

July 15, 1941.

K. E. B. STENBERG

2,249,693

CABINET ASSEMBLY

Filed Dec. 2, 1937

2 Sheets-Sheet 1

Fig. 1.

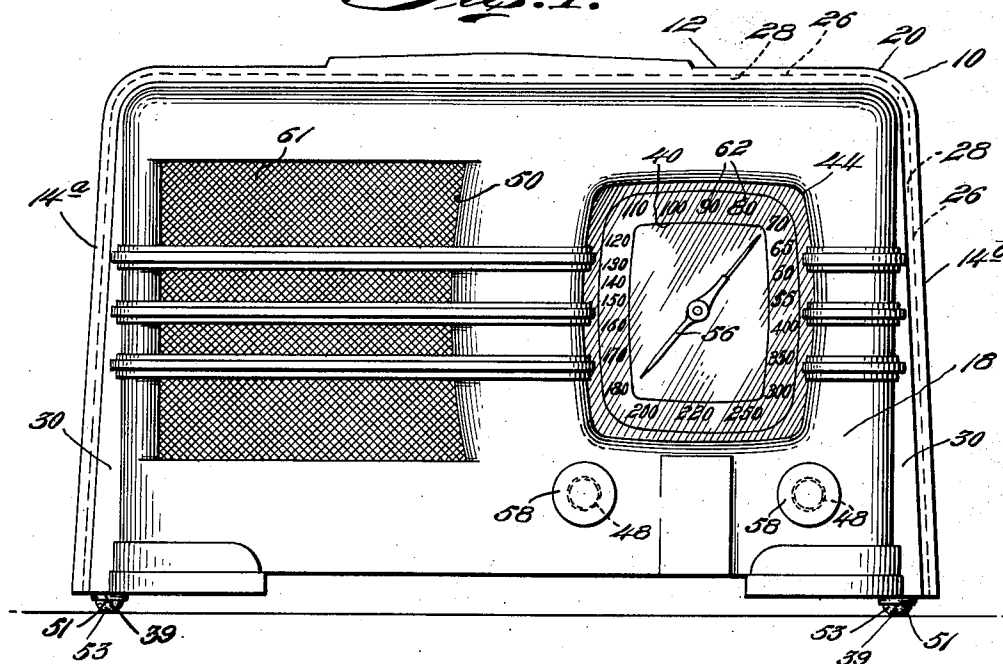
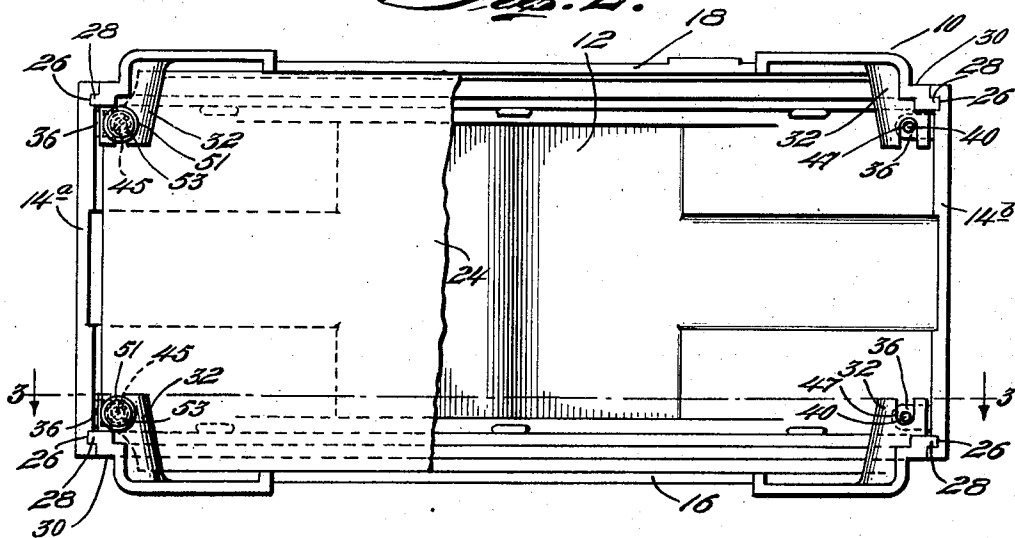


Fig. 2.



