

Sept. 18, 1951

F. H. McCORMICK
TABLE TOP CONSTRUCTION

2,568,243

Filed March 25, 1948

5 Sheets-Sheet 1

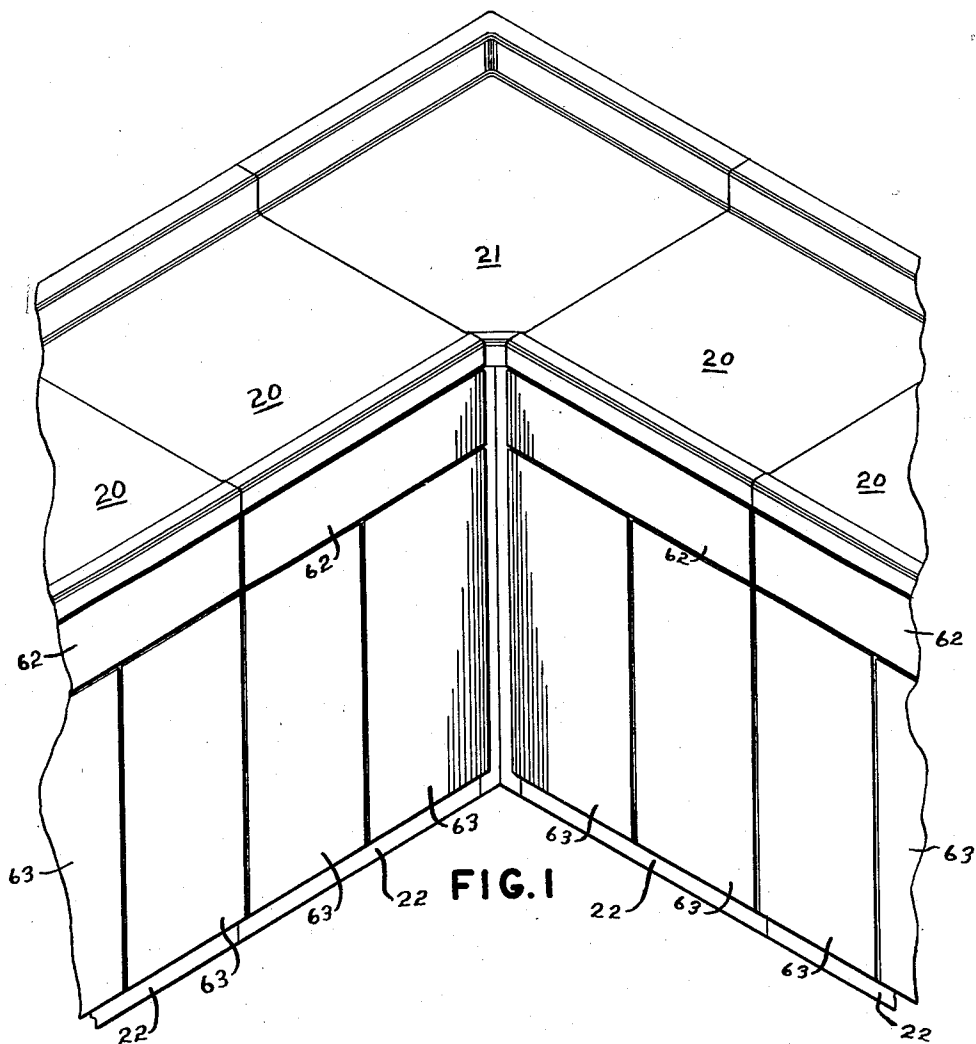
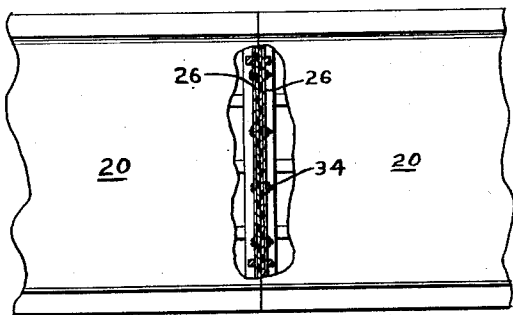


