Design Yourself a … Table with a drawer.

Small table by Ernest Gimson (1864—1919) —Photo by courtesy of the Leicestershire Museums and Galleries.

Location, location, location! Keywords for success in many ventures, but also important to a designer. Will your intended table sit in the hallway, underneath a mirror, supporting a telephone; with a drawer for the directory, your gloves and a clothes brush?

Or in a more social area, to display your prized pottery, sculpture or latest floral arrangement?

Or somewhere convenient for jotting a quick note or writing a cheque. Would it be somewhere to stuff those papers you are surely going to deal with someday?

Once you've settled on this, you'll have made the first step in designing (*Identify the Need*, in designer-speak) and be ready to apply this straightforward 'design line':

Fix Principal Dimensions

This should not offer much of a problem if its length and breadth are limited by the dimensions of your hallway. For a small desk, a trial with whatever you are currently using should help you to fix the height.

Consider what depth your drawers will need to be, and how many are ideally desirable.

Make A Tentative Drawing

From these three dimensions, use squared paper to draw to a one-tenth scale a rectangle representing the bare outline of a frontal elevation.

Add bare outlines for the legs and represent the drawer fronts. If the table is likely to be moved frequently, or is prone to frequently attacking the Hoover, stretcher rails would be advisable. They can also offer additional display area (or be tempting dumping-grounds for briefcases and suchlike).

Have a good look through the accompanying constructional details and try combining various legs with tops (either inset or overhanging). Use a fresh piece of tracing paper to try such compositions that appeal.

Please bear in mind that the leg profiles, for example, are just starting points, varying their dimensions, making curves stronger (or more subtle) and moving the origins of the profile changes will extend the range of options. Once you get the hang of it, you'll soon find yourself generating your own ideas.

Evidently, some features harmonise better than others, but what you do will depend on your own commonsense and aesthetic judgement. I hope that my eight possibilities might set a reasonably good example.

If all goes well, you could find yourself with an armful of drawings and a feeling of bafflement with the range of options. The next stage might illuminate your visions with the cold light of day that helps to clarify the issue .

Audit Resources

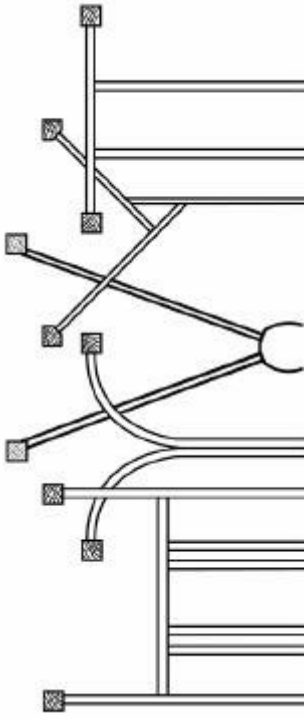
I'm told that circulating round some coffee mornings is advice that says 'Never marry a woodworker! It takes them far, far too long to make whatever they claim

can be made better and cheaper'.

Granting that there might just possibly be a tiny element of truth in this, it might be the time to consider, for example, whether having five drawers was such a good idea after all.

Knowing the time available and your present skill-level, should you decide to tackle the no-compromise construction? Maybe it would be better to settle for grooved drawer sides working with wooden guides or ball-bearing runners?

I've suggested a variety of leg cross-sections. Some can be easily formed with standard bench planes, yet others will need more experience applied to rebate (or shoulder) planes and/or hollow planes (or machine routers) and some will evidently take more time in the making than others. By the way, don't forget to allow time for making practice pieces!



A tangle of stretcher ideas to get you started.

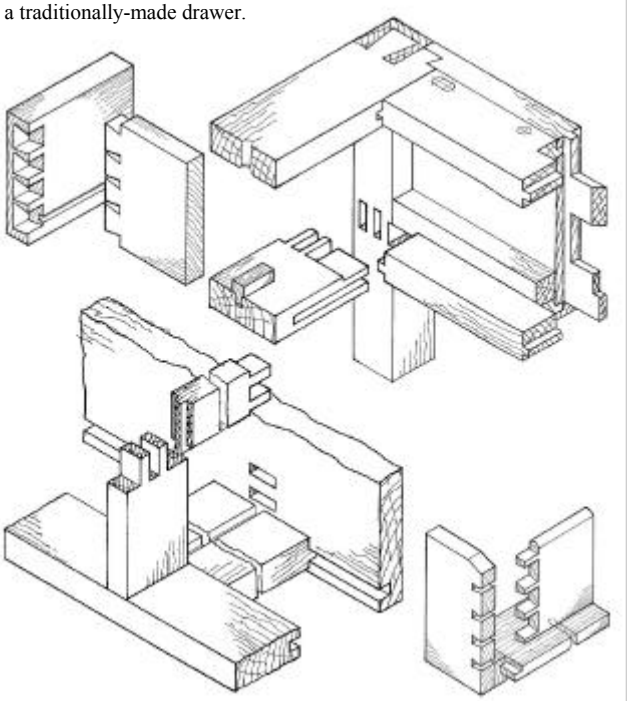
You might need to assess the tools you need for the job, name the new ones you absolutely must have to do the job and rehearse the arguments justifying their cost. Shoulder planes are extremely useful for trimming the shoulders of the wide side and back rails, and for rebating.

