C. MONNINGER.

ELECTRIC CURRENT CONTROLLER.

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1,184,864.

Patented May 30, 1916.

Fig. 1

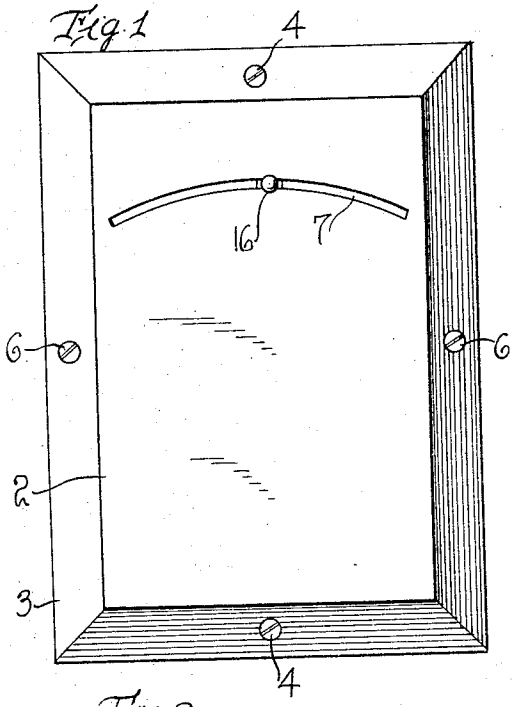


Fig. 2

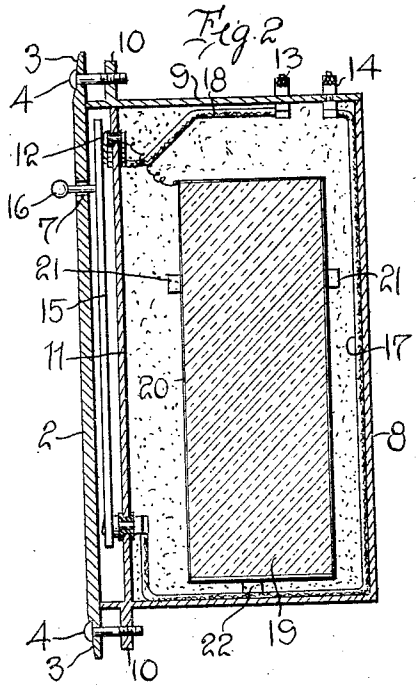


Fig. 3

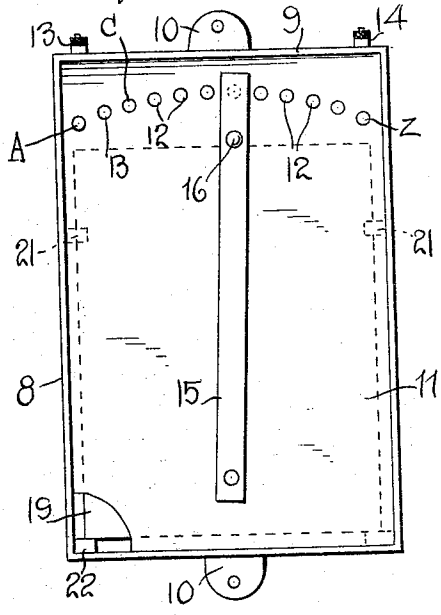
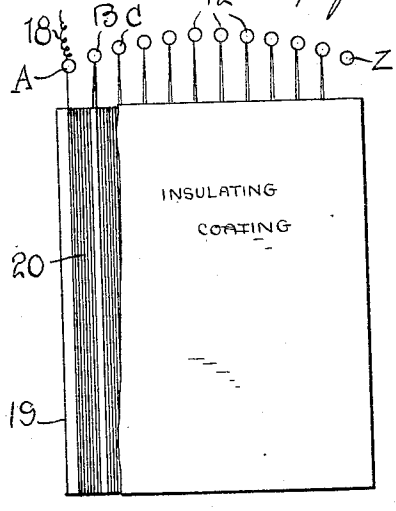


Fig. 4



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ELECTRIC-CURRENT CONTROLLER.

1,184,864. Specification of Letters Patent. Patented May 30, 1916.

Application filed July 7, 1915. Serial No. 38,573.

To all whom it may concern:

Be it known that I, CARL MONNINGER, a citizen of the United States, residing at Macomb, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Electric-Current Controllers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to controllers for electric current, and particularly to that variety of controller where the current is caused to pass through a greater or less number of resistance coils in order to vary the amount of current passing to a lamp, heater, or other like current using device.

The primary object of my invention is the provision of a very simple, easily made, and easily operated device of this character.

A further object of the invention is to provide a controller of this character which will be very compact in form and which is so constructed that it may be set into a wall with the front plate of the controller box disposed against the face of the wall.

A further object is to provide a controller so constructed that the core or slab upon which the resistance wires are wound may be easily inserted or removed from the controller box, provision being made, however, for providing a heat resisting, readily removable filling between the core with its resistance wires and the wall of the box or casing.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a face view of the controller; Fig. 2 is a vertical section thereof; Fig. 3 is a face view of the coil box, the face plate of the controller being detached; Fig. 4 is a diagrammatic view showing the windings on the coil supporting slab.

