

Top: Illustration of the bench on which I based mine, from the 1905 *Melhuish Catalogue of Woodworkers' Tools, Machines and General Contractor's Appliances*



**For
Pull-out
Plans
see P40**

PHOTOGRAPHS BY COLIN SULLIVAN, UNLESS OTHERWISE STATED



1 Any Scandinavian-style bench top would suit this project with appropriate adaptation to the design. They come complete with vices and bench dog holes

2 I always start a piece like this by making a simple working drawing, then a cutting list, and with the two I can sort out, cut and plane the pieces required. The 75mm thick top is 1,200mm long and 300mm wide, I extended this in width to form a well, making it 535mm overall. The legs and carcass are ash (*Fraxinus excelsior*); the top and panels are beech (*Fagus sylvatica*) and the ply inside is birch (*Betula pendula*). In fact the only thing I had to buy was the 8mm birch ply – a whole board was used. No elaborate machinery was used in the making of this bench, most of the jobs were done on my reliable Luna combination machine, with a circular saw, planer thicknesser and spindle moulder.



4 There is always a debate about the merit of a tool well, but it comes as standard with this bench top pattern and does at least enable you to keep a clear working area in front and tool storage when the lid is closed



2 These elevations are all done separately on ordinary sheets of white A4 paper on a simple homemade hardboard drawing board, which I can perch on my lap while sitting in my armchair near the woodburner in my lounge!



3 I only used a fine cut setting to avoid making the surface uneven and to avoid several metal insert nuts. Constant checking between cuts is required

"No elaborate machinery was used in the making of this bench, most of the jobs were done on my reliable Luna combination machine"

3 I began by cleaning up the secondhand top with a small hand-held electric planer, carefully checking at each stage that it was flat and not in a twist. I finished it off with a smoothing plane and a cabinet scraper – a Stanley No.80 with twin handles is perfect for this job. Two beech end pieces were made at each end and a rail along the back where the lid will go. A bridle joint was made on the back corners and the end pieces cut round and glued and screwed from underneath to the top.

4 A small fillet was fixed low down on the inside faces to support the 6mm ply board to the well. In the example shown, the fixings in the form of small screws are underneath instead.



5 Many ready-made bench tops come fitted with wood faced vices as part of the design, so the decision about vice choice is already made for you. These vices work well so long as the metal and wooden threads are suitably lubricated – paste wax in the case of wood

5 Now the top was finished I could decide about the cabinets to go underneath. The top already had two good vices fitted and I could see no reason to change them. I suggest a medium-sized vice, something like the Record 52½ with 9in jaws would be more than adequate, and not to bother with the end vice which would be difficult to make.

6 The ash carcass and drawer fronts are glued up from 15mm reclaimed shelves, old stock left from Beaver and Tapley CD units a friend gave to me.



6 The exterior of a bench end frame; this sets the size for the interior fittings including the drawers



7 The rebate for the ash panels is visible in this view

7 The 50 x 50mm legs were planed up and the two front edges given a pencil-size radius, then simply rebated to take the ash front and back panels, and glued and screwed flush on the inside leaving the inside faces flat. This also set the drawer fronts back making room for feet under the bench.

8 Cross rails at the top were dovetailed to the legs and mortised at the bottom to make frames for the doors at each end. Then a complete carcass was formed by adding an 8mm birch ply back rebated into the ash so as not to show at the front.

9 I now had the bare bones sorted and by spacing them apart 600mm the drawer area was formed. Two more frames were made to support the carcasses; the top one is dovetailed as a feature and two larger rails span between the back legs mortised in.



8 Detail of the dovetail joint holding the legs apart. Note the rebate to take the ash panel



9 One of the assembled carcasses ready to fit together with the linking rails in-between



10 The carcasses now in place showing the as yet unfitted left-hand one and simple drawer runners installed in the middle to take the wide tool drawers



11 The inside of the lid shows the sectioned construction and the way all these lovely tools have fitted into it. Also note the spring catch at the top for locking the lid down on the completed workbench

10 Before final assembly, fit the drawer runners to the cabinet sides, spaced out to suit the drawer sizes as shown on the drawings. Also think about what is going to go into these two cabinets now and make provisions for them, i.e. trays to hold small tools, as I have done.

