Nov. 24, 1953 G. H. NORQUIST 2,660,500

TABLE TOP CONSTRUCTION

Original Filed Aug. 16, 1950 3 Sheets-Sheet 1

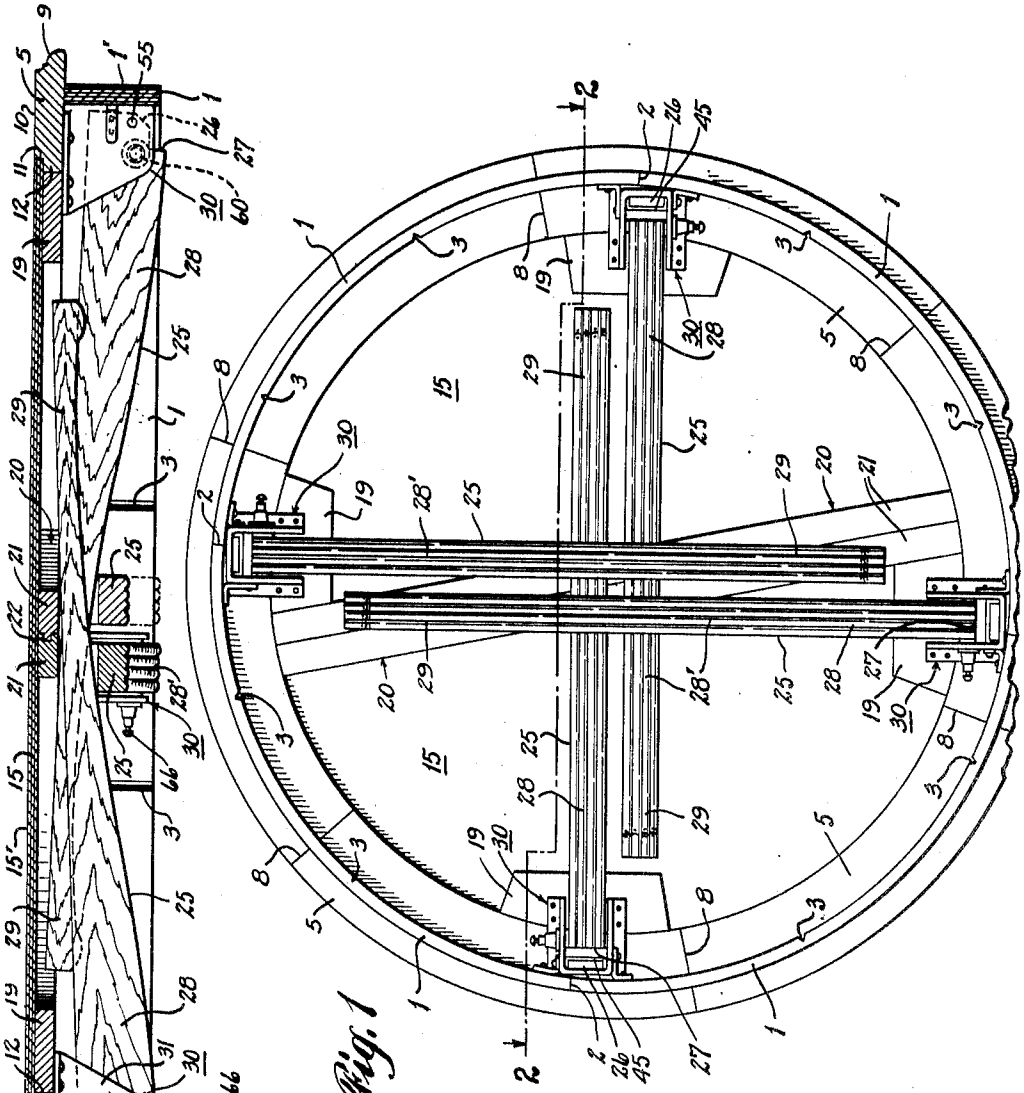


