June 24, 1930. L. H. MORIN 1,767,008

METAL CABINET

Filed June 8, 1927 3 Sheets-Sheet 1

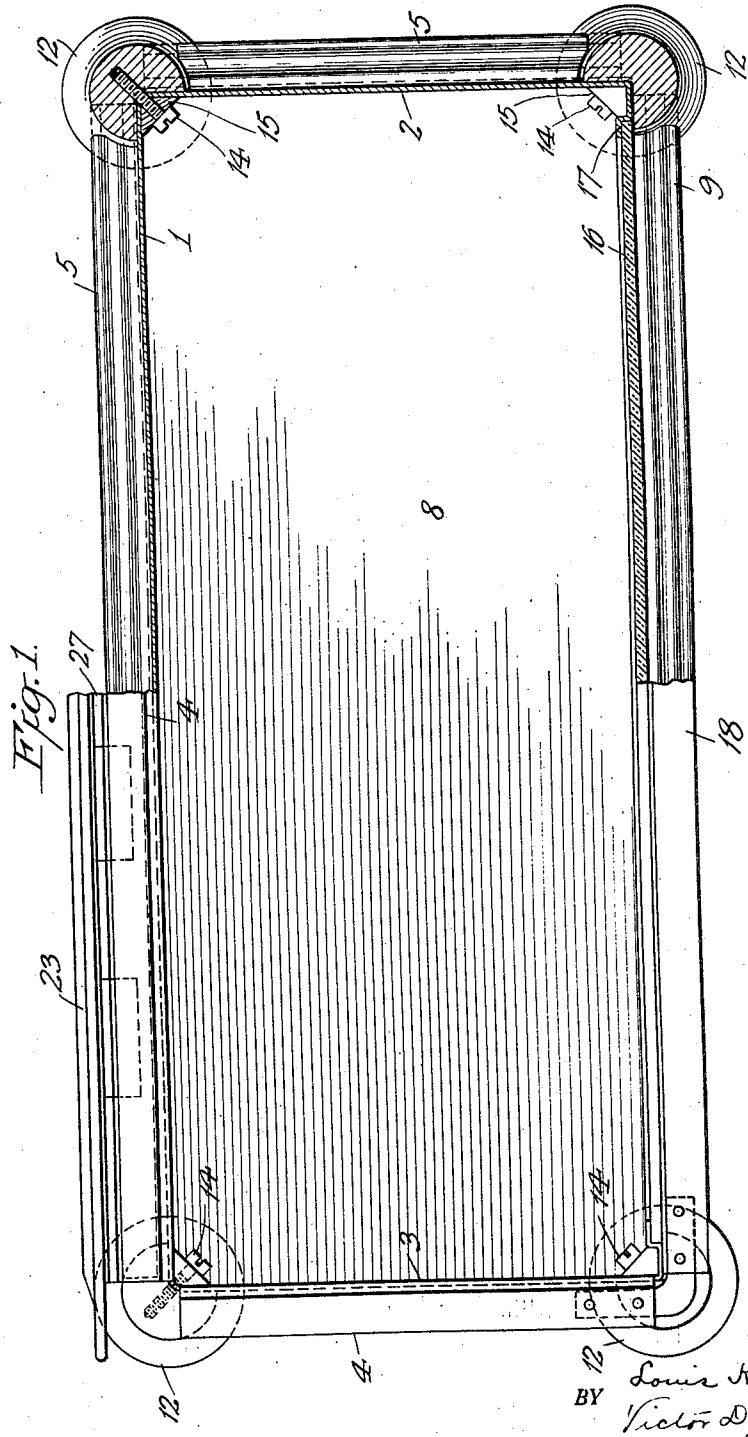


Fig. 1.