In the accompanying drawings, 2 designates the face plate of th controller box. This face plate is rectangular in form and is provided with the beveled flanges 3. The upper and lower flanges of the face plate are perforated for the passage of attaching screws 4 whereby the controller box or casing may be connected to the face plate, and the side flanges of the face plate are perforated for the passage of screws 6 whereby the face plate may be firmly attached to a wall. The front of the face plate is provided with an arcuate slot 7 adjacent the upper end of the face plate for a purpose which will be later described.

The controller casing, as illustrated in Fig. 2, comprises a rectangular box, preferably of metal, which is designated 8. This box in practical use will be about five inches long, two and three-fourths inches deep, and three and one-half inches wide. The upper end of the box is closed by a detachable wall 9 which is intended to be permanently attached to the box or casing after the resistance coils have been placed therein. This end wall 9 and the lower end of the wall of the box are provided with outwardly extending lugs 10, perforated and screw threaded for engagement with the screws 4 whereby the box 8 is held in engagement with the face plate. Disposed inward of the outer edge of the side walls of the box 8 or casing is a plate 11 which is provided with a plurality of buttons 12, these buttons being arranged in an arc and when the parts are assembled registering with the slots 7. Mounted upon the top wall of the casing are the binding screws 13 and 14 whereby the leading in and leading out wires are connected to the controller.

Pivotally mounted upon the plate 11 at the lower end thereof is a metallic arm 15, preferably of brass or copper, the upper end of which is adapted to have electrical contact and engagement with the series of buttons 12. At its upper end this arm has an angularly disposed handle 16 which extends out through the slot 7 whereby the arm may be manipulated. The front wall 11 of the casing or box 8 is disposed inward from the front edges of the side walls of the box or casing so as to accommodate this arm 15. Extending from one of the binding posts or screws, as for instance the binding post 14, there is a wire or other conductor 17 which extends downward to the lower end of the post and across the bottom thereof and connects by means of the pivot of the arm 15 with said arm. An insulated wire 18 extends from the binding post 13 to the button A (see Fig. 3).

Disposed within the casing 8 and supported therein in spaced relation to the walls of the casing by certain lugs as will be hereafter stated, is a coil supporting slab which is designated 19. This slab is made of porcelain, or some other non-conducting

material, and is in practice about three and one-eighth inches wide, four inches long and one and one-half inches thick. This slab is wrapped with German silver wire or other resistance wire of No. 28 or 30 gage and the wire is started about one-eighth of an inch from the edge of the slab. The end of this wire 20 is electrically connected to the button A and is then wrapped a plurality of times, as for instance eight times, about the slab as illustrated in Fig. 4, and is then electrically connected to the next button B. It is again wrapped a plurality of times around the slab and is connected to the button C, and so on, the wire being wrapped a plurality of times between each button and the next until it comes to button Z with which no wire is connected. After the slab has been fully wound or wrapped with the wire 20, the slab with the wrapped wires is dipped in zinc cement and left to harden. This cement holds the wires apart and keeps them from touching each other or slipping out of place.

The interior of the casing 8 is provided with a plurality of lugs disposed upon the side walls, the lugs on each side wall being approximately one and one-half inches apart and being disposed one and one-fourth inches from the top of the casing. These lugs are designated 21. Lugs 22 are also disposed on the bottom of the casing. In placing the slab 19 with the wire 20 thereon in position within the casing, the coil supporting slab is slipped between the lugs 21 and rests upon the lugs 22. The wires wrapped upon the slab are then electrically connected to the several buttons. After the coil supporting slab has been put in place the interior of the casing or box is filled with dry white sand and then the cover or upper wall 9 is put in place.

The larger the light attached to this controller the better service it will give. As described the device is adapted to be used for current having 100 volts or less and either alternating or direct, with light ranging from ten to one hundred and fifty watts. My construction saves electricity and permits of the very delicate regulation of electric stoves, irons, and lights. The heat which is created by the current passing through the windings of the resistance coil will not exceed 100° Fahrenheit and the wires will be entirely insulated by the white sand 23 contained within the box or casing. It is not necessary, therefore, to provide any other means for preventing undue radiation of heat. My device also is so constructed as to set back in the wall and the brass plate 2 which forms the front of the box or casing lies flat against the wall. The only projection beyond this brass plate is that of the handle 16.

My device provides a very simple, effective, convenient and relatively cheap controller for the purpose intended.

Having thus described my invention, what I claim is:

In a current controller, a resistance coil casing having a bottom, a back wall, side walls, and a removable top wall, the top and bottom walls having respectively upwardly and downwardly projecting lugs, the front wall of the casing being set in from the front edges of the side walls, top wall and bottom wall and provided with a plurality of contact buttons, a coil supporting slab mounted within the casing and supported in spaced relation to the walls thereof, resistance coils carried upon said slab and electrically connected to the contact buttons, a contact arm pivotally mounted upon the front wall of the casing and coacting with said buttons and having a forwardly projecting handle, a face plate having marginal flanges projecting beyond the walls of the casing and having a slot through which the said handle projects, and fastening devices connecting said face plate to the said lugs.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

CARL MONNINGER.

Witnesses:
FRANK I. HOLMES,
S. B. DAWSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."