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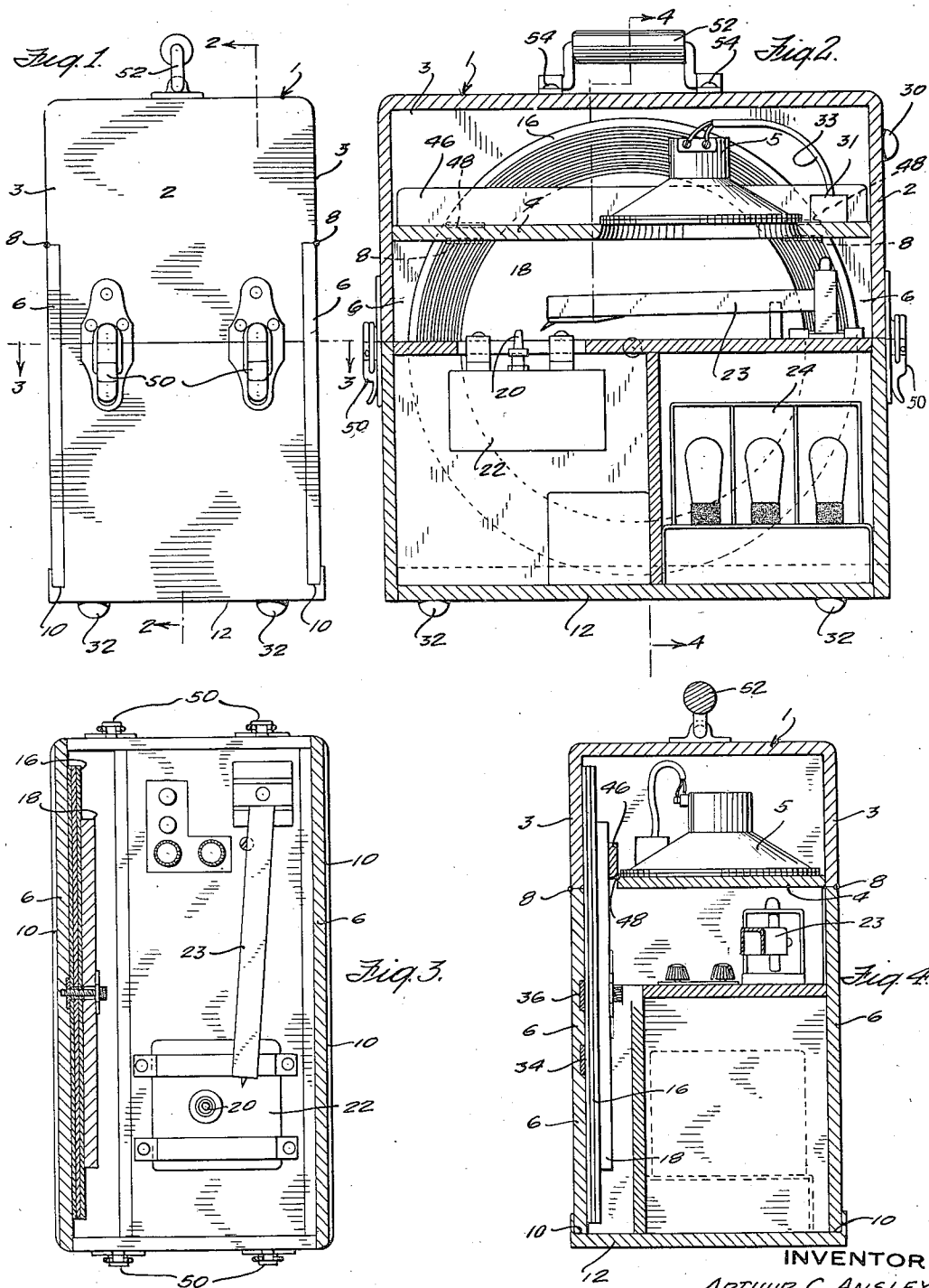
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CARRYING CASE FOR ELECTRIC AMPLIFIERS OR THE LIKE