The lid

11 The lid is made from an ash frame 75 x 20mm section, dovetailed on the corners with three panels of 10mm beech separated by narrow rails. I made it this way to use up some ply offcuts and give a bit of interest and character to the appearance.



12

Before the lid is lowered a steel rod is dropped through a hole in the bench top near the front. This locks the centre drawers in position for safety if it is moved around

12 The lid in the down position makes the bench tidy looking and creates a useful surface when not in use. The corners have exposed through dovetails cut by hand.

The drawers

13 These are made from solid ash fronts and ply sides, back and bottom. The fronts are only 14mm thick – too thin for dovetails – and ply is not good to dovetail anyway. Instead I chose to make a simple joint entirely using the circular saw. I have made drawers in this way for years without any problems. The back-to-side joint is done by making a groove across the end on the saw and a rebate on the back forming a tongue.

14 The 4mm ply bottoms are grooved in about 6mm up from the bottom edge. After the drawer has been glued up a hardwood fillet is glued in flush to reduce wear on the ply.

Doors to the cabinets

15 These are made from an ash frame grooved all round on the inside edge to take a beech ply panel which is 4mm thick. I had to veneer these two panels in beech in order for them to match the rest of the bench. They are small enough to veneer by cramping between two MDF boards. The corner joints of the frames are then mortised and tenoned.



15

The inside of the left-hand end door showing the simple appearance and also the tool trays in position



13

The slightly unusual drawer front joint is clearly visible as well as the drawer knobs which are based on the standard block plane knob design



14

Birch ply in particular is ideal for drawer construction on account of its fine grain, even flatness and pleasantness to handle

Tool trays

16 The four small trays in the left-hand cabinet are designed to hold the smaller tools that need to be stored but easy to find when required. They can be lifted out easily and make best use of the space available. I like to use a combing joint on things like this and I fortunately invested in a set of spindle cutters many years ago for this purpose, but the joint shown on the drawer backs would do just as well. The bottoms are grooved in all round and set almost flush with the bottom edge. The same ash was used but planed down to 10mm.



16

One of the tool trays in its raw unfinished state showing the comb jointed corners. This joint method is fine as not much stress is imposed on the trays as they are pulled out or pushed in



17 Stanley got knob design right; it doesn't just work for a plane but drawers as well



18 The unusual custom-made sliding hinge arrangement that allows the lid to move from closed to upright position and is held open by two simple stays



19 Demonstrating how the lid raises and lowers without any tools falling out!

Handles

17 All the drawer knobs are made from rosewood (*Dalbergia latifolia*) and turned on the lathe to match the front knob on Stanley block planes, which is perfect for the bench. Then they are simply held by a screw from the inside of the drawer front.



20 A partial rear view showing the back panel and the golden hue of the end and top imparted by coating the light wood with Danish Oil

Opening top hinges

18 I wanted to arrange the top so it could be opened when the cabinet is up against a wall, rather than hinge it on the back rail and stand the cabinet about 100mm from any wall. This has been solved by making two slotted plates that allow the top to slide forward then lift up level at the back. Two swing-down arms hold it secure when the top is in the open position. Please refer to the detail drawing on page 40.



21 The holding method for the chisels is conventional, it just requires care in slotting the rail so the chisels cannot come loose

19 The lift up and slide hinge system works very easily. The design can always be modified slightly to suit your own circumstances.

20 The whole bench is given several coats of Danish oil to finish. This will help give a warm appearance apart from being hard-wearing.

Fitting the tools

21 This is the good bit, the cabinet is finished and now to choose what tools would be most useful and decorative in the lid. To start with, I wanted my best chisels at hand in the same way as they are in the workshop; paring chisels to the left, next to the everyday bevel edge chisels and a nice screwdriver. The rail holding the chisels is drilled to fit the ferrules of the handles and slotted only enough to allow it to be put in and taken out, otherwise they will fall out when the lid is lowered. The three saws just drop into a fine slotted piece of ash and the other tools are held in a similar way.