Inventor
Knut E. Birger Stenberg
By Thomas A. Jander
Attorney

July 15, 1941.

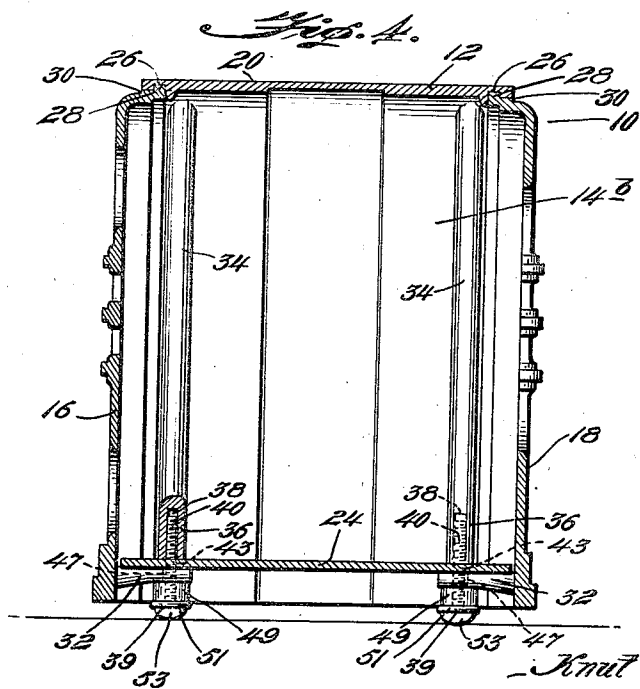
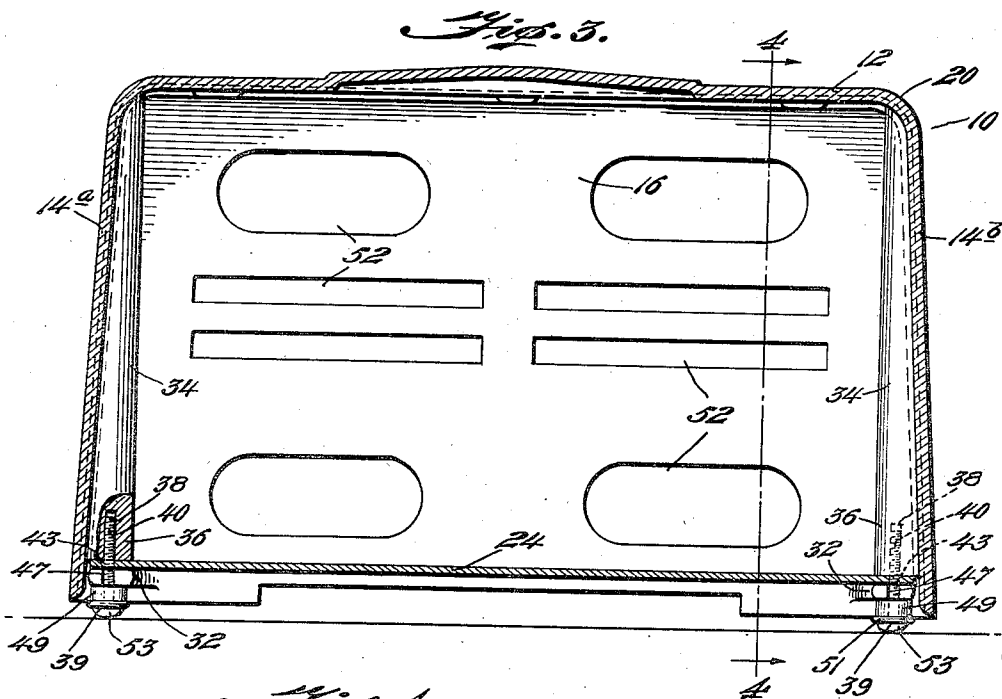
K. E. B. STENBERG

