

Design yourself a Bedside Cabinet

●Although there are a variety of possible conventional constructions (to say nothing of unconventional ones) available space limits the topic to a carcass having dovetails at the top combined with a mortise and tenoned base that overlies an apron.

When we make something we have designed for ourselves, we create something unique, something that better corresponds to our individual needs than a nondescript item designed according to a manufacturer's idea of what the mass market will tolerate.

So what kind of individual are you? Maybe you are a tidy soul who likes to be able to find his slippers in the dark? Maybe you like to be able to slip your reading book and specs in a drawer, safely out of reach of the contents of a knocked-over water glass? Maybe you would like to keep in one place all those books you are sometimes going to read? Maybe you need to help someone who is sometimes unwell?

Having identified your needs, I suggest that ideas might begin to

flow if you use a systematic design line that can run (not too rigidly) as follows:

Establish Principal Dimensions

Settling the height is not a simple task. The ideal will depend on your own mattress height and your own height, so cribbing from an existing design might not produce an ideal result. You will need to find one height that is both a good sitting-up-and-reading height, and a lying down, clock radio snooze-button-punching—bedside lamp switching-on/off-height. Perhaps an actual bedtime rehearsal would help?

The width might be limited by the available space at the bedside, otherwise the extent to which you can stretch from a lying position might indicate the minimum.

Considering such factors as easy access to the bed and convenience in bed making. I guess that cabinet front should approximately align with the lower edge of the pillow.

Start a Tentative Drawing

Now you have main dimensions, it is time to use squared paper to draw to a one-tenth scale a rectangle representing the bare outline of a frontal elevation..

Next you will need to indicate the position of the lower shelf. A principal purpose of the apron is to raise this shelf to avoid accidental kicks or damage by vacuum cleaners, and at the same time to ensure that the door will swing well clear of the feet of the user. Having fixed this height, you then know the free space available to fit your needs.

In allocating this space you will need to juggle the needs and the options. Should the unit have to serve a sick person, perhaps an open shelf below the top would accommodate the extra bits and pieces needed by a nurse? Alternatively, a pull-out shelf

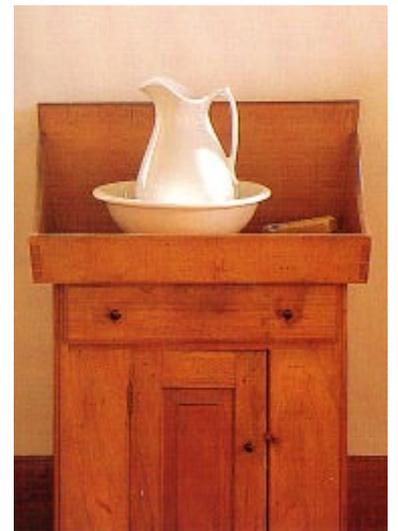
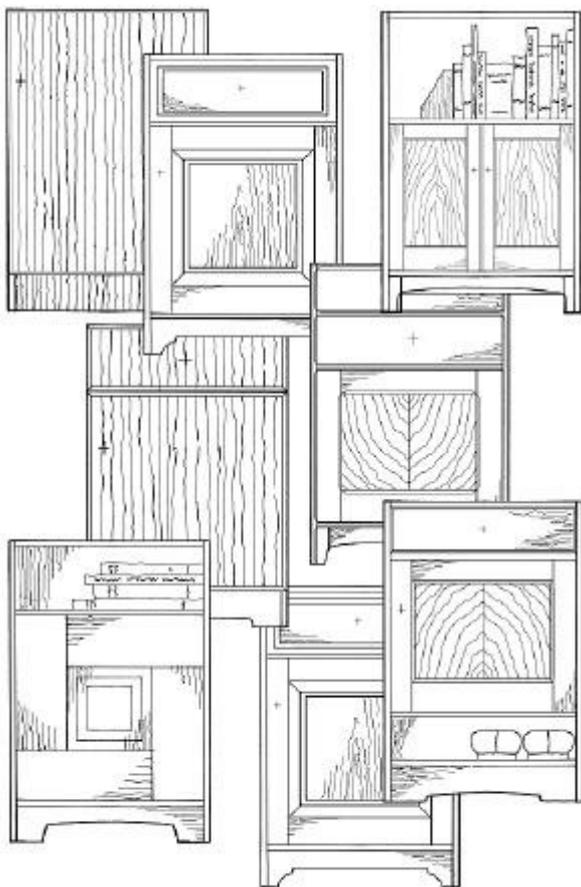
'The details are not the details—They make the product. It is, in the end, these details that give the product its life'. Charles Eames, 1907—78.

immediately below the top could hold the get well cards and the inevitable grapes.