Fig. 1

Fig. 2

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Fig. 3

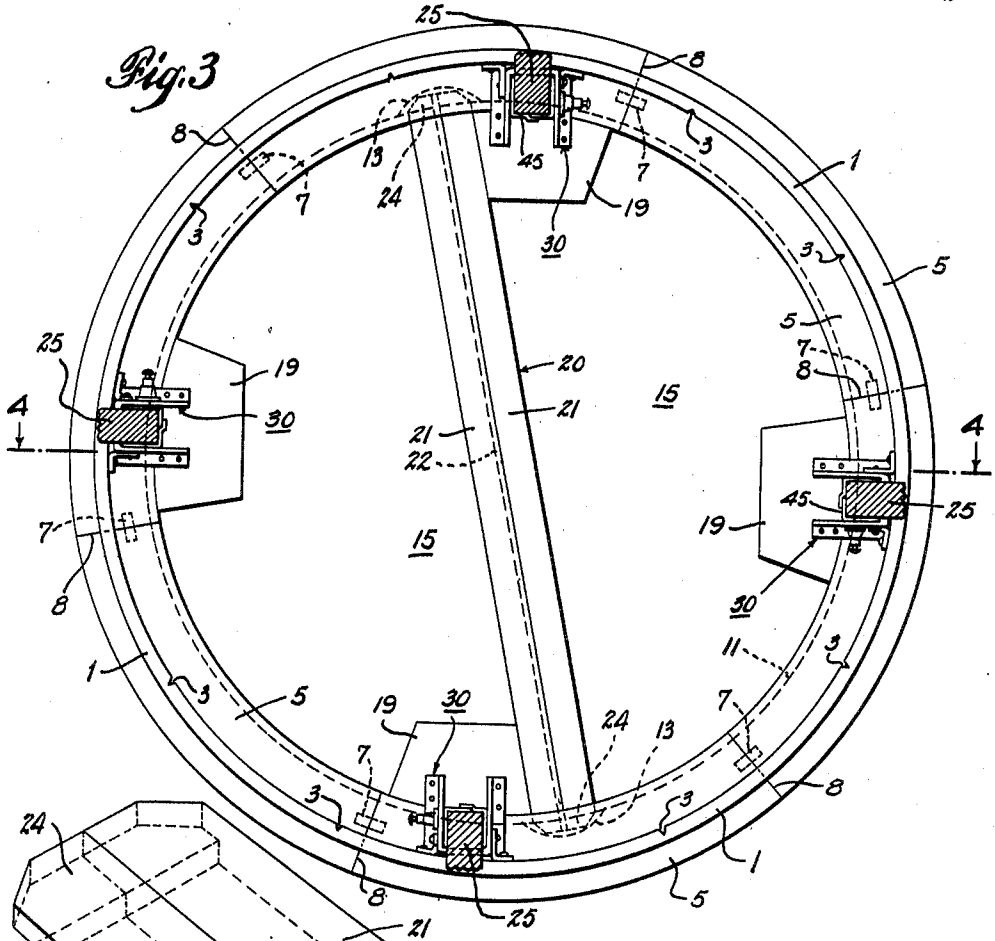


Fig. 7

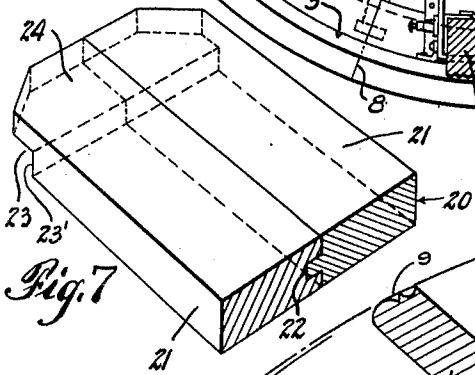
