

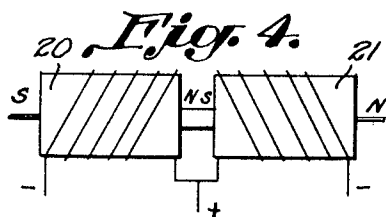
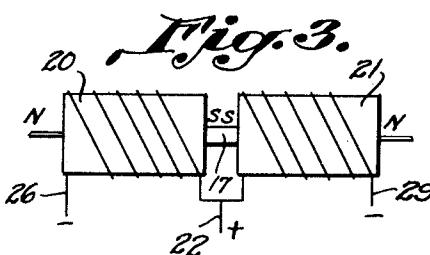
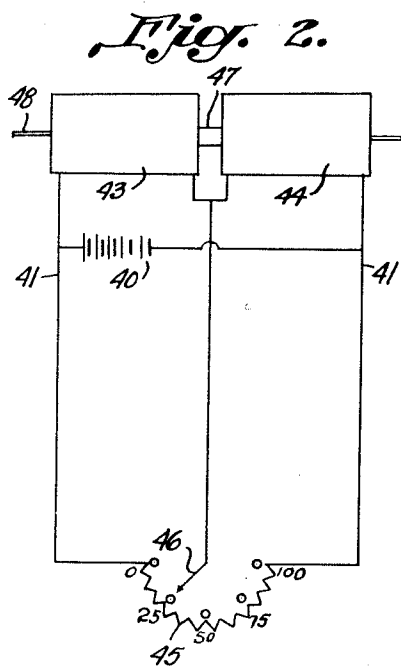
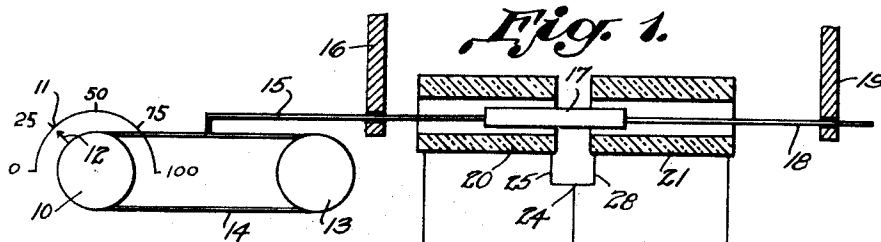
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REMOTE CONTROL RADIO RECEIVER SYSTEM

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REMOTE CONTROL RADIO RECEIVER
SYSTEM

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3 Claims. (Cl. 250—40)

This invention relates to remote control means for radio receivers and has for an object to provide a means for changing and controlling the wave length at which a radio receiver will operate.

A further object of this invention is to provide a plurality of control stations whereby a radio receiver may be remotely controlled from any one of a distant number of control stations, that is, whereby the radio receiver may be in one room as in the living room and control stations therefor may be provided in other rooms of the home, so that a person in any one of the other rooms may change the wave length of the radio receiver, whereby a different station may be tuned on.

A further object of this invention is to provide a remote control radio tuning means which may be easily added to any existing radio receiver or may be initially built in with the radio receiver.

Still a further object of this invention is to provide a remote radio receiver tuning system which may be equally applicable to either a battery controlled radio set or to a power controlled radio receiver.

With the foregoing and other objects in view, as will hereinafter become apparent, this invention comprises the constructions, combinations and arrangements of parts, hereinafter set forth, disclosed and shown on the accompanying drawing. In this drawing,

Figure 1 is a schematic view of one form of this invention applied to a radio receiver.

Figure 2 is a schematic view of a different circuit that may be used with this invention.

Figure 3 is a schematic view of the preferred wiring system for the control electro-magnets, and

Figure 4 is a schematic view of a modified form of the modified wiring system for the control electro-magnets.

There is shown at 10 a representation of the station controlling knob of a radio receiver having the scale at 11 for cooperating with the pointer 12 on the knob 10 for indicating the station that is being received. Spaced from the knob 10 and affixed either inside or outside of the radio receiver is an idler wheel 13, a flexible band or tape 14 passing around both the knob 10 and idler wheel 13. Fixedly secured to the band 14 is an arm 15 preferably of brass, the arm 15 passing through a support 16, the support 16 being secured in the radio receiver. The arm 15 is affixed at one end to an armature 17,

there being another brass arm 18 affixed to the other end of the armature 17, the brass arm 18 being slidably supporting to another support 19 corresponding to the support 16.

As will be obvious, suitable friction reducing means may be provided at the point where arm 15 passes through support 16 and arm 18 passes through support 19, it being intended that arms 15 and 18 shall carry the weight of the armature 17 with as little friction as possible. The armature 17 travels within the two electro-magnet shells 20 and 21, which electro-magnet shells 20 and 21 are in alignment with each other and spaced slightly apart.

There is shown in Figure 3 the preferred winding for the electro-magnets 20 and 21 so that when the positive current passes about the electro-magnets from the wire 22 leading from a source of power 23, the south poles will be in the middle between the two electro-magnets and the north poles will be at the ends, as shown in Figure 3. In Figure 4 a possible form of wiring is shown, which may be substituted for the form shown in Figure 3 if so desired. The source of power 23 may be either a special battery or a connection to the radio receiver battery if this invention is used with a battery operated receiver set, while if this invention is used with a power operated receiver set, such as from city current, then the source of supply 23 will be connected to a suitable transformer operated from the city current.

