

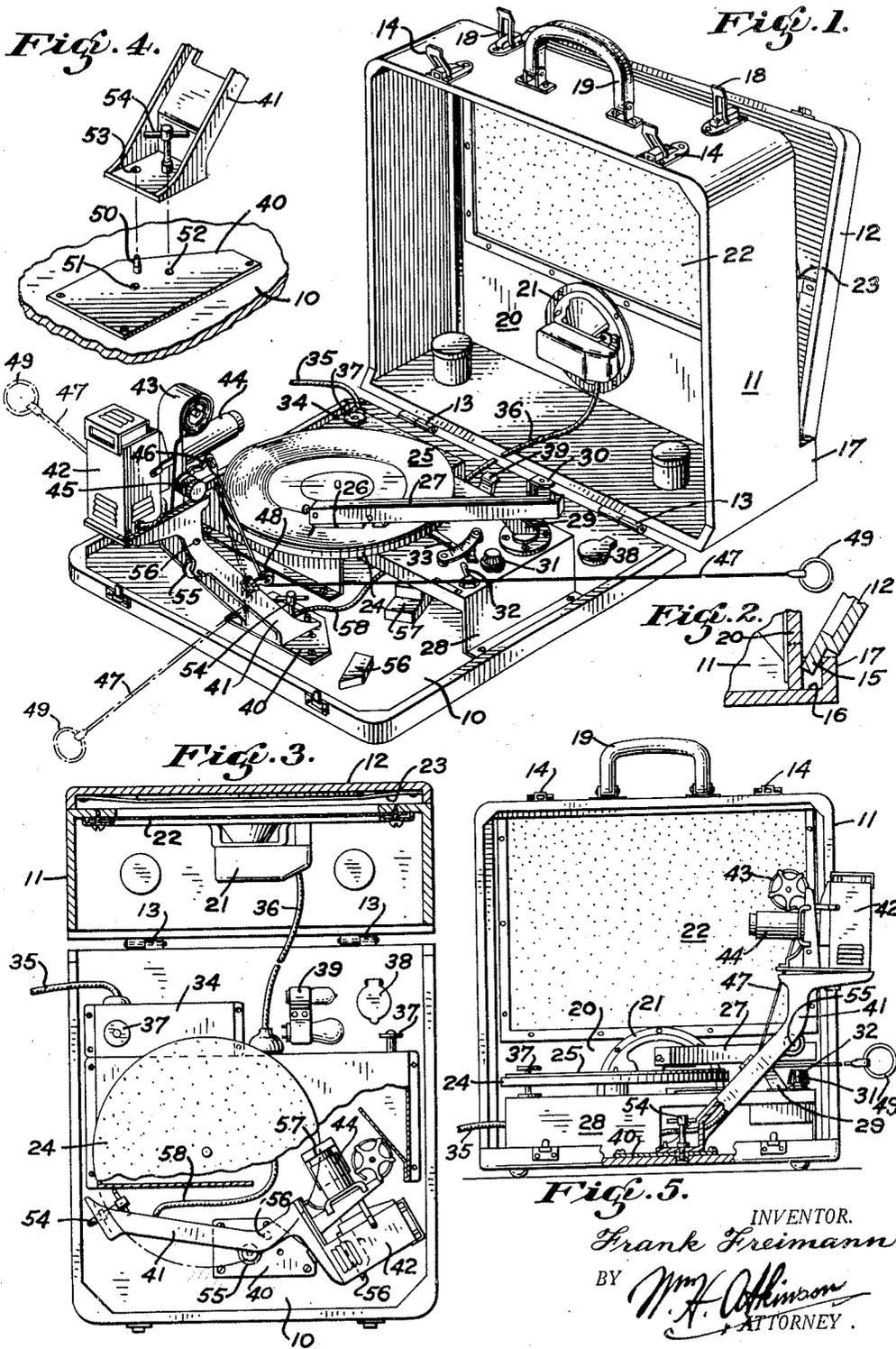
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F. FREIMANN

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COMBINED SOUND AND PICTURE REPRODUCING APPARATUS

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INVENTOR.  
Frank Freimann  
BY *Wm. H. Atkinson*  
ATTORNEY.