If for instance, you fancy including a space for books arranged in library fashion together with an open shelf or drawer, you could find yourself left with a space requiring a cupboard door of rather peculiar proportions. One solution could be to put the shelf inside a cupboard? Perhaps this might be inconvenient, but it is often necessary to sacrifice some convenience for the sake of appearance.

Audit Resources

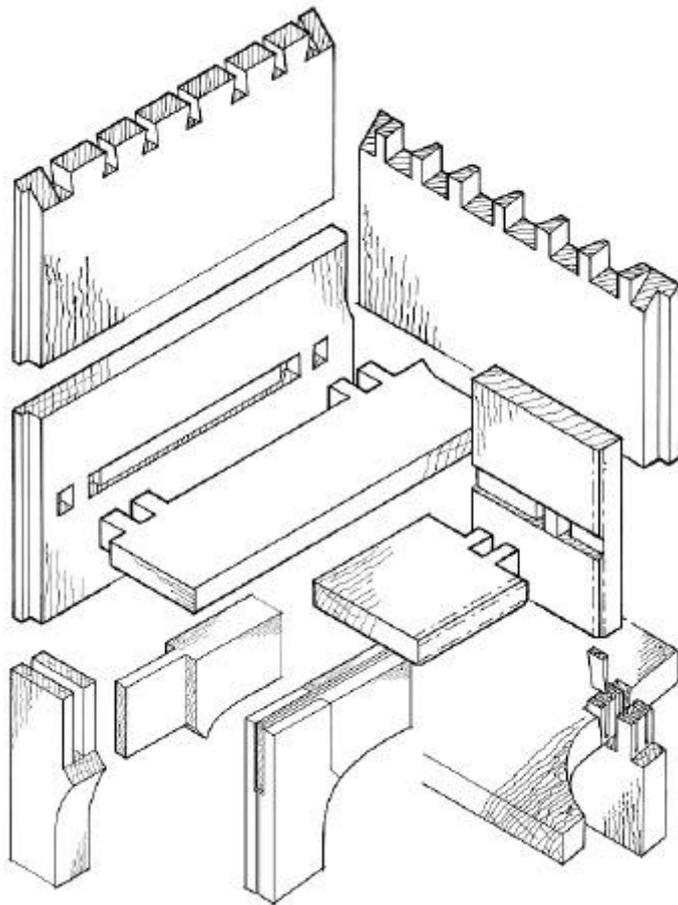
Before you go much further, it may be wise to consider what is actually feasible. The design outcome might be affected by real-



This detail is from *Shaker Life, Work and Art* by June Sprigg and David Larkin—Stewart, Tabori and Chang—ISBN 1 55670 011 3

life practicalities such as cost and availability of materials, available tools and equipment and your existing skills. For example when deciding the type of apron, time-available versus estimated time-required might be the deciding factor.

You might decide to include a feature because it offers an incen-



tive to learn a new skill.

Could this be the stage when you rehearse your arguments for buying that new tool that you absolutely must have to do the job?

Consider Aesthetics

Drawer and door handles inevitably punctuate the design. These features are so visually significant that they can make or mar any design. I think you will now need to decide whether to make your own or buy ready-made and time-saving metal or plastic versions. If you decide on the latter; now will be the time to make your purchase and allow their appearance to influence the final outcome. You might conclude, for example, that extruded aluminium handles would probably look best on a unit having a plain door and drawer.

No article about designing seems to be complete without a discussion of the

Golden Section, yet one famous designer has told me that he had never been able to make such rectangles work for furniture. In real life we see things in perspective view, not as they appear in plans and elevations. When you look down on the finished job, the perspective will make vertical distances appear shorter. When looking from the side, an article will appear narrower. In our eyes, a perspective rectangle becomes a trapezium; a 'perfect' rectangle is distorted and the rectangle no longer looks like the diagrams in the design books. However, our brains seem to have an in-built capacity for taking distortion into account to the extent that some 'rules' can offer something to at least get us started.

Checking on two of the sketched doors, whose shapes I confess to drawing

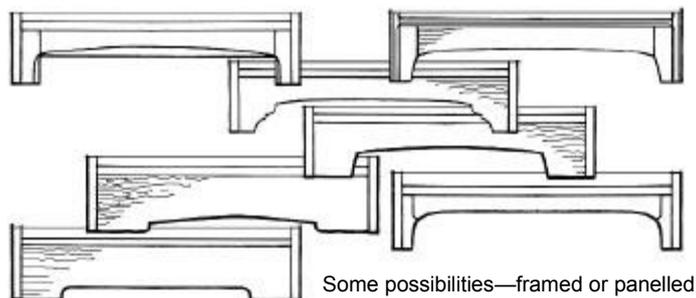
by instinct, I was pleased to find that they would fit one rule that involves forming a rectangle around an equilateral triangle (its base lying horizontal).

