and useful Electrical Crematory, of which the following is a specification.

The object of this invention is to make an improvement in the art of cremating human bodies.

Heretofore, the cremation of human bodies has been effected by the use of fuel burned in the crematory furnace to produce heat, and directly or indirectly applied to cause the body to be oxidized. In such operation, the sense of destructive action of the elements upon the body is more or less pronounced, depending upon the remoteness of the application of external flame to the body or the retort.

An object of this invention is to provide a crematory in which the sense of violent action upon the body in the process of consuming the same will be reduced to a minimum, so that the sentiments of the friends and relatives will not be violated.

Further objects are: to reduce the initial cost of the furnace, to economize heat, to increase the cleanliness, to avoid all odors, to decrease the labor, time and attention required for heating the furnace and effecting the cremation, and to reduce to a minimum the actual cost of fuel and labor for the cremation of bodies.

Advantages gained are: noiselessness; no expense for fireman; quick heating, and freedom from smoke or smell from fuel.

The accompanying drawings illustrate the invention.

Figure 1 is a fragmental longitudinal mid-section on line indicated by x^1 , Fig. 2. Fig. 2 is a cross-section on line x^2 , Fig. 1, looking toward the right. Fig. 3 is a fragmental perspective detail of the arch of the retort.

The crematory comprises an external heat insulating shell constructed of brick or other suitable building material, and comprising a base 1, end and side walls 2, 3, a top 4 and a front wall 5. The top is preferably in the form of an arch, underneath which is an air-chamber 6. Inside the air-chamber is a retort 7, the walls of which are carried by the base 1; said retort comprises end and side walls 8, 9, and a top 10, the floor being

formed by the base, all of which may be built of fire-brick or other high heat resisting material. Metallic resistance hangers or supports 11 are anchored in the structure of the retort and may be formed of metal plates inserted in the joints between the bricks or blocks 12, of which the side walls and top of the retort are formed. The side walls and top of the retort are internally grooved, the grooves 13 being formed by staggering alternate courses of bricks or blocks 12. The plates 11 project across the grooves 13 and are perforated at 14 inside the grooves to receive resistance rods 14', one or more of said rods being mounted within each of the grooves 13. Extending over the retort at the ends thereof, are electrical conductors 15, 16, and conducting hangers as plates 17, 18, at the ends of the retorts and which correspond to the plates 11, except that they extend outwardly beyond the retort and into the air-chamber 6 and there form supports for said conductors 15, 16, which are fastened thereto by bolts or screws 19.

The plates 11, 17 and 18, may be of cast-iron or some other high heat-resisting electrical conductor, and the copper conductors 15, 16, are connected by leads 20, 21, with a source of electrical energy, not shown. These leads may be connected with an ordinary light or power line and the current used may be either alternating or direct current and may be of any suitable voltage, as 110 volts, 220 volts or any commercial voltage that is ordinarily furnished by electrical power systems.

Within the retort is a cremating chamber 22 and in the floor 23 of said chamber is a longitudinal slot 24 extending practically from end to end of the retort along the mid-line thereof and communicating with a secondary combustion chamber 25 having a floor that slopes from each end as indicated at 26, 27, and leading to a central cavity 28, one side of which is provided with a door 29 and from another side of which there opens a tunnel 30 forming a passage to the stack 31 between which and the tunnel 30 a damper 32 shown as open and controlled by a shaft 33, is provided.

The damper is controlled by a handle 34. The cremating chamber is provided at one end with a door 35 through which the body to be cremated may be inserted; and at the

top of said door an air inlet 36 which may be closed by a slide 37 is provided to admit air for oxidizing the body.

The current of electricity is controlled by a suitable switch 38 and when it is desired to cremate a body the current will be turned on for preferably an hour, more or less, before the cremation is to begin. The damper 32 the door 35 and the slide 37 will all be closed to retain heat within the retort, and the current will be turned on at the switch 38, thus heating the resistance 14 with result that the walls, arch and floor of the retort become intensely heated. A temperature of 1,200 degrees Fahrenheit, more or less, is desirable, and when the appropriate heat has resulted, the damper 32 may be opened as shown in Fig. 1, and then the door 35 may be opened and the casket, not shown, containing the body may then be inserted into the chamber of the retort and deposited upon the floor 23.

