Dec. 8, 1936. J. SOLOWINSKI, JR 2,063,527

RADIO AND IMPROVED BACK THEREFOR

Filed Oct. 2, 1935

Fig. 1.

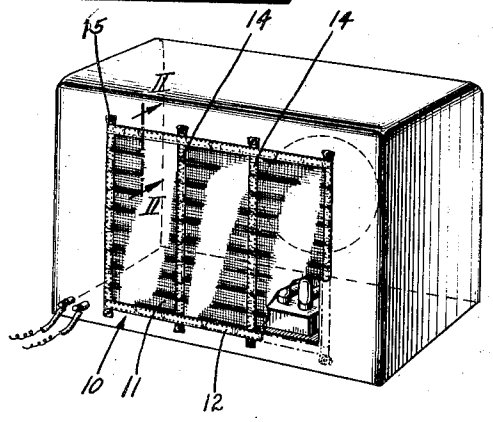


Fig. 3.

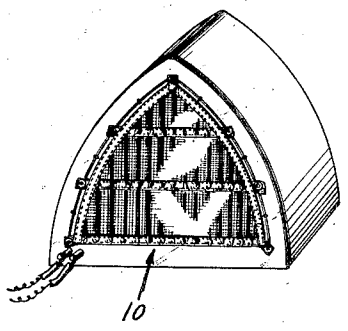


Fig. 2.

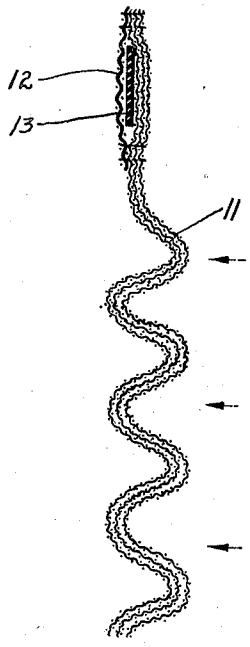
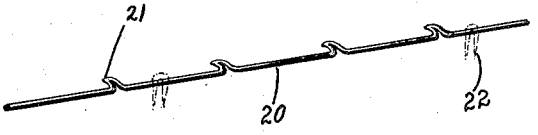


Fig. 4.



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Patented Dec. 8, 1936 2,063,527

UNITED STATES PATENT OFFICE

2,063,527

RADIO AND IMPROVED BACK THEREFOR

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Application October 2, 1935, Serial No. 43,175

7 Claims. (Cl. 312—7)

This invention relates to a radio cabinet element and more particularly to a radio backing element. In its more specific aspect the invention is directed to a back for a radio, which back shall allow air circulation therethrough while preventing substantially the passage of dust from the outer atmosphere into the radio cabinet and the back has the further property of reducing reverberation during radio operation and will not distort the sound emanating from the radio.

It is well known today that for years the cabinets of a good number of radios in use were of the open back type. The radios consist of a cabinet containing a loud speaker in a wall thereof and tubes, condensers and other elements in the base or in the upper portion thereof. After radios of this type have been employed over a period of time the base of the radio and the elements therein become covered with a layer of dust of variable thickness depending upon the condition of the ambient and the length of time the radio has been located in the ambient. This dust-laden radio is an unsanitary condition and further if the dust is laden with carbon particles or moisture the receiver may be thrown out of adjustment. Further, it is because the average housewife is afraid of receiving an electric shock or deranging some part in the cabinet that cabinets are not cleaned.

In order to obviate all of these difficulties I have developed the following invention. Briefly it consists of a fabricated material being in the general form of netting, with the netting being one, two, three, four or more ply. The edging is in the form of narrow cloth strips sewed or otherwise secured to the edging of the fabric.

A plurality of the same type of strips are spaced along the length or width of the fabric and resilient means in the form of elastic material is located in the space between the strips and fabric so that the backing may be accommodated to radios of different sizes.

An object of my invention is to provide a radio back which will allow the dissipation of heat produced by the tubes, transformers and resistors during operation and preventing dust accumulation in the interior of the radio without causing a distortion of sound during radio operation.

Another object of my invention is to provide a radio back which will not cause reverberation during radio operation, will permit the free circulation of air therethrough and may be readily and easily treated to render the radio hygienic even by those who fear electrical apparatus.

A still further object of my invention is to provide a radio back which will not seriously impede cooling of the apparatus within a radio cabinet, but which will prevent dust particles from accumulating on said apparatus, and will not produce reverberations but will provide a sound absorbing medium.

These and other objects of my invention will be readily apparent from the following description and annexed drawing, wherein

Figure 1 is substantially a perspective view of one form of radio embodying my invention.

Figure 2 is a cross sectional view taken on the line II—II of Figure 1 in the direction of the arrows.

Figure 3 is substantially a perspective view of another type of radio embodying my invention.

Figure 4 is a fragmentary perspective view of a novel radio back support.

