

March 17, 1936.

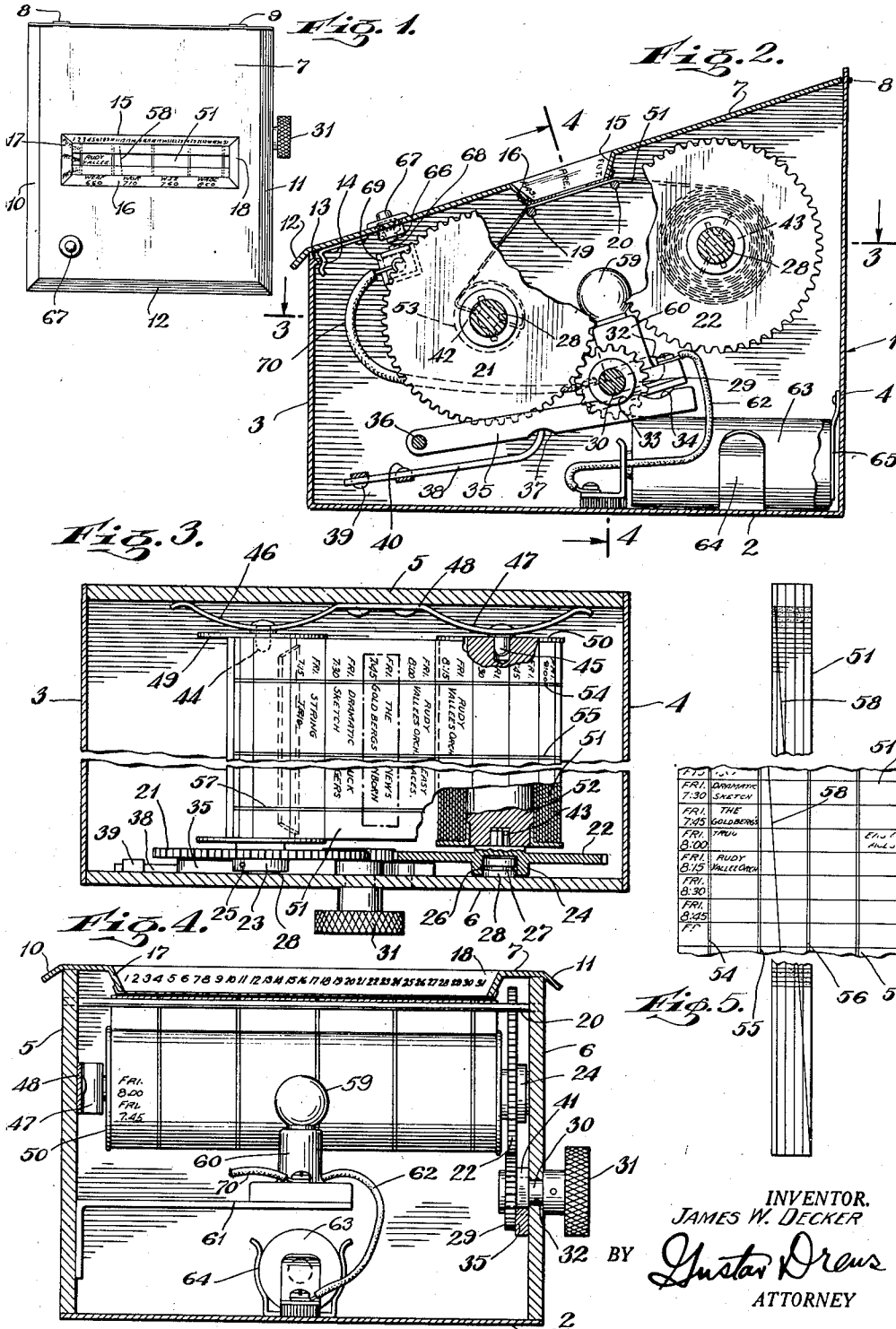
J. W. DECKER

2,033,926

PROGRAM INDICATOR

Filed April 20, 1933

2 Sheets-Sheet 1



INVENTOR.
JAMES W. DECKER

BY *Justus Drews*
ATTORNEY

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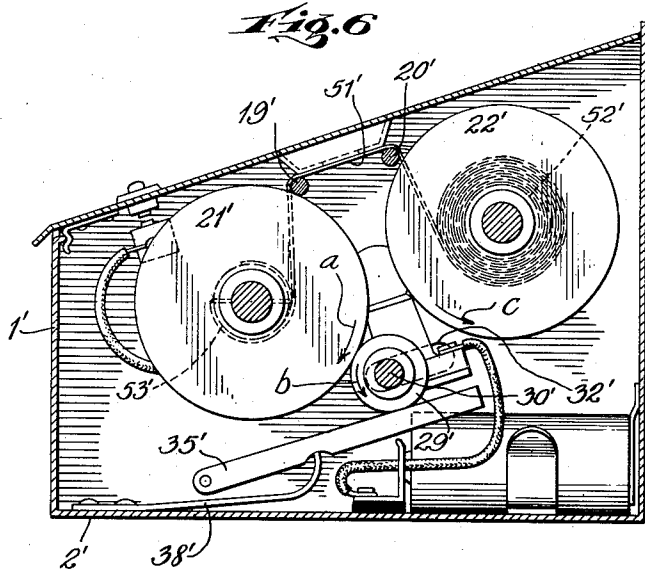
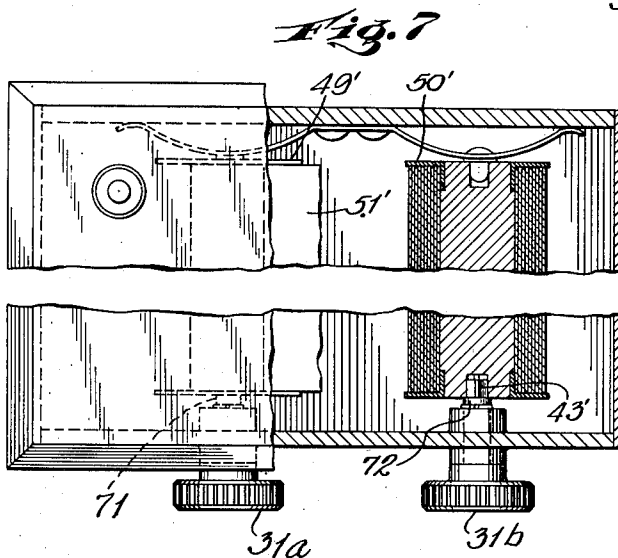
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[illegible]

INVENTOR.

JAMES W. DECKER.

BY

Gustav Drews
ATTORNEY.

ATTORNEY

UNITED STATES PATENT OFFICE

2,033,926

PROGRAM INDICATOR

James W. Decker, New York, N. Y.

Application April 20, 1933, Serial No 666,957

11 Claims. (Cl. 40—95)

This invention relates to indicators in general and more especially to indicators for use with radio programs and the like.

Among the objects of the present invention, it is aimed to provide an improved indicator for use with radios whereby a predetermined program for a given period may with facility be displayed to the operator of the radio or other interested party.

It is still another object of the present invention to provide an improved indicator for determining with facility a radio program of a given period of time which is self-contained and may be moved from place to place and if desired mounted upon a radio cabinet or the like.

It is still another object of the present invention to provide an improved radio program indicator which is self-contained and compact and requires a minimum amount of supporting space.

These and other features, capabilities and advantages of the invention will appear from the subjoined detail description of specific embodiments thereof illustrated in the accompanying drawings in which

Figure 1 is a plan view of a radio program indicator made according to one embodiment of the present invention;

Fig. 2 is a transverse section of the same enlarged;

Fig. 3 is a fragmental section along the line 3—3 of Fig. 2;

Fig. 4 is a section along the line 4—4 of Fig. 2;

Fig. 5 is a fragmental interrupted plan view of one embodiment of a tape, web or the like containing a record of the period and programs of a predetermined number of stations disassociated from the remaining portion of the indicator;

Fig. 6 is a transverse section similar to Fig. 2 of another embodiment of the present invention;

Fig. 7 is a fragmental plan partly in section of still another embodiment of the present invention; and

Fig. 8 is a fragmental interrupted plan of another embodiment of a tape, web or the like containing a record of the period and programs of a predetermined number of stations disassociated from the remaining portion of the indicator.

