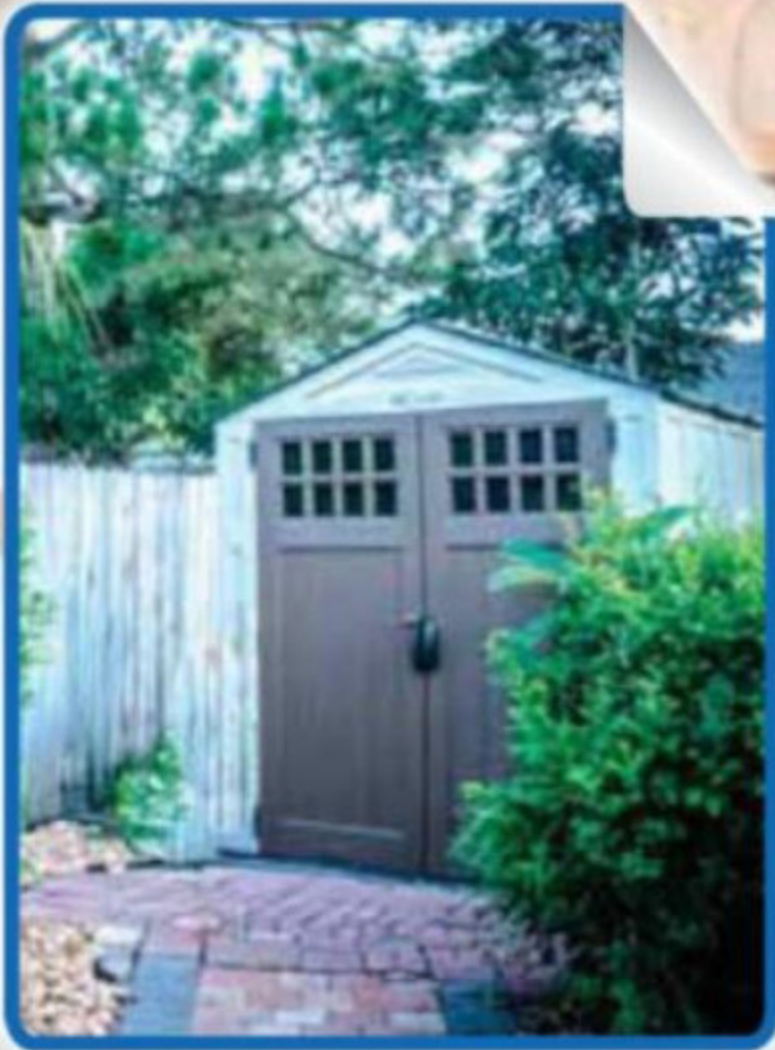


The Home HANDYMAN

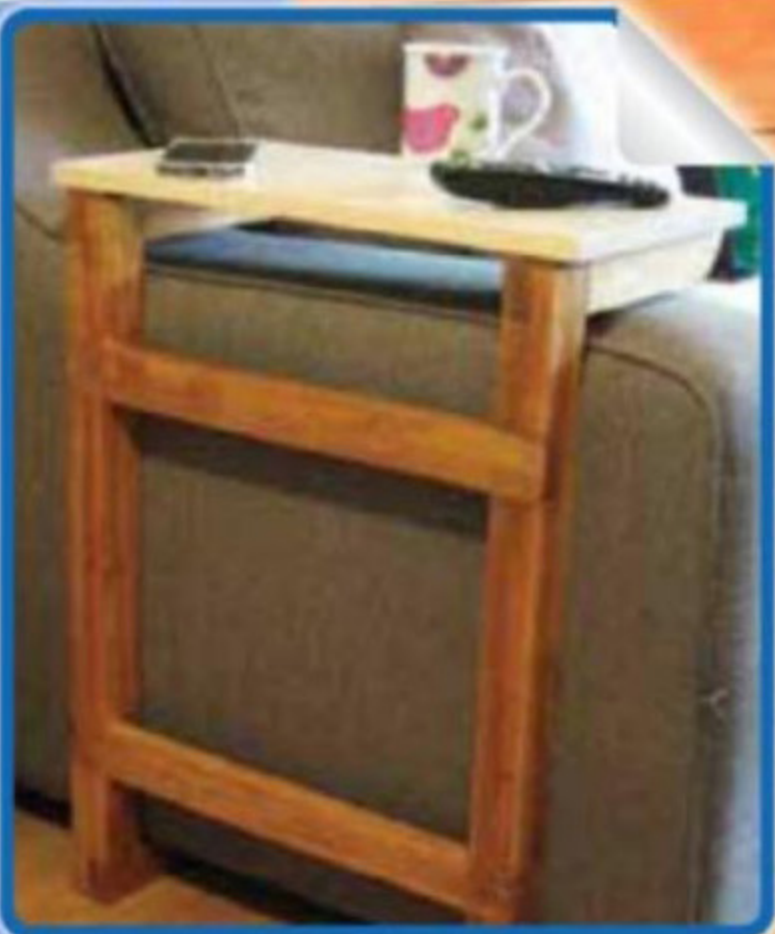
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SA'S
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HOW TO MAKE A
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Man up!

- Create your own man cave
- Make a bar stool

+plus

- Boundary walls
- Make a drum composter
- Pro tips for neater painting
- Fast and easy kitchen storage
- Kid's project: noughts and crosses



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The magazine for South African woodworkers, metalworkers, hobbyists and DIY'ers

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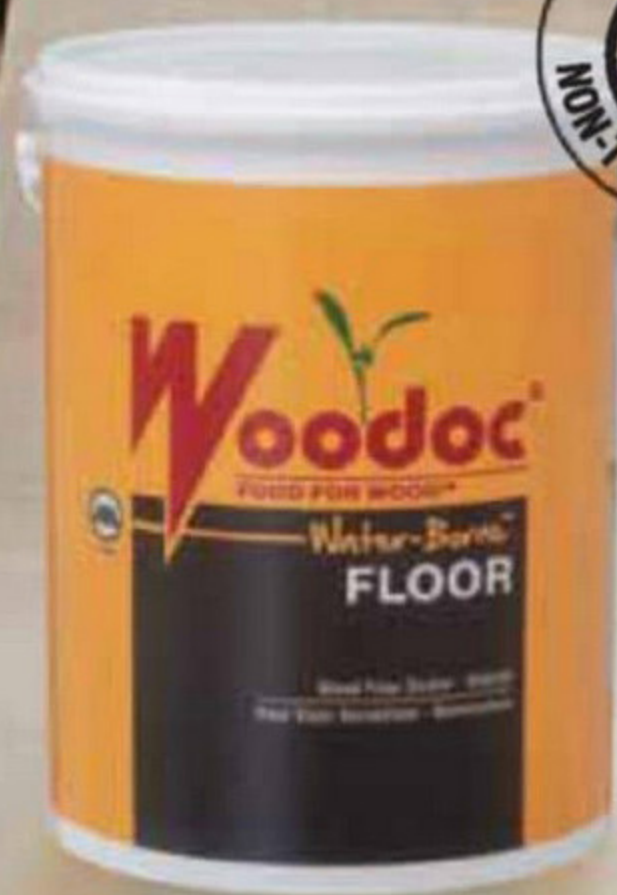
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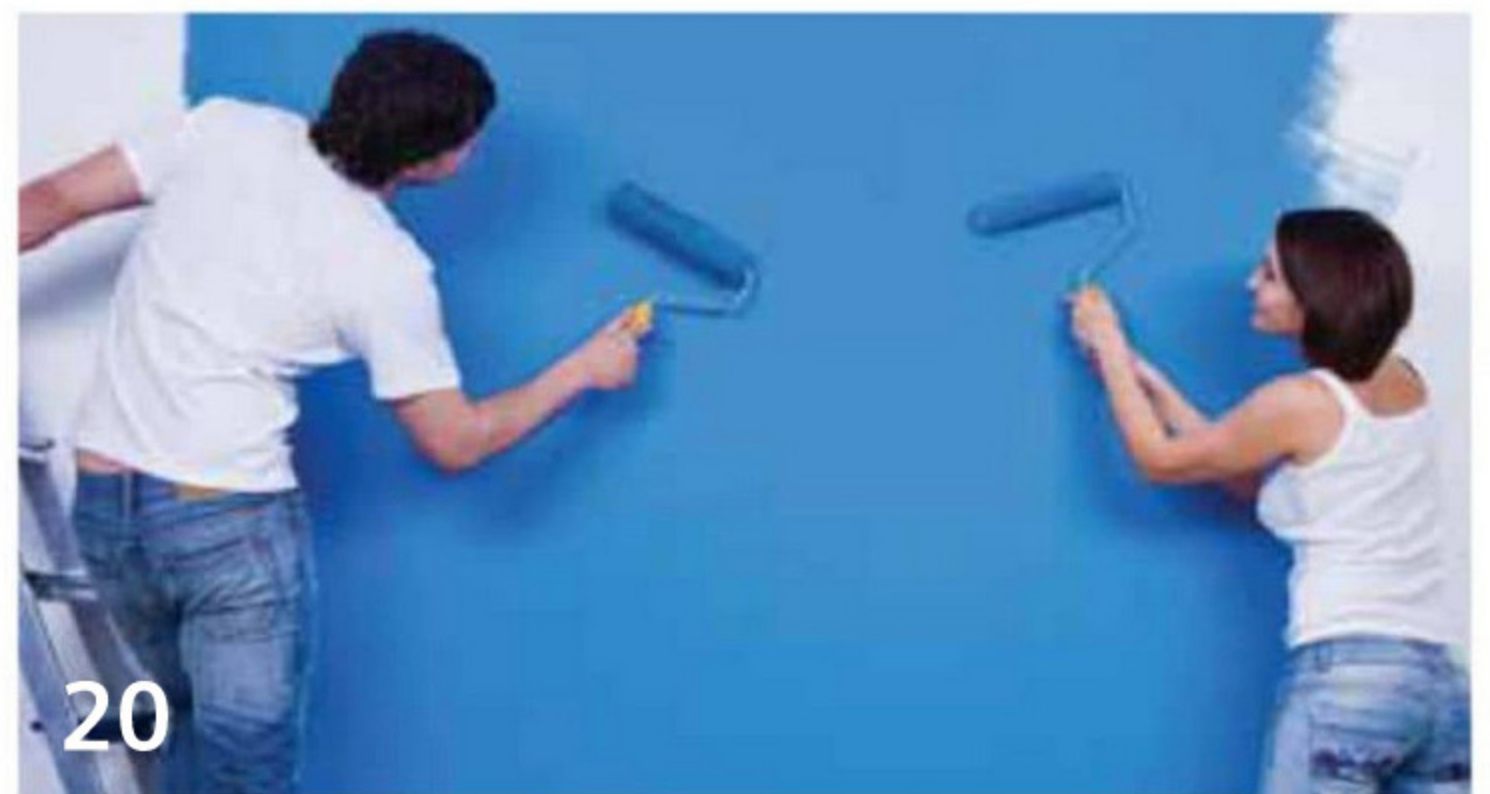
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The Home HANDYMAN

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FROM THE WORKBENCH

Making the best of a bad situation

So, how is your 2020 going? That good? None of us could have expected this year to turn out the way it has, but some people just have the knack of making the most of out whatever situation they are facing.



One of the many memes that have come out over the past few months made me chuckle despite the very serious nature of the virus, which I do not want to downplay. Yet to paraphrase, it said that the coronavirus was invented by women – the bars are shut, the golf courses are closed and men cannot use the excuse that they have no time to get around to those DIY chores which have been piling up around the home.

I came across a study of 2 000 adults in the UK which revealed that almost three-quarters enjoy the mental boost they get from completing home improvements. One in ten are left feeling less stressed, while 15% are 'calmer' after nailing a DIY task in their home. Two in five feel 'satisfied' after a spot of DIY, with almost a fifth going as far as to say they feel 'relaxed'.

It also emerged the lockdown has been a driver for many to tackle jobs around the home, as being there more than ever means they now notice what needs doing. But 44% admitted they had no idea just how much work there was to do.

Painting has been the most popular task over the last few months, with 31% giving their walls a fresh lick of paint, 23% sprucing their fences up and 17% getting their brushes out on the garden furniture. A further one in six have filled in wall cracks and one in ten have upcycled furniture.

Usually, DIY jobs are ignored for an average of eight weeks before finally being tackled, with a quarter of respondents admitting they caused more damage by leaving it untouched. Before lockdown, a lack of motivation (48%), time (43%) and confidence (27%) were among the biggest barriers to completing home improvements. But 57% of those polled admitted they now have 'no excuse' not to crack on with the jobs.

It has long been recognised that DIY can be good for our well-being; being 'forced' to have the time to do it, however, has seen many more people tackling those jobs they would previously have put off.

Yet it hasn't all been good news – social media channels are full of DIY lockdown fails, from kitchen cupboards installed upside-down and paint spillages to woodwork projects which have proved to be far more challenging than anticipated. So while for many all over the world, lockdown has proved the perfect time to get started on long-awaited improvement projects, sometimes it helps to know your limits.

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OFF THE SHELF

Your guide to the latest products in the world of DIY

Adhesives for car repairs

High-performance adhesives offer quick, cost-effective auto repairs without the need for a workshop

A wide range of flexible and cost-effective DIY adhesive products are available from local manufacturer and supplier Pratley for quick, on-the-spot automotive repairs. Many of these products are ideal for automotive repairs in areas where engineering workshops are often unavailable, such as in rural and informal settlements.

Pratley Steel Quickset® is a fast-setting adhesive metal filler and mender that sets very hard and matches the colour of most ferrous metals. It is an ideal product to repair engine and sump cracks. Simply grind a vee in the area of the crack, the same as if you were going to weld it, and then fill it out with the adhesive.

To stop the crack from spreading further, one should ideally drill the ends of the crack. Make sure that the Pratley Steel Quickset® is applied 20mm past the crack on either side of it. If you have a hole in your sump or gearbox, for example, Pratley Steel Quickset® is a quick repair that takes a few minutes to start curing.

Another product from the range, Pratley Steel Putty is a very strong and highly workable hand-mouldable putty that sets like steel and also matches its colour. It is ideal to build up small pieces of missing or damaged castings and it has good machining properties.

Pratley Wondafix® and Pratley Wondafix Car® are both tough yet flexible epoxy-urethane hybrid adhesives and the only of their kind in the world. They are ideal for repairing cracked dashboards or damaged hoses in the engine compartment. Being black, Pratley Wondafix Car® can even be used for repairing torn seats and other upholstery that are dark or black in colour. Due to the product having rubbery properties, one of the other great applications is repairing damaged plastic bumpers.

Pratley SP001® Industrial Pack is a medium-curing, general-purpose adhesive with special performance properties such as exceptional resistance to water, diesel and oil and a good resistance to chemicals and acids. It bonds well to most rigid materials. If you have a battery with a hole or crack in it, Pratley SP001® is your best repair option.

For more information, call 011-955-2190 or visit www.pratleyminerals.com



Multi-functional cordless oscillating tool

The most technically advanced multi tool available today

The multi-functional Tork Craft TCOT001 Cordless Oscillating tool does it all; cuts, saws, sands, grinds, scrapes, and will cut through all materials with its huge selection of cutting blades which are available. All blades and cutters can be changed with the innovative lever Quick Change fitting.

Armed with a good selection of blades, this Tork Craft cordless oscillating multi tool could replace many of your tools as no other tool does what this tool can do. It comes with a powerful 12V long-life battery and it is lightweight and easy to handle, so users can operate it effectively with one-hand. It has six speed settings and will rev from 5000 to 15 000 rpm.



The world's first all-in-one roof paint and acrylic waterproofer

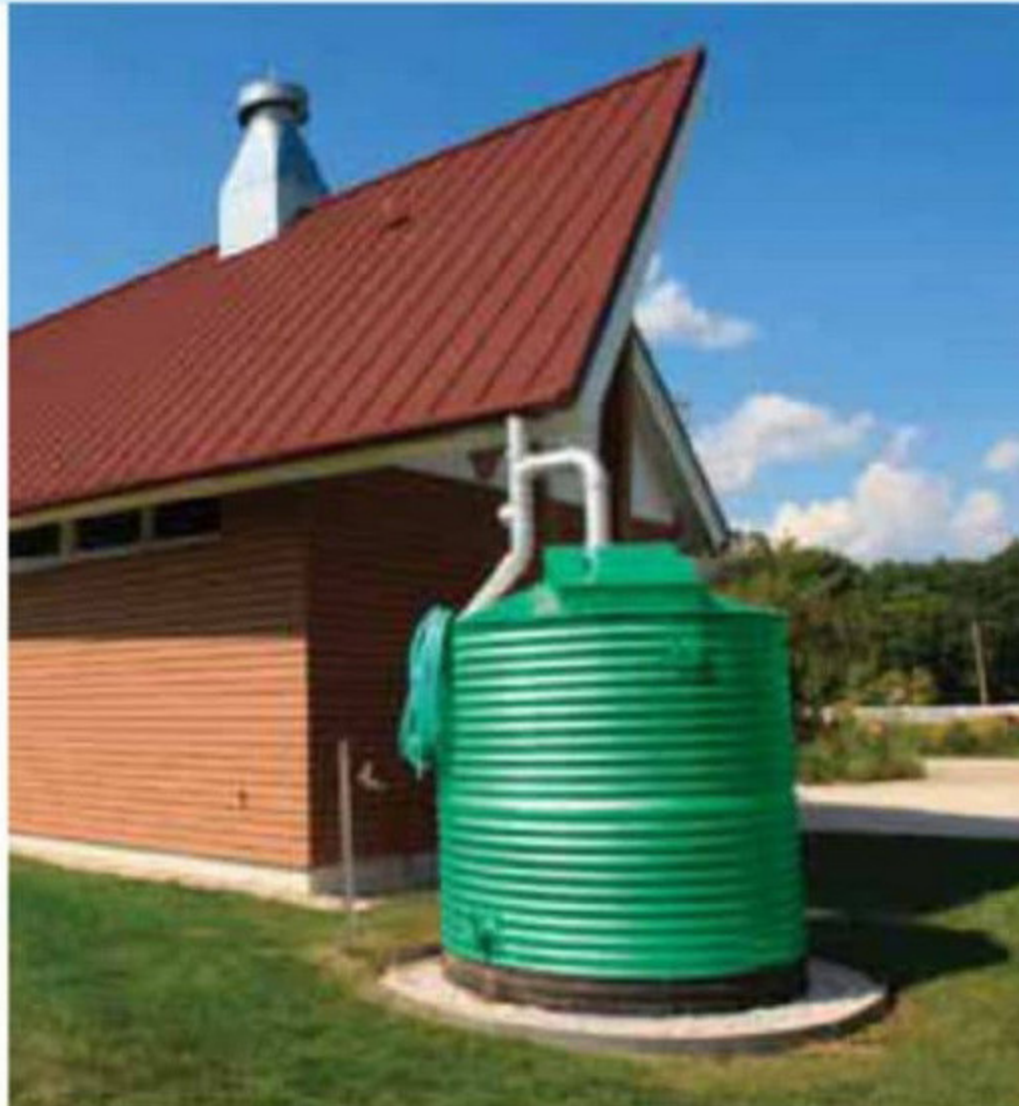
Plascon's new TradePro Roof & More is set to make waves in water conservation

It's good for roofs, it's good for consumers and it's good for the environment – what more could you ask for from a roof coating? Plascon's latest addition to its durable exterior coatings range, Plascon TradePro Roof & More, offers more benefits than ever – all in one product. It is the world's first all-in-one roof paint and acrylic waterproofer to offer a 10-year guarantee for both benefits, delivering the ultimate sun and rain protection solution to renewing, maintaining and protecting roofs. It is also available in eight modern, long-lasting colours.

But Plascon didn't stop there... What makes Plascon TradePro Roof & More even more remarkable is that it is Africa's first roof paint to be entirely free of the harmful APEO chemical compounds. APEO compounds are persistent and bio-accumulative when released into the environment and toxic to human and wildlife, especially marine life. All other conventional roof paints contain APEO compounds that, over time, are washed into the environment and eventually contaminate the soil, water tables, rivers and ultimately, our oceans. For this reason, many European Union and other countries have banned the use of APEOs.

Plascon TradePro Roof & More is APEO-free so by painting your roof with it you are contributing to a safer, healthier and more sustainable planet. Water, although a reusable resource, needs to be treated responsibly and conserved in order to avoid pollution and water shortages. South Africa is amongst the most water-scarce countries in the world and one way to use water more responsibly – and save more money on your monthly municipal bill – is to harvest rainwater from roofs. Since Plascon TradePro Roof & More is APEO-free it is safe for the harvesting of rainwater for non-potable use – good for you, good for the environment.

For more information, visit www.plascon.com



Furthermore, it is one of the first mini cordless tools to come with a handy battery level indicator. While most multi tools come with a complicated, time-consuming blade removable system requiring a tool to change the various blades, the Tork Craft TCOT001 requires no tool for blade changes, as it has a quick change Arbor hand-locking set up.

The set comes standard with a long life Li-Ion battery, a fast charger and some sample blades and heads, an HSS steel cutter, a high tensile steel scraper and a sanding pad with three different sanding grits.

For more information, call 011-314-7711 or visit www.vermontsales.co.za

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WINNER

Ivanca Pazzi

wins a Makita MT M8100B Impact Drill

Prizes are not exchangeable

Making the most of lockdown

WINNER

Over the enforced lockdown I have repurposed things laying around my house to create my own garden workstation. It was my first 'major' project. My other projects over this time were to upcycle my furniture with paint and fix little stuff around the house.

For the garden workstation I used an old table, a piece of wooden fencing, kids storage draws and a rubble bag at the back for storing the underpot 'thingy'.

I loved every moment. It kept me sane.
Ivanca Pazzi, by email



Ed replies: Great job Ivanca! It is amazing what we can repurpose around the home when we have little other choice.

Know your wood's moisture content

This is something I probably learned too late in my woodworking journey... When building with wood, you must know the correct moisture content of each piece of wood. Too dry, and the finished product may swell or crack. Too moist, and the end product may shrink or warp. It's no wonder experts say incorrect moisture causes 80% of all woodworking problems.

Therefore, it's critical to know the moisture content of each piece of wood before it is used. For instance, if you're planning an inlay job using two different species of wood, you'll need to know the moisture content of each type so that your inlay glue joints stay intact.

A failsafe way that I have found to avoid a ruined project is to use a moisture meter. I'm not sure if they are available locally, but a friend brought me back a Wagner meter

from the States, they are a provider for both professionals and hobbyists of accurate, professional-grade moisture meters.

To help solve your moisture problems easily and quickly, they also offer a free mobile app. This handy app calculates equilibrium moisture content (EMC), troubleshoots many common wood moisture problems, and accesses helpful resources. Just search for Wood H2O App where you usually get your apps. Hope this helps!

Dewald Pienaar, be email



Our house is a mess!



My problem might seem pretty trivial but it is a huge issue in my life – it's mess. I have always been messy, and my partner is messy too, but I don't enjoy being this way and need desperately to sort things out. We both work full time (in jobs that often encroach into our evenings) and have four children (twins aged ten, a three year old and a nine month old). We live in a smallish house and I can't stand the stuff everywhere.

I am sure people will just say tidy up, and we seem to spend our lives doing that, but I have come to the conclusion that I must be completely inefficient to be so ineffective. We are bright, intelligent people, but maintaining a tidy home in the way others manage to seems beyond us at the moment.

We aren't greatly sentimental about possessions and regularly try to have purges and chuck things out, but it is the day-to-day management that I seem to find impossible.

Diane Smith, Tshwane

Ed replies: *So you have four children aged from nine months to ten and you and your partner both work, often into the evening, and your house is messy? I think it would almost be a miracle if it wasn't!*

You don't tell me what your daily routine is like but I imagine that you have a school run to do, nursery drop-offs and then you go to work; and in the evening, you repeat all that. So work is an oasis where you can be tidy because you aren't being interrupted a million times a day by small people asking you to look at a butterfly they have drawn, or slightly larger people asking you to listen to the story they've just written.

Going on what you've said, I suspect that there is also a time issue. You say you've always been messy, but you could probably have managed it with binge tidying every now and then before you had children, but now you have other priorities.

Practical solutions: *Would you consider, and can you afford, getting any help in, even for a short while? Maybe a housekeeper/cleaner who could come a few times a week? Or even a local, older teenager?*

What about the twins? Do they help? Try zoning parts of the house, dividing it into small chunks and not thinking beyond the part you assign yourself that particular day (when I say you, I mean it in the plural, you and your partner, as there is no way that this should all be down to you).

Depending on where the mess is, you may want to consider buying a few things to help you sort it out. As you are a reader of The Home Handyman, maybe you can make some handy shelving units or even a command centre to help keep everything organised. Sometimes regaining control in small steps can help you to feel less engulfed!

Unless you have 24-7 staff, there will always be mess in a family house, but ultimately you may need to just realise that four children and two working parents is not going to give you a house from House & Home magazine. But maybe that's a good thing.

Reader's projects



The Home HANDYMAN

www.homehandyman.co.za

Willing to share your latest project with our readers? Send a step-by-step write up of how to make the project, along with step-by-step photographs (at least 300kb) and a picture of the finished product.

Email projects and photographs to:

editorial@homehandyman.co.za



Our competitions – the fine print

Prizes may not be exchanged for cash. The closing date is stipulated by the competition box. If not stipulated, it closes on the last day of the issue. For example: Jan/Feb edition. All competitions close on the last day of February. To enter simply e-mail your answer to: editorial@homehandyman.co.za and include your name, surname, address and a day time contact telephone number with your entry. Unless otherwise stipulated, competitions are lucky draws and the correct entry drawn on the closing date will be the winner. The prize may differ from the picture shown. By entering this competition you agree to all rules and accept that the decision of the publisher is final and that no correspondence thereto will be entertained. This competition is open to all readers of The Home Handyman except employees of THH, BB Print and employees who work for the company that sponsors the prizes and their immediate families. Prizes not claimed within 60 days will be forfeited.

Woodcrafter invents 'touch-less' tool to help us avoid touching surfaces

Despite a phasing in of economic activity, the impact of COVID-19 and the nationwide lockdown means that between three and seven million South Africans are at risk of losing their jobs. But for agile entrepreneurs, the forced closing of their primary business could be seen as an opportunity to create additional revenue and help in the fight against the spread of the virus.

Like many other South Africans, Brendan Tinsley's business ground to an abrupt and complete halt with the announcement of the lockdown and revenue dried up with it. Tinsley operates a small carpentry business building custom furniture and manufacturing and supplying products to the hospitality, corporate gift, and events industries.

After realising that there would not be an immediate return to 'normal' after the lockdown he knew he needed to develop a new revenue stream. He also acknowledged that the sooner the virus was contained and stopped spreading, the sooner lockdown levels would be lowered and so the concept of the Touch LESS was born.

"The idea of the Touch LESS came about from experiencing the anxiety of going out into public to do grocery runs. We need to open doors, touch trolleys, carry baskets, select products from shelves, touch speed point machines, and then pay for parking at the pay station. All these tasks require us to touch multiple surfaces that many other customers and store staff have touched that day or will touch later that day," says Tinsley.

Made from sturdy Birch Plywood the Touch LESS is a versatile hook and push tool that allows you to minimise direct skin contact with high traffic surfaces," he explains.

Tinsley developed a few basic handmade prototypes in his home garage to see what would work both functionally and aesthetically. Once lockdown lifted to level 4 he was able to return to his manufacturing studio to develop and refine the Touch LESS to the tool it is now. Developing the tool meant Tinsley would be able to generate an income as well as do his bit to help flatten the curve.

In the Tinsley family, the virus has had a heavy impact. "My sister is currently battling breast cancer and undergoing chemotherapy, so she is at an extremely high risk-level. My elderly parents, who are still working, are also high risk."

Tinsley concludes that the Touch LESS minimises the potential risk of contracting and spreading the COVID-19 virus as well as other harmful germs and bacteria. "This tool could also potentially have an impact on the front line reducing the need to regularly change PPE equipment such as gloves."

For more information, visit www.tinsleywoodcrafters.com

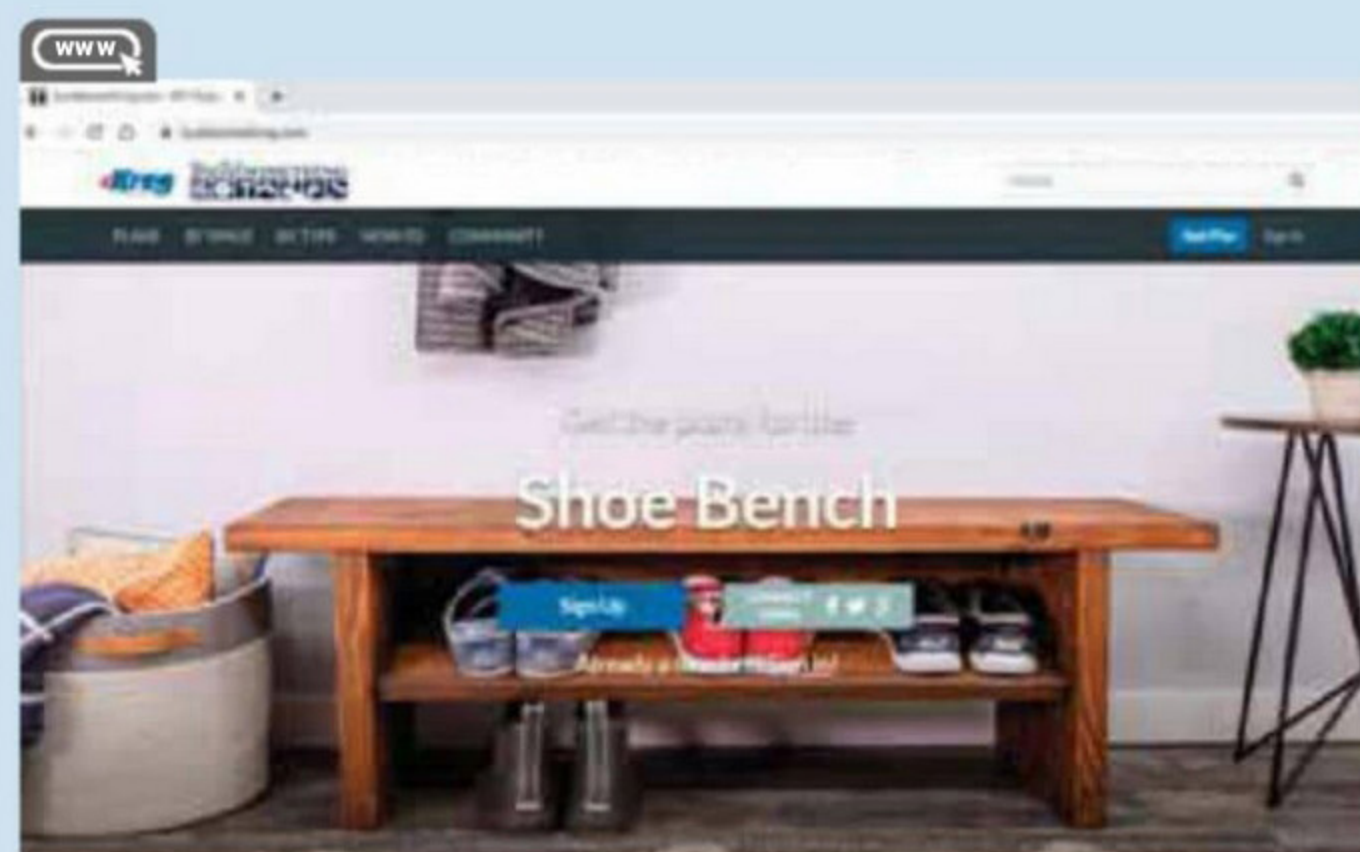


9 Free simple scrap wood projects from Kreg

A stunning new selection of nine simple free project plans is now available online from Kreg BuildSomething, the international leaders in pocket hole woodworking jigs and woodworking equipment. These plans are now available to all woodworkers, general homeowners, hobbyists and Kreg customers. Each project includes a full working plan of instructions, working drawings, images, sizes etc, and all can be downloaded free from Kreg BuildSomething.

Visit www.buildsomething.com then enter the plan you are looking for in the search box.

The new projects include a Plant Stand, Outdoor Side Table, Cookbook Stand, Simple Step Stool, Slide-in End Table, Saw Blade Organizer, Indoor Herb Shelf, Couch Arm Organiser and a watch Holder.



The range of Kreg jigs is available from Vermont Sales.

For more information, visit www.vermontsales.co.za

AmPro Tools returns to South Africa

The international leader in a comprehensive and extensive quality tool range, AmPro has returned to South Africa. After just 12 months back on the shelves, the diverse and extensive range of tools are already attracting local professional users, as well as dedicated DIY enthusiasts requiring robust, high-quality, service-ready gear at reasonable prices.

AmPro exited the local market in 2015 but have now returned having found a new home with Motus Aftermarket Parts (MAP). Part of the Motus Corporation, MAP are now the sole distributors for the entire range of AmPro tools which are available nationally at Midas and other independent stores in almost 100 locations.

“We are confident that as the exclusive distributor of the AmPro product range, we will create a new presence for AmPro in the market and are excited about the opportunities this will bring. We are looking forward to AmPro once again reclaiming its prominent position in the country with skilled artisans and discerning amateur users alike. We are ensuring this by widening the ranges product offering and making the products even more appealing,” says Aslam Mia, Product Specialist for the AmPro brand.

The AmPro product range is currently found in over 80 countries globally and the return to South Africa means that the entire product range which includes hand tools, automotive specialty tools, pneumatic tools and accessories, power tools and equipment, and tool storage for the hardware, construction, and automotive industries is now available. All enjoy the AmPro lifetime warranty that is a hallmark of AmPro offerings.

The ‘soft’ introduction of the range had already indicated that AmPro is remembered and respected in local markets. Sales had grown steadily since the introduction of the tools at about 100 sales outlets. The facts that the range is backed by MAP, who will be providing full technical assistance and AMPRO warranty support, had undoubtedly added to the range’s popularity, says Mia.

The AmPro name is derived from the acronym ‘I Am Professional’ reflects the approach taken to developing the brand established some 36 years ago, a brand that embodies the aspiration to build and provide unrivaled first-class products that constantly set the standard in innovation, quality, and performance.

“AmPro Tools has extensive expertise and experience and is well-positioned to quickly become the number one tool range in South Africa and other markets in Sub Saharan Africa. The range has room to expand and can easily keep up and evolve with current and future trends. We believe our commitment to the product will help to ensure that AmPro tools become fixtures in professional workshops, engineering shops, mines, at radiator and air-conditioning specialists, with auto electricians, OEM dealerships, pump rooms, fitment centres and DIY tool racks,” concludes Mia.

For more information, visit www.amprosa.co.za



COVID-19 is bringing everyone online, even your handyman

The Coronavirus pandemic has seen a rapid adoption of digital solutions; business apps, including video conferencing and collaboration tools such as Zoom and Microsoft Teams, saw a 90% increase in downloads in March 2020 compared to the same period in 2019.

Pivoting your business to a digital model is less obvious when your work relies not only on your physical presence but also your dexterity. However, some resourceful entrepreneurs are finding ways to do exactly that.

Enrico Madden, who owns a small construction company in Strandfontein, Cape Town, has started advising his customers over the phone and through WhatsApp video calls. “I’ve

helped over 20 customers to do things like repairing broken paving, replacing a windowpane or fixing a cupboard hinge,” says Madden.

“It started when I gave advice to a lady on how to deal with a termite issue on a Facebook group. She came back to say that my advice worked, and from there people started contacting me, and I charged them for my advice,” adds Madden.

