

Design Yourself a Coffee Table

In architecture as in all other operative arts, the end must direct the operation. The end is to build well. Well building hath three conditions. Commodity, Firmness and Delight. Sir Henry Wotton 1568—1619.

It seems to be a common belief that the ability to design is something that has to be inborn.

What will surely be inborn in GW readers will be the desire to create. The difficulties involved in learning some of the techniques of craftsmanship will be enough to fill some horizons, but we suggest that many of those who have a creative desire also have the ability to construct, at the very least, a straightforward design that will be an expression of their own personality.

What is a coffee table? Is it an armchair-friendly surface that supports our gracious/ungracious living, mugs, cups, wine/beer glasses, stocking/slipped feet and maybe the jean-clad bums of teenagers? Or is it a place for newspapers/books being read, guest-impressing books of luscious photographs? Or the lot?

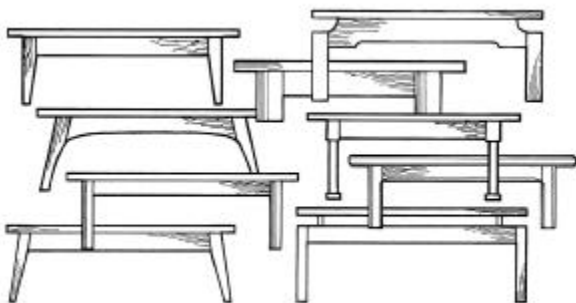
Just how it is designed should depend on your lifestyle, but for



the more gracious amongst us, the functional requirements of a coffee table are so few that, as one of our photos shows, almost anything that is strong enough to support a horizontal surface can go underneath.

Good writing and speaking and good designing have parallel needs for an appropriate and varied vocabulary. Perhaps you will have formed a designer's vocabulary as you have read magazines and looked around museums, surfed the net or even when shopping in furniture stores. Perhaps you've assembled a scrapbook of cuttings and sketches?

Within the limitation of avail-



Having decided the overall sizes, use the 'Leg/rail ideas' to construct, to a scale of about one tenth full size, as many elevations as seem appealing.

able space, I'm presently offering a somewhat restricted vocabulary that can be used to build up a four-legged fairly straightforward family-friendly design.

A Basic Strategy

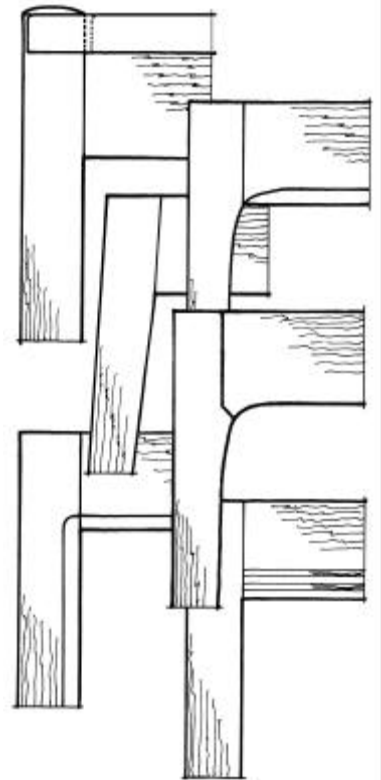
- In my view, only the most experienced can successfully produce a design 'off the cuff', so I suggest that you to do the following.
- Read and reflect upon the entire article .
- Do a functional audit. Look at the sizes and heights of your easy chairs/settees and work out the area needed say for a tray and a number of coffee cups. Consider the table's size in relation to the available space, room decoration and other furnishings, and so on.
- Undertake a personal audit, considering available materials,



'Almost anything can support a coffee table top'.

workshop resources, personal skills, likely cost and so on.

- Draw to a scale of one-tenth full size, a rectangle in which you can draw an elevation.
- Taking a few sheets of tracing paper, and using the detail sketches as starting points, make a series of elevations each using an underframe that looks promising.
- Having settled on one or two possibilities, try varying these drawings, for example by experi-



Leg/Rail Ideas

Top: The round leg (also possibly octagonal) extends to about the level of the top. This means that the tenon needs no haunch. The top's corner surrounds the end of the leg.

Top right: A stopped chamfer flowing into a shaped leg.

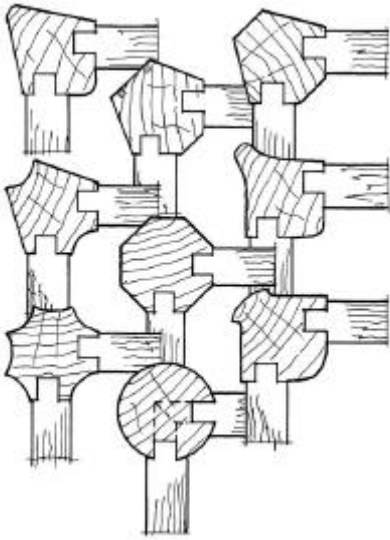
Middle right: You will need a 'gunstock' shouldered tenon to avoid short grain on the underside of the rail.