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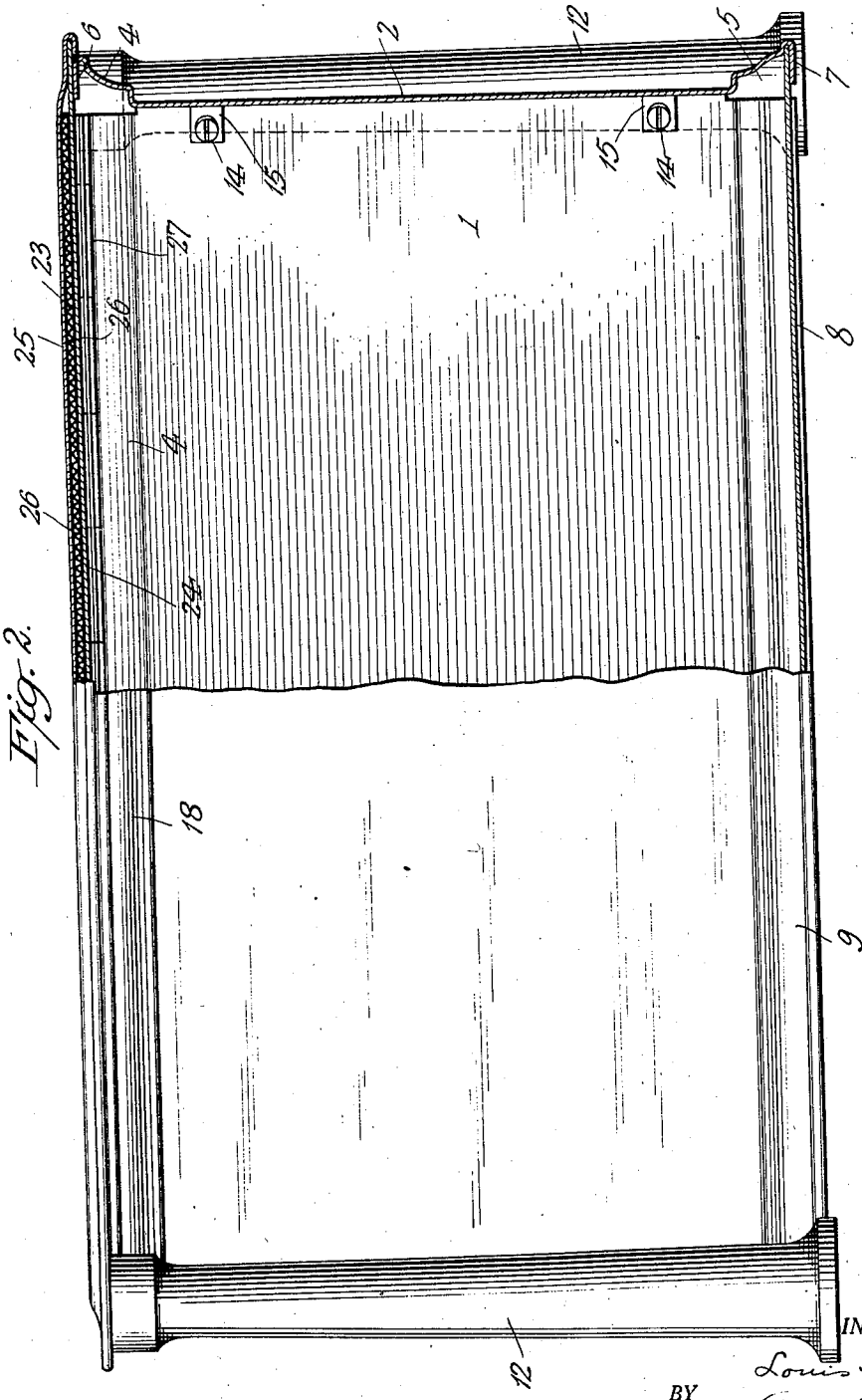


Fig. 2.

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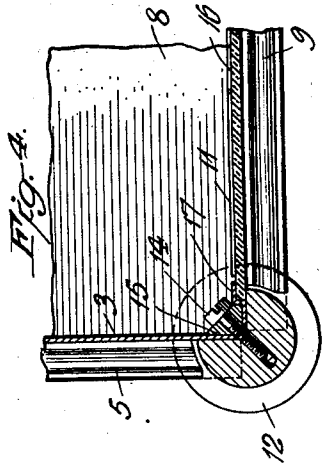


Fig. 4.

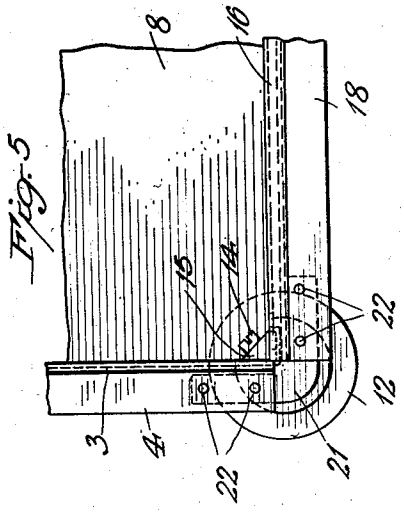


Fig. 5.