Consider the Aesthetics

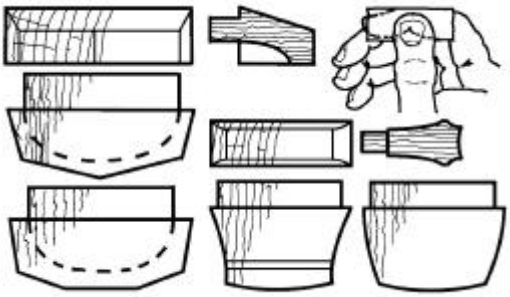
Looking through your collection of scaled sketches, consider how well legs, drawer front, stretcher rails and top thickness relate to each other. Perhaps a drawer depth might need to be sacrificed for the sake of appearance? Maybe the stretcher rails are a bit too wide? Or are they set too high or too low? Is this the time to consult the domestic arbiter?

As design features, the drawer pulls (if you include them) are so visually compelling that they can make or mar any design.

A no-compromise construction for a traditionally-made drawer.



Naturally, you have the choice between saving time by using purchased fittings or making your own.



Determine sizes by matching the pulls to the hands of the users.

Looking round the stores and catalogues, I reckon that, at a reasonable cost, you will find difficulty in getting something that is not a mass-produced 'antique' fitting or a representation of a more-recent design style.

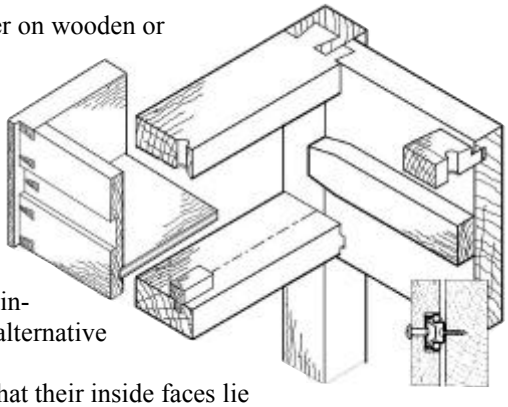
I think that if you have got so far into an article about doing your own thing, you might not want any blatant antique or other associations, so I would earnestly suggest that you consider allocating some time to making your own pulls. Now you can use those offcuts of walnut, ebony (or other dense hardwoods) kept in the box labelled 'Too small to be of any use'. Of course, if you have basic metalworking skills, simple ring pulls or drop pulls should offer nice challenges and a change of material.

One possible resort, depending on suitability for your design, is to settle for one of the readily-available turned beech knobs. They should nicely take a dark stain?

On the other hand you could completely avoid pulls and knobs by modifying the drawer fronts so that they offer a finger-hold. Think about designing them to project below the bearer rails.

An Alternative Drawer Construction

This is a suggestion is for a drawer that runs either on wooden or ball-bearing guides. Since such drawers are not likely to be heavily laden, plain wooden guides should last a long time providing that they are made in a good hardwood (oak or beech perhaps). The metal versions will glide open at the touch of a finger.



The lap dovetail joints are modified to cover the small gap that will be unavoidable with metal runners. When closed such a drawer can be indistinguishable from conventional drawers, unlike the alternative 'planted-on' fronts.

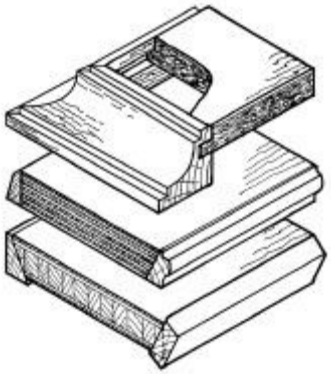
Note that the side rails need to be arranged so that their inside faces lie flush with the inside faces of the legs. The inset drawing shown a cross-section of a 'Grooved' version of a drawer slide.

Consider Construction

Note how the drawer's lateral guide (striker) is rebated into the bearer rail to ensure accurate location during the anxiety-ridden stage of gluing-up.

For clarity, the divider arrangements are shown topless, i.e. without the kicker rails.

Design and make the drawer stops slightly oversize so that the final fitting can be minutely adjusted



Top: A thick lipping that on which you can form a bold cavetto moulding**.**
Centre: On the left a bevelled and chamfered edge also suitable also for an inset top. On the right, a neat moulding for your router or hollowing plane.
Bottom: Two stages in producing an almost invisible lipping.

with a shoulder plane.

