March 24, 1964 H. G. NEIL ETAL 3,126,450

PORTABLE ELECTRONIC PUBLIC ADDRESS APPARATUS

Filed May 4, 1962 2 Sheets-Sheet 1

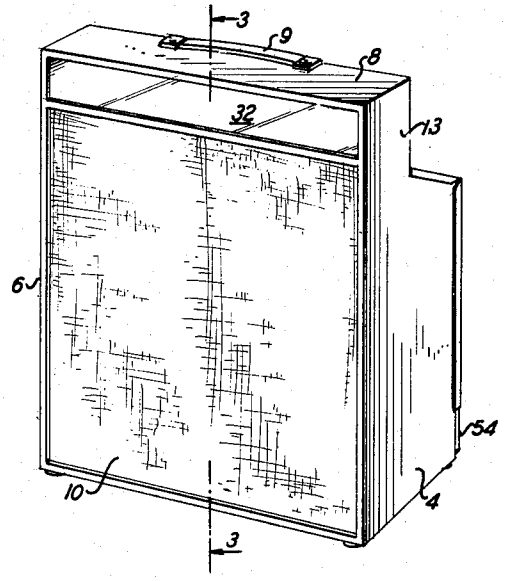

Fig. 1

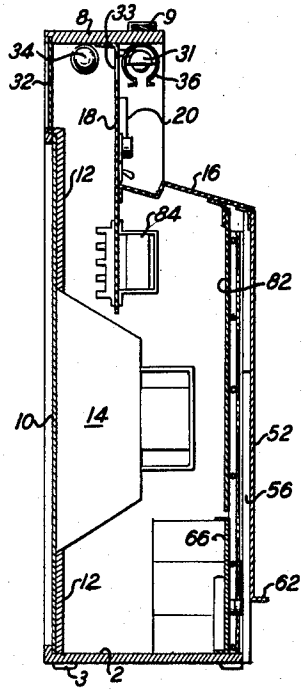

Fig. 3

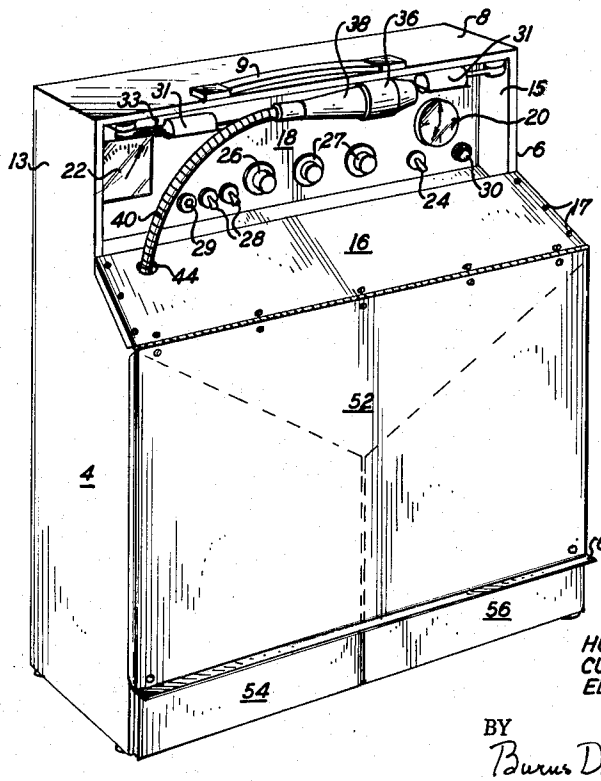

Fig. 2

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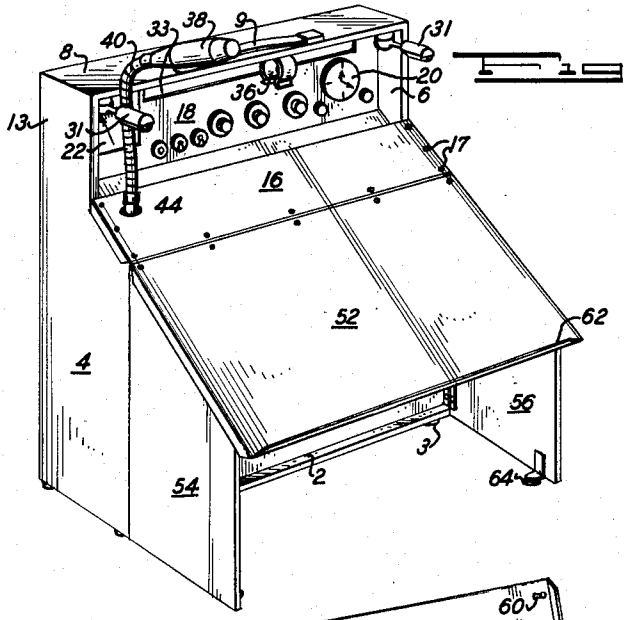