22

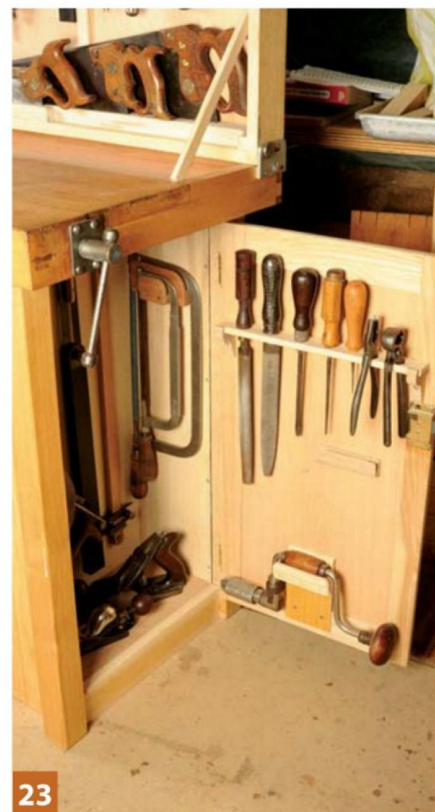
I found a neat solution to a problem using waste pieces of brass

22 Small brass strips with turned up ends act as the way to hold these tools in place. The holding screws need to be tight so the strips cannot turn unintentionally.

23 In the right-hand cabinet are a No.7 and No.8 plane, a large sliding square, a large sliding bevel, a trammel, hacksaws and on the door a few of the more often used tools.

Conclusion

It was a pleasure to actually make something for myself and have absolute control over the way it looks and works. I am very pleased with this project and the way it has turned out. I am told that at one time a craftsman was judged by the toolbox he made at the end of his apprenticeship – that was a long time ago in my case, but better late than never! ■



23

Here's the right cabinet of my bench, of course it's entirely your choice which tools you set it up to contain