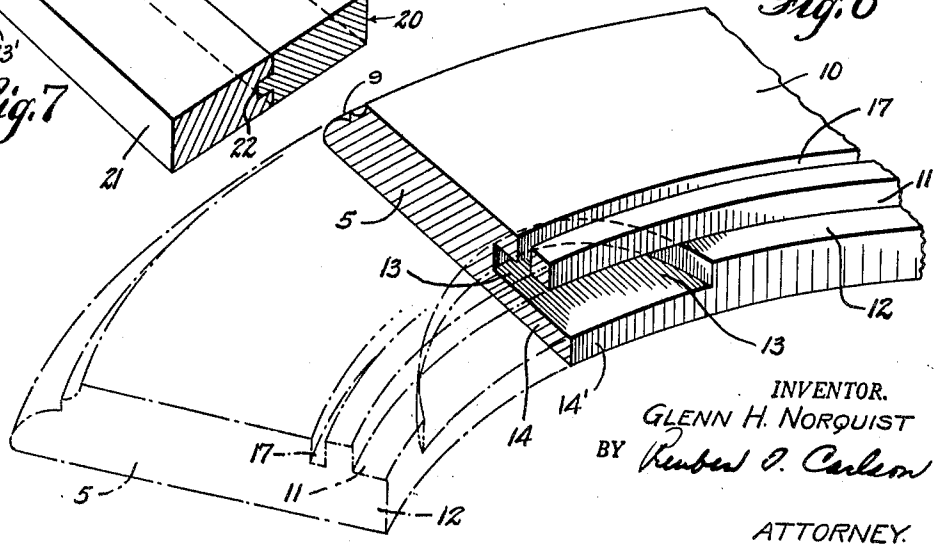


Fig. 6



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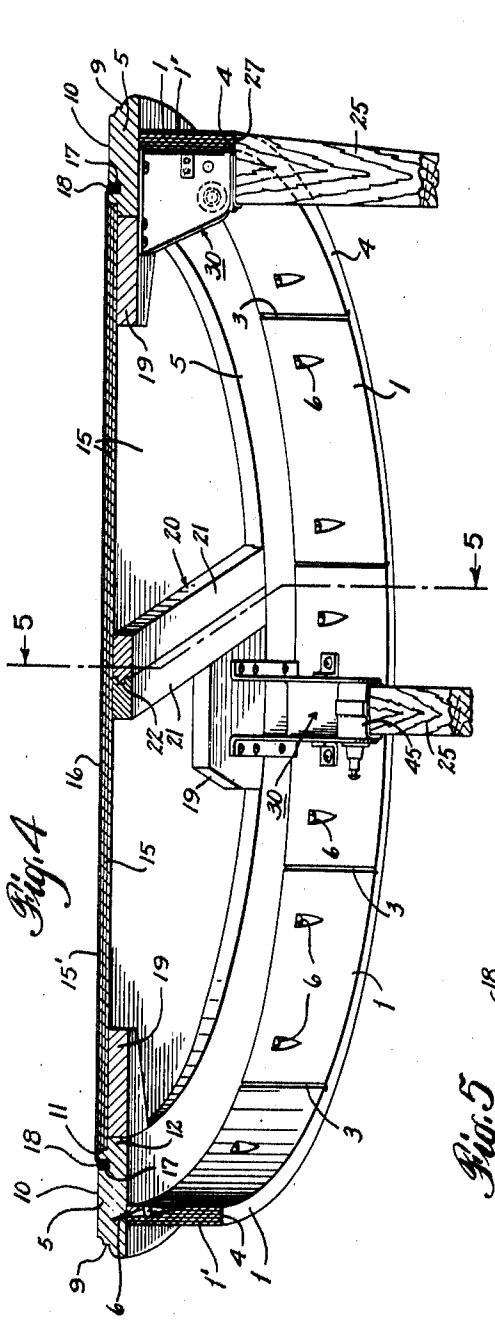


