

Jan. 10, 1967

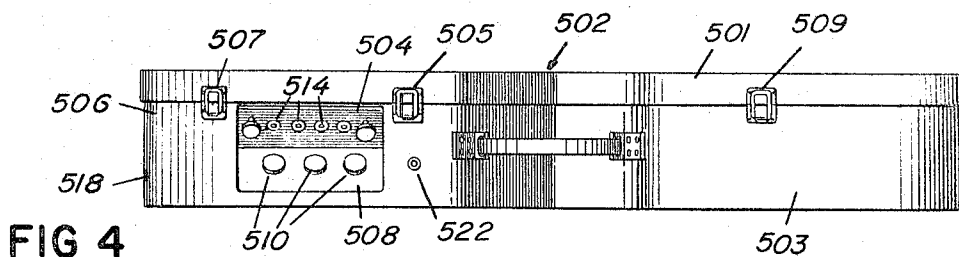
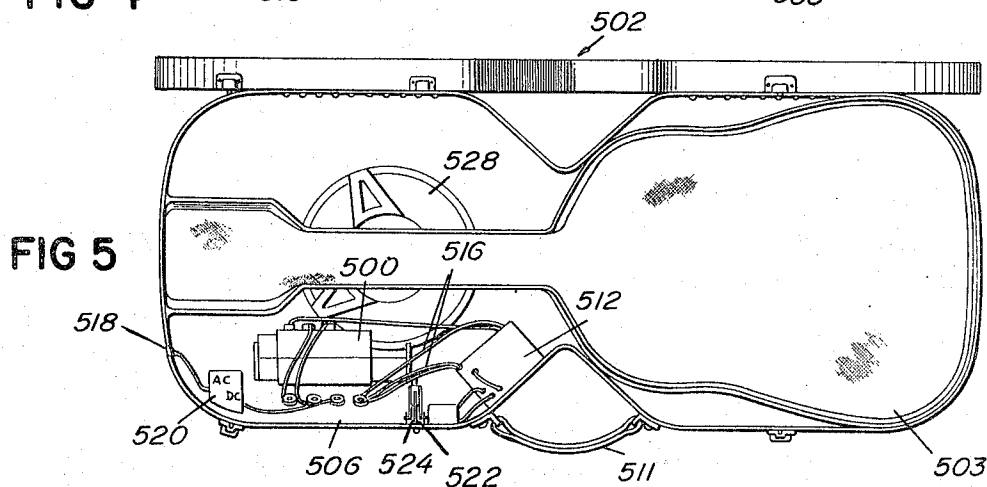
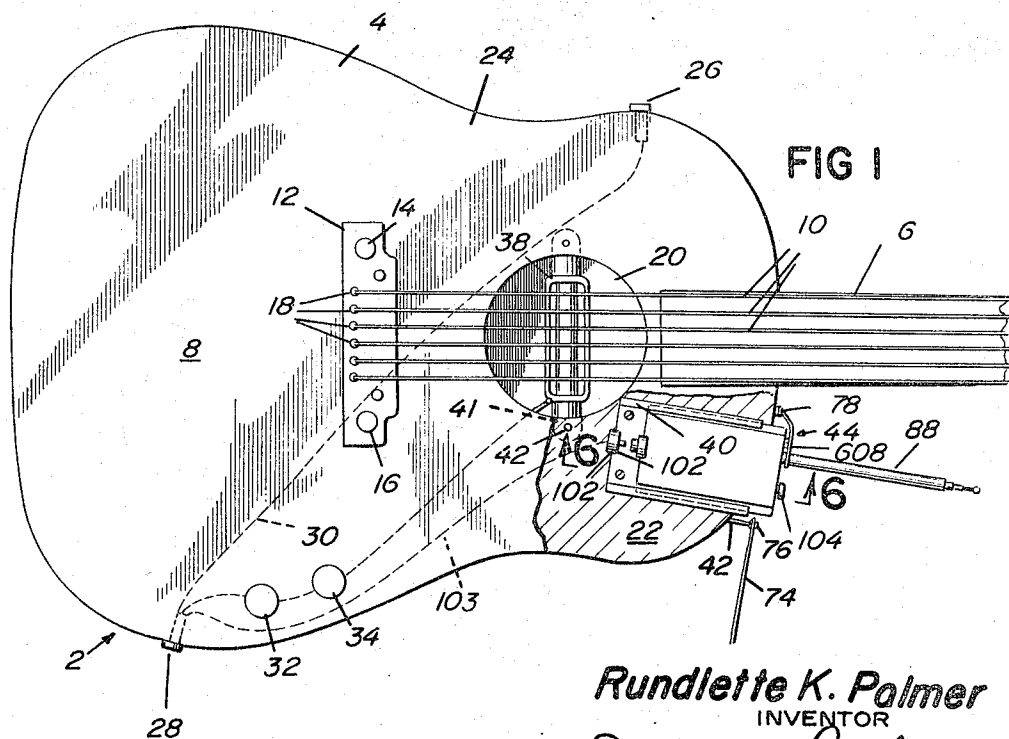
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3,296,916

MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

Filed March 17, 1964

5 Sheets-Sheet 1



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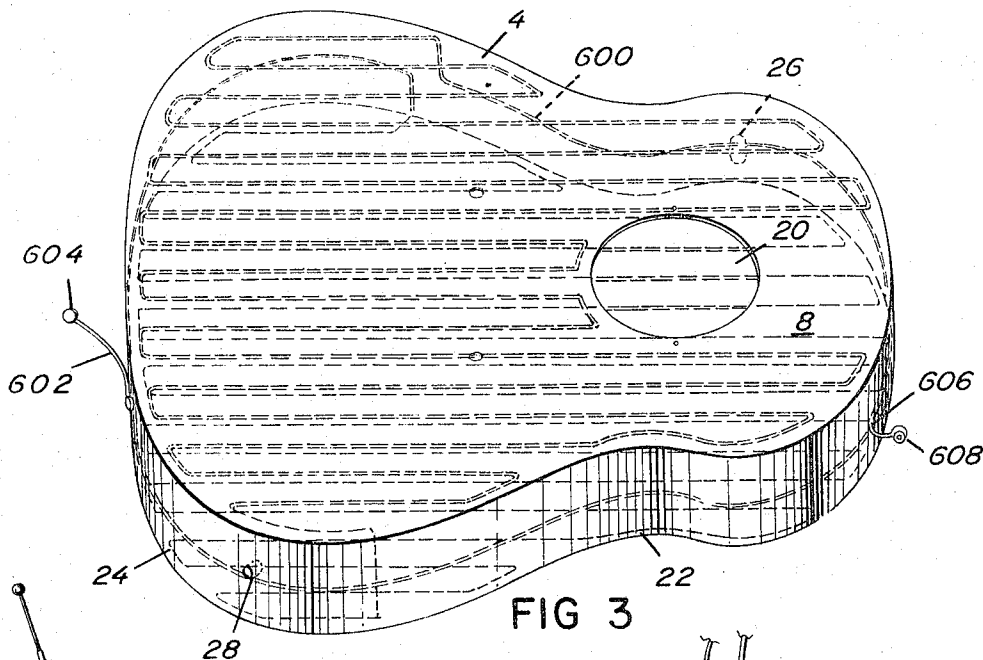
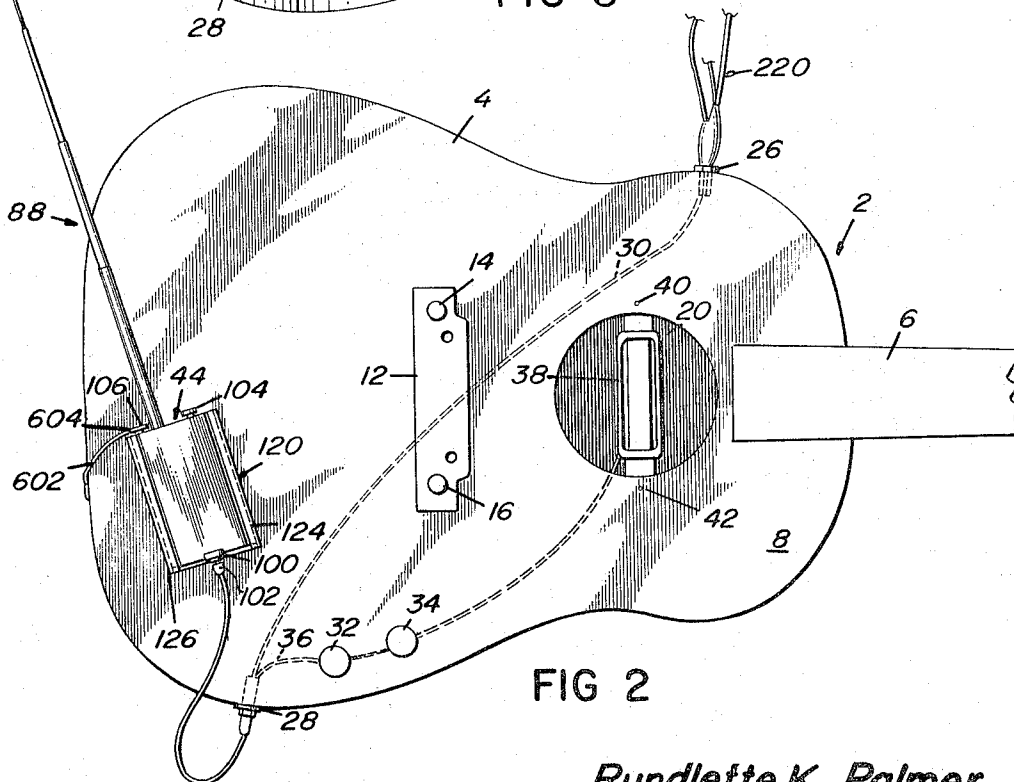
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MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

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5 Sheets-Sheet 2



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MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

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5 Sheets-Sheet 3

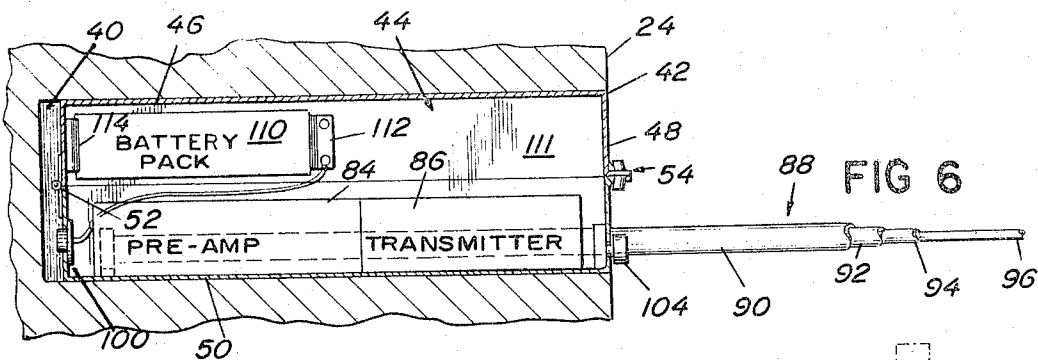
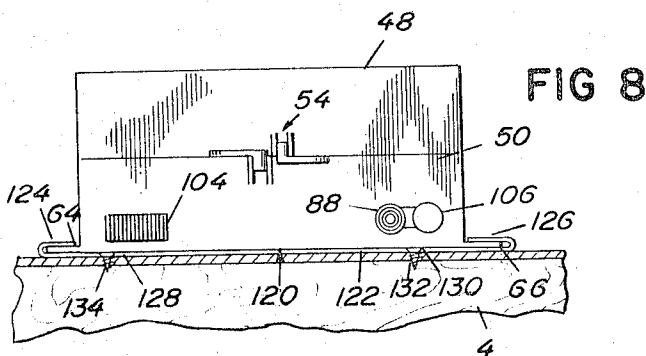
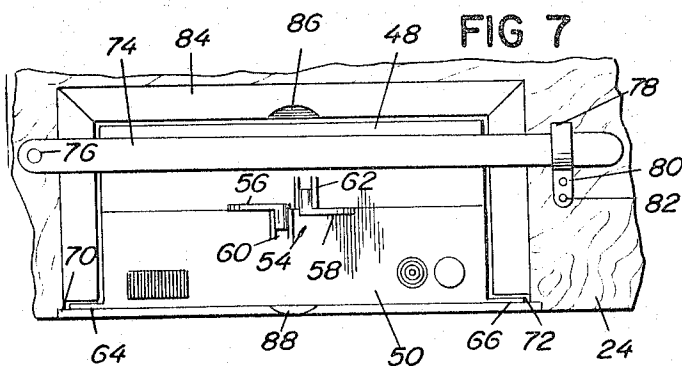
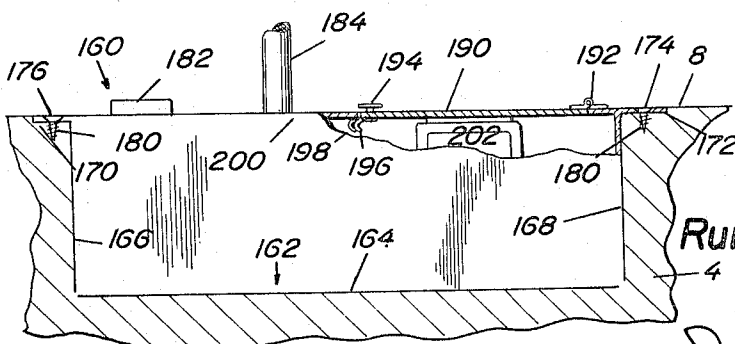


