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BROADCAST RECEIVER APPARATUS

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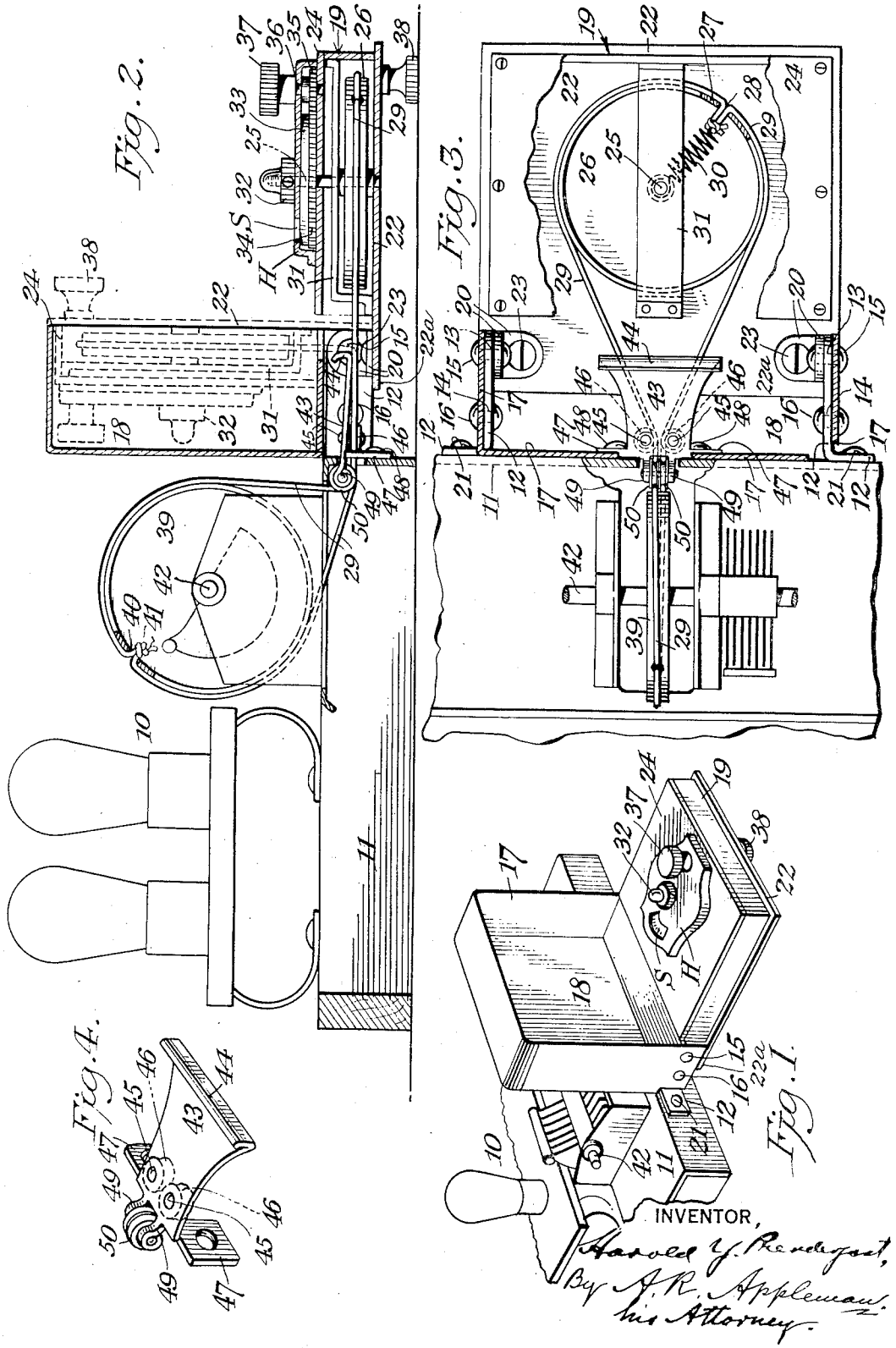


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 1.