A logical approach can help you to make a start at deciding stile and rail dimensions. This needs to be done with some care because it is important to also consider what my mentors described as 'the proportion of the parts to the whole'.

It is reckoned that for maximum strength, the length of a tenon need not be

greater than five times its thickness. For small doors, a 6mm thick tenon would be a normal choice. This could mean that the minimum width of the stiles would be 30mm. When drawing possible door elevations, you might use this width as a starting point. Next, to allow for perspective distortion, draw a top rail somewhat wider than the proposed stile and the bottom rail somewhat wider still. Now consider the visual impact of the first effort.

Next use tracing paper to



Some possibilities—framed or panelled

Hints & Tips for Making

Fitting a Drawer

When setting out the top and shelf joint, arrange for the drawer opening to be very slightly (say 1.5mm) wider at the back. Assuming that your cabinet will live in a consistently centrally heated environment, you can then adjust the fit of the drawer so that it slightly tightens as it is pulled outwards.

Needless to say, if the drawer is to run smoothly, the inside surfaces all need to be dead flat. To maintain the flatness of the gable surfaces, it would be wise to also tenon any intermediate horizontal units.

Lower Shelf

When driving the wedges into the twin tenons, take care to drive the wedges at equal rates, otherwise you could find that you have irrevocably closed the sawcut intended for the second wedge. (Don't ask me how I know!)

Gunstock Shoulder Joint

Roughly shape the rail and leg of the gunstock shouldered joint, but complete the curve after the joint is glued. Then there is less risk of the short grain breaking off.

Squared Paper

Print your own by going to <http://www.incompetech.com/beta/plainGraphPaper>

Dovetailing Detailed

For some advice about technique, be my guest at <http://www.amgron.clara.net>. You might also like to look at 'Mortising by Hand' and 'Drawings for Drawers'.

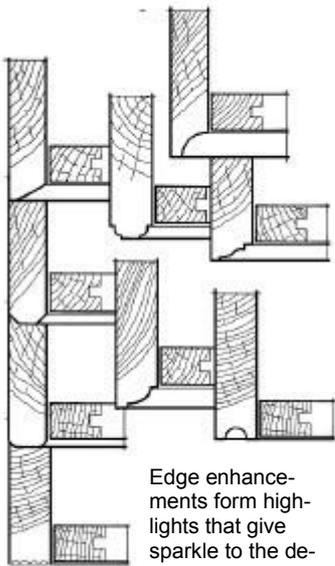
Fingertip pull

First plane the rebate on the edge of a board, saw the slip from the board and use a rebated 'sticking board' to hold the slip while planing the shape.

Alternatively, you could form a rebate in some matching Scotia moulding from the timber merchant.

Edge Enhancements

Work the edges before you cut the mitres.



Edge enhancements form highlights that give sparkle to the design.

make several sketches, each trying slightly different stile and rail widths. Then move on to include several types of panel and don't rest until you are as satisfied as you are

Pete:

Published related projects are in:
134:63
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ever likely to be.

For people already very expert with CAD programs, such an operation could be performed much quicker than by hand drawing, though for we mortals itching to get our hands on the tools, I do wonder whether their steep learning curve really makes the effort worthwhile.

At the risk of stating the obvious, it seems sensible that fielded panels for the doors will be matched by fielded drawer fronts.

Once you have agonised about the appearance, consult your household's final arbiter and settle for one pattern. It could now be helpful to draw a complete elevation to a somewhat larger size.

I could also now suggest the time-consuming (and maybe daunting) option of making a perspective drawing or using your hot-glue gun to rustle up a scale model. This would offer a good insight into the final appearance, though you will probably still find that you want to make changes as the project develops on the bench top.

Consider Practicalities

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

Dovetail Joints

With hand planes in mind, I have suggested a few of the possible edge enhancements that will give character to a plain design. These tools, unlike the machine router, require a stroke that runs the full length of each edge, thereby creating difficulties at the corners where undermining would cause ugly gaps. The cabinetmaker's solution is to mitre the corners, as illustrated. For a similar reason, the opposite edges are also mitred to 'return' the rebates that house the back panel.