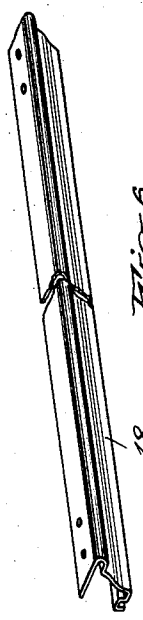


Fig. 6.

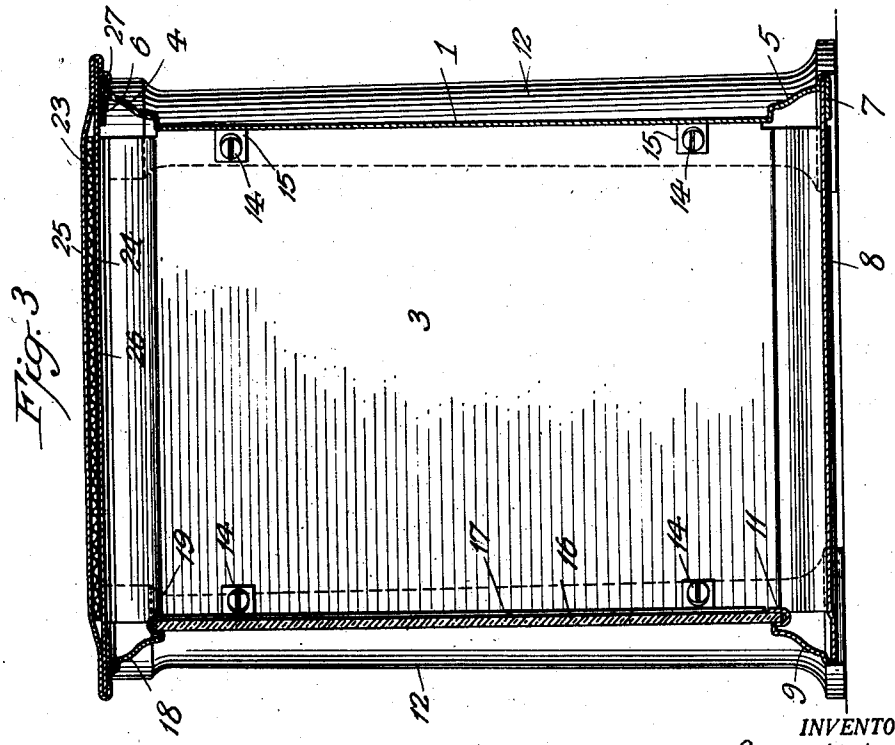


Fig. 3.

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Patented June 24, 1930

1,767,008

UNITED STATES PATENT OFFICE

LOUIS H. MORIN, OF NEW YORK, N. Y., ASSIGNOR TO DOEHLER DIE-CASTING CO., A CORPORATION OF NEW YORK

METAL CABINET

Application filed June 8, 1927. Serial No. 197,281.

My invention has particular reference to metal furniture, one of the principal objects being to provide a stout, handsome, ornamental cabinet which is readily formed of simple parts, and which when assembled has strength and rigidity.

Metal cabinets are particularly advantageous for certain uses, such as the housing of apparatus of the nature of radio receiving devices, because of the advantages to be obtained from the shielding of the set by the metal of the cabinet as well as the excellent protection afforded against physical injury from shock and like accidents. It is, however, essential that radio cabinets be handsome, finely finished articles of furniture, and that they likewise be stout, durable, rugged cases. Accordingly, such cabinets have in the past been produced almost exclusively from wood, to obtain the necessary handsome appearance, even though it necessitated the sacrifice of the physical strength which is obtainable from the metal, and of the advantages of the metal for the electrical shielding, or necessitated the inclusion of an auxiliary metallic lining.

A finely fitted and finished wooden cabinet is an article of substantial cost, because of the necessity of the employment of highly skilled artisans in the manufacture, and of the large amount of hand fitting and finishing, which is unavoidable, no matter how large the quantity manufactured.

