

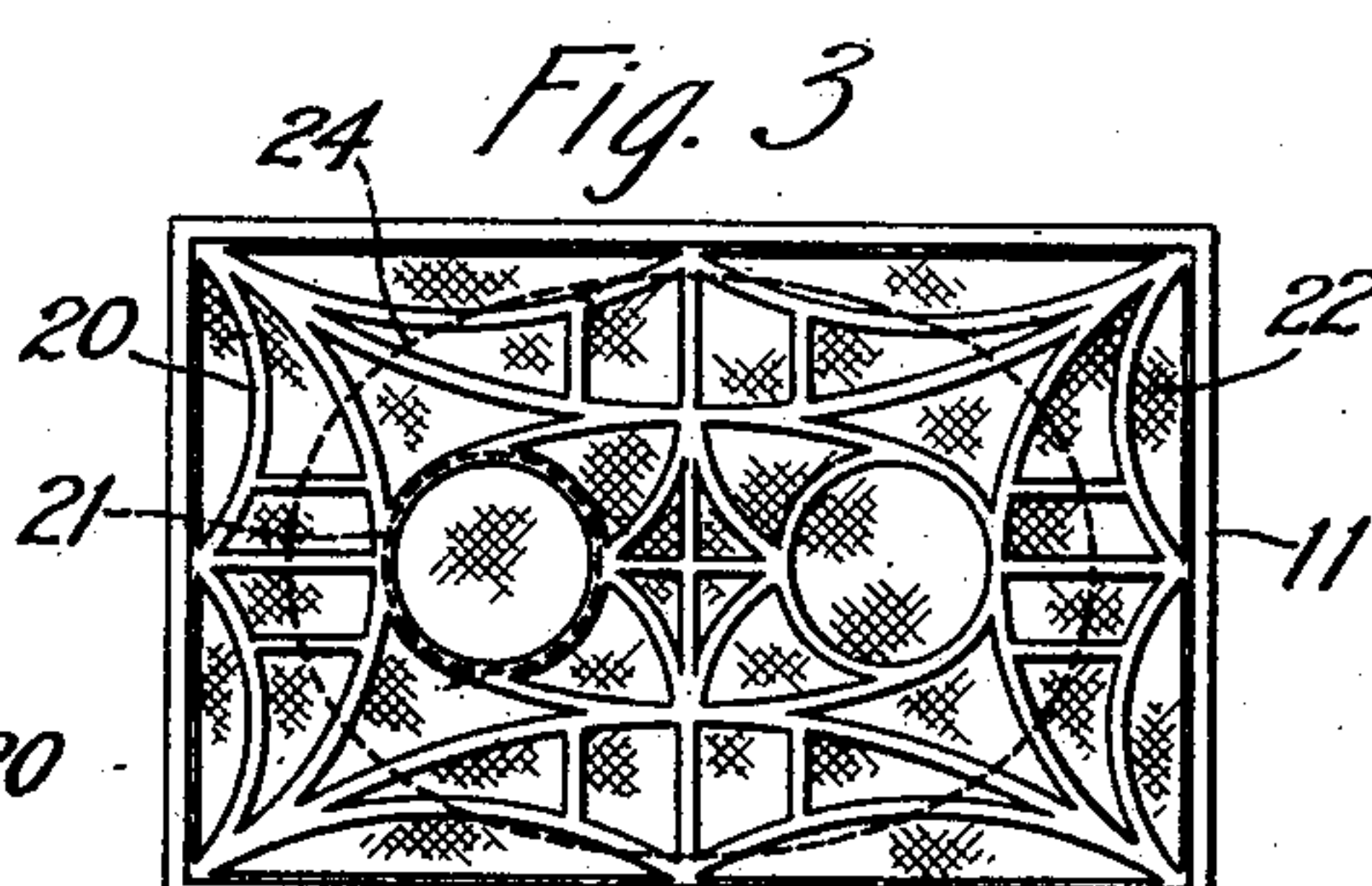
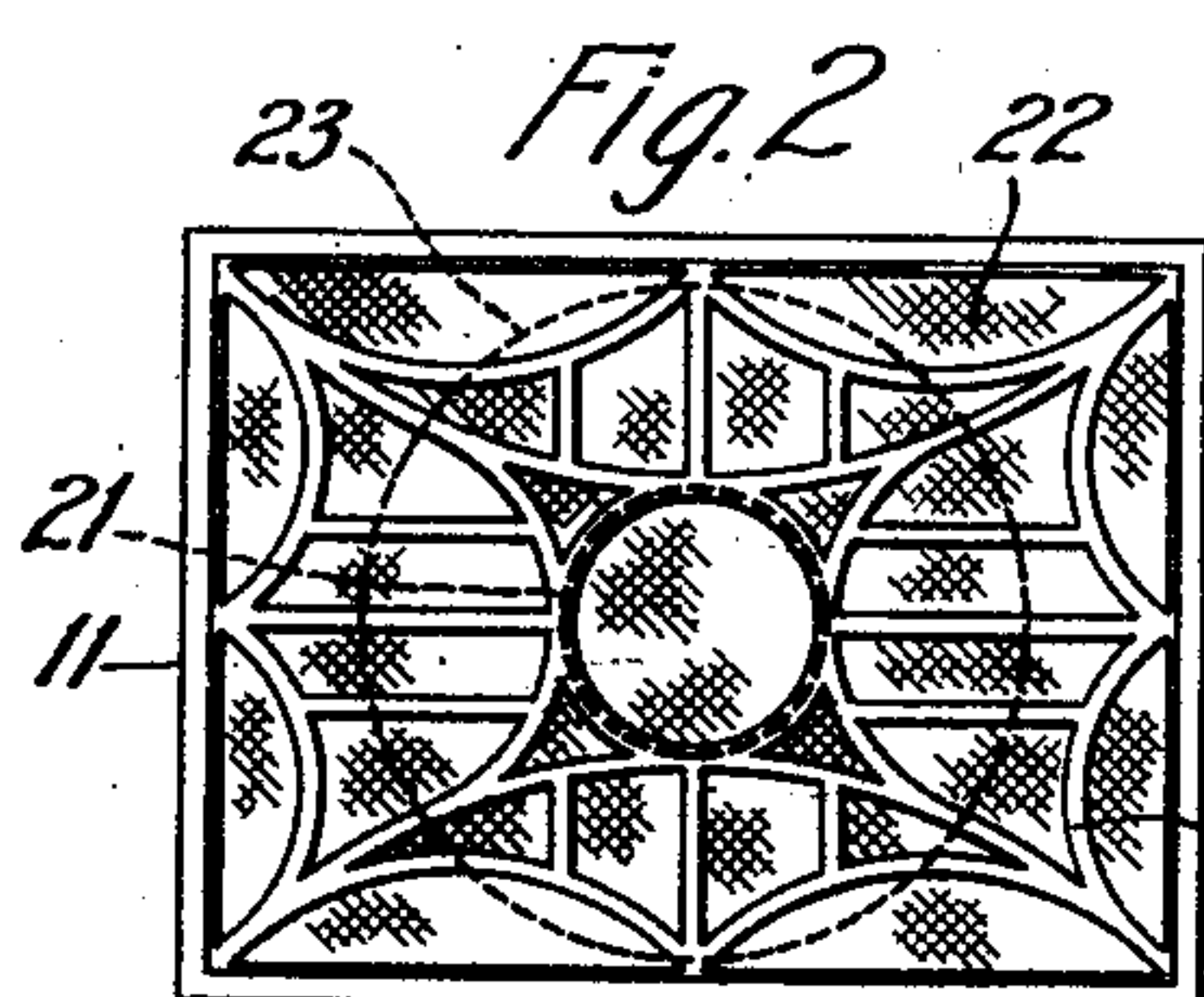
