

Space invaders foiled

OK, so a proper tool cabinet is probably not something you actually need, but as **John Lloyd**, in the first of three articles ponders, wouldn't it be nice to have one around?

1 Construction components

2 Before... perhaps a tool chest is a little extravagant

3 The ply is table sawed to dimension

4 Marking out the biscuit positions...

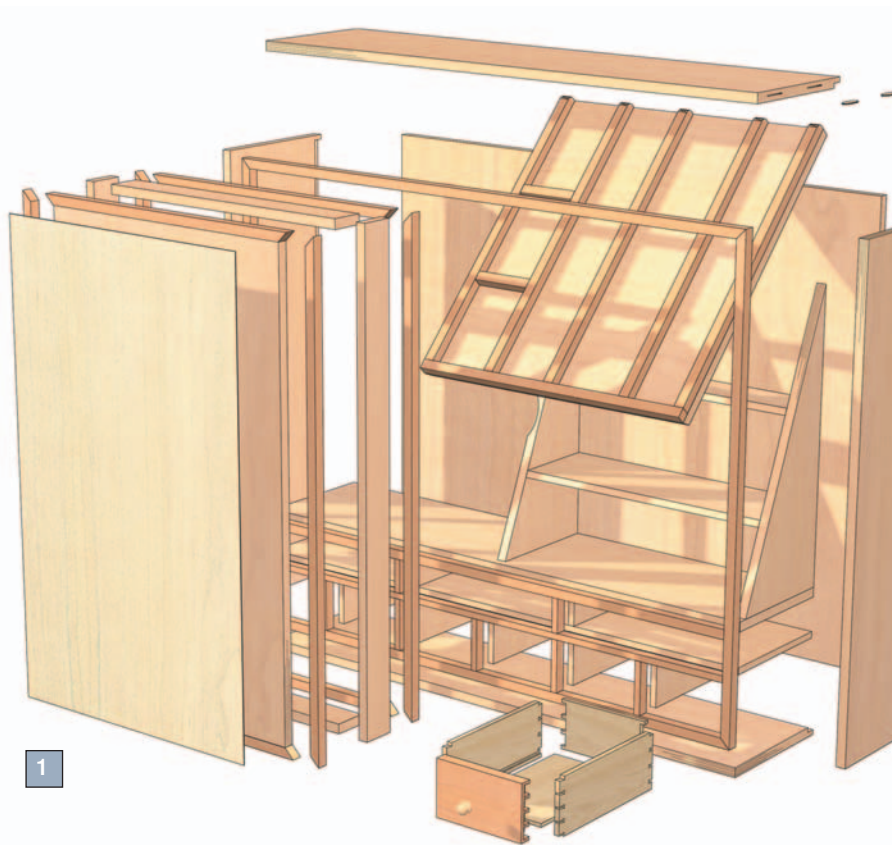
5 ... helps avoid mistakes

I have always rather hankered after a proper tool chest, the sort that an 18th-century journeyman might have made as an apprentice and used to carry the valuable tools of his trade from job to job on a daily basis.

In my case it would, of course, be a bit of an indulgence as I'm not an itinerant cabinetmaker, and working from a tool chest is not really as practical as working from tool racks above the bench. A big, heavy tool chest would normally sit on the floor, and retrieving tools from it might just exacerbate that niggly lower back pain that seems to accompany being a cabinetmaker of a certain age!

Bitter

There is also the issue of actually finding that tool which has decided to secrete itself deep within the bowels of the chest, determined never again to see the light of day. So, I have come to the bitter and rather sad conclusion that to make a tool chest with a beautifully veneered and inlaid interior, with an array of sliding, removable drawers is romantic



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nonsense. To use it to house the tools I use every day would be less than practical, and would just give me something else to trip over.

My current arrangement of tool racks above my bench works well enough from a purely practical point of view. However, calling

them 'racks' is perhaps overstating what is just a sheet of chipboard and a motley array of nails, screws and oddly shaped strips of MDF used for hanging or perching things on!