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2 Sheets-Sheet 1



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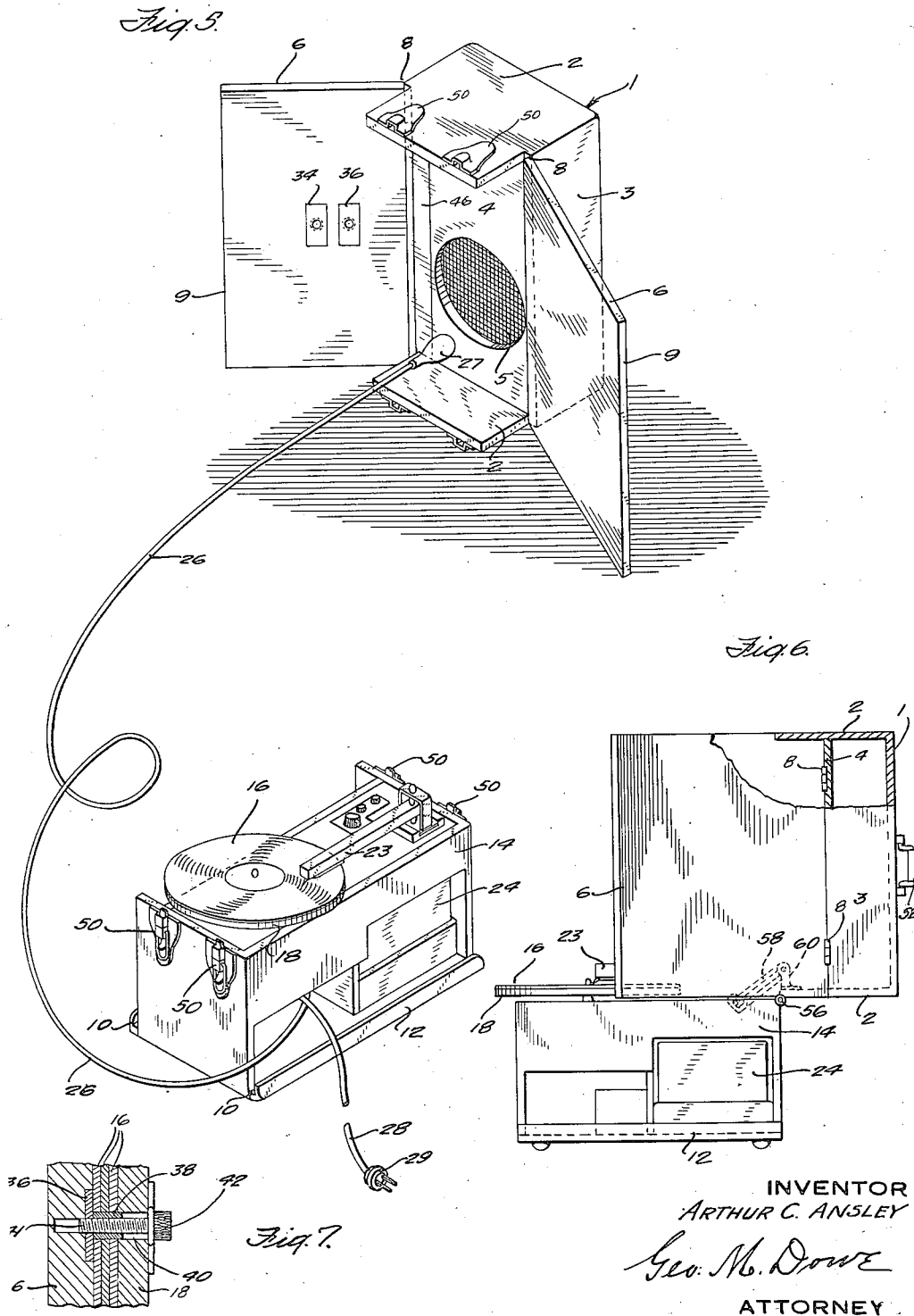
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UNITED STATES PATENT OFFICE

2,049,039

CARRYING CASE FOR ELECTRIC AMPLIFIERS OR THE LIKE

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6 Claims. (Cl. 179—100.4)

This invention relates to carrying cases for an electric amplifier unit or the like and the object of the invention is to provide a carrying case adapted to this purpose in which portions of the casing which enclose the amplifier unit may also serve as a baffle for the loud speaker associated with the amplifier unit.

A further object of the invention is to provide a casing having the above mentioned characteristics which shall be as compact as possible.

A feature of the invention relates to the provision of a casing having portions which act as enclosing means for the amplifier unit which members are hinged adjacent the portion of the casing which supports the loud speaker and which may be adjusted to act as a baffle therefor.

Another feature of the invention relates to the utilization of one of the hinged members as a support for the turn table of a phonograph when the amplifier is of a type in which a phonograph record is used as the sound originating means.

A further feature of the invention relates to the construction of the carrying case with a compartment in which the loud speaker is located, said compartment having a partition separating the loud speaker from the rest of the casing, providing means, however, whereby the turn table when supported on one of the hinged members may be accommodated partly within the loud speaker compartment.

A still further feature of the invention relates to the specific means for supporting the turn table alone or the turn table and a plurality of phonograph records on the hinged member.