Fig. 4

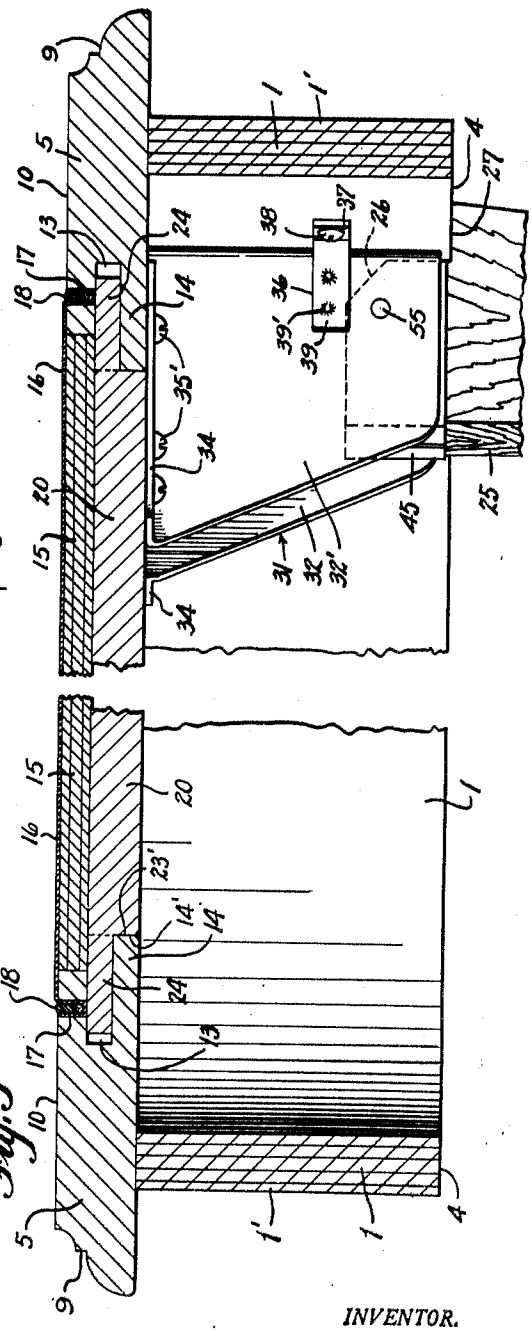


Fig. 5

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UNITED STATES PATENT OFFICE

2,660,500

TABLE TOP CONSTRUCTION

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Original application August 16, 1950, Serial No. 179,709. Divided and this application June 1, 1953, Serial No. 358,814

3 Claims. (Cl. 311—106)

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This invention relates to improvements in table top construction and more particularly to the strengthening and reinforcing of table tops having hardwood edging frames and depending apron frames of arcuate or curvilinear contour. This application is a division of my copending application Serial No. 179,709 filed August 16, 1950.

Tables having generally circular, semi-circular and elliptical shaped table top sections which depart from the rectangular have been constructed to provide a finished edging frame formed of selected hardwoods which enclose a table top panel which may be variously constructed and finished to harmonize with or provide colored contrast for the surrounding edging frame. The edging frame of such artistically shaped tables presents a table top surface which may be stained and lacquered or otherwise coated in a manner to lend an attractive and appealing appearance to the table as a whole. Such edging frames are usually made of arcuately shaped hardwood edging sections whose abutting ends may be doweled together and secured by glue to provide as far as possible substantially invisible joints. The arcuately shaped edging frame sections are so cut that the grain lines of the wood emerge along the outer side edges of the sections. The hardwood edging frame as assembled from the edging frame sections is mounted on and secured to the shape conforming apron frame which depends therefrom.

Serious difficulty is encountered, and no adequate solution has heretofore been provided, to prevent cracking or splintering of the hardwood edging frame of artistically shaped tables when subjected to hard usage or changes in temperature and humidity conditions. Such undesired cracking and splintering of the edging frame, as well as deformation of the joints between the abutting ends of the edging sections from which the edging frame is formed, is in the main caused by strains imposed on the edging frame by the artistically shaped apron frame whose upper edge is secured to the under side of the edging frame. Artistically shaped apron frames, particularly when formed from apron sections of arcuate contour, have a tendency to deform when subjected to unusual strain or to varying temperature and humidity conditions, and thus impose undesired straining on the edging frame to which the apron frame is attached which eventually may cause cracking or splintering thereof.