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BROADCAST RECEIVER APPARATUS

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15 Claims. (Cl. 250—40)

This invention relates to improvements in broadcast receiver apparatus and is particularly directed to apparatus whereby the tuning control means of broadcast receivers may be more conveniently disposed or positioned for service and storage.

An important object of the invention resides in the provision of a novel construction whereby the tuning control elements of a broadcast receiver may be movable and entirely segregated from the other elements thereof, said construction including means whereby said tuning control elements may be disposed in a service position, removed from the broadcast receiver chassis; said construction further providing means whereby an operative controlling connection between the broadcast receiver apparatus on the said chassis and the tuning control apparatus, in its movements to and from its service position, may be maintained in normal status.

A feature of the invention is to provide a swingable tuning control means support having a closed storage position, and an open service position; and when so open, I prefer to have this support in a horizontal position. The tuning control means are mounted on this support so that when the broadcast receiver is to be placed in operation, this support is manipulated from its storage position to its open service position, and, by reason of the fact that the tuning controls are mounted on this support, when the support is moved to the open horizontal position the tuning controls are brought to a very convenient angle and a new and interesting way of tuning the receiver is accomplished.

To establish communication between the broadcast receiver apparatus on the chassis, and the tuning control means on the swingable support, I provide a flexible belt connection between rotatable devices, one on the broadcast receiver chassis and one on a swingable tuning control means support, means being provided for tensioning said connection and further means being provided for engagement with said connection for maintaining uniform tension therein when said swingable support is moved to the closed or open position, the last named means being disposed coincident with the axis of the pivotal swing of said tuning control means support.

Another feature of the invention resides in extending a wall of the control means support to engage certain projective elements to maintain the hinged control means support at a determined horizontal service angle and in the open position.

Further objects incident in the particular construction of the parts of the structure will be hereinafter apparent in the specification, taken in connection with the accompanying drawing, in which there is illustrated a preferred embodiment, and it will be understood that I do not limit myself to the showing made in said drawing but reserve the right to make changes and alterations in the commercial application of the device provided for the purpose set forth, and as embodied in the attached claims.

In the drawing:

Fig. 1 is a perspective showing my improvement in operative position attached to the front of a broadcast receiver chassis with the improved device in the open controlling position.

Fig. 2 is a partial central sectional elevation, on an enlarged scale, the improved device mounted in operative position, with the controlling means support in the open position and indicating its closed position in dotted lines.

Fig. 3 is a partial sectional plan view of the controlling means support also in the open position and partly broken away to show a tuning or controlling drum and its connection.

Fig. 4 is a detail perspective view of a one piece bracket embodying a direction bar, a flat head portion for supporting guide rollers, bent lugs for attachment to the chassis and bent fingers for supporting other rollers.

Referring now to the drawing in detail 10 designates a broadcast receiver and 11 the chassis thereof adapted to directly support all the structural elements of said broadcast receiver except the controlling means therefor.

Attached to the front vertical wall of the chassis 11, are two outwardly or forwardly directed bracket arms 12, each having two opposite pairs of holes 13 and 14 to receive screws, bolts or rivets 15 and 16 respectively, by which a preferably upright rectangular metallic casing 17 may be secured to said bracket arms. The casing provides an open front chamber 18, of proper dimensions to provide a housing for a broadcast receiver tuning control means as hereinafter described.

In carrying out my invention, I may provide a preferably rectangular tuning control means support or platform 19 preferably pivoted through a pair of brackets 20 to the cross bolts 15, passing through the ends of the bracket arms 12, secured to the front of the chassis 11, by suitable screws or bolts 21; these brackets 20, may be secured to

the inner wall 22 of the tuning control means support 19 by screws or bolts 23, said outer wall being extended as at 22*a*, to rest against the under sides of the brackets 12, and serve as a limiting stop in the outward swing of the tuning control support and maintain it in a substantially horizontal position; and carried by the said inner wall 22 is a box-like casing 24, closed all around, except at the inner side which may be open, and within this casing, I preferably mount for rotation with a shaft 25, a control drum, disk or segment 26, here shown as a drum, open at one side and having a circumferential wall 27, provided with a perforation 28, through which both ends of a flexible drive cord or belt 29 are passed and tied to the outer end of a tensioned spring 30, whose other end is secured to the shaft 25. The drum may be braced by a cross bracket 31.