Lower Shelf Joint

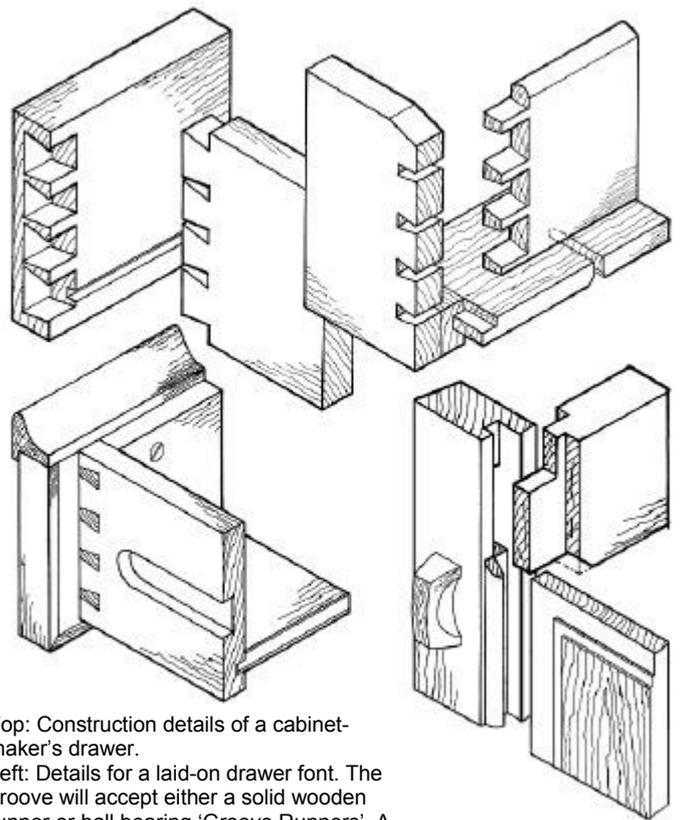
Uncompromisingly, I illustrate a housed joint secured with wedged twin mortise and tenon joints at the front and back (and possibly at intermediate intervals if you should be so minded). However, you could save labour by relying on the apron and back to strengthen the lower regions and so dispense with the tenons.

Please note how the front of the housing should be mitred to return any moulding or chamfer you may decide to incorporate.

Aprons

Since both the top and side edges are hidden, bridle joints will be suitable for a framed version.

If you fancy a sweeping curve between the rail and



Top: Construction details of a cabinet-maker's drawer.

Left: Details for a laid-on drawer front. The groove will accept either a solid wooden runner or ball bearing 'Groove Runners'. A fingertip pull replaces also serves as a lipping for the top edge.

Right: Joint details for a door bearing a cocked moulding, fielded panel and a handle.

stile, use the illustrated 'gunstock shouldered' version. Otherwise you would find that short grain at the transition point would break as you try to spokeshave the curve.

For either of the patterns sketched, a thin slip is suggested to aid location and thereby avoid panics at gluing up time.

Drawers

I have detailed the two principal options. The traditional cabinetmaker's drawer incorporates lap dovetails at the front and through dovetails for the back. The solid wood base is tongued into drawer slips. These locally increase the thickness of the sides, so reducing long-term wear. Naturally, ply or MDF panels could also serve.

Alternative Drawers

Making and fitting a traditional drawer offers a time-consuming challenge so I've also illustrated basic details

for a drawer with an easier-to-fit 'planted-on' front. The sides can either run on wooden battens or on ball-bearings in steel runners. Since such a drawer is unlikely to bear a heavy load, wooden runners should give adequate service for many years, though the metal versions should glide open at the merest touch — convenient perhaps for a semi-conscious user? 'Grooved' versions appear to be the neatest.

There's no doubt that the machine router owner will score when forming these recesses and when roughing-out the shaped drawer fingertip pull, yet I've fairly easily made many lengths using only a rebate (or shoulder) plane and a 'hollow' moulding plane.

Doors—Plain & Panelled

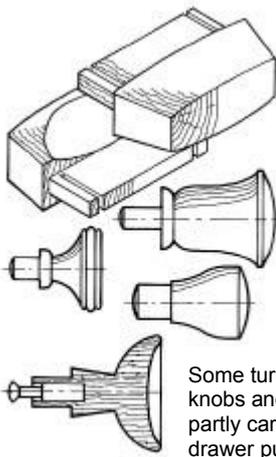
One choice will be between a plain panel, perhaps from ready-veneered chipboard or MDF or, for a less bland design, a panel veneered by yourself. You might consider a book-matched or quartered

design.