FIG 9

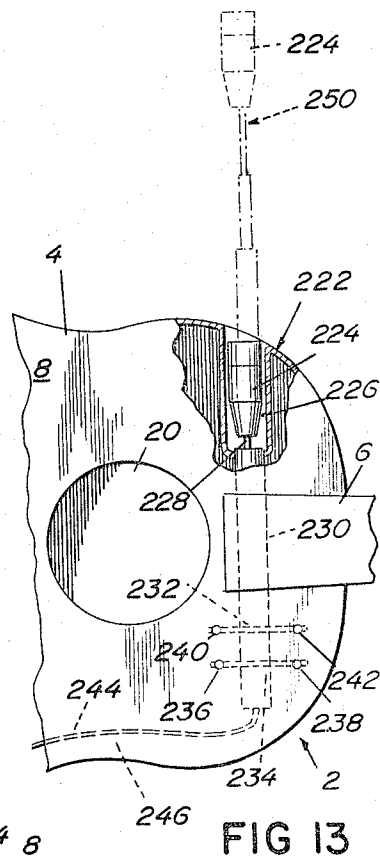


FIG 13

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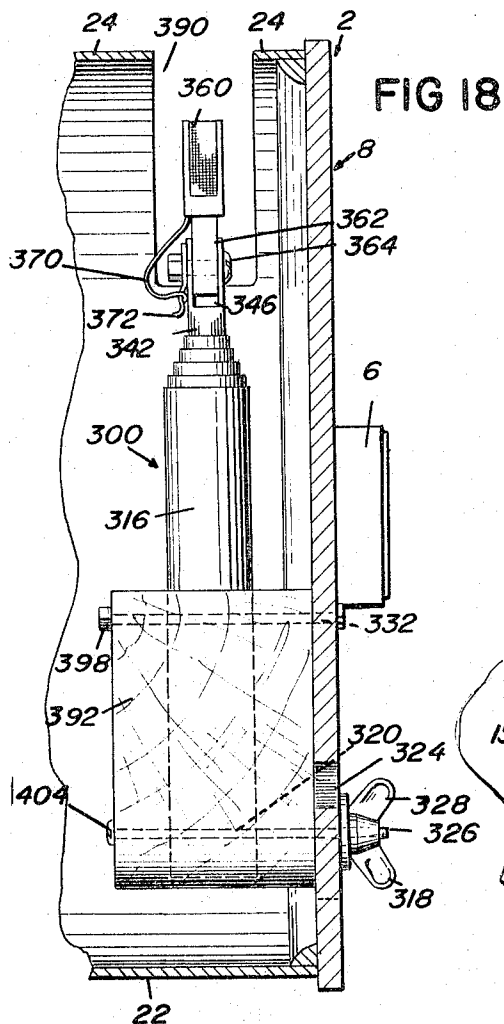
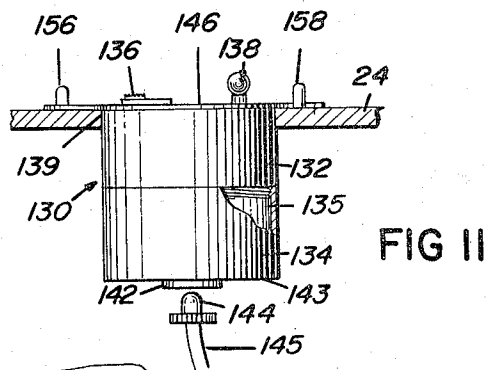
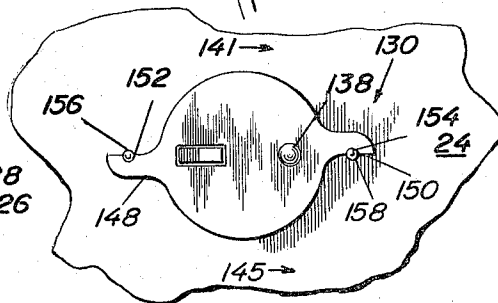
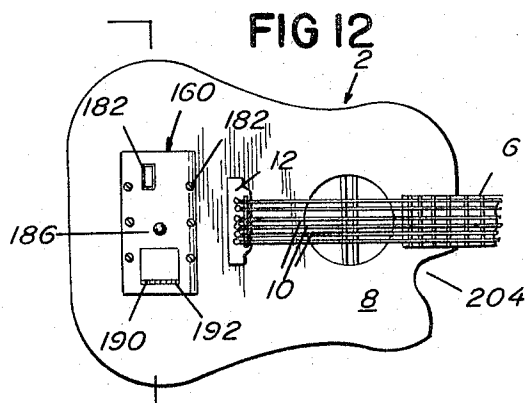
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MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