In the embodiment illustrated in Fig. 1 there is shown a rectangular container 1 composed of metal or the like having a base 2, a front wall 3, a rear wall 4 and two side walls 5 and 6 respectively connected to one another in any suitable manner.

In the present instance, the walls 3 and 4 are

shown integral with the base 2. Preferably also the front wall 3 is shorter than the rear wall 4 and the side walls 5 and 6 have an inclined upper edge inclining downwardly from the upper end portion of the rear wall 4 to the upper end portion of the front wall 3. To the container 1 a cover 7 may be attached in any suitable manner. In the present instance, the rear wall 4 is provided with two orifices to receive the projections 8 and 9 formed along the upper edge of the cover member 7.

The cover 7 is further provided with sloping side and front flanges 10, 11 and 12 sloping downward and outward from the upper edges of the side walls 5 and 6 and front wall 3 respectively.

Furthermore, the front wall 3 has an inwardly projecting finger or lug 13 to form an abutment for the flat spring member 14 formed at the lower end of the cover 7 adjacent to the flange 12, such flat spring 14 acting as a latch to cooperate with the lug 13 to resiliently anchor the front wall of the cover 7 to the front wall 3 as shown in Fig. 2.

The cover 7 is preferably provided with a rectangular window, in the present instance having four inwardly sloping flanges, to wit the flanges 15, 16, 17 and 18. When the cover is in place, the lower edges of the flanges 15 and 16 are disposed adjacent to and directly above the rods 19 and 20 mounted in the side walls 5 and 6, see particularly Figs. 2 and 4.

In the container 1, there is mounted the program containing web or strip or tape, the mechanism for actuating the same into position relative to the window and means for illuminating the displayed portion of the program web.

The mechanism for actuating the web consists essentially of two large gears 21 and 22 having hubs 23 and 24 provided with pins 25 and 26 to engage the recesses 27 formed in the stub shafts 28 extending inwardly from the side wall 6. Furthermore, between these gears 21 and 22 there is mounted an intermediate small gear 29 mounted on the shaft 30 secured to the handle 31, which shaft 30 is adapted to extend through the slot 32 formed in the side wall 6. The shaft further is adapted to cooperate with the two recessed seats 33 and 34 on the lever 35 pivotally connected by the pin 36 to the side wall 6.

The lower end of the lever 35 is provided with a recess 37 to receive the free end of the flat spring 38 secured in place by the cooperation of the abutments 39 and 40 extending from the side wall 6 with the lever 35. The spring 38 serves to urge the intermediate gear 29 upward into en-

gagement with either the gear 21 or the gear 22.

From the foregoing, it will appear that when it is desired to rotate the gear 21, it is only necessary for the operator to draw the handle 31 downwardly to the lower front end of the recess 32 until the gear 29 meshes with the gear 21 and in which position the hub or collar 41 of the shaft 30 will engage the recess 33 of the lever 35.

On the other hand, when it is desired to have the gear 29 mesh with and operate the gear 22, it will only be necessary to slide the handle 31 upwardly so that its shaft 30 engages the upper end of the recess 32 and its washer or hub 41 engages the recess 34 of the lever 35 when the intermediate gear 29 will mesh with and be in a position to operate the gear 22.

The inner faces of the gears or hubs of the gears 21 and 22 will be provided with the winged projections 42 and 43 respectively. Opposite to the winged projections 42 and 43 and in alignment therewith, there are provided the projections 44 and 45 respectively mounted on the inwardly bowed portions 46 and 47 respectively of the flat spring 48 secured to the side wall 5. The winged projections 42 and 43 and the projections 44 and 45 are provided to support between them a pair of spools or reels 49 and 50.

These reels 49 and 50 may be constructed after the fashion of film reels used with small cameras and the like having centrally disposed recesses to cooperate with these several projections.