In a recent survey by Stats SA, over 80% of small businesses surveyed reported a drop in turnover, and over 40% expressed doubt that they have the financial resources to continue operations. Exploring digital alternatives to standard business models may be one way to adapt to the crisis.



*If you are going to be watching
a lot of sport, splash out on
home theatre seating*

Making a man cave

Thinking of creating a man cave in your home? Then read on!

Thoreau had Walden Pond. Elvis had Graceland. Superman, the Fortress of Solitude. Bottom line – men need their space. A 2010 study at the University of Southern California of couples in their 30s and 40s found that men's cortisol levels dropped significantly when they had more solo leisure time in their own homes. "It seems that, when it comes to stress recovery, guys benefit from withdrawing a bit more than women do," says USC's Dr. Darby Saxbe, who authored the study. "The man cave phenomenon definitely fits in with the results of our research." (Quote that the next time your significant other gives you a hard time about watching sport all day).

Of course, not all man caves are created equal. You may have limited square meterage to work with, for one thing. Or your budget may not allow for a full-blown entertainment centre

with surround sound and a 72-inch plasma. But that shouldn't stop you from breaking ground.

Here, is some wisdom on constructing the perfect shrine to testosterone – no matter what kind of burrow you dig yourself into.

Draw detailed design specs

Any major home-improvement project like this requires serious planning and a keen eye. Take precise measurements of each wall of the room you want to transform, then sketch a rough layout on graph paper. That way, you can see your ideas come to life and erase mistakes, without putting in wasted physical effort.

Those with small spaces and apartments have to be more creative, so be sure to take into account obstacles such as that big pipe running from floor-to-ceiling

or an unmovable fireplace built into the wall. You really have to spend some time to figure out how the layout can work to your advantage. Maybe there's an alcove that would be perfect for a bar, since you want to place those out of the way of foot traffic.

That's really the key when it comes to conceptualising your man cave – think about how to fit your particular passions within the area's limitations, then let the design flow from there.

Get the right tools

Sure, every guy has the standard wrench, hammer, cordless drill and screwdriver. And those will work for most tasks. But if you need to cut drywall or sand down tile, you're going to need a little something extra in your arsenal. For cutting action, consider a circular saw or – if you have some money to spend – a mitre saw, which

works well for crown moulding or cabinet work. Table saws are great, too, for those that have the room.

Set up the TV

For most guys, one of the key elements to any envy-inducing man cave is a big HD flat screen. But size doesn't necessarily matter, especially if you have limited wall space.

Really, you just need the right setup. That means deciding whether you want a flat-mount, swivel or articulating arm (where the TV extends out), and getting the correct brackets for whatever kind of set you have. Once all that's done, mark up where you want the TV to go on the wall. One common mistake people make is mounting the set too high. When you're standing, you should be looking at the screen dead centre. That way, when you sit down, it's a more comfortable viewing angle.



A sports themed man cave for the sports inclined

No matter what setup you choose, though, there is a potentially life-saving suggestion for your entertainment centre: a separate decoder from the rest of the household: Now you'll have enough

space so you can turn on your sports or whatever you're watching, while your better half turns on her favourite show at the same time down the hall – and there will be no bickering.



Man caves don't have to be rustic, such as this classy example

Find a comfortable chair

Wherever a man lays his backside down is his home – so that's why you'll need some solid furnishings to make any sanctuary complete. Recliners are a great addition for a man cave which is used to just relax and get away. Many know what it is like to fall asleep on the couch and wake up with a stiff neck, and chances are, this will happen at least a few times while hanging out in your unique man cave. As a result, the universal item we all need in our ultimate man caves is a recliner.

Man caves are meant to be shared among the fellas, so you better have extra seating. We highly recommend home theatre seating, but more often than not, a big couch will do. Furthermore, when friends enter a man cave, they want to behave and act like men. There is no place on earth manlier than a bar and all bars need bar stools. Therefore, to add even more seating to your man cave, all man caves should include a set of bar stools. Have a look at our project later in this issue if you want to build your own.

Build a bar and stock it

For the average guy on a budget, building your own bar – rather than buying one fully made – is the way to go. If granite is too pricey for a bar top, consider Formica or high quality veneer plywood on the countertop that's beefed up so it doesn't sag. For authentic home pub accents, do your research online. Many sites have a lot of hard-to-find equipment – such as brass foot rails and tap handles – at competitive prices. Consider a vintage Guinness sign or an antique hat rack to add some authenticity.

Add those personal touches

This is your man cave and everyone who enters better know it is yours. Hence, you must add as many personal touches as possible. Before you go off grabbing pictures of the kids, remember, this is your room to get away. How about posturising that humongous bass you caught on your fishing trip last summer? Did you win your country

club's golf tournament? Highlight those accomplishments by showing off your trophies. This is your area to shine a light on yourself; you don't get many other opportunities, so now is your time to take it.

Man caves and sports go together like bars and beer. Chances are, if you are spending the resources to create your own man cave, you have one or two classic pieces of sports memorabilia hanging around your home. Now is the time to please the wife and remove that dining room poster of the 1999 Dream Team and put it where it belongs. If you are watching sports, you might as well be surrounded by it.

Furthermore, no true man cave is complete without at least one poster showcasing a real man movie. The first ones that come to mind include Scarface, The Godfather or Reservoir Dogs. Showcasing your favourite movies or TV shows gives all your guests a closer glimpse into the real you. The man cave is not only a place to get away, but a place to truly express yourself as this is most likely the only room you have complete control over. A man's favourite movies can say a lot about a person, so choose wisely

If space allows...

Other than the television, men need other forms of entertainment (sometimes). We are not sure when the first man cave was invented, but more often than not, they all have included a pool table. In the old days, it was just a means of playing a good old game of 8 ball. Now, men have gone above and beyond to make their pool tables as unique and extravagant as humanly possible.

Sticking with the entertainment end of the man cave, dart boards and poker tables are highly encouraged. Not only are both of these items useful during parties or get-togethers, but they are also perfect for friends of the wife and kids. You will not be there all the time and chances are, if you make your man cave as great as can be, other members of the family will want to partake as well.

9 tips for building the ultimate man cave

1. Take some time to walk through the space and visualise what you want your man cave to look like. Be realistic in your assessment of the space and function.
2. Pick an object (pool table, jukebox, picture) that you like and will make part of the room as your inspiration in choosing the overall look and colour of your man cave.
3. Measure your space (length, width, height) and transfer these measurements to graph paper scale. Use it to plan your man cave in detail. The more details you work out on paper, the easier the task of building will be.
4. Make a list of all the materials you will need to accomplish the build. If you're working with a budget, make sure to leave yourself a 10-15% allowance for miscellaneous or unforeseen costs. There will be some!
5. Make a list of all the tools you will need. Whatever you don't have you can either borrow from friends and family or rent from your local home improvement store.
6. If your build requires plumbing, electrical or air-conditioning work, contact licensed professionals for their input or services. Don't tackle something you're not comfortable with. If you hire a contractor, get a signed quote from that contractor for the work to be done.
7. Before you start your build, make a step-by-step list of what needs to be done in order. Schedule these plans with your contractor.
8. Ask friends and family to help with the build. Try to get people with some building skills so that they might help you direct your plan of attack.
9. Set goals for yourself and your team to accomplish each step of the build in a given time frame.

Man cave project 1: Make a sign with a bottle opener

Cut your timber to the required size and sand the pieces well. Wipe the boards down with a damp cloth to remove all dust particles.

Paint your boards with a sponge paintbrush. For this one a very thin coat of Burnt Sienna (darkest brown) is used and then very lightly brushed on tiny bits of the other colour, making sure to brush with the grain of the wood, to give it a bit of a variegated look. Once the paint is dry, sand the boards lightly again just to distress them a bit and help the wood grain show.

Cut your stencil design out of your chosen stencil material. Position your stencil and make sure it is adhered well and tightly to the boards. Burnish it really well before removing the transfer tape carefully, peeling back at a sharp angle. Tape off the edges of the stencil and the bottom area that will be



unpainted. First, seal the stencil edges to prevent leakage. Using a foam brush or a makeup sponge, 'pounce' your background colour (in this case, dark brown) paint very lightly on the letters.

Do two thin coats of the sealing paint. Wait until the first coat is just barely dry to the touch, and then re-coat. Now, it's time for your final colour. Using the same pouncing process, lightly sponge on multiple thin coats

of your lettering paint. Once you are finished with the last coat of paint on the lettering, it's time to remove the Man Cave lettering stencil. You want to do this while the paint is still damp – if you wait until it's completely dry, it may come up when you pull off the stencil. The paint should be just barely set – not shiny and wet anymore, but not fully dry.

Start by removing the painter's tape. Then, starting at a corner, gently start peeling back your stencil. Go slow and steady and don't be afraid to tear the stencil. Remove all the parts you can with tweezers, and then work on the rest. The small inside parts of letters and tiny details you may need to pull off with a pin. Once the sign is fully dry, you'll want to coat it with some kind of poly sealer. Once your sign is sealed and cured, you can attach the bottle opener.

Man cave project 2: Bottle top table top

Ever thought you could do something with all those used beer tops? Well why not use them to repurpose a table top for your man cave?

Make sure your beer bottle caps are flat, clean and dry, then start laying them out on the surface of the table you plan to glue them on. It's important not to skip this step because you want to make sure you have the bottle caps arranged without any weird gaps between them. Once you've figured out a pattern you like and everything fits nicely on the surface of the tabletop, it's time to glue the beer bottle caps in place. You can use any type of glue you'd like as long as it's all purpose and bonds to both wood and metal.

There are several ways you can go about the order in which you glue the caps down. Depending on the shape



of your table, you can start gluing on one side and work your way across, or you can start around the perimeter and work your way towards the middle. After you have all the bottle caps glued

down, make sure you allow the glue to dry for at least 24 hours.

The next step is to pour epoxy evenly over the beer bottle caps. Epoxy is the clear coat you see on most of these types of tables. It comes in two parts and it's important that you follow the instructions that are included with the epoxy, because each brand will differ slightly as to the ratio of the Epoxy Surface Resin versus the Epoxy Hardener. Make sure you use it in a well-ventilated area. Also, it can become quite messy, especially if it's running over the edge of a table, so make sure you put some sort of floor protector down, such as a plastic tarp. To ensure all of the gaps in between the bottle caps are filled, use a float to spread the epoxy evenly over the top of the table. Once the resin has been poured, allow the tabletop to cure for 24-48 hours, and then it's done.



MAKE YOUR OWN BAR STOOLS

This handsome stool makes the perfect companion to any indoor or outdoor bar height table, but it would also be great in lots of other places. At about 610mm tall, the stool is just right for a standard-height counter or island. You can build one from just four boards – we chose cedar boards for outdoor use.

Tools and materials

Tools:

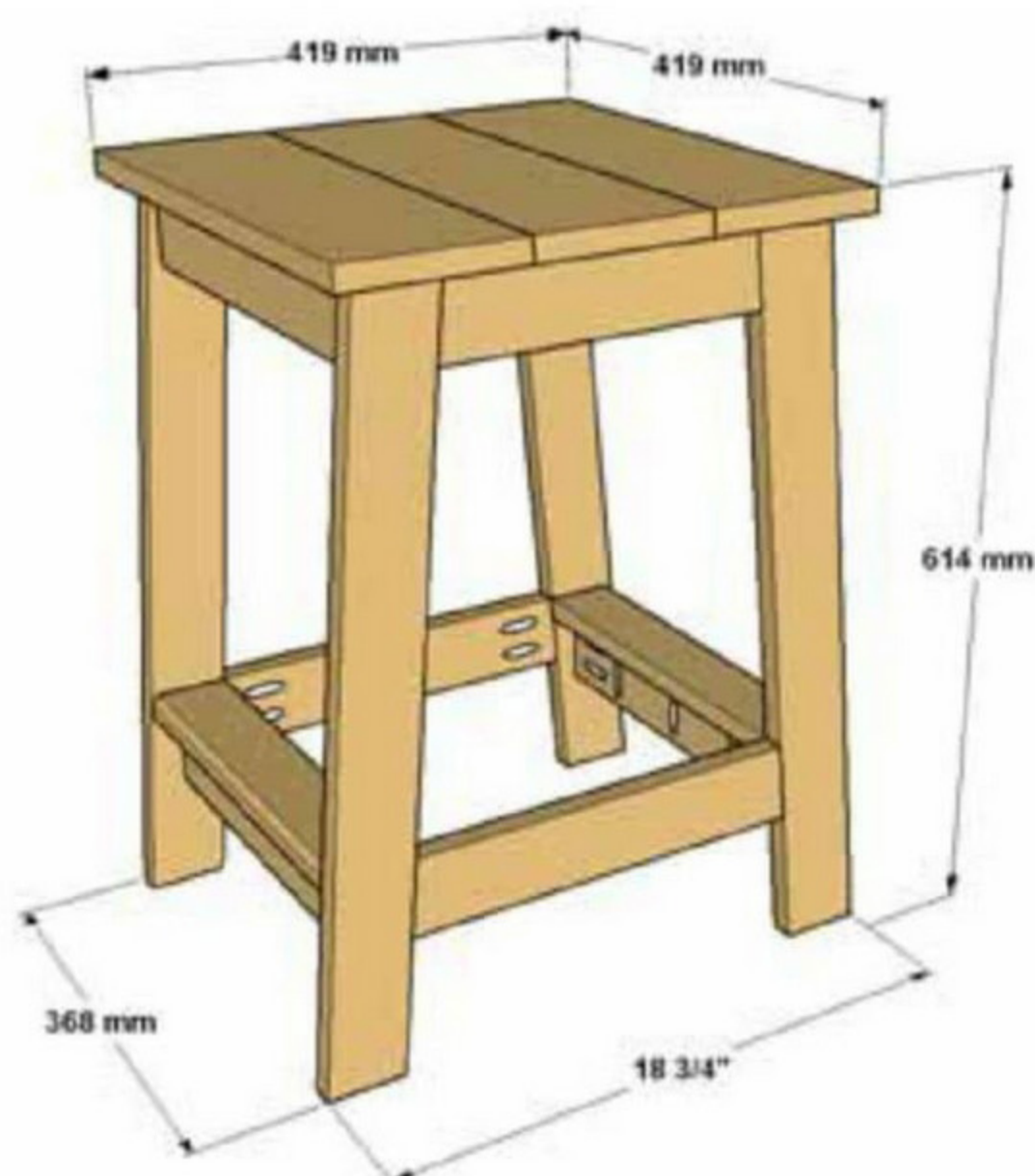
- Drill/driver
- Pocket hole jig
- Miter saw
- Sander
- Tape measure
- Combination square

Hardware & supplies:

- 100 count box 32mm Blue-Kote™ Kreg Screws
- Waterproof wood glue

Cutting list

- 1 x 19mm x 64mm x 2400mm cedar board
- 2 x 19mm x 64mm x 1800mm cedar board
- 1 x 19mm x 140 x 1800mm cedar board



The overall design with dimensions

PARTS LIST

QTY	NAME	MATERIAL
(4)	Leg	19mm x 64mm x 603mm
(2)	Long side rail	19mm x 64mm x 330mm
(2)	Short side rail	19mm x 64mm x 257mm
(2)	Foot rail	19mm x 64mm x 330mm
(2)	Seat rail	19mm x 64mm x 330mm
(2)	Foot cap	19mm x 64mm x 330mm
(3)	Seat slat	19mm x 140mm x 419mm

Step-by-step guide

Step 1: Before you go get your timber and supplies, decide how many stools you want to make. The materials list and cutting diagram, provided by the experts from Kreg, show what you'll need to build one stool. So, if you're building two stools, you'll need twice as many boards. Each stool also requires about 60 pocket-hole screws, so we specified one 100-count box. You'll need to get more screws, as well, if you're building more stools. Speaking of the screws, we used Kreg Blue-Kote Pocket-Hole Screws, which are designed to resist moisture for outdoor use. Also be sure to choose waterproof, or at least water-resistant glue. Standard wood glue won't withstand moisture outdoors.

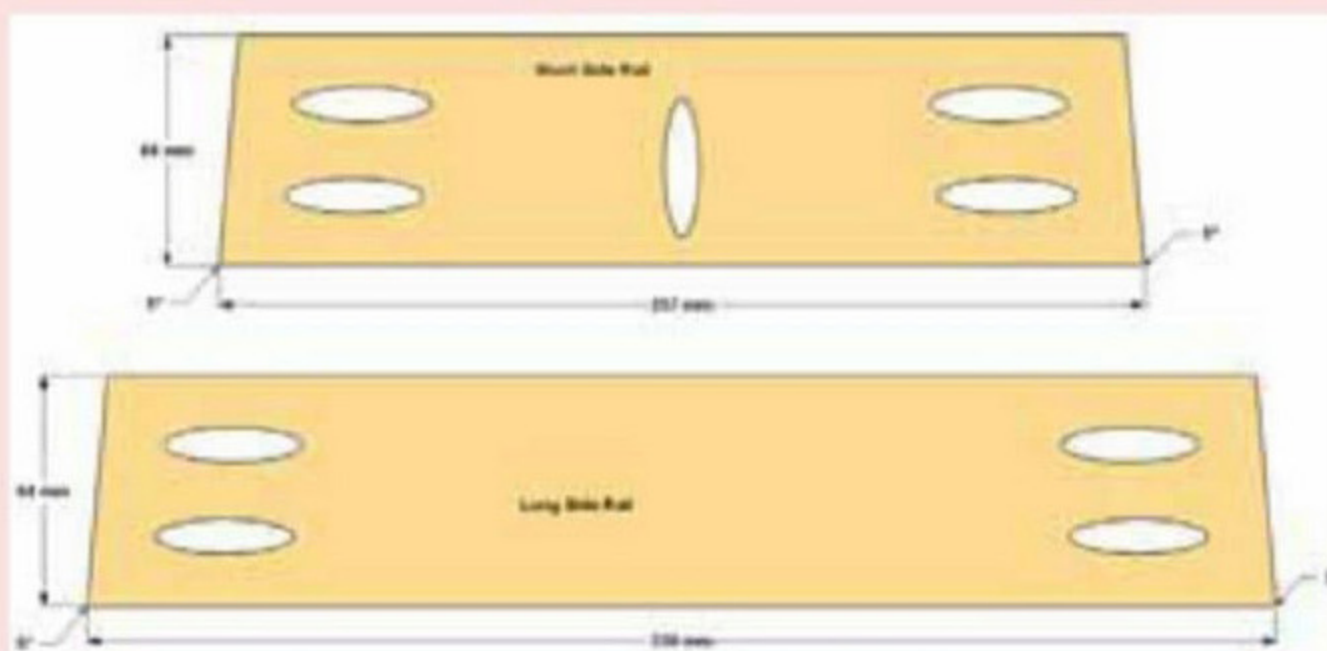
Step 2: Set your miter saw to 5°, and then cut four legs to length from a 19mm x 64mm board, as shown in the cutting diagram. Note that the leg measurement is shown from long end to long end. Also, for the legs, the angles on the ends should be parallel. By the way, if you'd like to make taller stools, you could make the legs longer.

Step 3: Cut two long side rails and two short side rails to length from a 19mm x 64mm board, as shown in the cutting diagram. Note that this time, the angles on the ends aren't parallel. They're opposed to create a 'wedge' shape. So, when cutting, you'll need to cut one end, and then swing your miter saw 5° in the other direction before cutting the other end. Or you can flip the board over—so the opposite edge is against the fence for the second cut. Once you have the pieces cut, set your Kreg Pocket-Hole Jig for 19mm-thick material, and then drill pocket holes in each of the rails, as shown. Cedar typically has one smooth face and one rougher face. For the best look for this project, drill the pocket holes in the rough face of the rails – and in the rest of the parts in this project.

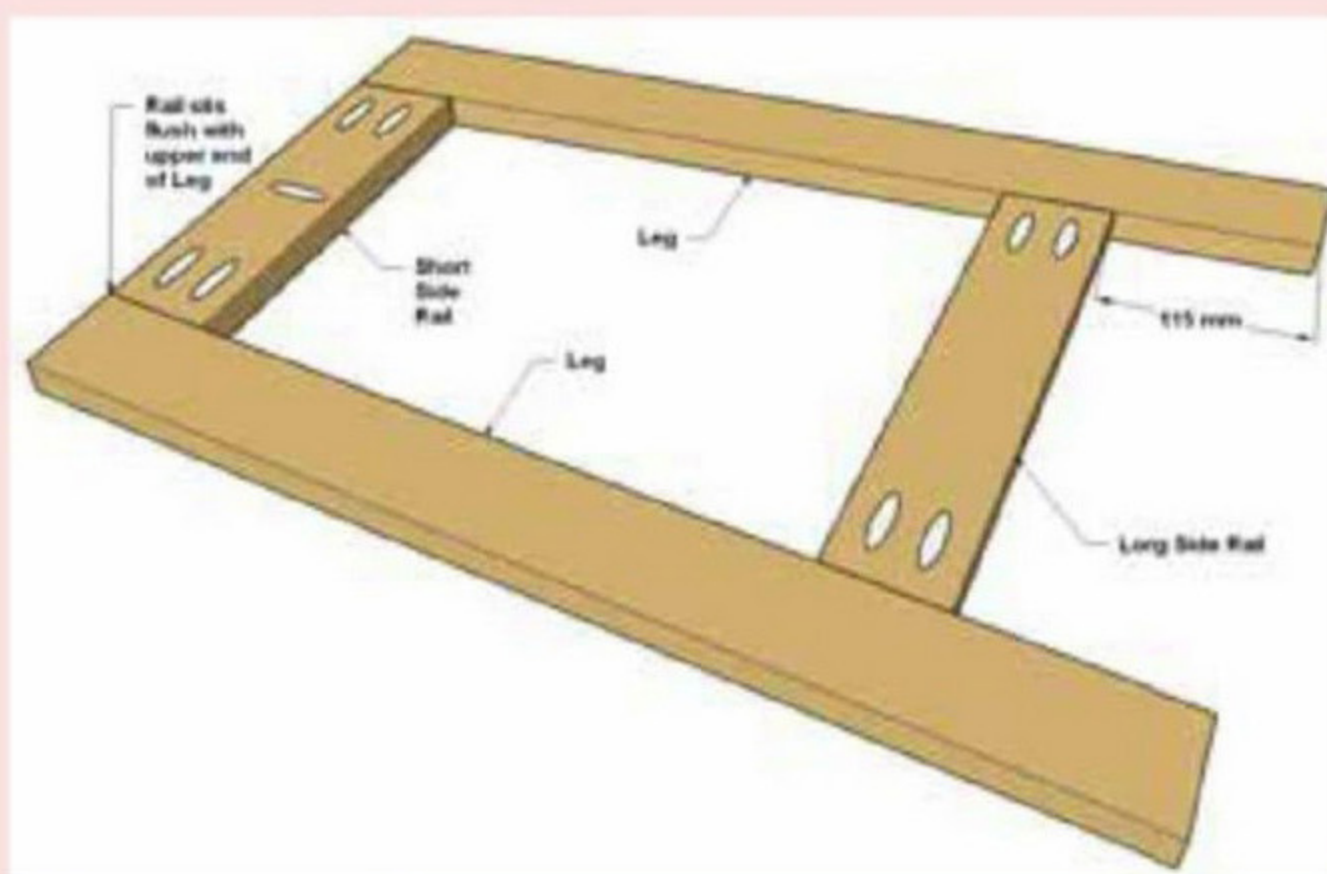
Step 4: Set the one long side rail against one Leg at the location shown, making sure that the Leg is oriented



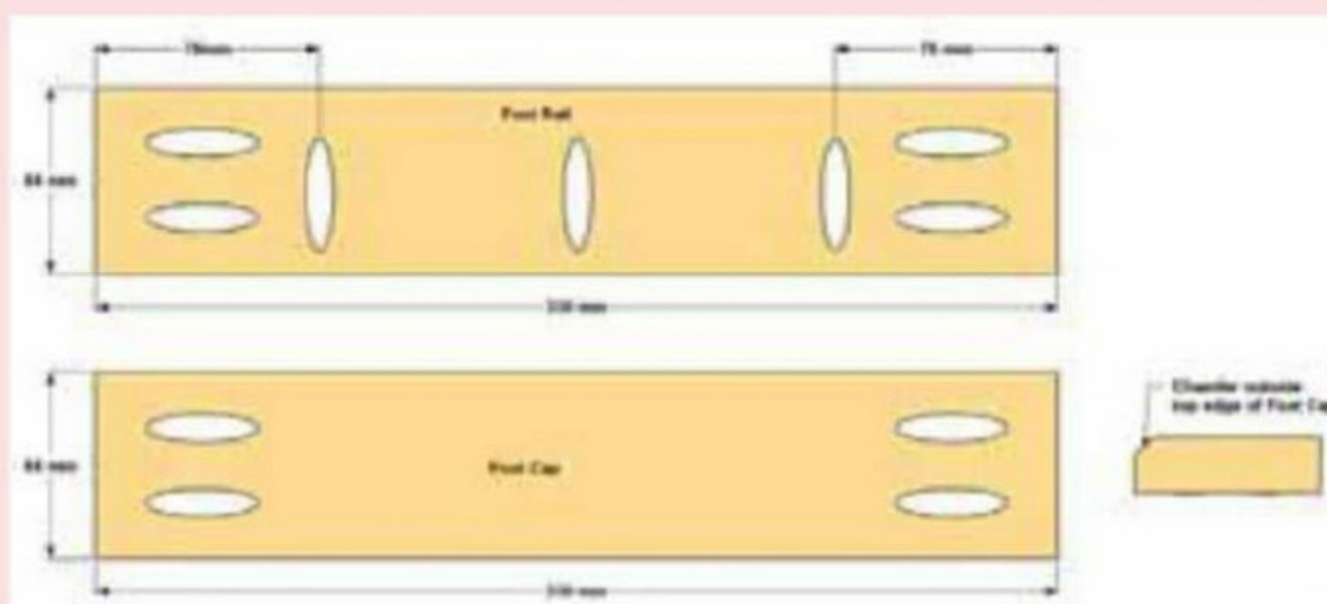
Cut the legs



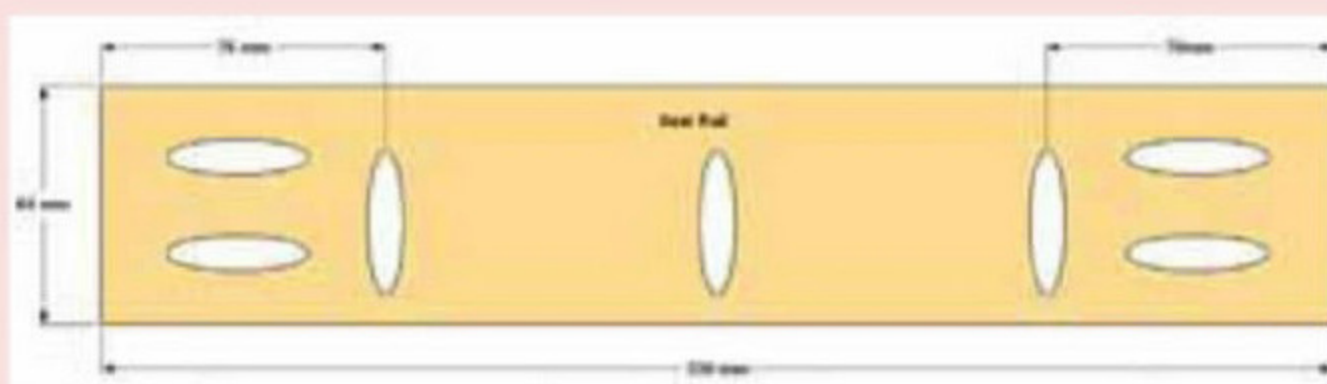
Make the side rails



Assemble the sides

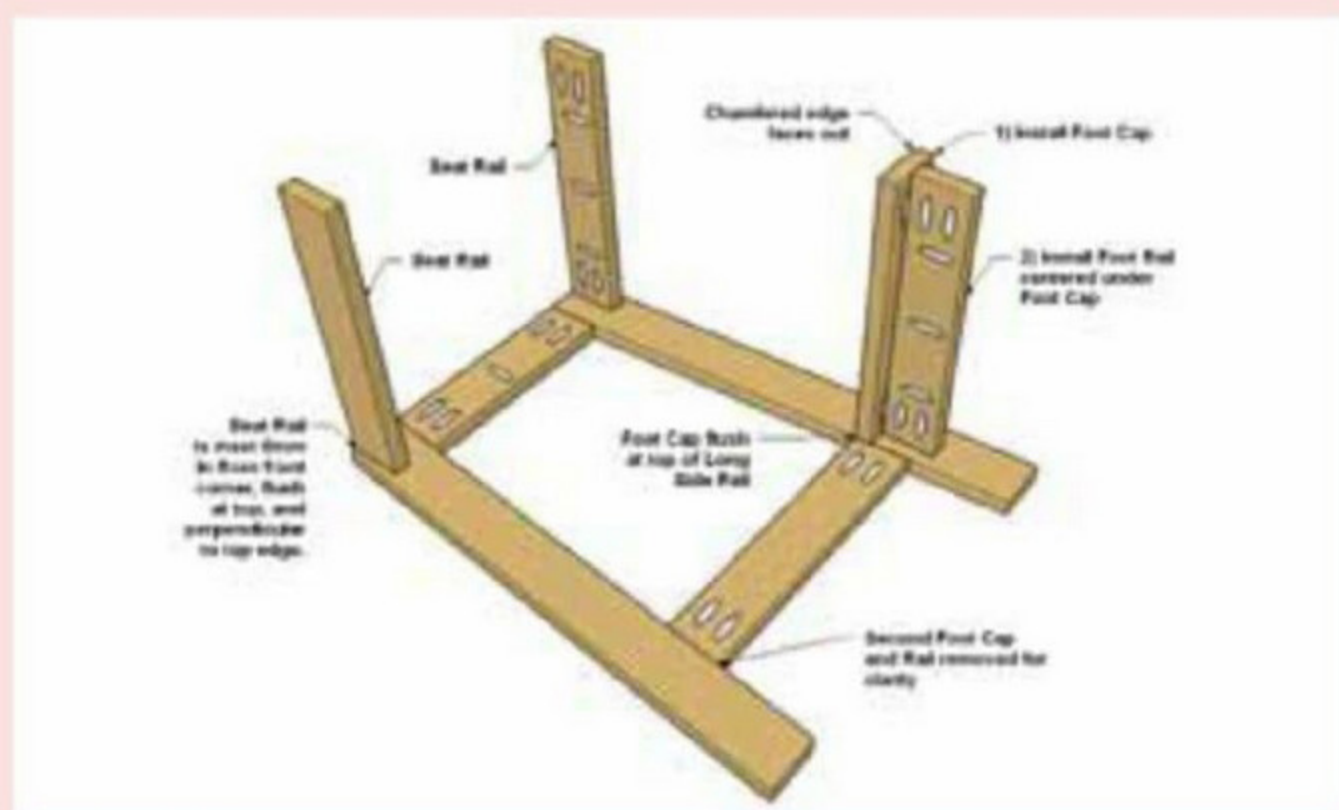


Make the foot rails and caps

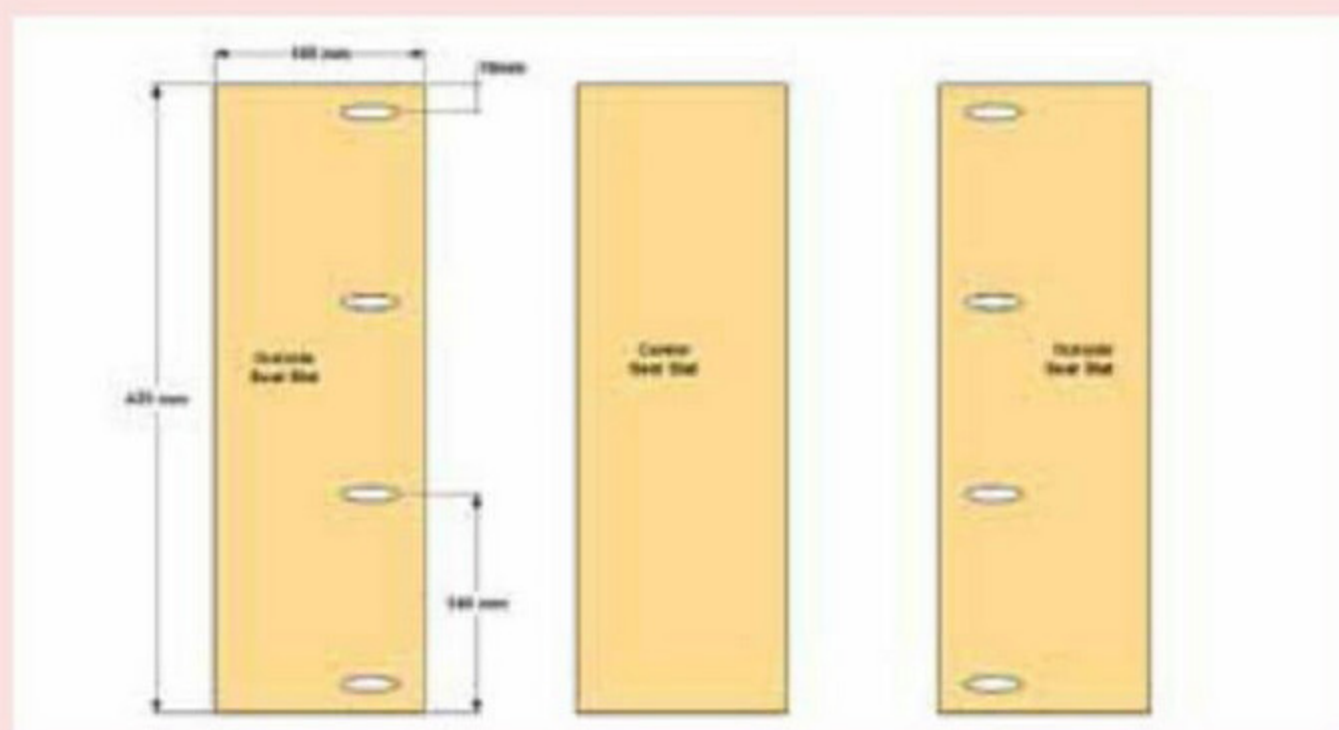


Make the seat rails

You can build one from just four boards – we chose cedar boards for outdoor use.