As shown in the drawing the radio consists of a cabinet 10 which may be of the "rectangular" or "cathedral" type. The cabinet 10 is generally composed of wood and has a loud speaker or sound magnifier in the front face thereof. Located on the base thereof is electrical apparatus in the form of tubes, condensers and other elements which are necessary elements of a radio circuit for reception purposes. The back of these radios comprises a wooden border which frames a comparatively large opening whose area may be as high as ninety per cent of the area of the entire back of the radio. This large opening allows the free circulation of air in the cabinet to cool the electrical apparatus and so that access to the parts of the electric system is easy in case of repairs.

According to my invention I maintain the advantages characteristic of an open back radio without its disadvantages. For this purpose I provide a radio back 10 which may be removable or permanently mounted over the opening of an open back radio. This back may comprise a rectangular covering whose dimensions are materially greater than the corresponding dimensions of the opening to be covered, but less than the corresponding dimensions of the entire back when the same is mounted thereon. I prefer this arrangement in order that the covering or back shall not be visible when a radio is arranged with its back adjacent a wall of the room in which it is located.

The radio back or covering 10 in one of its aspects may be made up of a plurality of layers of material, and as shown three layers of cloth. The cloth may be a woven or knitted fabric or other type of fabric having crisscross threads, with appreciably sized openings between the threads. The openings may be of square contour and may vary in size from one sixteenth of an inch square to one quarter of an inch square. The three layer covering 11 may be produced by uniting three separate layers of cloth or by employing a single piece of cloth and folding it back and forward on a portion thereof to form a double fold three ply unit. A strip of tape or binding 12 is secured to the three ply unit along its perimeter. It may be sewn thereon or in some other manner secured thereto, but care is taken to leave a space between the edging 12 and the three ply unit so as to accommodate a tying means 13, such as an elastic ribbon, an ordinary string, ribbon or twine, or a short coil spring having a string, ribbon or twine secured to the ends thereof. One method that may be employed to provide the essentially pleated or shirred surface is to first gather the three ply unit in the form of small tucks or shirrs around the entire perimeter of said unit.

While this unit is so maintained the binding or edging 12 is placed thereon along its perimeter and the edging is sewn along its outer lengthwise limits to said units so that the shirring may be permanent. By shirring in this manner along both the lengthwise and widthwise edges of the unit 11, the pleats or shirrs extend in cross-wise as well as in lengthwise direction. A tying means 13 is then threaded through the opening and the ends of said tying means 13 are sewed, tied or in some other manner secured together.

The length of the tying means when the whole or a portion thereof is an elastic element is materially less than the perimeter of the opening in the back of the radio which is to be covered thereby, but is of sufficient length so that the cover or back may be properly mounted as shown to completely cover the opening. Between the widthwise strips 12 and equally spaced therefrom are a pair of reenforcing strips 14 spaced from each other and secured to the three ply unit 11 dividing the unit 11 in three parts of equal areas. These strips 14 are parallel to the widthwise portions of strips 12. The unit 11 is shirred along the lengthwise dimension of the narrow strips 14 and is secured thereto in any appropriate manner as by sewing to provide a series of shirrs or gathers. These strips 14 are secured to the unit 11 in the same manner as the strips 12 to provide an opening through which a narrow elastic ribbon or the like may be threaded therethrough, with its outer ends secured to the strips 12.

Instead of employing narrow elastic ribbons in the channels formed between the strips 14 and the unit 11 it is within the purview of my invention to employ light weight narrow metal stays of aluminum, for example, which are rigid. A plurality of tabs 15 are secured to the strips 12 and appear as projections at the ends of the endwise portions of strips 12 and the strips 14. Secured to each of said tabs 15 are metallic eyelets through which hooks secured to the radio cabinet pass when the cover 10 is mounted as shown. When the radio back or cover is mounted to cover the entire opening in the back of a radio, the elastic ribbons are all under tension and the unit 11 has a plurality of small shirrs or folds extending in both lengthwise and crosswise directions, with the individual threads in each ply of the unit 11 crossing an opening of the next adjacent ply.

My invention as illustrated in Figure 3 indicates that the size and shape of the opening in the back face of a radio may be covered with a radio back embodying my invention. In Figure 3 there is disclosed a radio having a cabinet generally referred to as a "cathedral" type cabinet with a "cathedral" type opening. The radio back thereof is of mesh the same general construction as that previously described to cover a rectangular opening. The only real difference is that the perimeter of this back is of cathedral form as distinguished from rectangular form. Instead of employing separate hooks secured to the back of the radio, I prefer to employ a light metallic wire 20 of the type shown in Figure 4. Along the wire are hooks 21 formed by merely bending the wire at spaced intervals. This wire may be secured to that wooden portion of the back of the radio by short wire staples 22. The radio back or covering may be readily secured thereto by inserting the eyelets through the hooks 21. This wire support may also be applied to the radio having the rectangular opening.

By employing the covering or back 10 as described I have found that it may be mounted on the backs of radios having openings of different sizes. Besides being easily and readily mounted to cover the opening the radio back may be easily and readily demounted when the same becomes dusty after extended use. And the same may be cleaned by merely snapping the same or it may be washed.

Instead of employing the multiple ply structure as heretofore described, it is within the purview of my invention to employ a single ply fabric. This fabric may be felted or woven so that it may be made up of a plurality of threads defining a large number of openings, with some of the fibers of the threads defining the openings extending into or across a large number of openings. In addition the single fabric may comprise a large number of intersecting fibers, with said structure being two or three fibers in thickness.

