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MEANS FOR ELECTRICALLY BAKING OUT COILS

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FIG. 1

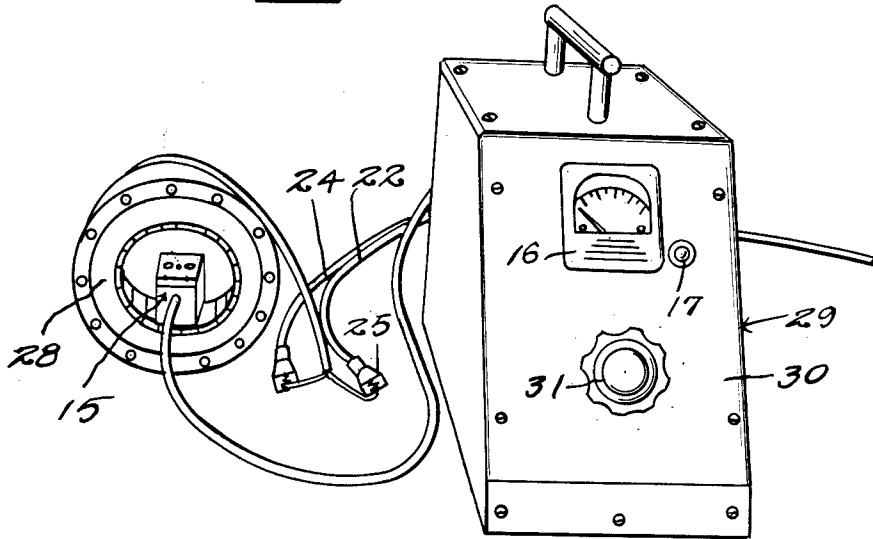
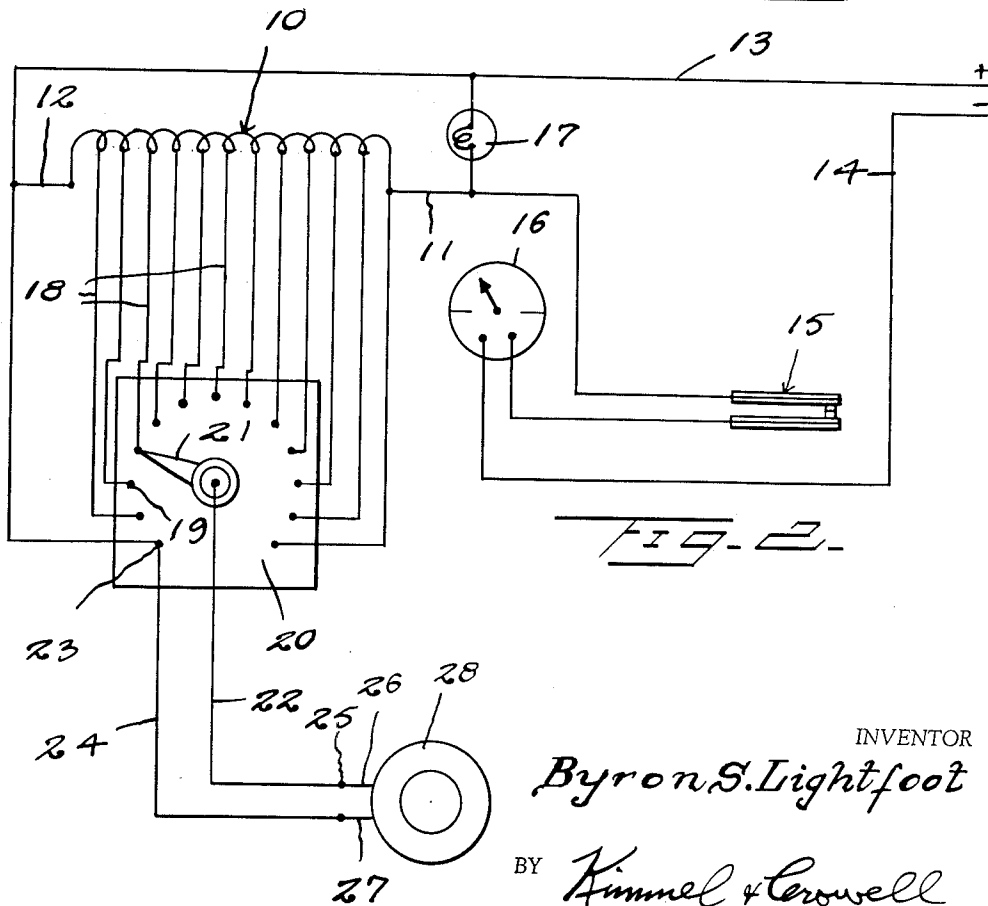


FIG. 2

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MEANS FOR ELECTRICALLY BAKING OUT COILS

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3 Claims. (Cl. 219—20)

This invention relates to an improved means for electrically baking out coils.

An object of this invention is to provide an improved means for baking out the coils in electrical appliances, such as for example the coils of motors, transformers, or other electrical appliances, wherein the articles have been dipped in industrial varnish. In the past the coils have been baked out by placing the same in ovens or other heated chambers, but this process is relatively slow because where the coil is relatively heavy or compact, the inner convolutions take longer to dry out than the outer convolutions.