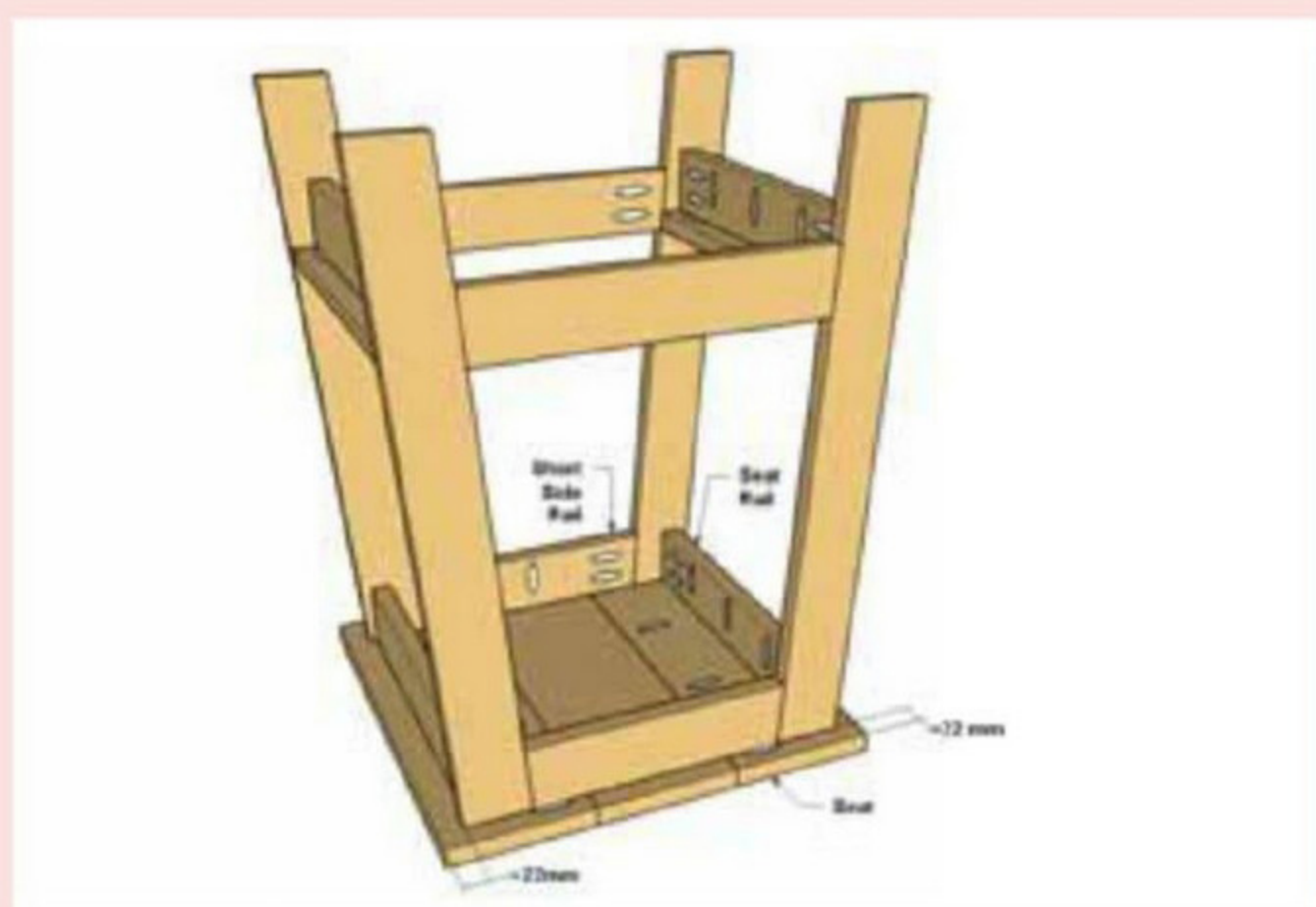
Attach the foot cap and rails



Make the seat slats



Assemble the seat



Install the seat

correctly. Assemble the parts using waterproof exterior wood glue and 32mm Blue-Kote Screws. Next, set the short side rail flush with the upper end of the leg, as shown, and secure it with glue and screws. Next, add the second Leg to complete one stool side. Repeat this to create the stool side. Sand the outside face of each side as needed, and sand the inside face enough to remove just the loose wood fibres.

Step 5: Cut two foot caps and two foot rails to length from a 19mm x 64mm board, as shown in the cutting diagram. Drill pocket holes at the locations shown. On each foot cap, ease one long top edge, as shown. If you have a router, you can do this with chamfer bit. If you don't have a router, you can sand the shape.

Step 6: Cut two seat rails to length from a 19mm x 64mm board, as shown in the cutting diagram. Drill pocket holes at the locations shown. Sand the pieces as needed – but don't sand the ends.

Step 7: Lay one of the side assemblies on a work surface with the pocket holes facing up. Set a foot cap in position so the upper face is flush with the upper edge of the long side rail, as shown. The chamfered edge should point outward. Attach the foot cap to the Leg using glue and 32mm Kreg Blue-Kote Pocket-Hole Screws. Next, position the foot rail so it is centered under the foot cap, and then glue and screw it to the leg and the foot cap. Repeat this to attach the other foot cap and rail. Then position the seat rails as shown and secure them to the legs with glue and screws.

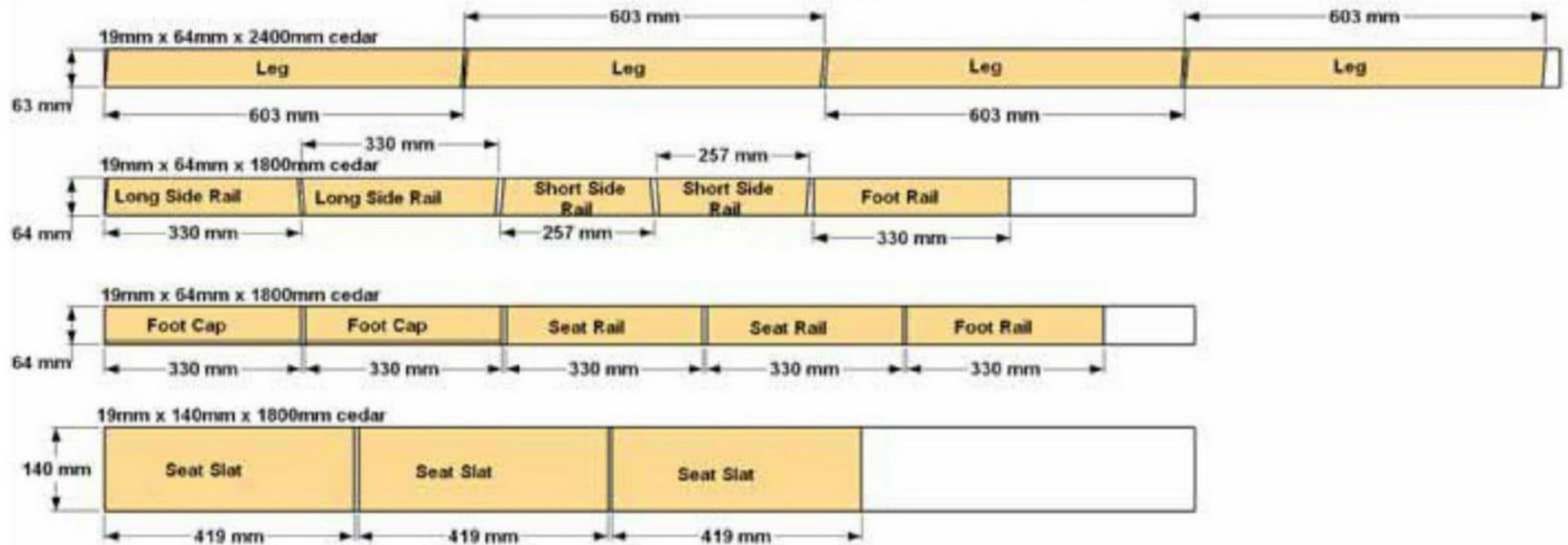
Step 8: Attach the other side frame assembly to the rails and cap the same way as the previous step to complete the base.

Step 9: Cut three seat slats to length from a 19mm x 140mm board, as shown in the cut diagram. Drill pocket holes at the locations shown in just two of the three slats.

Step 10: Glue and clamp the three seat slats together as shown. Secure the three boards together using 32mm Kreg Blue-Kote Pocket-Hole Screws. Sand the seat flat as needed.

Step 11: Lay the seat assembly on a flat work surface with the pocket holes facing up. Flip the stool base upside down and place it on the seat so that it is centered, as shown. Then secure the frame to the seat using glue and 32mm Blue-Kote™ Kreg Screws.

Step 12: Complete any final sanding, and then apply a quality exterior finish. We used a natural cedar tone transparent stain.



The cutting diagram



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JAWHORSE

Specification

Max. clamp capacity	0 - 880 mm
Max. clamp force	1000 kg
Max. load	200 kg
Fold size	765 x 300 x 330 mm
Standing size	940 x 890 x 880 mm
Machine weight	16 kg

Feature

- Securely clamps items as thin as paper to as wide as a door
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- Ergonomic work position thanks to the table height of 90 cm
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Technical data

Table dimensions (mm)	1.157 x 773
Table height, legs folded away (mm)	180
Table height, legs unfolded (mm)	900
Max. workpiece thickness (mm)	78
Max. workpiece width (mm)	700
Load capacity (kg)	120
Weight (kg)	28

Multifunction table MFT/3

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Pro tips for neater painting

These top tips from expert painters will make your next paint job a smashing success.

Wait for dry weather

Humidity means drips and slow drying, so avoid painting on a rainy day. If you must paint when it's humid, take your time – and take advantage of slow-drying paint to correct your errors before moving onto the next coat. But don't overwork it, or it will show when you're finished.

Do a thorough visual inspection and prep

Any cracked, flaking, or peeling areas need to be lightly sanded or scraped (and then thoroughly rinsed) before applying new primer and paint, because

the weight of the new coat will pull the old paint loose. You will just end up wasting your time and money if you don't tackle that first. Greasy spots may also need a bit of washing with soap, followed by a rinse with clean water. Otherwise, give the walls a quick wipe-down with a damp cloth so that paint will have a clean, dust-free surface to stick to.

Buy high-quality brushes, roller covers, and painter's tape

If you're splurging on great paint, you definitely don't want to pinch pennies on the application. Good brushes and

roller covers give excellent coverage so that you don't waste time and paint on re-application, and high-end painter's tape is the real deal when it comes to sealing out drips and blurs. Pros spend the money for high-quality tape, rather than using masking tape, and you should, too. Use a putty knife or mini scraper – not your finger – to remove air bubbles and seal the edges to prevent drips and ensure sharp lines.

Know your nap

The more texture your walls have, the thicker the nap you will want on your roller cover so that it can reach into



crevices and give complete coverage. But if you go too thick, you might actually create texture where you don't want it, so be prepared to give your salesperson details about what you're painting.

Protect anything you don't want painted

You will never regret the time you spend covering floors, furniture and hardware before you begin a paint project. Drop cloths are a must, and small plastic sandwich bags secured with tape are an easy way to protect doorknobs.



Remove light switch and outlet covers

If you're impatient, you'll be tempted to skip this five-minute step, but don't. The results are worth it.

Use primer

Paint-and-primer combinations are fine if you already have a clean, smooth surface, but if there are any issues with the wall or it has been more than eight years since you last painted, bite the bullet and go with a separate primer. If you need to cover an especially challenging surface (say, glass or high-gloss paint), use a bonding primer.

Box your paint

Get your salesperson to help you with a realistic estimate of how much paint you'll really need so that you can buy it all at once. Then, instead of using one paint tin at a time, combine all the paint into one large container and mix it thoroughly. This is known as 'boxing' your paint, and it keeps your colour consistent from beginning to end.

Let the roller do the work

Today's premium paints flow on easily, and you've already chosen a good roller cover (right?), so there's no need to use much pressure. Be sure to use an extension pole so you can reach the maximum amount of area with the least effort – and without straining your back.



Painter's tape is well worth the extra investment

Paint from top to bottom

After you've cut in your edges at the ceiling and baseboard using a brush, use your roller to apply paint from the ceiling downward. Amateurs often have tell-tale drips and spatters at the end of a paint job, but pros paint right over their mistakes as they work their way down the wall. Once an area starts to dry, it is best to leave it alone. Going back over it can leave marks and colour streaks in the paint's surface.



Get the salesperson to help you with a realistic estimate of how much paint you'll need

Clifford Thackwray uses a story stick to ensure perfect shelving.



DO IT YOUR SHELF

I was recently tasked with installing five vertically arranged bookshelves, each supported by four wall brackets. My past attempts at shelving have never been satisfactory. The brackets didn't line up horizontally, and the legs were never perfectly vertical, making the arms stick out at various angles like a bad haircut. Although the jobs were alright in the

end, they always left me unhappy with my craftsmanship. I reckon the causes were inaccurate marking out and the drill bit moving off the mark as the drill was triggered.

My plan to overcome these problems was to use a story stick. This was the straightest piece of pine, 68mm x

20mm that I could select at the timber merchant. It was the same length as the shelves, in this case, 2440mm, and I marked it on one face with the positions of each bracket in a row. The theory was that the stick would be lightly attached to the wall with a couple of masonry nails, its bottom edge aligned with the top of a shelf. The end of the stick would

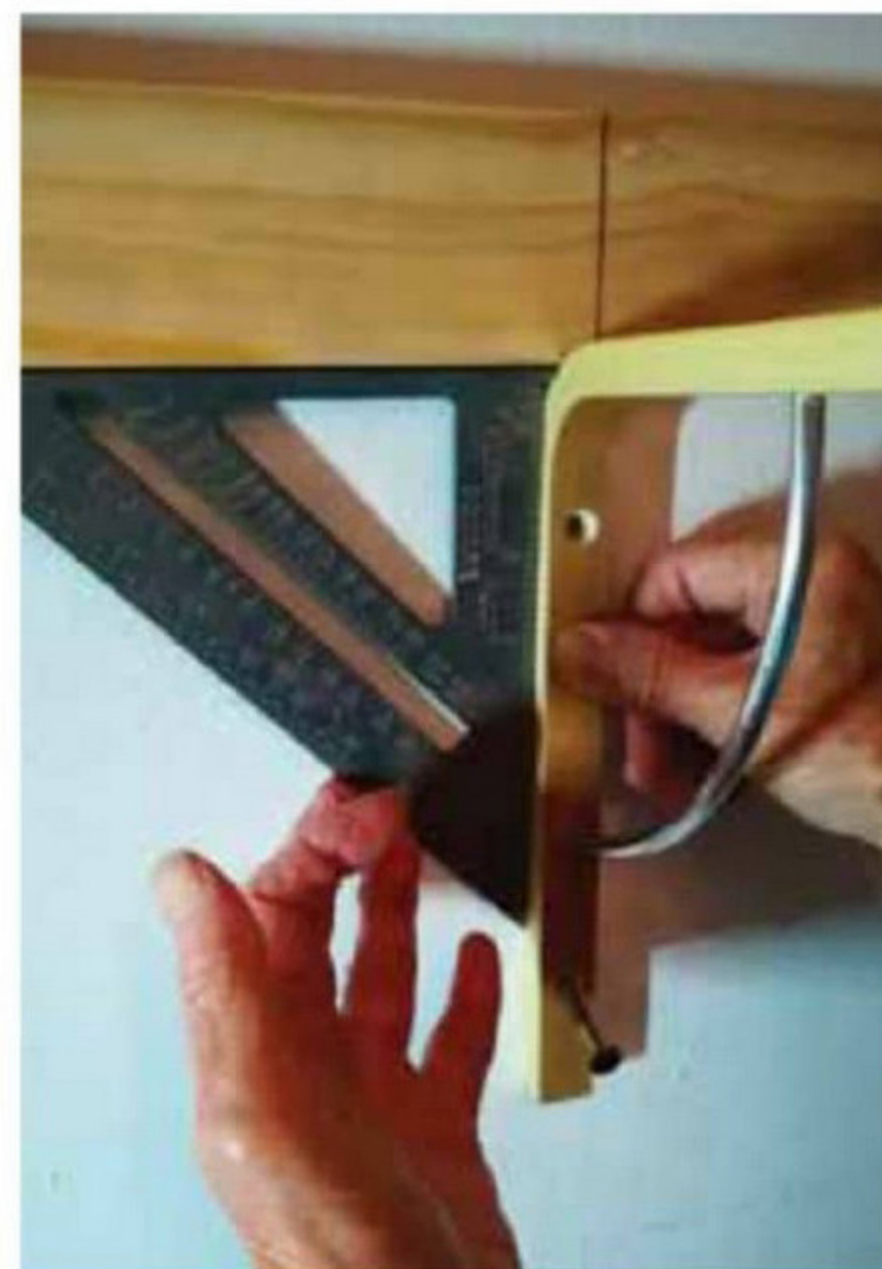


Story stick in place for lowest shelf. The holes below the stick are as drilled through the bracket, those above have been opened for the wall plugs

correspond with the ends of the shelves, and it would be perfectly horizontal.

It would then be easy to drill the holes for the wall plugs using a jig pushed up against the stick at each bracket position. The jig would have holes corresponding to those in the brackets so by drilling through them the need for marking out would be avoided. Since the jig would be firmly located by the story stick, there would be no danger of the drill bit moving off the mark when the drill started. Once the holes for a row were completed, the stick would be pulled from the wall and nailed in position for the next row. The damage to the plaster would be easily fixed with some filler later.

Alas, as always, plans and reality diverged. When I looked closely at the wall brackets, I found the holes provided for fixing to the wall were too small and, worse, inconsistently placed. Drilling these holes bigger, and countersinking them was a minor problem; but with their placement so irregular, use of a jig was not possible. The brackets had to be located individually. This was not too great a problem. The brackets themselves were used as a guide; holes were first drilled through the brackets with a masonry drill the same diameter as the screw hole and then re-drilled afterwards with a larger drill to take the wall plugs. I did not want to use nail-ins for this job.



Positioning the bracket against the story stick

Apart from one glaring flaw in the design, I am pleased with this job. The outside corners of the shelves should have been trimmed at 45° to eliminate the sharp corners.

Apart from the story stick, I had a decent drill for the work. This made a big difference. Previously I had grown tired of putting a lot of physical effort into drilling into hard walls with low-cost DIY impact drills. They are just not up to the job. So I had splashed out on a Bosch rotary hammer drill from their professional range. What a splendid machine! Holes were made in seconds with little effort rather than minutes of sweat and strain. The holes were also true, not off line or misshapen. An investment and a pleasure to use.

Full disclosure: I have no relationship with Bosch, and I get no considerations from them. I paid the full price for the machine (which is high for an old-timer like me, who once paid the same amount for a brand new Peugeot 404). I am sure there are several other brands of equivalent machines which would do equally well.

So there it is. With a story stick and a good drilling machine, I was able to do a shelving job I am proud of.



All the brackets in position

Jeff Hollingdale shows you how to make a handy C-table for your lounge.

'C' the table?

I decided that I would organise a side table to have my coffee and cake, cell phone and glass of wine handy instead of balancing a tray on my lap whilst checking out the sport news on TV. After thinking about various side table options, the easiest was to make a C-table. Plus, I could easily do the job with a minimum of materials and hand plus a few power tools.

Tools and materials

- Timber: 3 x 1.8m x 44 x 22 Pine Par (see Fig 1. for the cutting list)
- Cordless drill
- Various wood drills
- Cordless screwdriver
- Tape measure
- Steel rule
- Handsaw (fine toothed)
- Adjustable square
- Depth marking gauge
- 12 and 18mm chisels
- Wood rasp, medium cut
- Rubber mallet
- Wood clamps (4)
- Sander
- 120 and 220 grit sandpaper
- Wood filler
- Masking tape
- Wood glue
- Wood stain
- Wood sealer
- 4 x 40 x 4mm cut screws
- 8 x 35 x 3mm cut screws

Step-by-step guide

Step 1: Measure on your settee/armchair the gap between the bottom and the floor; the clearance needed between the bottom of the settee/armchair and the arms. In my instance I needed 20mm gap at the bottom with a little over 600mm for the side arms. The tabletop doesn't need to be very big, just enough for a mug or a beer glass, a small plate and, of course your phone or TV remote. I had a piece of Formica topped shelving 250 x 480mm. The table frame is made up of standard pine par 1.8m x 22 x 44 or 1.8m x 45 x 20. Because I had the 22mm format, I had to get a metre of it shaved down to 20mm.

Depending upon your measurements (see Fig. 1) cut the timber to the lengths you need. Remember the old adage of measuring twice before cutting, mark out the cut line with an adjustable square, so that if you're using a hand saw/back saw you don't cut at an angle which is not a right angle and you remember to allow for the thickness of the saw cut. Or, of course, you can get the guy at the timber shop to cut everything to length on the table saw.

Measure the gap at the base, the height of the arm.

Step 2: Mark out and cut the profile for the eight pieces used to support the top and those used for the feet. For the curves a template can be made from cardboard trimmed to shape. Mark the profile on each piece with a sharp pencil. I used a hand saw to cut the corners off and then a wood rasp. You could use a jig saw to do the job. To complete the shaping, clamp a set of top support pieces/foot pieces

together and then used the rasp/120 grit sandpaper to finish until the shape is the same profile.

We need to drill and counter-bore the top supports to be able to attach the tabletop. Drill the 4mm holes first. If you've got one, an attachment which keeps the drill at 90° is handy; if not, 'eyeball' the power drill to keep it 'square' as you drill. The counter bore with an 8mm drill is easy to do if you use a 'drill-stop' as a depth setting. Otherwise wrap a piece of masking tape around the drill shaft to act as a visual guide.

Step 3: It's glue-up time. Ideally you need about six wood clamps, four at a minimum. Position the pieces so that you can apply an evenly spaced series of glue blobs down one side of each length and on the ends butted together (see Fig. 2). Using a paint brush dipped in water, evenly paste the glue down each length and the ends. Avoid over-gluing as it will 'squish-out' when clamping and you'll have to spend time later cleaning off excess glue. Clamp the pieces together double – checking with a square that the short pieces are at right angles to the long pieces. The way in which each piece is sandwiched together provides a strong assembly which won't need screws or dowels to hold it together. Leave the pieces clamped together for at least four hours.

Once one side support assembly is set, you can glue-up and clamp the other side assembly.

Step 4: Clamp a side support onto a work bench (I used a 'Work Mate') to position it to be able to mark-out and cut – out the slots for the cross-support pieces. Again, take care with

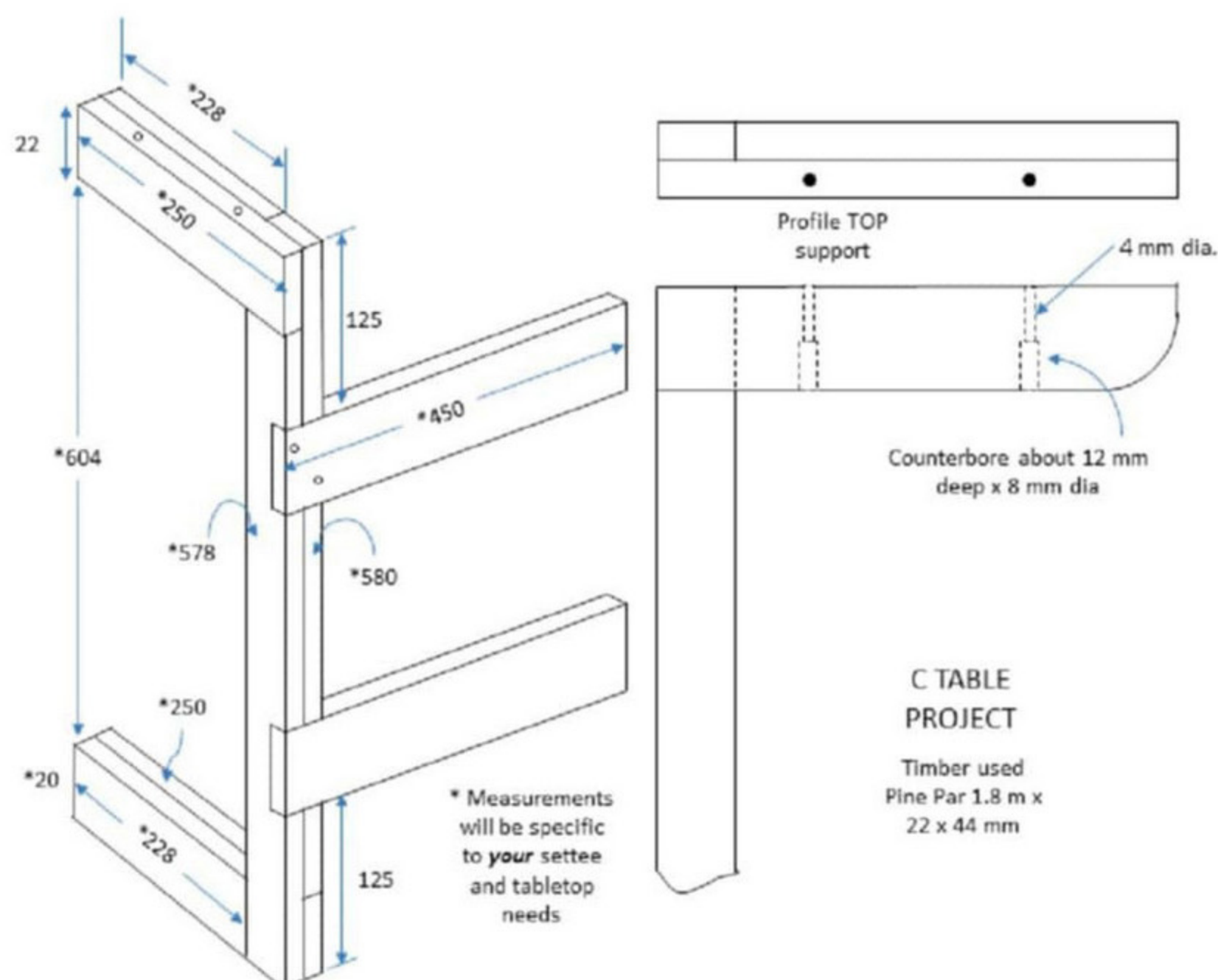


Fig. 1: Cutting list and joining

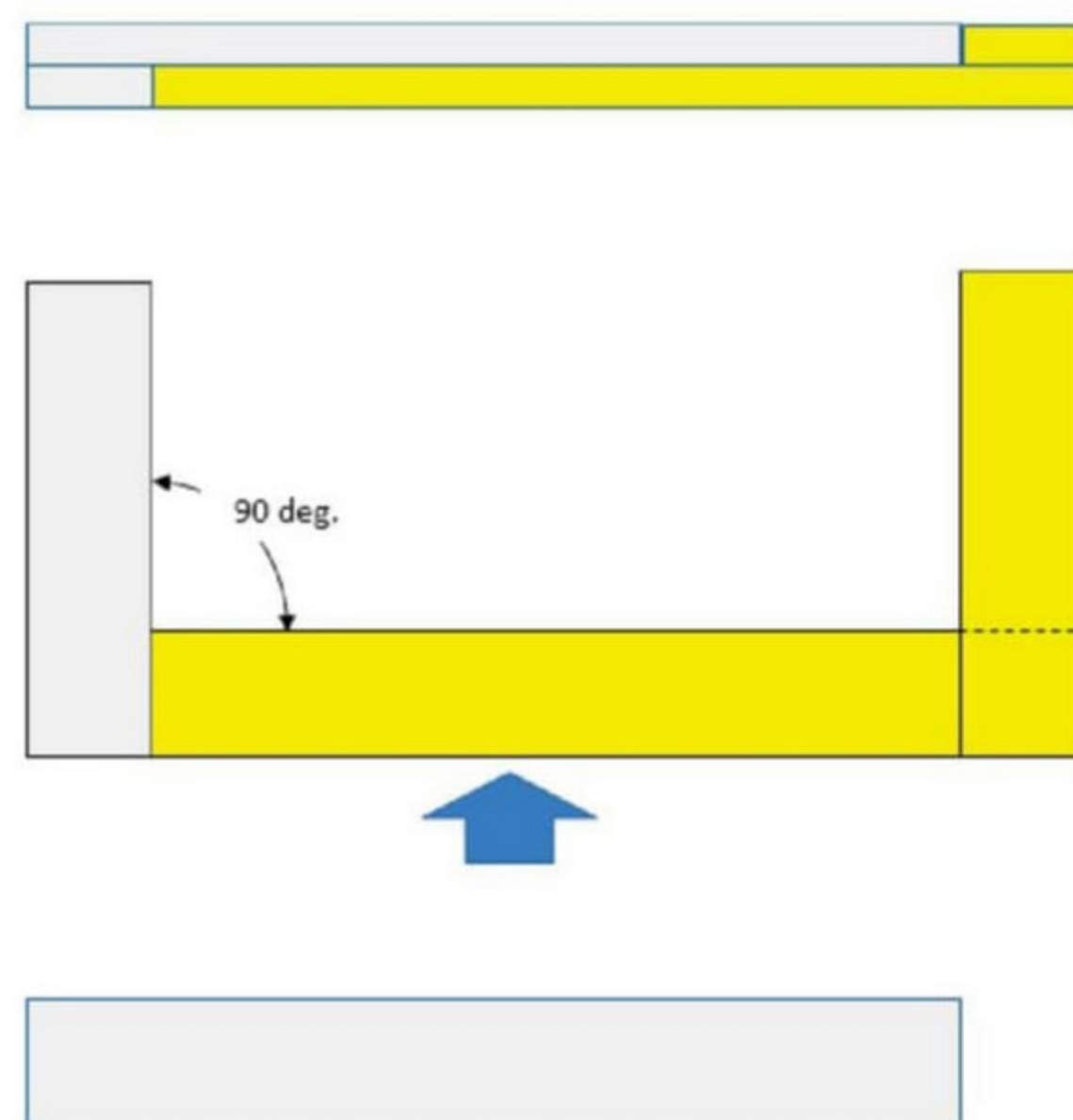


Fig. 2: Butting the pieces together

1



Measure your couch

2



Marking the curves

3



Shaping the curves

4



Cutting the cross slots

the marking-out to get the right position and width. The depth of the cut can be best marked with a marking gauge, should you have this useful tool to hand. Otherwise use a sharp pencil and the adjustable square. Use the handsaw to cut slightly inside the marked pencil lines, rather than outside. You can easily open the slot you've cut, it's not good if you cut too wide that then you'll end up with a sloppy fit of the cross support.

Use the handsaw to cut at about 45° to remove some of the waste. The remainder is cut away using 12 and 18mm chisels.

A word about chisels... It's worth buying a decent set of chisels as a boxed set 6, 12, 18 and 25mm, often supplied with a sharpening stone. You should also purchase a chisel honing guide jig to set the desired angle of 30°. Standard bench and butt chisels are traditionally ground at the factory to 25°, and this is fine for most work, but the edge will last longer if you add a 5° micro-bevel to make a 30° cutting angle. It's essential for both safety and ease of cutting to keep your chisels, and, of course, any cutting tools sharp. Blunt tools don't work well and will reduce work safety because of the force needed to drive blunt edged tools into the timber.



A rubber mallet can be useful to help drive the sharp chisel into the wood. As you cut away the waste, keep checking if you've got to the desired depth and width needed. An off-cut of the wood used for the cross-support pieces can help you see if you've got a good fit.

Examine the pieces for any knot holes, sawing marks. Use a hand file to remove any cutting marks; fill the knot holes with pine filler. Start sanding the side supports and cross supports with a 120-grit paper using a hand sander. Once the filler has set and dried, sand off the excess.

Step 5: We're ready to glue the cross supports to the side supports. Make some space where you are working and 'dry fit' the pieces together. Make any fine adjustments needed and lightly pencil 'A, B, C, D' on the pieces to identify which pieces go with each other. I drilled two holes 3.5mm diameter at each point where the cross

support met the side support to give a stronger clamp of the two pieces at each joint by using wood screws. On reflection, the fit was good, the glue joined well, and the screws are really not necessary. But we learn as we go.

Have the clamps ready. As before, lightly apply wood glue to each slot. Lightly clamp together. Check the measurement from the corner of one side support to its opposite support. Now check the other side, the measurement should be the same. Lightly tap at the corners with the rubber mallet to 'square-up' the assembly. Fully tighten the clamps.

Leave to dry for at least eight hours.

Step 6: It's time to start the process of marking-up the position of the top fixing holes to enable the drilling of the four pilot holes.

Place the top face down onto the workbench. Set the support assembly on top and align the back edge of the support assembly with the edge of the top piece. Move the assembly to left /right until the side spacing is the same. Make a pencil line on either side. Pencil mark on the edge the centre point of the top support.

Remove the top and lay a strip of 25mm masking tape along the middle of where the centre points of the top support have been made. Position the support assembly to position it to the left and right edges you marked and lined-up with the edge.

Clamp the support assembly to the top piece to keep it steady while you mark the hole positions. As the screw holes were drilled for 4mm diameter shank screws, I had to find a means of marking the points where the pilot holes for the fixing screws needed to be. I used a long roofing nail, filing the tip to a fine point, then I slowly wrapped a few turns of masking tape around the nail to give it a snug fit in the 4mm hole then gave a sharp tap with a hammer at each fixing point.

Removing the support assembly, I could clearly see where to drill four pilot holes. Use a small pilot hole drill of 3mm to drill top mounting point screw holes.

Step 7: We're now ready to complete the project. Run over the surface of all the parts of the support assembly with 220 grit sandpaper. As a finish I used a gel stain applying it with a piece of soft muslin cloth. Follow the instructions on the gel stain to avoid streaks and blobs. Once the stain has dried off, rub down lightly with the 220-grit sandpaper and apply a wood seal.

Position the screws for fixing the tabletop. Align it by setting two opposite corner pilot holes with the fixing screws. Screw the tabletop to the support assembly.

Take the table and position it at your sofa/settee, brew a nice cup of coffee and settle down to enjoy the TV.

5



Making the cross slots

6



Clamping the cross supports

7



Marking the top position

8



Marking pilot holes for the top

Fast and easy

KITCHEN STORAGE

With an endless stash of pots and pans to keep at bay, filling a kitchen with ample storage is something of a tall order. But – no matter how many mugs or how little space you have – there's always a solution to be found.

Clever kitchen storage ideas are essential in the modern kitchen – the traditional heart of the home is no longer just a space for cooking but also for dining, entertaining, relaxing and family life. With so many demands on this room, the key to keeping a kitchen clutter free and easy to use – regardless of size – is well-considered storage. From counter-top storage and built-in cabinets to freestanding dressers and open shelving, there are plenty of smart ideas for practical and effective storage in small spaces and open-plan kitchens alike. With the kitchen coming under increasing pressure to perform a variety of crucial roles such as family dining, relaxing, working and entertaining, a good layout and adequate storage are more important than ever.

Keeping everything neatly behind closed doors is much easier if the interiors are designed with specific contents in mind. Smaller items will benefit from a shallow drawer with numerous compartments to keep items separated and easy to locate. Consider whether any cupboards will benefit from integral electric sockets, allowing you to charge gadgets out of view.

1



1. Build in shallow cabinets

If your tableware collection is a combination of hand-me-downs, charity shop finds and new buys, it might look a little messy out on display. Instead, store it in a tall cupboard with solid-fronted doors. Dedicate a shelf to each type of item to ensure order.

2



2. Utilise multi-tasking cube shelving

Declutter the kitchen by turning cube shelving into the family's control centre. Make compartments for tableware, school letters and other daily reminders. Cover one side with chalk paint or a cut-to-fit vinyl chalkboard for writing shopping lists and happy messages.

3. Make a display of jars

Free up cupboard space at the same time as making a stylish countertop display by popping dried food into glass storage jars. Arrange in height and size order. Create fun labels that say which pasta is your kids favourite or your family nickname for each shape.

4. Choose a multi-functional freestanding unit

Here's a clever kitchen storage idea – turn a

kitchen trolley into a moveable work bench or cooking aid. Whether it's used to house glasses, bottles and decanters for cocktails or herb planters, oils, spices and a pestle and mortar, this is a great way to store special kit that you use a lot in your kitchen space.