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## COMBINED SOUND AND PICTURE REPRODUCING APPARATUS

Frank Freimann, Fort Wayne, Ind., assignor to  
Electro-Acoustic Products Company, Fort  
Wayne, Ind., a corporation of Illinois

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The present invention relates to a portable sound and picture reproducing unit of the type used for entertainment, educational and sales purposes, and more particularly to a new and novel construction and arrangement of elements wherein all of the apparatus is mounted upon and enclosable in a single carrying case so that it may be conveniently transported about and quickly set up in an operative position.

10 An object of the present invention is to provide a novel form of carrying case for sound and picture reproducing apparatus in which the apparatus may be carried in a concealed and protected manner when the case is closed and which will support the apparatus in an operative position when opened.

15 Another object of the invention is to provide a new and novel form of carrying case for combined sound and picture reproducing apparatus in which a portion of the carrying case forms a suitable picture viewing screen with a shadow box therearound so that the reproduced pictures may be viewed under daylight conditions.

20 Another object of the invention is to provide a carrying case having a translucent screen in which a portion of the carrying case forms a shadow box over the projector side of the screen.

25 Another object of the invention is to provide a new and novel form of carrying case for sound and picture reproducing apparatus having a translucent picture viewing screen permanently mounted therein and enclosable in a protected manner when the carrying case is closed.

30 Another object of the invention is to provide a new and novel form of lantern support for a picture projecting lantern which will support the lantern for projection of a picture in either of two directions and also cooperate with the carrying case to secure the lantern in a concealed and protected position when the carrying case is closed.

35 Further objects and advantages of the invention will be in part evident to those skilled in the art and in part specifically pointed out hereinafter as the description thereof proceeds.

40 For a better understanding of the invention reference should be had to the accompanying drawing, wherein there is shown by way of illustration and not of limitation, a preferred embodiment thereof.

45 In the drawing;

50 Figure 1 is a perspective view of a carrying case opened and having sound and picture reproducing apparatus mounted therein in accordance with this invention,

Figure 2 is a fragmentary sectional view showing a detail of the carrying case,

Figure 3 is a plan view partially in section and with parts broken away to show the position assumed by the lantern and its support when the carrying case is closed,

Figure 4 is a fragmentary perspective view showing a further detail of the invention, and

Figure 5 is a view in elevation showing the lantern support positioned to secure the lantern for projection of a picture at a right angle to the arrangement illustrated in Figure 1 of the drawing, and having a portion broken away to show details of the lantern support securing means.

5 Recently there has developed a considerable demand for combined picture and sound reproducing equipment for the purpose of providing entertainment, and for use by salesmen in presenting illustrated sales talks to interested groups. For these latter purposes it is desirable that the apparatus be of a compact character so that it can be completely enclosed in a suitable portable carrying case, and the carrying case must be such that it can be quickly and conveniently opened to present and support the various elements of the apparatus in proper cooperating relation to each other.

6 To this end the present invention provides a carrying case of novel construction in which a picture screen is supported with a shadow box effect in a fully protected manner, and the picture projecting lantern is provided with a new and novel form of support which will cooperate with the carrying case to hold the lantern in a concealed and protected position when the carrying case is closed and also permit the lantern to be supported so as to project pictures upon the screen of the carrying case, or upon a wall screen at one side of the carrying case when the case is opened.

7 The carrying case, as illustrated in Figure 1 of the drawing, comprises a flat foundation section 10, a body forming section 11 and a removable side cover 12. The foundation section 10 is shown as hingedly secured at one edge to the body section 11 by means of separable hinges 13, and at its other edge it is provided with cooperating parts of clevises 14 which are carried by the body forming section 11.

