Oct. 17, 1933.

H. P. STATLER ET AL

1,930,865

RADIO JUNCTION BOX

Filed March 12, 1930

2 Sheets-Sheet 1

Fig. 1.

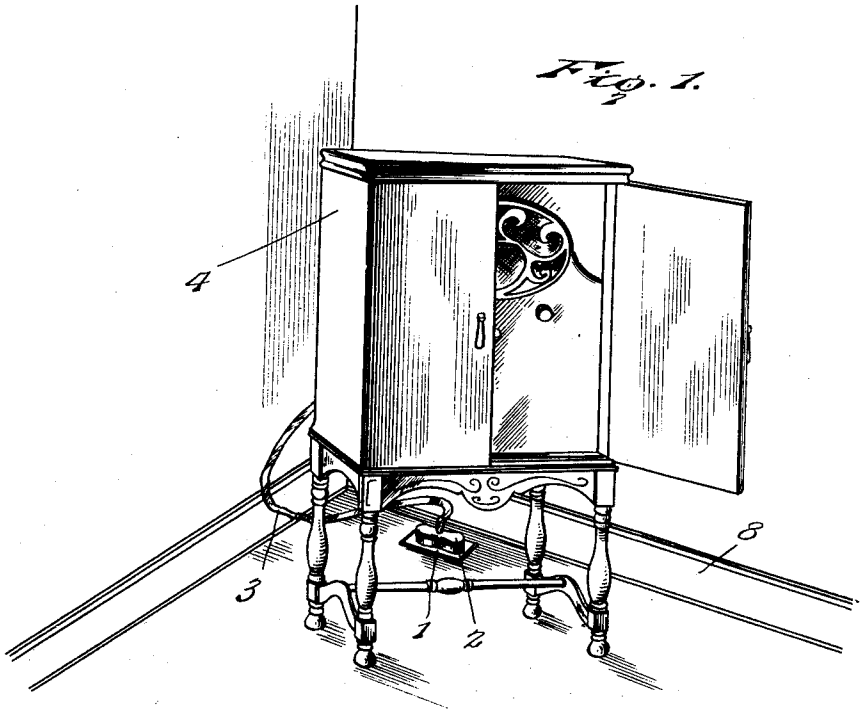


Fig. 2.

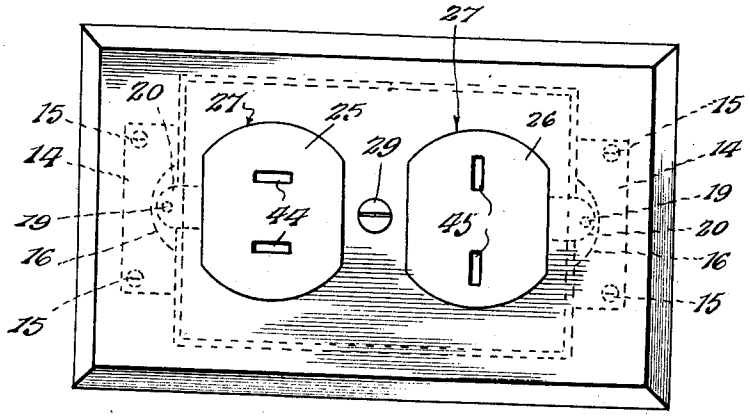
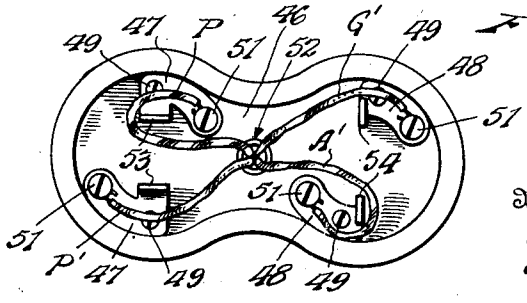


Fig. 3.



Inventors

H. P. Statler.
L. F. Kearney.
M. H. Baylor.

By Lacey & Lacey,

Attorneys

Oct. 17, 1933.

H. P. STATLER ET AL

1,930,865

RADIO JUNCTION BOX

Filed March 12, 1930

2 Sheets-Sheet 2

Fig. 4.