5. Opt for open-shelving

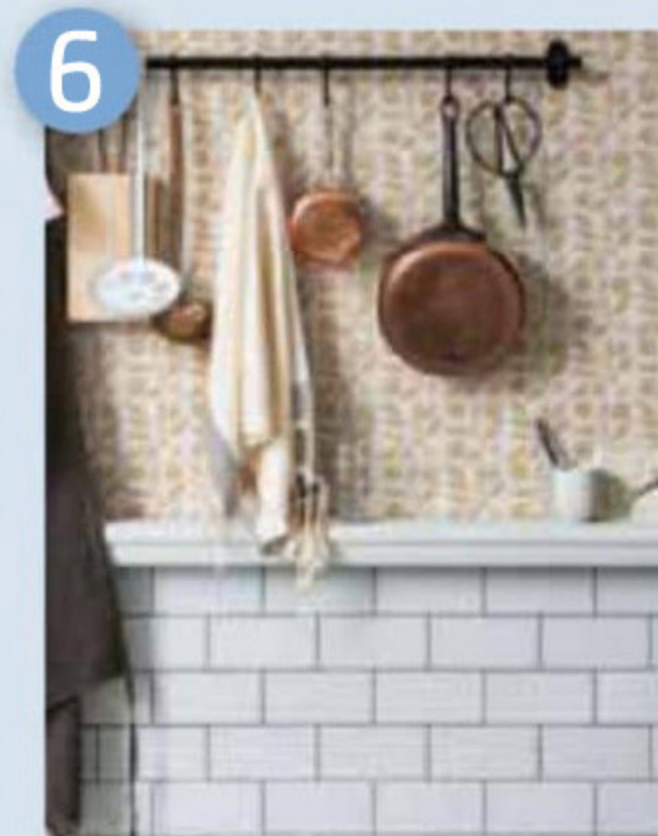
In a shabby chic kitchen, storage doubles as a design feature. White painted open shelving – which mimics the look of traditional country dressers – suits the relaxed style of this kitchen, while providing a neutral home for the mix-and-match china and storage jars that add character to this room. Below the worktop and butler sink, panelled cabinets hide away bulkier kitchen items so that the space still feels tidy.

6. Hang it up

If your built-in kitchen storage is limited, free up space in cabinets by hanging colourful or patterned mugs and teacups on a wall-fixed rustic wooden rack. Not only is this a practical way to utilise space – and always have a mug on hand for a cuppa – but it also makes an interesting decorative feature in a neutral kitchen space.

7. Consider a pantry

A pantry should be close to your fridge and



freezer for instance, making it quick and easy to unload groceries. Likewise, in a dream kitchen scenario, china and cutlery should be stored near the dishwasher. It is usually a good idea to keep storage for glasses and frequently accessed items away from the main cooking area so as not to interrupt the cook while they're creating a culinary masterpiece!

8. Mix it up

Use more glass fronted cabinets or open-shelving in non-cooking areas to create a distinction between spaces and prevent the whole room looking like one giant kitchen. Mixing up freestanding and fitted furniture will also help define roles. Stick to one colour palette for a considered look.

9. Use a room divider as storage

The right storage system can double up as a room divider in an open-plan space. Solid, freestanding shelves, that reach almost to the ceiling and are open on both sides can be used to house pots and pans and your more attractive serving ware plus dining table essentials.

10. Utilise wasted space

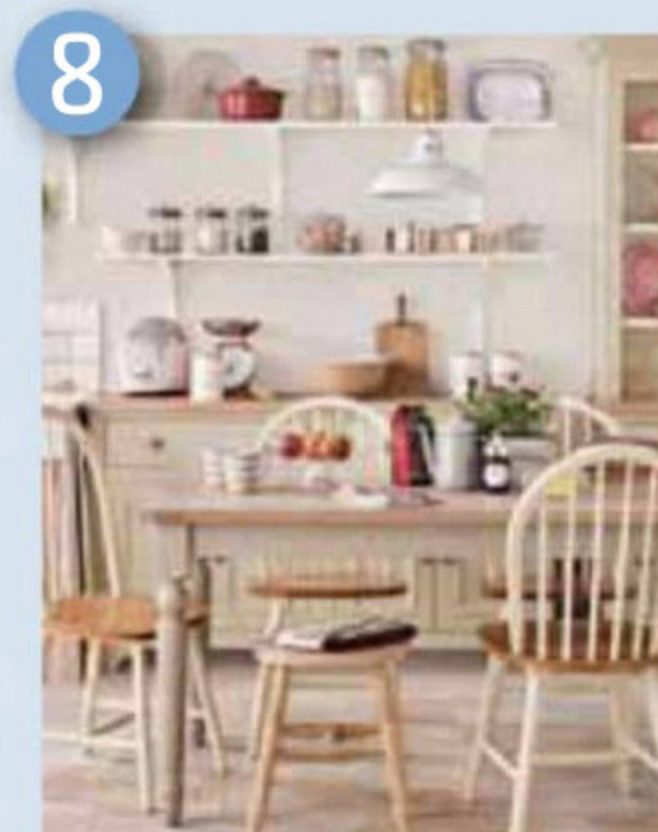
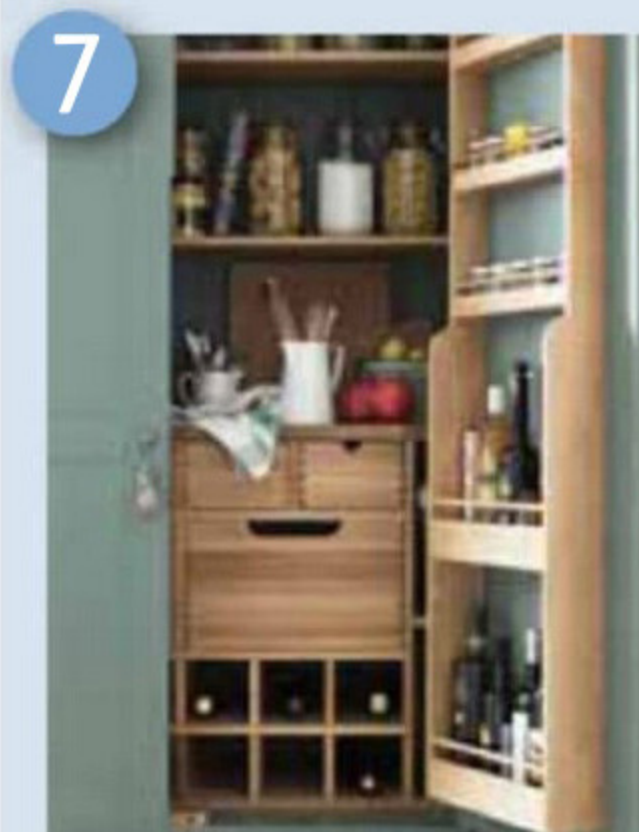
Explore every inch of your room for hidden storage opportunities. Ceiling racks can be used to hang pans and utensils, while plinth-line drawers are perfect for stashing away baking trays and larger cookware. There's no excuse for wasted space in corner cupboards anymore – a carousel or swing-out Le Mans shelving create storage in the spaces your arms will never reach.

11. Reclaim your kitchen storage

The temptation to pack a kitchen with floor-to-ceiling storage can be really strong but, if you have a sizeable space or a streamlined selection of cookware and serve ware, consider restricting your cabinetry to base units alone. This creates an airy, spacious feel.

12. Add a rail

Drawers might seem like a great place to store kitchen utensils, but it can be hard to find what you need in them. Instead hang a slim rail along the wall above the hob or by the sink, and use S-hooks to hang utensils.



There aren't many homes which wouldn't benefit from having a garden shed.

ADD A SHED to your garden

Garden sheds come in all shapes and sizes, as well as for different uses

Sheds speak to your practicality and organisation. They can express your unique taste and provide much-needed storage. Shed's say to your neighbours: "Yes, I do have tools you can borrow."

With so many exciting options, even an old hand at shed building/buying would marvel at today's selection. With a level head, level ground, and a level temper, you can finally be united with your perfect shed. First things first though...

- **Check the building codes:** Generally, you don't need to get planning permission to build a shed. However, there are specific restrictions. There could be any number of zoning issues, property lines, or deed restrictions that could derail your effort. Administration always comes first when it comes to building new things.
- **Make sure there is enough space:** It's not just the area of a shed, it's how the doors open and where it is in relation to other garden essentials like the garden, fence, swimming pool, etc.
- **Gather the proper materials:** Consider the type of materials you would like to use. It's a good idea to decide on the material you'll be using for the base since this will be... well, the base of your whole project.
- **Make a plan:** Find a way to match the landscape with the shed. Plant a few flowers around the unit, line it with some trellises, put your own signature on it, but don't let your shed become an eyesore.
- **Ask questions:** Even if this isn't your first time building something of this scale, don't hesitate to ask people

about their preferences. Every building project is different in itself, so the more ideas, the better.

- **Building from scratch vs. buying a shed:** If you decide to choose from pre-made sheds suppliers sell, you will enjoy the benefit of convenience. Moreover, some suppliers include additional services such as erecting the shed. It is a relatively stress-free option compared to building a shed from scratch.

On the other hand, custom-building a shed for your garden gives you more flexibility with design. You can choose the material and come up with a style that suits your taste. However, it can be considerably more expensive, time-consuming, and challenging to build a shed from scratch.



A simple wooden shed can help you free up space by storing all your gardening equipment inside

A shed is always an excellent addition to any garden. But like any considerable investment, you need to determine whether or not you need one. The purpose of building a shed will affect many of your decisions, such as appropriate lighting, size, and location. In this article, we will take a closer look at some of the factors you need to look into, before buying the materials you need to build a shed.

Building a garden shed

A garden shed project depends on how you make your base. You can choose different materials to make it – wood, cement, gravel, even use natural ground (last one not recommended though). Yet the best option would be a concrete slab. Make sure you use protective gloves, goggles and rigged boots at all time.

Step-by-step guide

Step 1: Mix one part cement with five parts ballast in a cement mixer. Calculate the amount you need, by multiplying the length by the width. And, then multiply by the depth. Know that you'll need to round the figure as you add 10% for wastage. It is better to have more than less.

Step 2: Start pouring the cement from one corner of the framework. Use a rake or a shovel to spread the cement evenly. Use a tamping board to even the surface. Start at one end steadily, until you have an even surface. You'll need to remove excess concrete. For that, go back to where you started and slide the tamping board backwards and forwards.

Step 3: Fill any depressions. Make cosmetic touch-ups with any leftover concrete, until you're satisfied with what you see. Cover the concrete with a polythene sheet. This will prevent the surface from cracking while drying. Wait about a month for the concrete to dry, before continuing with the wall of your shed.

Step 4: If your shed is a rectangular shape, this means you need one wall framework for the back, one wall framework for the front, but with a door opening in the middle, and two identical frameworks for the side. Place the back framework first. Assemble the wooden framework and place it on the edge of the concrete slab. The back

Location, location, location

Choosing the perfect location for your garden shed is one of the most important decisions to make for a new storage shed owner, and there are a few different key factors to consider.

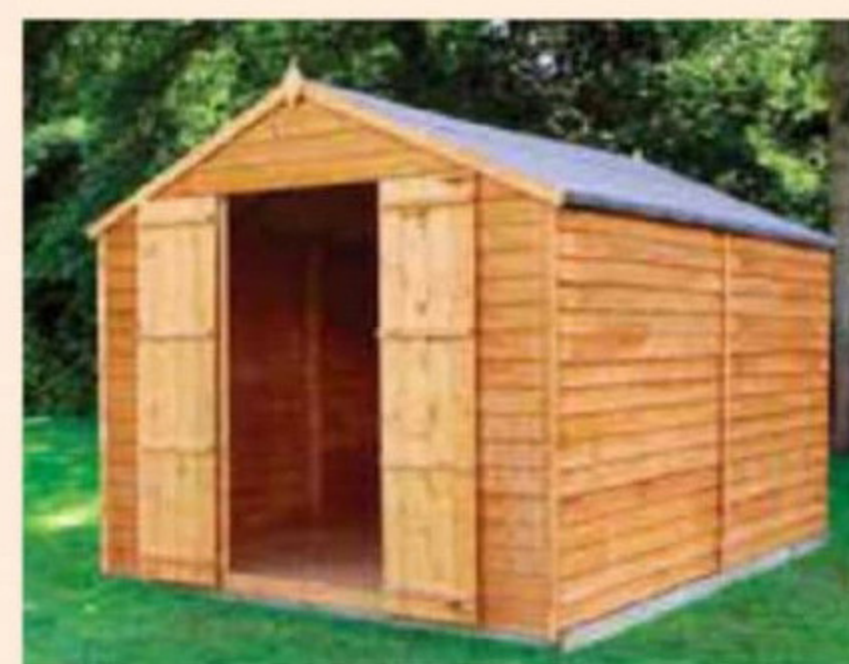
Function

The intended purpose of your storage structure is an important factor in deciding where it should be located. If you'll be storing bikes or rubbish bins then you'll likely want the building to be located in an area accessible from your front garden. If you're planning on doing planting, gardening, or going to war with weeds, then you may want to put the building closer to your plants and gardens. Here are a few questions to ask:

- What is the primary purpose of the shed?
- Based on what I'm using the shed for, where will it be most convenient for me to access?
- Do I need access to a hose or water?
- Do I need a ramp?



A shed need not be an eyesore; it could be the focal point of your garden



A solid foundation is essential for a garden shed

Light and exposure

It can be easy to forget that lighting a garden shed is critical! There's nothing worse than working on your garden or DIY projects late into the day and having to put away all of your tools and toys in the dark. Take note of what type of sunlight will shine on your shed's new location and how this may impact its use. If going into a darker or shaded location, you may want to add an extra window or two or perhaps add in some electricity to extend available hours of use.

Ground conditions

The soil and ground conditions are an often overlooked but essential factor in picking where to put a storage structure. Locations that have pooling water or low spots in your garden are generally places to avoid. Ideally your site should be level with a slight pitch to the rear to encourage water drainage. In the event you have to build in a tricky location or low-slope area, be sure to prepare your site with ample drainage or a more permanent foundation involving concrete.

Landscaping

A final consideration is landscaping, and ensuring that future garden plans are considered before deciding on a home for your garden shed. Remember that, while possible, it can be a challenge to move your garden shed after it has been installed, so it is important to carefully consider location prior to installation. Do you plan on installing a pool in a few years? Are you going to tear down your deck and switch to an interlock patio? Is this building going to be a focal point of your yard or would you prefer it be tucked away at the side of your home? These are all significant considerations when picking the perfect spot. Depending on your circumstances it might make sense to hire a landscape architect to prepare a master plan for your garden prior to construction.

wall should be lower than the front, in order to redirect rain away from the door.

Step 5: Place the framework for the front wall. Same as with the back wall, only taller and making sure you have enough space for the door you've chosen for your shed.

Step 6: Place the side frameworks and assemble the four walls. Nail the wall structures to the frameworks. You might need another helper to hold the walls in place while you attach them to the frameworks.

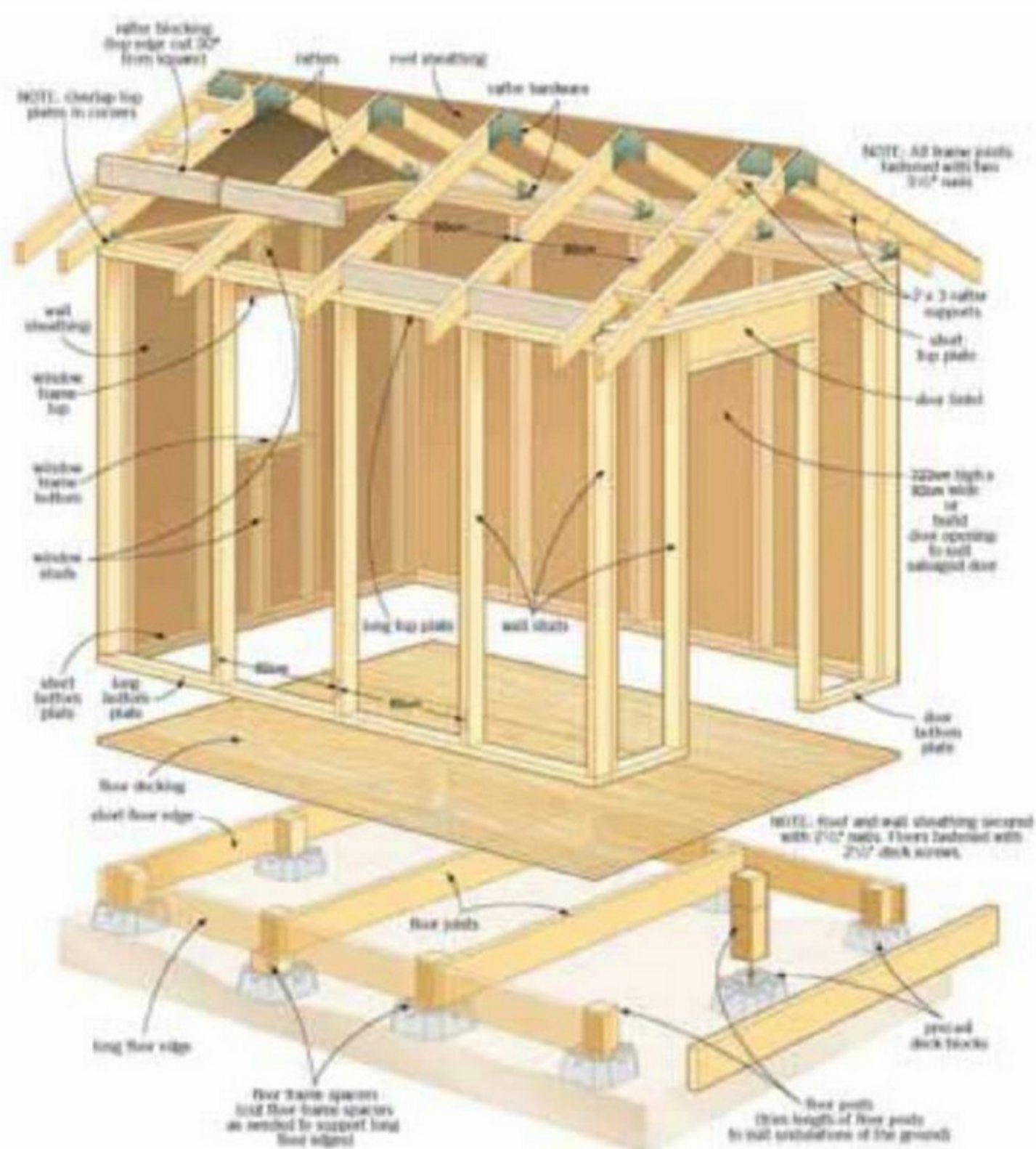
Step 7: Mount the door. It's a good idea to place a lock there as well. If you don't know how to fit a door yourself, call for a professional fitter and have it done as it should be.

Step 8: Frame the roof. This will serve as the skeleton of your roof. Join two rafters together at an angle of the roof slope, which will outline the shape of your roof. Make sure the joint is stable.

Step 9: Make a 'bird's mouth' at the ends of the rafters and attach. A 'bird's mouth' is a cut at the end of the rafters in a triangular shape (much like a bird's beak), which will be used for attaching the frame to the walls of the shed.

Step 10: Attach pieces of blocking between each pair of rafters. For an even better stability, nail wooden blocks between the rafters. Nail plywood sheathing to the rafters. Hopefully, you were able to attach the frame firmly. If your frame is unstable, nailing the plywood would be quite troublesome. Once you're done with this, your basic structure of the garden shed is complete.

Step 11: From here on comes the creative part of your project. You can decorate the inside and outside of your garden shed however you wish. You can hire an electrician and install electricity, a plumber for running water, a professional painter to boost the curb appeal, or even bring a part of the garden inside.



A simple plan to make your own garden shed

Garden shed maintenance

As with most things, the lifespan of garden buildings can be dramatically prolonged by taking a bit of time throughout the year to look after the building and tend to any repairs before they become more serious. With most wooden sheds and structures, the key to maintaining the building is ensuring that it remains on a firm and level base and protected against moisture penetration.

To help you get the best out of your buildings we have prepared a list of some of the key requirements in maintaining your garden shed.

Seal your windows

It is essential that all windows are sealed inside and out as soon as is possible after assembly. This could be achieved via the application of silicone, timber beading or any other suitable 'watertight' solution of your own preference.

Treat your building annually

You should treat your new garden building shortly after installation with a good quality, water resistant treatment. This process should then be repeated annually with care taken to brush the treatment into all wooden components involved within the construction of the building, inside and out.

Ensure nothing is in contact with your building

Any overhanging tree or hedge growth poses a threat to your garden shed and should be cut back at regular intervals. If a tree branch makes contact with your shed it may pierce the roofing material and encourage water ingress.



Check your base

You should have already ensured that the base was perfectly level at the point of assembly, but it is important to monitor this. Any movement of the base under the building can lead to twisting of the timber or dropping of the doors.

Lubrication

All hinges should be lubricated with suitable oil to ensure continued ease of use.

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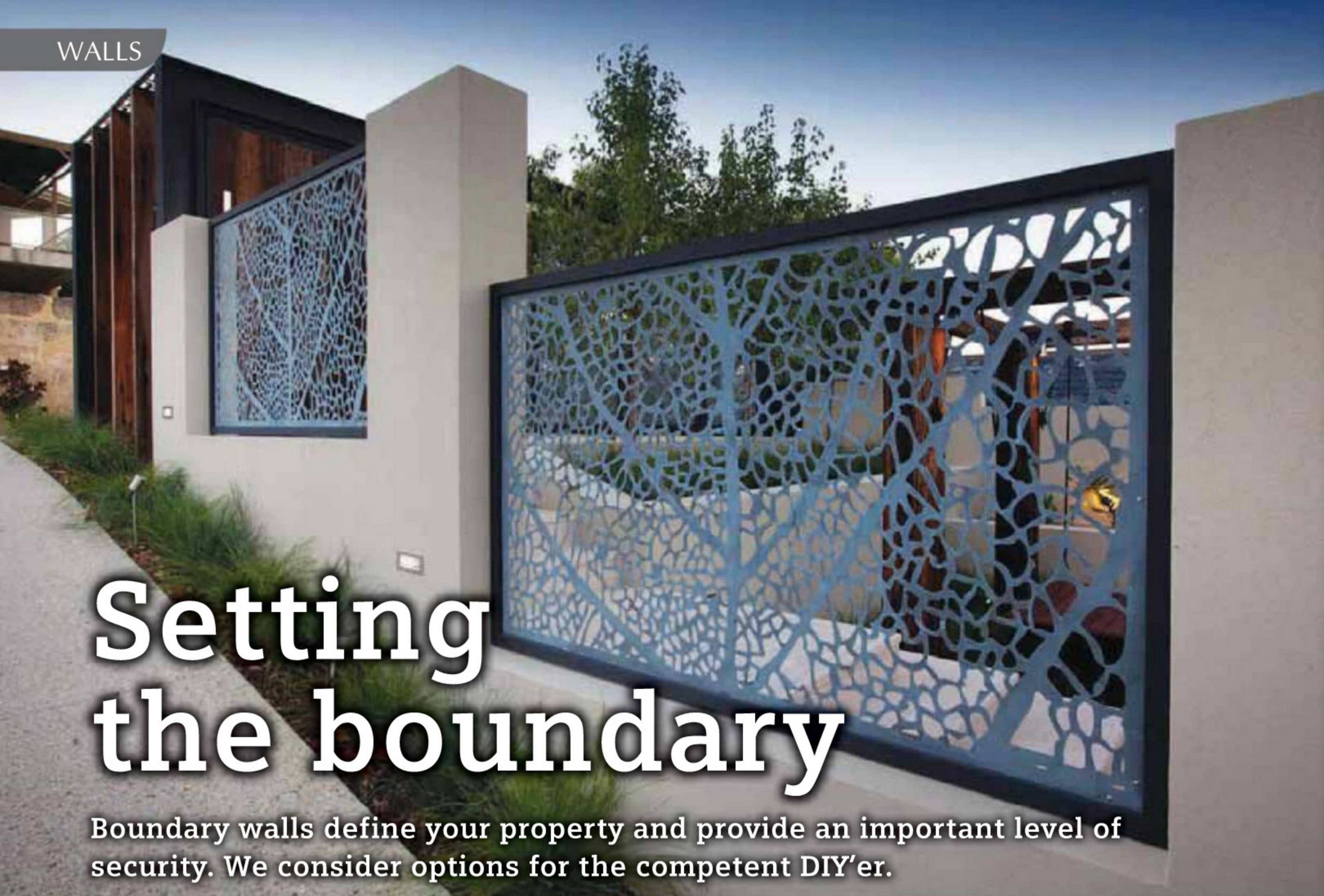
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Setting the boundary

Boundary walls define your property and provide an important level of security. We consider options for the competent DIY'er.

>> Warren Schmidt

The perimeter wall sets the boundary to your property. It keeps intruders on the outside and your pets and possessions contained in the inside. However, there are several important factors to consider before embarking on a project to build a wall. We investigate the options open to homeowners.

Planning your boundary wall

All ambitious DIY projects should start with pen and paper. Having a well-thought out plan will save you time and money and keep you on the right side of the law. Building a solid boundary wall on your property is something not to be taken lightly. The project can range from pre-cast cement walls, which are quick and easy to install, to large-scale brick and mortar projects which could add up but can result in an architectural masterpiece and increase the value of your property.

Your pre-plan checklist will include taking accurate measurements, including the length and height of the wall; a check on building codes and municipal regulations; consultation with any neighbours that may be affected by the building project; and lastly, a comprehensive tools and materials list. Research design options carefully before hastily jumping in and make sure you understand the correct methods of laying out foundations and setting posts. Knowing exactly what you are doing from the outset and sticking to a good plan will result in the desired outcome.

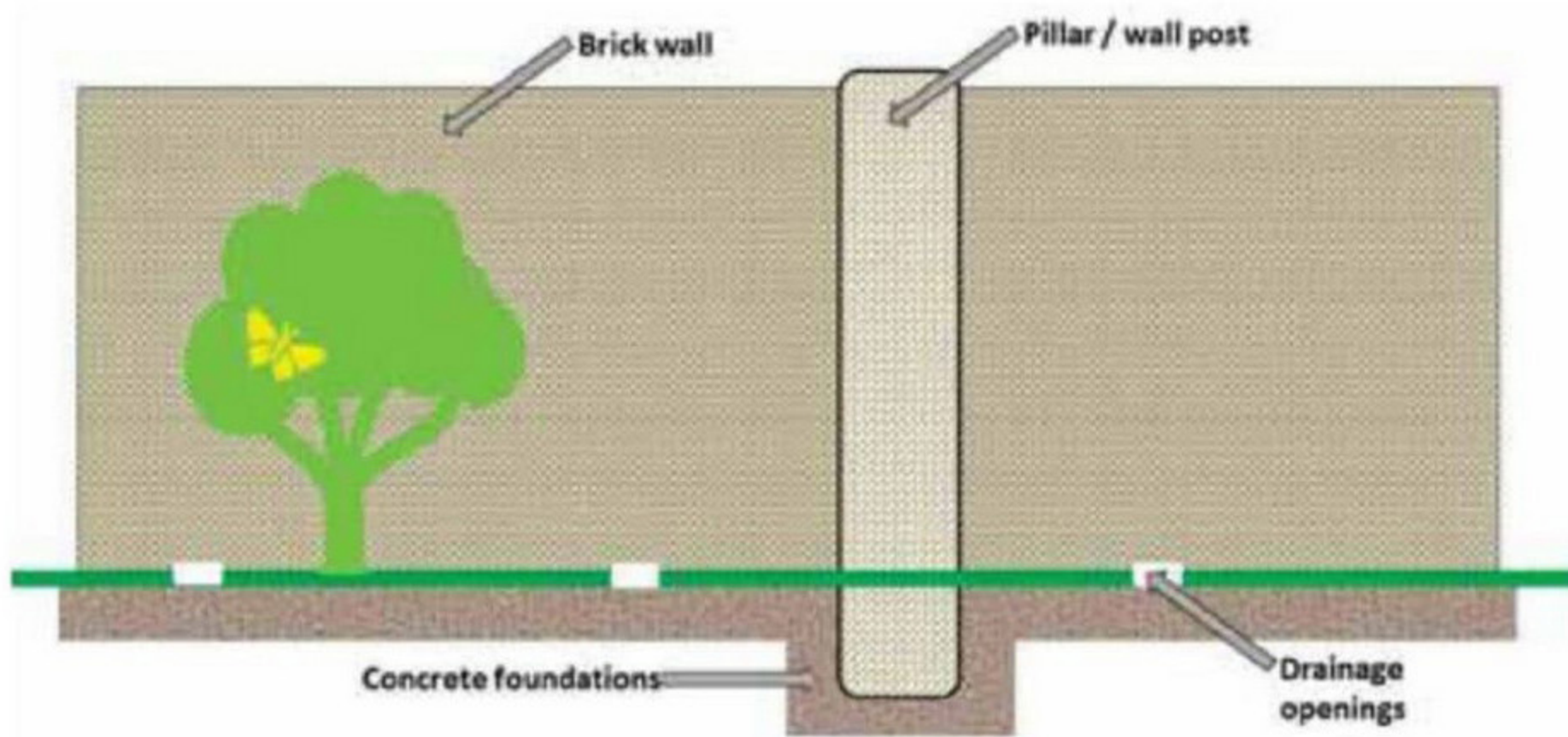
Wall types and materials

Boundary walls can be built from several different materials. By far the most popular choice for solid build boundary walls include precast panels and brick and mortar walls. There are two main aspects to consider regarding choice of design and materials: do you want a

solid boundary wall? Or do you want a palisade or clear fencing option? Both options have practical and security advantages and disadvantages and an impact on your level of preferred privacy. Some security experts advocate palisade fencing, as it makes it easy for neighbours and security personnel to see into your property whilst making it difficult for intruders to hide behind a solid wall. On the other hand, outsiders can watch and monitor your movements in your home and around your property. A solid wall offers you privacy and you could overcome unwanted surprises by installing surveillance cameras on your property. There are options which allow you to view footage remotely and are activated by sensors, so you can log in and check the status of your property before you arrive home.

Precast walls

Precast concrete walls have been the preferred choice traditionally for several



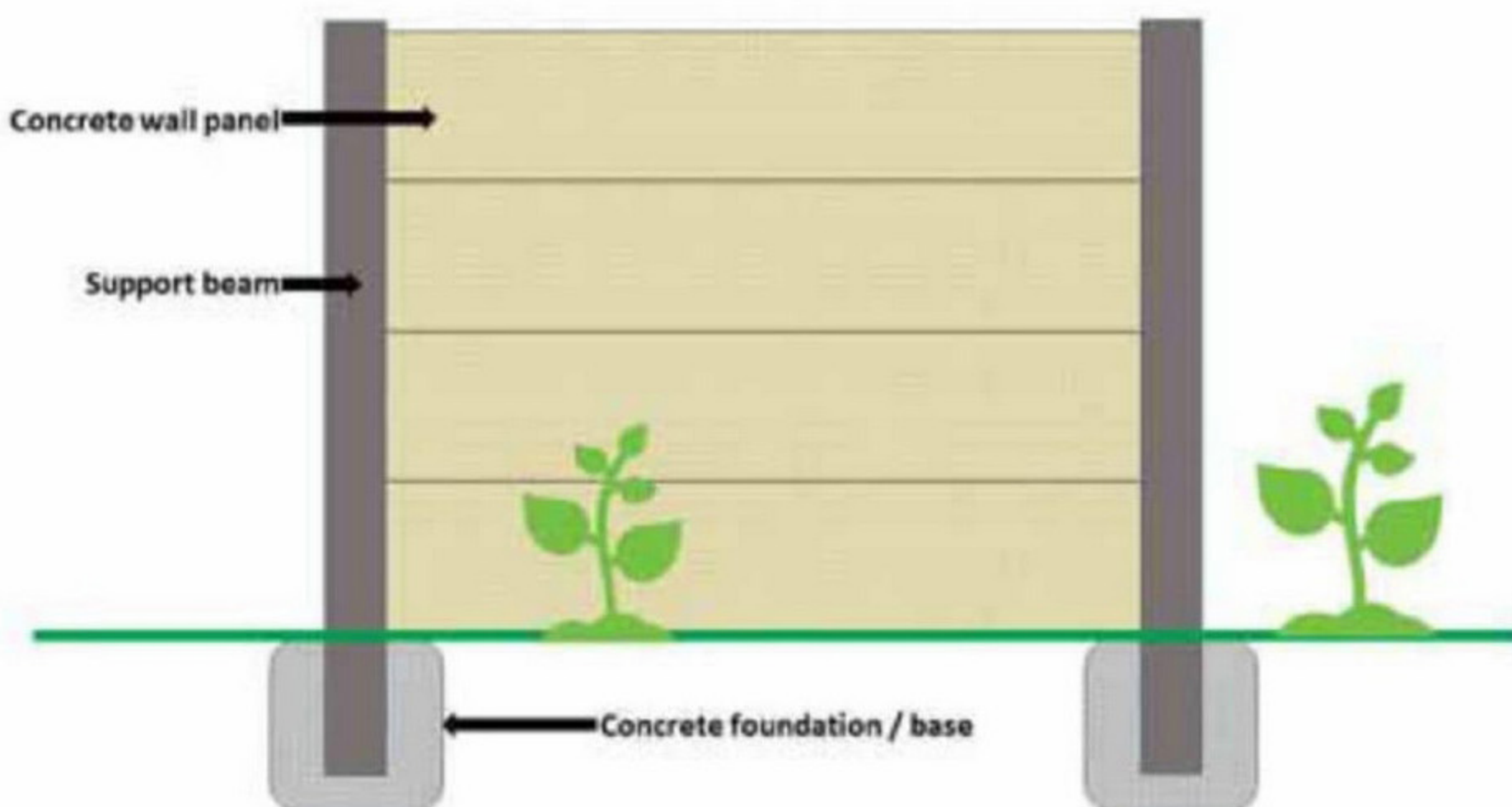
Example of a standard brick and mortar boundary wall showing the placement of the drainage slots

decades. For the average DIY'er, they are quick and easy to erect. Precast wall panels come in many different designs including ones with embedded brickwork and others which have decorative imprints or shapes to give the wall some texture or pattern. Installation is relatively straightforward. The upright posts are embedded into a base of mixed concrete and allowed to set. Ensure the posts are perfectly level and correctly spaced apart. The posts each have a grooved slot into which the wall panels slide, and corner posts will have the slots positioned at adjacent 90° angles. A complete property boundary could be completed in two or three days. The panels are often cemented into place to prevent them from being lifted out of the slots. Precast walls are sometimes left unpainted but can be painted to

add colour and vibrance. Make sure you use a good cement primer and a quality durable outdoor paint. Another advantage with precast walls is that they are resistant to expansion and contraction and therefore unlikely to crack. However, if the posts are not fixed solidly or there is excessive ground movement over time, the wall can become uneven and buckle.

Solid concrete walls

A solid concrete wall is seldom built around urban properties and more often seen in industrial complexes. These walls are built using a strong concrete mix which is poured into pre-erected plywood panels and allowed to set. The panels are removed once the concrete has set. Concrete walls, especially if built high, should be constructed



Front aspect of a precast wall showing the vertical posts and horizontal cement panels

Building codes and regulations

The building of boundary walls is regulated by building codes as well as municipal regulations. These are covered under SANS 10400 – Building Regulations. Municipal bylaws may also restrict the height of your boundary wall, so before building a fortified Alcatraz with a four-metre-high wall, think again. These laws may also specify what type of materials may be used and what security features can be added. In many examples, the height of a boundary wall may not exceed 1.8 metres, but this may vary according to different council regulations and different zones. Some urban walls commonly exceed three metres in height. For example, areas zoned for industry may allow for higher walls than those zoned for urban housing. You will need to consult with your local municipality and as always, make sure you keep an accurate record of all correspondence and paperwork. The reason behind the building regulations is that if the boundary wall is not erected properly, it could collapse and injure someone walking on the street-side pavement or cause damage property.

Boundary walls and you neighbour

In residential suburbia we are surrounded by neighbours. Some are pleasant and friendly, and others are downright rude and grumpy. This could be an important issue when redoing, extending, or erecting your new boundary wall. Depending on what you are planning, you may need to engage with your neighbour as you both share the common boundary. Many disputes have arisen because a new wall has blocked the neighbour's view, compromised their security, or damaged their garden. If you want to build a new brick wall around your complete boundary, you will need to deal with as many as three different neighbours and may have to consider the finishing

touches on their side of the wall as well, such as painting. If you are lucky, they might agree to share costs, but don't count on that. Explain exactly what you would like to do and what materials you intend to use. If it will enhance their security and privacy, your neighbour will be more likely to support the project. Territorial boundaries are often guarded jealously so be sure to mark out the new wall accurately so as not to intrude into your neighbour's property.