Filed March 17, 1964

5 Sheets-Sheet 4



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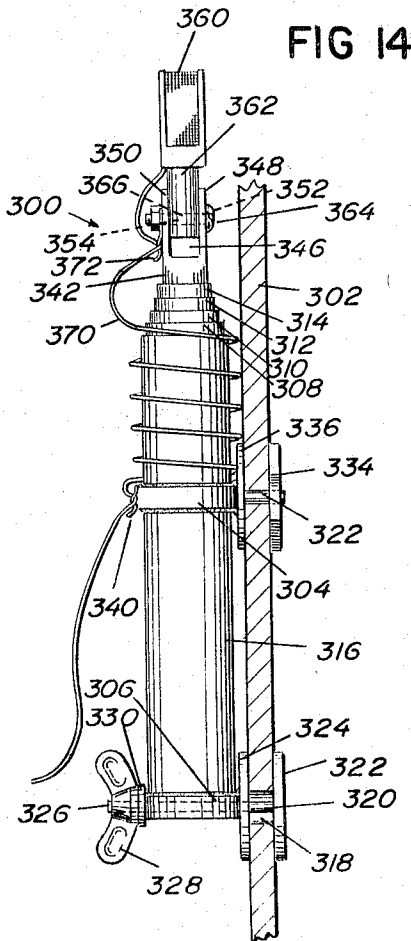
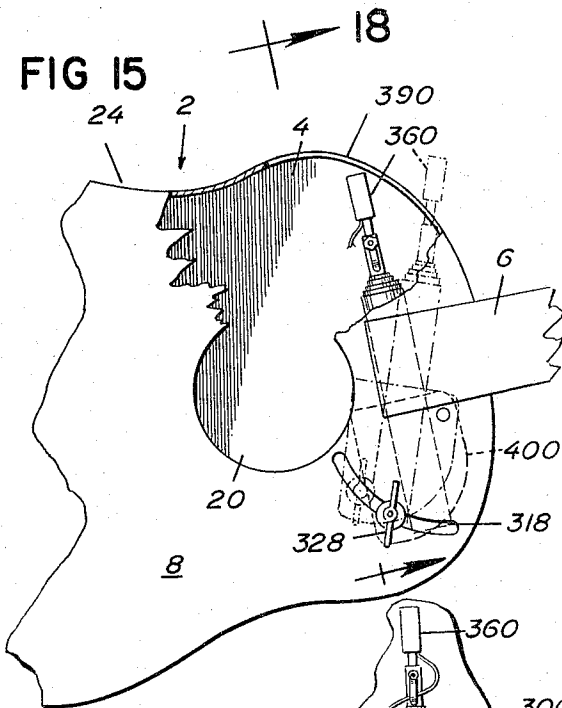
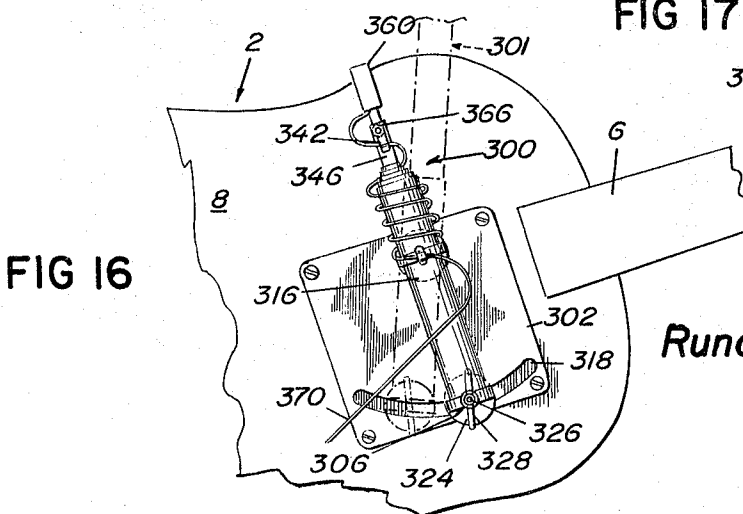
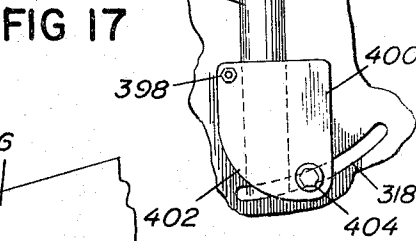
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MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

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3,296,916

MUSICAL INSTRUMENT AND AMPLIFICATION SYSTEM

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Filed Mar. 17, 1964, Ser. No. 352,489
10 Claims. (Cl. 84-1)

This invention relates to entertainment equipment and more particularly to a combination musical instrument and amplification system.

As is well known, it is now common practice for musicians and other entertainers to utilize a public address system usually including one or more microphones, an audio amplifier and one or more loud speakers and also, in many instances, string instruments are provided with pickups connected to the audio amplifier in such a manner, that the music from each instrument is amplified and fed to the loud speakers. Heretofore, it has been customary to provide the amplifiers, loud speakers, microphones, and instrument cases as separate units and obviously, this presents a serious and troublesome transportation problem and also, since it is necessary that all of the electrical units be connected together by cables, it is further necessary to pack and transport such cables and when connected, the same detract from the appearance of the installation as well as being frequently disconnected by reason of the entertainer's feet or body becoming entangled therewith. Furthermore, the different cable connections prevent various movements by the entertainer while holding the musical instrument. Thus, the numerous cables present a hazard to the entertainer in that they are frequently tripped over and thus may cause personal injury. Furthermore, the entertainer is frequently confined in his performance to the area about the microphone so that sufficient amplification of the music and his voice may be accomplished. With these conventional amplification systems it is often necessary to provide an operator at the point of the control panel for adjusting and manipulating the various controls to sufficiently amplify the music and voice from the entertainer. It will, therefore, be seen that combining of the musical instrument and microphone assembly as well as the electrical transmitting structure into a single unitary structure which may be easily handled by the entertainer represents a material step forward in the art. Moreover, a remote receiver and loud speaker assembly not connected to the instrument or entertainer in any manner, overcomes the disadvantages discussed above.

It is accordingly a primary object of this invention to provide a combination musical instrument and amplification system for wireless transmission of both voice and musical sound to a receiver and loud speaker remote from the musical instrument and entertainer. In this regard, it is a further object of the invention to provide a musical instrument with a self-contained transmitting means and an antenna connected thereto for directing electrical signals through the atmosphere to the remote receiver for transmission of the musical and voice sounds over a loud speaker network.

A further object of the present invention is the provision of a musical instrument and amplification system in which a telescopic microphone assembly is provided on the instrument and wherein the microphone is connected to the amplification system.

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A still further object of the present invention is the provision of a musical instrument and amplification system incorporating a transmitting means and a remote receiving means and wherein suitable controls and audio input jacks are provided so that a plurality of musical instruments may transmit through a single receiver remote from the instruments.

Another object of the present invention is the provision of a musical instrument having an inlaid antenna secured to the surface of the instrument about substantially the entire surface thereof and apparatus for protecting the inlaid antenna to the transmitting means on the instrument.

A still further object of the present invention is the provision of a device for releasably mounting a transmitting means on the musical instrument and further to provide suitable connections from a plurality of transducers to the transmitting means. In connection with this preceding object, it is a further object of the present invention to provide a transducer means in close proximity to the sound producing means on the musical instrument and connecting the same to the transmitting means.

Consistent with the above general and basic specific objects of the invention, there are certain more detailed objects hereof including the following:

(a) The provision of a musical instrument and amplification system conforming with the preceding objects wherein a transmitting means is releasably secured to the musical instrument in a flush mounting and wherein all connections between the transmitting means and the musical instrument are internal and therefore not visible to the performer or the audience;

(b) The provision of a musical instrument and amplification system wherein a microphone is releasably secured to the musical instrument case and wherein the same is internally mounted so that it can be hidden from view when not in use;

(c) The provision of such a musical instrument wherein the microphone attachment is such that the microphone is pivotally mounted in the sound box of the musical instrument or on the surface thereof so that the same can adjustably assume a plurality of positions merely by a screw adjustment on the musical instrument.

