Aug. 1, 1939. L. KAMENAROVIC 2,168,163

PUBLIC ADDRESS SYSTEM

Filed April 6, 1938

Fig. 1

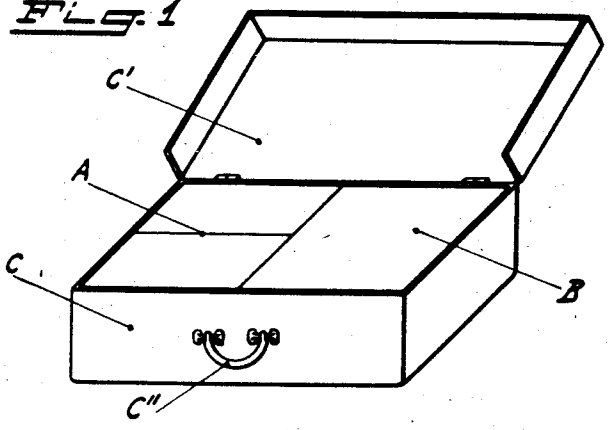


Fig. 4

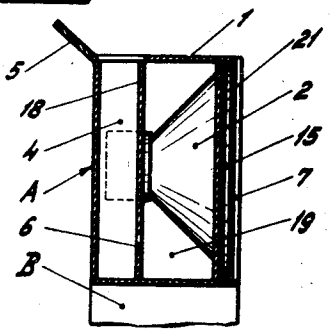


Fig. 2

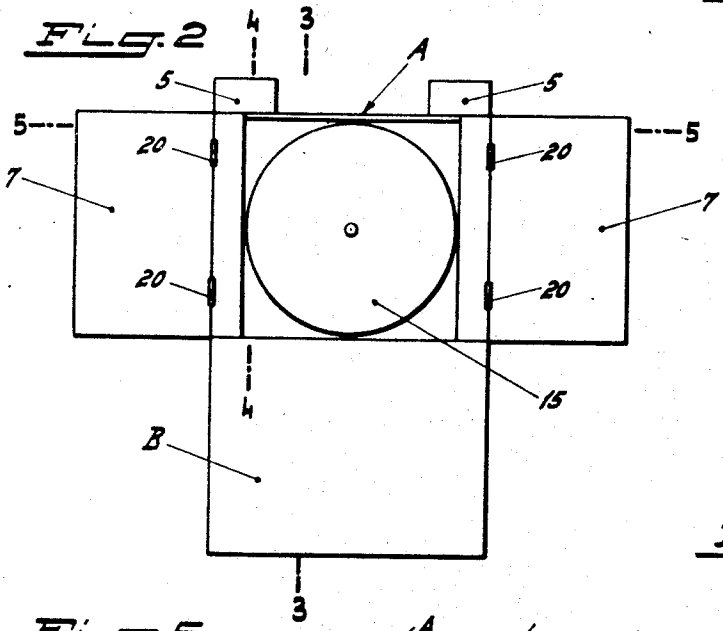


Fig. 3

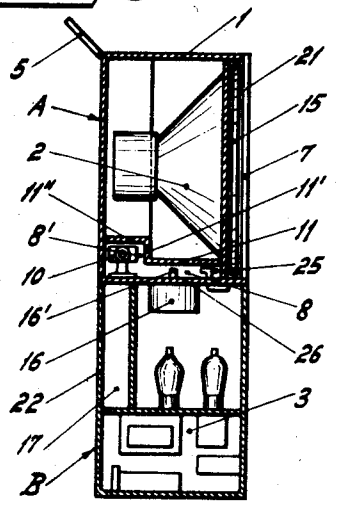


Fig. 5

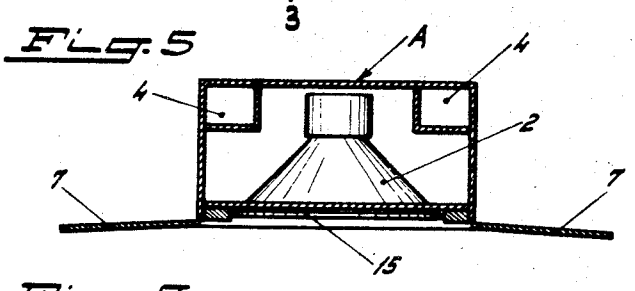


Fig. 6

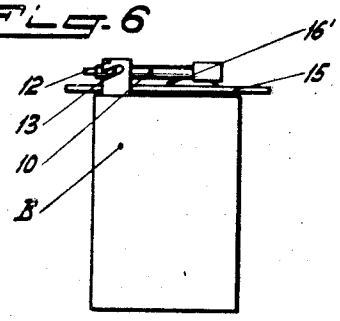


Fig. 7

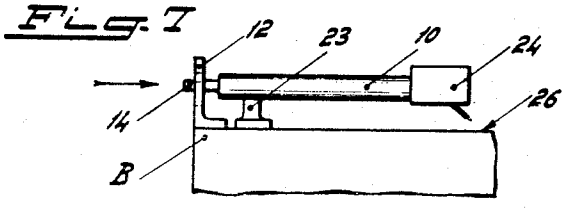
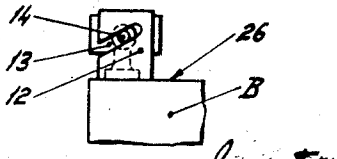