Added security and perimeter lighting

When planning your boundary wall, make sure you take into consideration security features such as electrical fencing and perimeter lighting. You may want to consider including electrical conduit inside the wall to run electrical cables for lighting or security, including communications cables for security cameras, or perhaps to run fibre for your Internet connection. Think about future installations. You may not want lights or fibre now or have available budget for them, but pre-planning can save you on future expenses. PVC conduit is not expensive so having it installed from the outset is a good idea. Remember to keep electrical cables separate from communications cables. Provide adequate inspection covers so that it makes it easy to run cable and always try install a larger diameter conduit where possible.



Top aspect of precast wall showing the recess cavity into which the panels slide

by a qualified builder as the weight can present a hazard should the wall collapse. Expansion joints will also need to be incorporated into the design, as ground movement or base subsidence can cause the wall to crack and fail over time.

Brick and mortar walls

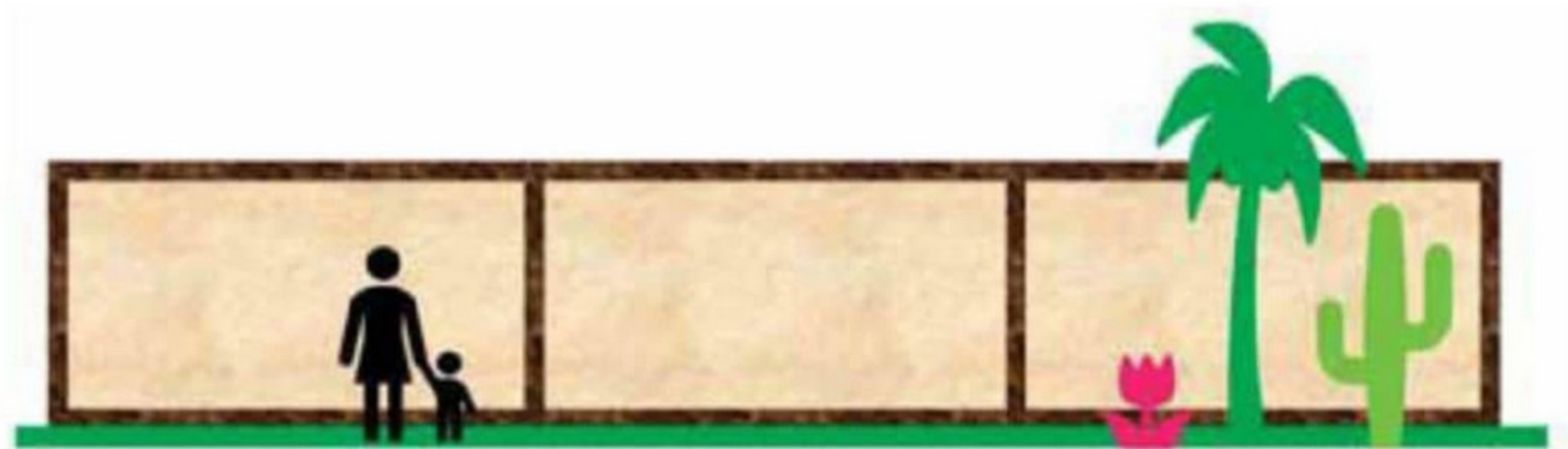
Brick and mortar walls are popular choices when it comes to building a solid and decorative boundary wall. They can be built using ash or clay bricks or even hollow cement blocks (breeze-blocks). Many brick and mortar walls are plastered and then painted, but they can be decorated with slate or cladding, and many striking designs and concepts can be created. These walls can also be built using face-brick, which is a low-maintenance option. In addition, openings or portholes can be incorporated into the design so that you have some field of vision to the outside world. A wrought iron or stainless-steel grid can be fitted into the opening which provides you with a view onto the street.

Brick and mortar walls can make the property look sleek and modern, provide security, and increase the value of your property. Therefore, it is important to plan and work carefully. A good foundation will be important, and the walls must be built perfectly vertical and level. Many of these walls have an architrave incorporated into the

design, giving the wall a modern touch. Expansion joints should be considered as these walls are susceptible to movement over time, especially walls covering a long distance. Drainage slots must also be incorporated near the base of these walls. This is particularly important on sloping properties where rainwater runoff can quickly dam up against the wall. The pressure of this water has caused numerous collapses during or after heavy rainfall.

Natural stone and rock walls

Natural rock walls have been used as a boundary material by people for thousands of years. They have been used in castle fortifications and of course the Great Wall of China. In Europe, America and Africa stone walls have been used for centuries to mark out boundaries and keep livestock inside paddocks. These ancient walls were built via a stacking method and some were impressively sturdy, especially when walls were built by staggering and interlocking large and small rocks. With the invent of mortar and later cement and concrete, these stone walls could be built to an impressive height. However, stone walls are no longer in fashion and don't provide the security features they used to in the form of castle walls. Rock walls are also labour intensive and cumbersome to build, but can be useful for segmenting parts of the garden or to create natural terraces.



Graphic of a modern plastered brick and mortar wall commonly seen in new developments



Precast concrete walls have been the preferred choice traditionally for several decades

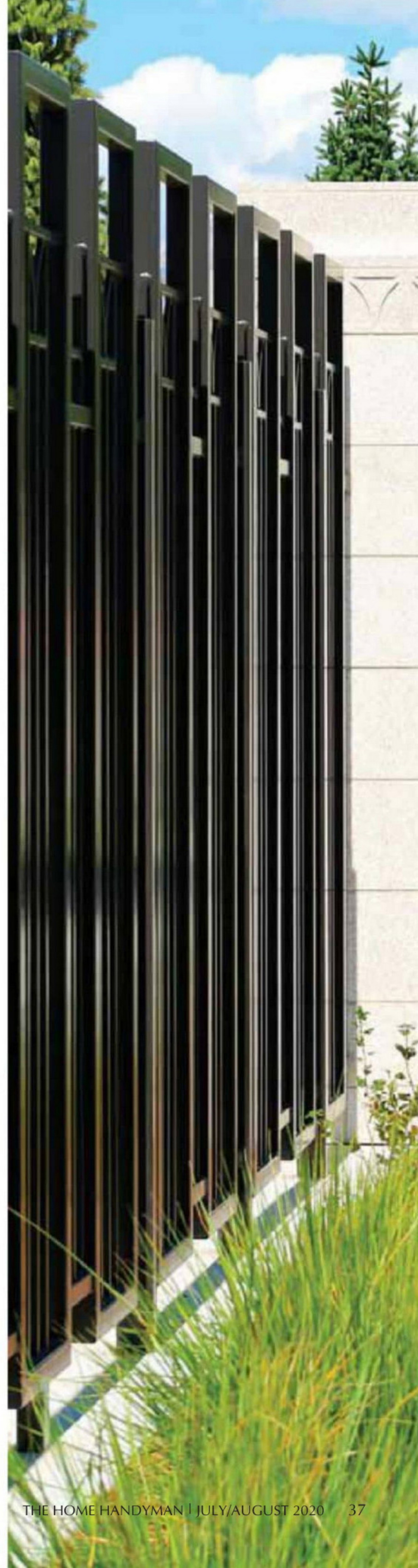
Timber walls

Timber walls are quick and easy to erect but not commonly used anymore in South Africa, possibly due to the high cost of timber and the regular maintenance requirements of these fences. Timber wall design is straightforward with upright posts embedded firmly into the ground, usually anchored by a concrete foundation. Two to three crossbeams are nailed to the upright posts and in turn, individual planks are nailed or screwed firmly onto these crossbeams. Treated timber must

be used for these outdoor projects or else they will quickly succumb to moisture or penetration by termites and wood-boring beetles.

Steel walls

Steel panel walls are seldom seen in South Africa and more common in some European countries as well as in Australia. These consist of steel panels or corrugated iron sheets configured as wall panels. The preferred material in South Africa is palisade fencing or clear view fencing – a type of neat wire mesh fencing often known by the trade name of ClearVu.



This composter rotates so that compost matter can breathe (which should also minimise odour) and break down a little faster. It should take about 2-3 hours to make, and the emphasis is on function, rather than aesthetics.

Make a drum style composter

Learn how to make your own drum composter for the home.

Materials

- Plywood cut into two circles
- Wire mesh (Try to use a fine mesh)
- Wood to make a stand
- PVC pipe
- Rebar
- Nails
- Staples
- Glue

Tools

- Measuring tape
- Circular saw
- Sabre saw
- Drill
- Hammer

Step-by-step guide

Step 1: Note: Your setup may deviate from this one, so we haven't provided exact measurements. Work out your dimensions and prepare your materials. For the most part this project uses very basic pieces so, for example, if you use a circle that is larger you can re-measure the vertical supports and go from there.

Cut the plywood into two equal circles, then the wood for the base into two equal lengths and also two equal lengths for the stand. Cut the PVC pipe and rebar to the length you want for the drum. The crossbeam that goes over the hub should be cut to size based on the size of your drum.

If you are going to use a pan to catch

compost that falls through the wire mesh then increase the height of the stands, then adjust the hole so that the drum is higher off the ground, allowing more clearance.

Step 2: Nail and glue the two vertical supports to the two footing pieces. (refer to photo).

Step 3: Run rebar through the round cut plywood. Slide the PVC over the rebar (refer to photographs) and secure to the two stands. Staple the wire mesh around the cut plywood. Measure the size for the cross beam and nail/glue it to the vertical supports.

Step 4: You will need an opening to facilitate adding organic material (and later removing finished compost). The wire mesh is sharp at

the opening so wrap it with duct tape or make some other accommodation to avoid cutting your hands. Also, you may want to fashion a door for this purpose. With a door, you should be able to completely rotate the drum.

Step 5: The composter should be positioned where it can drop small compost matter on the ground or in a pan. The compost should heat up during the composting period and cool down as it completes the process. The main idea is to shorten the amount of time for creating compost so take any steps that will hasten this end.

Add coffee grounds, tea bags, vegetable and fruit peels and clippings, egg shells, grass clippings and leaves to the composter. Do not add meat, dairy products, metal, slow composting matter... Make sure to rotate the compost using the attached arm. Also, make sure to keep the compost moist.

FOR MORE PROJECTS

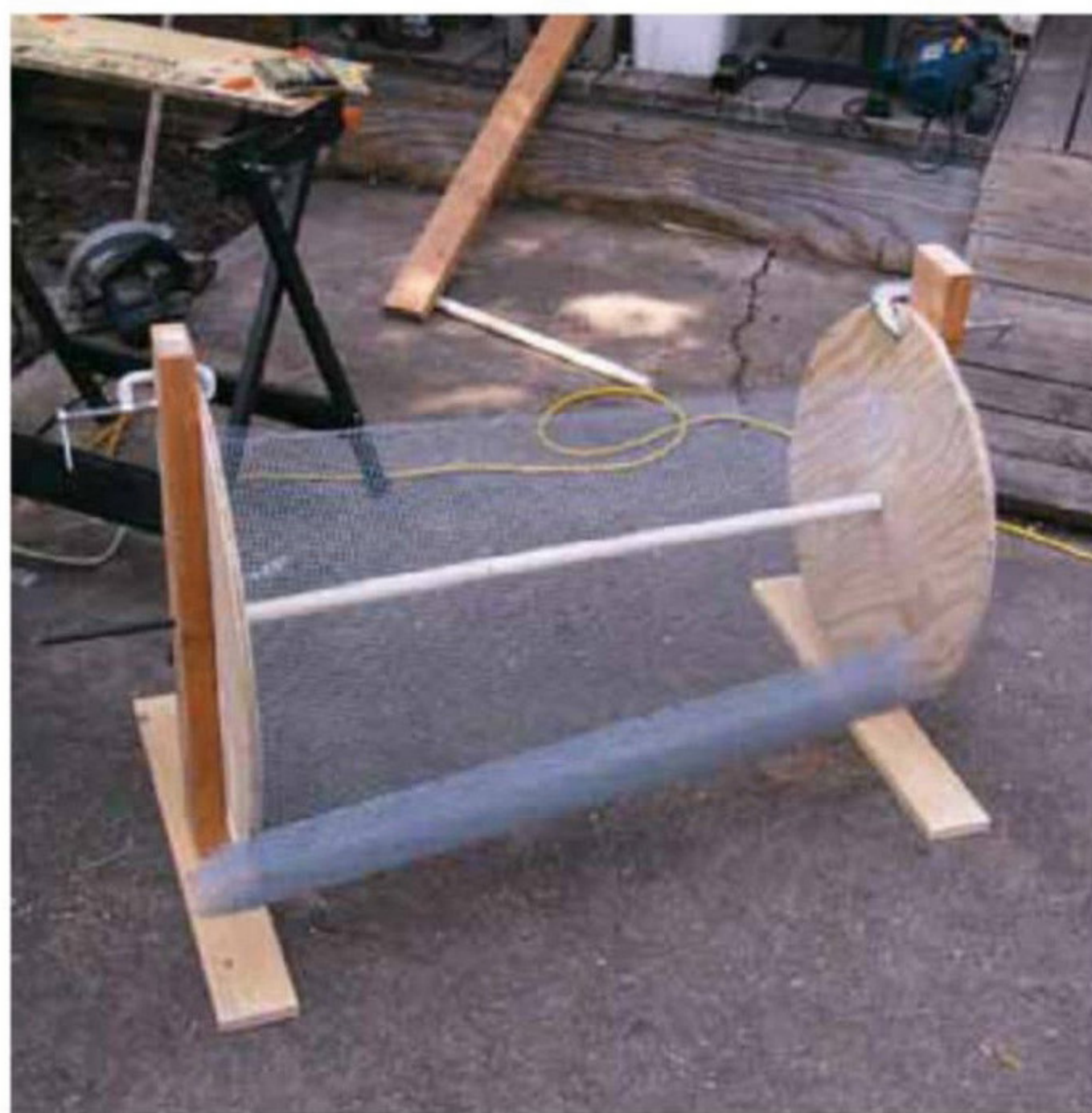
visit www.instructables.com



What you will need



Making the stand



Adding the wire mesh



"Earth knows no desolation.
She smells regeneration in the moist
breath of decay." – George Meredith



Warren Schmidt explores the inner workings of your roof and looks at important maintenance issues.

Upon the roof

The roof is one of the most important structures on your home, providing shelter and insulation from the outside elements. Roofing designs are varied in modern homes and the material used in construction is diverse. In this feature we look at roofing design, materials, and common maintenance problems and how to solve them.

Roofing basics

There are two main roof structures – flat rooves and pitched rooves. Although called a flat roof, these roof types are often slightly sloped to one side to allow for rainwater runoff. Flat rooves seldom have much cavity (or crawl) space. Pitched rooves come in numerous designs and the pitch or slope can vary from 35° to 45°. Pitched rooves are the most common type of roof in most South

African homes. They are designed in accordance with the shape of the house and therefore can be a simple structure, or if there are many angles to the houses, slightly more complex in design.

The roof truss is the main frame that supports your roof. There are numerous roof truss designs including king post, howe, fink and fan trusses, among many more. The purpose of the roof truss is to provide the main support frame onto which the roofing material, such as tiles, are attached. The main bottom horizontal truss is called the bottom chord. Timber bracing is nailed to the bottom chord and this provides the struts to which the ceiling is attached. The main angled frame (top section of the truss) is called the top chord. Timber purlins are nailed to the top as anchorage points for the roof tiles or other roofing material.

>> Warren Schmidt

The inner timber sections are called the webs, and these create strong bracing supports to the trusses. During construction, each completed truss is spaced evenly in accordance to the house plans. The architect will design the roof so that it can safely bare the load of the roofing material. It is for that very reason that, should you wish to convert a galvanized tin roof to a tiled roof, you will need to ensure that the truss design is able to withstand the new load or else you could experience a catastrophic roof collapse.

Inside the roof cavity

In many old buildings (and some modern designs) the roof trusses were designed so that a large cavity was created for storage, called the attic or loft. In standard homes, there is often insufficient space for storage. In South

African homes, the geyser is usually situated within the roof cavity. Modern regulations require that the geyser be fitted with an isolator switch, as well as have a sturdy drip tray with an outlet pipe in the event of a burst geyser.

The electrical wiring system usually runs through the roof cavity leading to light-fittings and switch points. (Plug points usually run underneath the house slab or inside the walls, but not always). Some plumbing pipes are also found in the roof cavity, especially those feeding the geyser and distributing water to the hot water outlets.

Fireproof thermal insulating material is also placed inside the roof cavity above the ceiling. This creates an effective

barrier preventing hot air from the rooms below escaping into the roof cavity. It is also good practice to have a strong polyethylene sheet fitted just below the roof tiles. This will provide an additional thermal insulating layer and provide additional waterproofing.

Roof maintenance

Now is the time to get your roof repaired before the summer rains set in again. The most obvious roof repair is that of a leaking roof. A leaking roof is usually detected during rainfall periods but may require a really heavy downpour to reveal the leak. Water dripping down the sides of the wall or onto the ceiling are tell-tale signs. The ceiling itself could warp or become discoloured.

Latest technology

Roofing manufacturers are now designing solar panel roof tiles, such as Marley SotleQ. This new and innovative technology looks like a normal roof tile but harnesses the energy of the sun to provide your home with electricity.

A new coating?

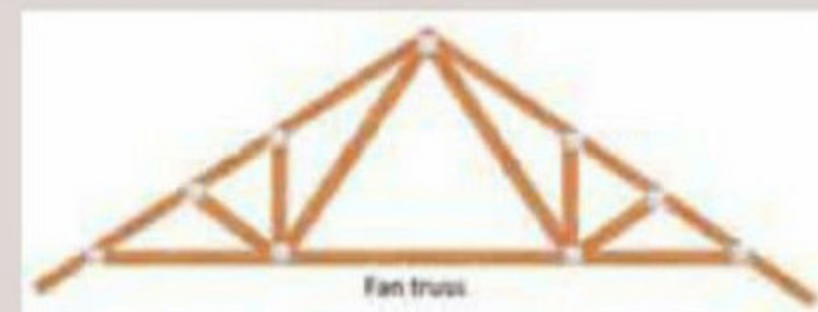
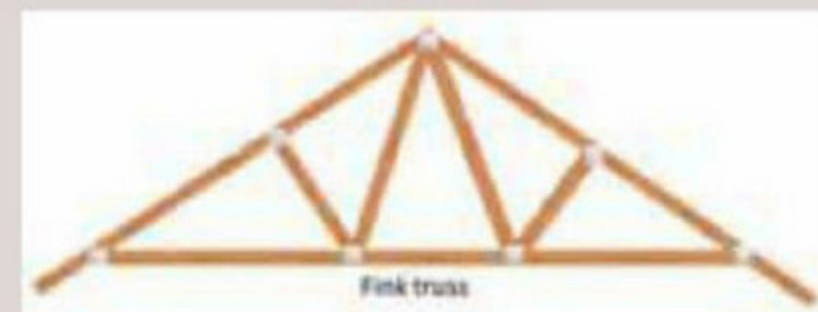
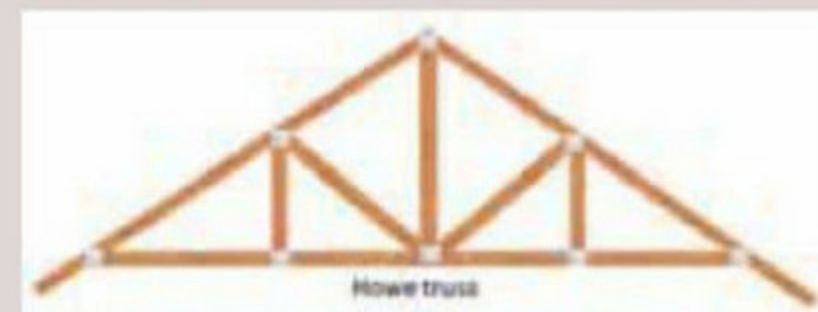
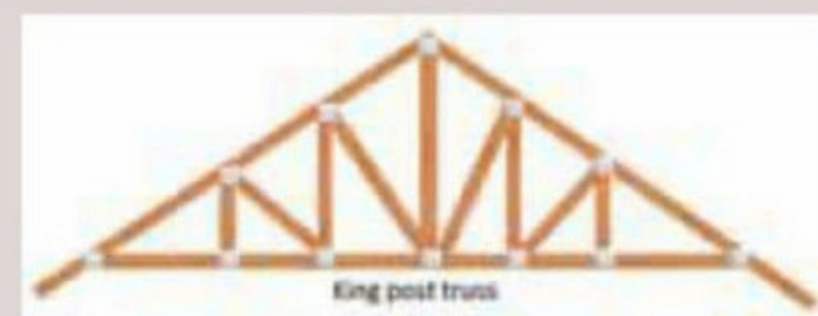
If your roof is looking aged and raggedy, you can repaint the roof. Painting can be labour intensive but quick spray-painting options are available. The adage "you get what you pay for" applies to roof paints. Invest in a durable, quality paint that will last a decade or more. You don't want your prized paint job washing off after the first summer rains.

COMMON CAUSES OF A ROOF LEAK MAY INCLUDE:

- a) Physical damage to the roof including broken or cracked roof tiles.
- b) Worn seals or waterproofing membrane or damage to the flashing surrounding a fireplace chimney.
- c) Where two adjoining sides of the roof come together in a valley. A galvanised steel plate or preformed flashing is usually found running the length of this valley or gully. If tiles have been moved or damaged or the plate shifted, this could lead to leaks.
- d) Blocked gutters. Blocked gutters seldom cause leaking inside the actual house but may contribute to pooling water which may flow back along the rafters and potentially into the roof cavity.



Tiled roof



Types of trusses

Working safely

It goes without saying, working on the roof can be hazardous. Take any roof repair safely. If you don't have the right equipment, such as a sturdy stepladder, then get in a professional roofer to do the repairs. The bill will likely be much cheaper than a six-month hospital recovery from a broken back or spinal injury. This cannot be emphasised enough. Each year hundreds of South African's are seriously injured by falling from stepladders or off the roof.

If you decide to carry out the repairs, then work carefully. Make sure the stepladder is securely placed. Where possible, place it at a 90° inside corner or against a section where you have maximum safety. Be careful when placing a stepladder against gutters and these could easily slip, or a plastic gutter could crack and cause the ladder to shift. Be cautious when working on slippery rooves or steep rooves. Never work on the roof during a lightning storm. Some old houses may have electrical cables running overhead from the municipal line into the side of the roof. Be extremely careful around these cables, especially when manoeuvring a stepladder.

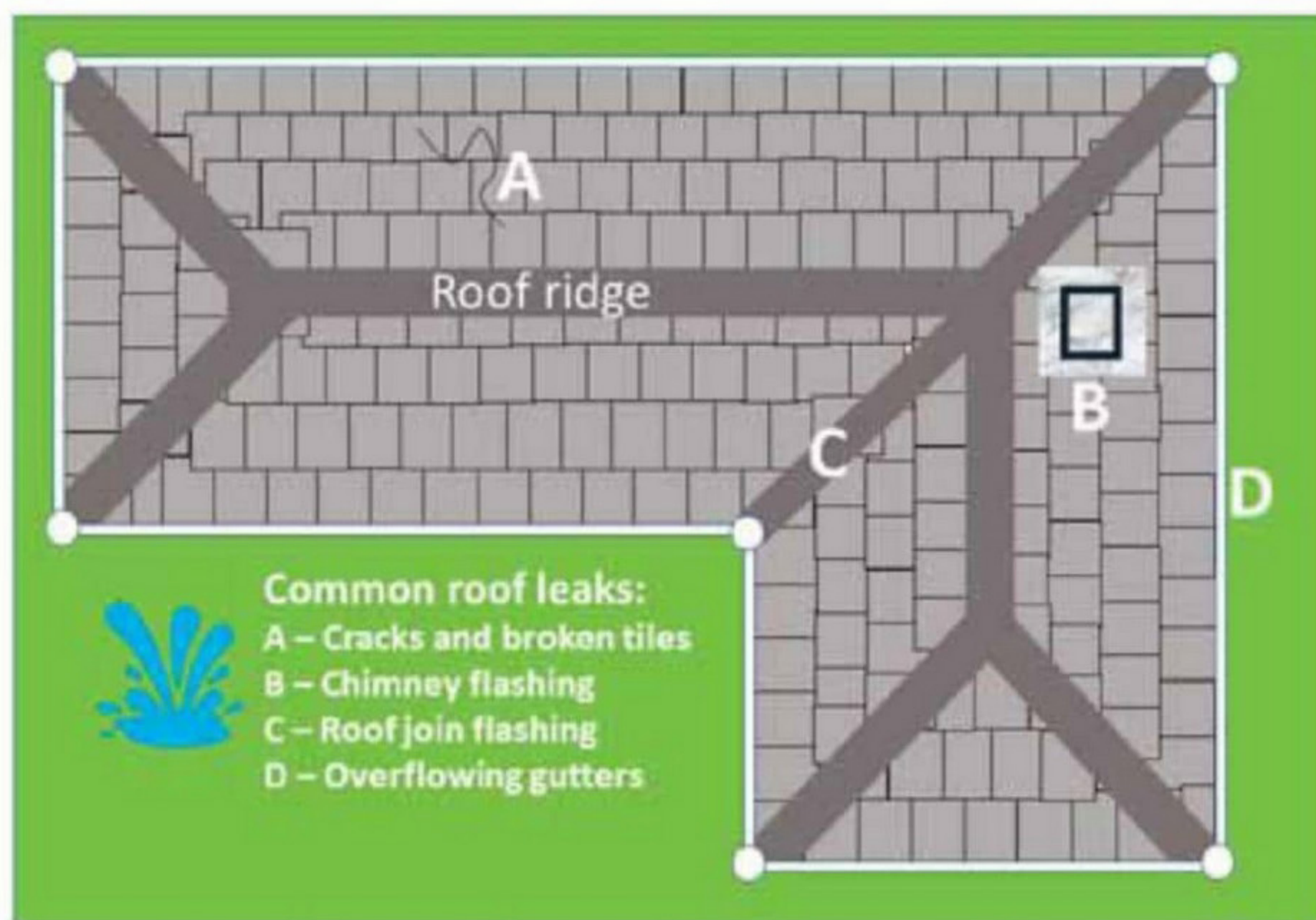


Gutters and downpipes require regular cleaning, especially if leaves fall into them

Other possible leaks could be caused where skylights are situated. In metal sheet or corrugated iron rooves, leaks can occur where the nail rivets or anchor screws fasten the corrugated iron to the purling below. Each nail or screw has a rubber seal which could wear over time and allow water through. Some house designs have a parapet (low protective wall along the edge of a roof). Steel flashing is fitted adjacent to the parapet wall and sealed with a waterproof membrane. The roof tiles overlap the steel flashing. Often, over time, the waterproof membrane fails, and this is a common cause of roof leaks.

Repairing a leaking roof

Once you have identified the cause of the leak you can initiate the repair. Broken roof tiles can be replaced as they are often of a standard design. If you don't find a matching colour the tile can always be painted to blend in. Thatch rooves are more complicated and will require the expertise of a professional thatcher. Thatch rooves are also difficult to work on. Rooves covered with slate tiles or shingles can also be challenging as these materials are more fragile and slippery, especially when wet and can present the DIY'er with a safety hazard (see Working safely).



Common leak areas

Waterproofing

Where waterproofing is required, there is a vast range of products on the market. Research the product carefully and don't only rely on what the salesman tells you. They may not be

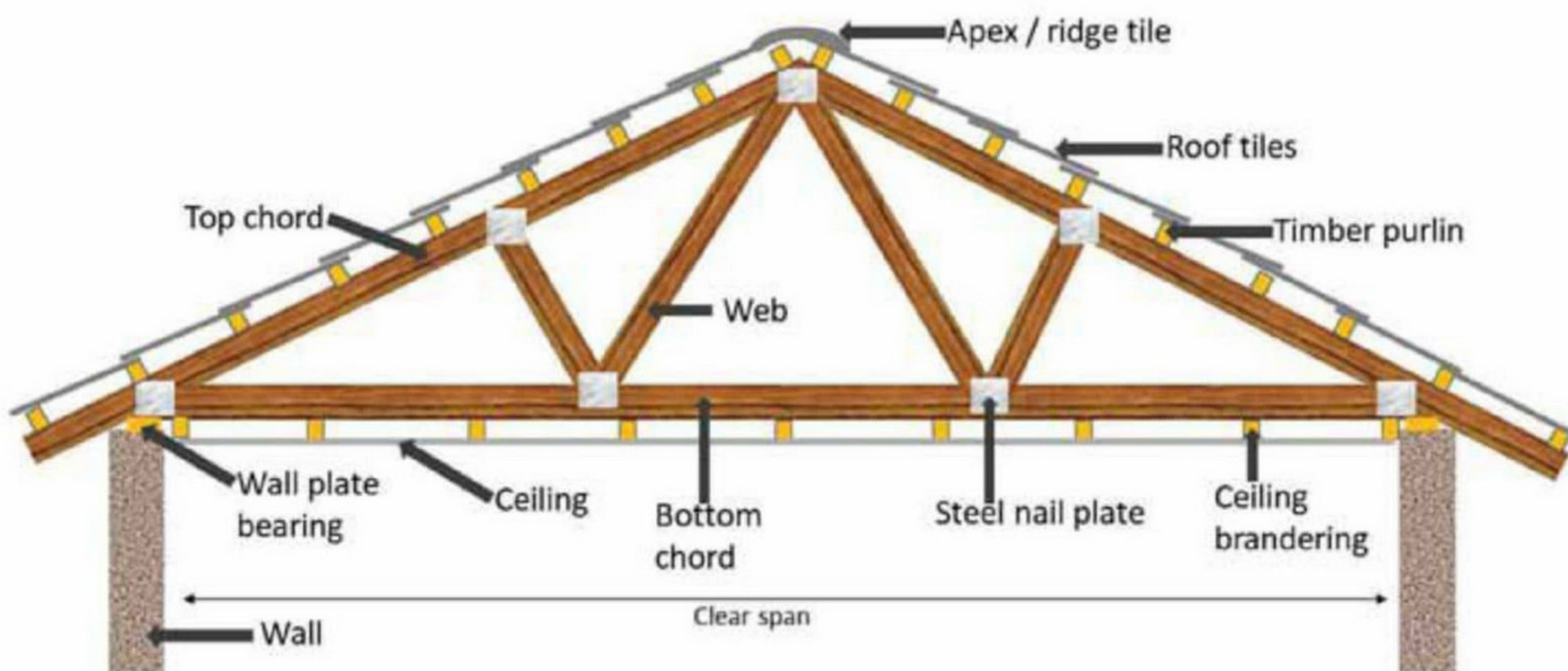
adequately trained in roofing products! Waterproofing materials for the roof usually consist of a material fabric and a thick rubber-like sealant. Read the product instructions carefully. Make sure you work within the application

guidelines regarding weather and temperature. If the surface is wet or too hot the membrane and sealant may not bind properly. Some waterproofing products may require the use of heat and an open gas flame to seal.

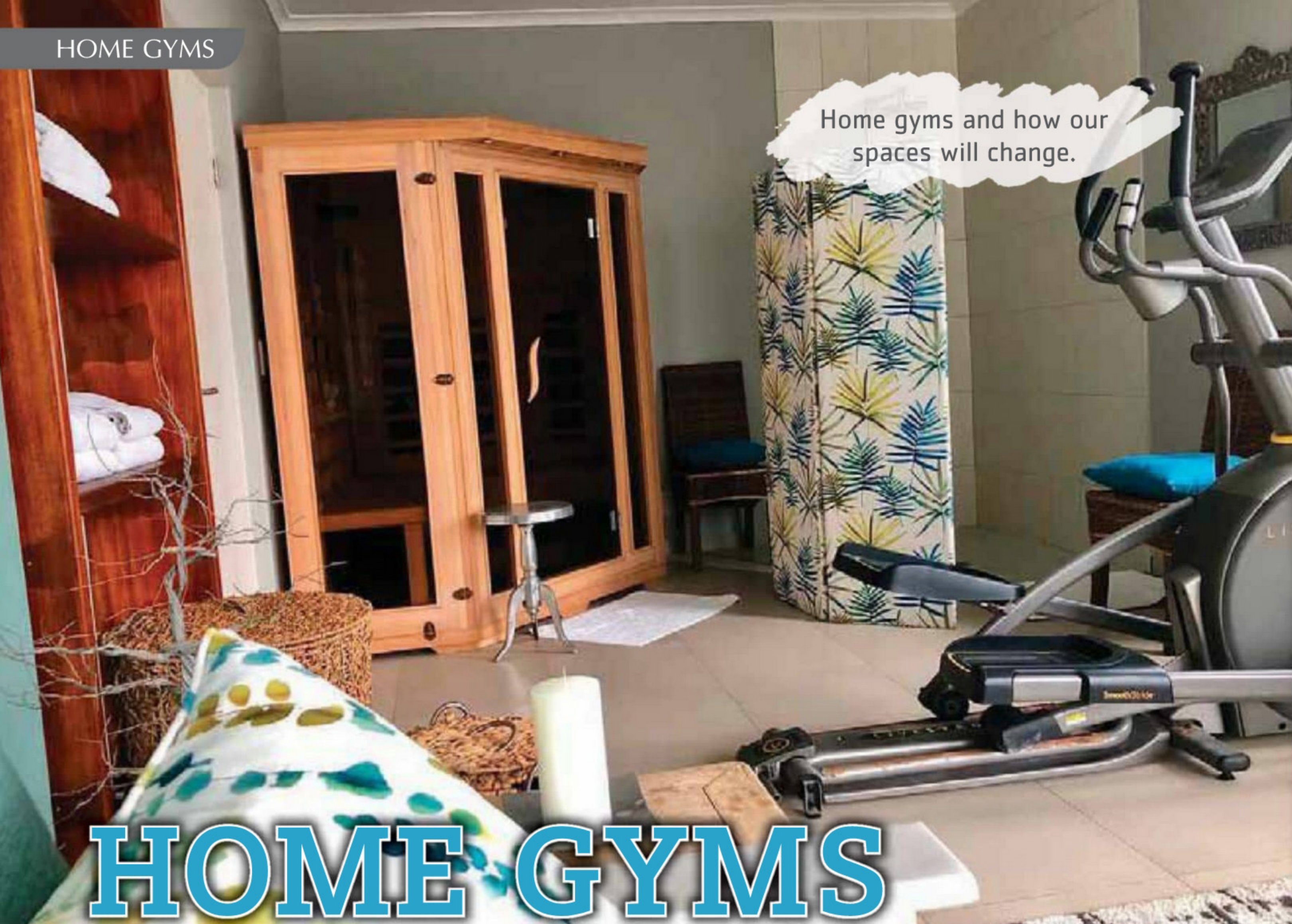
ROOFING MATERIALS

South African homes have a range of roofing materials. The following are listed from the most common to least common materials.