The slot 24 extends from the closed end 8 of the chamber nearly to the open end 25, which is closed by the door 35, and terminates about two feet, more or less, from said door, so that there is a solid platform 39 upon which the casket may rest as it is being pushed into the retort. The casket, not shown, will then be so placed in the retort chamber that it covers the slot throughout a large portion thereof leaving, however, at each end of the slot a draft opening from the chamber into the secondary combustion chamber 25 which expands outwardly below the slot 24, then the door 35 will be closed and the air-inlet 36 opened, thus admitting oxygen to the top of the retort chamber to effect the combustion of the casket and the body. At any period of the above operation within the judgment of the operator, the current may be turned off at the switch 38.

When the contents of the retort chamber have been fully oxidized either in said chamber or in the secondary combustion chamber, the retort may be allowed to cool for any period desired and then the door 35 may be opened and the ashes contained therein swept into the slot 24 through which they fall into the secondary combustion chamber and into the pit 28 from which they may be removed through the door 29.

The electrical resistance may be of any suitable high heat and electricity resisting material as calorite, cast-iron or carbon, for example, and may be arranged in rods or strips as may prove most satisfactory under various conditions.

By arranging the resistance in the grooves or open channels so that they are exposed to the interior of the retort chamber and are yet protected, the walls of the channels serve as reflectors and by reason of the arched form of the retort walls, shown in the drawings, the heat is reflected by the walls of

the channels toward that portion of the retort where the body will repose so as to concentrate the heat at the center of the retort.

I claim:—

1. The combination with a retort provided with a floor and with an arch over the floor; said arch being provided with grooves; of resistance arranged in the grooves; the walls of said grooves being arranged to reflect the heat from said resistance toward the central part of the retort chamber.

2. A crematory comprising a heat-insulated retort provided with internally channeled heat-resisting walls, and a floor, electrical resistances in the channels, and means for inlet of oxygen and exit of gases.

3. A crematory comprising a heat-insulated retort provided with internally channeled heat-resisting walls, and a floor, electrical resistances in the channels, means for inlet of oxygen and exit of gases, and means for controlling draft through the retort.

4. An electrical crematory comprising a retort composed of bricks in staggered courses forming open grooves, electrical resistances in the grooves, said resistance being exposed to the interior of the retort, and hangers of heat-resisting material extending between the bricks and into the grooves to support the resistances.

5. A crematory comprising a retort having a slotted floor, means to cause a draft through the retort and slot, and electrical resistance to heat the retort chamber.

6. A crematory comprising a retort having an apertured floor, means to cause a draft through the retort and floor, and electrical resistance to heat the retort chamber.

7. A crematory comprising a retort having an apertured floor, means to cause a draft through the retort and floor, means to control the draft, and electrical resistance to heat the retort chamber.

8. A crematory comprising a retort, an insulating chamber around the retort, means for inlet of oxygen and exit of gas to and from the retort chamber, electrical resistances to heat the retort chamber, main electrical conductors in the insulating chamber and around the retort chamber, and electrical conductors leading from the main conductors to the resistances.

9. A crematory comprising a retort, an insulating chamber around the retort, means for inlet of oxygen and exit of gas to and from the retort chamber, electrical resistances to heat the retort chamber, main electrical conductors in the insulating chamber and around the retort chamber, electrical conductors leading from the main conductors to the resistances, and means for inlet of air and exit of gases.

10. A crematory comprising a base provided with a slotted floor and beneath the floor a combustion chamber with which the

slot communicates; a retort above the floor, provided at one end with an opening, a door to close the opening, heat-resisting means to insulate the retort, means for electrically heating the interior of the retort, an air inlet being provided to admit air to the retort, and a stack to carry off the gases of combustion.

11. A crematory comprising a base provided with a slotted floor and beneath the floor a combustion chamber with which the slot communicates; a retort above the floor, provided at one end with an opening, a door to close the opening, heat-resisting

means to insulate the retort, means for electrically heating the interior of the retort, an air inlet being provided to admit air to the retort, a stack to carry off the gases of combustion and means to control the draft through the retort and stack.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 24th day of January, 1910.

LAWSON H. GIDDINGS.

In presence of—

JAMES R. TOWNSEND,
L. BELLE RICE.