As an instance, assume that the reel 50 is the reel initially supplied with a new program formed on the web 51 and therefore may serve as a supply reel, it will have secured thereto the web 51 fully wound up thereon with the inner end connected to the shaft or spindle 52 of the reel 50 in the usual way. This reel 50 is then mounted between the projections 45 and 43 where the projection 45 will permit the free rotation of the reel 50 on the same and the winged projection 43 will engage a winged recess in the other end of the reel to fix the reel 50 to rotate with the gear 22 and in this instance the reel 49 may constitute the rewind reel and be secured to the projections 44 and 42 so that the reel 49 will rotate freely on the projection 44 and the winged projection 42 of the gear 21 will have a winged recess in the other end of the reel 49 to fix the reel 49 to rotate with the gear 21. Thereupon the free end of the web 51 may be secured to the spindle or shank 53 of the reel 49 with the intermediate portion of the web extending across the rods 20 and 19, see Fig. 2. Thereafter the cover 7 may be secured in place when the portion of the web extending from the rod 20 to the rod 19 will be displayed at the window in the cover 7 between the flanges 15 and 16.

From the foregoing, it will now appear that when the intermediate gear 29 is moved downward into engagement with the gear 21 and the handle 31, looking at Fig. 2, is rotated in a clockwise direction, it will actuate the gear 21 and in turn the reel 49 to draw the web from the reel 50 onto the reel 49.

This web 51, see particularly Fig. 5, is provided with a plurality of longitudinally extending columns defined from one another by the double lines 54, 55, 56 and 57. In the column disposed between the left hand edge of the web 51 and the double line 54, there is marked a list of the days and time periods at which a series of programs will appear. In the remaining columns defined by the double lines 55, 56 and 57 adjacent to the day and time periods aforesaid, there

will be marked the title of the program of a given radio station and such other informative matter, as for instance the announcer or possibly the sponsor for a particular program.

In the present instance, there are thus provided four columns of programs for each time interval although obviously this number may be increased or decreased without departing from the spirit of the invention.

The flange 16 of the window, see particularly Fig. 1 is provided with station indicia to register with the several program columns, in the present instance the four stations, "WEAF", "WOR", "WJZ" and "WABC" with their respective meter assignments there being indicated.

The window formed between the flanges 15 and 16 is preferably wide enough as indicated in Fig. 1 to accommodate three successive programs so that the user of this device may see at one reading for his guidance the series of programs in the time period which is passed, the series of programs in the present time period and the series of programs in the next succeeding time period.

To further guide the user of this device, the flange 17 is provided with the abbreviation "FUT" adjacent the upper column registering with the next succeeding list of programs, the abbreviation "PRE" registering with the intermediate column or series of programs in the present time period and the word "PAST" at the bottom registering with the lowermost row of the web 51 corresponding with the row of programs in the immediate preceding time interval. Preferably also the space adjacent the abbreviation "FUT" may have formed thereon a transparent sheet composed of some colored gelatinous substance colored red as an instance and the space registering with the word "PAST" may likewise be covered with a transparent gelatinous sheet colored blue as an instance while the intervening space registering with the abbreviation "PRE" will be free to expose the portion of the tape 51 there appearing.

If the web 51 is provided with a list of programs for the week, the day notations in the first left hand column will of course be sufficient. If, however, the web is provided with a list of programs for an entire month or a period longer than a week, the left hand column in order to intelligently advise the user of this device should of course also have the day of the month indicated thereon. In the present instance, there is however illustrated still another method for indicating to the user the day of the month of a given program.

This new method consists in marking on the flange 15 the days of the month from one to thirty-one inclusive and forming on the web 51 a diagonal line 58. This line will be so positioned on the web 51 that the time periods of a certain day of the week will correspond to on the flange 15 the day of the month registering with the upper end of the exposed portion of the line 58. For instance looking at Fig. 1, the upper end of the line 58 at the middle free space registers with the number 12 on the flange 15 to indicate that the program there exposed is the one given on the twelfth day of a particular month.