24

My vintage box and rosewood handled chisels neatly in a row



25

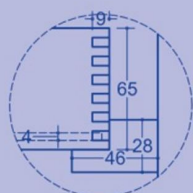
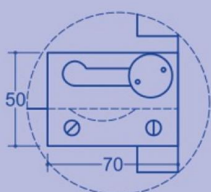
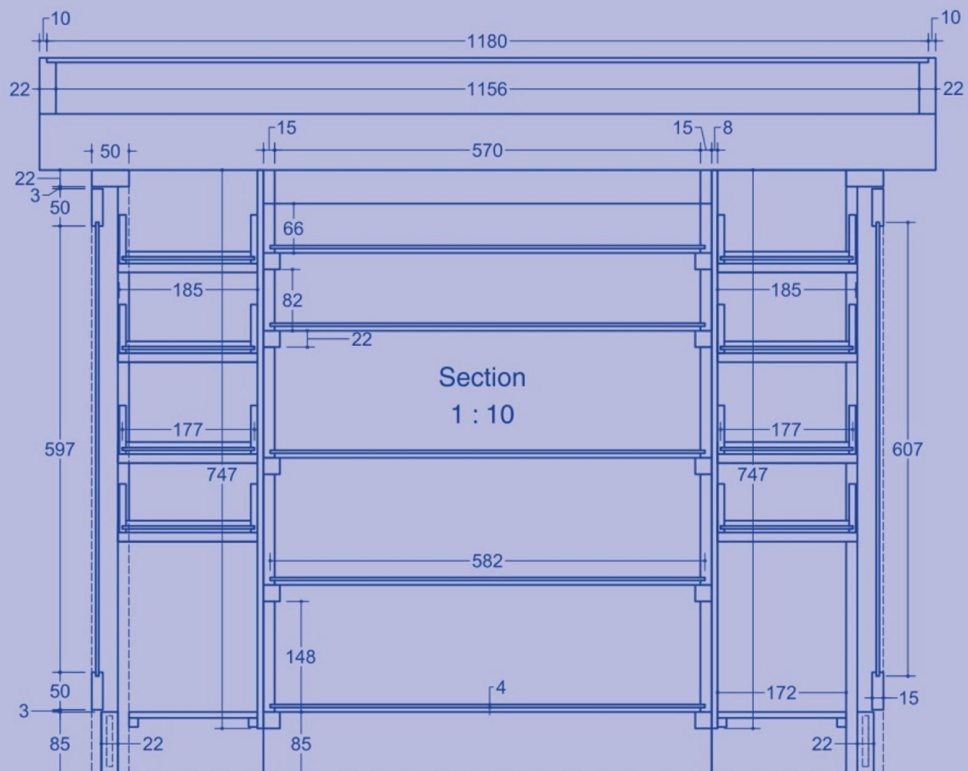
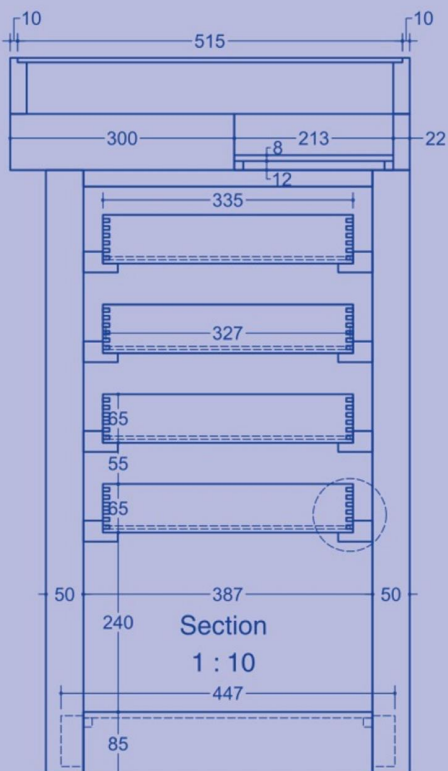
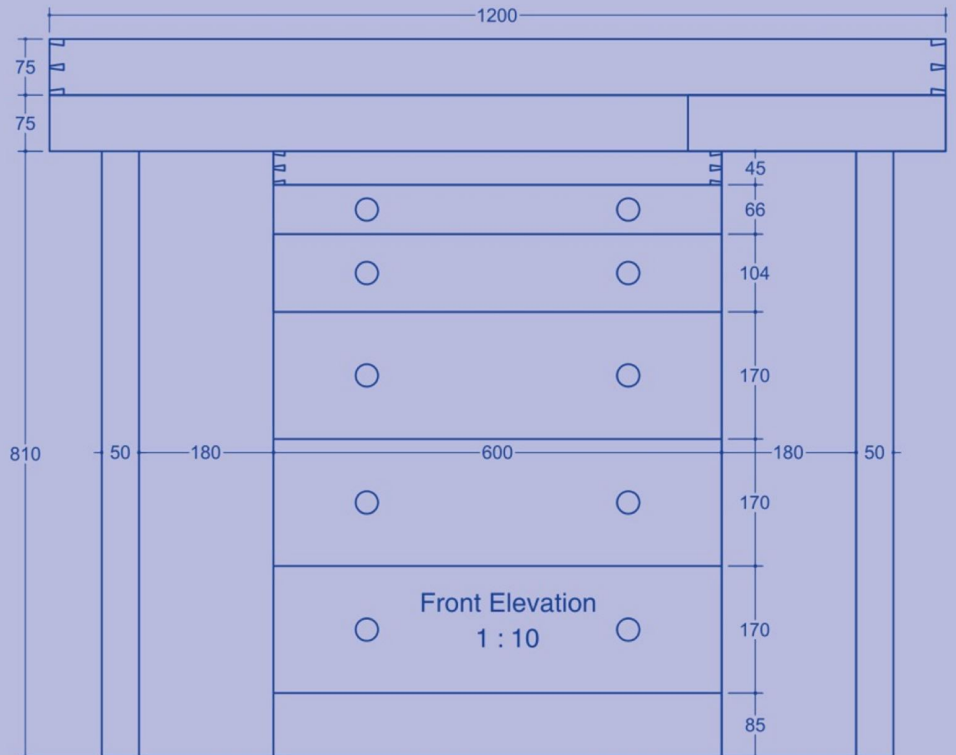
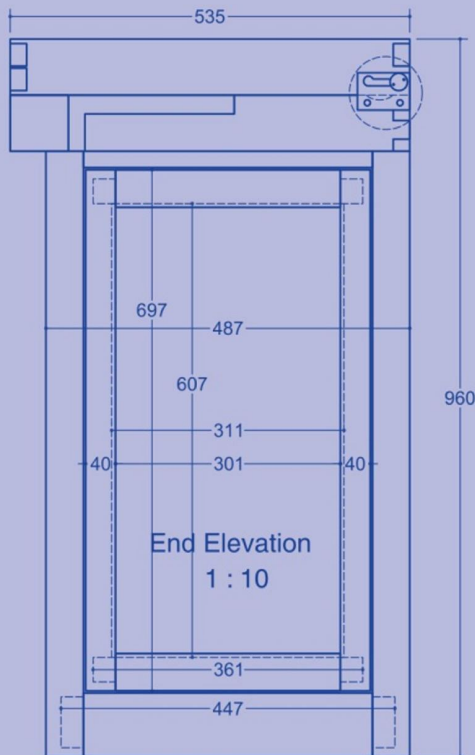
A neat set of ash drawers never looked better