Stretcher practicalities

The rails can be fitted to the legs with common tenons (incorporate four shoulders) but it could be pleasant to join the intermediates to the principals with a pair of wedged twin tenons.

If you are thinking of a writing table the triangular version is suitable. The long rail can be set backwards to allow room for the writer's legs.

Curved stretchers are offered to the GWers who fancy trying their hand at some laminated work.

For readers tempted to incorporate diagonal stretchers, I'm suggesting that they are designed to meet in a nicely shaped central block, rather than trying the tricky (and weak) common cross halving joint.

Rising stretchers will need to be shaped to keep short grain to the minimum possible. If you fancy a central decorative spike as a vertical feature, so much the better perhaps!

Stretchers incorporating shelf panels could offer an ideal support for those works of art that look their best when viewed from above.

Tops

Your cutting list will include sufficient natural board material that can be rub-jointed to make the top, or you might feel the need to use veneered manufactured boards. For the latter, you have the option , of course to veneer it yourself or to use a ready-veneered product. In the latter case, it could be wise to first select your prepared board and then try to colour match the solid wood to this. Very likely you'll only find a fairly bland grain pattern, but only you will know whether this matters or not.

Should you decide on solid wood, I suggest that you ignore often-printed suggestions that the segments be joined with the heart sides alternatively upwards and downwards. There are plenty of arguments about this topic, but if you do this you will find yourself having to plane strips whose grains alternate

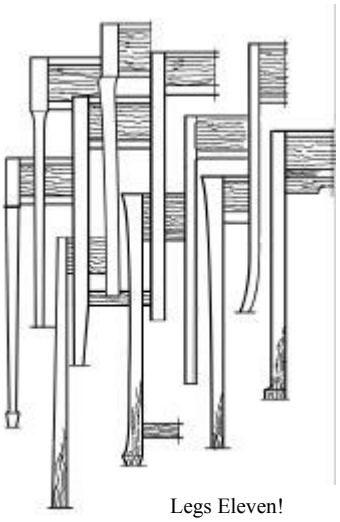
in direction. Appearance should be your guide—just match the pieces in the way that promises to look the best.

Where an overhanging top appeals, I think that unless you want to make a very-obviously framed top, solid wood will be pretty essential.

Manufactured boards have many advantages, but their edges do need to be concealed with a wooden lipping.

Drawer Fronts

Solid fronts having highly-figured grain can, of course make a strong impact and stand alone as the principal feature of your table.



Legs Eleven!

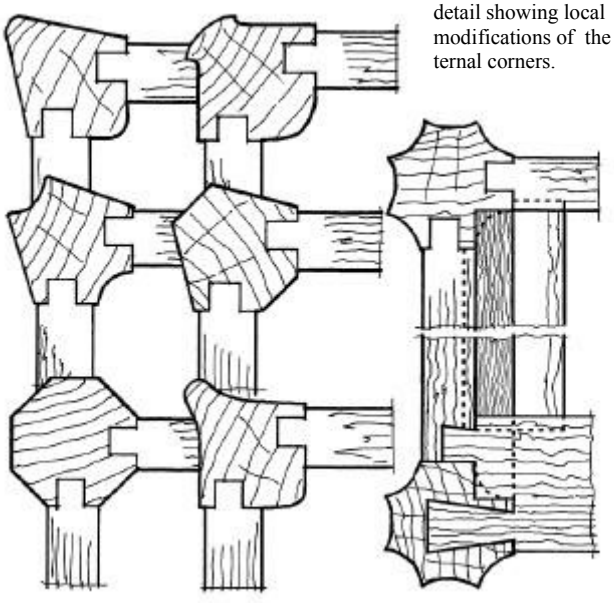
(Highly-figured legs, top and drawer fronts all combined could go a bit over-the-top perhaps?)

Bear in mind that some forms of figure can involve rather wild and short, grain that could cause horrendous problems while cutting the lap dovetails.

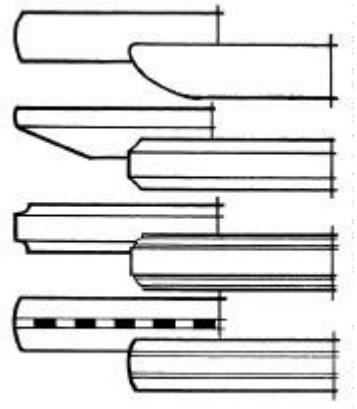
This is where veneer scores. You can lay very attractive grain on a mild-working ground. Whether you choose to create a book-matched, or quartered pattern could depend on the number of drawers and how you think such patterns would appear if laid side-to-side.