In accordance with this invention, table top sections of artistic shapes are constructed in a manner to prevent deformation or warping of

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any of the parts from which the table top section is constructed, and to remove the undesired strains which have heretofore caused the cracking or splintering of the edging frame when varying temperature and humidity conditions are encountered. These desired results are accomplished by the provision of reinforcing and bracing struts which insure maintenance of the table top section against deformation and warping, and by constructing the artistically shaped apron frame in a manner to prevent the imposition of cracking and splintering strains on the artistically shaped edging frame to which the apron frame is attached.

Other objects and advantages of this invention will become apparent as the disclosure proceeds.

Although the characteristic features of this invention will be particularly pointed out in the claims, the invention itself, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof, in which

Fig. 1 is a plan view of this improved table top construction as it appears when looking at the under face thereof, the table top here shown having table legs which fold across the center section of the table top;

Fig. 2 is a cross sectional view of the table top as the same would appear when viewed along line 2—2 of Fig. 1, this view also showing the manner in which the table legs may be folded within the apron frame of the table top;

Fig. 3 is another plan view of the table top as viewed from the under side thereof, this view showing further details of the table top bracing strut;

Fig. 4 is a vertical cross sectional view of a table top with the table legs in erected position as the same would appear when viewed along line 4—4 of Fig. 3, this view showing approximately a half section of the table top in perspective to illustrate further structural details thereof;

Fig. 5 is another vertical cross sectional view of the table top as the same would appear when viewed along line 5—5 of Fig. 4;

Fig. 6 is a fragmentary perspective view of an arcuate section of the table top edging frame as grooved and formed to receive and support the end portion of the bracing strut which extends substantially diametrically across the underside of the table top; and

Fig. 7 is a perspective view of one end portion of the bracing strut.

Similar reference characters refer to similar

parts throughout the several views of the drawings and the specification.

While this invention is generally applicable to the construction of tables whose table tops assume various artistic shapes other than rectangular, such as table tops which are semi-elliptical or circular in shape, the accompanying drawings illustrate this invention as applied to tables having a generally round table top whose legs may be folded across the center section thereof.

The table top as illustrated in Figs. 1 to 5 inclusive of the drawings is constructed to provide a depending apron frame 1 which may be formed from a series of arcuate sections whose abutting ends may be secured together by dowels 7 and glued to provide substantially invisible joints 2 therebetween. The apron sections may be formed from laminated plywood to present an outer finished face 1' formed from a selected hardwood veneer. A table top edging frame 5 caps the apron frame 1 and may be secured thereto by a series of spaced screws 6 as shown more particularly in Fig. 4. The edging frame 5 may be formed from arcuate sections of selected hardwood whose abutting ends are secured together by dowel pins 7 and additionally glued to provide substantially invisible joints 8. The edging frame 5 may have an artistically shaped outer edge 9 and the top face 10 thereof may be stained and lacquered or otherwise painted to provide a finished surface.

The interior area of the edging frame 5 is closed by a top panel 15 whose peripheral edge fits within a continuous groove 11 cut into the inner edge of the edging frame 5 and is glued to and supported by an underslung shelf portion 12 formed as a part of the inner edge of the edging frame 5. The table top panel 15 as shown in Fig. 2 may present a finished top surface of selected hardwood veneer 15' which may be stained and lacquered or otherwise coated to harmonize with the finished surface 10 of the edging frame 5, so that the top face 10 of the edging frame and the finished surface 15' of the table top panel 15 present an overall table top surface of finished and attractive appearance. Alternatively, the table top panel 15 as shown in Figs. 4 and 5 may present an unfinished top surface since it is covered by a flexible covering sheet 16 whose peripheral edge portion is pressed into a receiving groove 17 cut into the upper face 10 of the edging frame 5 and retained therein by a decorative spline 18 which also serves to close the mouth of the groove 17.