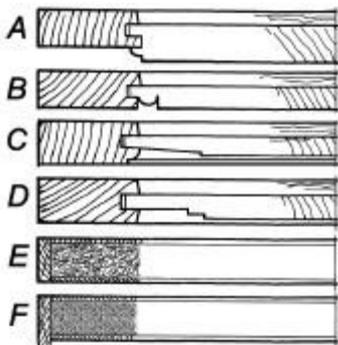
Matching the colour and texture of solid wood to a ready-veneered panel might be difficult, so you are likely to find yourself also opting for a veneered drawer front.

Of course the raw edges will need to be covered with a plain or cocked lipping.

The opening edge could be provided with the illustrated pull-come-lipping. You could make this a visually stronger



Some turned knobs and a partly carved drawer pull.



A An overlapping panel. (The borders need not be absolutely rectangular in shape).

B The quirk and bead moulding runs only along the grain of the panel.

C The bevel forms a mitre at the corners.

D This panel is less likely to loosen as it shrinks in width.

E A plain lipping

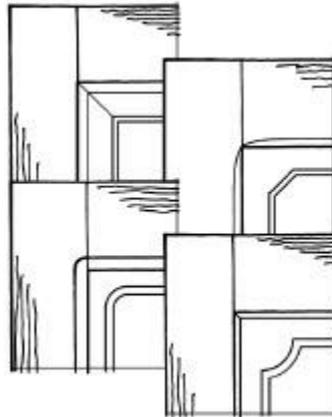
F A cocked bead lipping. The opening edge can be fitted with a pull similar to that shown on the laid-on drawer edge.

feature by removing wood to leave a shorter upstanding part at some convenient place above the mid-point of a door's edge. If you do this, treat the centre of a drawer in the same way.

For panelled doors, the exploded drawing illustrates the standard 'long and short shouldered' haunched mortise and tenon. The cocked bead is shown as worked on the stile, whereas for clarity the rail is shown as un-moulded. It shows the mitre that 'returns' a similar moulding but please do not be misled, strike the moulding before cutting the mitre.

Panel Design

You may have seen panels, (especially on antiques) formed



Further options to consider

- Choosing contrasting wood for the door panels and drawer fronts.
- Dividing a door panel with one or more muntins.
- Fitting an upstand at the back only, or round three sides of the top.
- Inlaid stringings as edge enhancement.
- If a door's proportion should need to be much wider than a square, try two doors instead.

by simply bevelling their edges to form a tongue, yet the border so formed can appear rather fuzzy, especially if the bevel angle is rather flat (as it should be). A bevelled and fielded design will offer nice highlights to crisp-up the appearance.

However, it can be argued that since such panels shrink (as they will over the years) they can become loose in the grooves. Unless you like the appearance of mitred corners, you might prefer to form 'sinkings' that form parallel tongues. If this is done in two or more stages you could avoid excessively thick listels that form attractive highlights.

The widths of the sinkings will strongly influence the de-

sign. For example, very narrow stile-listing gaps will create strong shadows. In this case, since you only will need to consider shrinkage across their width, the top and bottom listel could possibly butt directly against the underside of the rails—or otherwise, depending on what you fancy.

Jargon Busting

Short grain

Areas whose fibres are so short that the work-piece is weakened.

Gable

While this term usually refers to the triangular section of an end wall of a building, it is a legitimate and useful term for an end 'wall' of cased furniture.

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

Listel: A narrow and flat band within a moulded surface.

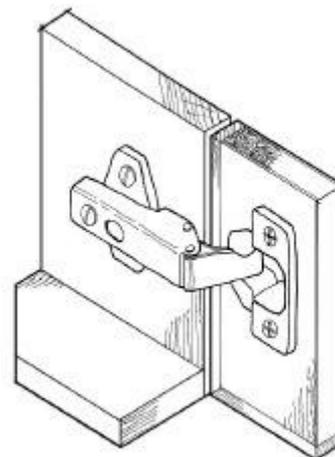
Golden Section

The proportion resulting from the division of a straight line into two parts so that the ratio of the whole to the larger part is the same as that of the larger to the smaller part, equal to $1/2 (\sqrt{5} + 1)$ or 1.61803.

CAD

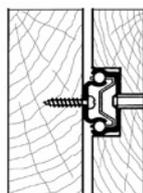
Computer Assisted Design.

Fittings



A Concealed hinge

For use with man-made boards. These can also be used for inset doors. You will need to buy a special cutter to cut the circular recess.



A Concealed Runner

Fits into the side of a drawer.

Sourcing

Woodfit: Phone 01257 266 421
Email: Sales@woodfit.com