

May 21, 1929.

E. G. DANIELSON

1,713,951

RADIO SUPPORT PANEL

Filed June 16, 1926

2 Sheets-Sheet 1

FIG. 1.

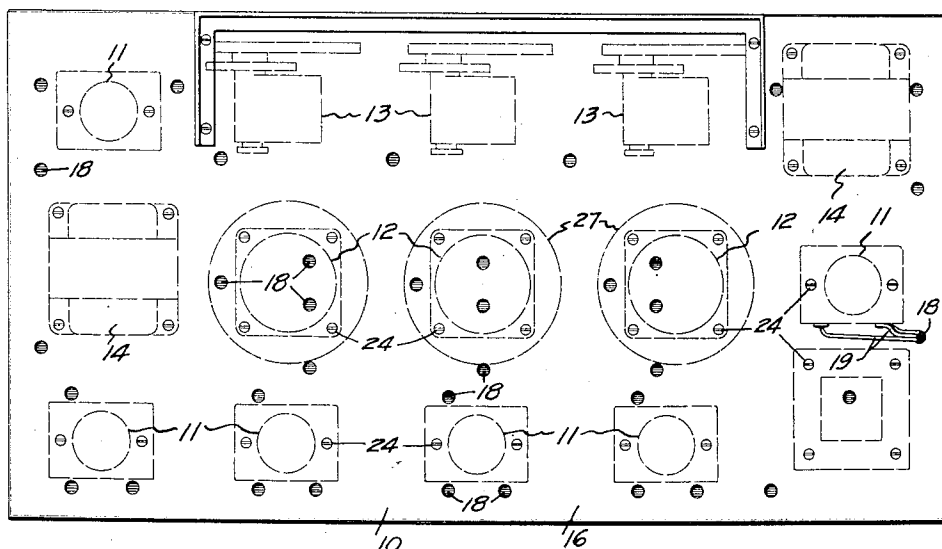
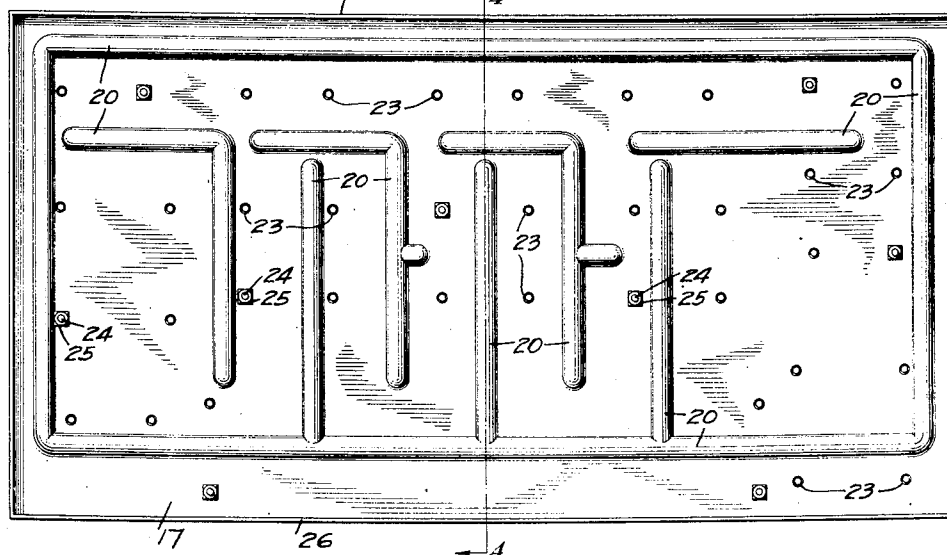


FIG. 2.



INVENTOR
Ernest G. Danielson.
BY *White & Frost*
ATTORNEYS

May 21, 1929.

E. G. DANIELSON

1,713,951

RADIO SUPPORT PANEL

Filed June 16, 1926

2 Sheets-Sheet 2

FIG. 3.