FIG. 6

INVENTOR.
Francis H. McCormick
BY
Stephen Henderson & Co.
Attorneys

Filed March 25, 1948

TABLE TOP CONSTRUCTION

5 Sheets-Sheet 2

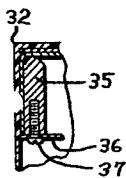


FIG. 7

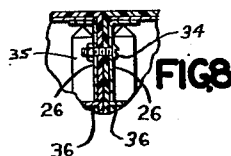


FIG. 2

INVENTOR

INVENTOR.
Francis H. The Cornick

BY

Spencer Hardman Fisher
Attorneys

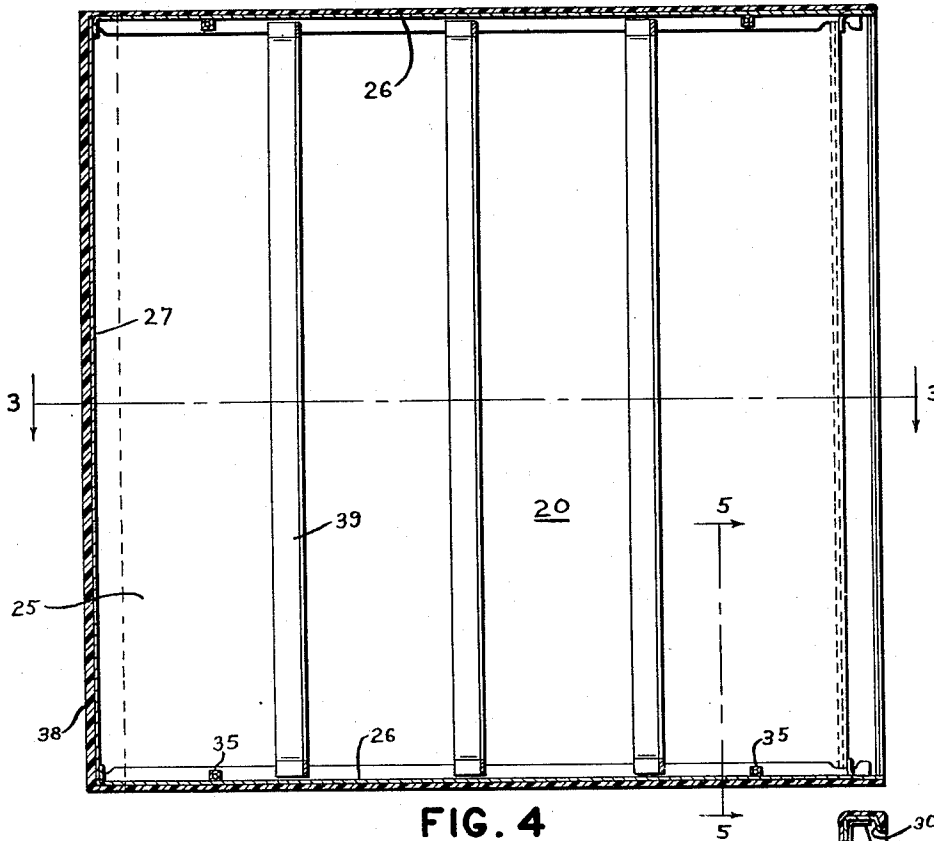
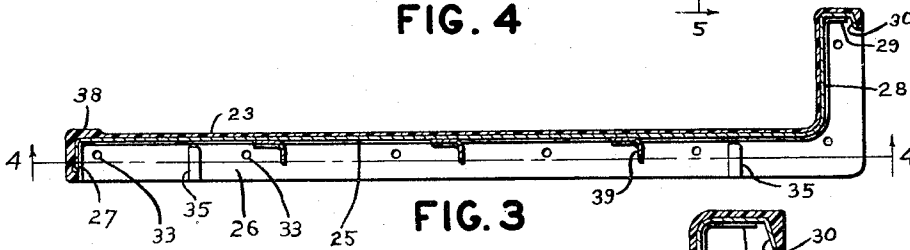
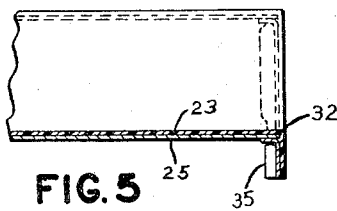
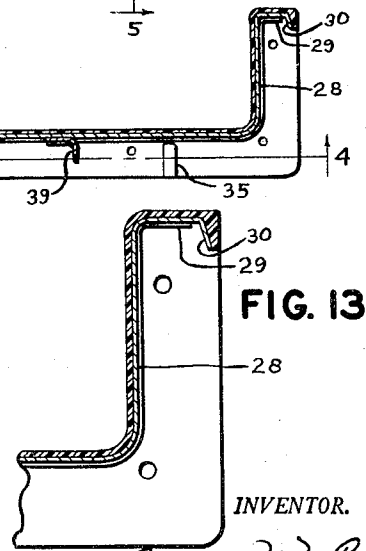
Sept. 18, 1951