Having decided that a tool chest on the floor is impractical, it's obvious that a tool cabinet



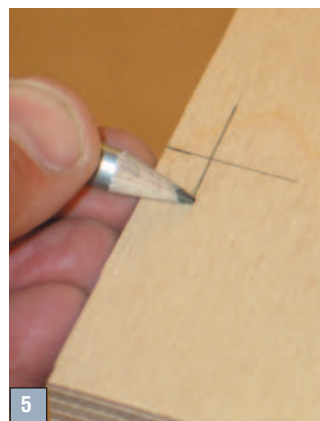
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6 Biscuit jointing the carcass



7 Jointing the side for drawer rail using a spacer

hanging on the wall is going to be the answer to both the practicality and aesthetic challenge of tool storage for the discerning craftsman.

On the wall

A fine, wall-hung cabinet crafted from prime, quarter-sawn English oak, jointed throughout with fine, hand cut dovetails, would fit the bill. But then, whilst being more practical than the tool chest on the floor, it's still just foolish indulgence. After all, most furniture restorers and cabinetmakers have to spend their time in the workshop earning a crust, not pampering themselves with time consuming, hand-crafted treats. No, it had to be a workmanlike solution to the storage problem, good looking, and without too many extravagant hand-cut joints.

Ply

A stable sheet material has to be a good starting point, instead of the English oak, and a good-looking one would be preferable. That rules out MDF which is bland and heavy. Ply could be the answer. Not that nasty, cheap, far eastern stuff though, what's required is a good quality birch ply. I actually rather like birch – birch veneer was used quite a lot in Georgian furniture, and was sometimes confused for satinwood. Edges could just be left showing the distinctive lines of the various layers, or the visible front edges could be lipped, perhaps in a contrasting wood. The benefit of using lippings, apart from looking nice, is that they would give a better material for sticking screws into. That may seem an odd consideration, but this cabinet is going to have a pair of doors on the front, and sticking screws straight into the edge of any board material is usually a ploy which is doomed to fail at some point of its life.

Cabinet size

The size of the cabinet has several constraints. Its height is partly limited by the length of the user's arms and legs – there doesn't seem much point in having a nice new cabinet that requires the use of mountaineering gear to get to its uppermost reaches. In my case it's also limited by some small slit-like windows in the wall that were once for ventilation, when the barn was used for storing grain. These had been bricked up at some stage in the past, and on my architect's suggestion I opened them up to create a 'feature', skinning my knuckles and drawing a good deal of blood in the process. For this reason I was not about to cover them up again with a tool cabinet!

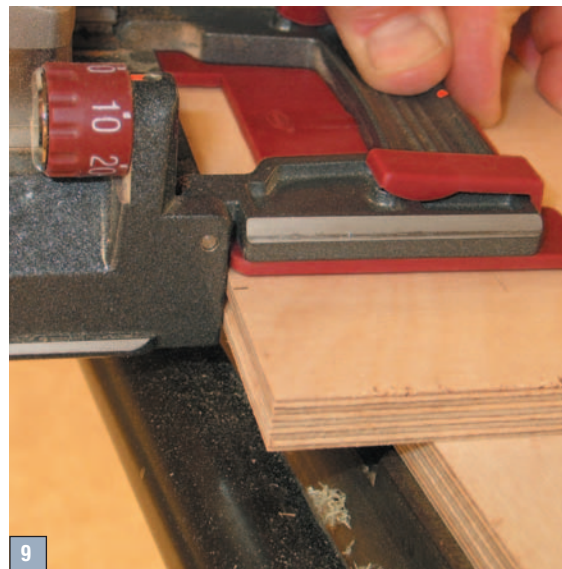
The cabinet was to be mounted above my bench but I still wanted to be able to use the bench, otherwise the whole exercise would be a complete waste of time. A reasonable height above the bench seemed to be about 250mm (9¾in) which left me with 900mm (36in) before the 'feature' windows are encountered.