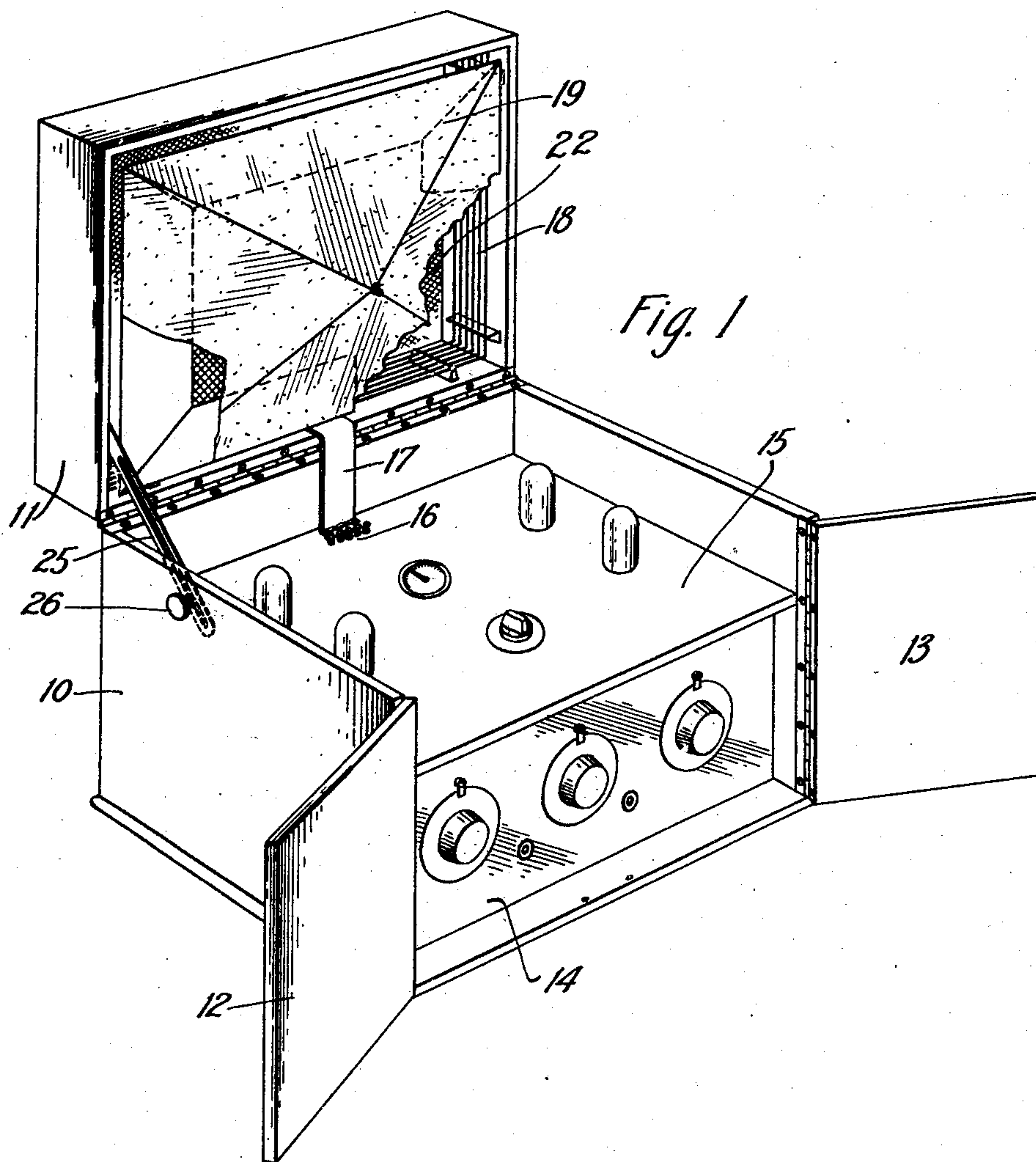
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G. H. FISHER