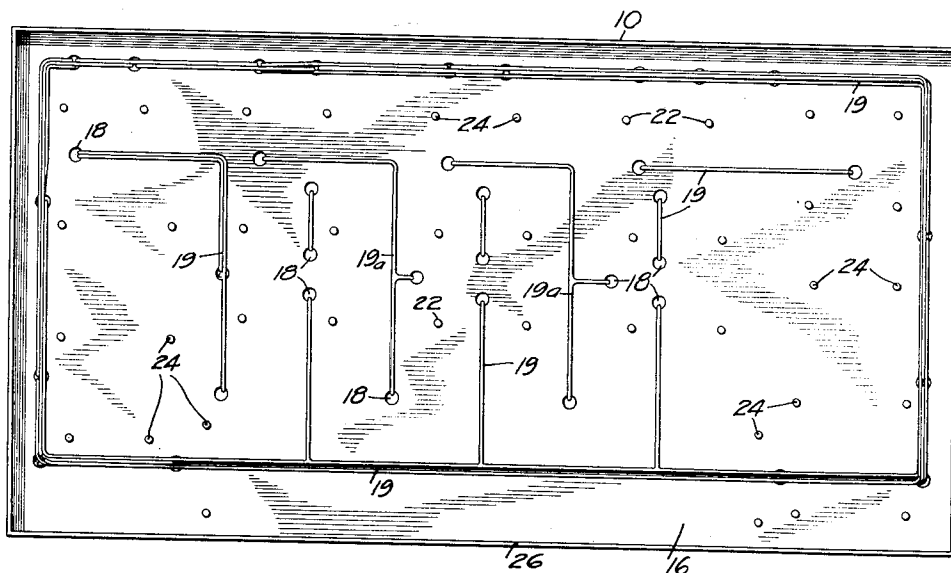
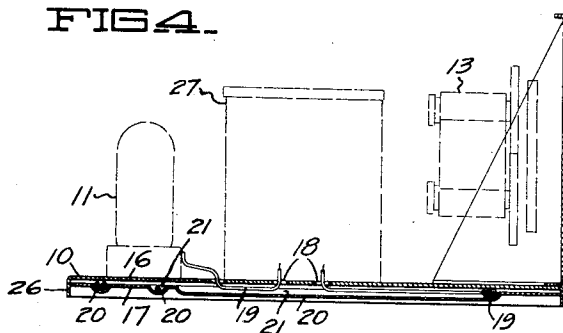


FIG. 4.



INVENTOR
Ernest G. Danielson
BY *White & Frost*
ATTORNEYS

Patented May 21, 1929.

1,713,951

UNITED STATES PATENT OFFICE.

ERNEST G. DANIELSON, OF SAN FRANCISCO, CALIFORNIA.

RADIO SUPPORT PANEL.

Application filed June 16, 1926. Serial No. 116,373.

This invention relates generally to devices intended to serve as a support or mounting for electrical instruments and is especially adapted for radio receiving apparatus.

5 In radio receiving apparatus it is often difficult to tune out a local station in order to permit long distance reception. It has been found that this difficulty is not altogether due to harmonics transmitted by the
10 local station or to poorly designed tuning circuits in the receiving apparatus, but is also caused by strays which are absorbed by the unshielded coils and electrical conductors of a receiving set. It has accordingly
15 been found that by effectively shielding the coils and conductors of a set, much closer tuning may be obtained, interference is reduced to a minimum and the stability of the receiver is generally increased.

20 It is an object of this invention to devise a novel and practical means for shielding the conductors interconnecting the various instruments of a radio set.

25 It is a further object of this invention to provide a shield for the interconnecting conductors of a radio set which is in the form of a panel support upon which the instruments are mounted. It is proposed to construct the panel of a pair of superposed
30 metal sheets adapted to enclose the major portions of the conductors.

Further objects of the invention will appear from the following description in which I have set forth the preferred embodiment
35 of my invention. It is to be understood that the scope of this invention is to be determined from the appended claims and the state of the prior art.

Referring to the drawings:

40 Figure 1 is a plan view of a panel support embodying the features of this invention.

Fig. 2 is a bottom view of the panel support shown in Fig. 1.

45 Fig. 3 is a bottom plan view of a panel support with the bottom sheet removed, showing the arrangement of the electrical conductors.

