

July 21, 1942.

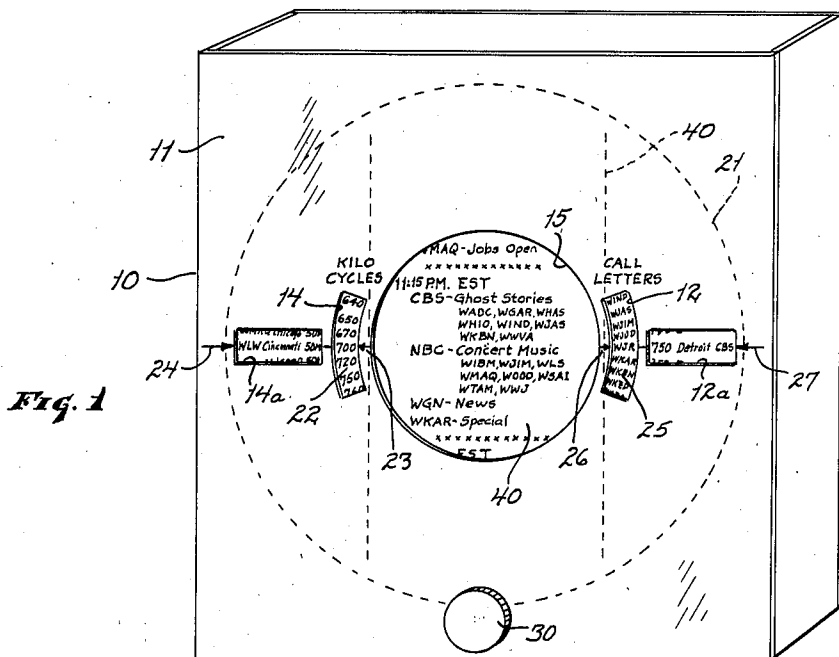
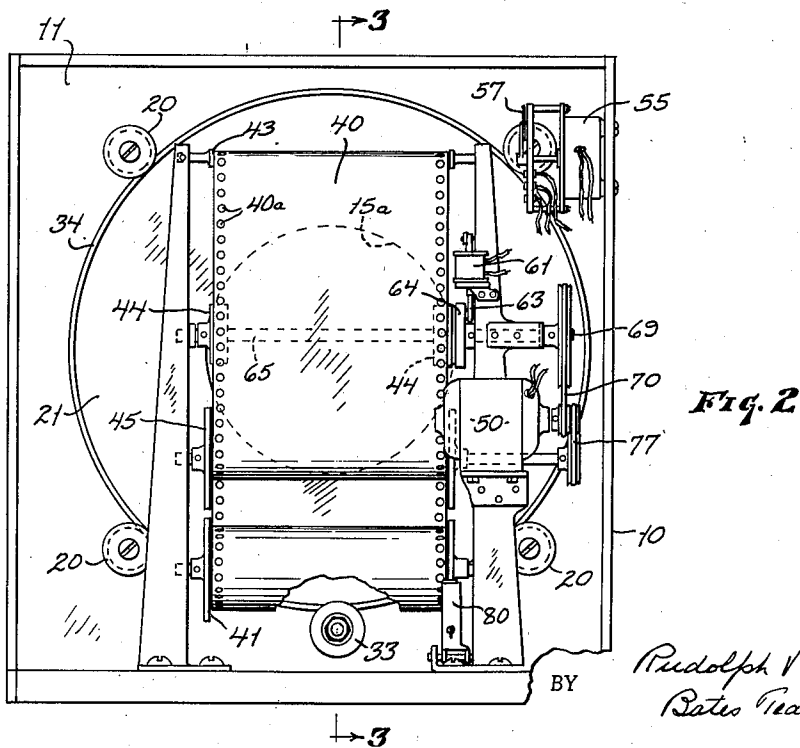
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2,290,822

