April 29, 1947. A. DI FILIPPO 2,419,710

HEAT STORING AND DISSIPATING APPARATUS FOR FURNACES

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Fig. 1.

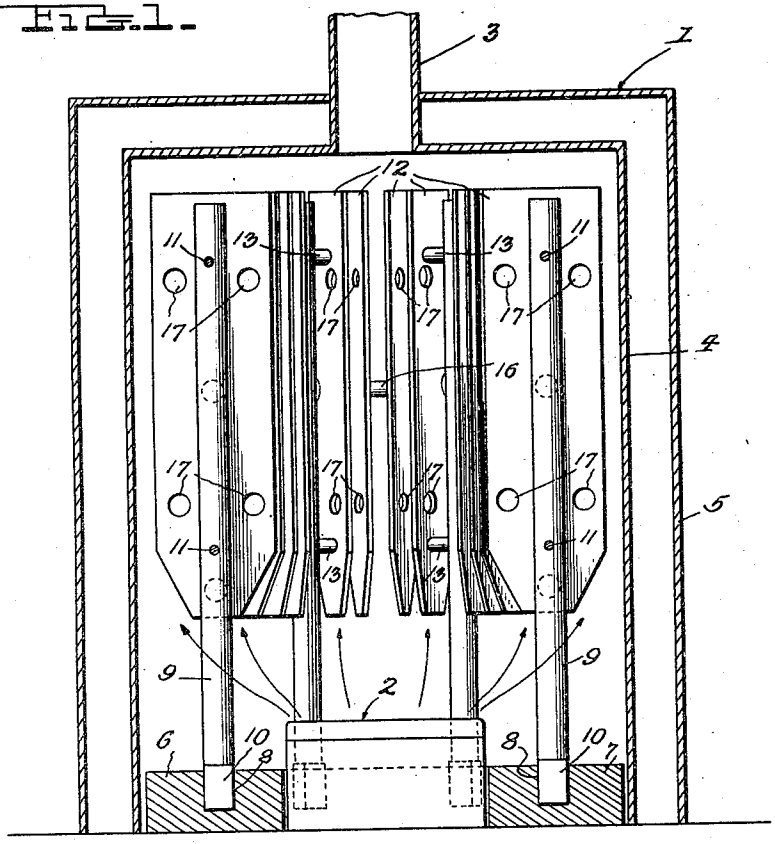
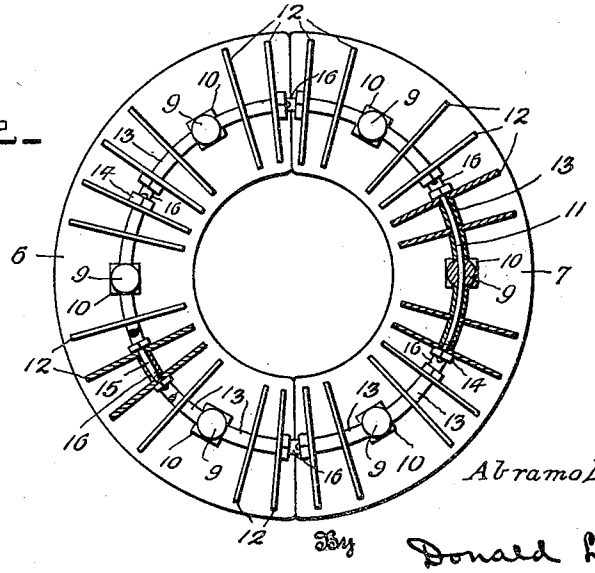


Fig. 2.



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HEAT STORING AND DISSIPATING APPARATUS FOR FURNACES

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Substituted for abandoned application Serial No. 508,185, October 29, 1943. This application April 10, 1945, Serial No. 587,492

5 Claims. (Cl. 110—97)

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This application is a substitute for my abandoned application, Serial Number 508,185, filed October 29, 1943, for Heat storing and dissipating apparatus for furnaces.

This invention relates to improvements in furnaces, and more particularly to a heat storing and dissipating device adapted to be placed within a furnace using a rotary type oil burner for storing heat within the furnace after the oil burner has been cut off, to provide less frequent operation of the oil burner and thereby a considerable saving in the cost of operation of the furnace.

An object of my invention is to provide an improved heat storing and dissipating device which may be placed within any furnace using an oil burner as an auxiliary attachment thereto, for providing a saving in the cost of operation of the furnace so equipped, by reason of the storing of heat in the heat storing elements which will keep the water in the furnace warmer for a longer period, thus making the operation of the oil burner less frequent.