Fig. 8



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PUBLIC ADDRESS SYSTEM

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Application April 6, 1938, Serial No. 200,537
In Italy April 9, 1937

9 Claims. (Cl. 179—1)

This invention relates to public address systems adapted for generating or reproducing sounds and diffusing them to public, and has for its object a portable apparatus including means for generating sounds, means for amplifying them and means for diffusing amplified sounds all such means being able to be enclosed when in conditions for transportation within a container having an exceedingly reduced over-all size and of the kind of hand-portable luggage; the apparatus of this invention also includes means for fastening the devices thereof in said container to prevent them from being subject to harmful movements during transportation.

An embodiment of this invention is illustrated by way of example on the annexed drawing and

Fig. 1 is a general perspective view of the apparatus with the container in open condition and the various units providing said apparatus arranged therein;

Fig. 2 is a plan view of two main units of the apparatus removed from the container and located adjacent to each other preparatory to use of the apparatus;

Fig. 3 is a transverse section on line 3—3 of Fig. 2;

Fig. 4 illustrates a detail in transverse section on line 4—4 of Fig. 2;

Fig. 5 is a transverse section on line 5—5 of Fig. 2;

Fig. 6 is a front view of a unit of the apparatus in operative conditions;

Fig. 7 is a fragmentary side view to an enlarged scale of the top portion of the unit shown in Fig. 6;

Fig. 8 is a fragmentary side view of Fig. 7 from right hand in the direction of the arrow.

As shown in the drawing, the apparatus includes two main units A and B which are adapted to be located adjacent to each other in a container C when in conditions for transportation said container having a lid C′ hinged to the container body C and a handle C″.

The unit A includes a casing 1 enclosing a loud-speaker 2 with attendant parts and the unit B includes an electron-tube amplifier denoted in its whole by 3; said units A and B are adapted to be located adjacent to each other within the container C as shown in Figure 1 for transportation, and they are removed from said container and located in appropriate spaced locations for use.

The casing 1 of the unit A provides chambers 4 having shutters 5 at their top ends; the space within chambers 4 is in communication with the space encircling the rear or outer surface of the loud-speaker cone or diaphragm 2 through ports 6 provided in a partition 18 separating said chambers 4 from the space 19 in which said loud-speaker is located (Fig. 4).

The chambers 4 are availed of to enclose accessory or attendant parts of the apparatus, as a microphone and connecting wires or cables (not shown) when the apparatus is arranged for transportation, said shutters 5 being then closed. At the time the apparatus is set for operation the content of chambers 4 is removed therefrom and the shutters 5 are then left open, said chambers 4 being then operative as resonators for the loud-speaker to provide for an efficient reproduction of low notes or tones, as well known.

In front of the mouth of the loud-speaker cone 2 two lids 7 are hinged at 20 at a distance from the cone mouth to confine a space 21 adapted to contain a turn-plate 15 of a phonograph belonging to the unit B as hereinafter described, said turn-plate 15 being removed from the phonograph and located in said space 21 when the apparatus is put in conditions for transportation; also disk shaped phonograph records (not shown) may be located in said space.

The casing 1 is confined by walls 11, 11′, 11″ on its side intended to lie adjacent to unit B when said units are arranged adjacent to each other within the container C for transportation; said walls 11, 11′, 11″ provide a depression 8, 8′ adapted to receive parts extending from the unit B said units thus compenetrating each other in part to reduce the overall size of their assembly and of the container C intended to enclose it.

The unit B which includes the electronic-tube amplifier 3 includes a casing 22 in which the parts of said amplifier 3 are located and also an electric motor 16 intended to drive the phonograph record turn-plate 15 when said turn plate is nested on the shaft 16′ of motor 16 which extends outside of casing 21; the casing 22 also provides a space for location of attendant parts as connecting cable.

On the outside of the wall 26 of casing 22 from which the motor 16 depends into said casing, a support 23 is fastened which carries a tone arm 10 having a pick-up 24 adapted to scan the phonograph record located on and operated by the motor shaft 16′; said wall also carries means for controlling the circuit of the motor 16 as shown conventionally at 25.

To hold the pick-up or tone arm 10 stationary when inoperative, a tail 14 extends from said arm and engages in a slot 13 of a bracket 12 fast on the top wall 26 of casing 22; as shown in Figures 7

and 8, said slot 13 is preferably somewhat inclined to secure the engagement of the tail 14 therein.

When the apparatus is to be put in condition for operation, the units A and B are removed from the container C and located each in appropriate location and position.