CONCRETE TILES	These tiles come in a wide range of designs and colours. A popular choice in modern homes is the Tuscany look.
CLAY TILES	Clay tiles look similar to concrete tiles, the obvious difference being in the material composition. Modern clay tiles also come in a wide variety of designs and colours.
CORRUGATED IRON	Corrugated iron was the standard roofing material in many early homes. Old corrugated iron sheets which have a wavy appearance are usually thin and lightweight. More modern designs which incorporate galvanised steel have an angular profile. Polycarbonate sheets, which also come in a corrugated design, are not suitable for rooves as it is made from a light material, but are popular for eaves, patios, some carports, garden sheds and hothouses.
SLATE TILES	Slate is cut from natural rock. It is from fine sedimentary deposits that have compacted tightly over hundreds of thousands of years to form a strong material. It's like shale. Large slabs are cut into equal squares or rectangles and used as a roofing material.
THATCH	Thatch is harvested from strong and long grasses as well as reeds. This material is commonly associated with bungalows, chalets and lapas in game reserves but is also found in some urban homes.
FIBRE CEMENT TILES	Fibre cement is a cheaper alternative to slate tiles and manufactured to look the same. They are generally of a lighter weight but durable.
ASBESTOS	Asbestos roofing has been phased out of the market due to health concerns, but it may be found on some older buildings and homes. Old asbestos can easily crack and break, so be incredibly careful when working on such rooves. Asbestos dust is also dangerous to humans so exercise caution when cutting or working with this material.



A standard roof truss and roof structure



Home gyms and how our spaces will change.

HOME GYMS

Kim Williams, Cape Town interior design specialist and entrepreneur, believes that in these times when we are spending more hours in our homes than ever, we should focus on embracing the flexibility and fluidity of our spaces.

Williams has always believed that creating different spaces to experience, in different parts of your home, will support your mental and physical health. Setting up a home gym and wellness space, big or small, is an important step towards a happier, healthier.

In her new wellness space, Williams has walked the walk and worked with items she already had. A ladder makes for a stylish Scandinavian-inspired blanket holder and a scented candle engages your sense of smell, creating a spa-like atmosphere.

Plants from Kim's garden dangle from the ceiling and peacefully sway in the breeze, adding height and dimension to the space. Old baskets make for quaint storage for towels, and long-forgotten gym equipment from the garage takes centre stage.

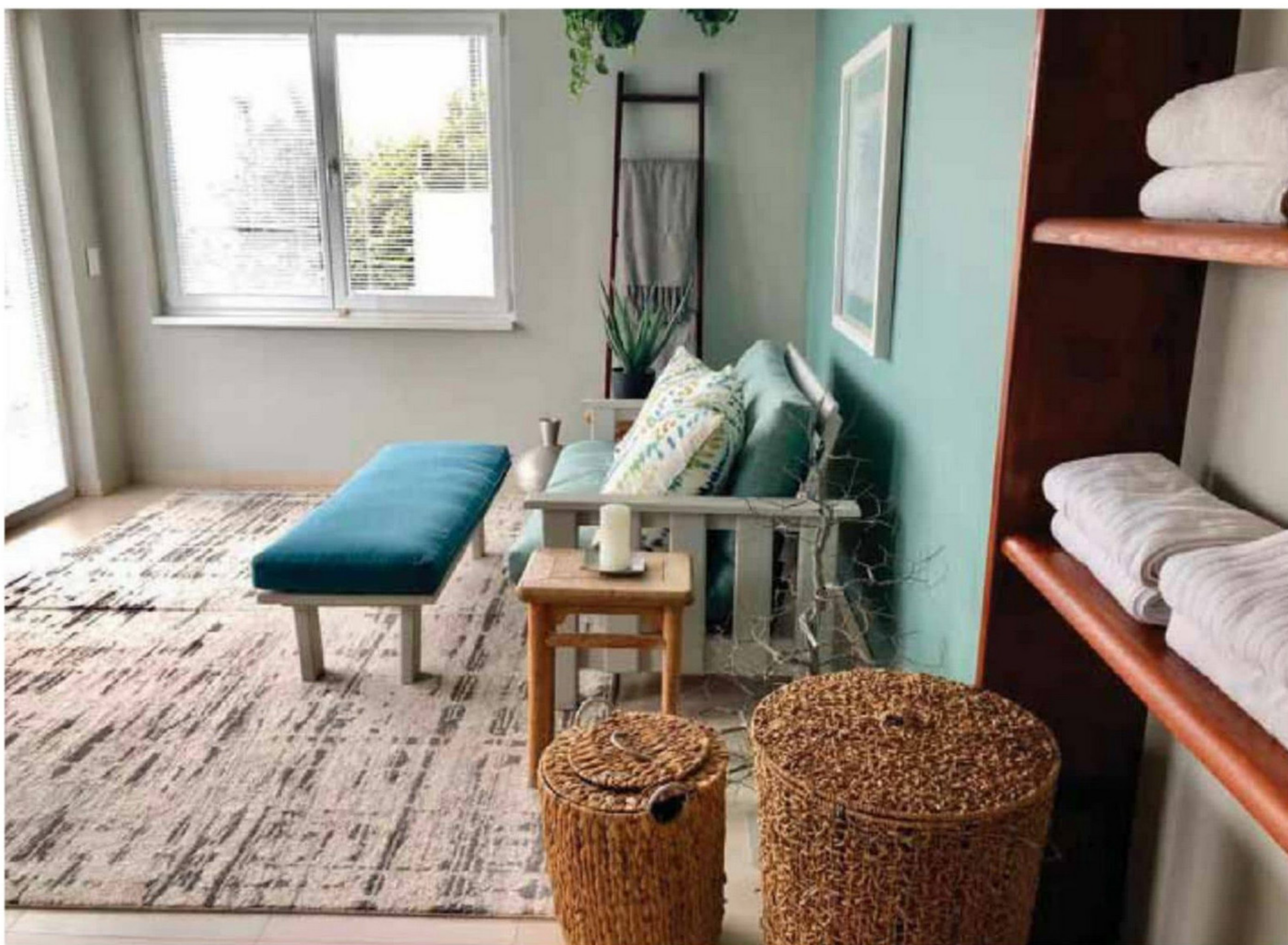
An old mirror placed in a shadowed corner reflects light and two smaller carpets pushed together create a lush warm

floor to practice yoga on as the weather begins to cool. Soft furnishings from other spaces in her home, such as cushions and an old picture from a past holiday home, finish off her space as if they had been made for it.

How we look at our spaces has changed forever. The psychological impact of the Coronavirus on our lives has forced us to look at our homes very differently. It has helped us pin down exactly what we want from our spaces. Our limited access to the outside world has inspired our creativity and pushed us towards a minimalist mindset in the most unlikely and pleasantly surprising ways.

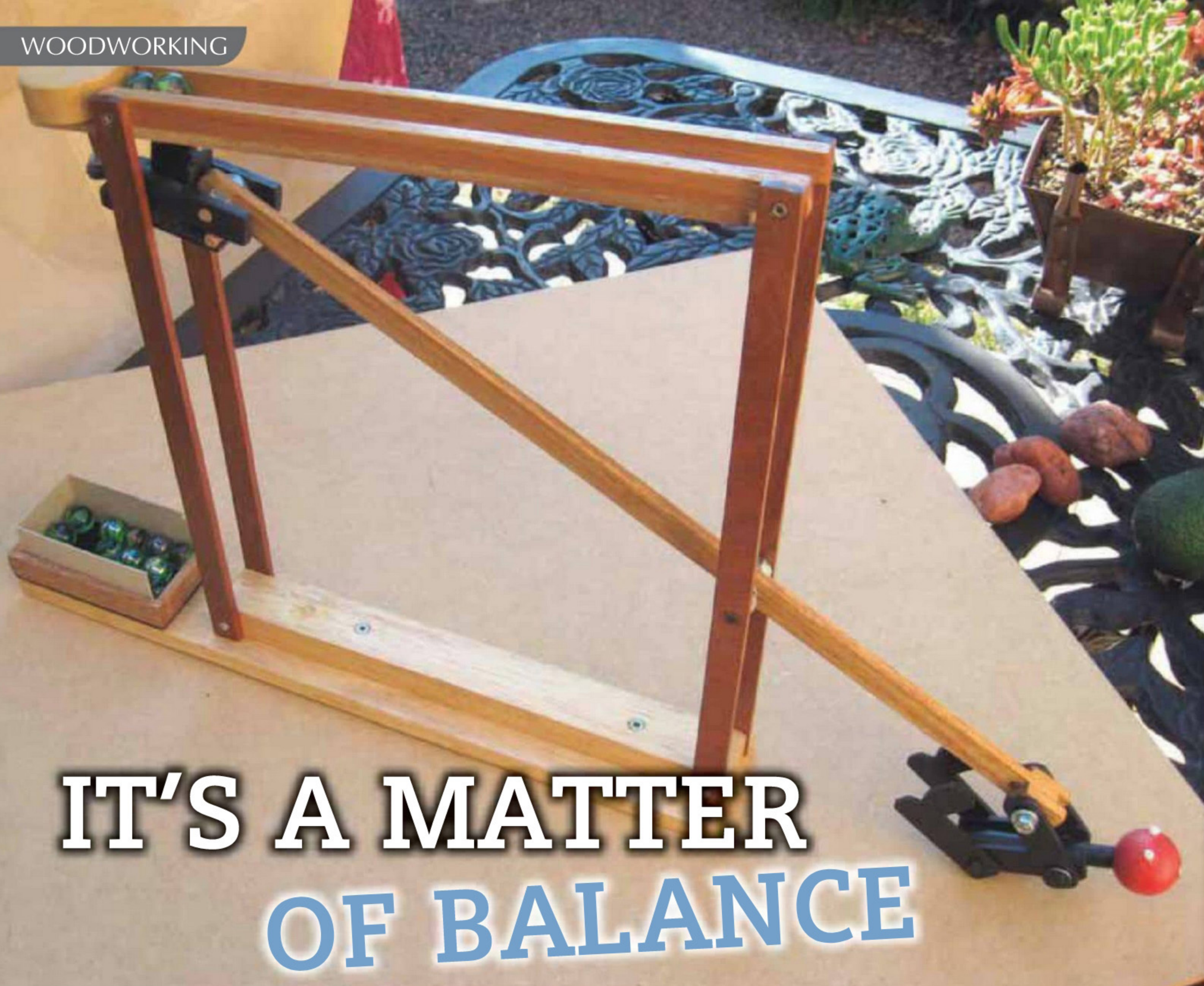
Most of all, the COVID-19 pandemic has made many of us more appreciative and protective of our good health, and there is no better way to sustain it than to exercise both body and soul in the beautiful, personal, safe space of your home.

For more information, visit www.kimwilliams.co.za



Here are Williams' top tips and trend insights on how to create your home health sanctuary:

- Convert your lesser-used areas into a shared wellness and exercise space. The space should be designed to create an environment that fosters both your physical and mental health and presents a place both to retreat to and to exercise in.
- Remember to create spaces that allow you to pause, meditate and recharge. As we seek to make our homes more functional for our changing needs, we must remember to section off spaces specifically dedicated to allowing us to focus on and be grateful for our good health.
- Be mindful of how you use technology in your wellness routine. Technology has evolved to include a wide array of useful health apps, from guided meditation to CrossFit instruction. If you use health and fitness technology, such as videos, designate a space for it where it will not be accidentally damaged. After the pandemic, we will no doubt see technologies evolve and grow so that we won't have to touch any devices or equipment, to further to assist us with exercising in our home environment.
- Bring the outside in wherever you can. Studies have shown that being surrounded by even the smallest amount of nature has a positive impact on our psyche – a calming effect on our environment – and a welcome addition to our oxygen supply. Certain plants can even filter odours which is very useful in a home gym. We have already seen a big comeback of plants in our home environments and Williams believes that this trend will accelerate as we bring nature more and more into our homes.
- Reduce, reuse and recycle is not only good for the environment but your wallet too. Repurposing more of what you have and looking for sustainable ways to improve your living environments will make sure you are not only following the latest design trends, as well as putting your personal stamp on your interior décor too.
- Hand-crafted items are synonymous with high quality and there is tremendous satisfaction in crafting something from scratch. As we make more with our hands and become more mindful of the special opportunity for the sentimentality handcrafted items give us, we should expect to see crafts and hand-made products appearing more.



IT'S A MATTER OF BALANCE

In this fun marble machine project we're going to use basic hand-tools to create a toy for the learning experience of the force of gravity, balance of mass, the laws of momentum for which the basic design dates from the 19th century where it appeared as a toy made by the Amish community for their kids. What more could you want from a project?

>> Jeff Hollingdale

Since early times everything from trade to toys and games has relied on balance to perform. See-saws to weighing scales and more, the scientific properties of why it works gradually appearing from the work of a many among whom Isaac Newton to Henry Cavendish are well known. Cavendish explained the relationship between gravity and mass, rotational force which advanced our knowledge to the age of space exploration.

You can follow the design details which follow, scaling it up or down to suit your own changes. In this view, the counterweight is fully down with the marble cup in position to receive a marble by pushing-up against the pin which tilts-up the round disc which releases one marble.

The marble cup then descends as the weight of the marble overcomes that of the counterweight. The counterweight rises. The marble drops into the marble box allowing the weight of the counterweight to bring the marble cup up again and repeat the cycle. The cycle will continue until marbles are released to the marble box.

For this project, a few basic hand tools are required, a fretsaw, a power drill plus bits; a 16mm Forstner or spade drill bit plus some scrap lengths of 3.5mm MDF, 15 x 5mm hardwood lath. Some other scraps of wood – pieces required are detailed in the drawings. I got a lot of the wood I needed by scrounging the waste bins at my local hardware store. In addition, you will need a length of 6mm dowel rod, some 8mm nuts and washers.

Step-by-step guide

Step 1: Begin by making the top marble track and the support framework. Mine was made from scrap pieces of 3.5mm MDF and hardwood strips and offcuts left-over from other jobs. You can adjust the pieces to assemble in other thicknesses or materials. A key factor is to check the average diameter of the marbles you will be using, mine were around 15mm in diameter. If you are using bigger marbles adjust the width of the track and the exit hole to suit.

Cut two strips of 15 x 5mm pieces 280mm long. Cut one piece of 3.5mm MDF, 300mm x 27mm. Using a Forstner drill, cut at one end a 16mm hole. (if you don't have such a drill, use a Spade bit drill); offset the hole 45mm from the end. Also drill a 7mm hole offset by 20mm from the end.

Using wood glue, glue the 15 x 5mm strips flush to the edge of the MDF. Note the strips are offset by 40mm from the end with the two holes drilled into it. The drawing which follows shows dimensions and how to assemble.

The marble release is a wood wheel left over from a toy project with a piece of 6 x 50mm dowel glued into it. The steel washer and rubber tap washer are mounted after the wood wheel is inserted through the 7mm hole. We'll see how this looks, later.

When the marble track assembly is complete, sand it down by starting with 120 grit and ending with 220 grit sandpaper.

The support frame is also built-up from 15 x 5mm pieces. The four uprights are cut to 2 x 310 and 2 x 330mm. These are screwed and glued to the top track and a base support piece of 280 x 30 x 16mm. This in turn is screwed to a base piece of 415 x 65 x 12mm.

As you can see in the diagram, a 7mm hole is drilled in the 330mm upright. Start with 6mm drill, then carefully run a 7mm drill through to avoid splitting the wood. Sand down all the pieces before assembling. Use appropriate size wood screws as you assemble. As you glue and screw everything together ensure that the frame uprights are perpendicular to the base and marble track pieces.

Step 2: Now make the marble bucket. Again, this was made from various scrap pieces of MDF and hardwood. This assembly is a bit 'fiddly' to assemble. Don't worry about absolute precision when building it. It's not that critical. You could probably even improve the design or simplify it. As you build it check that it holds the marble size you're using.

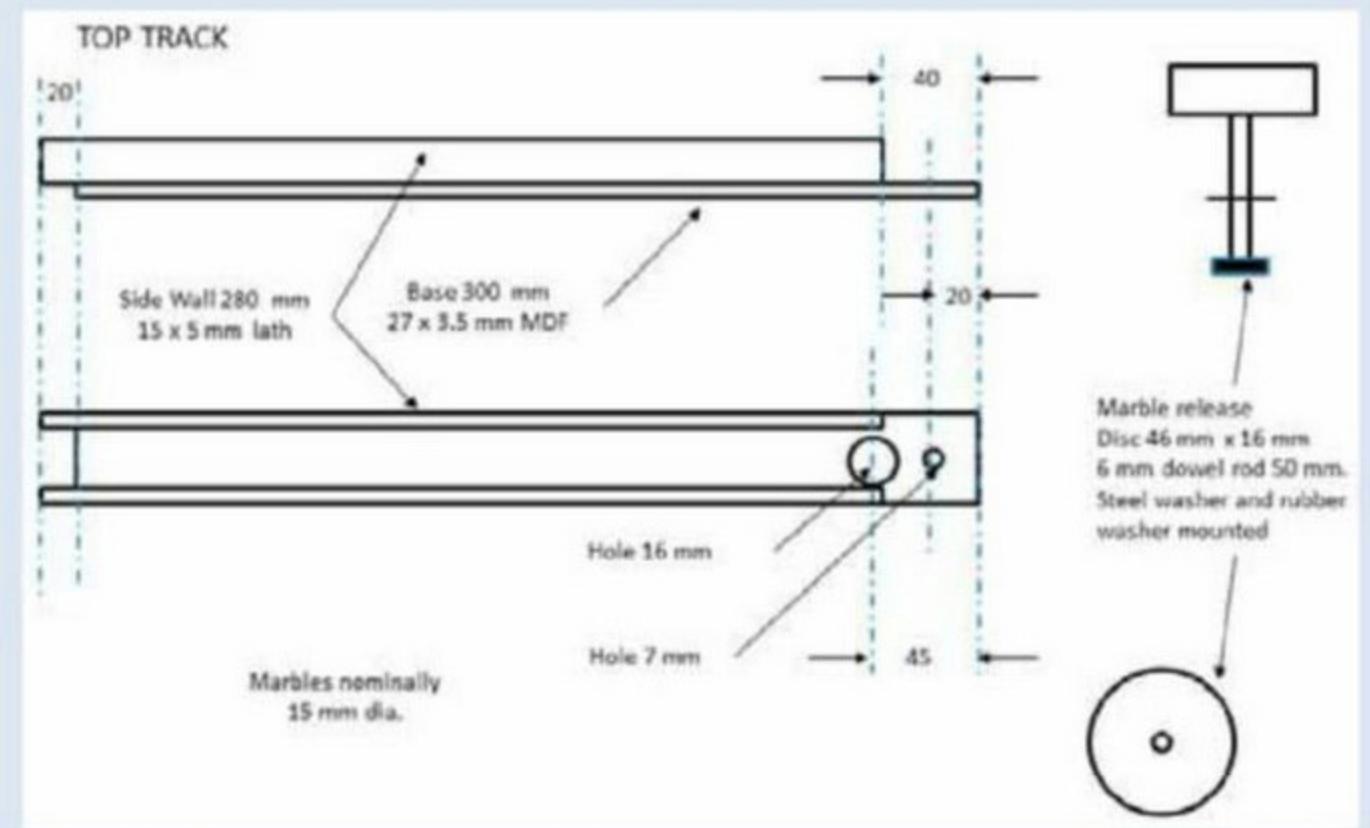


Fig. 1: Top track assembly

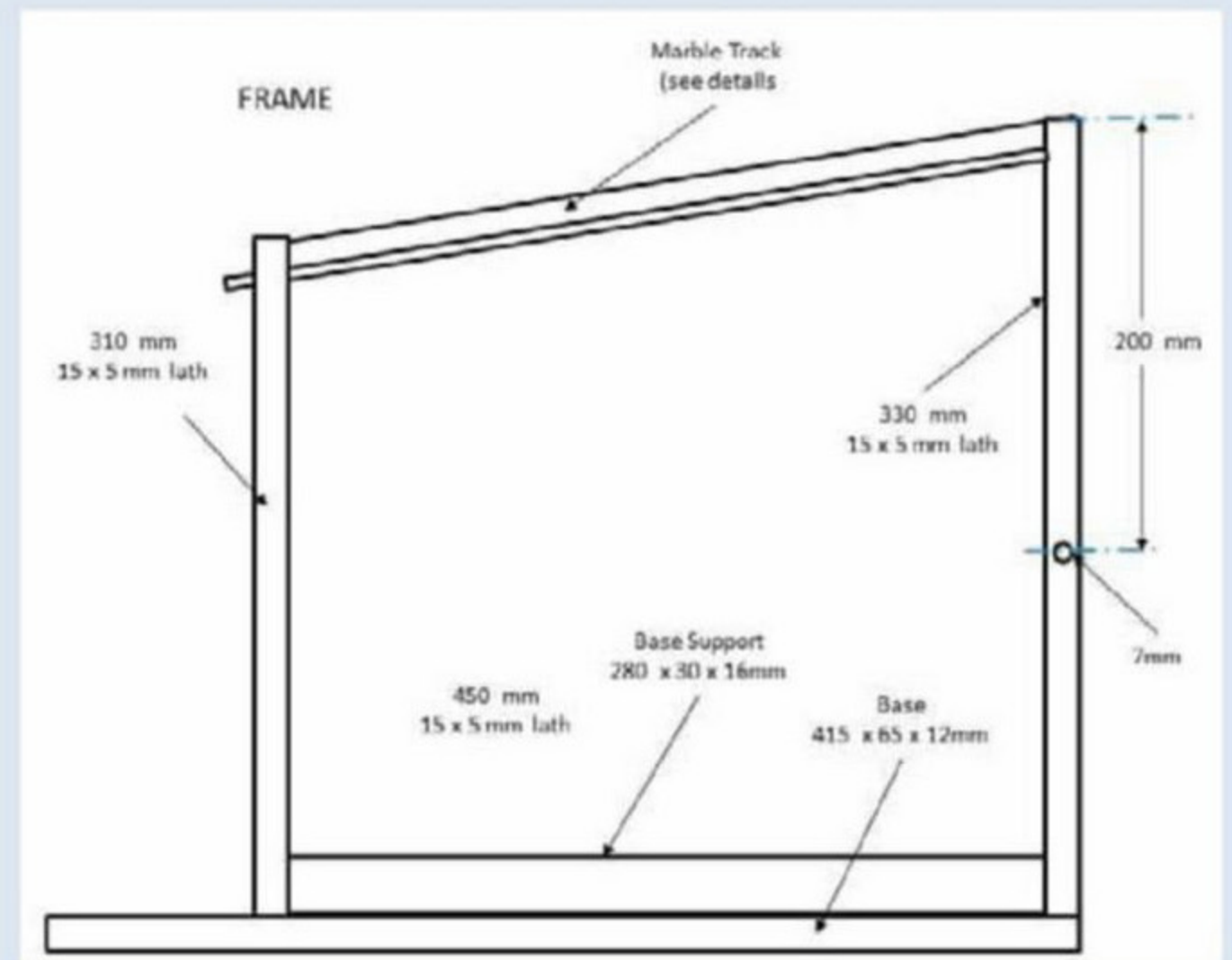


Fig. 2: Frame assembly



Fig. 3: Finished frame view of the completed frame assembly. The larger base piece had not yet been screwed to the base of the frame assembly

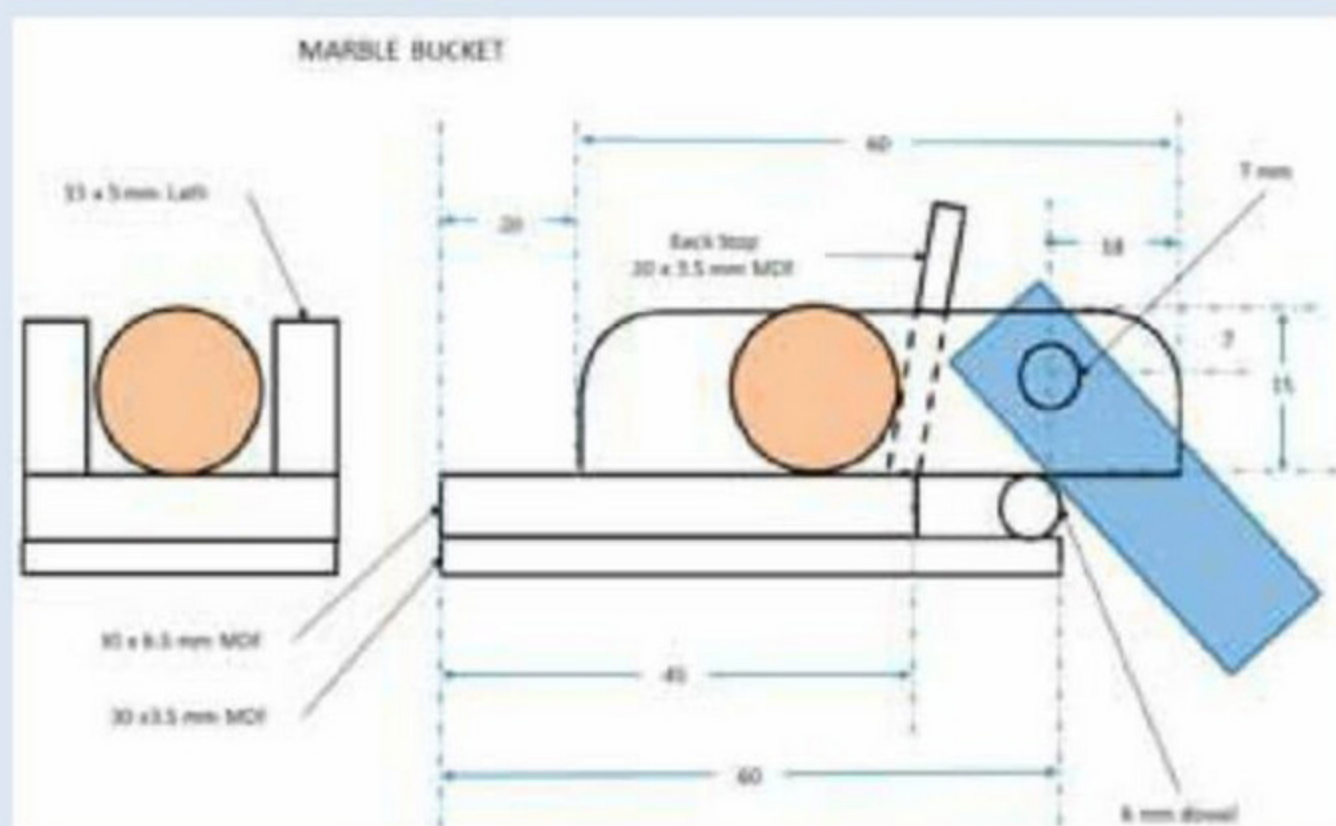


Fig. 4: Marble bucket



Fig. 5: Marble bucket and marble release

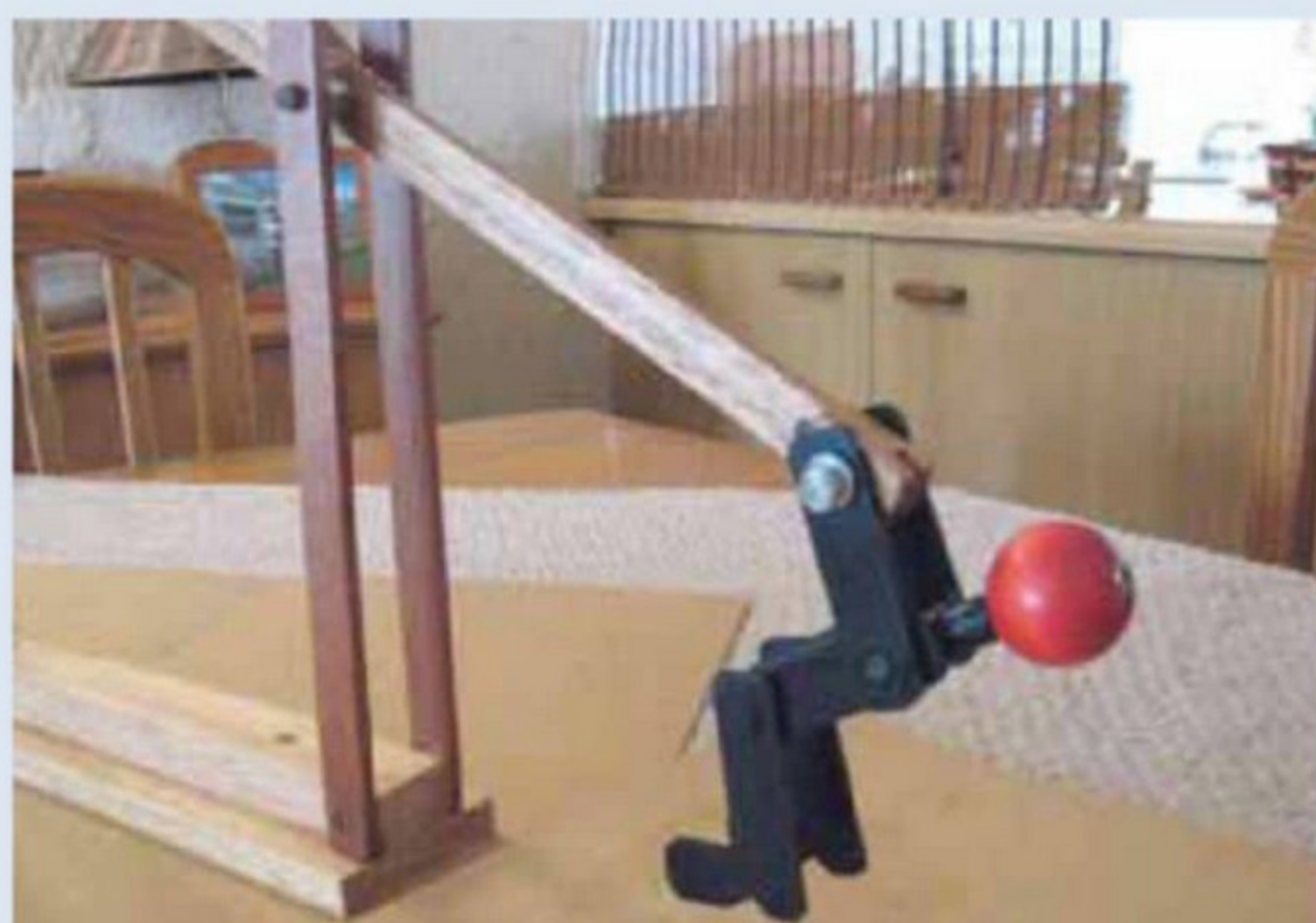


Fig. 6: Counterweight

Sand down and round off all the sharp edges. I brushed a sanding sealer of the finished piece then sprayed it black. In this view, you can see the marble bucket attached to the balance arm piece. This was an earlier design, I lengthened the bottom section of the bucket to better strike the rubber washer on the dowel of the marble release piece. That's where the fun (and frustration) comes from building mobile toys, its back to its re-design if it doesn't quite work.

Step 3: Make the counterbalance. Any design of a weighted piece would do but I thought the design would be more interesting using a human like figure. The figure is connected to the balance arm with a 5 x 30mm bolt, nut and washers. Small pieces of 5mm thick wood scraps provide spacing for the arms.

The design here allows you to draw-out the leg, arm and feet pieces, transfer the design onto a piece of MDF using stencil glue or Pritt and cut-out with a scroll or fretsaw. The pieces are assembled into a 'sitting' position on the 6mm dowel rods. The short piece of brass plated steel tubing adds mass to the counterweight. I used 6mm washers glued carefully in place with Loctite Superglue, checking that the body parts could still be moved if needed.

The 'tricky' stuff now comes in getting the marble-cup and counterweight to just balance each other with a slight advantage to the counterweight. The balance arm is a piece of lath approximately 450mm long. With the marble bucket fitted at one end and the edge of the bucket just lifting the wood wheel release, (see Fig. 10).

Here, string was used to hold the bucket in position while the wood strip was lifted and marked-off with the position of the hole drilled in the rear frame. This as was seen from the diagram (Fig. 9) was in this model about 268mm from the point at which the marble bucket is connected. The distance may vary for the model you build.

Step 4: This step involves a bit of simple science. The balance of two masses means the net torque must be zero about the pivot point for the balance strip to remain steady. The marble bucket as an estimate on the kitchen scales weighed about 30 grams, the counterweight about 45 grams.

Using the balance between length l and mass m . To get a starting point:

$$\begin{aligned} l_1 \times m_1 &= l_2 \times m_2 \\ 268 \times 30 &= l_2 \times 45 \\ l_2 &= 179 \end{aligned}$$

I started off by drilling a tiny 2mm hole at 5mm in and 180mm in from the counterweight end. I ran a piece of

nylon thread around the counterweight to hold it in position at the end mounting hole. Thread a short piece of nylon thread through the centre balance hole. Support the strip and see if it balances. A quick check showed this was way out of balance, so I cut off 5mm at the counterweight end and drilled a new hole at 10mm in. Eventually at 167mm from the counterweight the strip was in balance, slightly in favour of the counterweight. Perfect. The 2mm centre hole was opened to 7mm and the counterweight hung as can be seen in Fig. 11. The arms of the counterweight were attached using a 5mm x 30mm steel bolt and nut using 2 x 6mm nuts as spacers for the arms of the counterweight.

Step 5: Here we fit the balance strip in place in the frame, using 6mm dowel. At the centre balance point a couple of 8mm nuts and washers act as spacers. I used a drop of Loctite Super Glue to hold the dowel piece in position. At the bucket end again use a piece of dowel with two 8mm nuts as spacers. Again, touch a drop of glue onto the outside of the dowel points to secure.

Step 6: Testing out the design. Load a few marbles in the top track, lift the counterweight and release it causing the balance arm to swing up, tap the marble release pin, allow one marble into the cup where the weight of the marble will carry it down. A temporary plastic tray was used to catch the released marbles. The movement then repeated by itself emptying all the marbles off the track. Hooray, happiness. If balance and release is a problem – try adding a little weight to the bucket, a steel washer, perhaps glued in place.

The optimum balance is that when a marble is released by the energy of the swivel strip moving upwards, the weight of the marble should be enough to allow gravity to drop the bucket downwards.

The finishing touch is to build the marble collector box.

This is not critical. Mine was made from 5mm thick wood strips glued to 3.5mm MDF board. Line the base of the box with a thin layer of foam or felt to stop the marbles bouncing out of it. Position the box on the end of the base support using a piece of double-sided adhesive tape. We're ready to go. The design has been tested, marbles are loaded onto the top track, we give the counterweight a slight lift upwards and release. The mechanism will keep on collecting and dropping marbles into the box until the top track has emptied. Reload.

This is your first step into the world of 'kinetic art'. Start thinking how, in version two how to get the marbles from the box back up to the top track. Think "Da Vinci", he had no dc electric motors or 'Arduino' microcomputer to assist him, only levers, wheels and gravity.