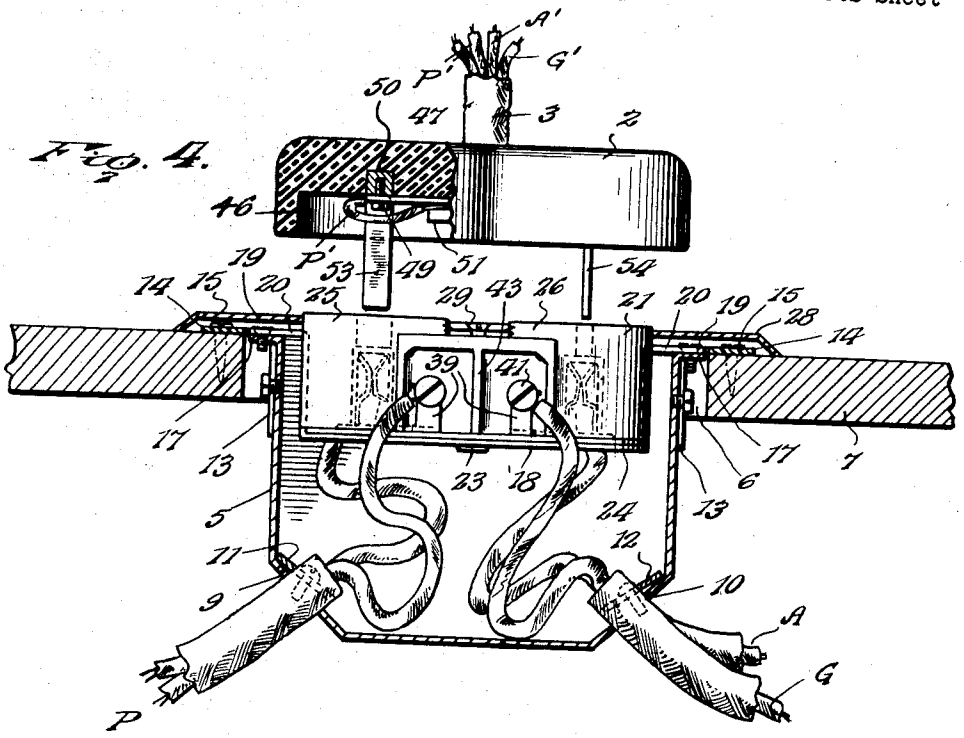


Fig. 5.

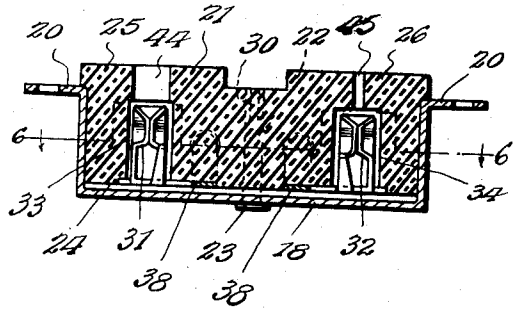


Fig. 6.

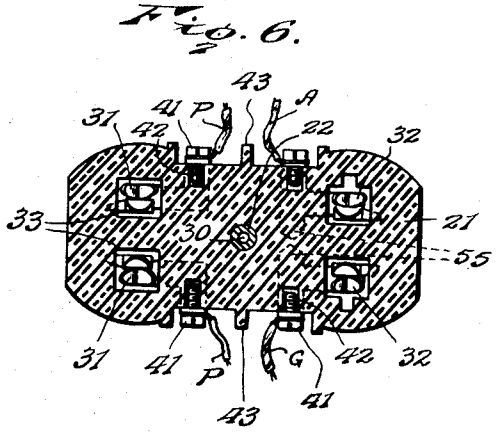
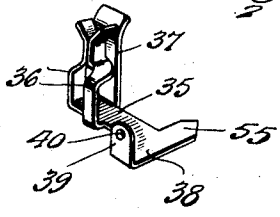


Fig. 7.



Inventors

H. P. Statler.
L. F. Kearney.
M. H. Baylor.

By Lacey & Lacey,

Attorneys

Patented Oct. 17, 1933 1,930,865

UNITED STATES PATENT OFFICE

1,930,865

RADIO JUNCTION BOX

Herbert P. Statler, Louis F. Kearney and Maxwell H. Baylor, Central City, Pa.

Application March 12, 1930. Serial No. 435,351

2 Claims. (Cl. 173—330)

This invention relates to junction boxes and one object of the invention is to provide a junction box particularly adapted for use as an outlet with which power wires and antenna and ground wires of a radio may be connected.

Another object of the invention is to provide a junction box adapted to be set into a floor or chair board in the usual manner and including a housing having mounted therein a block of insulation carrying terminals to which conductor wires are adapted to be secured and a companion block of insulating material having terminals to which conductor wires leading from a radio set are to be secured, the terminals of the companion block having tongue extensions whereby the block carried by the cable may be plugged into the block of the junction box. By this arrangement a radio may be very easily connected with power wires and with the antenna and ground wires while at the same time these wires will be hidden from view.