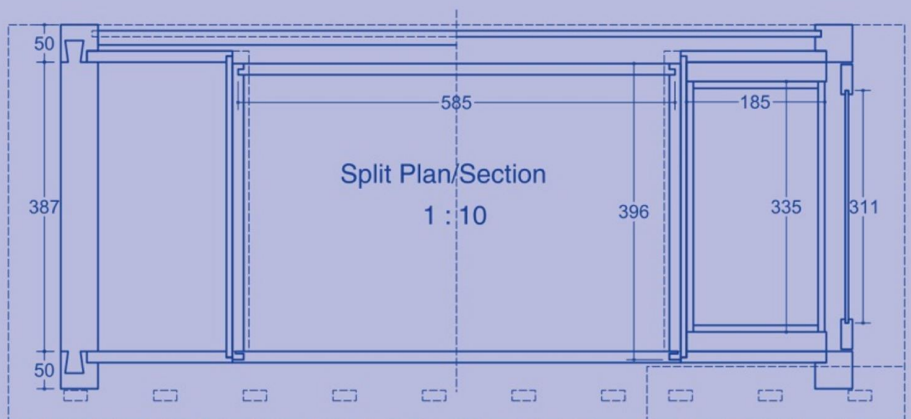
26

The all-in-one toolbox and workbench – highly functional!