Still further more detailed objects of the present invention include the following:

(a) The provision of an adjustable microphone assembly secured to the surface of a musical instrument case wherein such microphone is adapted for telescopically assuming an operative or inoperative position;

(b) The provision of such a microphone assembly wherein the actual microphone head is pivotally secured to a supporting shaft mounted on one of the telescopic members of the microphone assembly secured to the musical instrument;

(c) The provision of a portable transmitting means secured to a musical instrument wherein such transmitting means is provided with an activatable operating switch and a telescopic antenna secured thereto for either extending the same into operative position or moving into a recessed inoperative position;

(d) The provision of a transmitter housing which is secured to the musical instrument and which housing includes a plurality of sections secured to one another and adapted to contain a battery pack, a preamplifier and a transmitter therein;

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(e) The provision of such a musical instrument and amplification system which is free of any complicated mechanical or electrical parts and yet relatively light in weight and sufficiently strong to withstand continuous use; and,

(f) The provision of a musical instrument and amplification system conforming with the preceding objects wherein the same is durable in operation and which can be manufactured from existing materials so as to be available at a profitable commercial price.

The invention resides in the combination, arrangement, and construction of the overall combination, as well as in certain sub-combinations and arrangements incorporated therein. The invention will be better understood, and objects other than those set forth above will become apparent, when consideration is given to the following detailed description. Such description makes reference to the annexed drawings presenting preferred and illustrative embodiments of the invention.

In the drawings:

FIGURE 1 is a top plan view of a musical instrument and transmitting means constructed in accordance with the present invention;

FIGURE 2 is a top plan view of a musical instrument and a transmitting means used in a modified embodiment of the apparatus hereof;

FIGURE 3 is a perspective view of the sound box and antenna structure as seen from the top thereof;

FIGURE 4 is a side view of a musical instrument carrying case constructed in accordance with this invention;

FIGURE 5 is a top plan view of the carrying case shown in FIGURE 4 and with the cover of the case open in order to show the arrangement of the various units within the container forming the case;

FIGURE 6 is a longitudinal sectional side view taken along the line 6-6 of FIGURE 1, and showing the interior structure of the transmitting means;

FIGURE 7 is an end view of the transmitting means shown in FIGURE 6;

FIGURE 8 is an end view of a transmitting means used in the modified embodiment of FIGURE 2;

FIGURE 9 is a longitudinal sectional side view taken along the line 9-9 of FIGURE 12, showing the transmitting of another modified embodiment;

FIGURE 10 is a top plan view of a transmitting means constructed in accordance with still another embodiment of the present invention;

FIGURE 11 is a side view partially in section of the transmitting means shown in FIGURE 10;

FIGURE 12 is a partial top plan view of a musical instrument and transmitting means, a section of which is shown in FIGURE 9;

FIGURE 13 is a partial top plan view of a musical instrument and microphone assembly constructed in accordance with the present invention;

FIGURE 14 is a side view of a microphone assembly used in a modified embodiment of the invention hereof;

FIGURE 15 is a partial top plan view and cut-out section of a microphone assembly and associated musical instrument constructed in accordance with another modified embodiment of the present invention;

FIGURE 16 is a partial top plan view of the apparatus shown in FIGURE 14;

FIGURE 17 is a partial bottom view of the microphone assembly shown in FIGURE 15; and

FIGURE 18 is a partial side view of the microphone assembly shown in FIGURE 15.

In one of the embodiments of the invention described below and illustrated in the drawings, the musical instrument, namely a guitar, has been generally designated by the reference numeral 2. It should, however, be understood that the guitar is merely used as exemplary of any type of musical instrument which is adaptable for electrical transmission of musical sounds. Such instruments, for example, may take the form of a violin, a banjo, a

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mandolin, a cello and other string type instruments. In other words, the particular instrument structure associated with the transmitting means and microphone assemblies hereof are not to be limited in their application to a guitar but can be associated with other types of musical instruments, especially those of the string type.

The guitar of the present invention comprises a conventional sound box 4 to which is secured a longitudinally extending finger board 6 projecting from the frontal surface 8 of the sound box 4. As seen in FIGURE 1, the finger board 6 supports at one end thereof a plurality of strings generally and cumulatively indicated by the reference numeral 10, which strings extend from the outer end of the finger board 6 toward the sound box 4 of the guitar and are secured to a transversely extending bridge 12 which is secured to approximately the medial portion of the frontal surface 8. Such securement is achieved by conventional means such as the screws 14-16 extending from the bridge into the interior of the sound box. The strings 10 extend through the apertures 18 in the bridge surface and are tied thereto in some conventional manner.

The sound box 4 as shown in FIGURES 1 and 3, is of the type which has a hollow construction with the frontal surface 8 having a sound hole 20 therein and a rear surface 22 connected to the frontal surface 8 by means of a continuous peripheral side wall 24 thereabout. Spaced about the side wall 24 and on opposite sides of the sound box 4, are a pair of jacks 26 and 28 secured thereto which jacks are adapted for engagement with different types of electrical apparatus. More particularly, the jack 26 shown in FIGURE 1, can be connected to a microphone 220 shown in FIGURE 2 or a microphone of the Lavalier type which hangs around the performer's neck and is provided with an electrical connector to the jack 26. A second audio jack 28 is secured to the side wall 24 at the bottom portion of the sound box 4 as seen in FIGURE 2. As described below, the jack 28 serves a twofold purpose. Firstly, the same serves as a connection for the jack 26 by means of the wire 30 and secondly, is connected to the volume and tone control knobs 32 and 34, respectively, on the frontal surface 8 of the sound box. The volume and tone controls 32 and 34 are connected by means of the wire 36 to a first transducer 38 secured to the guitar case 4 by means of the screws 40 and 42 passing through the extensions 41 and 43 of the transducer. The transducer extends transversely across the sound hole 20 and under the strings 10 extending from the finger board 6 to the bridge 12.

As previously mentioned, the embodiment of the instrument shown in FIGURES 1 and 3, is of the hollow sound box construction. However, another embodiment of the sound box is shown in FIGURE 2, which embodiment includes a sound box of solid construction. Since the embodiment shown in FIGURE 1 has a hollow sound box, it is possible to provide a recess 40 having an opening 42 flush with the side wall 24. Within this recess 40 is releasably secured a transmitting means generally indicated by the reference numeral 44. As best shown in FIGURES 1, 6 and 7, the transmitting means 44 takes the form of a housing 46 including a top casing 48 and a bottom casing 50, which casings are hinged together by the hinge 52 at adjacent ends of each casing. At the front ends of the casings 48 and 50 are latches 54 comprising L-shaped retaining members 56 and 58 which fit within the slots 60 and 62, respectively, so that a releasable engagement of the two is secured. The bottom casing 50 is provided with a pair of extensions 64 and 66 on the bottom portion thereof for engaging the opposite horizontally spaced apart slots 70 and 72 in the recess 40. This sliding engagement along the entire longitudinal length of the transmitting means in cooperation with the pivotally secured locking bar 74 mounted on the pins 76 at the side 24 of the sound box prevent the accidental removal of the transmitting means from the musical instrument. The locking bar 74 is held in place by the

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spring latch 78 secured to the side of the musical instrument by the pins 80 and 82.