FIG. 4

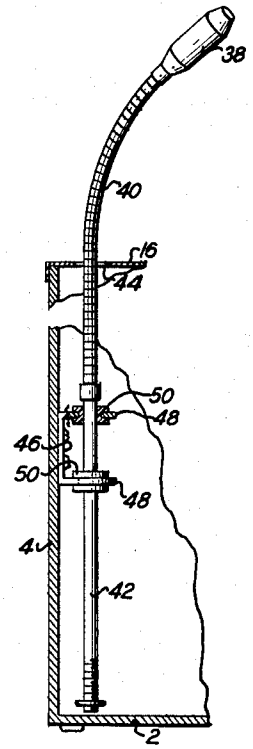

FIG. 6

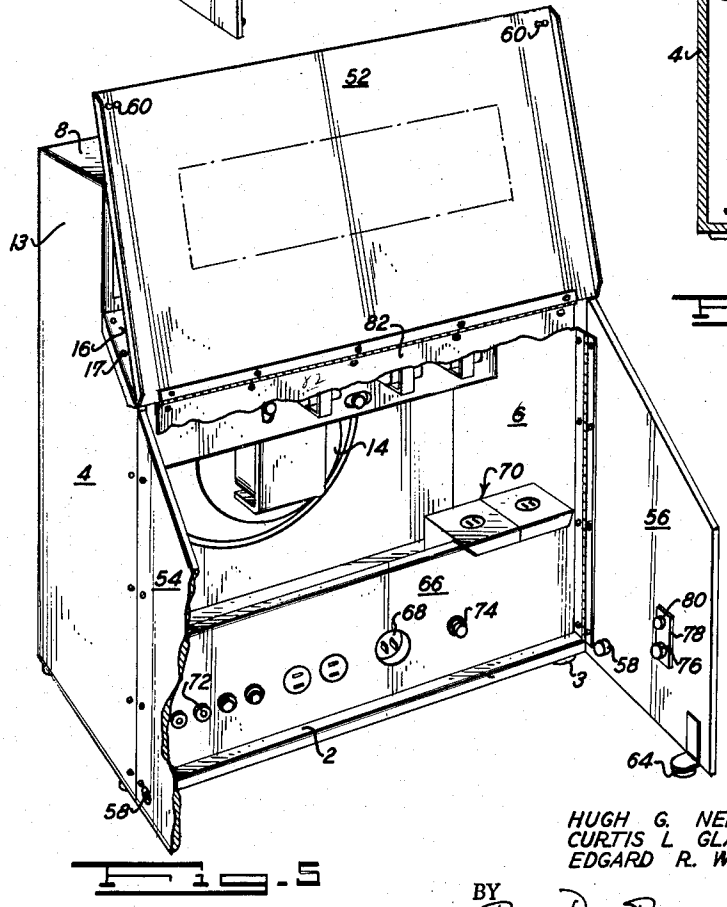

FIG. 5

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PORTABLE ELECTRONIC PUBLIC ADDRESS APPARATUS

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This invention relates to portable electronic public address apparatus and more particularly to a portable lectern device provided with suitable electronic equipment for amplifying spoken sound.

Many persons, such as sales managers for large companies and candidates for public office, find it desirable to speak to groups or assemblies on many occasions and in a wide variety of locations. Sound amplifying equipment and a suitable lectern arrangement greatly facilitate these speaking tasks, but frequently they are not available at the locations where they are needed.

Recognizing this need, proposals have been made for providing self-contained portable lectern and loudspeaker systems which may be transported conveniently from place to place and used where permanent public address systems have not been installed. An example of equipment of this general type is disclosed in the United States patent to Pronio No. 2,868,878, granted January 13, 1959. This invention is directed to such equipment.