2,249,693

CABINET ASSEMBLY

Filed Dec. 2, 1937

2 Sheets-Sheet 2



47
Inventor
Knut E. Birger Stenberg.

By Thomas A. Jones

Attorney

UNITED STATES PATENT OFFICE

2,249,693

CABINET ASSEMBLY

Knut E. Birger Stenberg, Attleboro, Mass., assignor to Associated Attleboro Manufacturers, Inc., Attleboro, Mass., a corporation of Massachusetts

Application December 2, 1937, Serial No. 177,724

5 Claims. (Cl. 312-7)

My invention relates to improvements in cabinet assemblies and is particularly adapted for use in the manufacture of radio cabinets constructed of molded composition plastic material, such as synthetic resin, of the phenol formaldehyde condensation product type, urea formaldehyde condensation product or other type of cellulose products, etc.

The present invention is an improvement on including a modification of the construction shown in my former application for patent for Composition panel cabinet assembly particularly adapted for use in molded radio cabinets, S. N. 130,364, filed March 11, 1937, particularly adapted for use in molded radio cabinets, which modification is particularly adapted for use in larger sized radio cabinets, particularly those of considerable length to permit the use of more secure clamping of the chassis base between the front and rear panels to secure the parts of the cabinet in assembled position.

While it has been possible to mold small radio cabinets in one piece, the dies therefor have been extremely expensive and my invention relates to a cabinet assembly which will permit the use of much smaller dies than formerly thought possible and consequent reduction of expense in the molding apparatus.

A further disadvantage of integrally molded cabinets has been that they have had a sameness of design and a further feature of my invention is to provide an assembly comprising molded panels having edges which may be slid into interfitting engagement to make up the cabinet assembly and in which if desired respective panels of different color or design theme may be selectively substituted, thus permitting by variations in color or design of a small part of the cabinet many variations in the composite cabinet assembly color or design.

A further object of my invention is to provide a cabinet assembly in which the edges of the various panels which slide into interfitting engagement are provided with suitable interfitting tongue and groove means to positively prevent leakage of gaseous material, such as impurities from the outside air to within or leakage of heat to without.

A further object of my invention is to provide an improved type of cabinet wherein the chassis base is firmly clamped between lugs projecting inwardly of the end panels overlying said base and lugs projecting inwardly from the detachable front and rear panels underlying said base by suitable means, such as screw means to provide a more rigid construction, particularly where radio cabinets of great length are employed.

A further object of my invention is to provide a construction wherein the screw or other means employed for clamping the chassis base between

the respective aforesaid lugs may be extended below the assembled bottom of said cabinet to provide legs for supporting the cabinet, if desired being provided with suitable resilient tips for this purpose.

These and such other objects of my invention as may hereinafter appear will be best understood from a description of the accompanying drawings, which illustrate my invention applied to a standard type of relatively small sized cabinet assembly of substantial length.

In the drawings,

Fig. 1 is a front elevation of a radio cabinet assembly constructed in accordance with my invention with the usual radio chassis base and assembled radio parts mounted thereon.

Fig. 2 is a reverse plan view of the cabinet assembly with a portion of the radio chassis base broken away to show the interior construction of the cabinet.

Fig. 3 is a longitudinal sectional view taken along the line 3-3 of Fig. 2.

Fig. 4 is a vertical sectional view taken along the line 4-4 of Fig. 3.