The wire 22 branches at 24 into a wire 25 leading to the winding around electro-magnet 20 and thence by wiring 26 to the rheostat shown at 27, while branch 28 leads to the winding around electro-magnet 21, and thence by means of wire 29 to the opposite end of the same rheostat 27. The other side of the source of power 23 is connected by a wire 30 to the switch 31 of the rheostat 27, there being a spring switch 32 provided in the wire 30 so that the current will normally remain off unless the spring switch 32 is held depressed. The rheostat 27 has a visible scale 33 corresponding to the scale 11.

In operation, the receiver may be placed in any preferred permanent location, while the distant control station 34 formed between rheostat 27, switch 31, spring switch 32 and scale 33 may be placed in any other desired room. The radio receiver may be operated in its permanent location without affecting or being affected by the distant control station 34. Thereafter, when the listener is in the room that the control station 34 is, he may have the program being received over

the radio receiver changed by moving the switch 31 over the scale 33. As the switch 31 is moved from point 25 to point 50 on rheostat 27, while the spring switch 32 is held closed, thus causing
 5 current to flow therethrough, the amount of current flowing about electro-magnet 20 and 21 will be correspondingly shifted, thereby causing the armature 17 to move a corresponding distance to the right. If the switch 31 is moved further, the
 10 armature 17 will move in a corresponding manner, and as the armature 17 moves on its supporting arms 15 and 18, the supporting arm 15 attached to tape 14, will cause the tape 14 to turn pointer 12 on knob 10 a distance about its scale
 15 11 exactly corresponding to the distance to which switch 31 has been moved about scale 33.

Although the spring switch 32 has been shown as being only in the wire 30, it is quite obvious that a switch may be provided which will, at the same
 20 time, disconnect wires 29 and 26 also if desired, thereby positively preventing any possibility of current flowing through either side of the rheostat. If it is desired to provide additional stations in additional rooms, the leads 26', 30', and
 25 29' may be provided leading to a similar control station in the further room. Due to the spring switch provided for automatically disconnecting the source of power, it is obvious that the radio receiver may be controlled from any desired distant
 30 control station 34, irrespective of the fact that it may just have been previously set from a different one of the distant control stations.

There is shown in Figure 2 a schematic showing of a different wiring system. In this form the
 35 source of power 40 is connected to the leads 41 and 42 leading to electro-magnets 43 and 44 and to the rheostat 45, operated by a control switch 46, the rheostat 45 serving to correspondingly control the armature 47 and through an arm 48 operate the control knob of a radio receiver.

Although this invention has been described as being a distant control station for controlling the length wave of a radio receiver, it is obvious that
 45 it may be used in conjunction with a remote control switch for starting and stopping the radio receiver as well as with a loud speaker connected to the radio receiver and operating at the distant control station.

The novel features and the operation of this
 50 device will be apparent from the foregoing description. While the device has been shown and the structure described in detail, it is obvious that this is not to be considered limited to the exact form disclosed and that changes may be made
 55 therein within the scope of what is claimed without departing from the spirit of the invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A distant control radio receiving system
 60 comprising a pair of electro-magnets, a common armature adapted to be slidably operated by said electro-magnets, means connecting said arma-

ture to a radio receiver knob for controlling the radio receiver according to the longitudinal travel of said armature, said means comprising a non-magnetic arm connected at one end of said armature, an idler wheel, a tape fixed about said
 80 idler wheel and the radio receiver knob, said non-magnetic arm being connected to said tape, another non-magnetic arm connected to the opposite end of said armature, supporting means, each of said arms travelling on said supporting means
 85 for carrying the weight of the armature, and distantly located calibrated means for controlling the amount of current in said electro-magnet, said means being calibrated in correspondence with the radio receiver.

2. In a radio receiver having a station control knob, means for operating said station control knob from a distance, said means comprising an idler wheel on the radio receiver, a tape member
 95 about said knob and the idler wheel, an arm connected at one end to said tape member, a support allowing said arm to travel therethrough, an armature connected to the other end of said arm, a pair of aligned electro-magnets adapted to control the longitudinal travel of said armature, a supporting arm projecting from the other
 100 end of said armature, a support adapted to movably receive the end of said supporting arm, a source of power, a rheostat, a common lead from said source of power to said rheostat and a separate lead from each end of said rheostat to the individual electro-magnets, said rheostat controlling the amount of power allocated to each
 105 electro-magnet through said separate leads, a scale on said rheostat corresponding to the scale on the radio receiver, and means for automatically disconnecting the source of power from said rheostat when the rheostat is not in use.

3. A distant control radio receiving system comprising a pair of electro-magnets, a common
 115 armature adapted to be slidably operated by said electro-magnets, a circuit for energizing said electro-magnets, said circuit including a common source of power, a rheostat, a circuit control arm on said rheostat, a single lead from said
 120 source of power to said circuit control arm, a separate lead from each side of said rheostat to one side of each electro-magnet, and a lead from the other side of each electro-magnet back to said source of power, means connecting said armature to a radio receiver knob for controlling
 125 the radio receiver according to the longitudinal travel of said armature, said means comprising a non-magnetic arm connected at one end of said armature, an idler wheel, a tape fixed about said idler wheel and a radio receiver knob, said non-magnetic arm being connected to said tape, another non-magnetic arm connected to the opposite end of said armature, supporting means, each of said arms travelling on said supporting
 130 means for carrying the weight of the armature.

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