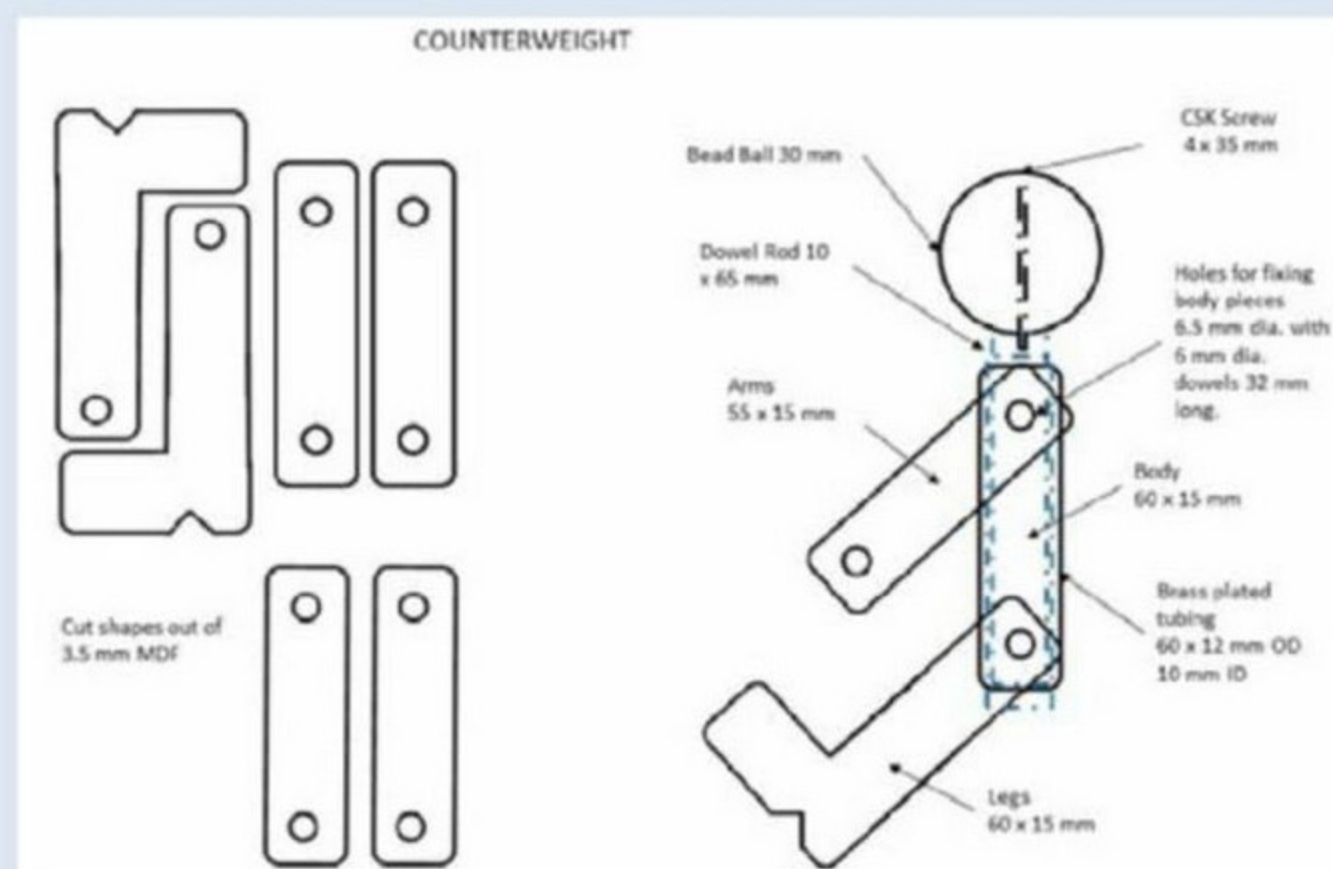


Fig. 7: Counterweight design



Fig. 8: Here the parts for the counterweight are put together to form the counterweight

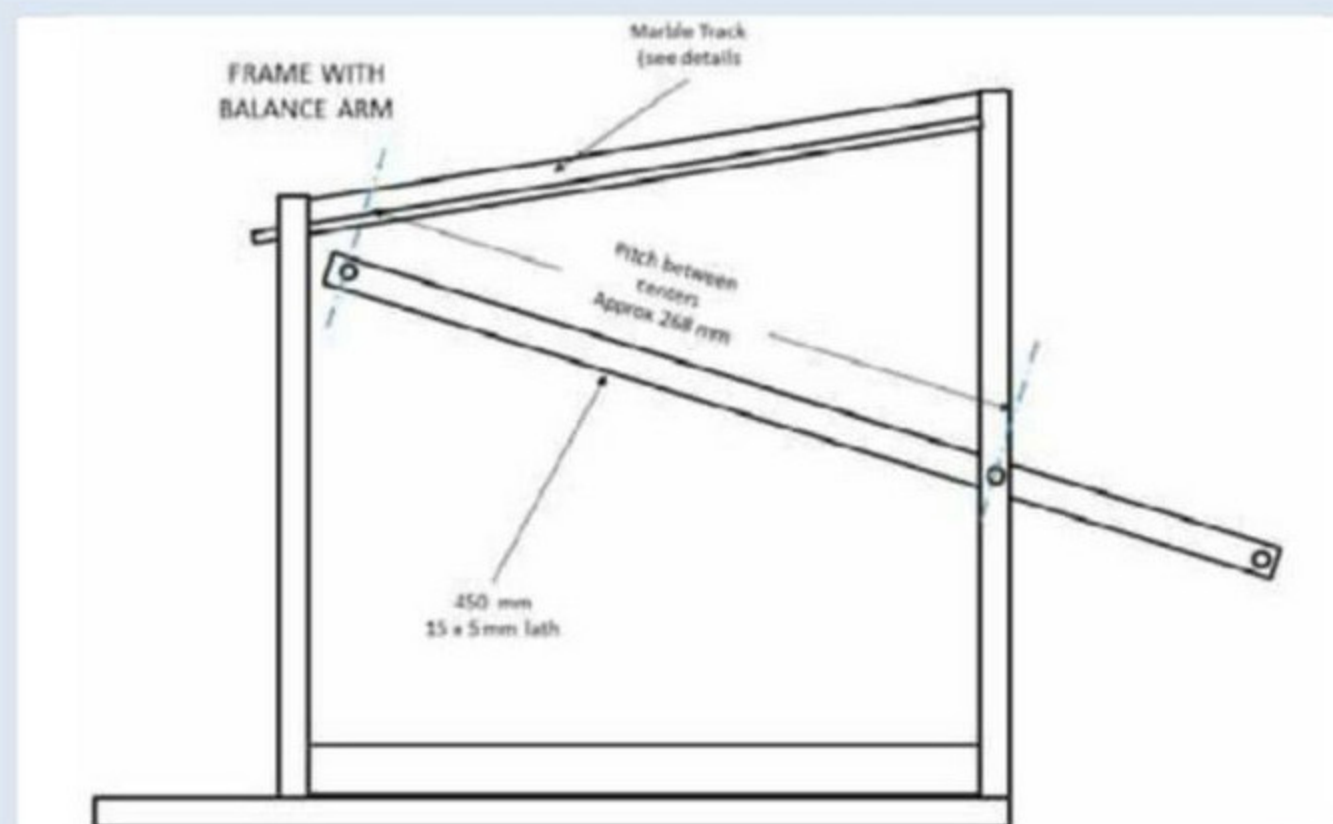


Fig. 9: Frame fitted with balance arm

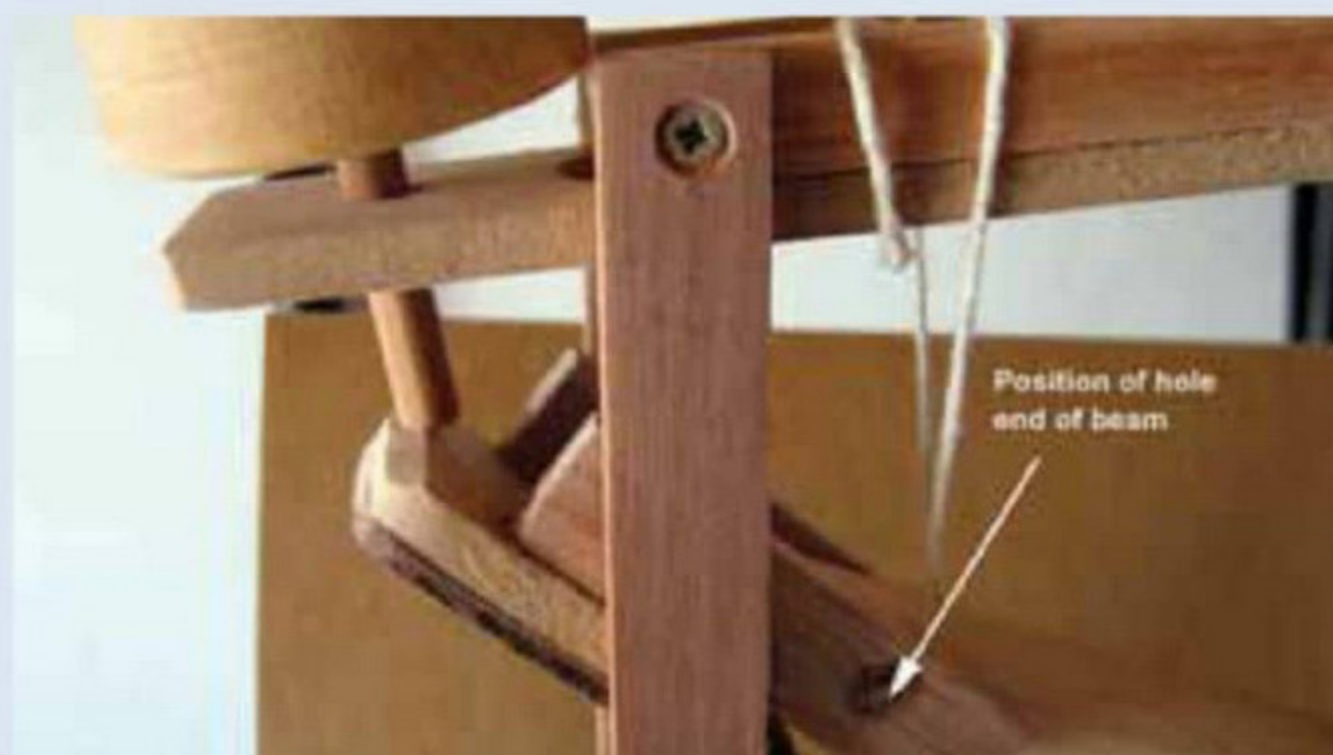


Fig. 10: Preparation for setting ball cup position



Fig. 11: Working out the balance



Fig. 12: Mounting the centre balance point

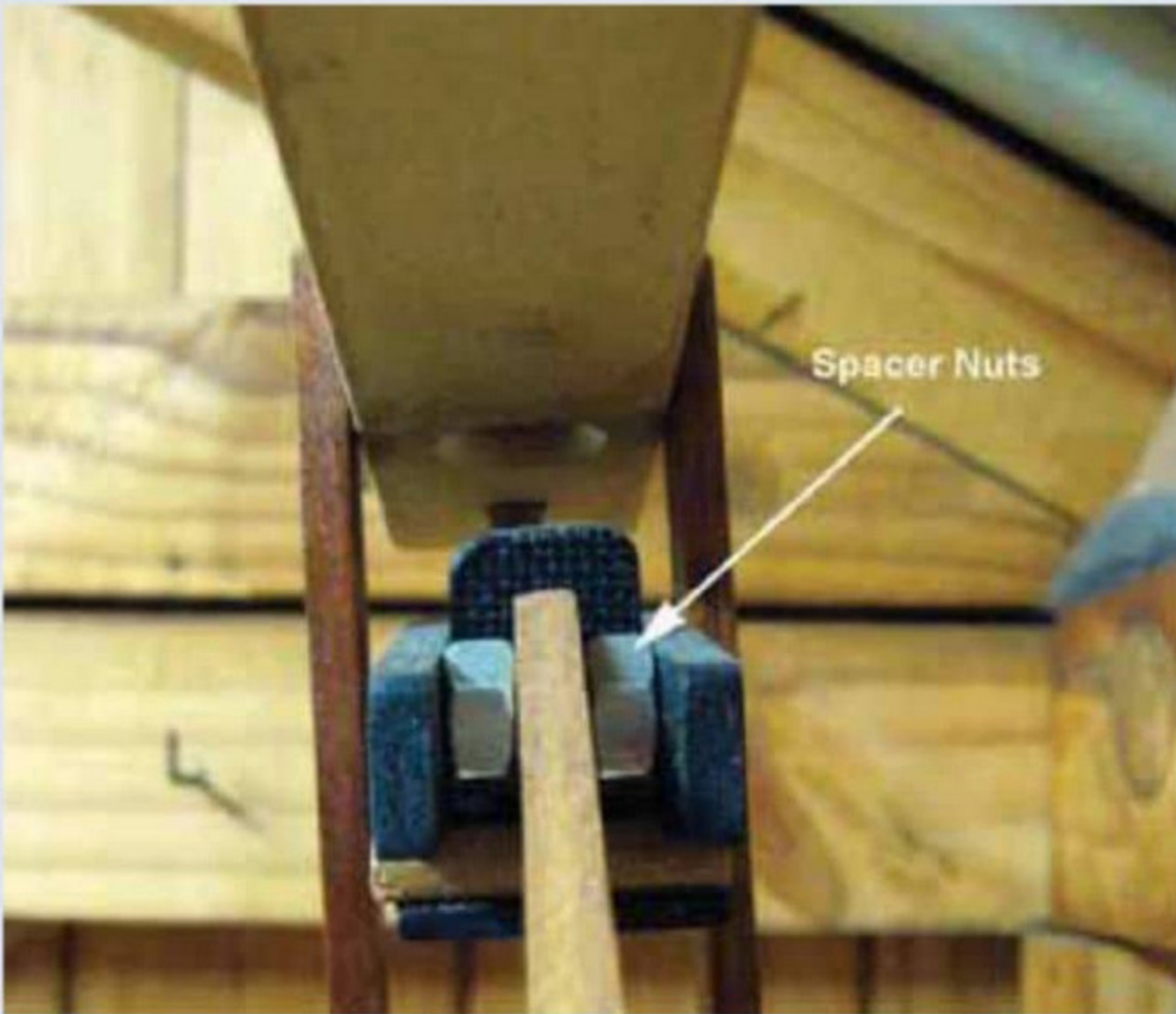


Fig. 13: Fitting the bucket end

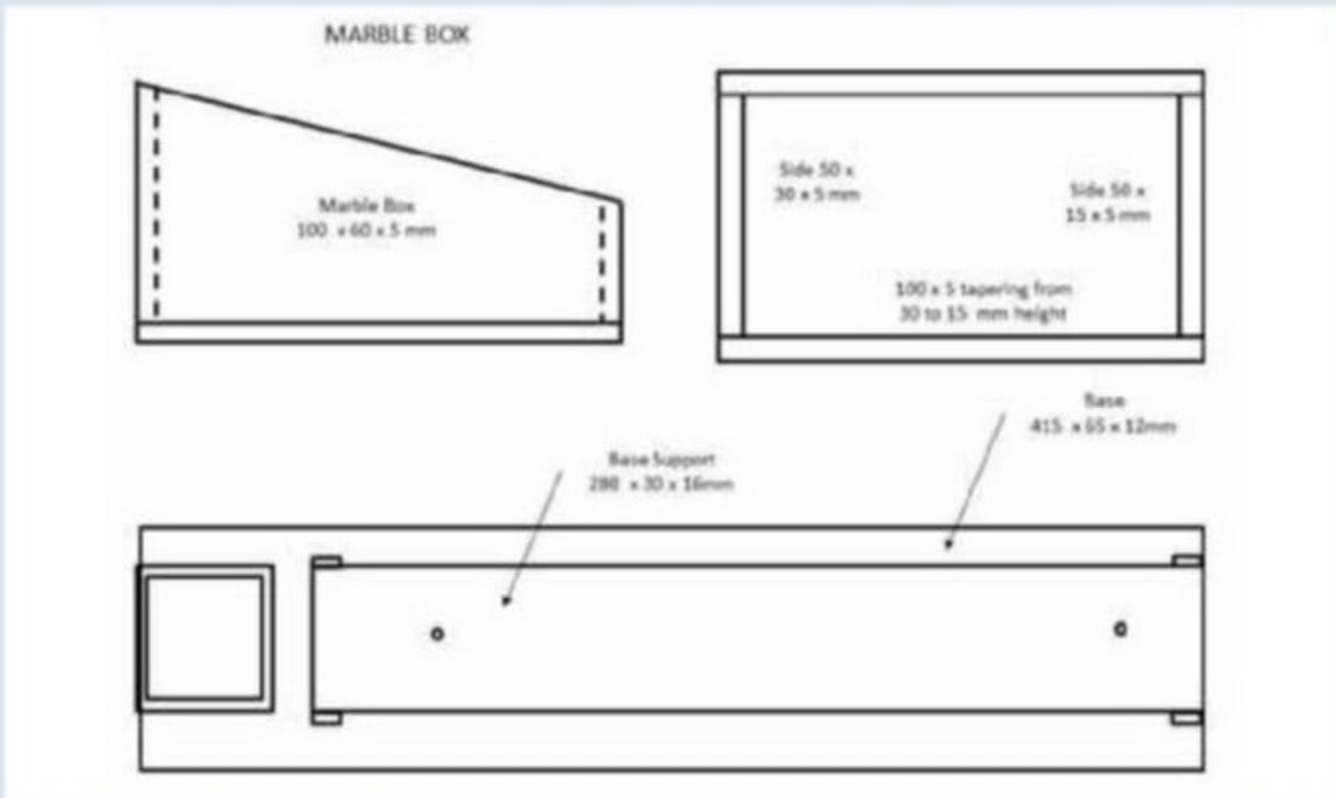


Fig. 14: Marble collection box

Gravity: the force that attracts a body towards the centre of the earth, or towards any other physical body having mass.

BRIGHT IDEAS

Readers share their time-saving, space-saving or innovative ideas



Shine a light

After doing maintenance for a long time and going through a few cordless drills, I had to find a use for the old drill 'carcasses'. It was during the height of our initial load shedding experience and I was thinking of better ways to survive and make our lives more comfortable.

I removed the 'guts' of the drill and glued a LED globe and fitting back in. Now I have a torch ready anytime as I always have batteries charge up for my other cordless drill! No stress to keep checking if batteries are flat or having to fork out for another handful of batteries!

Jonathan Cribbins, Ballito

How to enlarge project patterns

Enlarging scaled-down woodworking patterns to full scale is a lot of work, and the results are rarely very accurate. But you don't have to go through that exercise anymore. Just about any full-service copy or printing shop will do it for you in a couple of minutes for a few rand.

Here's how: Cut the pattern to the actual length of the drawing. Ask to have it enlarged to the size called for in the dimensions. The shop will spin a circular gauge to determine the expansion percentage and punch that info into the copier. In less than a minute, the full-size pattern will roll out. When back in your workshop, stick the pattern directly to the wood with spray adhesive, double-sided tape or masking tape and cut out the part – that's it!

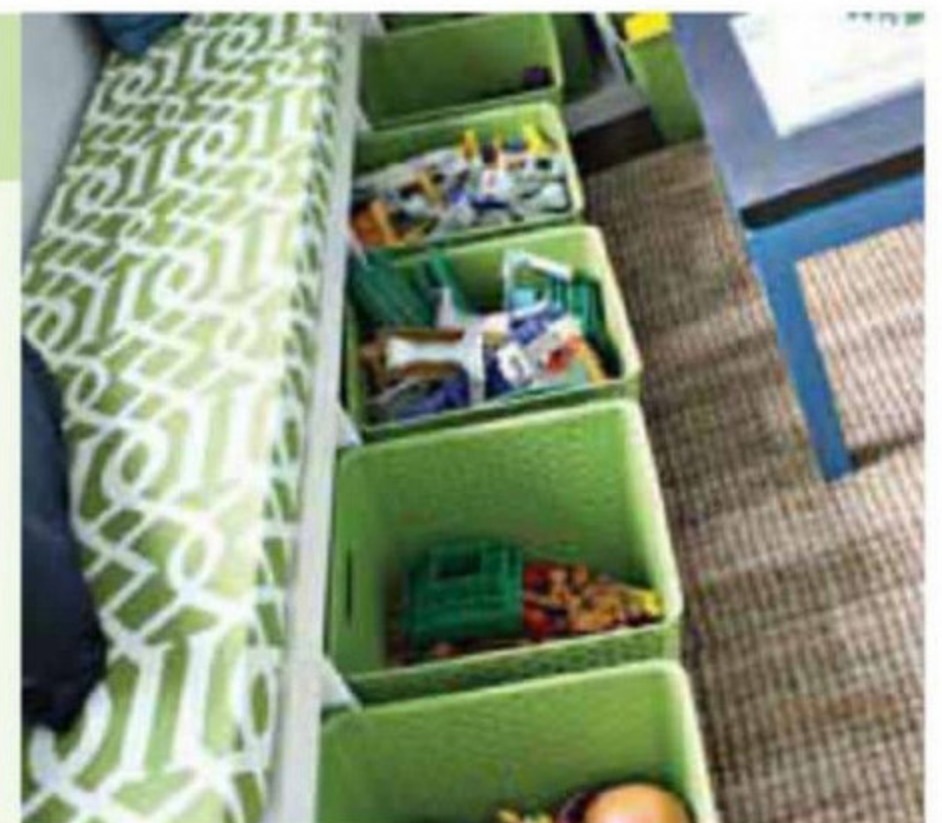
John Barton, by email

Storage for kids

After getting tired of constantly cleaning the toys in our toddler's bedroom, I begged my husband to come up with a storage solution. After some thought he came up with this (see the photo). It is an L-shaped bench with carefully measured spaces for storage baskets underneath. I was overjoyed with the end result! Not only is the

room much neater and tidier, but the cushioned tops on the benches give us a great space to sit and read with my son. I just wish I had taken some step-by-step photographs along the way so that we could have submitted the project to The Home Handyman... next time!

Marlene Venter, Fourways



WIN!

An Energizer Rechargeable Hybrid Pro Spotlight from Vermont Sales

The new rugged Energizer professional hardcase spotlight with a durable rubber overmold, comes complete with a shatterproof lens and offers a handy lanyard loop for hands-free convenience. It comes with 6 rechargeable AA batteries, which can be loaded once, sealed off and recharged from outside the spotlight with its own charge panel for a wall charger (a handy car charger is also supplied). 550 Lumens, low and high modes, adjustable beam, 425m reach.

Send your bright ideas to:

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Please include your name, physical address and a contact number (office hours). You may also include a photograph (300kb) of your bright idea (where applicable).

Please note: Winners' prizes may take up to six weeks for delivery and are sent by the prize sponsor. Prizes are not exchangeable.

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Congratulations to Jonathan Cribbins who wins a Tork Craft Digital Metal Detector.



Noughts & Crosses is a great game for kids of all ages (and adults alike)!

Make your own game board

This game teaches kids valuable skills like problem-solving, anticipation, logic, strategy and more. Playing Noughts & Crosses can be done anywhere at nearly anytime, but we have a fun way to take the game outside! In this issue we are sharing the painted rocks tic-tac-toe game we created out of river rocks and a slice of wood. This game is fun for the kids to make and is portable so you can play anywhere. All you need are a few supplies and you'll be set with a game that will keep the kids entertained for a long time!

A new twist to the game is to paint river rocks to serve as the X's and O's so you can play outside. We painted a grid onto a wood slice so we could take our board anywhere we wanted. However, if you don't have a board to use for the grid, there are tons of ways to make your own.

Make rock collecting fun

If you want to make your own DIY painted rock Noughts & Crosses board,

start by collecting the rocks for your game pieces. Take your kids for a walk and let them explore the area and collect the rocks they want to use. Explain to your kids that round flat rocks work best and show them a few good examples and let them choose their own. Give each kid a small bag and tell them they can bring home as many rocks as they can carry. Once home, pick the best ones, clean them with dish soap and let them dry outside.

Let them pick the colours

When painting the rocks, you can use regular craft paints in any number of bright, fun colours. We debated between using just two colours (all X one colour and all O another colour). We decided it would be more fun to mix them up. I let the kids choose nine different colours and then painted two rocks (one X and one O) each colour.

Put the rocks on paper plates or newspaper and let the kids paint them

by themselves. If your kids are little (not the best painters), just know that the rocks will need multiple coats of paint to fully cover and you can correct all the splotchiness later. After you get the rocks fully coated (top and bottom), let them dry overnight. The next day you can paint X's and O's on them with black paint. In order to keep the paint from chipping/scratching off, lightly spray them with a coat of Mod-Podge or any other type of clear coat you feel comfortable with.

Play anywhere

Once your rocks are painted and dry, you're ready to play! The rocks make it easy to play over and over again and the board is portable – we love playing it outside in the back garden.

These Noughts & Crosses painted rocks are a fun craft, easy for kids to make and don't require a lot of prep work from parents. And at the end of the day, you've got a great game that they can play for years!



You can use regular craft paints in any number of colours



Let the kids loose on the paint, even if they make a mess!



Once painted and dry, add the O's and X's

ASK OUR EXPERTS

Our panel of experts answer your questions on DIY problems

Cutting an oak worktop

I need urgent advice. I have got a 3m solid oak worktop which is 600mm in width and 40mm in depth. I need to cut out 2.1m which will be perfect to fit in my office. This is to be supported by battens on both sides of the wall. The rear of it won't be supported by battens since its up against a suspended unit I've built in the wall. I've therefore put a batten across halfway through from the left wall to the right.

I am massively concerned about cutting this and getting it right. I have a circular saw, a jigsaw and a hand saw. I cut it down a little on purchase to get it into the car with a circular saw. This caused chippings in the wood which are not attractive. I want a good finish. I think I may have pushed the circular saw through when cutting it. Which is my best option for cutting?

When I use a jigsaw it's hard to get a straight line and when I examine it, it

becomes clear that things have been cut at an angle even though the jigsaw was held down.

Any and all advice appreciated please.

Also, any tips on supporting the worktop? Will it warp? Should I stain both sides of it?

Barry O'Leary, by email

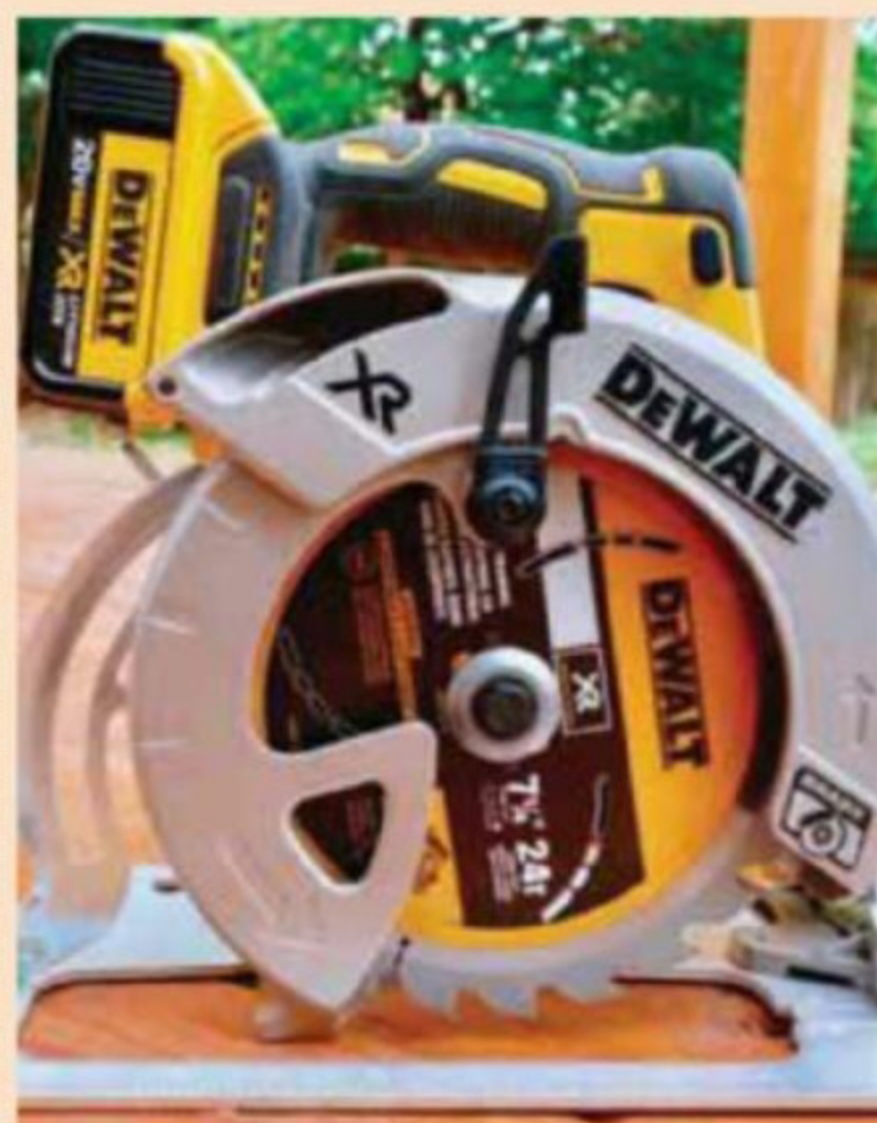
Ed replies: There are a few ways of cutting your oak. Did the oak splch (chippings) on the opposite side to what you cut? Normal chipboard worktops are cut upside down to prevent splch on the working side; this is due to the cut of the blade.

You may need to replace the blade on your circular saw; have a look and see if there are any teeth missing? I wouldn't suggest using the jigsaw as its quite hard to get a nice line freehand, especially through a thick chunk of oak.

I would personally use the circular; it would be advisable to put a fence/batton on the worktop in order for the saw to be guided across the cutting line. Measure twice cut

once! You could always use an electric planer to trim it and neaten up the cut.

The top won't warp as long as it's not wet then put into a warm dry environment. The best finish would be Danish oil – it will give you a satin finish and is scratch and waterproof after around four coats.



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Please include your name, physical address and contact number (office hours)

Please note: Queries will only be answered in the magazine. Winners' prizes may take up to six weeks for delivery and are sent by the prize sponsor. Prizes are not exchangeable.



Our winning query comes from Jeff Anderson who wins a subscription to *The Home Handyman* for a year.

Soundproofing a small garage for rehearsal room

I am writing to you on behalf of my son. He is interested in converting a small garage he has on his property into a room in which his band can practice in together. He is looking to ensure that it is fully soundproofed and not going to disturb others in the local area.

If anyone could please possibly advise on how this could be achieved without spending too much, that would be much appreciated.

Jeff Anderson, by email

Reader, André Viljoen replies: I am currently soundproofing a friend's garage at the moment, so hopefully I can give you some useful tips. My friend is converting his garage into a bar. He was also concerned about making too much noise, as he will be playing music through a Sonos wireless speaker system in there. He wanted a bar that not only looks good, but offers good soundproofing qualities. This means it was a trade-off between lovely bar features, and soundproofing qualities. For example, a stylish composite door with windows was chosen as it looks good, but is probably not the most ideal door for soundproofing.

However, I must say, a band is a different level of noise. Please note that when people refer to something as soundproofed, it does

not mean literally, as if no sound will escape. The best you could expect is a substantial reduction in sound outside of the garage, compared to the inside. Reducing band noise is a challenge due to the amount of decibels it produces.

However, you will need to go even more over the top to significantly reduce band noise! You could almost copy what I done for my friend, but you will need to do the following to have a good chance of reducing the sound significantly. Remember that sound will always take the easiest route, especially through windows and doors.

Ensure you have no windows. If you really must have a window, then go for windows designed for soundproofing. I believe windows that are thick and laminated offer the best soundproofing qualities.

Buy a solid, thick door, which is narrow in width, and the smallest in height. The bar I did for my friend uses a composite door. The composite door used for his bar has a hollow construction. It is great for thermal insulation, but mass is the key to blocking sound, hence having a solid door.

A combination of mass (such as thick dense walls) and absorption (such as heavy Rockwool) helps to block sound.

There are many other things you can do to soundproof your garage, but I am assuming you want to make the project as cost effective as possible. Materials that can be used include egg cartons, curtains, blankets, mattresses, carpet, acoustic sponge, double walls, Aerolite ceiling insulation, Isotherm geyser blankets, etc.



Reoccurring problem with bath sealant

If anyone could offer their thoughts on a bath sealant problem I'm having I'd be very grateful.

Basically, the sealant around my (acrylic) bath tub keeps on loosening. Under the tiles I have a wooden floor, and I think that the sealant is shifting whenever someone has a bath and there's weight pressure. When water goes onto the sealant, it's now coming through the gaps and dripping onto the kitchen which is below. This has worried me as it's been dripping onto my boiler and through the LED light fittings.

I've tried putting an extra layer of sealant on, but when someone has a bath the cracks emerge again.

Thanks in advance for any ideas anyone is able to share!

Kevin Mathondo

Ed replies: It sounds like the bath is not stable. Remove the front panel and fit timber packets tightly under the bath, making sure they rest on joists below. I'm assuming your bathroom floor is sound; if it bounces when you jump up and down on it you will have to address this issue first.





This issue, Denis Lock discusses the biscuit joiner.

MAKE THE MOST OF YOUR BISCUIT JOINER MACHINE

>> Denis Lock

Most woodworkers have used chipboard (also known as particle board). Chipboard is an engineered (man-made) wood product made from wood chips and a resin. After mixing it is compressed under high heat, extruded and sanded. It is generally made in boards 2740mm by 1830mm and comes in thicknesses ranging from 9mm to 32mm. The most common thickness used is 16mm. Chipboard can be used raw, (no applied facing) and the finished article can be varnished or painted. Photo 1 shows a router table made primarily from raw chip board and finished with Woodoc 10. A lot of chipboard is upgraded by facing it with natural wood veneers, melamine impregnated coatings (plain colour or a wide variety of simulated natural wood, stone and other decors) or high-pressure laminates such as Formica. Plain white melamine faced chipboard finds high use in kitchens, built-in cupboards, domestic and office furniture, and shopfitting. Photo 2 shows white melamine faced chipboard used in building a vanity unit. Photo 3 shows the finished project.

According to Wikipedia, chipboard was invented in 1887 in Germany by Emst Hubbard. It wasn't, however, until the

1950s that chipboard production started. Chipboard has a number of advantages over solid wood: cost, stability and availability of large boards. It doesn't, however, lend itself to traditional woodwork joinery techniques such as rebates, dados, grooves and tongues. If long cuts are made across the 'skin' the board is substantially weakened. Cabinetmakers using chipboard in the 1950s resorted to simple butt joints reinforced with special screws or dowels. In 1956 a Swiss cabinetmaker, Hermann Steiner, looking for a simpler method of joining the recently introduced chipboard invented the biscuit joiner. The tool is based on a 6- or 8-tooth saw blade 4" (101,6mm) in diameter. The kerf is 5/32" (3,97mm). A modern biscuit joiner is shown in photo 4. The blade cuts a crescent-shaped slot (photo 5) in the pieces of material being joined. This is the female part of the joint. The male part, the biscuit, is an oval-shaped piece. It is usually made from dried and compressed beech wood

I have read a number of articles that describe a biscuit joint as an inaccurate joint. The authors of these articles do not understand how to use a biscuit joiner. The techniques I am going to share with

you result in very accurate joints. A biscuit joiner is a two-hand machine. I see far too many photographs of a biscuit joiner in one hand and the other hand holding the piece of wood that is being slotted. Not only is this dangerous it is the reason for inaccurate joints. My rules are: two hands on the machine, workpiece face down and securely clamped to a flat work surface, and machine base plate as the control point. I hardly ever use the optional fence (photo 4). By pushing the base plate firmly down (using my second hand) onto the same flat work surface the work is clamped to results in very accurate work (photos 6 and 7). When glued up the edges of A and B will line up perfectly as will B and C (photo 8).

Photo 9 shows two bedside pedestals under construction. The drawers are made from 16mm MDF. This material is stronger than chipboard but still doesn't lend itself to traditional joinery like dovetails. Biscuits are the answer: the drawer fronts and backs are biscuit jointed to the drawer sides. Two biscuits were used per joint: that is four biscuit slots per corner joint. A quick calculation (six drawers, four corner joints per drawer and four slots per joint) told me I needed to cut 96 biscuit slots.