The shaft 25, is fixed to a finger piece 32, resting on a housing H having a sight opening S and to a tuning dial 33, carrying a gear 34 in constant mesh with a controlling gear pinion 35 on a short shaft 36 with a knob or handle 37 by which variable condenser the apparatus hereinafter also termed tunable means or tunable devices on the chassis may be tuned or controlled. A handle 38 may be fixed to the main or outer wall of the controlling means support, to manipulate said support on its pivot.

In further carrying out my invention I provide a novel one piece multiple bracket structure for guiding and directioning the cord or belt device 29, which extends backwardly and around a drum or disk 39, similar to the drum 26 on the controlling means support; the belt, as shown, is divided to provide ends, which are passed through a hole 40, in the peripheral wall of the drum 39 and formed into a knot 41, to anchor the drive cord or belt to said drum, which is made fast with the usual variable condenser's shaft 42, of the broadcast receiver. Thus for example by reason of the belt 29 connecting the drums 26 and 39, the tuning dials 33 and the variable condensers of the condenser's shaft 42 is kept in step or synchronious relation with each other when the dial knob 37 is manipulated and tuning is thereby accomplished.

The belt guiding and directioning bracket above referred to, may comprise a head portion 43, bent up at the front to provide a direction cross bar or flange 44; and near its rear edge, the head is provided with perforations to support pins 45, on which companion grooved guide rollers 46, are supported to freely rotate; and back of the said rollers, the bracket structure, preferably of sheet metal, is formed with separated downwardly bent side wings or flanges 47, perforated to receive screws or bolts 48, to fasten the bracket to the front wall of the chassis 11. The metal of the head 43, remaining between the wings or flanges 47, to complete the one piece multiple bracket, it may be divided and cut away to provide curved fingers 49 adapted to receive a cross pin on which direction rollers 50, are rotatable and under which the belt 29 may operate in its movement for controlling the variable condenser shaft in the tuning operation.

No mention or showing is made of any device that may be used for controlling the volume of the receiver or for switching the receiver on and off. Any such device however, may, be arranged on the platform 19 if so desired.

What I claim is:

1. In a broadcast receiver apparatus including a tunable means; a support; tuning control means on said support; means for operatively connecting the tuning control means to the tunable means; and means permitting the support and tuning control means to swing from a storage position to an open service position.

2. In a broadcast receiver apparatus including a chassis and tunable means supported thereby; a box-like platform; tuning control means supported by said box-like platform; means for operatively connecting the tuning control means to the said tunable means; and means for pivotally sustaining said platform to swing said tuning control means from a closed storage position to an open service position.

3. In a broadcast receiver apparatus including a chassis and tunable means supported thereby; a manually operated swingable means; tuning control means supported by said manually operated swingable means; means for operatively connecting the tuning control means to the said tunable means; and means for pivotally sustaining said swingable means to said chassis to swing said tuning control means from a closed storage position to an open service position.

4. In a broadcast receiver apparatus, including a chassis and tunable means supported thereby; tuning control means; means for operatively connecting the tuning control means to the tunable means; a fixed casing supported in an upright position by said chassis and having an open side; a swinging box-like means also sustained by said chassis and on which means the tuning control means are mounted; said means and the tuning control means being normally housed within said casing through the open side thereof when the apparatus is out of service.

5. In a broadcast receiver apparatus, including a chassis and tunable means supported thereby; tuning control means; means for operatively connecting the tuning control means to the tunable means; a casing supported in an upright position by said chassis; a manually operated box-like platform hingedly sustained at one of its sides by said chassis and foldable within said casing; the tuning control means being mounted on and within said box-like platform; whereby when the box-like platform is manually operated from its folded position the tuning control means are shifted to an open service position.