RADIO PROGRAM SELECTOR AND IDENTIFIER

Filed Oct. 10, 1940

2 Sheets-Sheet 1



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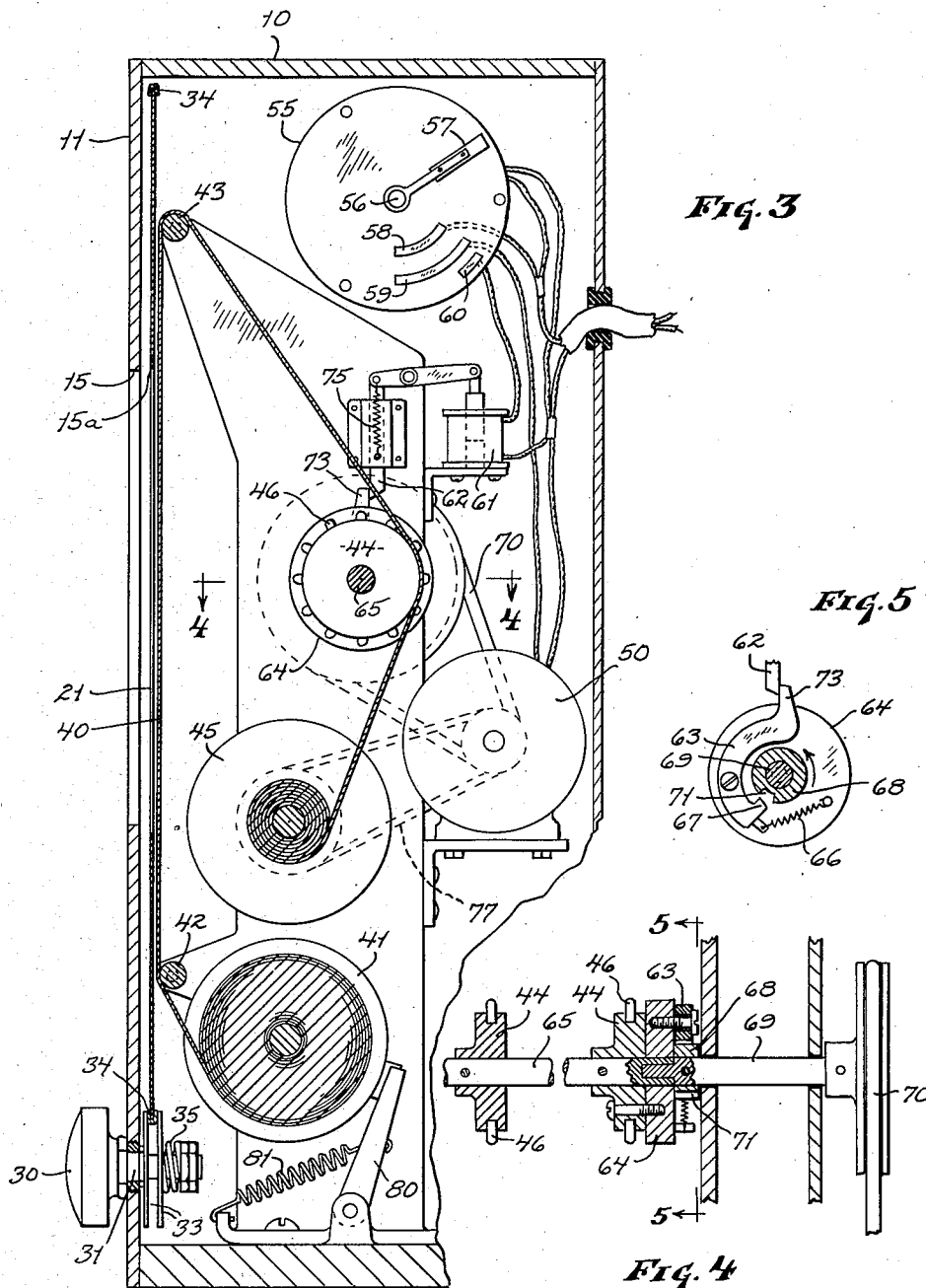


Fig. 3

Fig. 5

Fig. 4

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2,290,822

RADIO PROGRAM SELECTOR AND IDENTIFIER

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Application October 10, 1940, Serial No. 360,589

3 Claims. (Cl. 40—53)

This invention relates to a program selector, and more particularly to a program and station indicator which will facilitate the selection of programs and the tuning of radio receivers. This, therefore, is the general object of the present invention.

Present day radio receiving sets are generally provided with stationary dials calibrated in wave lengths or kilocycles, in numerical order. For the convenience of the radio listeners, newspapers and magazines are printing the daily programs in their columns. Nevertheless, it has been found difficult for the operator of a receiving set to tune a desired program, because no relationship exists between the alphabetical order of the call letters of the broadcast stations and the numerical number of the wave length assigned to the respective station. Attempts have been made to overcome this difficulty by providing the radio receivers with individual push buttons, each of which selects a predetermined wave length or broadcast station. However, the use of such systems are of but little assistance for the selection of a specific program unless the station broadcasting such program is known.