As shown in FIGURE 6, the bottom casing 50 of the transmitter housing 44 includes a preamplifier section 84 and a transmitter section 86. Extending longitudinally through each of the sections 84 and 86, is a telescopic antenna 88 having sections 90, 92, 94 and 96 telescopically engaging one another so that the same are collapsible into a recessed position within the bottom casing 50. These antenna sections are telescopic into the operative position shown when the transmitter is being used. At the rear end of the bottom casing 50 a jack 100 is provided to which is connected a mating member 102 (FIGURE 2) attached to the cable 103 from the audio jack 28 previously described. The bottom casing 50 is also provided at the front end thereof with an activatable switch 104 and an antenna snap 106 to be described below. The switch 104 activates the transmitter and preamplifier to the operative or inoperative position. The top portion or casing 48 of the transmitter housing 44 includes a battery pack 110 connected to the preamplifier section. This battery pack 110 is secured by the members 112 and 114 to the side wall 111 of the casing 48 and provides a 9-volt system for operation of the transmitting means. Thus, when it is desired, to either replace or remove the transmitter housing 44 from the recess 40, it is only necessary to disengage the locking bar 74 from the spring latch 78 and pivot the bar about the pivoting pin 76. Recesses 86 and 88 are provided for insertion of the fingers therein so that the housing can be removed from the recess by sliding the rails or extensions 64 and 66 out of the recesses 70 and 72, respectively.

As previously stated, it is conventional to find a musical instrument having a sound box of the solid construction type and thus, it is not possible to provide any recess for mounting the transmitting means therein. Accordingly, and as further seen in FIGURES 2 and 8, applicant has provided a flush mounting surface member 120 which comprises a longitudinally extending plate 122 having the oppositely spaced horizontal side edges thereof overturned and U-shaped as at 124 and 126, and the plate 122 is further provided with a plurality of suitable apertures 128 and 130 through which pass the securing means 132 and 134, respectively, attaching the same to the sound box. The transmitter housing 44 of this embodiment is provided with similar extensions 64 and 66 on the bottom casing 50 extending from the side edges thereof. These extensions 64 and 66 slidably engage the U-shaped channel sections 124 and 126 on the sides thereof for securing the same to the sound box.

A further embodiment shown in FIGURES 10 and 11, provides for the transmitting means 130 to be mounted in a hollow sound box having a side wall 24. This transmitting means 130 is similar in the contents thereof to that of the embodiment shown in FIGURES 6-8. However, in the embodiment of FIGURES 10 and 11 the transmitting means is cylindrical in shape and has a top casing 132 and a bottom casing 134 secured thereto by some conventional hinge means. The cut-out section 135 shows the interior of the bottom casing 134. The top casing 132 is provided with a switch means 136 similar to the switch means 104 in the embodiment of FIGURE 6. The switch means 136 is actuatable in the aperture 140 of the top casing and a telescopic antenna 138 is provided in both of the casings 132 and 134. A suitable connecting jack 142 is secured to the bottom surface 143 of the casing 134 for engagement with the female jack 144 connected to a wire 145 leading to the audio jack 28, as shown in FIGURE 2. The connecting jacks 142 and 144 are substantially the same as the jack connection 100-102 which was previously described in connection with the transmitting means 44 shown in FIGURE 1.

In order to secure the transmitting 130 to the sound box, the top casing 132 is provided with a cover plate 146 on the top portion thereof which plate is provided with

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a pair of oppositely horizontally spaced lateral extensions 148 and 150 having notches 152 and 154, respectively. In order to secure the transmitting means 130 within the sound box of the musical instrument, the same is inserted through the aperture 139 in the side wall 24 of the sound box and it is then turned clockwise as indicated by the arrow 141 in FIGURE 10 so that the notches 152 and 154 engage the upstanding securing means 156 and 158, respectively. The securing means are then tightened so that the plate 146 and the entire transmitting assembly 130 is secured in place. When it is desired to remove the transmitting means 130 for replacement or repair, etc., the securing means 156 and 158 are loosened and the plate and transmitter are then turned counterclockwise in the direction indicated by the arrow 145 so that the lateral extensions 148 and 150 are disengaged from the securing means so that the entire transmitting assembly 130 can be lifted from the sound box.

Another embodiment of the transmitting means which can be used in conjunction with the musical instrument 2, is shown in FIGURES 9 and 12 wherein the transmitting means is generally indicated by the reference numeral 160. In this embodiment, the transmitting means is secured within a recess on the frontal surface 8 of the sound box 4 and disposed rearwardly of the bridge 12 as seen in FIGURE 12. The transmitting means 160 includes a housing 162, having a bottom wall 164 and upstanding side walls 166 and 168 which terminate in the horizontally extending and oppositely spaced apart flanges 170 and 172, respectively. These flanges 170 and 172 are provided with a plurality of aligned apertures 174 and 176 which apertures are engaged by the screws 180 for securing the transmitting housing 162 to the frontal surface 8 of the sound box 4. This embodiment of the transmitting means is also provided with an operable switch 182 similar to the switch means 136 of the embodiment shown in FIGURES 10 and 11 and the switch means 104 shown in the embodiment of FIGURES 6, 7 and 8. Likewise, a telescopic antenna 186 extends from the housing 162 outwardly therefrom. An access door 190 is hingedly secured at 192 to the housing 162 and is provided with a conventional handle 194 at the front end thereof as well as a spring latch 196 engaging the latch 198 depending from the wall 200 of the transmitting housing. This access door 190 serves to open and close the battery pack section 202 of the transmitting housing. As is seen in FIGURE 12, the sound box 4 is of the type having a cut-out 204 below the finger board 6 so that the performer can have free access to the finger board by the left hand which extends behind the sound box and about the cut-out section 204 thereof. Thus, it is not possible to mount a transmitter housing thereto in the manner shown in the embodiment of FIGURE 1, and accordingly the transmitter housing 160 is disposed on the frontal face 8 of the hollow sound box 4.