F. H. McCORMICK
TABLE TOP CONSTRUCTION

2,568,243

Filed March 25, 1948

5 Sheets-Sheet 3



BY *Francis H. McCormick*
Spencer H. McCormick & John
Attorneys

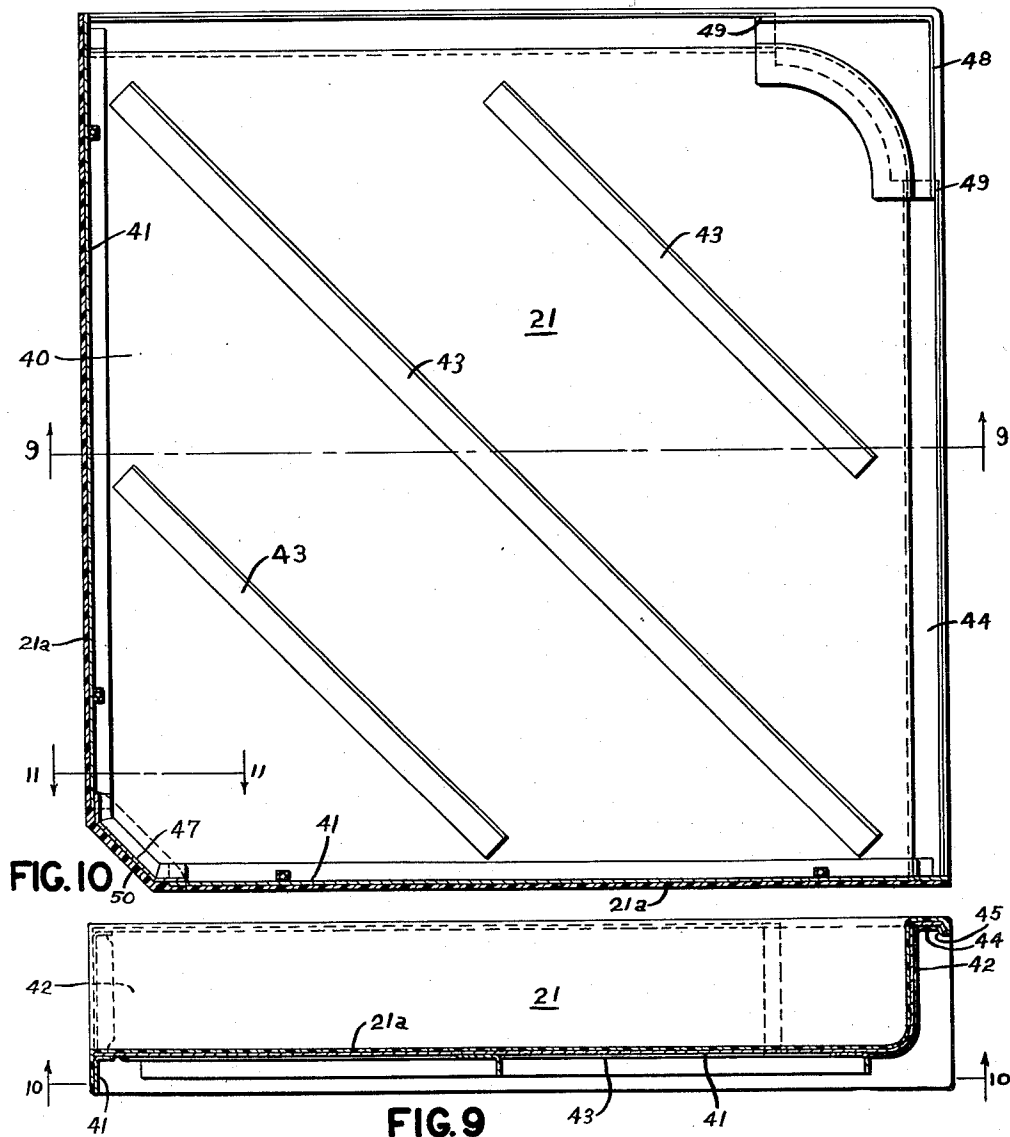
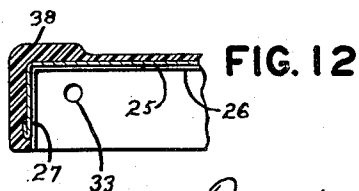
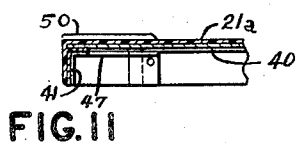
Sept. 18, 1951