Table tops of artistic shapes constructed in accordance with this invention are provided with adequate bracing to strengthen the same and provide the necessary rigidity to the table top. As shown in Figs. 3, 6 and 7, the necessary bracing may be provided by one or more bracing struts 20 which extend across the under face of the table top panel 15 and have the ends thereof secured to the surrounding edging frame 5. The bracing strut 20 as illustrated in Figs. 3 and 7 comprises a pair of wood members 21 whose adjacent side edges are joined by a dovetailing groove and spline providing a dovetailed joint 22 which gives the bracing strut the desired flexibility. Each end portion of the bracing strut 20 is notched out as at 23 to provide an overhanging tongue portion 24 shaped to fit within a conforming socket 13 cut into the inner edge of the edging frame 5 which defines an underslung shelf portion 14 to which the tongue portion 24 of the bracing strut 20 is glued and secured. The notch

23 in the end of the bracing strut 20 defines a vertical shoulder 23' which is fitted in abutting relation to the adjacent inner edge 14' of the shelf portion 14 of the edging frame 5 as shown in Fig. 5. One or more bracing struts extending across the under face of the table top panel 15 may be provided to insure adequate strength, rigidity and permanence to the table top construction.

In the construction of table tops presenting an apron frame 1 formed of arcuate shaped sections secured to the arcuate shaped sections of the table top edging frame 5, cracking or splintering of the arcuate sections of the edging frame 5 often results because of the tendency of the arcuate shaped apron sections to deform or partially flatten out or otherwise depart from their original and intended arcuate shape. Such desired formation of the arcuate sections forming the apron frame 5 may be induced by shock, or changes in temperature or humidity conditions, or as a result of further drying or aging of the hardwoods from which the table top edging frame 5 is formed.

Cracking and splintering of the arcuate apron sections forming the edging frame 5 may be avoided by providing a series of spaced saw cuts 3 which extend transversely across the inside face of the arcuate shaped apron sections, as indicated in Figs. 1, 3 and 4. The saw cuts 3 may be approximately $\frac{1}{16}$ to $\frac{3}{16}$ of an inch deep depending upon the thickness of the apron frame sections. The saw cuts 3 are spaced apart a distance of approximately only three inches where the apron section is sharply curved, to a distance of twelve inches or more where the apron sections have a gentle arcuate curvature. By thus transversely severing the fibers on the inner face of the apron sections by a sufficient number of saw cuts 3 extending transversely thereacross, it has been found that cracking and splintering of the hardwood edging frame 5 can be avoided, and thereby lasting permanence given to arcuately shaped table tops.

This improved table top construction may be provided with fixed table legs or table legs 25 which are foldably secured to the table top section by leg hinging assemblies 30 which permit folding of the table legs within the apron frame 1 and across the center section to the table top panel 15 as shown in Figs. 1 and 2. Each folding table leg 25 may present an upper end portion 26 to which a leg collar 45 is fixedly secured. Each leg may also present an outwardly extending shoulder 27 directly below the end portion 26, the shoulder 27 being so shaped and formed as to extend under and substantially abut the lower edge 4 of the apron frame 1 when the leg is in erected position as indicated in Fig. 4. The lower half portion 29 of each leg may be made of lesser width than the upper half portion 28 thereof, to thereby facilitate more compact nesting of the crossing legs when in folded position as indicated in Fig. 2. The legs may otherwise be attractively shaped in numerous designs, types and patterns, and each leg may have its outer face 28' artistically contoured.

Each leg hinging assembly 30 as shown in Figs. 4 and 5 may comprise a U-shaped hinge bracket 31 stamped from a flat metal plate and presenting a pair of parallel extending leg portions 32 and 32' having outwardly flared flange portions 34 designed to abut against the inside face of the edging frame 5. To further strengthen the construction, the flange portions 34 may also seat

against a stiffening block 19 secured to the inside face of the table top panel 15 as shown in Figs. 1 and 3, with screws 35' securing the flange portions 34 to the under face of the edging frame 5 and the stiffening block 19. Each hinge bracket 31 may also be secured to the inside face of the apron frame 1 by angle shaped clips 36 as shown in Figs. 4 and 5 having one arm 37 thereof abutting against and secured by a screw 38 to the inside face of the apron frame 1 and the other arm 39 thereof secured as by spot welds 39' to the adjacent leg portion of the hinge bracket 31. The upper end portion 26 of each leg may be pivotally connected to the hinge bracket 31 by a pivot bolt 55, and a latch bolt 60 manipulated by a push pin 66 may be provided for releasably locking the leg in erected position.