6. In a broadcast receiver apparatus, including a chassis and tunable devices supported thereby; a swingable box-like platform hingedly sustained at one of its sides by said chassis a tuning control means on the hinged platform, and means associated with the tunable devices and with the control means, through which the tunable devices may be actuated to tune the apparatus when the box-like platform is swung to a horizontal position.

7. In a broadcast receiver apparatus, including a chassis and tunable devices supported thereby; a rectangular platform hingedly sustained by said chassis at the corners of one of its sides; a control device attached to said platform and tensioned means for actuating the tunable devices from the control device for tuning the apparatus when the platform is swung to a horizontal position.

8. In a broadcast receiver apparatus, including a chassis and associated tunable devices; a drum revoluble with said tunable devices; a casing and a swinging platform supported by said chassis, tuning control means including a drum carried by said platform; said platform with its supported elements adapted to swing into said cas-

ing through an open side thereof and a tensioned belt connecting said drums for transmitting synchronous rotary movement from the control means to the tunable devices for tuning said apparatus.

9. In a broadcast receiver apparatus, including a chassis and tunable devices; a casing sustained by said chassis and comprising bottom, top, back and side-walls; a panel hingedly sustained by said chassis; control devices carried by said panel, said panel adapted to swing to the closed position into the open front of said casing to house the control devices therein when out of service and to provide a closure for said casing; and flexible tensioned means connecting the tunable and control devices whereby synchronous motion may be transmitted to the tunable devices for tuning the apparatus when the panel is in an open horizontal position.

10. In combination with a broadcast receiver set, including a chassis having thereon a variable condenser shaft; a drum fixed on said shaft, a casing having an open front supported in an upright position by said chassis; a panel hingedly supported on said chassis to swing in a vertical plane toward, or away from said casing to a service position; dialing control devices carried on said panel; and means connecting the control devices and said drum whereby motion may be transmitted from the control devices to the said drum for tuning the apparatus when said panel is in a service position.

11. An apparatus including a broadcast receiver chassis, and tunable devices thereon; brackets extending from said chassis, an open front casing and a swingable panel carried by said brackets; a wall of said panel being extended to bear against the under side of the brackets to form a stop for limiting the swing thereof to a predetermined open position; a control means on said panel; and means for transmitting movement from the control means to the said tunable devices for tuning the apparatus when the panel is in the said predetermined open position.

12. An apparatus including a broadcast receiver chassis, and a variable condenser shaft thereon; a drum on said shaft; a panel hingedly supported by said chassis, a hand control dial and a connected drum both carried by said panel; said panel having a housing to receive said drum, and a casing on said housing to receive said dial and a connection for transmitting movement from the drum on the panel to the drum on the shaft for tuning the apparatus when the panel is in the service position.

13. An apparatus including a broadcast receiver chassis, and a variable condenser shaft thereon; a drum on said shaft; a casing fixedly supported by said chassis; a panel swingably sustained by said chassis; tuning control means including a dial and a drum operatively connected and mounted on said panel and normally disposed within said casing when the panel is in a closed position; a direction bar and guiding rolls located under said casing and a tensioned belt traversing said drums and disposed under and in contact with said direction bar and between said guiding rolls for directing and maintaining said belt under tension when the panel is swinging to a closed or open position, and also when closed; said belt adapted for transmitting tuning motion to said variable condenser shaft when the panel is in the service position.

14. An apparatus including a broadcast receiver apparatus, and tunable devices thereon; a panel supported by said chassis to swing in a vertical plane from an upright to a horizontal position; tuning control means on said panel; a direction bar extending transversely of said panel; a tensioned belt constantly in contact with said bar and connecting the tuning control means and tunable devices on said chassis, whereby movement may be transmitted for tuning the apparatus, when the panel is in a horizontal position.

15. An apparatus including a broadcast receiver chassis, and tunable devices thereon; a panel sustained by said chassis; oppositively arranged pivot pins also sustained by said chassis on which said panel may swing; a direction bar located in alignment with the centers of said pivot pins; a control device on said panel and a connection extending from the control device to the tunable devices and under the said direction bar, through which motion may be transmitted to said tunable devices from the control device for tuning the apparatus when the panel is swung to a service position.

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