50 Fig. 4 is a transverse cross sectional view taken along the line 4-4 of Fig. 2.

The invention comprises generally a panel support upon which the various instruments of a radio set are adapted to be mounted. This panel is constructed of a pair of sheets
55 adapted to be secured together in superposed relationship, the upper sheet being apertured

at various points to receive the interconnecting electrical conductors for the various instruments. The lower sheet is provided with pressed-out grooves which together
60 with the upper sheet, form passageways for receiving the conductors.

Thus referring to the drawings, there is shown a support panel 10 upon which are mounted the various instruments of a radio
65 set indicated in the drawing by dotted line construction. In order to illustrate the manner in which the invention is incorporated with a representative type of radio
70 receiving set, there has been indicated a plurality of electron emission tubes 11, radio frequency coupling coils 12, variable tuning condensers 13, and audio frequency
75 transformers 14. With such receiving sets the interconnecting electrical conductors between the instruments form a considerable absorbing capacitance which if not shielded will absorb the energy of strays, with the
80 result that the receiver will not be able to select a distant station to the exclusion of a near-by local station of different wave length.

To obviate absorption of energy by the interconnecting conductors and in order to shield certain of the conductors from each
85 other, the support panel 10 is made of metal and comprises upper and lower sheets 16 and 17 secured together in superposed relationship. The majority of the instruments may be mounted directly upon the upper sheet 16
90 and this sheet is provided with a plurality of apertures 18 which are located adjacent the instrument connection terminals. In wiring the apparatus the electrical conductors 19 interconnecting the various instru-
95 ments are extended through the apertures 18 so as to underlie the upper sheet 16 for the greater portion of their length.

In order to shield certain of the conductors from each other the lower sheet 17 is
100 preferably provided with suitable pressed-out grooves 20 which together with the upper sheet 16 form passageways 21 for reception of the conductors 19. In this manner certain of the conductors may be entirely en-
105 closed and segregated from the other conductors in order to prevent physical shifting of the conductors and intercapacitative coupling. Thus for example it is desirable to separately shield the grid conductors
110 19^a which are at a relatively high potential. In practice registering apertures 22 and 23

may be provided in the upper and lower sheets for receiving the screws or bolts used in mounting the various instruments. For clamping the upper and lower sheets together certain of the instrument mounting screws 24 may be extended down below the lower sheet 17 and nuts 25 employed for retaining the lower sheet in contact with the upper. A flange 26 is also preferably provided around the edge of the upper sheet 16 in order to add to the appearance of the device and to aid in positioning the lower sheet 17 with respect to the upper sheet. When in use the panel is usually grounded so that it is maintained at substantially zero potential. Other portions of the apparatus may also be shielded as indicated by the metal covers 27 for the radio frequency coupling coils 12.

I claim:

1. A panel support for radio apparatus comprising a plurality of superposed metal sheets, at least one of said sheets being grooved to provide passageways for conductors interconnecting individual instruments of the apparatus.

2. A panel support for radio apparatus comprising a pair of superposed metal sheets, the lower sheet being provided with pressed out grooves to provide passageways between the sheets for conductors interconnecting certain of the instruments of the apparatus.

3. A panel support for radio apparatus comprising a pair of superposed metal sheets, the lower sheet being provided with a plurality of spaced pressed out grooves

to provide spaced passageways between the sheets, the upper sheet being provided with apertures communicating with said grooves whereby certain of the conductors connecting the instruments of the apparatus may be segregated and shielded by positioning the same in said passageways.

4. A panel support for radio apparatus comprising a pair of superposed metal sheets forming electrostatic shields, the lower sheet being provided with a plurality of spaced pressed out grooves to provide spaced passageways between the sheets, the upper sheet being provided with apertures communicating with said grooves whereby certain of the conductors connecting the instruments of the apparatus may be segregated and shielded by positioning the same in said passageway.

5. A panel for supporting the electron relays of radio apparatus, said panel comprising an upper metal sheet upon which said relays are supported, apertures in said sheet thru which grid leads to said relays are strung, said leads thereby extending for a substantial distance along the lower surface, and another metal sheet clamped against the lower face of said first sheet, said lower sheet being grooved to accommodate the portions of said conductors extending along the lower surface of the first sheet, said sheets serving to substantially encompass said conductors with metal shielding.

In testimony whereof, I have hereunto set my hand.

ERNEST G. DANIELSON.