A general object of this invention is to provide portable electronic public address apparatus having improved operating characteristics as a sound instrument and which will be easier to use and maintain.

A more specific object of the invention is to provide a portable lectern of the type having a microphone and a loudspeaker thereon with means for preventing vibrations of the loudspeaker and the cabinet from being transmitted to the microphone so as to eliminate objectionable noise components in the sound output from the system.

Another object of the invention is to provide electronic portable lectern apparatus with a selectively operable power interlock which normally will cause the power circuit to be opened when the unit is in the condition in which it is carried from place to place but which may be actuated by the user to permit operation of the loudspeaker system whenever desired.

Yet another object of the invention is to provide a portable lectern of such construction that ample deck space may be made available for holding notes and papers the speaker might want to use even though the unit has a small over-all size that makes it easy to carry from place to place.

Still another object of the invention is to provide a portable lectern cabinet of such a structure as to facilitate access to the electrical components for maintenance purposes.

Still other objects and advantages of the invention will become apparent from a consideration of the following detailed description of a preferred embodiment illustrated in the accompanying drawings in which

FIGURE 1 is a front perspective view showing a portable lectern constructed in accordance with the invention in its closed or carrying position;

FIGURE 2 is a rear perspective view also showing the apparatus in its closed or carrying position;

FIGURE 3 is a vertical cross-sectional view taken along the line 3—3 of FIGURE 1;

FIGURE 4 is a rear perspective view showing the apparatus of FIGURE 1 in open position in which the apparatus normally is used;

FIGURE 5 is a perspective view similar to FIGURE 4 but having some of the parts broken away and others

moved to different positions so as to reveal the internal structure of the device; and

FIGURE 6 is a vertical cross-sectional view illustrating the holder for the microphone employed in the apparatus of FIGURE 1.

The cabinet or housing portion of the portable lectern illustrated in the drawings includes a bottom wall **2** having feet **3** in the corners thereof, side walls **4** and **6** and a top wall **8** having a handle **9** thereon. These walls may be formed of wood, plastic or other suitable material having the desired rigidity and appearance characteristics. The front face of the unit includes a large panel made up of a decorative fabric **10** which may be backed by suitable sound insulating material **12**. A conventional loudspeaker **14** is mounted on the panel **12** in position to project sound through the fabric **10** in a conventional manner.

It will be observed that the front-to-rear dimension of the top wall **8** is substantially less than that of the bottom wall **2** and that the upper end portions of the side walls **4** and **6** are narrow so as to fit smoothly with the top wall **8**. The narrow portions **13** and **15** of the walls **4** and **6** extend downwardly for a distance of several inches and then join wide portions of these walls to provide a general outline somewhat similar to that of a cash register. The edges of the walls **4** and **6** are sloped rearwardly in the zone where these walls widen, and the sloping edges are connected by a metal panel **16** which may be secured to the walls **4** and **6** by screws **17** or the like.

A vertical control panel **18** is attached to the top wall **8** and to the narrow upper portions **13** and **15** of the side walls **4** and **6**, as shown best in FIGURE 3. This control panel **18** carries a clock **20**, a battery life indicator **22** and suitable switches and control knobs which may be operated by the speaker to control the volume and tone quality of the sound output from the apparatus. In the illustrated embodiment, the control panel **18** carries a main power switch **24**, a volume control **26**, tone controls **27**, switches **28** for auxiliary microphones, a socket **29** for the microphone and an elapsed-time indicator **30**, but it will be apparent that other control devices may be located on this panel **18** if desired.

The panel **18** is recessed within the opening at the rear of the upper portion of the cabinet so that the components carried thereby are protected against damage during handling of the apparatus and so that these components are concealed to a substantial degree. Yet, the control components are in a position where they can be reached easily by the speaker.

Pivoted to the top wall **8** are reading lamps **31** that may be swung within the opening at the rear of the upper portion of the cabinet, and indicated in FIGURES 2 and 3, when the instrument is being carried from place to place but which may be moved outwardly, as indicated in FIGURE 4, so as to illuminate the panel **16** when the instrument is in its opened position. The portion of the front of the cabinet at the top of the unit is provided with a translucent panel **32** and the control panel **18** is provided with an elongated opening **33** at about the level of the lamps **31**. With this arrangement, some light from the lamps **31** may pass through the openings **33** to illuminate the panel **32**. If additional illumination of the panel **32** is desired, an auxiliary lamp **34** may be located within the cabinet immediately behind this panel. When transparent strips containing advertising or other indicia are located over the translucent panel **32**, a most attractive display is provided.