My invention combines the advantages of both the wooden and metallic cabinets, without the disadvantages of either, and provides a cabinet having the handsome appearance of a wooden cabinet, as well as an equally light weight, and the advantages in strength, durability and electrical characteristics of a metal cabinet combined with means for the easy production in quantity, from simple easily made parts.

In accordance with the construction of my invention, I provide a cabinet which is formed of metal, having a minimum number of simple parts, adapted to be assembled with a minimum of labor and difficulty, with auxiliary strengthening members adapted to the production of additional ornamentation, and adapted to be enameled, lacquered, or otherwise finished for the production of a handsome article of furniture. The cabinet of my invention includes a front panel member of insulating material, which may be of any of the preferred materials, such as bakelite or micarta, or may be of fibre or wood, or may, if desired, be a metal panel with suitable provision for insulation, such as insulating bushings, when it is used for the support of electrically charged elements. My device further provides a convenient, simple and stout supporting means for the panel, and a hinge top cover, for convenient access to the contents of the cabinet, as well as means for deadening the resonant qualities of the metal sheets.

By the construction of my device I have provided a simple, handsome, inexpensive, durable cabinet, well adapted to a particular, specialized purpose, as well as adaptable to a variety of other uses.

Other objects and structural details of my invention will be apparent from the following description when read in connection with the accompanying drawings, wherein:

Fig. 1 is a top view partly in section of a preferred embodiment of the device of my invention;

Fig. 2 is a vertical front view, partly in section of the same embodiment;

Fig. 3 is a view in transverse section of the same embodiment.

Fig. 4 is a view in horizontal section of the front left-hand corner of the same embodiment;

Fig. 5 is a top view of the same corner of the same embodiment, and

Fig. 6 is a perspective view of the front top rail of the same embodiment.

The preferred embodiment of the device of my invention which I shall now describe, is a radio cabinet having a vertical front panel, adapted to the support of the various electrical elements of a radio receiving apparatus, and having a hinged top adapted to provide convenient access to the electrical elements. The cabinet desirably consists of a minimum number of parts. Accordingly, the back panel and the two side panels, with their top

moldings and bottom moldings are formed from a single piece of sheet metal. The bottom panel and the front base molding likewise are desirably formed from a single piece. A top front molding is provided and also a top cover member, which is hinged to the back, at the top of the back molding. Four corner columns are provided and attached to the metal panel members, and a front panel is provided, thus forming a complete cabinet.

Referring to the figures, the back panel 1 and the end panels 2 and 3 are formed from a single sheet of metal. The top molding 4 and the bottom molding 5 are desirably formed in the sheet by a suitable stamping or bending operation, after which, by appropriate bending, the end panels are brought to the desired right angle relationship to the back panel. The top and bottom moldings are cut at proper points to permit the separation at the corners which is necessary in bending the sheet to form the right angle corners as indicated in Figs. 4 and 5. Both the top and bottom moldings are formed with inwardly directed ledge members 6 and 7 for the support of other cooperating parts.

A bottom member 8 is provided, and a bottom front molding 9 is formed integrally therewith, by any suitable stamping or bending operation. The upper edge of the molding 9 is desirably formed into a groove 11 of a width suitable to the reception of the panel which it is desired to use for the cabinet front. The bottom member 8 cooperates with the ledges 7 upon the lower moldings 5, and is supported thereby, thus producing a firm, stout, solid bottom to the cabinet portion.

In order to provide greater strength and stiffness, as well as for the production of a more handsome cabinet, corner columns 12 are provided. These are desirably formed, with one quadrant removed, as shown in Fig. 4, for the accommodation of the corner of the metal panels, and the moldings. They may be made in a rather plain outline, as indicated in the drawings, or may take any desired ornate form, according to the preference of the user. They are desirably formed of castings in a light metal, such as an aluminum alloy, because of the greater ease of assembly. They may, however, be formed of any desired material which cooperates properly with the other members of the cabinet.

The columns 12 may be assembled with the sides of the cabinet, and may be held in place by means of the screws 14 indicated in section in Fig. 4. The holding screws 14 desirably pass through an angle member 15, positioned within the corner, for the purpose of providing a better bearing for the head of the screw, as well as for firmness and strength. The column members are appropriately formed at top and bottom for cooperation with the outline of the top and bottom molding member 4 and 5, and they may be slightly longer in order to provide feet for the cabinet to stand upon, and to raise the bottom moldings 5 and 9 slightly above the level of the surface on which the cabinet stands, as indicated in the drawings.