The lids 7 and shutters 5 of the unit A are carried in open position, the turn plate 15 is removed from space 21 and the content of the chambers 4 is removed therefrom; then the unit A is located in erected position as shown in Fig. 4, on a suitable stand of any kind. The unit B is located in erected position as shown in Fig. 6, the turn plate 15 is fastened in position on the motor spindle 16' and the pick-up arm 10 is released from its fastener 12 for cooperation with a phonograph record located on said turn plate 15. Finally the electric circuits of the two units A and B are interconnected by connecting wires or cables and the apparatus is operated in conventional manner.

To pack up the apparatus for transportation purposes, the connecting cables are removed and located in chambers 4 and 17, the turn plate 15 is removed from shaft 16' and located in space 21 of unit A where also phonograph records may be stored, if any, the pick-up arm 10 is carried and engaged in inoperative position as shown in Figures 7 and 8 with its tail 14 engaged in slot 13, lids 7 and shutters 5 are closed and the unit A is located over that B as shown in Fig. 3 the parts 10, 16' and 25 of unit B thus fitting within the depressions 8', 8 of unit A whose confining walls engage said pick up arm 10 and prevent it from moving transversely while it is prevented by cooperating means 12, 13, 14 from moving towards or away from the top wall 26 of the unit B; finally the assembly of said units is located and enclosed within the container C whose lid C' is then closed and thus the apparatus may be carried by its handle C'' as a conventional hand luggage.

What I claim as my invention and desire to secure by United States Letters Patent is:

1. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container and outer parts carried by one of said block-shaped units and projecting from its face intended to be adjacent to a face of said second named unit when said units are located within said container, the face of said second named unit intended to be adjacent to said first named unit when said units are located in said container providing recesses adapted to receive said projecting parts.

2. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container and outer movable parts carried by one of said block-shaped units and projecting from its face intended to be adjacent to a face of said second named unit when said units are located within said container, the face of said second named unit intended to be adjacent to said first named unit when said units are located in said container providing recesses adapted to receive and engage said projecting parts.

3. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container, a phonograph record scanning pick-up arm mounted on the outside of said second named unit on a wall thereof intended to be adjacent to a face of said first named unit when said units are located within said container, the face of the said second named unit intended to be adjacent to said first named unit when said units are located in said container providing a depression for reception and engagement of said pick-up arm.

4. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container, a phonograph record scanning pick-up arm mounted on the outside of said second named unit on a wall thereof intended to be adjacent to a face of said first named unit when said units are located within said container, cooperating means on said wall and on said pick-up arm for engagement thereof, the face of the said second named unit intended to be adjacent to said first named unit when said units are located in said container providing a depression for reception and engagement of said pick-up arm.

5. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container, a phonograph record scanning pick-up arm mounted on the outside of said second named unit on a wall thereof intended to be adjacent to a face of said first named unit when said units are located within said container, a part fast on said second unit wall and having a slot substantially parallel with said wall of said second unit and an extension on said pick-up arm for engagement with said slot, the face of the said second named unit intended to be adjacent to said first named unit when said units are located in said container providing a depression for reception and engagement of said pick-up arm.

6. In a portable public address system, a container, a block-shaped unit adapted to occupy a portion of the space within said container, said unit including a loud-speaker and providing spaces adjacent to said loud-speaker, said spaces having orifices opening to the outside of said unit and being adapted to contain attendant parts and to act as acoustic resonators for said loud-speaker when operated, removable shutters for closing said orifices or leaving them open at will, and a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container.

7. In a portable public address system, a container, a block-shaped unit adapted to occupy a portion of the space within said container, said unit including a loud-speaker and providing spaces adjacent to said loud-speaker and adapted to contain attendant parts and to act as acoustic resonators for said loud-speaker when operated, a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container, and outer parts carried by one of said block-shaped units and projecting from its face intended to be adjacent to a face of the other one of said units when said units are located within said container, the

face of the said second named unit intended to be adjacent to said first unit when said units are located in said container providing recesses adapted to receive said projecting parts.

8. In a portable public address system, a container, a block-shaped unit adapted to occupy a portion of the space within said container, a loud-speaker in said unit, a partition at the rear of said loud-speaker separating a room in said unit at the rear of said loud-speaker and means in said unit providing other spaces adapted to contain attendant parts and to act as acoustic resonators for said loud-speaker when operated, said partition and means having perforations for intercommunication of said room and spaces, and a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container.

9. In a portable public address system, a container, a block-shaped unit including a loud-speaker and adapted to occupy a portion of the space within said container, a second block-shaped unit including an electron tube amplifier and adapted to occupy the remaining space in said container and means carried by said second named block-shaped unit and including a removable turn plate for supporting and rotating phonograph records and for scanning them, said loud-speaker unit providing a space in front of the mouth of said loud-speaker therein for location of said turn plate when removed from said second unit.

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