Instead of permanently shirring or gathering the three ply unit 11 by sewing the same in gathering along the perimeter of binding 12, it is within the scope of my invention to provide these shirrs or gathers in another manner. Another way that I have found to accomplish practically the same purpose is to construct the back 10 so that when it is mounted on the radio cabinet, the unit 11 shall be shirred even without sewing the same to the binding. This may be accomplished by employing a one, two, three or more ply unit, such as, the three ply unit 11, whose dimensions are materially greater and about 15–30% greater than the corresponding dimensions of the opening to be covered. The binding 12 is placed around the entire perimeter thereof and sewn thereto without gathering the unit 11. Binding 14, tabs 15 and tying means 13 are assembled therewith. The length of the tying means 13 when resilient is much and about 10–20% less than the perimeter of the opening to be covered and the length of the tying means located between the unit 11 and the length binding 14 is about the same as the width of the

unit 11. Because the binding material, as well as the material of the fabric is soft and easily "crushed", because the length of the resilient tying means 13 in its unstretched condition is about 25–50% less than the perimeter of the unit 11 and because the length of the resilient widthwise tying means is 10–20% less than the width of the unit 11, the unit 11 together with the bindings 12 and 14 gathers and shirrs when the tying means is not stretched.

The tying means employed has a total stretch which does not exceed about 30%, so that when the unit is mounted in the manner shown in Figure 1, it presents a drawn, substantially flat surface having a very large plurality of shirrs or gathers in both lengthwise and crosswise directions. The tying means are relatively taut to provide a curtain effect of loose and somewhat sagging shirrs or gathers.

In practice it has been found that a radio back or cover constructed according to my invention and mounted on a radio in use over an extended period of time, dust particles will accumulate on the fibers of the cloth unit and very little, of any, dust will have accumulated on the electrical apparatus contained in the cabinet, the heat will be dissipated by air currents passing through the meshes of said cloth unit and the shirred unit will not reverberate or in any other way distort the sound which emanates towards the opening in the back of the radio. As a matter of fact it provides a sound absorbing medium.

The material used for the radio back or covering 10 may be of a number of different types. It may be a mesh fabric of cotton, woolen, flax, silk, asbestos or hemp or any combination of the same. When cotton, wool, flax, silk or hemp mesh fabric is employed, the same may be fireproofed by impregnating the threads thereof with any of the well known fire proofing materials, as for example, aluminum acetate or sodium silicate. A fire proofing material which is resilient and will not stiffen the radio back may be employed.

Although my invention has been described with particularity, it is to be limited only by the prior art.

What is claimed:

1. A radio back comprising a plurality of layers of mesh fabric, one of said layers being superimposed on another of said layers, with the threads of one of said layers extending across openings in said adjacent layer, both of said layers being gathered along the peripheries thereof, said back being substantially free from normal auditory reverberation when sound waves strike the same.

2. A radio back comprising a plurality of layers of mesh fabric, one of said layers being superimposed on another of said layers, the threads of one of said layers defining the openings therein extending across the openings in said adjacent layer, said layers being secured together, said layers being shirred.

3. A radio back comprising a plurality of layers of mesh fabric, one of said layers being superimposed on another of said layers, the threads of said fabric being substantially fireproof, binding means secured to said layers, said layers being shirred, resilient tying means located between said binding means and layers, and reenforcing means secured to said layers intermediate said binding means.

4. A radio including a cabinet, a magnifier and electrical apparatus, said cabinet having a comparatively large opening therein; a covering extending over said opening, a plurality of hooks carried by that portion of the cabinet defining said openings, said covering including a plurality of layers of mesh fabric secured to each other and shirred, a plurality of eyelets carried by said fabric, a resilient tying means also carried by said fabric, said hooks extending through said eyelets and said resilient means being under tension.

5. In a radio comprising a cabinet, a magnifier and electrical apparatus, said cabinet having an opening in the back thereof; a covering including a loose fabric having a plurality of openings, resilient tying means connected to said fabric, the perimeter of said fabric independent of said tying means being greater than that of said opening, the length of said tying means when unstretched being less than the perimeter of said opening but when stretched is at least as great as the perimeter of said opening, said covering being secured to said back to cover said opening and being shirred in both mounted and unmounted positions.

6. In a radio assembly including a cabinet, electrical apparatus contained therein, said cabinet having an opening; a cover for said opening, said cover being undulated and comprising a dust collecting fabric having sufficient free area to allow air circulation therethrough, the magnitude of said free area being such that said electrical apparatus is sufficiently cooled during reception; said covering being free from normal auditory reverberation during reception.

7. A radio back comprising a dust collecting fabric having a large number of openings therein to allow air circulation therethrough, resilient tying means connected to said fabric along the perimeter thereof to render variable the effective perimeter of said fabric, means for reenforcing said fabric, said means being located along the body of said fabric and spaced inwardly a considerable distance from two opposite extremities of said fabric, said fabric when mounted on said cabinet being undulated and substantially free from auditory reverberation during reception.

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