In the drawings, wherein like characters of reference indicate like parts throughout, 10 generally indicates a cabinet assembly constructed in accordance with my invention, which comprises in its broadest sense a molded composition top panel 12, molded composition end panels 14^a and 14^b, a molded composition rear panel 16 and a molded composition front panel 18, certain of said panels having their respective adjacent edges integrally molded together, such as the top edges of the end panels 14^a and 14^b and end edges of the top panel 12 to form the integrally molded U-shaped composition top and end panel 20 and other of said respective adjacent edges, in the embodiment shown, the top and end edges of the top and rear panels 16 and 18 and the front and rear edges of the top panels 12 and end panels 14^a and 14^b respectively having molded interfitting tongue and groove means for slidability securing said panels together, whereby at least one of said panels may be replaced in the assembly by another of a different color or design theme.

As stated hitherto the present invention is an improvement on the structure shown in my application for Patent S. N. 130,364, filed Mar. 11, 1937, for Composition panel cabinet assembly particularly adapted for use in molded radio cabinets, to provide a construction wherein the chassis base is more securely clamped in position, the detachable panels may be more easily removed without removing the chassis base and one which is in general provided with stronger means for clamping the various parts thereof together to support a chassis base of greater length and having more heavily weighted parts mounted thereon than in said prior construction.

To retain the slidable panels together, at least some of said panels are provided with the lugs projecting inwardly at a spaced distance from the lower ends thereof, in the preferred embodiment said panels having lugs including the end panels 14^a and 14^b and the front and rear panels 16 and 18. To secure the panels in assembled relationship, the usual chassis base 24 is adapted to be clamped in position between the respective sets of lugs on said respective panels.

In the particular embodiment shown, my improved cabinet assembly is assembled in the following manner. While all the panels heretofore described may be provided with tongue and groove means for securing them together, I have shown in the drawings a construction wherein the top and end panels comprise an integrally molded composition U-shaped composite panel 20 comprising the top panel 12 having the top ends of the end panels 14^a and 14^b integrally molded to the end edges thereof in a composite die. While the interfitting molded tongue and groove means may be reversed on the edges of the panels described, in the preferred embodiment shown, I provide said composite panel member 20 with the aligned molded grooves 26 spaced substantially adjacent the front and rear edges thereof, thus extending at each front and rear edge of said end panels 14^a and 14^b and the front and rear edges of the integral top panel 12, and to form interfitting means the end and top edges of the rear and front panels 16 and 18 respectively, are provided with the molded tongues 28 forming continuous projections therefrom adapted to project within said continuous grooves 26, in the embodiment shown, said tongues being inset from the outer surfaces 30 of said front and rear panels. The end panels 14^a and 14^b are preferably tapered upwardly as are the end edges of the front and rear panels 16 and 18, not only to add to the appearance, but also to permit easier and quicker removal and assembly of the slidable front and rear and other panels.

To provide means to retain the detachable panels and removable chassis base in assembled position, certain of said panels are provided with lugs. Thus, for this purpose, the front and rear panels 16 and 18 are provided with the inwardly projecting lugs 32 equidistantly spaced from the lower ends thereof and in the embodiment shown, projecting inwardly thereof adjacent each end thereof and the end panels 14^a and 14^b are also provided with the lugs 36, also equidistantly spaced from the lower ends thereof.

In the embodiment shown, instead of locating said respective lugs 32 and 36 as shown in my prior application heretofore referred to, the lugs 36 on the end panels project inwardly thereof adjacent each front and rear edge thereof, in the embodiment shown immediately inwardly of the grooves 26 and may also be extended upwardly in the form of integrally molded ribs 34. The chassis base 24 is adapted to be inserted from underneath said end panels until the upper surface thereof abuts the lower ends of said lugs 36. In the embodiment shown the lugs 32 on the removable front and rear panels project inwardly thereof and are substantially equidistantly spaced from the lower ends thereof a lesser distance than said end panel lugs, but are adapted when raised into assembled position from underneath said inserted chassis base 24 with the tongues 26 registering within said grooves 28 to immediately underlie and support said chassis

base 24, clamping the portions thereof immediately above them against the lower ends of said lugs 36.