Further features and advantages will become apparent from the following detailed description and claims when taken in connection with the accompanying drawings in which:

Figure 1 is an end elevation of my improved carrying case in closed position.

Figure 2 is a longitudinal section taken on the line 2—2, Figure 1 and looking in the direction of the arrows in said figure.

Figure 3 is a horizontal section taken on the line 3—3 of Figure 1.

Figure 4 is a vertical section taken on the line 4—4 Figure 2.

Figure 5 is a view of the casing with the amplifier unit separated therefrom, both the casing and unit being shown in perspective.

Figure 6 is a modified form of construction showing a different method of relatively positioning the casing and amplifier unit; and

Figure 7 is a detail of the screw for holding the phonograph turn table and records in place.

The casing may be made of any suitable material as for instance, it may be made of wood covered with leather. The casing as viewed in Figure 2, is provided with a top 1 and side portions 2. As viewed in the upper portion of Figure 5, one of the side portions 2 constitutes the top and the other side portion 2, the bottom of the casing when it is set up as shown in said figure. As so viewed, the sides 3 together with the partition 4 form a compartment in which a loud speaker 5 is located. The loud speaker 5 is of the ordinary cone type and is so supported in the partition 4 as to be capable of moving bodily back and forth in addition to being able to vibrate independent of such to and fro movement.

The casing further comprises members 6 hinged at 8 to the sides 3. The edges 9 of these members fit into grooves 10 formed on either side of the base 12 of the amplifier unit indicated as a whole by the reference character 14. When the unit 14 is within the casing and enclosed by the members 6 thereof as shown in Figure 1, the base 12 of the unit constitutes the bottom of the casing.

The unit 14 may be an electric amplifier of any well known type and specifically forms no part of the invention. In the particular embodiment shown the sound originating means takes the form of a phonograph record indicated at 16 (Figure 5) which record is supported on a turn table 18 carried on a spindle 20 driven by a motor indicated generally by the reference character 22 (Figures 2 and 3). The usual pick-up mechanism as indicated at 23 and the vibrations caused by the record groove are suitably transformed into electrical vibrations through means of the tubes indicated generally by the reference character 24 (Figure 2). The electric vibrations are transmitted to the loud speaker through a flexible cable 26. A plug 27 may be attached to suitable terminals in a box 31 in the partition 4 as indicated in Figure 2. A cable 33 connects the box 31 with the loud speaker. Current is supplied to the electric amplifier unit through means of a cable 28 having a contact plug 29 adapted to be connected to any source of suitable current.

While for purposes of illustration, I have shown an electric amplifier in which the sound initiating means is furnished by a phonograph record, it is to be understood that the electric amplifying unit may have other sources of sound origination, such for instance as a radio receiving set, or microphone.

In the form of the invention shown in Figures 1 to 5, the unit 14 is adapted to be completely separated from the casing and the casing set up

as shown in the upper portion of Figure 5. In such position the members 6 may be opened up and thereby act as a baffle for the loud speaker. It is well known that some sort of baffling means for a loud speaker is advantageous in order that the vibrations caused by different tones may be correctly reproduced. For instance, it is found that for the higher notes the walls of the cone of the loud speaker vibrate, but that there is little or no to and fro movements of the loud speaker cone as a unit. With the lower tones, however, there is relatively less vibration of the cone walls of the loud speaker and relatively more to and fro movement of the cone as a unit. Unless, therefore, some baffling means are provided, there is a tendency for the to and fro vibrations to neutralize one another and diminish the volume of tones of lower pitch. With the relatively large members 6, it is possible with the present invention to provide a very efficient baffle for the loud speaker, which baffling means also constitute portions of the enclosing casing for the amplifier unit.

When the casing has been set up as shown in the upper portion of Figure 5, it is supported by legs 30 projecting from the lower portion 2 of the casing. These legs are more clearly shown in Figure 2. When the casing is in the position shown in Figures 1 and 2 and is ready to be transported, it is supported by the legs 32.

It is contemplated that the turn table 18 be removed when the carrying case is closed ready for transportation. Such removal is a practical necessity since it is contemplated to use turn tables as large as 16 inches in diameter. In order, therefore, to accommodate a turn table of this dimension without removal from its spindle, it would be necessary to unduly increase the width of the carrying case. Therefore, in the embodiment shown, the turn table after it is removed from the unit 14, is designed to be supported on one of the members 6. For this purpose one of these members is provided with counter-sunk plates 34 and 36. If a 12 inch turn table is used, it is carried by the support 34. If a 16 inch turn table is used, however, it is carried by the support 36. Each of these supports is centrally screw-threaded and a screw of novel construction is employed to hold the turn table and records in place.