F. H. McCORMICK
TABLE TOP CONSTRUCTION

2,568,243

Filed March 25, 1948

5 Sheets-Sheet 4



INVENTOR
Francis H. McCormick
BY
Spencer Friedman
Attorney

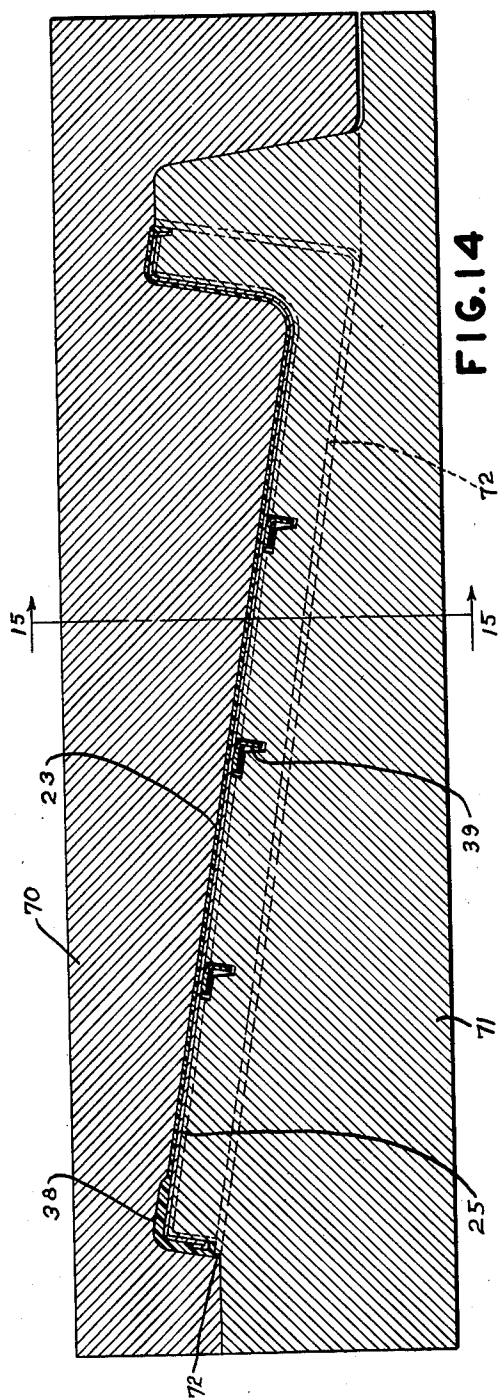
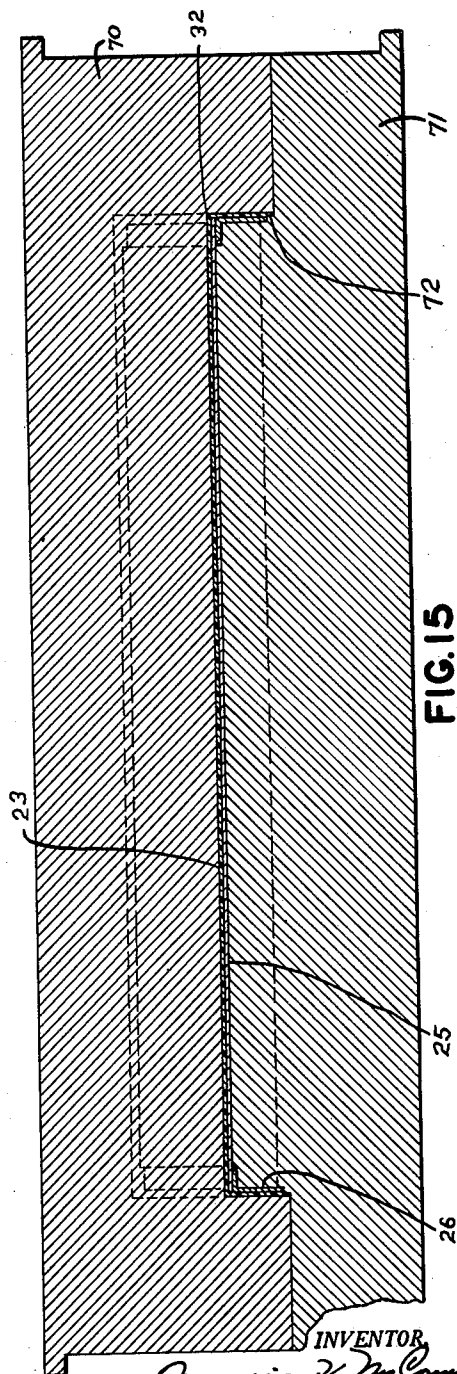
Sept. 18, 1951

F. H. McCORMICK
TABLE TOP CONSTRUCTION

2,568,243

Filed March 25, 1948

5 Sheets-Sheet 5



INVENTOR
Francis H. McCormick
BY
Spencer Hardman & Co.
Attorneys

UNITED STATES PATENT OFFICE

2,568,243

TABLE TOP CONSTRUCTION

Francis H. McCormick, Oakwood, Ohio, assignor
to General Motors Corporation, Dayton, Ohio,
a corporation of Delaware

Application March 25, 1948, Serial No. 16,933

4 Claims. (Cl. 311—106)

1

This invention relates to table tops and more particularly to cabinets and cabinet tops for use in kitchens or the like.

Heretofore kitchen cabinet or table tops have been expensive tailor-made unitary structures; or they have been composite cabinets in which the joints between sub-cabinets have been covered with unsightly and unsanitary metal strips or the like. According to this invention, unitary cabinet or table tops are provided which may be assembled side by side with almost imperceptible seams between them. These seams can be covered with cement, which may be wiped off to provide watertight joints with the same effect as the previous expensive tailor-made cabinet tops. These unitary tops each comprise a smooth topped, integral, thermo-setting plastic body having integral downward flanges and upward back splasher flanges, which body is bonded to a sheet metal reinforcement, with no outer metal working surfaces exposed. The plastic preferably is a resilient, tough organic compound resistant to oils and fats, such as the butadiene-acrylonitrile-phenol-formaldehyde resin mixture described in Serial No. 17,120 filed by Herman E. Wening for Composition of Matter. This mixture is preferably vulcanized to the support or sheet metal reinforcement to provide a smooth, resilient and tough working surface ideal for conditions and requirements of a kitchen cabinet.