The width of the cabinet when open was the next consideration. Taking into account the length of my bench I decided that a closed dimension of 1100mm (44in), which would result in an open length of a fairly substantial 2200mm (88in) should provide a sufficiently large space for storing all my current tools. It would leave a bit of space for those tools currently still on my wish list too. To confirm this was the case, I drew up the cabinet to scale and then made up scale paper cut-outs of all the various sets of tools, to see where or if they might all fit.

8 Jointing the side for top rail using dummy midrail and a spacer



9 Jointing the 12mm (1/2in) divider using 4mm (3/16in) plastic spacer



10 Dry assembly of the chest's main carcass

Basic concept

The basic concept is just a big, fairly deep, wall-hanging box with a pair of not so deep, box-like doors on the front. The idea is, of course, that the big box and the box-like doors are all used for storage, which results in a storage area twice the size of the closed cabinet.

Chisels, squares, saws, screwdrivers, and gauges etc would be housed in, or hung on, various cunningly-shaped wooden holders. Planes, for example, tend to be a variety of shapes and sizes, which some people hang from loops of webbing above their bench. I have never got round to anything more sophisticated than putting them on the shelf under my bench, originally on their sides. More recently I have perched the noses

of the planes on a very sophisticated strip of wood fitted to the shelf to prevent them being damaged. I noticed that David Charlesworth has a sort of angled tray above his bench for holding planes, which I thought would be a good idea to for my cabinet. I also came across a cunning plan which had a lifting plane tray with shelves behind for blades and other plane bits and pieces.

Under control

I have always thought it would be a good idea to fit a drawer to my bench as a way of keeping smaller bits and pieces under control. However, this is something that has never quite got beyond the 'wouldn't it be a good idea' stage, so the new cabinet is the perfect opportunity to incorporate a 'small bits and pieces, storage and retrieval system'. The small drawers would also give me the opportunity to try a little bit of craftsmanship with a few dovetails.