Your free combination workbench plan



Details
1 : 4

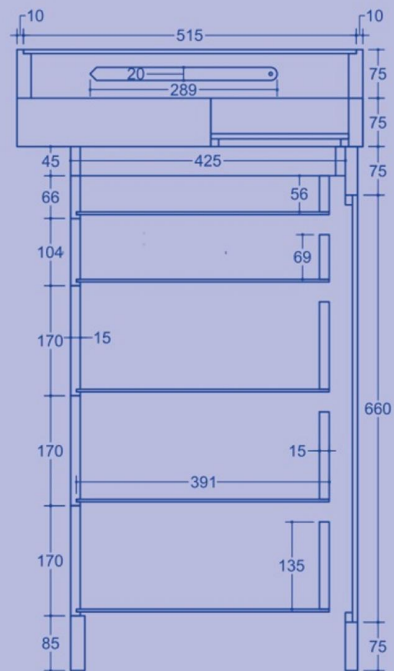


Cutting List -Main components

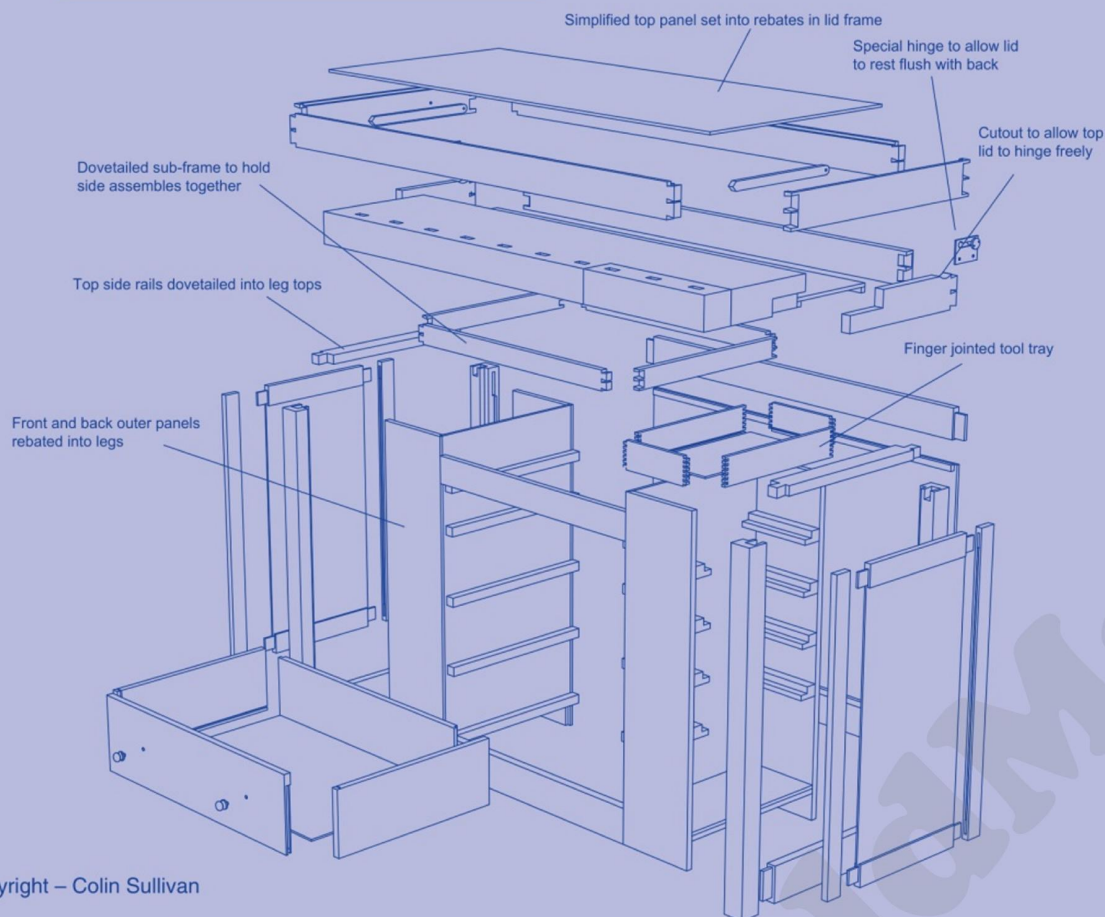
TOP LID FRONT/BACK	2 @ 1200 x 75 x 22
TOP LID SIDES	2 @ 535 x 75 x 22
TOP LID PANEL	1 @ 1180 x 515 x 6 or 9
TOP FRONT BLOCK	1 @ 1200 x 300 x 75
SIDES	2 @ 430 x 75 x 22
BACK	1 @ 1200 x 75 x 22
TRAY BOTTOM	1 @ 1156 x 213 x 8
LEGS	4 @ 810 x 50 x 50
BACK RAILS	2 @ 1020 x 75 x 19
BACK	1 @ 976 x 660 x 8
OUTER FRONT/BACK PANELS	4 @ 810 x 195 x 15
SIDE TOP RAILS	2 @ 445 x 50 x 22
SIDE BOTTOM RAILS	2 @ 447 x 85 x 22

Note:

No hardware (vices etc) shown. Lid shown is a simplified version with a single panel rebated into the lid frame. No specific tool racks etc are shown inside the lid, and a choice of ply thickness is shown in the cutting list to allow for either a lighter lid with a few tools, or a heavier lid, which can be stiffened with additional battens. Some sections/sizes shown may be slightly different to the text for standardisation. Only major components are shown in the cutting list. Drawers/doors and smaller component dimensions to be taken from drawings.



Section (through drawers)
1 : 10



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