An object of this invention is to provide a table top for cabinets, or the like, which is formed of an integrally molded, thermo-setting plastic bonded to a sheet metal reinforcement, the plastic covering all exposed working surfaces and flanges.

Another object of this invention is to provide a top according to the preceding paragraph which is adapted to be assembled with similar or cooperating tops to form a continuous composite cabinet top.

Another object of this invention is to provide a corner top of the character heretofore described, capable of being assembled side by side with one or more cooperating tops to provide a continuous composite cabinet top.

Another object of this invention is to provide a generally flat rectangular top formed of an integrally molded, thermo-setting plastic bonded to a sheet metal reinforcement, with the plastic extending smoothly on the top surface of the top and integrally along downward flanges and upward back splasher plates or flanges.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompany-

2

ing drawings, wherein a preferred form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a view in perspective of a composite cabinet made in accordance with this invention;

Fig. 2 is an enlarged view, in perspective, of one of the sub-cabinets of Fig. 1;

Fig. 3 is a horizontal cross-section of the cabinet top shown in Fig. 2, and taken along the line 3—3 of Fig. 4;

Fig. 4 is an upward cross-sectional view of the cabinet top taken along the line 4—4 of Fig. 3;

Fig. 5 is a cross-sectional view taken along the line 5—5 of Fig. 4;

Fig. 6 is a top view of two side wall cabinets, with the top broken away to show the construction for securing the tops together;

Fig. 7 is a cross-sectional view along the lines 7—7 of Fig. 2;

Fig. 8 is a cross-sectional view taken along the lines 8—8 of Fig. 2;

Fig. 9 is a cross-sectional view of the corner cabinet top shown in Fig. 1, and taken along the lines 9—9 of Fig. 10;

Fig. 10 is an upward cross-sectional view taken along the lines 10—10 of Fig. 9;

Fig. 11 is a cross-sectional view taken along the lines 11—11 of Fig. 10;

Fig. 12 is an enlarged cross-sectional view of the front edge of the cabinet top;

Fig. 13 is an enlarged cross-sectional view of the back splasher of the cabinet top;

Fig. 14 is a cross-sectional view of the mold used in making the cabinet top; and

Fig. 15 is a cross-sectional view taken on the lines 15—15 of Fig. 14.

For example, a cabinet construction embodying features of my invention may include one or more cabinet or table tops 20 and 21. The cabinet tops 20 are primarily intended to be placed along side walls of a kitchen or the like, and the cabinet top 21 is primarily intended to be placed at the corner of a kitchen or the like. These cabinet tops are also primarily intended to be assembled side by side to produce a composite cabinet top which is attractive and is resistant to water, fats, oils, greases or the like and is tough and resilient and resistant to cutting or abrasion. The individual cabinet tops are adapted to be held and sealed together to avoid any undesirable seam between the cabinet tops.

The cabinet tops 20 preferably are of mutually similar construction and are adapted to be placed on substantially rectangular cabinets 22. The cabinet top 21 is adapted to be bridged between

3

two adjacent tops 20. These cabinets 22 or any one or more of them are adapted to be placed along the wall of a kitchen or the like. If desired, a top 20 may bridge a space between two cabinets 22 without any cabinet beneath the bridging top 20.

The tops 20 include an integrally molded thermosetting plastic body 23 bonded to a sheet steel reinforcement. The sheet steel reinforcement includes a substantially rectangular main flat portion 25, with two downwardly directed side flanges 26, a front downwardly directed flange 27, and an upwardly directed back flange 28. The back flange 28 preferably has a backwardly directed flat edge 29, if desired, with a downwardly directed bead 30. The outer surfaces of the flat portion 25 and flanges 26, 27 and 28 are covered by the plastic which provides sharp corners at 32 so that adjacent downwardly directed flanges may be secured together and provide a substantially continuous top surface which may be sealed together with cement or the like preferably of the phenol-formaldehyde resin-solvent type and thus provide a continuously sealed top surface.