Also secured to the top wall **8** is a clip or bracket **36** for holding a microphone **38** when the apparatus is being carried from place to place. The microphone **38** may be removed from the clip **36** during use, as indicated in FIGURE 4. The microphone **38** is mounted on a

flexible connector 40 of conventional construction so that it may be positioned to meet the convenience of the speaker. The flexible connector 40 is secured at its lower end to a tube or rod 42 mounted for vertical movement relative to the cabinet beneath an opening 44 in the panel 16. The mounting for the member 42 includes a bracket 46 secured to the side wall 4 of the cabinet and having laterally projecting wings 48 disposed one above the other, as shown in FIGURE 6. Each of the wings 48 is provided with a central opening lined with a rubber grommet 50 that has a close fit with the outer surface of the member 42. The rubber grommets 50 serve as vibration isolators which prevent the transmission of cabinet vibrations to the microphone mounting structure.

Hinged to the rear edge of the panel 16 is an elongated deck panel 52 which in the closed or carrying position, serves as a closure for a major portion of the rear of the apparatus. The panel 52 overlies a pair of doors 54 and 56 that are hinged for horizontal swinging movements about the lower portions of the rear edges of the side walls 4 and 6. Each of these doors 54 and 56 carries a spring clip socket 58 for receiving and releasably holding pins or plugs 60 protruding inwardly from the lower edge portion of the panel 52, so that the panel may be latched in the closed position illustrated in FIGURES 1 and 2. However, when it is desired to use the apparatus in a normal way, the latching action may be released by a firm pull on the lower end portion of panel 52 so that the panel may be swung upwardly and so that the doors 54 and 56 may be swung outwardly to their open positions.

It will be observed that the upper edges of the doors 54 and 56 slope rearwardly and that when these doors are in their fully opened positions such edges will serve to support the panel 52. The inclination of the upper edges of the doors 54 and 56 is such that the top face of the panel 52 will lie in the same plane as the top face of the panel 16 when the panel 52 is resting upon the doors 54 and 56. As shown in FIGURE 4, this arrangement provides for a long, uninterrupted deck surface which is entirely adequate as a support for notes and other papers the speaker may want to have readily available to him as he makes his presentation. In order to prevent the papers from sliding off, it is preferred that some kind of stop means, such as an inclined lip 62, be provided at the lower edge of the panel 52. The rigidity and stability of the unit in its open position is enhanced by small feet 64 on the inner end portions of the doors 54 and 56. These feet may bear against the same support surface that carries the main cabinet portion of the instrument.

A power panel 66 is mounted within the bottom portion of the cabinet just inwardly of the doors 54 and 56 so that when these doors are opened the power panel 66 will be exposed. The power panel 66 carries a connector 68 to which a power line may be attached and also a battery or power pack unit 70. Power for operating the electrical system may be derived either from a power line or from the batteries. The power panel 66 also may carry a variety of other fittings such as sockets 72 to which auxiliary loudspeakers may be connected if desired. The fittings mounted on the power panel 66 normally are not of such character that they would require attention or manipulation by the user during use of the device.

A push button switch 74 also is carried by the power panel 66 in a position such that it may be contacted by an actuator 76 mounted on the door 56 of the unit when the door 56 is moved to its closed position. The switch 74 is in the main power circuit of the apparatus and serves when depressed to open this power circuit. Since the apparatus normally is utilized only when it is in the open position illustrated in FIGURES 4 and 5, it normally is desirable to have the actuator 76 positioned as illustrated in FIGURE 5. When the actuator 76 is in this position, it will depress the switch button 74 as the door is closed to cut off the power and prevent undesired battery drainage. However, there are times when it may be desirable to activate the loudspeaker equipment when the cabinet is in its closed position. At such times, it is desirable to inactivate the power interlock just described. For this purpose, the mounting for the actuator 76 is adjustable. This mounting is made up of an arm 78 having a friction fit with a pivot stud 80. When it is desired to move the actuator 76 from the position shown in FIGURE 5 to a position in which it will be out of alignment with the switch 74 when the door 56 is closed, all that need be done is to swing the arm 78 about the pivot stud 80. The friction between the arm 78 and the stud 80 should be sufficient to hold the arm 78 in any position to which it is moved by the user of the device. It is to be noted that the power interlock can be inactivated only by a conscious act by the user of the device so that there is very little danger of its being inactivated inadvertently.