The columns 12 at the back corners make contact with the back panel 1 and the side panels 2 and 3. The front columns 12 make contact with the side panels 2 and 3, and also provide a ledge, in a plane with the front of the groove 11 against which the front panel 16 may abut. The panel 16 is then held in place against the front columns 12, partly by insertion within the groove 11 and partly by the clamping action of a member 17 which is desirably formed of sheet metal and held by the screw 14 under the angle member 15 as indicated in Fig. 4. The member 17 may be a part of the sheet forming the side panels 2 and 3, and integral therewith, for the extra strength thereby obtained. This construction provides a bottom groove for the front panel 16, and side grooves, into which the panel may be inserted by sliding or otherwise as desired, either with or without the attached electrical elements of the radio set.

A front top molding rail 18 is provided, which may be formed in a similar manner to the previously described molding, and which desirably has the lower edge folded as indicated in Fig. 3 for the production of a groove 19, adapted to cooperate with the panel 16 for the further support thereof. This top rail molding 18 is formed along its upper edge with an inturned horizontal ledge or flange, as shown in Figs. 1, 3 and 6. The molding 18 cooperates with the column members 12 in a similar manner to the moldings 4, and is held in place therein by a corner angle member 21, shown in Fig. 5, which is attached both to the top molding 1 and the top molding 4 by screws 22. A suitable recess is provided in the top of the front columns 12 for the reception of the angle member 21, and it is concealed therein and within the body of the moldings 18 and 4, fitting into the internal horizontal U-shaped bead-forming grooves thereof, as indicated in Figs. 1 and 5. Similar angle members may be incorporated at the bottom ends of the front columns 12, if desired, or suitable fastenings may be inserted through the ledges 7 and the bottom member 8 for fastening the members together.

A suitable cover or top member 23 is likewise provided, hinged to the back molding members 4. The cover member 23 may desirably take the form of two sheets of metal, one thereof 24 being plane and forming the lower surface of the cover, the other 25 thereof being stamped or bent in any desired fashion to give a suitably ornate upper surface. This forming may simulate chamfered edges, or may provide any desired ornamen-

tation, as by the simulation of carving, etc. The space between is desirably filled with a deadening material 26, which may be corrugated board or other suitable fibrous or pulverulent material, or on occasion may be omitted entirely. The deadening material 26 is, however, desirable since the closing of the cover imparts a shock to the members, which tends to set them into an undesirable condition of vibration, undesirably emphasizing the fact that they are formed of sheet metal.

The cover 23 is desirably hinged to the top molding 4 by a hinge 27 which may take the form of the so-called "piano hinge". The fastening between the cover members 25 and 24 may be made in any desired way, which will be obvious to those skilled in the art. The parts may be fastened by a folding of one about the other as indicated in the drawings, or they may be joined by any other suitable fastening of the prior art, such as by welding, riveting, soldering, brazing, etc. When the cover is closed it rests upon the inturned top ledge 6 of the molding 4 and upon the similar inturned top ledge of the top rail molding 18, as shown in the drawings.

By the construction of my invention I provide a stout, durable, rugged, handsome cabinet, particularly adapted to the reception of radio apparatus, and to the provision of electrical shielding thereof by the metallic parts comprising the cabinet. The device of my invention further provides means for the deadening of the resonance of the metal surfaces, which may be included in one or more of the metal parts as desired. The cabinet of my construction furthermore is simple to assemble and inexpensive to manufacture.

While I have shown but a single embodiment of my invention in the accompanying drawings, it is capable of various modifications therein without departing from the spirit thereof, and it is desired, therefore, that only such limitations shall be imposed thereon as are required by the prior art or indicated by the appended claims.

I claim as my invention:

1. A metal cabinet or the like, comprising three integral side panels having integral top and bottom molding members, and a bottom panel member adapted to cooperate with said bottom molding members, and having another molding member integral therewith, and an auxiliary top molding member, cooperating with said previously mentioned top molding members and having a groove formed at the bottom thereof.

2. A metal cabinet or the like, comprising a plurality of sheet metal panel members having integral marginal molding portions, and a plurality of corner columns having vertical grooves or recesses, the walls of which form an angle of 90°, and means for securing the edges of said panels within the recesses of the column members, said column members having portions removed for the insertion of said molding portions therein.