The downwardly directed flanges 26 are provided with bolt-receiving openings 33 adapted to receive bolts and nuts 34 when cabinet tops are assembled side by side, thus to secure the cabinet tops firmly together. The flanges 26 are also provided with screw-receiving lugs 35 adapted to rest on inwardly directed flanges 36 of the supporting cabinet, to which the lugs 35 are secured by means of the screws 37. The plastic adjacent openings 33 preferably is made continuous, but may be opened to receive the bolts. The flanges 26 at the ends of the composite cabinet do not show the opening 33, which may be left covered with the plastic.

The downwardly directed flange 27 may have a slightly thicker portion or bead 38 of plastic to provide a liquid retaining bead at the front of the cabinet.

Reinforcing bars 39 may extend along the underside of the main flat portion 25 of the reinforcement, and may extend between the two downwardly directed flanges 26, to stiffen the cabinet top.

The cabinet top 21 may also include an integrally molded thermo-setting plastic body 21a bonded to a sheet steel reinforcement. The reinforcement may include a substantially rectangular main flat portion 40 with two downwardly directed flanges 41 at adjacent sides, and with two upwardly directed flanges 42 at opposite sides from said downwardly directed flanges 41. The under surface of the main flat portion 40 may be reinforced with reinforcing bars 43 suitably welded to the flat portion 40.

The upwardly directed flanges 42 may be provided with backwardly directed flat edges 44, each provided with a downwardly directed bead 45, if desired.

At the front corner of the cabinet top 21 the adjacent edges may be cut off to provide a diagonal corner construction which may include a downwardly directed sheet metal flange 47 welded at each end to the flanges 41. At the opposite corner, an upwardly directed flange piece 48 may be welded at 49 to the upwardly directed flanges 42 and backwardly directed flat edges 44. The outer surface of the main portion, flanges, and corner flanges, may be covered with the plastic. The corner construction (Fig. 10) may be provided with a thicker bead 50 of plastic

4

to provide a front bead which is a continuation of the bead 38 of tops 20.

Each of the tops 20 may be assembled on a construction including a substantially rectangular main body 60 made of any desired construction, such as a continuous sheet of metal folded around the sides and back of the cabinet and resting on the base 61. This main body may be provided with an inwardly directed flange 36 at its opposite top sides, to support the flanges 26 of the tops 20, as hereinbefore described. The main body may include, if desired, a top drawer 62 and front doors 63, suitably hinged at 64 to the main body. Shelving 65 may be provided, if desired.

If desired the top 21 may be secured to adjacent tops 20 by a bolt construction similar to that shown in Fig. 6. If there is only one adjacent top 20, one of the back flanges 42 may be supported by any suitable bracket construction or wall construction.

The plastic, as described in the accompanying application of Herman E. Wening, is thoroughly mixed on rubber rolls and is then preliminarily sheeted out into a layer. The sheet steel reinforcement is covered with a layer of cement, preferably a phenol-formaldehyde resin-solvent type. These are placed between molds 70 and 71. The entire assembly is then vulcanized, under pressure, for about 15 minutes at approximately 320° F. The excess material flows into and through the small grooves 72 during the vulcanizing operation. This excess material may be trimmed from the finished top.

The plastic material, while having a degree of resiliency, is very tough and resistant to mechanical destruction while simultaneously being resistant to water, fats, oils, greases, and the like, thereby making it an ideal composition for the uses herein disclosed.