Disposed above the power panel 66 is a baffle 82 hinged to the panel 16 for swinging movement about a horizontal axis. Normally the baffle 82 will be disposed in a vertical position illustrated in FIGURE 3 so as to close the rear end of the cabinet when the doors 54 and 56 and the panel 52 have been moved to their open positions. This is desirable for best acoustical properties in the instrument. However, the baffle 82 may be moved outwardly so as to provide convenient access to the electrical components within the interior of the cabinet for maintenance purposes. In this connection, it will be observed from FIGURES 3 and 5 that an amplifier 84 is mounted on a depending lower end portion of the control panel 18 in a position where it may be reached without difficulty when baffle 82 is moved outwardly.

It is believed that the operation of the apparatus of this invention now will be apparent. When the parts are in the position shown in FIGURES 1 and 2, the apparatus provides a compact unit of small size, and it may be carried from place to place with ease. It should be noted particularly that the front-to-back dimension of the unit in its closed position is quite small, a feature which has not been present in the devices of this general character known heretofore. Although the apparatus may be transported from place to place without additional protective devices, it may be desirable to employ a canvas or other fabric cover having an open bottom and having a hole in the top wall through which the handle 9 may project.

At the point of use, the apparatus may be opened quickly and easily. All that need be done is to swing the large deck panel 52 upwardly, open the doors 54 and 56, and swing the microphone 38 out of its holding bracket 36. No external connections of any kind are required for the electrical system.

Although a single embodiment of the invention has been illustrated and described in detail, it will be evident that various modifications will be apparent to persons skilled in the art. It is intended that the foregoing description be considered exemplary only, and that the scope of the invention be ascertained from the following claims.

We claim:

1. In a portable lectern of the type having a cabinet, a loudspeaker and an amplifier in said cabinet, and a microphone supported by said cabinet, the improvement which comprises a cabinet having an upper portion narrower than its lower portion, said cabinet including a bottom wall and a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and

rearwardly sloping portion connecting said upper and lower portions, an inclined panel extending between said sloping edge portions of said side walls to close the top of said lower portion of said cabinet, a deck panel hingedly mounted for swinging movement about a horizontal axis at the rear edge of said inclined panel, means for supporting said deck panel in the same plane as said inclined panel so that said panels cooperate to provide a work surface, and light means mounted in said narrow upper portion of said cabinet for illuminating said work surface.

2. In a portable lectern of the type having a cabinet, a loudspeaker and an amplifier in said cabinet, and a microphone supported by said cabinet, the improvement which comprises a cabinet having an upper portion narrower than its lower portion, said cabinet including a bottom wall and a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and rearwardly sloping portion connecting said upper and lower portions, an inclined panel extending between said sloping edge portions of said side walls to close the top of said lower portion of said cabinet, a deck panel hingedly mounted for swinging movement about a horizontal axis at the rear edge of said inclined panel, means for supporting said deck panel in the same plane as said inclined panel so that said panels cooperate to provide a work surface, light means mounted in said narrow upper portion of said cabinet for illuminating said work surface, and a control panel in said narrow upper portion of said cabinet.

3. In a portable lectern of the type having a cabinet, a loudspeaker and an amplifier in said cabinet, and a microphone supported by said cabinet, the improvement which comprises a cabinet having an upper portion narrower than its lower portion, said cabinet including a bottom wall and a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and rearwardly sloping portion connecting said upper and lower portions, an inclined panel extending between said sloping edge portions of said side walls to close the top of said lower portion of said cabinet, a deck panel hingedly mounted for swinging movement about a horizontal axis at the rear edge of said inclined panel, means for supporting said deck panel in the same plane as said inclined panel so that said panels cooperate to provide a work surface, light means mounted in said narrow upper portion of said cabinet for illuminating said work surface, and a light transmitting panel on the front of said narrow upper portion of said cabinet.