An object of the present invention is to provide a device which will facilitate the dial setting of the receiver in kilocycles for a particular station call letter, and which device will also aid the operator of the receiver to ascertain the call letters or station identification of a broadcast for which the receiver dial is set. These, therefore, are more specific objects of this invention.

Another object of the present invention is to provide a radio station finder and identifier which may be manually or automatically operated at intermittent intervals to disclose the various radio programs being broadcast at stated time intervals and the broadcast stations carrying such programs.

It is another object of my invention to provide a program and station indicator which may be built in connection with a radio-receiving set or without connection to a receiving set to be of special value for short wave listeners.

Other objects of this invention will become more apparent from the following description, reference being had to a preferred embodiment of the invention illustrated in the accompanying drawings. The essential and novel characteristics of the invention will be summarized in the claims.

In the drawings, Fig. 1 is a perspective view of my radio broadcast station identifier and program selector; Fig. 2 is a rear elevation of the device with the back cover removed; Fig. 3 is a vertical section on an enlarged scale as indicated by the lines 3—3 on Fig. 2; Fig. 4 is a sectional detail taken along the horizontal plane designated by the lines 4—4 on Fig. 3; and Fig. 5 is

a sectional detail as indicated by the lines 5—5 on Fig. 4.

My improved radio station and program indicator in general comprises a housing or cover in which is mounted a movable indicator member, selected portions of which are visible through comparatively small selector openings in the housing or cover. The indicator is provided with a list of the station identification or call letters of radio broadcast stations arranged in alphabetical order, and adjacent thereto to the wave length of the stations. The list is so arranged that when a selected call letter is moved to an indicating position, relative to the housing, the wave length in kilocycles of such station, its power in watts, the location of such station, and the name of the system to which such station is a member, will be brought into view. The indicator likewise is provided with a list of wave lengths in numerical order, any one of which when brought into indicating position brings the respective call letters of the broadcast station at such wave length into an indicating position, and may besides reveal power in watts, location and network.

Programs are selected from a manual or automatically movable chart, also visible through openings in the housing or cover. Such chart is provided with a list of the various programs by name and the call letters of the station over which they may be heard, and are arranged in groups, each group giving the program for a predetermined time interval, for instance, fifteen minutes. The program chart is automatically progressed every fifteen minutes so that only the programs for the selected time interval are visible.

Referring now to the drawings, and especially to Figs. 1 and 2, I have shown a housing 10 having a front panel 11 provided with openings 12 and 12a, 14 and 14a, and 15. On the inner surface of the panel, I mount a plurality of rollers 20 provided with suitable grooves to engage the periphery of an indicating dial or disc 21. One area of this disc is provided with a list of wave lengths in numerical order as indicated at 22, and which when aligned with an indicating mark 23 associated with the opening 14 of the housing will position the name of the broadcast station and its call letters, also carried by the disc, opposite an indicating mark 24 associated with the opening 14a of the housing. The indicating disc also is provided with a second list of broadcast station call letters arranged in alphabetical order. A portion of this latter list is indicated in Fig. 1 at 25. The arrangement of this second list is such that when a predetermined call letter is positioned opposite an indicator line 26 on the face of the panel, the wave length assigned to the corresponding broadcast station and data

giving the location of such station, carried by the disc will be opposite an indicating line 27 and visible through the opening 12a in the panel.

The indicator disc 21 may be manually rotated to select either the call letter or wave length desired and position them opposite their respective indicating marks. For this purpose, as shown in Fig. 3, I mount on the face of the panel 11 an operating knob 30. This knob is secured to a shaft 31 rotatably journaled in any suitable manner in the panel 11 and extending therethrough, and within the housing, drivingly mounted on the shaft 31, are a pair of discs 33. A spring 35 maintains the discs 33 in frictional engagement with opposite faces of a bead 34 secured to the edge of the indicating disc 21. The arrangement is such that the rotation of the knob imparts a rotative movement to the dial.

The major radio programs of broadcasts for stated time intervals are printed on an elongated paper strip 40, a portion of which is visible through the opening 15 in the panel and an aligned central opening 15a in the indicating disc. The strip 40 is so printed that its visible portion carries the programs for the selected time intervals; in this instance, fifteen minute intervals, and a mechanism, hereinafter more fully described, is provided to advance the strip automatically every quarter hour. The programs are preferably set out by the name of the program and the call letters of the broadcast stations over which such programs are broadcast.