The web 51 is preferably composed of a substance that is sufficiently translucent or transparent to permit light to pass through the same and indicate the printed markings on the same. In order to permit light to strike the lower surface of the same and thus illuminate the printed markings, there is provided a lamp 59 secured in

the socket 60 formed at the end of the bracket 61 extending from the side wall 5. The lamp 59 is preferably disposed between the reels 49 and 50, see Fig. 2 and directly beneath the free space between the flanges 15 and 16 of the window.

One end of this lamp is preferably connected by the conductor 62 to the battery 63 resiliently secured by the clip 64 to the base 2, the clip 64 being secured to the base 2. The battery 63 has one of its contacts preferably as illustrated disposed to engage the spring contact strip 65 secured to the rear wall 4 and grounded by it to form a conductive path to the contact 66 of the switch button 67 mounted in the cover 7 preferably adjacent the lower left hand end of the cover 7. The contact 66 of the switch button 67 is preferably urged into its normal position or circuit breaking position by a spring not shown but yieldable to permit the button to be pressed into engagement with the contact 68 secured to the insulated bracket 69 which is connected by the conductor 70 to a terminal of the lamp socket 60 in the well known manner.

By means of this illuminating means, the indicator can of course be mounted on a radio cabinet which may be disposed in a dark or poorly lighted corner of a living room or the like and yet enable the user quickly to determine the program for a given time interval by pressing the button 67.

In the embodiment illustrated in Fig. 6, there is provided a simplified construction in which in place of the main gears 21 and 22, and intermediate roller 29 of the embodiment illustrated in Fig. 2, there are provided the rollers 22', 29' having friction creating peripheries. The intermediate roller 29' rides on the bar 35' and its periphery is urged into frictional engagement with the periphery of either the roller 21' or the roller 22' by the spring 38' secured to the base 2' of the housing 1' acting on the bar 35' to press the intermediate roller 29' into such frictional engagement.

In this embodiment, the upper face of the bar 35' may be a plane surface as indicated instead of recessed, contact between the intermediate roller 29' and either the roller 21' or the roller 22' being insured by the cooperation of the shaft 30' of the intermediate roller 29' with the guide-way 32' and the traction effected by the roller 29' on the upper surface of the bar 35'.

With regard to this traction, attention is called to the fact that the web 51' in the present instance when passing from the guide rod 19' passes down under the spindle 53' associated with the roller 21' so that it will wind up onto the spindle 53' during a clockwise rotation, see the arrow *a* of the roller 21' as a result of which, the intermediate roller 29' will be required to be rotated in a counterclockwise direction, see the arrow *b* during which rotation it will cooperate with the bar 35' to walk along the same in the direction of the roller 21' whereby the traction so created will cooperate with the spring 38' to produce the resulting frictional engagement between the rollers 21' and 29'.

Similarly the web 51' when passing from the guide rod 20' will pass under the spindle 52' associated with the roller 22' so that when the roller 22' is actuated as the wind-up roller, it will rotate in a counterclockwise direction, see the direction indicated by the arrow *c*. To effect this counterclockwise rotation of the roller 22', the intermediate roller 29' would be rotated in a clockwise direction as a result of which it will walk along

the upper surface of the bar 35' in the direction of the roller 22' and the traction so created will cooperate with the spring 38' to produce the resulting frictional engagement between the rollers 22' and 29'.

In the embodiment illustrated in Fig. 7, as compared to the embodiment illustrated in Fig. 2, the gears 21, 22 and 29 are dispensed with and instead thereof the reels 49' and 50' are each separately actuated by a knob, to wit the knobs 31^a and 31^b respectively. These knobs have inwardly projecting hubs 71 and 72 having formed thereon the projections 43' similar to the projections 43 of the embodiment illustrated in Fig. 2, the reels 49' and 50' being otherwise substantially identical to the reels 49 and 50 of the embodiment illustrated in Fig. 2.