Use a cocked bead to protect the edges of the veneer. GW 112:73 offers a sketch that gives details of this tricky little job.

The GWer with a machine router can make light work of the doubly-fielded front,



Several leg sections and a detail showing local modifications of the internal corners.



A few edge treatments.

though a plane might be needed to clean off any machining marks.

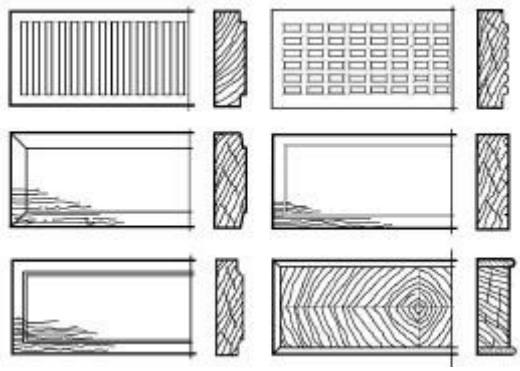
A bevelled fielding offers wide highlights. This is a situation where a few passes of the shoulder or rebate plane will do a job that could involve a lot of fiddly setting up of a router table. I suggest that a fielded bevel will give a much crisper effect than a plain bevel.

I've indulged myself with a couple of suggestions for surface enhancements that, using a radius cutter, can be formed quite readily on a router table.

Finishes

Bearing in mind the likelihood of accidents with floral displays, a water-resistant finish will be desirable both on the top and for the rest of the structure. (Don't ask me how I know)! When subject to moisture for any period of time, French polish is notorious for forming white patches. Rustins Plastic coating is just one example of an easy-to-apply water-resistant product.

Alternatively; though wax polishes will not withstand much damp, they are easily repaired. Using wax, novice workers stand less risk of ruining the job through inexpertly-applied fluids.



Top: Fluted and chequered patterning created by the router. **Middle:** Fronts, bevelled and fielded and double-fielded. **Bottom:** Inlaid line and quartered veneer.

Jargon Busting

Bearer: the rail on which the drawer runs.

Kicker: the upper rail against which the drawer edges kick as the drawer drops as it opens.

Rebate/Shoulder Plane: a narrow plane whose blade runs right across its body. A shoulder plane has a long toe and usually has a fine mouth that is suitable for dealing with difficult grain.

Hollow Plane: a narrow plane with a sole that is convex in section.

Rubbed-Joint: an old term used for the joint between two boards glued edge-to-edge.

Arris: the sharp edge where two (usually) right-angled surfaces meet.

Short grain: areas of wood where fibres are too short to offer adequate integral strength.

Hints & Tips For Making

Fielding. To field a panel by hand, use a shoulder or rebate plan Create deep gauge lines and use a cramped-on wooden fillet as a fence. Keep the sandpaper well clear of the arrises.

Drawer Pulls. If you try one of those illustrated, holding them will be easier if you make them on each end of a longer piece of wood.

Technical Advice. For some advice about dovetailing, rub joint ing, mortising, drawer design and making a mitre shooting boar be my guest at www.amgron.clara.net.

Fitting a Traditional Drawer.

When setting out the back rail, arrange for the drawer opening t be very slightly (say 1.5mm) wider at the back. Assuming that your table will live in a consistently centrally heated environme you can then adjust the fit of each drawer so that it slightly tightens as it is pulled outwards. For a drawer running between others, some cunning tapering of the dividers will be needed.

Leg bottoms. Form a very flat, shallow chamfer on their ends. This should prevent damage if the table is dragged across an uneven floor.

Lippings. A very accurately set-up circular sawbench, or a sand ing disk will form the mitres with some ease and certainty, but you will need a mitre shooting block to do the job by hand. It is very unlikely that a mitre saw will do the job properly.

Routered Decoration

You will need a wood that responds well to router cutters. A sin ple fence will suffice for longitudinal flutings (not illustrated), b for the vertical flutes and for the chequered pattern, a sliding fen will be required. For safety's sake, resist the temptation to use t long fence as a stop. If the job jams, you could make a nasty me of the surface, or risk injury to yourself.

Other Things to Consider

- Use contrasting woods (though of similar textures) for the frame and drawer fronts.
- Slightly insetting the drawer fronts.
- If your table is near an always-unlocked or frequently-open access door, fitting a lock to deter sneak thieves.
- Contrasting inlaid lines near the perimeter of the top.
- For a writing desk, adding a low cabinet of pigeon holes, perhaps including a small drawer or two.
- Including an upstand along the rear of the top to prevent things falling behind the table.

Sources

Rustin's Plastic Coating.
www.rustins.co.uk
Tel: 0181 450 4666

Grooved Drawer Slides
www.woodfitt.com
Tel: 01257 266 421

Squared paper
Print your own by going to:
www.incompetech.com/beta/plainGraphPaper