As shown in Fig. 3, the program strip 40 is rolled on a storage reel 41 which is rotatably mounted within the housing 10. The strip passes from the reel 41 to a guide roll 42, and then upwardly immediately behind the indicator disc 21, to a second guide roll 43 at the upper end of the housing, and thence downwardly about a driving drum 44 to a take-up roll 45 on which the strip is rewound. The strip 40 is provided adjacent each edge with a series of perforation openings 40a (Fig. 2) which are engaged by pins 46 of the driving drum member 44. To advance the printed strip 40, the drum member 44 is rotated a predetermined amount every quarter hour for registration with the opening 15 in the panel 11, and the take-up roll 45 rewinds it simultaneously.

The driving drums 44 are actuated by a motor 50, the operation of which is timed by a synchronous electric clock 55. As shown in Fig. 8, the driven shaft 56 of the clock is provided with a contact 57 and makes one complete revolution every fifteen minutes. The contact 57 bridges a pair of contacts 58 and 59 and thus completes the electric circuit to the motor 50. The contact 57 also bridges contact 58 and 60 to energize a solenoid 61 which operates to momentarily raise a latch member 62 out of the path of a pivoted pawl 63. This pawl is carried by a clutch member 64 which, together with the driving drum 44, is secured to a shaft 65. The raising of this latch permits a spring 66 (Fig. 5) to draw the end 67 of the pawl into engagement with a driving hub 68. This hub is secured to a shaft 69, coaxially mounted with the shaft 65, and driven by the motor 50 through a driving belt 70 and suitable pulleys carried by the shaft 65 and motor respectively. Consequent upon the rotation of the hub, the end 67 of the pawl 63 rides the periphery of the hub 68 until it is reached by a notch 71 formed in the hub, whereupon, the shafts 69 and 65 rotate as a unit until the outwardly projecting end 73 of the pawl 63 strikes

the latch 62 which has been returned to a latching position by a spring 75. The driving connection between the two shafts is thus disengaged.

The strip take-up roll 45 is driven by the motor 50 through the medium of a driving belt 77 and suitable pulleys, the arrangement being such that the belt will slip upon its driving pulleys, the arrangement being such that the motor normally tends to drive the roll at a comparatively high rate of speed, damage to the strip being prevented by so arranging the driving belt as to permit it to slip on the associated pulleys or sheaves as long as the strip is taut. Overrunning of the strip is prevented by a friction brake 80 which is resiliently applied to the periphery of the roll 41 by a suitable spring 81.

I claim:

1. An indicator for a radio broadcast station identification comprising a movably mounted chart having a series of station call letters thereon in alphabetical order and an associated series of indicia giving the wave length of stations corresponding to said call letters, said chart comprising an annular member having an axial opening therethrough, a second chart chronologically settable and having a portion thereof visible through the opening in the first named chart, and a windowed dial face through which indicia on both of said charts may be distinguishably viewed.

2. An indicator for a radio broadcast station identification comprising a movably mounted chart having a series of broadcast station call letters thereon in alphabetical order and an associated series of indicia giving the wave length of broadcast stations corresponding to said call letters, said chart comprising a circular disc having an axial opening therethrough and an elongated strip bearing program data movable past the opening in said chart, means to move said strip at predetermined time intervals, and a windowed dial face through which indicia on both charts may be distinguishably viewed.

3. An indicator for radio broadcasting station identification including a housing, a rotatably mounted chart having a series of broadcast station call letters thereon in alphabetical order, and an associated series of indicia giving the wave lengths of broadcast stations corresponding to such call letters, said chart also having a list of wave lengths in numerical order and an associated series of indicia giving the call letters of the station broadcasting on such wave lengths, said housing having a cover provided with openings through which certain selected portions of said chart are visible, said chart having an axial opening extending therethrough, and registering with an aligned opening in said cover, a second chart bearing program data movably mounted in said housing and having data bearing portions visible through the aligned openings in said first named chart and cover, a motor to progress said second named chart, means actuated by said motor to advance the second named chart to bring succeeding data bearing portions thereof into registration with the aligned openings, means to control said motor and said last named means to cause the advancement to be made at predetermined time intervals, said last named means including a synchronous electric clock mechanism and means operated by said clock mechanism to energize said motor at predetermined time intervals.

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