The web 51' illustrated in Fig. 8 is similar to the web 51 illustrated in Fig. 5 except that the guide line 58' in this embodiment is staggered so that each longitudinally extending leg 73 between two successive jogs 74 coincides substantially with the middle of a day notation on the flange 18, see Fig. 4, throughout a given time period.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. In a radio program indicator, the combination with a container having a window, of a web containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a gear fixed to rotate with each of said reels, an intermediate gear, a handle connected to said intermediate gear extending from one of the side walls of said container, a guide for said intermediate gear to position said intermediate gear in mesh with either of said fixed gears whereby the web can be moved in either direction relative to said window according to the fixed gear which is engaged by said intermediate gear, yieldably mounted round studs adjacent to one side of said container, and angular studs on said fixed gears in alignment with said yieldably mounted studs respectively, each reel having a round orifice to permit free rotation in either direction on one of said round studs and having an angular orifice to cooperate with an aligned angular stud to rotate with one of said gears whereby actuation of the handle and thereby actuation of the intermediate gear will positively rotate either one or the other of said reels without affecting the removable character of said reels.

2. In a radio program indicator, the combination with a container having a window, of a web containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a gear fixed to rotate with each of said reels, an intermediate gear, a handle connected to said intermediate gear extending from one of the side walls of said container, a guide for said intermediate gear to position said intermediate gear in mesh with either of said fixed gears whereby the web can be moved in either direction relative to said window according to the fixed gear which is engaged by said intermediate gear, a flat spring secured to one side of said container and having two inwardly bowed por-

tions, a cylindrical stud extending inwardly from each of said bowed portions, and an angular stud on each of said fixed gears in alinement with one of said cylindrical studs, each reel being removably mounted on a pair of said alined studs and being so mounted freely to rotate on its cylindrical stud and axially connected to rotate with its angular stud whereby actuation of the handle and thereby actuation of the intermediate gear will positively rotate either one or the other of said reels without affecting the removable character of said reels.

3. In a radio program indicator, the combination with a container having vertical side walls, of a cover removably connected to said container and having a window therein, there being orifices in one of said vertical side walls, an abutment extending inwardly from another of said side walls, projections on the edge of said cover to engage said orifices, a spring finger extending downward adjacent another edge of said cover to cooperate with said abutment and frictionally anchor said cover in closed position when desired, a web containing data, means mounted in said container for guiding a portion of the web in display position at said window when said cover is in position on said container, and means mounted in said container for actuating said web to locate the web portion to be displayed at said window consisting of a pair of reels to which the ends of the web are secured, a gear fixed to rotate with each of said reels, an intermediate gear, a handle connected to said intermediate gear and extending from one side wall of said container, and a guide for said intermediate gear to position said intermediate gear in mesh with either of said fixed gears whereby the web can be moved in either direction relative to said window according to the fixed gear which is engaged by said intermediate gear, the cover being removable to afford access to the web and operative parts in said container.

4. In a radio program indicator, the combination with a container, of a removable cover having a window therein, a translucent or transparent data containing web, reels disposed in said container to either side of said window and having the ends of said web connected thereto to facilitate displaying any portion of said web intermediate said reels at said window, an electric lamp mounted in said container and disposed under the web portion displayed at said window, a battery mounted in said container, a fixed switch contact mounted in said container, and means forming an electric circuit including said fixed contact and a movable switch contact forming button mounted on said cover for connecting said battery to said lamp whereby said cover and switch button may be removed to afford access to the contents of said container without affecting any of the operative parts thereof.

5. In a radio program indicator, the combination with a container having a window, of a web containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a gear fixed to rotate with each of said reels, an intermediate gear, a handle connected to said intermediate gear extending from one of the side walls of said container, a guide for said intermediate gear to position said intermediate gear in mesh with either of said fixed gears whereby the web can be moved in either direction rela-

tive to said window according to the fixed gear which is engaged by said intermediate gear, and a yieldable member for yieldably urging said intermediate gear into meshing relation with either of said fixed gears.

6. In a radio program indicator, the combination with a container having a window, of a web containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a gear fixed to rotate with each of said reels, an intermediate gear, a handle connected to said intermediate gear extending from one of the side walls of said container, a guide for said intermediate gear to position said intermediate gear in mesh with either of said fixed gears whereby the web can be moved in either direction relative to said window according to the fixed gear which is engaged by said intermediate gear, a lever having two recesses for receiving the shaft of said intermediate gear to predetermine the position of said intermediate gear either in mesh with one or the other of said fixed gears, and means for yieldably urging said lever in turn to urge said intermediate gear to mesh with either of said fixed gears.