This screw 38 is shown in detail in Figure 7 and is provided with a collar 40 secured thereto which is of a length equal to the thickness of the turn table at its central portion. The screw projects beyond the sleeve at 41, a short distance and it is this portion which enters the threaded opening in the supporting plate 34 or 36. The head of the screw is knurled as indicated at 42 and the upper screw-threaded portion projects beyond the sleeve a distance sufficient to accommodate two or three records. A winged nut 44 is also provided, which engages the screw threads between the head 42 and the upper end of the sleeve 40.

If the turn table only is to be attached to the member 6 the screw with its winged nut bearing against the upper portion of the sleeve 40 is inserted through the central opening in the turn table and the screw given several turns through the medium of its knurled head until the lower portion of the sleeve seats against the face of the plate 34 or 36. In taking off the turn table the screw is turned through the medium of its knurled head but the winged nut is not loosened. If, however, a number of records are to be placed on

the screw, the screw is put through the turn table and then through the central opening in the records and the screw inserted in one of the plates as previously described for the turn table alone. The winged nut is then tightened against the turn table. It is preferable to place the turn table outside since it is more rigid than the records and tends to keep them flat.

In order that the partition 4 may present a plane surface during use of the loud speaker but also to permit a turn table of a greater diameter than would be accommodated by the casing beyond the partition 4, I have provided this partition with a hinged portion 46 (Figures 2 and 3), the hinge 48 of which is of the spring type normally tending to move the hinged portion 46 in line with the main portion of the partition. Therefore, a turn table of a size substantially equal to the height of the casing from top to bottom as shown in Figure 4, may be conveniently carried. Of course any turn table whose diameter is less than the distance between the partition 4 and the base 12, as indicated in Figure 4, would be supported by the plate 34 and would of course not extend within the compartment enclosing the loud speaker.

When the casing is to be used for transporting purposes, the upper portion shown in Figure 5 is placed over the amplifier unit 14 shown in the lower portion of said figure, the swinging members 6 are moved into parallel relation, the edges 9 are set into the grooves 10 of the base 12 and the casing securely clamped by means of the clasps 50. A handle 52 secured at 54 to the top wall of the casing enables it to be conveniently carried.

In Figure 6 a slight modification is shown and here the unit 14 is not completely detachable from the casing, but is hinged thereto at 56 and additionally supported by arms 58 carried by brackets 60. Otherwise the construction is the same as already described.

What I claim is:

1. A carrying case for electric amplifiers, said case having a loud speaker compartment, members hinged to opposite sides of said compartment, which members are adapted to be opened out to act as a baffle for said loud speaker and when swung to a parallel position adapted to receive and enclose the amplifier.
2. A carrying case for electric amplifiers, said case having a loud speaker compartment, members hinged to opposite sides of said compartment, which members are adapted to be opened out to act as a baffle for said loud speaker and when swung to a parallel position adapted to receive and enclose the amplifier, said amplifier having a base with side grooves therein adapted to receive the edges of said members when swung to parallel position.
3. In combination, an electric amplifier and a carrying case therefor, said case having a loud speaker attached thereto and hinged members which enclose the amplifier when the case and amplifier are united, said hinged members adapted for adjustment adjacent the loud speaker and acting as a baffle therefor.
4. In combination, an electric amplifier unit including a turn table for supporting a phonograph record and a carrying case for said unit, said case having a loud speaker attached thereto and hinged members which enclose the amplifier when the case and amplifier are united, said hinged members adapted for adjustment adjacent the loud speaker, and acting as a baffle

therefor when the case and amplifier are moved relatively to one another to non-enclosing position, one of said baffle members being provided with means for supporting the phonograph record turn table after the same has been detached from the amplifier unit.

5 5. In combination, an electric amplifier unit including a turn table for supporting a phonograph record and a carrying case for said unit, 10 said case having a partition forming with the walls of the case a compartment for housing a loud speaker, a loud speaker carried by the partition, members arranged adjacent the loud speaker and acting as a baffle therefor, one of said 15 baffle members being provided with means to support the phonograph turn table, said parti-

tion having a yielding portion adjacent the turn table supporting baffle member permitting the turn table to enter the loud speaker compartment when supported on said member.

6. A support for a phonograph turn table and 5 records when in non-playing position, said support having a screw-threaded opening, a screw fitting said opening, a sleeve rigid with the screw and terminating short of the end thereof a distance less than the depth of the threaded opening 10 in said support, said sleeve being of a length equal to the thickness of the turn table at its central portion, and a winged nut carried by the screw between the head thereof and the sleeve. 15

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