Left, above: A routed cavetto moulding flowing round the corner. You will see end-grain in the corners.

Right, above: Try contrasting inlaid lines or a scratched reed.

menting with leg cross-sections and rail widths. Bear in mind that when you look down on the finished job, the perspective will make legs appear shorter and rails appear narrower than your drawing suggests.

- Try some variations such as using mouldings instead of chamfers.
- Once you have slept on it for a few nights, make a final scale



Some of these sections can be made with a bench plane, yet others will need a moulding plane, machine router or a lathe.

drawing that helps you to work out joint details, splay angles and so on. Squared paper can be helpful to people who lack drawing tools.

• I could also suggest making a coloured and shaded perspective drawing or a scale model. There's nothing like such exercises for confidence-building by making one think about the fine details of the job. (You will probably still find that you want to make changes as you see the project develop on the bench top).

• Consult the domestic authorities. Deploy your arguments for buying that new tool that you just must have to do the job!

• Draw up a cutting list, including extra material for practice pieces. Check it three times — and dare I say it, allow extra for disasters.

Legs

Their visual qualities will be enhanced by forming some surfaces that offer highlights and shadows formed by the intersection of surfaces, narrow edges or rounded forms having the greatest effect.

For convenience I've drawn legs of fairly near minimum cross-section, but please remember that there is scope for changing the proportions, ranging from slender and elegant to stout and sturdy.

For less-radical enhancements the ar-rises of a rectangular leg could be softened by rounding, chamfering or forming a fairly delicate moulding. These will add highlights that give a bit of sparkle to your design.

I once made an experimental Windsor

chair and got the leg angles wrong to the extent that they projected a little beyond the plan view of the seat. These legs were being constantly kicked as we passed this chair. We eventually became so exasperated the darned thing was chopped up. Bear this in mind if considering angled legs for your design.

A woodturner with bench skills, might prefer to follow convention in leaving the mortised and tenoned region square in section and indulge their design skills on the lower parts. However, I've shown how rails can be tenoned into a completely cylindrical leg. One of the elevations suggests that restraint in this respect can be quite effective.

Underframes

Having thought about the legs, turn your mind to the rails and any shaping/embellishment thereto, though be aware of going over the top and trying too many features on one design.

I've sketched the three haunched

Options you could also consider:

- Curving the legs, but make sure they don't jut beyond the area of the top..
- Inlaying a stringing into the legs.
- Inlaying a contrasting stringing parallel to the sides of the top.
- Using two slightly-separated narrow rails in place of a wider one.
- Curving the sides of the top. This could mean curving the rails as well.

mortise and tenon joints likely to be needed, depending on the leg cross section you adopt.

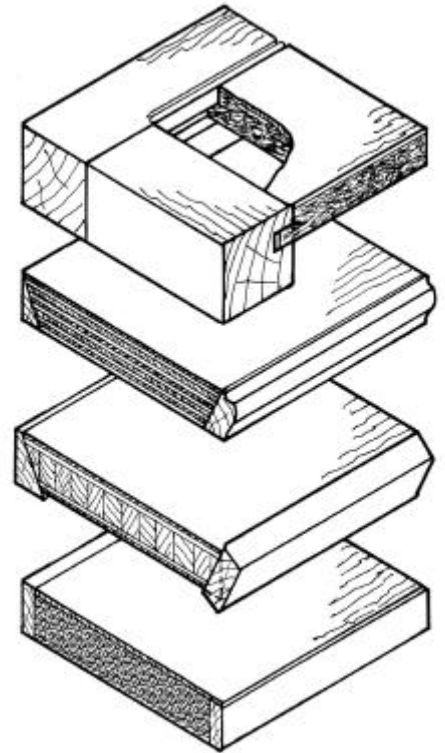
If the haunch's width looks a bit wrong to you, it might be because I've deliberately shown the tenons as being rather more than the commonly-recommended one-third of the rail's thickness.

Where the tenons meet inside the leg, you can make them a bit longer by off-setting the tenon.

If you fancy a flowing curve between the rail's underside and the leg, I think you will need to make the rail's face flush with the face of the leg. Otherwise, much agony (ie in trying not to plane across the grain) when cleaning up can be avoided by slightly insetting the rail. This also means that you can polish the rail before gluing up.

Tops

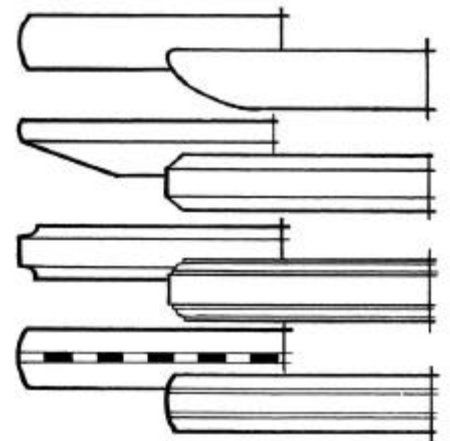
Tidy souls, whose table tops are always uncluttered, might value the enchantment of a highly-figured top. If you



For a chunky look, try a framed top. Well-matched lippings will give you an apparently solid top. The lower-right version is the most easily damaged.

should have a prized board just waiting for this kind of job (or are willing to pay the earth for one), count your luck. It will probably have rather gnarly grain so you will need to a good sharpener and have a very fine-mouthed plane if you are to avoid tearout. Maybe you'll need a scraper as well.