Another object of the invention is to so form the radio junction box that it will closely resemble a double outlet junction box of the type ordinarily used as an outlet to which electric appliances may be attached and further to so mount terminals in the insulating block of the junction box and companion block that there will be no danger of the block carried by the cable leading from a radio set being improperly applied and causing damage to the radio.

Another object of the invention is to so form the insulating block mounted in the junction box that danger of current jumping from a power wire to an antenna or ground wire will be eliminated.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a perspective view showing a junction box of the improved construction in use,

Fig. 2 is an enlarged view looking at the outer or upper face of the junction box,

Fig. 3 is a view looking at the under face of the companion block to which wires leading from a radio set are attached,

Fig. 4 is a view showing the improved junction box and cooperating plug partially in longitudinal section and partially in elevation,

Fig. 5 is a longitudinal sectional view taken vertically through the insulating block of the junction box,

Fig. 6 is a longitudinal sectional view taken horizontally through the insulating block on the line 6—6 of Fig. 5, and

Fig. 7 is a perspective view of one of the terminals shown in Figs. 5 and 6.

This improved appliance consists of a junction box, indicated in general by the numeral 1, and a companion plug or block 2 of insulating material to which wires in a cable 3 leading from a radio set 4 are attached so that when a radio set is installed it is merely necessary to plug the terminal or block 2 into a junction box or outlet mounted in the floor or chair board of a room. It will thus be seen that the radio set may be very easily and quickly installed for use and the only wires visible in the room will be a small cable leading from the radio set to the terminal block 2.

The junction box is constructed as shown in Figure 4, and referring to this figure it will be seen that it includes a housing 5 formed of metal and open at its upper or outer end. This housing is set into an opening 6 formed in the floor 7 or chair board 8 of a room and openings 9 and 10 are formed in the housing so that power wires P leading from a suitable source of electric energy and antenna wire A and ground wire G may enter the housing. The usual strips 11 and 12 are provided to engage these wires and prevent them from slipping out of the housing. Brackets 13 are secured to end walls of the housing and have end portions bent to form flanges 14 extending horizontally from the housing. These flanges rest upon the floor at opposite sides of the opening 6 where they are secured by screws 15 and portions of the bracket are cut out, as shown at 16 in Figure 2, thereby exposing ears 17 of the housing so that a saddle 18 may be firmly but releasably secured to the housing by screws 19 passed through arms 20 of the saddle and engaged in threaded openings formed through the ears. The saddle 18 is substantially U-shaped in construction and serves as a support for a block 21 of insulating material. This block fits snugly into the saddle, and in order to firmly secure the block to the saddle, there is provided a post 22 which extends through the block and has its lower or inner end portion projecting from the block so that it may be passed through an opening formed in the saddle and headed, as shown at 23. The saddle covers practically the entire under or inner face of the block 21, and in order to prevent danger of a short circuit, a sheet of insulating material 24 is set in place between the saddle and block with the lower end of the post extending through the insulating sheet and saddle. It should also be noted that recesses are formed in the ends of the block to receive the arms of the saddle and prevent the block from turning about the post. End portions 25 and 26 of the block project upwardly through the open end of the housing and these projecting end portions are received in openings 27 formed in a face plate 28 which is of sufficient dimensions to rest upon the floor about the opening 6 in covering relation to the flanges 14 and as securing means for the face plate there has been provided a screw 29 passed inwardly through an opening formed in the face plate and screwed into a threaded socket 30

formed in the upper end of the post 22. It will thus be seen that when the junction box is set in place and secured the face plate will impart a neat appearance to the device as well as acting as a shield and only the projected end portions 25 and 26 of the block will be exposed to view.