The improved features of construction of artistically shaped table top sections made in accordance with this invention have adequate strength and are braced and reinforced to prevent warping or deformation, even though subjected to severe usage and varying temperature and humidity conditions. The table top sections may thus be provided with decorative edging frames formed from arcuate shaped sections of selected hardwoods with the assurance that the arcuate edging sections will not warp, crack or splinter, but retain their intended attractive and finished appearance through a lifetime of use.

While certain novel features of the invention have been disclosed herein, and are pointed out in the claims, it will be understood that various omissions, substitutions, and changes may be made by those skilled in the art without departing from the spirit of this invention.

What is claimed is:

1. A table top construction including in combination, a continuous edging frame formed from arcuate shaped sections of selected hardwood having the wood fibres extending longitudinally thereof and presenting substantially flat top and bottom faces and generally arcuate shaped inner and outer edges, an apron frame formed from normally straight sections of selected wood of substantially uniform thickness which have been steamed and pressure bowed into arcuate form to present vertically extending inner and outer faces of arcuate contour and a flat horizontal top edge, and means for fixedly securing the top horizontal edge of each of said arcuately bowed apron sections to the under face of said edging frame with the apron frame in rigidly fixed depending relation thereto, said arcuate apron sections having the inner surface fibres thereof only severed by a plurality of transversely spaced shallow cuts to thereby maintain the arcuate apron sections against re-straightening deformation and relieve the edging frame of rupturing strains.

2. A table top construction including in combination, a continuous edging frame formed from connected arcuate shaped sections of selected hardwood having a continuous upwardly facing groove defining an inwardly extending shelf portion therebelow and terminating in an inner edge, a top panel having a peripheral edge portion thereof seated within said groove and on said shelf portion and presenting a top face substantially flush with the top face of said edging frame, and a reinforcing strut for bracing and stiffening said edging frame extending across the the underside of said top panel and seating thereagainst to provide support therefor, each end of said bracing strut having a vertical shoulder fitted in abutting relation to the adjacent inner edge of the shelf portion of said edging frame and a projecting tongue portion thereabove seated within a conforming socket formed in the upper surface of the shelf portion of the edging frame.

3. A table top construction including in combination, a continuous edging frame formed from connected arcuate shaped sections of selected hardwood having a continuous upwardly facing groove defining an inwardly extending shelf portion therebelow and terminating in an inner edge, a top panel having a peripheral edge portion seated within said groove and on said shelf portion and presenting a top face substantially flush with the top face of said edging frame, a reinforcing strut for bracing and stiffening said edging frame extending across the under side of said top panel and seating thereagainst to provide support therefor, each end of said bracing strut having a vertical shoulder fitted in abutting relation to the adjacent inner edge of the shelf portion of said edging frame and a projecting tongue portion thereabove seated within a conforming socket formed in the upper surface of the shelf portion of the edging frame, an apron frame formed from normally straight sections of selected wood of substantially uniform thickness which have been steamed and pressure bowed into arcuate form to present vertically extending inner and outer faces of arcuate contour and a flat horizontal top edge, and means for fixedly securing the top horizontal edge of each of said arcuately bowed apron sections to the under face of said edging frame with the apron frame in rigidly fixed depending relation thereto, said arcuate apron sections having the inner surface fibres thereof only severed by a plurality of transversely spaced shallow cuts to thereby maintain the arcuate apron sections against re-straightening deformation and relieve the edging frame from rupturing strains.

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