Alternatively you could decide to lay a highly-figured veneer on a good quality ground such as plywood, laminboard or the up-to-date and readily-obtainable



A few options for enhancing the edges of a table top.

Hints & Tips

Keep all your offcuts, you never know when you'll need an exactly matching patch to correct a mistake.

Veneering The Top

If you are discouraged by the thought of needing a press or a veneering hammer and hot glue, veneering by means of a suitable contact adhesive and a slip sheet can be very effective. You do have to carefully follow the instructions when applying the adhesive.

Gunstock Shouldered Joint

- Mark and make the mitre before shaping the rail.
- Shape the leg and rough shape the rail, but beware of the short grain.
- Finally spokeshave the curve once the two parts are safely glued together.

Fixing The Top

Whether it is of solid wood or man-made board, it will probably be convenient to use buttons that fit into mortises in the inside faces of the rails. Unless the top is quite thick, there is a risk of the screw ends peeping through the surface. Work out the button thickness and mortise locations so that you can safely use standard length/readily-obtainable screws.

MDF. Of course you will have to cover the raw edges, so I've added details suggesting a choice of lippings. For a thicker top, and one having only point support, there are details for a framed and panelled top. Untidy folk could use less-spectacular ready-veneered MDF or chipboard though I'd recommend a lipping that somewhat increases the apparent thickness of some sheets. Thick sheets of MDF can be rather too heavy for the job.

I've seen quite a few coffee table designs, each elegant and admirable in many ways but having tops whose ends greatly overhang the support. Please remember the safety of toddlers supporting themselves while working their way round a room, innocent visitors seeking a temporary seat or even householders wanting a step to reach the top shelf of the bookshelves.

The more overhang you have at the sides, by the way, the less visible will be the rails and upper parts of the legs.

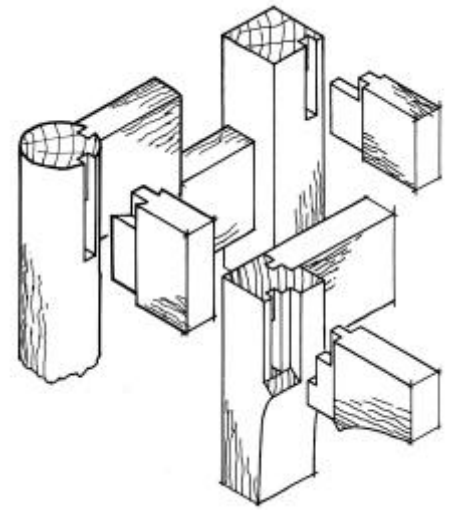
Finishes

Unless your family is teetotal and/or so disciplined that you always use coasters, I suggest that you use drink-friendly

polishes. Whatever some alcoholic drinks might do to your innards, some will certainly attack French polish. Also, contact with hot vessels is very likely to cause difficult-to-remove white rings. While some GWers might enjoy the ritual involved in french polishing, plenty of time and a warm and dust-free workshop are pretty vital for success. A brush-on lacquer, similar perhaps to Rustin's Plastic Coating, would be easier to apply and be likely to withstand abuse.

On the other hand, while it will not withstand much ill-treatment, a beeswax/white spirit based polish is easy to apply. It can be easily renewable with a bit of elbow grease.

In other words, do please take care about the choice of finish; I've seen too many excellent pieces ruined by unsuccessfully-applied finishes.



Top right: To create an interesting under-frame, you could try lowering one pair of rails.

Lower right: To make a curve that flows from the rail to the leg, you will need a 'gunstock shouldered' mortise and tenon.

Left: The shoulders need to be undercut to fit the curved surface.

Jargon Busting

Haunch: A haunched tenon usually fits in the corner of a frame and has the uppermost third removed.

Chamfer: A bevel, usually but not necessarily at 45deg, used to soften an arris.

Arriis: The sharp edge formed at the intersection of two flat surfaces.

Short grain: Areas whose fibres are too short to offer adequate internal coherence.

Scratched: Refers to features formed by a scraping tool mounded in a fenced block known as a scratchstock.

A Fence: In this context, a guide fitted to a device or machine.

Plan view: The view from directly above something.

Veneering hammer: A device for squeezing hot glue from between the veneer and the ground.

Gnarly grain: Grain from hell, in other words intertwined wild grain likely to tear out in lumps when planed.

MDF: Medium Density Fibreboard, a very sound man-made material suitable as a ground for veneer.

Coping with Gnarly Grain.

Be my guest at www.amgron.clara.net and open 'Planing Notes'.

Mortising

For some help with mortising, also go to 'Mortising By Hand'.

Squared Paper

Print your own by courtesy of www.incompetech.com/beta/plainGraphPaper

Rustins Plastic Coating

www.rustins.co.uk