7. In a radio program indicator, the combination with a container, of a removable cover for said container having a window, a translucent or transparent data containing web, reels disposed in said container to either side of said window and having the ends of said web connected thereto to facilitate displaying any portion of said web intermediate said reels at said window, an electric lamp in said container disposed under the portion of said web displayed at said window, a source of electric current, and means forming an electric circuit including a switch button for connecting said source of current to said lamp, said button being disposed in said cover and projecting to one side of said window to facilitate closing the switch and causing the web portion displayed at said window to be illuminated at will.

8. In a radio program indicator, the combination with a container provided with an opening in the upper inclined wall member thereof to form a window substantially in the middle of such wall member, of a translucent or transparent data containing web, reels disposed in said container to either side of said window and having the ends of said web connected thereto to facilitate displaying any portion of said web intermediate said reels at said window, an electric lamp in said container disposed under the web portion displayed at said window, a source of electric current, means forming an electric circuit including a switch button for connecting said source of current to said lamp, said button being disposed in said upper wall member and disposed to project to one side of said window to facilitate closing the switch and causing the web portion displayed at said window to be illuminated at will, a handle, and means for connecting said handle to rotate either of said reels, said handle extending from a side of said container opposite to the side on said upper wall member where said switch button is located whereby an operator may simultaneously press the switch button with one hand to effect illumination and operate the handle with the other hand.

9. In a radio program indicator, the combination with a container having a window, of a web

containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a rotatable member fixed to rotate with each of said reels, an intermediate rotatable member, a handle connected to said intermediate rotatable member extending from one of the side walls of said container, a guide for said intermediate rotatable member to position said intermediate rotatable member in actuation relation with either of said fixed rotatable members whereby the web can be moved in either direction relative to said window according to the fixed rotatable member which is engaged by said intermediate rotatable member, and a yieldable member for yieldably urging said intermediate rotatable member into actuation relation with either of said fixed rotatable members.

10. In a radio program indicator, the combination with a container having a window, of a web containing data, means for guiding a portion of the web in display position at said window, and means for actuating said web to locate the portion to be displayed at said window consisting in a pair of reels to which the ends of the web are secured, a rotatable member fixed to rotate with each of said reels, an intermediate rotatable member, a handle connected to said intermediate rotatable member extending from one of the side walls of said container, a guide for said intermediate rotatable member to position said intermediate rotatable member in actuation relation with either of said fixed rotatable members whereby the web can be moved in either direction relative to said window according to the fixed rotatable member which is connected by said intermediate rotatable member, a flat spring secured to one side of said container and having two inwardly bowed portions, a cylindrical stud extending from either of said bowed

portions, and an angular stud on each of said fixed rotatable members in alignment with one of said cylindrical studs, each reel being removably mounted on a pair of said aligned studs and being so mounted freely to rotate on its cylindrical stud and axially connected to rotate with its angular stud whereby actuation of the handle and thereby actuation of the intermediate gear will positively rotate either one or the other of said reels without affecting the removable character of said reels.

11. In a radio program indicator, the combination with a container having vertical side walls, of a cover removably connected to said container and having a window therein, there being orifices in one of said vertical side walls, an abutment extending inwardly from another of said side walls, projections on the edge of said cover to engage said orifices, and a spring finger extending downwardly adjacent another edge of said cover to cooperate with said abutment and frictionally anchor said cover in closed position when desired, a web containing data, means mounted in said container for guiding a portion of the web in display position at said web when said cover is in position on said container, and means mounted in said container for actuating said web to locate the web portion to be displayed at said window consisting of a pair of reels to which the ends of the web are secured, rotatable members fixed to rotate with each of said reels, an intermediate rotatable member, a handle connected to said intermediate rotatable member and extending from one side wall of said container, and a guide for said intermediate rotatable member to position said intermediate rotatable member in actuation relation with either of said fixed rotatable members whereby the web can be moved in either direction relative to said window according to the fixed rotatable member which is engaged by said intermediate rotatable member.

JAMES W. DECKER.