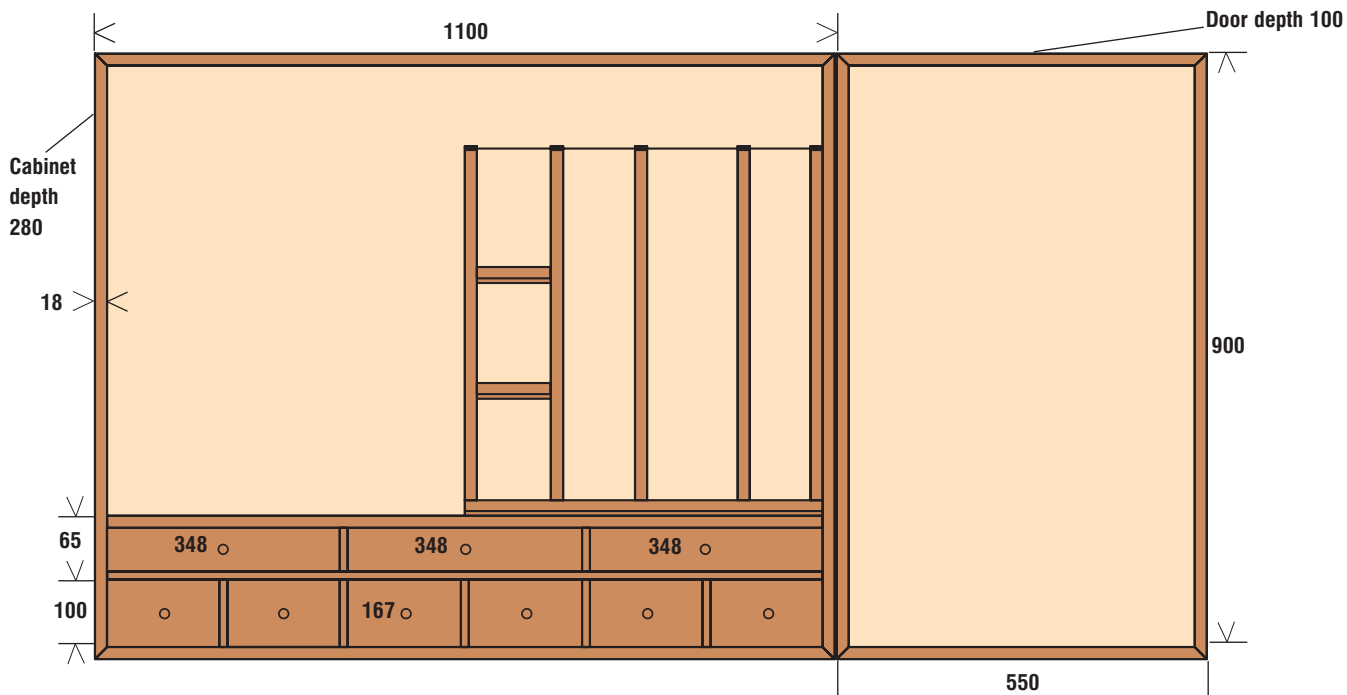
Time and labour

This little project, with its constraints of having to be good looking but not too time consuming to make, would also give me the opportunity to try a few pieces of, hopefully, time and labour saving kit. The obvious contender for joining the main carcass together is the biscuit jointer – an ideal test bed for my new Lamello Top 20.

The main box is just made up of four pieces of ply, jointed at the corners. Having got the bits to the right size on my old Startrite table saw, it reminded me, once again, that I was not going to be able to stay sane for much longer without a table saw which is fitted with a sliding table!

I used 18mm (3/4in) ply, and the plan with any biscuit joint is to get the biscuits in the centre of the board's edge. Not so easy with my tired old biscuit jointer, but ever so simple with the Top 20. There is a cunning dial on the top of the machine, which is used to move the





blade vertically up or down in 0.1mm increments, the 'step memory' system. With the dial set at '0' the centre of the blade is 10mm ($\frac{3}{8}$ in) from the fence on one side, or the underside of the machine, on the other. That's not about 10mm, it's exactly 10mm! So to get to the middle of an 18mm board, with the centre at 9mm, +1mm is dialled up on the step memory, when working from the fence, or -1mm when using the underside of the machine as the reference.

Each increment is accompanied by a nice, positive click, so each setting can be reproduced easily and with confidence. The pivoting fence, which moves through a right angle, is another feature to inspire confidence. Surprisingly for any machine made these days, a setting of 90° is actually 90°.

Biscuits

Having successfully jointed the four corners of the main box, the drawer rails and dividers are set out, and once again biscuit jointed together. The middle rail and

the dividers are in thinner ply, so smaller '0' gauge biscuits are required. The step memory dial can move the blade a maximum of 2mm ($\frac{1}{8}$ in), and it doesn't take a mathematician to work out that to get to the middle of a 12mm ($\frac{1}{2}$ in) board the blade needs to be moved 4mm ($\frac{1}{4}$ in). So it's lucky that Lamello supply a 4mm plastic spacer that can be clipped onto the fence to deal with just this sort of challenge!

Positioning the biscuit jointer for the various drawer dividers on the base of the cabinet and the drawer rails has to be precise, to ensure that the dividers are vertical and the holes for the drawers don't taper from front to back. To achieve this, a spacer is used for the bottom row of six drawers, then a divider dry-fitted with biscuits and the spacer used again. I found that working from each end worked well to avoid compounding any inaccuracy, and for the final middle divider I made a slight adjustment to the position of the joints with the step memory dial, to get dead centre. **F&C**

11 Jointing the drawer rail for dividers using a spacer...

12 ... and jointing the drawer rail for divider using divider and spacer