4. A portable lectern comprising top, bottom and side walls forming a loudspeaker enclosure, the rear edge of each of said side walls including a lower vertical portion and a forwardly and upwardly sloping portion at the upper end of said lower vertical portion, an inclined panel connected to said sloping edge portions, a pair of rear doors pivotally connected to said lower vertical portions for swinging movements between closed positions in which they extend approximately at right angles to said side walls and open positions in which they extend approximately in the same planes as said side walls, the upper edge of each of said doors being inclined downwardly toward the free end thereof so as to lie in substantially the same plane as said sloping edge portions of said side walls when said doors are in said open positions, a panel pivotally mounted for swinging movement about a horizontal axis at the rear edge of said inclined panel between a closed position in which it may cover substantially the closed doors and an open position in which it may rest upon the inclined upper edges of said doors.

5. A portable lectern comprising top, bottom and side walls forming a loudspeaker enclosure, the rear edge of each of said side walls including a lower vertical portion and a forwardly and upwardly sloping portion at the upper end of said lower vertical portion, an inclined panel connected to said sloping edge portions, a pair of rear doors pivotally connected to said lower vertical portions for swinging movements between closed positions in which they extend approximately at right angles to said side walls and open positions in which they extend approximately in the same planes as said side walls, the upper edge of each of said doors being inclined downwardly toward the free end thereof so as to lie in substantially the same plane as said sloping edge portions of said side walls when said doors are in said open positions, a panel pivotally mounted for swinging movement about a horizontal axis at the rear edge of said inclined panel between a closed position in which it may cover substantially the closed doors and an open position in which it may rest upon the inclined upper edges of said doors, a power cut-off switch in said enclosure inwardly of the rear end thereof, and a switch actuator mounted on one of said doors for movement between a first position in which it aligns with and serves to actuate said switch when said door is closed and a second position in which it is out of alignment with said switch when said door is closed.

6. A portable lectern comprising a cabinet having a bottom wall, a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and rearwardly sloping portion connecting said upper and lower portions, an inclined panel connected to said sloping rear edge portions of said side walls, a deck panel pivotally connected to the rear edge of said inclined panel for swinging movement about a horizontal axis, a pair of doors pivotally connected to said side walls for swinging movements about vertical axes adjacent said lower vertical rear edge portions of said side walls and having downwardly sloping upper edges for supporting said deck panel in the same plane as said inclined panel when said doors are opened, latch means for securing said deck panel in overlying relation to said doors when said doors are closed, and loudspeaker and amplifier means mounted in said cabinet in positions such that access thereto may be gained from the rear of the cabinet when said doors are open.

7. A portable lectern comprising a cabinet having a bottom wall, a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and rearwardly sloping portion connecting said upper and lower portions, an inclined panel connected to said sloping rear edge portions of said side walls, a deck panel pivotally connected to the rear edge of said inclined panel for swinging movement about a horizontal axis, a pair of doors pivotally connected to said side walls for swinging movements about vertical axes adjacent said lower vertical rear edge portions of said side walls and having downwardly sloping upper edges for supporting said deck panel in the same plane as said inclined panel when said doors are opened, latch means for securing said deck panel is overlying relation to said doors when said doors are closed, and a power panel positioned on said bottom wall just inwardly of said doors so as to be exposed when said doors are open.

8. A portable lectern comprising a cabinet having a

bottom wall, a top wall narrower than said bottom wall and side walls connected to said top and bottom walls, the rear edge of each of said side walls including an upper vertical portion in alignment with the rear edge of said top wall and a lower vertical portion in alignment with the rear edge of said bottom wall and a downwardly and rearwardly sloping portion connecting said upper and lower portions, an inclined panel connected to said sloping rear edge portions of said side walls, a deck panel pivotally connected to the rear edge of said inclined panel for swinging movement about a horizontal axis, a pair of doors pivotally connected to said side walls for swinging movements about vertical axes adjacent said lower vertical rear edge portions of said side walls and having downwardly sloping upper edges for supporting said deck panel in the same plane as said inclined panel when said doors are opened, latch means for securing

said deck panel in overlying relation to said doors when said doors are closed, a power panel positioned on said bottom wall just inwardly of said doors so as to be exposed when said doos are open, and a sound baffle pivotally mounted on the underside of said inclined panel and extending downwardly toward said power panel to acoustically close the rear of the cabinet when said doors are open.

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