Another object of this invention is to provide an improved means for baking out dipped coils wherein the entire coil is subjected to the same heat, and the drying means is controlled by a thermostat so that the coil will not be over-heated or burned during the baking process.

A further object of this invention is to provide a baking means which is simple in construction and portable so that the device can be hooked up with any convenient electrical outlet.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawing—

Figure 1 is a perspective view of a coil baking means constructed according to an embodiment of this invention, showing the device in operative position with respect to a coil,

Figure 2 is a diagrammatic view showing the electric circuits embodied in this invention.

Referring to the drawing, the numeral 10 designates generally a coil which is preferably of the resistance type, and one end of the coil 10 has a conductor 11 connected therewith. The other end of the coil 10 has a conductor 12 connected therewith and conductor 12 is connected to a power line 13. A second power line 14 is connected to one side of a thermostat 15 which is of the normal circuit closing type, and conductor 11 is also connected to the other side of the thermostat 15.

An ammeter 16 is interposed in conductor 14 and is adapted to register the amperage of current passing through the coil 10. A pilot light 17 is connected across conductors 11 and 13. Coil 10 has a plurality of conductors 18 connected to tapped convolutions of the coil and conductors 18 are connected to contact points 19 of a regulating tap switch 20. The regulating tap switch 20 includes a movable contact arm 21 which has one end of a conductor 22 connected therewith. Conductor 13 is connected to a contact point 23 carried by switch 20, and a conductor 24 is connected with contact 23. The two conductors 22 and 24, as shown in Figure 1, have clips 25 secured to the opposite ends thereof so that conductors 22 and 24 may be connected with the ends 26 and 27 of a coil 28, which is to be dried.

The apparatus hereinbefore described is mounted in

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a cabinet 29 with ammeter 16 disposed on the front panel 30 of the cabinet, and the knob 31 for switch arm 21 being disposed below the meter 16 and projecting from the front panel 30.

In the use and operation of this baking means, the dipped coil 28 is connected with the switch 20 by connecting the ends of the coil with clips 25. The thermostat 15 is preferably disposed interiorly of the coil 28 so that when a current is passing through the coil 28 and the latter is being heated by this current, thermostat 15 will regulate the amount of heat to be applied to the coil. In other words, thermostat 15, which is normally closed, will upon heating of the coil 28 to a predetermined degree break the electric circuit to the coil 28 so that the latter will not be burned or over-heated. Switch arm 21 is adjusted so as to apply the desired even heat to the coil 28 so that there will not be any greater current applied to the coil 28 than the coil was made to stand.

When the conductors 13 and 14 are connected with a source of current supply, pilot light 17 will initially be lighted by reason of the initial closing of the thermostat switch 15. In the event the coil 28 should be heated to a point where the thermostat will break the electric circuit thereto, pilot light 17 will go out so that a glance at the panel 30, within which pilot light 17 is mounted, will indicate whether the heat is still being applied to coil 28.

With a baking apparatus as hereinbefore described, the coil 28 will bake evenly from the inside to the outside and the baking out process can be performed in a shorter time than has heretofore been possible where the coil is placed in an oven or other heated chamber. The device can be used for baking coils such as the stators or rotors of motors, or the coils of transformers or other electrical appliances. The apparatus hereinbefore described is compact in assembly and readily portable so that the device can be connected with any suitable electrical outlet which may be convenient.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claims.

What I claim is:

1. A varnish covered coil and means for baking out in open air said coil, said means comprising a resistance coil, a pair of supply conductors connected to the ends of said resistance coil, a selector switch formed of a plurality of fixed contacts and a movable contact, conductors connecting said contacts with spaced convolutions of said resistance coil, a conductor connected at one end with the other of said supply conductors and connected at the other end with one end of said varnish covered coil, and a conductor connected at one end with said movable contact and connected at the other end to said varnish covered coil.

2. A varnish covered coil and means for baking out in open air said coil, said means comprising a resistance coil, a pair of supply conductors connected to the ends of said resistance coil, a selector switch formed of a plurality of fixed contacts and a movable contact, conductors connecting said contacts with spaced convolutions of said resistance coil, a normally closed thermostat switch interposed in one of said supply conductors and engaged with said varnish covered coil, a pilot light connected across said supply conductors, a conductor connected at one end with the other of said supply conductors and connected at the other end with one end of said varnish covered coil, and a conductor connected at one end with said movable contact and connected at the other end to said varnish covered coil.

3. A varnish covered coil and means for baking out in open air said coil, said means comprising a resistance

coil, a pair of supply conductors connected to the ends of said resistance coil, a selector switch formed of a plurality of fixed contacts and a movable contact, conductors connecting said contacts with spaced convolutions of said resistance coil, a normally closed thermostatic switch interposed in one of said supply conductors and engaged with said varnish covered coil, an ammeter interposed in said one supply conductor, a conductor connected at one end with the other of said supply conductors and connected at the other end with one end of said varnish covered coil, and a conductor connected at one end with said movable contact and connected at the other end to said varnish covered coil.

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