A preferred recipe for the compound is as follows:

	Parts
Butadiene-acrylonitrile copolymer-----	47
Phenol-formaldehyde resin -----	23.4
Accelerator (such as hexamethylenetetramine benzothiazyl disulfide or equivalent) -	2.5
Plasticizer (mineral oil, dibutyl-phthalate or other softener) -----	2.3
Pigments (carbon black, iron oxide, titanium dioxide, etc.) -----	21.1
Stearic acid (or other fatty acid) -----	.7
Vulcanizing agent and activator (such as S and ZnO) -----	3

All of these proportions can be varied considerably and it has been found that variations in the order of plus or minus 20% each of the compounding ingredients yields satisfactory results, the feature of prime importance being that the butadiene-acrylonitrile copolymer-phenol-formaldehyde resin ratio remain approximately in the order of two to one. Obviously this can vary also within reasonable limits ($\pm 10\%$) but the approximate ratio should be maintained if a material having sufficient resiliency and toughness is desired.

While the embodiments of the present invention as herein disclosed, constitute preferred forms, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. A table top section comprising a sheet metal supporting and reinforcing structure having a flat upper supporting surface and at least one

5

straight edge, a downwardly directed securing flange at said straight edge forming substantially a right angle with said flat surface, adapting said top section to be secured to and to lie in close abutting relation with an adjacent top section, a second flange extending upwardly from another edge of said structure, and a thermo-setting plastic body molded over and secured to the entire exposed area of said flat surface and said flanges in such a manner as to form a sharp corner along said straight edge.

2. A table top section comprising a sheet metal supporting and reinforcing structure having a flat substantially rectangular supporting surface and at least two straight edges, a downwardly directed securing flange at each of said straight edges, each of said flanges forming substantially a right angle with said supporting surface, adapting said top section to be secured to and to lie in close abutting relation with an adjacent top section, and a thermo-setting plastic body molded over the entire exposed area of said supporting surface and flanges in such a manner as to form a sharp corner along each of said straight edges, said top sections thereby presenting a smooth substantially unbroken surface when secured in abutting position.

3. A table top construction comprising a sheet metal supporting and reinforcing structure consisting of a flat, substantially rectangular supporting portion, a downwardly directed securing flange at each side edge of said supporting portion, a third downwardly disposed flange at the front edge of said supporting portion and an upwardly directed flange extending along the rear edge of said supporting portion, each of said side flanges forming substantially a right angle with said supporting portion, adapting said top section to be secured to and to lie in close abutting relation with adjacent top sections, and a thermo-setting plastic body molded over the entire area of said supporting portion and flanges in such a manner as to form a sharp corner along each of said side edges, said top sections thereby present-

6

ing a smooth substantially unbroken surface when secured in abutting position.

4. A table top section comprising a sheet metal supporting and reinforcing structure consisting of a flat substantially rectangular supporting portion, a downwardly directed flange on each of two adjacent side edges, and upwardly directed flanges on the side edges disposed opposite said downwardly directed flanges, each of said downwardly directed flanges forming substantially a right angle with said supporting portion, adapting said top section to be secured to and to lie in close abutting relation with adjacent top sections, and a thermo-setting plastic body molded over substantially the entire area of said supporting portion and flanges in such a manner as to form a sharp corner along each of the edges having said downwardly directed flanges, said top sections thereby presenting a smooth substantially unbroken surface when secured in abutting position.

FRANCIS H. McCORMICK.

REFERENCES CITED

25 The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
30 1,520,518	Thompson	Dec. 23, 1924
1,914,646	Rand	June 20, 1933
1,916,435	Ott et al.	July 4, 1933
2,001,423	Horner	May 14, 1935
2,049,878	Stresino	Aug. 4, 1936
35 2,149,882	Clements	Mar. 7, 1939
2,158,467	Madsen	May 16, 1939
2,185,900	Oster	Jan. 2, 1940
2,186,530	Jones	Jan. 9, 1940
2,193,018	Batcheller	Mar. 12, 1940
40 2,256,272	Batcheller	Sept. 16, 1941
2,327,743	Rosenberg	Aug. 24, 1943
2,436,056	Prothro	Feb. 17, 1948
2,439,027	Stanitz	Apr. 6, 1948
2,485,648	Norquist	Oct. 25, 1949