Any suitable type of means may be provided to secure said removable front and rear panels 16 and 18 to said U-shaped panel 20 with said chassis base 24 clamped between said front and rear panel lugs 32 and end panel lugs 36, said means preferably having the lower ends 39 thereof projecting below said cabinet to form cabinet legs and preferably provided with resilient means or tips on the lower ends thereof for this purpose. As the improved embodiment of said clamping means shown in my preferred embodiment, I preferably employ the screw means 40 which are adapted to be threaded upwardly through suitable holes 47 in the front and rear panel lugs 32, suitable holes 43 in the chassis base and through suitable screw holes 33 extending vertically upwardly from the lower ends of said end panel lugs 36. While the screw heads 45 may abut the lower surface of said front and rear panel lugs 32, I preferably extend the shanks thereof a substantial distance below the lower surface of said assembled cabinet and interpose between the lower surface of said lugs 32 and screw heads 45, the vertical cylindrical tubular supporting means 49 preferably constructed of resilient material such as wood and/or rubber to function as resilient legs 39 for said cabinet.

It is thus apparent that when the screws 40 are inserted through the aligned holes in said cylindrical means 49, in said lugs 32, in said chassis base 24 and in said lugs 36 that they will clamp the cylindrical supporting means 49 between the heads 45 thereof and lugs 32 and urge the lugs 32 upwardly clamping the chassis base 24 between them and the lower ends of the lugs 36 to securely clamp the chassis base to the composite panel 20 and said front and rear panels 16 and 18 to said composite panel 20 and chassis base, thus also clamping the tubular supporting means 49 to said assembled cabinet where employed to function as legs for said assembled cabinet, although as stated, if desired, the cylindrical supporting means 49 may be dispensed with and the screw heads 45 arranged to abut the lower surfaces of the lugs 32, the elongated ends 39 being then not present to function as legs for the assembled cabinet. In the actual embodiment shown the cylindrical supporting means 49 comprise the wooden tubular portions 49, the flat washer portions 51 and the resilient tips 53 each provided with a suitable countersink for receiving a screw head 45 therein, said tips being preferably constructed of felt, rubber or other resilient material.

In the embodiment shown, the front panel 18 is provided with an enlarged dial hole 44 and speaker hole 50. A dial having suitable radio insignia, such as the wave length numbers 62, on the front thereof, is inserted in said dial hole 44 and said front panel 18 is provided with the supplemental knob holes 48 therein. The loud speaker hole 50 has the loud speaker cloth 61 in position over said hole. In addition, for radio purposes, other of said panels are provided with suitable air cooling holes therein and thus in the embodiment shown the rear panel 18 is provided with the vertically spaced air cooling slots 52 which may be made of such a size as to permit the fingers to be inserted through said holes for lifting said cabinet.

I have shown in Fig. 1 the exterior of a cabinet

assembly constructed in accordance with my invention having a radio assembled therein and thus displaying through the hole 44 the tuning pointer 56 rotatably mounted centrally of said hole 44 and showing the tuning knobs 58 mounted on extensions from the radio parts projecting forwardly through said holes 48, it being obvious that the other necessary radio parts, such as the tubes, etc. may be readily mounted on the radio chassis 24.

In the drawings, I have shown the composite molded composition panel member 20 pigmented black and the front and rear panel members 16 and 18 white. It is apparent that any of the panel members may be of any desired color and if it be desired to change the color, or design theme, it is merely necessary to replace a panel. If desired a large number of the individual panel members of different colors may be made up from stock to be assembled in the desired color or design assembly on individual order.

While I have shown a three-piece assembly, it is obvious that if desired the top panel may be made separately from the end panels to provide a five-piece structure, the interfitting portions or panels being provided if desired with the interfitting tongue and groove means characteristic of my invention.

It is apparent therefore, that I have provided a novel type of cabinet assembly constructed of molded composition material and particularly adapted for use in radio cabinets with the advantages explained above.