Some sort of jig was need to speed up this task while maintaining accuracy. Photo 10 shows the jig I used. It is made using scraps of MDF clamped at 45 degrees across the corner of my workbench. This is a common configuration I use for biscuit jigs: the adjacent edges of the bench are suitable clamping spots and the triangular space left provides adequate support for the base of the biscuit joiner. The space, H, between guides A and B is the height of the drawer and firmly positions the drawer fronts

and backs. The two marks seen on the edge of the drawer piece are the centre lines of the two biscuit slots I want to cut. Two further guides, C and D, are clamped at offsets O1 and O2 from the centre lines marked on the drawer piece. These offsets are obtained by measuring the distances from the left and right edges of the biscuit cutter base to the centre reference line marked the biscuit joiner. I have made two gauge blocks for these distances and don't have to measure every time. Photo 11 shows



Raw chipboard plus varnish



White melamine carcasses



Finished vanity unit



A modern biscuit cutter



A biscuit joint

6



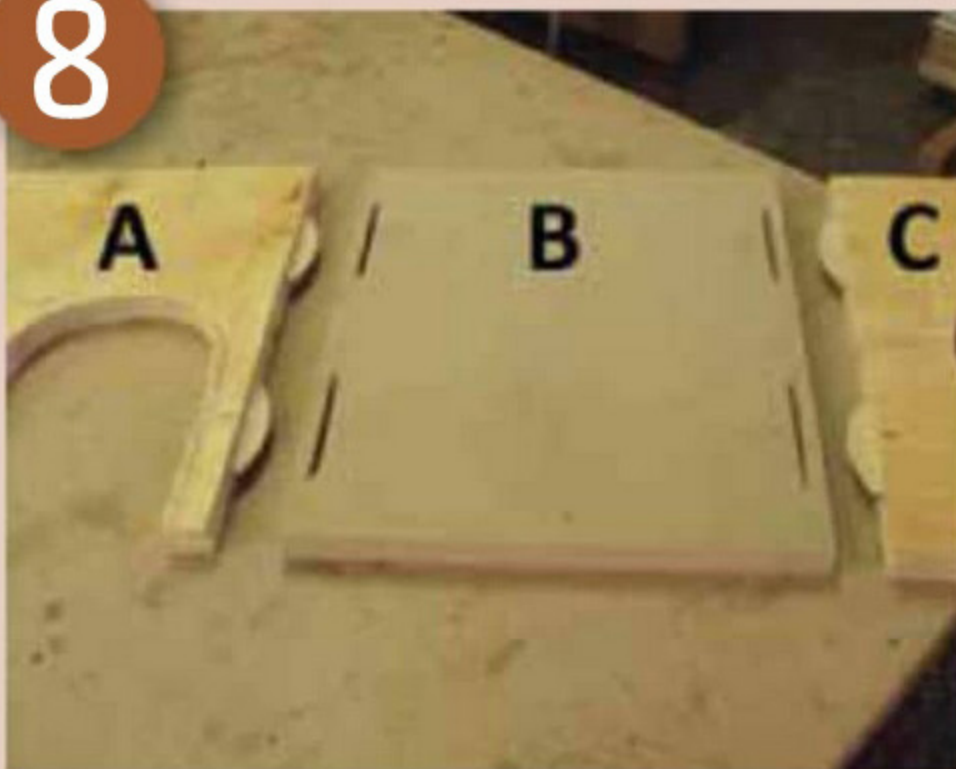
Workpiece clamped horizontally

7



Workpiece clamped vertically

8



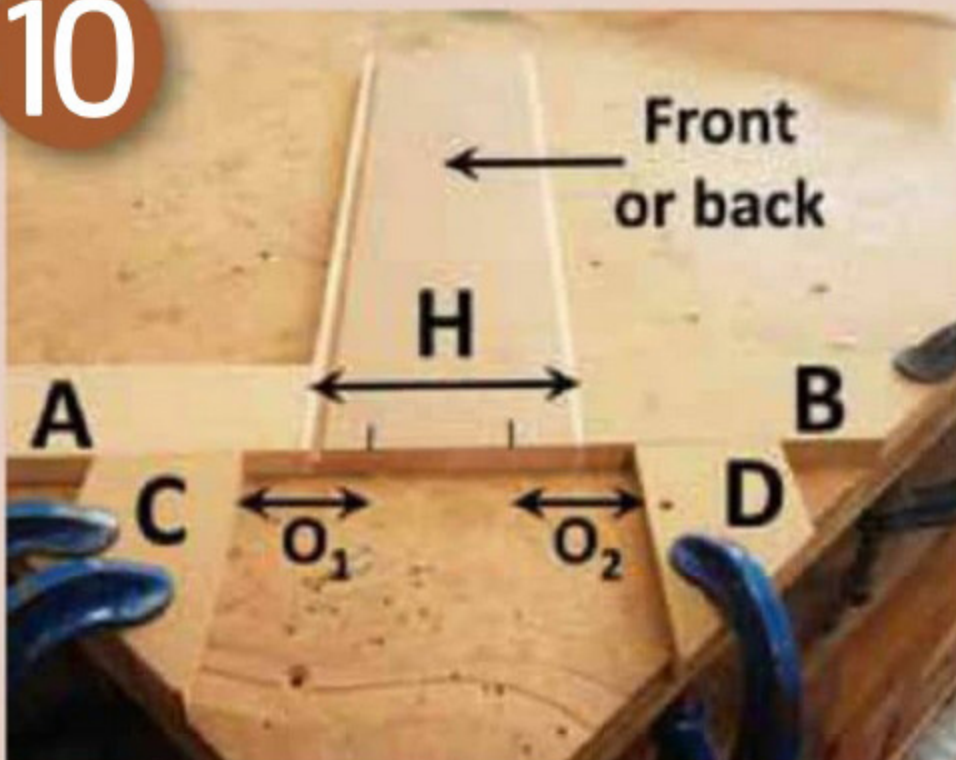
Ready for assembly

9



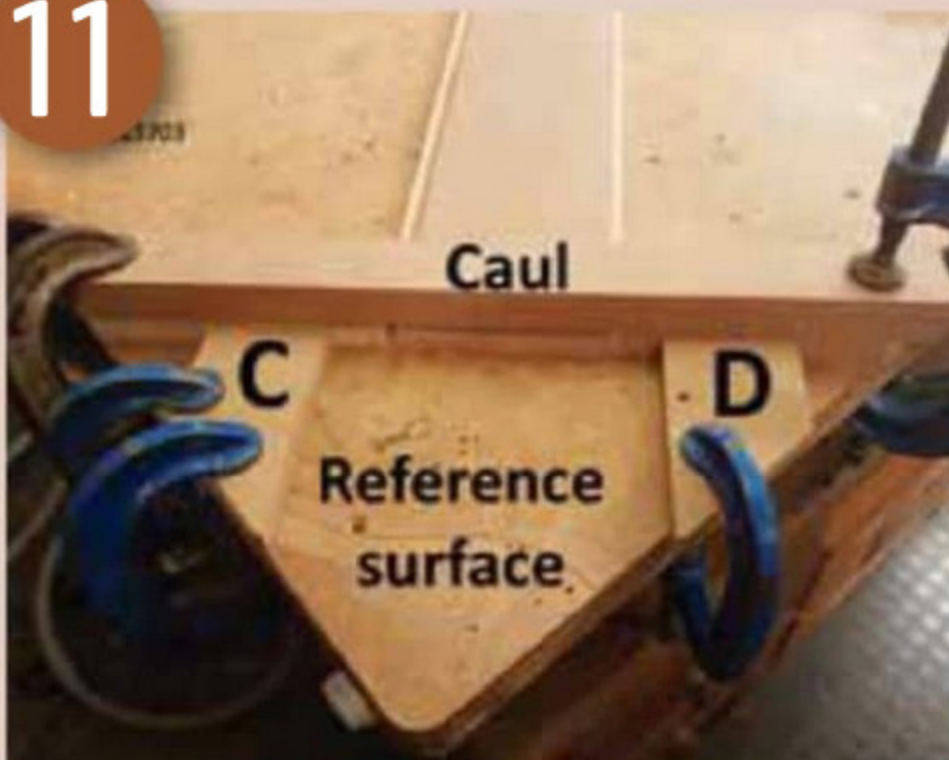
MDF drawers

10



Biscuiting jig – horizontal

11



Workpiece firmly clamped

12



Position for left cut

13



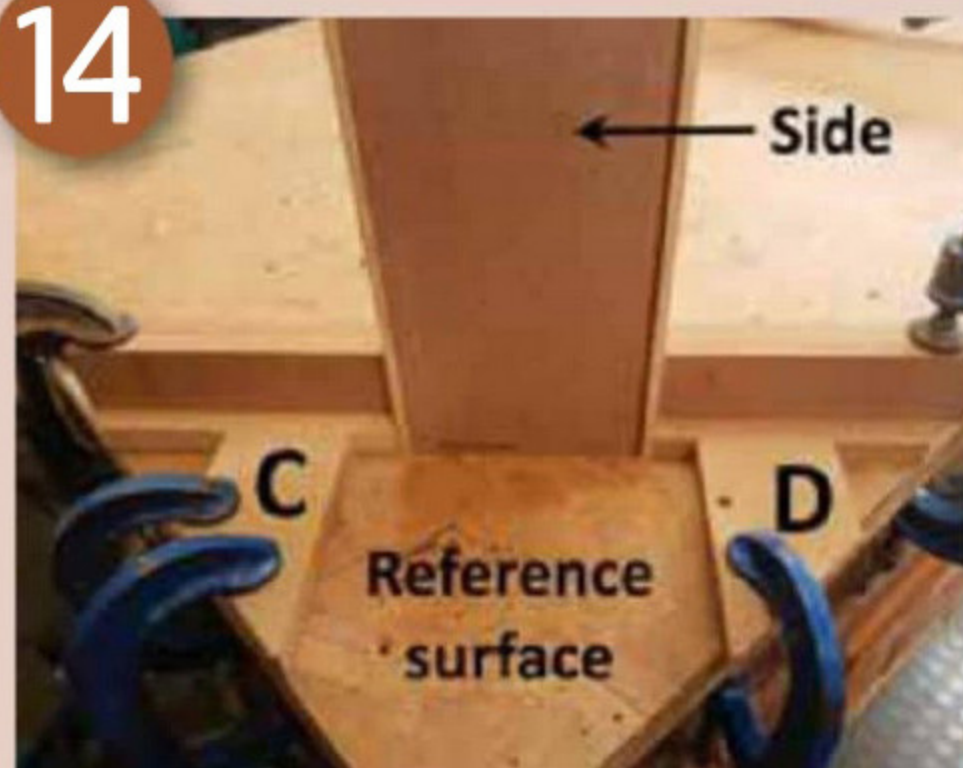
Both cuts with biscuits inserted

the next step: a caul is clamped across the drawer piece and holds it firmly in place and dead flush with the surface the biscuit joiner will rest on.

As can be seen in photo 10 the drawer piece is placed with its outside face down on the bench (note the groove for the drawer bottom). This is a general rule when I use a biscuit joiner: outside face down. The left-hand slot is cut with the biscuit cutter base against the left-hand guide C (photo 12). The right-hand slot is cut with the biscuit cutter base against the right-hand guide D. The result, with biscuits inserted, is shown in photo 13. One down, eleven to go. It is very quick to loosen the caul, turn the drawer piece through 180 degrees and reinsert it in the jig, clamp and cut. No further marking out is necessary. Forget about “measure twice, cut once.” My approach is “measure accurately once, make gauge blocks and use these to set stops.” Now you cut all day long with exact repeatability.

Time to cut the biscuit slots in the drawer end pieces. Photo 14 shows the setup. The caul is moved back 16mm from the front edge of pieces A and B and provides support for the drawer end pieces in a vertical orientation with their edge flush on the work surface. As before the left-hand slot is cut with the biscuit cutter base against the left-hand guide C (photo 15). The right-hand slot is cut with the biscuit cutter base against the right-hand guide D. The result is shown in photo 16. One down, eleven to go. Because all the cuts are made with the biscuit joiner base flush on the same reference surface as the (photos 11 and 14) workpieces the finished joint is perfectly flush (photo 9). To recap my rules are: two hands on

14



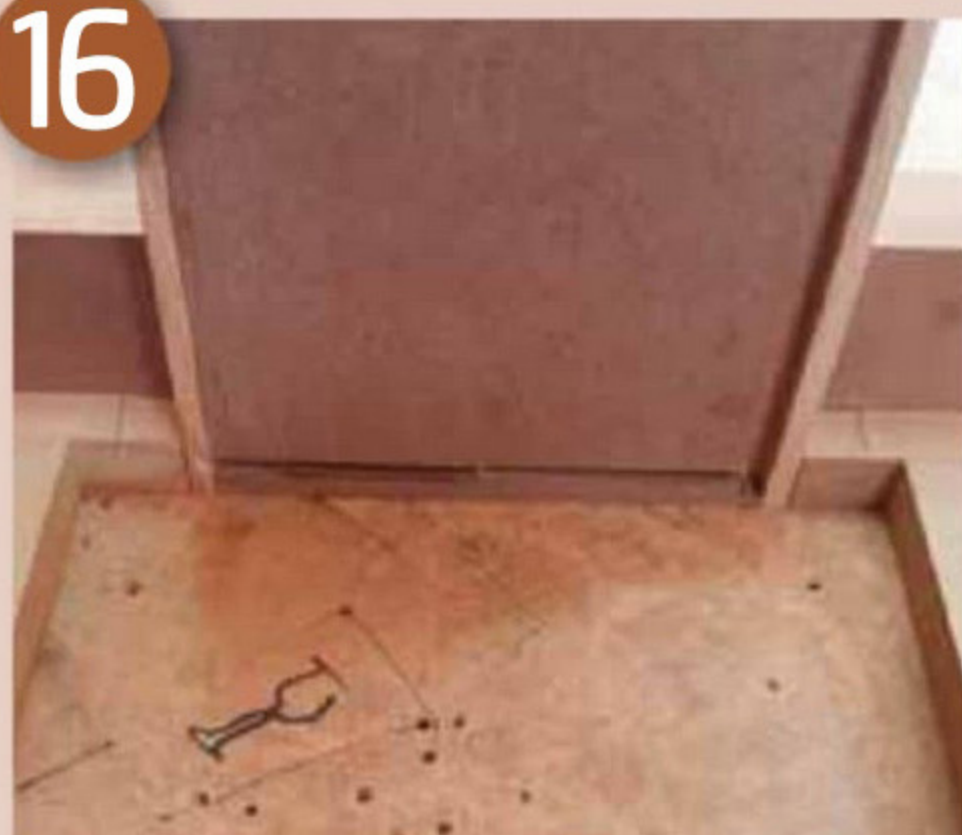
Biscuiting jig – vertical

15



Position for left cut

16



Biscuit slots in drawer end

17



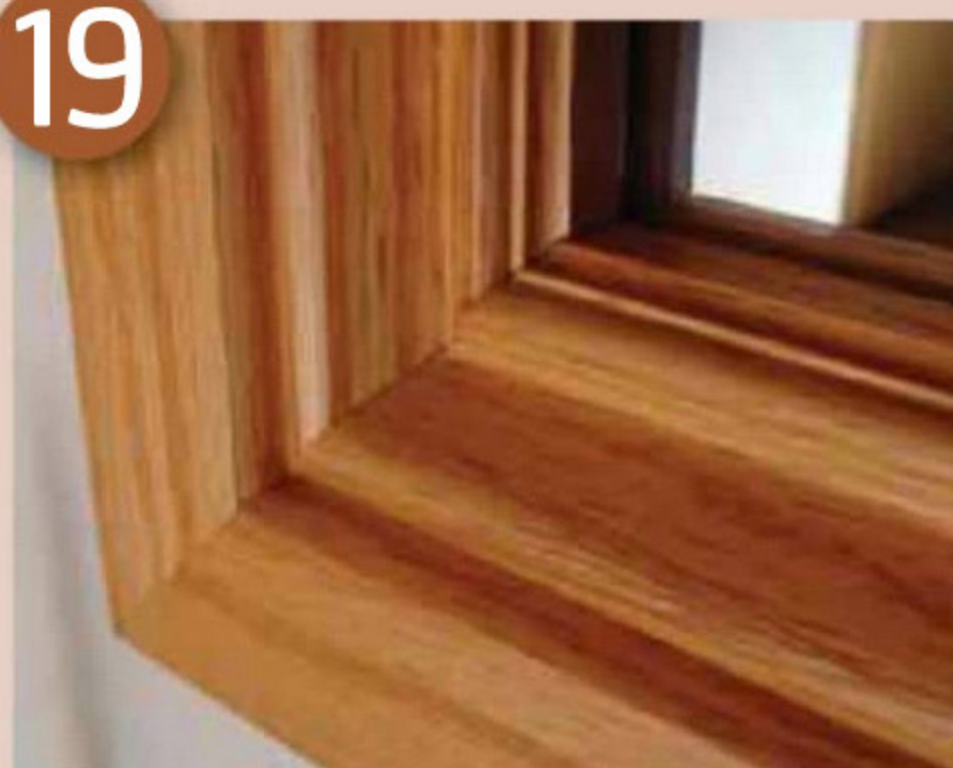
Mitre joint biscuiting jig

18



Slotting mirror frame component

19



Perfectly aligned joint

the machine, workpiece face down and securely clamped to a flat work surface, and machine base plate pushed down firmly on the same flat work surface.

The biscuit joiner was developed to provide a simpler method of joining chipboard components used in cabinet construction. As my photographs show it works just as well with other man-made boards such as plywood, MDF and OSB (oriented strand board). It didn't take long for innovative woodworkers to discover that a biscuit joiner was also a very useful tool when working with solid wood. One of the first applications was probably the construction and attachment of cabinet face frames. I find that biscuits are the perfect answer to strengthening and aligning the mitre joints at the corner of picture and mirror frames. I use the same basic approach as I described earlier for drawer joints. A simple stop A, cut from a scrap of chipboard, is shown in photo 17. The use of this stop is seen in photo 18. Once again, I use the biscuit joiner base as my control point. The result, photo 19, is a perfectly aligned joint.

I hope I have convinced you that a biscuit joiner is a more accurate and more useful tool than you previously believed. Send me some photos of your innovative use of this tool.

ABOUT DENIS:



Denis Lock runs a woodworking school and shop in Midrand, Gauteng.

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Visit his website at www.routingwithdenis.co.za

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WOODWORKER'S CORNER

Sharing techniques, ideas and a love of wood

Glossary of basic woodturning terms

Looking to start out – or simply brush up your knowledge – in woodturning?

Below is a list of common woodturning terms. Although by no means exhaustive, it will be a good starting point.

Backsteady: A means of supporting a long thin spindle to help to stop it flexing in the centre. Also just called a “steady”

Banjo: The part on the lathe which slides along the bed and supports the T rest.

Bevel: The part of the tool which is ground to form the cutting edge.

Blank: The blank is the form the piece of wood takes when it has been prepared for turning.

Bowl gouge: A gouge with a deep flute and a heavy cross-section. Its primary function is for face turning but it can also be used for spindle turning.

Burnishing: Polishing by friction. In woodturning this is usually carried out by holding a handful of shavings against the revolving workpiece. The shavings should come from the work being burnished.

Callipers: A measuring tool consisting of two curved arms connected at one end by a hinged type joint. In their simplest, traditional, form they can be used for both inside and outside measurements. In their modern form the hinge is sprung and the arms are connected midway by an adjustable screw. In this form inside and outside callipers are separate devices.

Chuck: A device which holds the workpiece on the lathe. A chuck can take many different forms. See,

for example, cup chuck, precision combination chuck, screw chuck, and scroll chuck.

Collets: The movable metal parts in a chuck which grip the tool or the workpiece.

Cove: A semi-circular hollow running round a spindle turning.

Cup chuck: A chuck with a deep recess into which a spigot on the workpiece can be driven.

Dead centre: A cone centre which does not revolve with the work.

Dovetail recess: A recess with an undercut edge cut in a workpiece to accept the jaws of a chuck.

End grain turning: Turning in the end of a workpiece, which has the grain running parallel with the axis of the lathe, the other end of which is held by a screw, or other type of chuck.

Faceplate: Circular plate held on the headstock spindle to which the workpiece is attached by screws.

False faceplate: A piece of waste wood glued to the work to hold the work on a faceplate. This avoids having screw holes in the work itself.

Fluted parting tool: A tool with a wedge-shaped section which has a flute on the wider of the two edges.

Four jaw chuck: A self-centring chuck similar to the engineering type but

with four jaws instead of three. These chucks are often known as scroll chucks because of the internal spiral grooves which move the jaws.

Headstock: The assembly fixed on the left-hand end of the bed of the lathe which provides the drive for the workpiece.

Index plate: A plate used to lock the drive-shaft into a series of pre-set regular positions. The plate is sometimes built into the lathe and sometimes is a separate attachment used for specific jobs.

Jacob's chuck: Originally a proprietary name for a type of drill chuck which can also be held in the headstock or tailstock of a lathe. It can be used to hold a small workpiece instead of a drill.

Lace bobbin drive: A drive centre with a recess in the outer end to accept a lace bobbin blank.

Mandrel: A means of holding a workpiece (or workpieces) by use of a rod of wood or metal running through a central hole, as for toy wheels and napkin rings.

Parting tool: For parting off, i.e. cutting off the waste, or dividing the workpiece into sections.

Pin chuck: A chuck with a wooden or, more usually, a metal pin which is jammed into a hole drilled in the workpiece.

Scrapers: (Lathe) tools which are designed to scrape the surface. Scraper tools are available with a number of different plan shapes, such as round nose, V-tip and squared off.

Scraping (cut): Scraping cuts on the lathe are specific cuts where the bevel of the tool is held clear of the wood.

Screw chuck: A chuck with a single screw fixed in the centre to which the workpiece can be attached.

Scroll chuck: A four-jaw chuck, now very popular amongst woodturners. So named because the teeth on the underside of the jaws engage in a raised spiral (ie scroll) on the back-plate.

Skew chisel: A chisel on which the cutting edge is not square to the sides of the tool.

Spigot: A parallel projection on the end of a workpiece which is made to fit into a recess of some kind, e.g. a socket in a chair seat or in a spigot chuck.

Spindle gouge: Used for shaping spindle work, e.g. for turning beads and coves.

Spoon bit: A drill bit with a spoon shaped cutting edge. This type of bit is used when drilling on the lathe where the wood revolves and the spoon bit seeks the centre of the turning wood.

Square nose chisel: A chisel on which the cutting edge is square to the sides.

Steady: A device that is attached to the lathe bed and holds long turnings so that they can be hollowed.

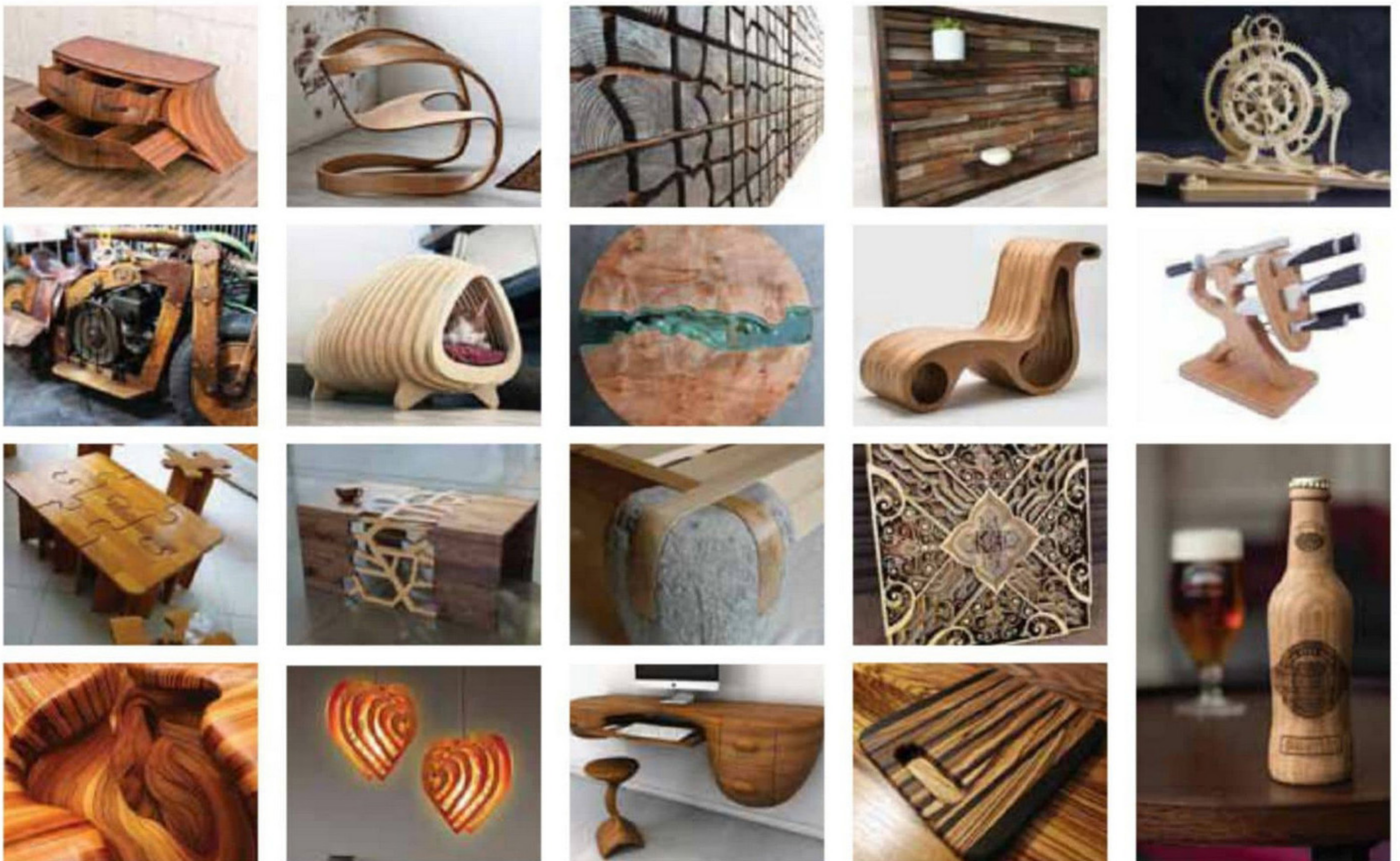
Tailstock: The movable assembly to the right of the headstock which slides along the bed.

Tang: The tapered end of a woodturning tool which fits into the handle.

Tool rest (or T rest): Adjustable part of the lathe (usually a 'T' shape) which fits into the banjo and supports the turning tool whilst work is in progress.

Woodworking inspirations

Although many South African woodworking and woodturning associations have had to cancel or postpone meetings over the last few months, hobbyists have still had time to hone their craft. As motivation for those unable to attend their usual get-togethers, here are some examples of work to blow your mind – and inspire.





When planning your bathroom lighting you may choose fixtures that are functional and stylish. But have you factored in safety?

Bathroom lighting safety

The bathroom is a wet zone in the home so it's important that the lighting meets certain rules and regulations to keep you safe when using this space. The following explanation of bathroom zones and fixture IP ratings should help you make an informed choice.

Your bathroom is divided up into zones. These zones dictate what type of lighting should be installed to ensure your safety and the longevity and functionality of the fixture.

Zone 0: This area is inside the bath or shower itself. Fixtures used in this zone must be low voltage and rated at least IP67, meaning they are totally immersion-proof.

Zone 1: This area is above the shower or bath and measures approximately 2.25m from the floor. A minimum rating of IP45 is required, but it is advised that a rating of IP65 should be used.

Zone 2: This area stretches 0.6m outside the perimeter of the bath and reaches a height from 2.25m from the floor, requiring a rating of at least IP44. Remember to also consider the area around the basin. A 60cm radius around the tap is considered part of zone 2.

Zone 3: This area is any area of the bathroom not included in zones 0, 1, and 2. It's a zone where no water is likely to be used. While there are no specific IP requirements for this zone, a rating of at least IP21 is recommended.

You now know that certain IP ratings are required for the different zones, but what exactly does IP mean and why is it important? IP stands for Ingress Protection and is a rating system

used to define how protected the fixture is against particles and water.

The first digit represents the level of protection against particles and the second digit represents the protection against water.

First Digit (Ingress of Particles):

- 0: No Protection
- 1: Protected against penetration by solid objects 50mm+
- 2: Protected against penetration by solid objects 12mm+
- 3: Protected against penetration by solid objects 2.5mm+
- 4: Protected against penetration by solid objects 1mm+
- 5: Dust Protected
- 6: Dust Tight

Second Digit (Ingress of Water):

- 0: No Protection
- 1: Protected from vertically falling drops
- 2: Protected from water drops falling at a max angle of 15°
- 3: Protected from water as in the rain at a max angle of 60°
- 4: Protected from splashing or projection
- 5: Protected from low-pressure jets
- 6: Protected from high-pressure jets
- 7: Protected from temporary immersion
- 8: Protected against long periods of immersion

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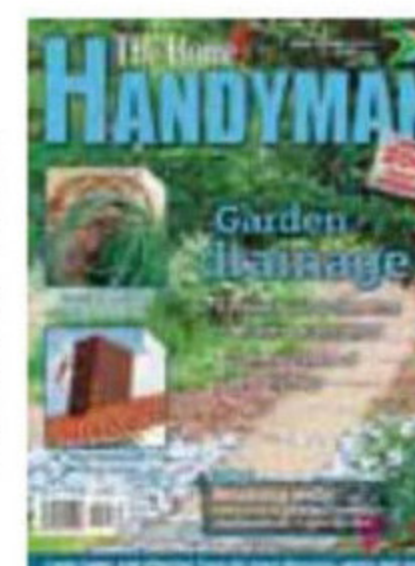
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DIY and COVID-19

About Annalien:



Annalien started her career at the SABC on 50/50 before moving to Germany after she met her husband.

Later, they returned to South Africa and she took on various freelance projects, eventually getting hooked on DIY. Annalien was part of the team on *The Home Channel's Get It Done!* series.



>> Annalien Grensemann

I don't know if you feel the same, but I am tired of listening to the news or talkshows where all they speak about is COVID-19. All you hear is how detrimental it is to our health, the economy and how life has changed forever. What happened to the issues that used to be in the headlines prior to COVID-19 e.g. Syria, Putin, and Zuma's court cases?

During the frustration of breathing through a mask and being sprayed with sanitizer from your head to toe, a number of situations came to light. This occurred only because of the lockdown rules and I seriously think a book needs to be written about all these stories. For instance, one case is a highlight for me where a client of my hairdresser smuggled her into her estate in the boot of her car to cut her and some neighbour's hair! Another prim and proper colleague of mine, who was tired and desperate after spending a whole day at the emergency ward of a government hospital with a friend who was in an accident, ran away from a security guard while yelling over her shoulder "Catch me if you can!" These are normal, law-abiding citizens who had been driven to their wits end. The challenges of some lockdown rules stretched our patience and ingenuity to another level.

Some people started baking, while some started to learn a new language. I carried on enthusiastically with my French course on Duolingo, although I wonder if I will ever need it again in this new COVID-19 world? We played boardgames, did Skype quiz evenings and then I resorted to cleaning my workshop

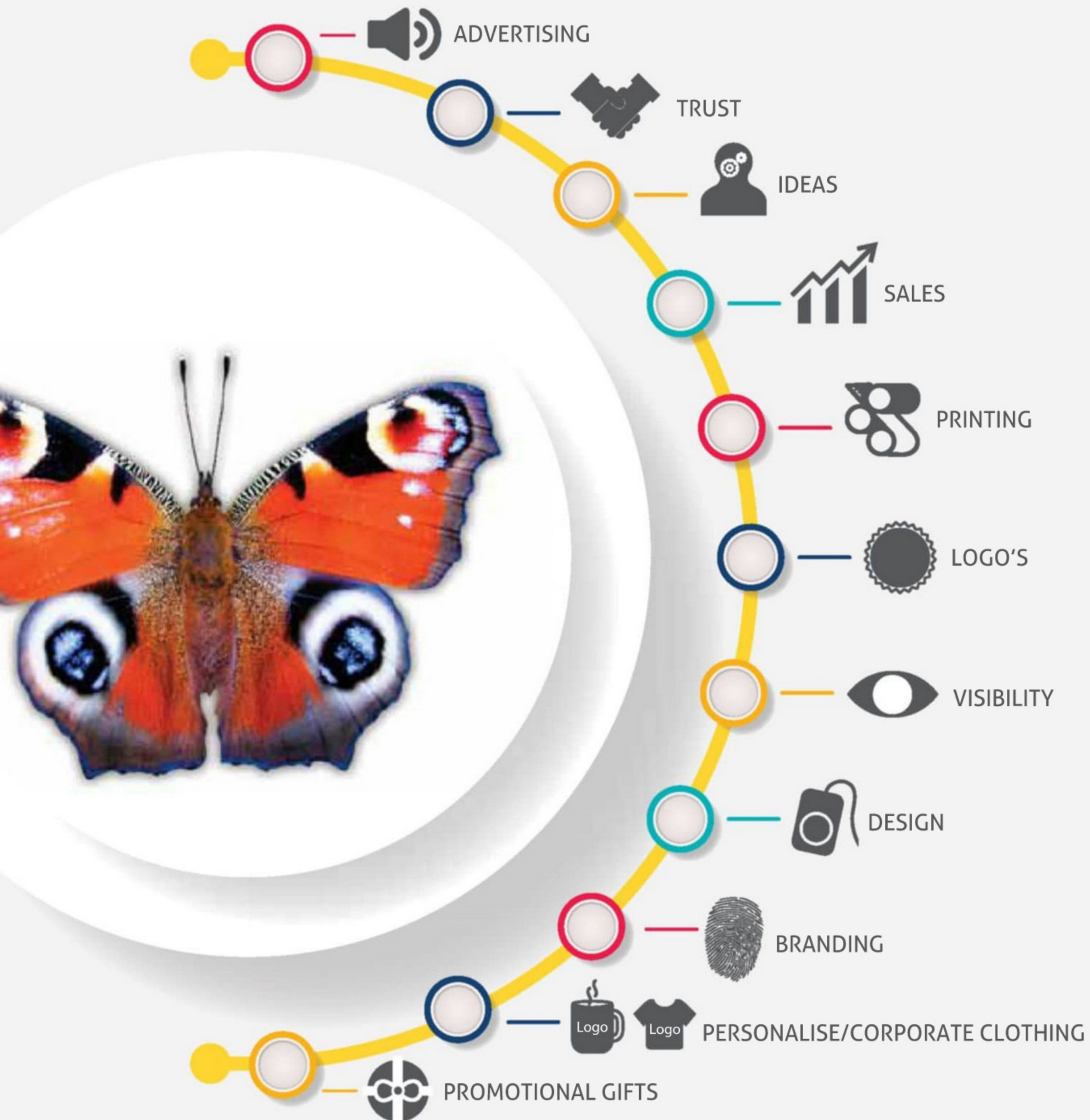
and voila! I discovered there was a carpet on the floor of my workshop I had completely forgotten existed!

I also found some small wood off-cuts which immediately inspired me. The Dremel tools that were shifted a bit to the back of the cupboard made my DIY craft fingers itch. A plan started to form in my head... Although we were only in May it was clear to me that it was the perfect time to start working on Christmas decorations. Normally when the Christmas tree gets dusted off, I am disappointed for not starting earlier by making personalised decorations in time. Well, now there was no excuse. The opportunity and time was here.

While carving and shaping hearts out of the off-cuts for each family member, I reflected on his or her special traits and personalities, my love for them and the beautiful memories we have made together. As soon as the heart was perfectly shaped, it got a lick of bright red paint. From pewter I shaped the first letter of their names, which was glued onto the hearts. A ribbon gave the final touch.

The whole crafting process was therapeutic, and looking at my handful of completed decorations, I saw so much more than the simple hearts; I saw the smiles and dreams of each one of my family members. Looking at the hearts I realised that humans are much more resilient and innovative than I first thought, and although we feel insecure about the future, we will get through this. At least I know that my Christmas tree will be perfect this December. So stay calm and DIY!

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