As previously stated, the instrument may be provided with a second transducer means such as a microphone. As also previously mentioned, such microphone might be of the type shown in FIGURE 2 and generally indicated by the reference numeral 220 or of the telescopic type shown in FIGURE 13 and generally indicated by the reference numeral 222. FIGURE 13 shows the microphone 222 secured within the hollow sound box 4 and the microphone head 224 is shown in full line within the recess 226. The support 228 of the microphone 222 extends downwardly into the telescoping sections 230 which are secured by means of the brackets 232 and 234 at the bottom portions thereof and mounted on the sound box by the screws 236-242. Leading from the bottom of the telescopic section 230 are the leads 244 and 246 which connect the microphone to the audio jack 28 (not shown) at the rear of the sound box. As shown in dotted line at 250, the microphone head 224 is extendable into the operative position from the inoperative or storage position shown in solid line therein.

It should be here understood that notwithstanding the type of transmitter means which is secured to the sound box of the musical instrument either in a recess portion or on the frontal surface thereof, the choice of microphone to be used in conjunction therewith should not be limited. In this regard, attention is further directed to FIGURES 14-18 wherein two further modified embodiments of telescopic microphone assemblies are shown. More particularly, in FIGURE 14, a microphone assembly 300 is secured to a mounting plate 302 by means of the brackets 304 and 306. The microphone assembly comprises a plurality of telescopic sections 308, 310, 312 and 314 secured within the support section 316 which is attached to the mounting plate 302. This plate is provided with an arcuate slot 318 through which passes the pin or shaft 320 secured at opposite ends thereof to the washers 322 and 324. The bracket 306 extends around the circular section 316 at the bottom portion thereof and the pin or shaft 320 extends through the bottom portion of the section 316 and terminates in the threaded end 326. Attached to this end 326 is a wing nut 328 with a suitable washer 330 between the wing nut and the bracket 306. Disposed substantially medially of the telescopic section 316 is the previously mentioned bracket 304 extending thereabout and connected to the pin 332 provided between the washers 334 and 336. At the front of the bracket 304 is mounted a wire retaining clip 340.

A bifurcated shaft 342 having a slot 346 therein between the face plates 348 and 350 is provided on the upper end of the member 314. An aperture 352 is provided in the plate 348 and an aperture 344 aligned with the aperture 352 is disposed within the plate 350. The microphone head 360 supported on the member 362 is pivotally secured to the support shaft 342 by means of the screw 364 extending through the slot and the apertures of the shaft 342 as well as in aperture 366 of the member 362. A connecting wire 370 extends from the microphone head 360 and is secured by the retaining clip 372 on the shaft 342 and is wound around the telescopic support member 316 to the position wherein the wire passes through the previously mentioned clip 340 and then extends to the audio jack 28 wherein it is connected to one of the transmitting means previously described. By means of the structure described above, it is possible to pivot the entire microphone assembly 300 about the pin 332 and adjustably maintain the position of the same by means of the wing nut 328. As shown in FIGURE 16, the microphone assembly 300 can assume the position shown in full line therein or the dotted line position generally indicated by the reference numeral 301. In other words, the microphone assembly can assume any desired position within the pathway of the arcuate slot 318 of the plate member 302.

As previously stated, the sound box 4, of the musical instrument, can either be of the hollow type construction or of the solid body construction. For those instances where the sound box is of the solid body construction, it is necessary to mount the plate 302 on the frontal surface 8 thereof. However, in those instances wherein the musical instrument is provided with a hollow sound box as shown in FIGURES 16 and 17, the microphone assembly 300 can then be mounted within the interior of the sound box. Such mounting is best shown in FIGURES 15 and 18 wherein the side wall 24 is provided with an arcuate slot 390 extending from the top of the instrument around the edge thereof toward the finger board 6. In this manner, the microphone head 360 can be extended outwardly from the interior of the sound box as well as pivoted in the path of the arcuate slot 318 in the frontal surface 8 of the sound box. Although the basic construction of the microphone assembly 300 shown in FIGURES 15, 17 and 18 substantially is the same as that described in connection with the embodiment of FIGURES 14 and 16, it should be here noted that the microphone assembly 300 is supported within a casing 392 in the interior of

the sound box. The casing is secured to the shaft 320 threaded at the end 326 thereof for engaging the wing nut 328 on the outer surface of the sound box. By means of the washer 324, the casing 392 is swung through the arcuate path defined by the slot 318 and thereby pivoting the microphone assembly 300 about the pivot shaft 332 secured at one end to the casing 392 by means of the nut 398. The casing 392, as shown in FIGURE 17, is further provided with the back plate 400 having an arcuate bottom portion 402 and the nuts 398 and 404 connected thereto. The microphone assembly 300 when in the inoperative position lies within the interior portion of the sound box 4 as shown in the cut-out portion of FIGURE 15 and is extended outwardly from the slot 390 when in the operative position shown in dotted line.

In the operation of the musical instrument, in conjunction with the amplification system, the structure of which has been previously set forth above, the performer or player of the musical instrument activates the receiver 500 secured in the carrying case 502 shown in FIGURES 4 and 5 by a suitable control. A similar carrying case has been previously described and claimed in my Patent No. 2,839,606. The case includes a top section 501 and bottom section 503 pivoted thereto. Suitable locking means 505, 507 and 509 are provided on the sides of the case sections, and a handle 511 is secured to the bottom section 503. A depression 504 may be provided in the side wall 506 of the instrument case and mounted in this depression 504 is a panel 508 which serves to carry the controls 510 for the audio amplifier 512, as well as the audio jacks 514 which may be utilized to connect audio sources, such as the pickups of various musical instruments when the same are used in a manner such that they are connected to the amplifier by means of an electrical cord connection. Suitable electrical cables 516 connect the control panel to the amplifier 512 and the receiver 500. An A.C.-power jack 518 is connected to the side wall 506 which jack is further connected to the alternating current reducing transformer converter 520 which converts the 115 volt alternating current to 9-volt direct current. A telescopic antenna 522 is also provided in the wall 506 of the case 502 and the same is mounted on a U-shaped frame 524 secured to the internal surface of the wall 506. The loud-speaker 528 is secured to the back surface of the container 502 and suitable apertures (not shown) communicate the same with the outer or the exterior portion of the casing.

Musical or audible sounds are produced by means of the strings 10 on the finger board 6 and such sounds are picked up by the first transducer 38 extending across the sound hole 20 as previously described. This transducer 38 is connected to the transmitting means so that electrical signals can be transmitted through the atmosphere to the receiver which is located in the musical instrument carrying case. It should be here noted, however, that both the sounds produced by the strings of the instrument as well as the voice of the entertainer can be simultaneously transmitted through the atmosphere by the transmitting means to the receiver and loud-speaker supported within the remote carrying case. It should also be here understood that a plurality of such carrying cases can be located at various positions about the entertainer for greater amplification and distribution of the sound.