In order to attach the power wires and antenna and ground wires, there has been provided contacts or terminals 31 and 32 mounted in sockets 33 and 34 formed in end portions of the block. Each of these terminals is constructed as shown in Figure 7, and referring to this figure it will be seen that each terminal consists of a strip 35 of conductive metal having jaws 36 and 37 extending therefrom. These jaws are received in a socket and the jaw 37 extends at right angles to the jaws 36 and has contacting engagement with side edges thereof. The strips 35 of the contacts extend along the under face of the insulating block and are formed with side arms 38 which extend transversely of the block to the sides thereof and have their end portions 39 bent upwardly and formed with openings 40 through which securing screws 41 are passed and into threaded sockets 42 embedded in side portions of the block. By this arrangement the securing screws 41 are disposed at opposite sides of the block and the power wires and antenna and ground wires may be very easily secured against the upturned ends of the arms 38. Since the sheet of insulating material 24 is disposed between the saddle and the portions of the contacts extending along the under face of the block, a short circuit will be prevented. It should also be noted that ribs 43 project from the sides of the block between the terminals having the power wires connected therewith and those to which the antenna and ground wires are secured. Therefore, current will be prevented from jumping from the power wires through the antenna and ground wires. Slots 44 and 45 lead from the pockets 33 and 34 through the outer faces of the exposed portions 25 and 26 of the block, and it should be noted that the slots 45 extend out of alinement with the slots 44. In the illustration the slots 44 extend longitudinally of the block and the slots 45 transversely thereof, but it is to be understood that this arrangement may be reversed or one set of slots disposed diagonally or closer together than the other set. The reason for this arrangement will be hereinafter set forth.

The terminal plug or block 2 carried by the cable 3 is also preferably moulded from a single piece of insulating material and has its under face recessed, as shown in Figures 3 and 4, to provide a pocket 46 in which are secured terminals or contacts 47 and 48. These terminals are formed of conductive metal and each is secured by a screw 49 passed through the terminal and into a threaded socket 50 embedded in the block. Attaching screws 51 are provided in order that the power wires P' and antenna wire A' and ground wire G' of the cable 3 which is passed through a center opening 52 of the block may be secured to their respective contacts 47 and 48 and from the opposite ends of these contacts project tongues or arms 53 and 54. These arms or tongues correspond to the angular disposition of the slots 44 and 45 and since the tongues 54 and slots 45 extend transversely of the tongues 53 and slots 44 it will be evident that the tongues may only be passed inwardly through the slots intended to receive them. Therefore, the plug or block carried by the cable 3 cannot be improperly applied to the block mounted in the junction box and there will be no danger of wires in the cable not being connected with corresponding wires in the junction box.

When the improved junction box is in use, the housing is fitted through an opening cut in the floor and the securing screws 15 applied. The power wires and antenna and ground wires are secured to their respective terminals or contacts carried by the block 21 after which the arms 20 of the saddle are secured by the screws 19. The face plate is then set in place and secured by the screw 29. The block 2 is applied to the cable 3 of the radio set and its power wires and ground and antenna wires secured to the contacts 47 and 48. It is now only necessary to apply the terminal block or plug 2 to the block mounted in the housing of the junction box and pass the arms or tongues 53 and 54 through the slots 44 and 45 into the pockets 33 and 34 for engagement with the contacts 31 and 32. The tongues 54 engage between the jaws 36 of the contacts 32 and the tongues 53 engage between the jaws 37 and side edges of the jaws 36. It will thus be seen that it is not necessary to have the contacts 31 and 32 of different constructions in order to permit them to be engaged by the tongues 53 and 54. It is impossible, however, to improperly apply the terminal block of the cable 3 as the tongues 53 may only be passed through the slots 44 and the tongues 54 may only pass through the slots 45. By this arrangement danger of damage to a radio set due to improper passage of current through it will be eliminated. By installing a number of the improved junction boxes in a room a radio may be moved from one location to another.

The tongues 55 which extend toward each other so that current may jump from one terminal to the other and pass to the ground in case the aerial should be struck by lightning are removed from the power wire terminals in order to prevent danger of a short circuit being formed by arcing.

Having thus described the invention, we claim:

1. A radio junction box including a housing open at one end, a saddle mounted in the housing and having arms, a block of insulation carried in the housing and having recesses at opposite ends thereof to receive the arms of said saddle, said block of insulation also having oppositely disposed webs defining pockets at the sides thereof and being provided with sockets having slots communicating with the upper face of said blocks, contacts carried in the sockets and being disposed beneath said slots, end portions of said contacts projecting from beneath the block of insulation into the pockets and at opposite sides of the webs, and securing screws carried by the contacts within the pockets.

2. A radio junction box including a housing, a block of insulation mounted therein and having sockets at each end portion thereof, slots leading from the sockets to the upper face of the block, said slots being disposed in vertical planes at right angles to each other, pairs of contacts carried in the sockets, said contacts comprising a strip of conducting material bent to form jaws, and a pair of corresponding contacts having tongues the ends of which are disposed in close spaced relation to each other to provide an air gap, said air gap providing protection against current surges.

HERBERT P. STATLER. [L. S.]
LOUIS F. KEARNEY. [L. S.]
MAXWELL H. BAYLOR. [L. S.]