8 As shown in Figure 2 of the drawing, the bottom of the removable cover 12 is provided with a downwardly projecting offset tongue 15 which is adapted to be disposed into a recess 16 formed by an outward extension 17 at the bottom of the body forming portion 11 of the carrying case, and

at its upper edge this cover 12 has cooperating parts of clevises 18 which are carried by the body portion 11. Located between the clevises 14 and 18, the body portion 11 has a suitable handle 19 by means of which the carrying case with the apparatus may be conveniently transported about as a piece of baggage when the foundation section 10 and the removable cover 12 are secured thereto by means of the clevises 14 and 18. Secured along one side of the body forming section 11 there is a vertically disposed baffle 20 upon which a loudspeaker 21 is mounted, and immediately above the loudspeaker 21 there is a picture projecting screen 22. The picture projecting screen 22, in its preferred form, is of a translucent character, and as a result it is possible when the cover 12 is removed from the carrying case, to view the pictures from a position opposite the picture projecting lantern. While the screen 22 is defined as translucent, it is to be understood that an opaque screen may be substituted where it is not desired to present the picture to view at the outside of the carrying case, and even where the screen 22 is of a translucent character, it will be understood that pictures may be viewed thereupon from a point adjacent the lantern without removing the cover 12. When a translucent screen 22 is used, it will be stretched over an opening in the baffle 20 by means of a suitable metallic frame.

The disposition of the screen 22 along one side of the body portion 11, as shown, provides an arrangement wherein the sides and top of the body forming section 11 will form a shadow box over the screen 22. It will also be noted that when the picture is projected through the translucent screen, as first above suggested, the loudspeaker 21 will be properly positioned to project the reproduced sound directly toward the audience.

Before describing the sound reproducing and picture projecting apparatus and the mode of mounting same upon the foundation section 10, it should be pointed out that in addition to providing protection for the screen 22, the removable cover 12, because of its construction, also provides a storage space for one or more disc records. For the purpose of holding the records firmly within the cover 12 there is a transversely extending elastic strap 23, behind which the records are placed, as is better shown in Figure 3 of the drawing.

As shown in the drawing, the foundation forming section 10 has no substantial depth, and therefore the apparatus mounted thereupon is supported in such a manner that a free circulation of cooling air may pass thereover without any interference from the sides, bottom or top of the carrying case, when the apparatus is in its operative position. The sound reproducing equipment, as here shown, comprises a record supporting platen 24 upon which a record 25 may be disposed, and cooperating with the record 25 there is a suitable pickup 26 which is carried by a tone arm 27. The record supporting platen 24 and the tone arm 27 are mounted upon a table-like support 28. This table-like support 28 carries a pedestal 29 upon which the tone arm 27 is swingably mounted, and adjacent the pedestal 29 there is an overhanging latch 30 that is adapted to cooperate with the rearwardly extending portion of the tone arm 27 to secure the tone arm in a protected manner, in accordance with the disclosure contained in my copending application, Serial No. 740,448, filed August 18, 1934, and

which has become Patent No. 2,056,784, dated October 6, 1936.

At this end of the table-like support 28 there is also mounted a suitable sound volume control 31, a lantern controlling switch 32 and a manually adjustable record speed controller 33. The motor which drives the record supporting platen 24 is mounted upon the underside of the support 28. Connected with the pickup 26 there is also a thermionic tube amplifier unit 34, which is also disposed beneath the table-like support 28.

For the purpose of supplying power to the apparatus, there is a conductor 35 which is adapted to be connected with any suitable source of power, and a lead 36 connects the loudspeaker 21 with the output of the amplifier 34. In order to provide a convenient means for carrying the conductor 35, which may be from ten to twenty feet in length, there is a pair of fixed spool-like projections 37 around which this lead may be wrapped when the carrying case is closed. As accessories, the foundation forming section 10 also carries a suitable record needle container 38 and a clip 39, behind which a spare amplifier tube and a lantern bulb may be placed. These latter features are more clearly illustrated in Figure 3 of the drawing.

In addition to the above described devices, the foundation section 10 of the carrying case also carries a foundation plate 40 upon which a novel form of lantern support 41 is adapted to be secured. The support 41 is adapted to carry a lantern 42, and it has a relatively broad flat surface which is adapted to cooperate with the foundation plate 40, as will hereinafter appear. The support 41 extends upwardly and outwardly at an angle so that it will position the lantern 42 in proper projecting relation with respect to the screen 22, and also in a position where it will not interfere with the free placement or replacement of a record upon the supporting platen 24. The lantern 42 is here shown as of the type which is adapted to project still pictures from a short roll of motion picture film, and it therefore has, in addition to a suitable film support 43, a lens system 44, by means of which the picture can be focused upon the screen 22.