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RADIO RECEIVING SET

Filed April 16, 1925



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UNITED STATES PATENT OFFICE

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RADIO RECEIVING SET

Application filed April 16, 1925. Serial No. 23,467.

This invention relates to a radio receiving set with a novel arrangement for mounting a direct-acting loud speaker associated therewith.

5 An object of this invention is to provide a self-contained radio set comprising both the receiving and the loud speaking apparatus. Further objects are to provide portability, flexibility, compactness, and protection for
10 all of the apparatus.

Another object is a novel type of direct-acting diaphragm.

In general, this invention comprises radio receiving apparatus and a direct-acting loud speaker such as the cone type compactly contained in a cabinet so designed that when in operation the cover of the cabinet may be opened to expose the direct-acting loud speaker in the desired position for operation. A
15 form of loud speaker diaphragm which may advantageously be used in accordance with the invention is one of pyramidal shape. Where a loop type antenna is to be used the invention also provides for mounting it in
20 the cover of the cabinet so that it is also positioned for use by opening the cover.

In accordance with a specific application of this invention, the pyramidal or cone type loud speaker is located, together with the loop antenna, in the cover of the cabinet housing the radio receiving apparatus. The mounting of the various parts results in an arrangement which is pleasing in appearance, is compact and makes for convenience and efficiency in operation, since the parts can be
25 quickly adjusted to the position in which they give the most satisfactory operation and when not in use they are stowed in a small space and are protected from injury, dust, etc.
30 etc.

Referring to the drawings, Fig. 1 is a general assembly view of the set open for operation, this embodiment employing the pyramidal form of loud speaker. Figs. 2 and 3 are top views of the case designed for round and for elliptical conical shaped direct-acting loud speaker diaphragms, respectively.

Similar reference characters designate similar parts in the different views.

Referring particularly to Fig. 1, the main portion of the cabinet or case 10 contains the radio receiving apparatus. The cover 11 hinged to the main portion of the cabinet contains the direct-acting loud speaker and loop antenna. The front side of the cabinet
55 has two doors 12 and 13 which are open when using the set to give direct access to the tuning or controlling dials shown. The front panel of the radio receiving set is shown at 14 and the top at 15. When the cover 11 and the side doors 12 and 13 are open, complete access is given to all parts of the radio set necessary for its operation and for the replacement of vacuum tubes, etc. Connection
60 of the antenna and the loud speaker is made with the receiving set at the binding posts 16 through the multiple lead flexible cable 17, leading from the top of the radio receiving set into the cover of the cabinet. The loop
65 antenna located around the inner sides of the cover 11 is shown at 18. The direct-acting diaphragm of the loud speaker 19 has one side directly exposed when the cover of the cabinet is raised. As shown in the broken section, 75 the pyramidal front section of the diaphragm 19 is supported by a truncated pyramidal section having its base joined to the base of the front section 19. The rear side of the direct-acting diaphragm faces the top of the cover
80 made of open grillework 20 and lined with thin fabric 22, which affords protection and shuts out dust and at the same time affords substantially free passage to sound vibrations. The open work at the top of the cover
85 may be employed where it is undesirable to place the direct-acting diaphragm in close proximity to a solid back. The diaphragm and its driving element are supported at the rear by means of ring 21 fixed to the grille-
90 work or to any other suitable means in the cover of the cabinet.

The direct-acting loud speaker may be the cone type, such as described in the "Scientific American" of December 1924, page 390, with
95 a driving element of the type disclosed in Patent No. 1,365,898 of January 18, 1921 to H. C. Egerton. Figs. 2 and 3, which are top views of the cover, show by the broken lines the mounting ring 21 for supporting the dia- 100

phragm and the driving element, and the periphery of the diaphragm. Fig. 2 shows a diaphragm having a circular periphery 23 and Fig. 3 one having an elliptical periphery 24. The elliptical diaphragm is eccentrically driven and eccentrically supported as shown by the position of the mounting ring 21 in Fig. 3, the apex of the diaphragm, and the point to which the driving element is attached, being directly beneath the center of the ring 21 as seen in Fig. 3. The direct-acting diaphragm has a relatively large area and may obviously be rectangular, round or elliptical, as illustrated by the several figures. The position of the cover 11 when open is secured by means of the rod 25 and the screw 26, which affords means of adjusting it at any desired angle of opening.

It is to be understood that the invention is not limited to the specific structures described and illustrated since many modifications within the scope of the appended claim may be made without departing from the spirit of the invention.

What is claimed is:

A radio receiving set comprising a cabinet, radio receiving apparatus mounted therein, a hinged cover for said cabinet, a grille forming the surface of said cover, a direct-acting diaphragm mounted on said grille with its main radiating surface facing the inside of said cabinet, and substantially dust proof fabric mounted over said grille for protecting said diaphragm and said apparatus when the cover is closed.

In witness whereof, I hereunto subscribe my name this 13th day of April, A. D. 1925.

GEORGE H. FISHER.