As seen in FIGURE 3, the sound box 4 of the instrument 2 can be further provided with an inlaid antenna 600 which antenna extends around the entire frontal surface 8 as well as the rear surface 22 and the side wall 24. Such antenna 600 is provided at its end 602 with a snap connection 604 for securing the same to the transmitting means 120 secured to the frontal surface 8 of the instrument at the rear portion thereof (FIGURE 2). Where a recessed transmitting means is provided such as that shown in FIGURE 1, the end 606 of the inlaid antenna 600 is provided with a snap connection 608 for connect-

ing the antenna member 610 to the transmitting means 44. In this manner, more efficient transmission of the sounds produced by the strings of the instrument is provided. Such antenna can be placed around the interior of the sound box or in the alternative can be placed along the exterior surface thereof and when the sound box is to be finished with a decorative plasticized coating, the same can be inlaid therein.

After reading the foregoing description of the preferred and illustrative embodiments of the present invention, it should be apparent that the objects set forth at the outset of the present specification have been successfully achieved.

Accordingly, what is claimed is:

1. In the combination of a musical instrument and an amplification system therefor, said musical instrument having a plurality of activatable audible sound producing means secured thereto, transducer means mounted thereon in proximity to said audible sound producing means for transforming audible sounds into corresponding electrical signals, the improvement comprising transmitting means for transmitting said electrical signals through the atmosphere from said musical instrument, means releasably securing said transmitting means to said instrument, coupling means for electrically connecting said transmitting means to said transducer means when said transmitting means is secured to said instrument, receiving means remote from said musical instrument for receiving said electrical signals as transmitted through the atmosphere, amplification means coupled to said receiving means for amplifying said electrical signals as received and speaker means coupled to said amplification means for producing said sounds from said electrical signals, said means releasably securing said transmitting means to said instrument including a pair of spaced parallel slide members secured to said musical instrument, said transmitting means including a pair of peripheral side portions engageable with said slide members whereby said transmitting means can be slidably moved into and out of engagement with said slide members.

2. The improvement defined in claim 1, further including antenna means disposed substantially along at least one surface of said musical instrument, said antenna means being connected with said transmitting means.

3. An electrical transmitter housing adapted to be secured to a supporting surface, said housing comprising a plurality of sections attached to one another, one of said sections adapted to store a battery pack therein and another of said sections adapted to store a preamplifier and transmitter therein, said transmitter section having a plurality of spaced apart apertures therein, one of said apertures receiving a telescopic antenna therethrough and another of said apertures receiving an operating switch therein, said sections being pivotally secured to one another along one of the adjacent edges thereof and having a closure means along another adjacent edge thereof, and means for releasably fastening said housing to a supporting surface.

4. The transmitter housing defined in claim 3, wherein said means for releasably fastening said housing to a supporting surface comprises a first longitudinally disposed extension secured to the side of one of said sections and a second longitudinally disposed extension secured to the other side of said one section, and securing means for engaging said extensions and maintaining the same in releasable engagement with said support surface.

5. The transmitter housing defined in claim 4, wherein said securing means comprises horizontally spaced apart and longitudinally extending slides secured to said supporting surface for slidably engaging the respective extensions on said housing section.

6. The transmitter housing defined in claim 3, wherein said sections are circular in shape and connected to each

other around the periphery of adjacent surfaces, said means for releasably fastening said housing to said supporting surface comprising a pair of spaced apart extensions integral with one of said sections and disposed about the periphery of said section opposite and connected to said other section, securing means on said supporting surface, each of said extensions having a recess therein for releasably engaging one of said securing means on said supporting surface.

7. A microphone assembly including a body having a plurality of telescopic sections slidably secured to one another, a supporting shaft connected at one end thereof to one of said telescopic sections, said support shaft having an open slot in the upper end thereof and an aperture passing through said shaft on both sides of said slot, a microphone head having a mounting bar thereon disposed within and in engagement with said slot, said bar having an aperture therein disposed in alignment with said aperture in said shaft when in operative engagement therewith, and pin means passing through said aperture in said support shaft, said slot and said aperture in said mounting bar for pivotally securing said microphone head to said body.

8. The microphone assembly defined in claim 7 further including a mounting plate adapted to be secured to a supporting surface, a first mounting bracket connected to said telescopic body at the midportion thereof and pivotally secured to said mounting plate, a second mounting plate, a second mounting bracket connected to said telescopic body at the bottom end thereof, an arcuate slot disposed in said mounting plate, and means connected to said second bracket and passing through said arcuate slot for slidably engaging the bottom end of said telescopic body with said mounting plate about said pivotal connection therewith.

9. A transportable musical instrument and amplification system for said instrument, comprising in combination, a plurality of activatable audible sound producing means secured to said musical instrument, a first transducer means mounted on said instrument in proximity to said audible sound producing means for transforming audible sounds into corresponding electrical signals, transmitting means removably secured to said instrument and coupled to said transducer means for transmitting said electrical signals through the atmosphere from said musical instrument, and instrument carrying container for housing said instrument during transportation thereof, said carrying container including a receiver means mounted therein for receiving said electrical signals as transmitted through the atmosphere, said carrying container further including amplification means mounted therein and coupled to said receiving means for amplifying said electrical signals as received, said carrying container further including speaker means mounted therein and coupled to said amplification means for producing said sounds from said electrical signals, and a telescopic antenna secured to said container and being connected to said receiver means.

10. In the combination of a musical instrument and an amplification system therefor, said musical instrument having a plurality of activatable audible sound producing means secured thereto, transducer means mounted thereon in proximity to said audible sound producing means for transforming audible sounds into corresponding electrical signals, the improvement comprising transmitting means for transmitting said electrical signals through the atmosphere from said musical instrument, means releasably securing said transmitting means to said instrument, coupling means for electrically connecting said transmitting means to said transducer means when said transmitting means is secured to said instrument, receiving means remote from said musical instrument for receiving said electrical signals as transmitted through the atmosphere, amplification means coupled to said receiving means for amplifying said electrical signals as received

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and speaker means coupled to said amplification means for producing said sounds from said electrical signals, said means releasably securing said transmitting means to said instrument including a recess portion in said instrument, said transmitting means being disposed in said recess portion and having a multisection casing, attaching means mounted upon said musical instrument surface on opposite sides of said recessed portion and in close proximity thereto, one of said casing sections having a pair of outwardly extending lugs, each of said lugs having a portion thereon for releasably engaging said attaching

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means whereby said transmitting means is releasably secured to said musical instrument.

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