It is understood that my invention is not limited to the specific embodiment shown and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What I claim is:

1. A cabinet assembly, comprising molded composition integral U-shaped top and end panels having aligned molded grooves at the front and rear edges of said top and end panels and removable front and rear panels having tongues at the top and end edges thereof contained within said grooves, the end panels having lugs projecting inwardly thereof adjacent each front and rear edge thereof substantially equidistantly spaced from the lower ends thereof having screw holes extending vertically therein from the lower ends thereof, a chassis base for said cabinet having holes complementary to said lug holes aligned with said lug screw holes, the removable front and rear panels also having lugs projecting inwardly thereof adjacent each end thereof substantially equidistantly spaced from the lower ends thereof a lesser distance than said end panel lugs immediately underlying said chassis base having holes aligned with said end panel lug and chassis base holes, cylindrical supporting means underneath each of said aligned holes to form cabinet legs and screw means projecting upwardly through said cylindrical means within said aligned holes securing said removable front and rear panels to said U-shaped panel with said chassis base clamped between said front and rear panel lugs and end panel lugs and having heads at the lower ends thereof abutting the lower ends of said cylindrical supporting means.

2. A cabinet assembly, comprising molded composition top and end panels having aligned molded grooves at the front and rear edges of said top and end panels and removable front and rear

panels having tongues at the top and end edges thereof contained within said grooves, the end panels having lugs projecting inwardly thereof substantially equidistantly spaced from the lower ends thereof, a chassis base for said cabinet, the removable front and rear panels also having lugs projecting inwardly thereof substantially equidistantly spaced from the lower ends thereof a lesser distance than said end panel lugs immediately underlying said chassis base and supplemental means cooperating with said lugs to secure said removable front and rear panels to said top and end panels with said chassis base clamped between said front and rear panel lugs and end panel lugs, said means having means on the lower ends thereof projecting below said cabinet to form cabinet supporting legs.

3. A cabinet assembly, comprising molded composition top and end panels having aligned molded grooves at the front and rear edges of said top and end panels and removable front and rear panels having tongues at the top and end edges thereof contained within said grooves, the end panels having lugs projecting inwardly thereof substantially equidistantly spaced from the lower ends thereof, a chassis base for said cabinet, the removable front and rear panels also having lugs projecting inwardly thereof substantially equidistantly spaced from the lower ends thereof a lesser distance than said end panel lugs immediately underlying said chassis base and supplemental means cooperating with said lugs to secure said removable front and rear panels to said top and end panels with said chassis base clamped between said front and rear panel lugs and end panel lugs.

4. A cabinet assembly, comprising molded composition top and end panels, said end panels having aligned molded grooves at the front and rear edges thereof and removable front and rear panels having tongues at the end edges thereof contained within said grooves, the end panels having lugs projecting inwardly thereof substantially equidistantly spaced from the lower ends thereof, a chassis base for said cabinet abutting said lower surface of said end panel lugs, the removable front and rear panels also having clamping means projecting inwardly thereof below said end panel lugs immediately underlying said chassis base and means to secure said removable front and rear panels and end panels to said chassis base with said chassis base clamped between said front and rear panel inwardly projecting clamping means and end panel lugs.

5. A cabinet assembly comprising a chassis base, molded composition top and end panels and removable front and rear panels, the front and rear edges of said end panels and the end edges of said front and rear panels having cooperating interlocking tongue and groove means, said end panels having clamping means projecting inwardly thereof adjacent the lower ends thereof immediately overlying said chassis base, and said front and rear panels having clamping means projecting inwardly thereof adjacent the lower ends thereof immediately underlying said chassis base, and means to secure all of said inwardly projecting clamping means to said chassis base to clamp said chassis base between said overlying and underlying inwardly projecting clamping means to assemble said panels on said chassis base.

KNUT E. BIRGER STENBERG.