For the purpose of advancing the picture film through the lens system 44, there is a ratchet type of operator 45 which is adapted to be actuated by a lever 46. In the present embodiment of the invention the lever 46 is shown as operable by a pull cord 47 which passes around a pulley 48. The pulley 48 is preferably mounted upon a hinged support, and as a result the picture film can be advanced frame by frame through the picture projecting lantern 42 by a pull upon the pull cord 47 from any angle in which the pulley 48 will permit a movement of the pull cord 47. For convenience the outer end of the pull cord 47 is provided with a finger ring 49.

As illustrated in Figure 4 of the drawing, the foundation plate 40 is provided with an upwardly extending positioning pin 50 and two radially disposed threaded holes 51 and 52. The pin 50 upon the foundation plate 40 is adapted to extend into a hole 53 formed in the flat bottom surface of the support 41, and carried by the support 41 there is a suitable turn bolt 54 which is adapted to be threaded into either one of the holes 51 or 52, depending upon the direction it is desired to project the picture. When the lantern is secured in the manner shown in Figure 1, the securing bolt 54 upon the support 41 will be threaded into the opening 51 upon the foundation plate 40. When

the support 41 is secured upon the foundation plate 40, with the turn bolt 54 in the threaded hole 52, it will support the lantern 42 in the position shown in Figure 5 of the drawing. In this latter position, the lantern 42 is adapted to project the pictures upon a separate screen mounted upon the wall of a room or other support. Under these conditions the loudspeaker may also be located adjacent the screen by detaching the body forming section 11 from the foundation section 10 and providing an additional length of wire in the loudspeaker lead 36. The turn bolt 54 is secured in a captive manner upon the support 41 so that it cannot become lost, and in addition to this turn bolt 54, the support 41 also carries a second similarly mounted turn bolt 55 which is adapted to engage the threaded hole 51 in the foundation plate when the support 41 and the lantern 42 are laid on their side upon the foundation section 10, as illustrated in Figure 3 of the drawing. When the support 41 and the lantern 42 are secured in this position by means of the turn bolt 55, the pin 50 upon the foundation plate 40 will extend into a hole 56 formed in the side of the support 41, and in this manner the support 41 and the lantern 42 will be securely held upon the foundation section 10 in such a manner that the carrying case may be closed to conceal and transport the apparatus. The foundation section 10 also carries suitable pads or blocks 56 and 57, upon which adjacent parts of the lantern 42 will rest when the support 41 is secured in this latter position. The light source of the lantern 42 is shown as supplied with power through a suitable lead 58 which extends from the lantern switch 32 upon the table-like support 28.

From the above description it will be seen that the present invention provides a neat appearing and easily transportable self-contained sound and picture reproducing unit, having many advantages which are not provided by similar units now on the market. Among some of the outstanding advantages may be mentioned the novel form of lantern supporting means which provides for the projection of pictures in either one of two positions with the lantern at a point removed from the other apparatus where a free circulation of cooling air may pass thereover, and where it will not interfere with the free and convenient interchange of sound records. A further feature of the lantern support is that it provides a means whereby the lantern may be demounted and secured in a compact and protected manner within the closed carrying case.

Another novel feature of the present invention is in the arrangement of the translucent screen 22 upon a portion of the carrying case, so that a shadow box is formed thereover to facilitate the viewing of pictures under daylight conditions. The provision of the movable protective cover in connection with the translucent screen, which is secured upon the carrying case by a simple fastening means along the top thereof, also has its advantages. The arrangement disclosed possesses a further and important advantage in that the loudspeaker is mounted in an exposed manner without any enclosure thereover, and as a result, the cavity resonance, such as is encountered in apparatus of this character, is entirely eliminated. When the loudspeaker is mounted in this manner it is adapted to propagate sound waves to either side of the screen 22.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illus-

trated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed, but may be embodied in other ways that will suggest themselves to persons skilled in the art. It is believed that this invention is new and it is desired to claim it so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I do claim and desire to secure by Letters Patent is:

1. A combination comprising a hand portable carrying case of rectangular form and having a main body portion, a side portion fixedly attached to the main body portion, the top part of said side portion having a screen element and the bottom portion having a panel supporting a loudspeaker element, the side of the case opposite the said side portion being movable to a horizontal position when open and forming a foundation portion hinged to the main body portion along one bottom edge to form a rigid foundation for a picture and sound reproducing apparatus, means mounted on the inside of said foundation portion for supporting sound reproduction means, a fixed bearing plate at the outer part of said foundation portion opposite to the hinged edge, a lantern support adjustably secured to said bearing plate, a projection lantern operatively secured to the upper end of said support in optical alignment with said screen element, a removable cover element on the side of said casing adjacent to said screen, whereby the screen may be viewed from the side opposite to the lantern, said foundation portion and said cover element forming closure sides for said main body portion to form a closed case containing the lantern, sound reproduction means and screen as a single hand portable combination whereby the said device may be readily transported.

2. In a hand portable carrying case for combined sound and picture reproducing apparatus of the character described, the combination of a carrying case of rectangular form having a main body portion with top, bottom and ends forming an open vertically disposed apparatus enclosing space, a picture viewing screen mounted upon and closing one side of said vertically disposed space with the top and ends of said main body portion extending outwardly from the picture viewing surface of said screen and forming a shadow box therearound, a side cover for said case hinged at its bottom to said body portion opposite said picture viewing screen and adapted to be opened to a horizontal position to form a supporting foundation adjacent said screen for sound and picture reproducing apparatus, a sound reproducing device including a record driving means, a pickup device and a thermionic amplifier mounted substantially centrally upon said side cover and supported in an operative position when said side cover is in its open position, a loudspeaker carried by said main body portion and connected to said sound reproducing apparatus, a lantern supporting bracket secured upon said supporting foundation remote from said screen and extending upwardly out of interfering relation with said sound reproducing apparatus, and a picture projecting lantern secured to the upper end of said bracket and adapted to be positioned in optical alignment with said picture viewing screen when said side cover is in its open horizontal position.

3. In a hand portable carrying case for combined sound and picture reproducing apparatus,

the combination of a carrying case having a main body portion with its top, bottom and ends forming an open rectangular frame, a baffle forming member secured in a vertical position upon said main body portion, a loudspeaker mounted upon said baffle member and adapted to propagate sound toward an audience, a translucent screen mounted adjacent said loudspeaker and along one side of said main body portion and viewable by said audience, the rectangularly arranged top and end walls of said main body portion forming a shadow box about said translucent screen to facilitate a viewing of pictures under daylight conditions, a removable cover for one side of said body portion movable outwardly to expose said screen for the reception of pictures and form a supporting foundation for sound and picture reproducing apparatus, a sound program reproducing means carried by said removable cover and supported in an operative position adjacent said screen when said cover is in its open foundation forming position, a picture projecting lantern adjustably mounted upon said cover and supported in optical alignment with said translucent screen when said cover is opened to its horizontal position, said sound program reproducing means and said picture projecting lantern being capable of enclosure within the open rectangular frame of said carrying case when said removable cover is closed upon the main body portion of the carrying case, and a second removable cover at the other side of said carrying case adapted to enclose said translucent screen and provide a closed carrying case for said apparatus, whereby said apparatus may be readily transported about in a protected manner.

4. In a self-contained hand portable device for reproducing an illustrated sound program, the combination of a relatively narrow carrying case having a main box-like body portion adapted to be disposed in front of an audience, a translucent screen mounted in a vertical plane upon said body portion adjacent and along one side thereof, whereby the body and end walls of the box-like body portion of the carrying case will form a shadow box around said translucent screen, a sound reproducing loudspeaker associated with said translucent screen and arranged to propagate sound waves in the direction of the audience, a removable front cover on said main body portion adapted when closed upon said main body portion to protect said screen and said loudspeaker and when removed to expose the translucent screen and the loudspeaker to the audience, a back cover hingedly connected to said main body portion adapted when opened to assume a horizontal position and form a supporting foundation at the back of said translucent screen, a sound program reproducing means mounted upon the foundation formed by said back cover and connected to said loudspeaker, and a picture projecting lantern also mounted upon said foundation rearwardly of said sound program reproducing means and in optical alignment with said translucent screen, whereby said sound program reproducing means and said picture projecting lantern may be controlled by an operator at a point remote from the audience and out of interfering relation with the sound and picture program presented to the audience.

FRANK FREIMANN.