3. A metal cabinet or the like, comprising a plurality of sheet metal panel members having integral marginal molding portions, and a plurality of corner columns having vertical grooves or recesses, the walls of which form an angle of 90°, means for securing the edges of said panels within the recesses of the column members, said column members having portions removed for the insertion of said molding portions therein, and angle members uniting adjacent ends of said molding portions, said column members having notches to receive said angle members.

4. A metal cabinet or the like, comprising a plurality of sheet metal panel members having integral top and bottom moldings, corner column members, a sheet metal bottom member having an integral molding comprising a horizontal panel groove, a top member having a molding comprising a horizontal panel groove, clamp members cooperating with said column members for the formation of side panel grooves, and a panel held in place by the horizontal and side panel grooves.

5. A metal cabinet or the like, comprising a plurality of sheet metal panel members having integral bottom moldings, corner column members, a bottom member having an integral molding comprising a horizontal panel groove, clamp members cooperating with said column members for the formation of side panel grooves, and a removable panel within said side grooves and horizontal groove.

6. In a cabinet, a corner post having a vertical recess with walls forming an angle of 90°, a cabinet wall in contact with one of the recess walls, a sheet metal piece in contact with the inner part of the other recess wall, said piece being bent rearwardly away from the wall, thence parallel with said wall to form a holding groove, and unitary means for uniting said sheet metal piece and cabinet wall to said corner post.

7. In a cabinet, a pair of vertical sheet metal side walls, each of which at its lower edge is bent in an outward direction to form an ornamental molding terminating in a horizontal bead, and a sheet metal bottom member having side edges entered into said beads and its forward edge bent upward to form a molding in horizontal alignment with the moldings of said side walls.

8. In a cabinet, a sheet metal side wall having its upper edge bent in an outward direction to form an ornamental molding, thence inward to form a horizontal flange, a cross member of sheet metal bent in an outward direction to form an ornamental molding thence inward to form a horizontal flange, the lower edge of said cross member being bent to form an integral groove opening

downwardly, and uniting means secured to the horizontal portion of each of said moldings.

9. In a cabinet, an upright sheet metal wall having its upper edge portion bent to extend in an outward upwardly inclined direction to form an inclined overhanging ornamental molding, thence bent to extend inward to form a horizontal strengthening flange, a horizontal inwardly opening U-shaped groove which forms an outer bead being formed between the said flange and the said molding, a horizontal top molding rail of sheet metal flaring upwardly and outwardly to form an ornamental molding, thence turned inward along its top edge to form a horizontal strengthening flange, a horizontal inwardly opening U-shaped groove which forms an outer bead being formed on the said rail between the said flange at the said molding, and an angle member at the corners only fitting into the said inwardly opening U-shaped groove and underlying the said horizontal flanges of the moldings and firmly secured thereto for thereby securely holding together the adjacent ends of the said moldings.

10. In a cabinet, a one-piece sheet metal ornamental strengthening molding comprising a flat inner flange and an ornamental portion in the same piece with and inclined inwardly from the outer edge of the flange to form in general therewith a strength-providing triangle, in combination with a sheet metal wall of the cabinet of which the inclined portion of the molding forms an outwardly flaring marginal continuation in the same piece therewith, and in which said molding is provided between its inclined portion and its flange portion with an internal U-shaped groove for the reception of the edge of another wall of the cabinet.

11. In a cabinet, a one-piece sheet metal ornamental strengthening molding comprising a flat inner flange and an ornamental portion in the same piece with and inclined inwardly from the outer edge of the flange to form in general therewith a strength-providing triangle, in combination with a sheet metal wall of the cabinet of which the flange portion of the molding forms a marginal continuation in the same piece therewith and the edge of the inclined portion of the molding is provided in the same piece therewith with a U-shaped groove opening away from the said flange-forming wall for the reception of another wall of the cabinet.

12. In a cabinet, a one-piece sheet metal front top molding rail comprising a horizontal flat top flange and a downwardly and inwardly inclined ornamental molding portion terminating in an inwardly downwardly opening inverted U-shaped groove for the reception of the upper edge of the front wall of the cabinet, and in which an outwardly projecting horizontal strengthening bead is formed at the corner of the triangle between the top of the inclined portion of the molding rail and its top flange with the top wall of the bead in line with and forming a flat continuation of this flange.

In witness whereof, I hereunto subscribe my signature.

LOUIS H. MORIN.