Another object of my invention is to provide a heat storing and dissipating attachment for oil burner equipped furnaces, which will consist of a sectional base formed of a pair of cooperating semi-circular base elements adapted to be positioned about the oil burner at the bottom of the furnace, and each base element formed with a plurality of square sockets adapted to receive the upright standards of a plurality of groups of heat storing elements, which when in position within the furnace, will be in direct contact with the flame from the oil burner, and will become heated to a high temperature so that when the oil burner is cut off, the stored heat will take an appreciable length of time to dissipate, thereby retaining the water temperature in the furnace heated for a longer period of time, thereby making the operation of the oil burner less frequent with a consequent saving in the cost of the fuel oil.

Another object of my invention is to provide a highly efficient form of heat storing and dissipating attachment for oil burner equipped furnaces which will be readily placed within the furnace and relatively inexpensive to manufacture.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of my application,

Figure 1 is a sectional view taken through a furnace, showing in full lines my improved heat storing and dissipating apparatus in position therein, and

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Figure 2 is a top plan view partly in horizontal section of my improved heat storing and dissipating apparatus.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out my invention, I provide any suitable form of furnace 1 equipped with a rotary type oil burner 2, said furnace being provided with a smoke outlet 3, and inner and outer jackets 4 and 5, respectively.

When a furnace having a rotary type oil burner is to be equipped with my improved heat storing and dissipating apparatus, it is only necessary to open the front or coal door of the furnace, and insert the two cooperating base elements 6 and 7 in place about the oil burner 2, as clearly illustrated in Figure 1 of the drawings, after which the heat storing groups of elements are ready to be passed through the coal door of the furnace and inserted within the sockets 8 formed in the upper surfaces of the base elements or members 6 and 7.

Each group of heat storing elements comprises a vertical supporting rod or member 9 formed at its lower end with a square shank 10 to be received within the sockets 8 in the base elements. Arcuate bolts 11 are passed through the upright supporting rods in spaced vertical arrangement and are adapted to receive and support a plurality of heat storing plates or elements 12, which in turn are held in spaced relation by means of the spacing collars 13 slid over the bolts between said plates, while the nuts 14 are placed on the threaded free ends of the bolts 11 to lock the several parts in assembled position. When the several groups of heat storing elements are in position in the furnace, the adjacent heat storing elements of each group may be secured together by means of the short bolts 15 and collars or sleeves 16, as clearly illustrated in the two figures of the drawings, thus making the whole arrangement as an integral unit. A number of openings 17 may be formed in the several heat storing plates, so that the flames and combustion gases from the oil burner may pass therethrough to more frequently heat the plates and to the smoke pipe opening.

It will be apparent that more or less plates may be employed in each group, and that their size and shape may be changed if desirable to accommodate them to different sizes and styles of

furnaces. From the foregoing description, it will be apparent that a furnace may be easily and readily equipped with my improved heat storing and dissipating apparatus, and that many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A device of the character described comprising a pair of cooperating semi-circular base members adapted to be assembled to form a circular base structure formed with a plurality of circumferentially arranged sockets in its upper surface, a plurality of vertically arranged rods in said sockets, vertically spaced arcuate supporting bolts extending through said rods, and a plurality of heat storing plates supported in spaced relation on said arcuate bolts.

2. A device of the character described comprising a pair of cooperating semi-circular base members adapted to be assembled to form a circular base structure formed with a plurality of circumferentially arranged sockets in its upper surface, a plurality of vertically arranged rods in said sockets, vertically spaced arcuate supporting bolts extending through said rods, and a plurality of interchangeable heat storing plates supported on said arcaute bolts.

3. A device of the character described comprising a pair of cooperating semi-circular base members adapted to be assembled to form a circular base structure formed with a plurality of circumferentially arranged sockets in its upper surface, a plurality of vertical rods non-rotatably mounted in said sockets, vertically spaced arcuate supporting bolts extending through said rods, and a plurality of interchangeable perforated heat storing plates supported in spaced relation on said arcuate bolts.

4. A device of the character described comprising a pair of cooperating semi-circular base members adapted to be assembled to form a circular base structure formed with a plurality of circumferentially arranged sockets in its upper surface, a plurality of vertical rods non-rotatably mounted in said sockets, vertically spaced arcuate supporting bolts extending through said rods, a plurality of interchangeable perforated heat storing plates supported in spaced relation on said arcuate bolts, and spacing means carried by said bolts for spacing the heat storing plates in the desired spaced relation.

5. A device of the character described comprising a pair of cooperating semi-circular base members adapted to be assembled to form a circular base structure formed with a plurality of circumferentially arranged sockets in its upper surface, a plurality of vertical rods non-rotatably mounted in said sockets, vertically spaced arcuate supporting bolts extending through said rods, a plurality of interchangeable perforated heat storing plates supported in spaced relation on said arcuate bolts, spacing means carried by said bolts for spacing the heat storing plates in the desired spaced relation, and means for securing adjacent groups of heat storing plates together to form a unit.

ABRAMO DI FILIPPO.

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The following references are of record in the file of this patent:

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