

# DIY FURNITURE 2

A step-by-step guide

Christopher Stuart



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Shelves and Storage



Tables and Desks



Seating



Lighting



Bedroom



Outdoor



Misc.

Designer Biographies

Acknowledgments



1.

## **SHELVES AND STORAGE**

You're into design, so you probably have lots of shiny objects glittering about that you've collected along the way. No worries, we've got you covered. Strap yourself in for the tension-held XX shelf design by Naoya Matsuo. Dust off grandma's antique dinnerware and show it off on Iolo, a Welsh dresser (or china hutch for those of you west of the Atlantic) that was designed and made using only a few tools. Spanish designer, Blanca Ortiz shows us how to bring the outdoors in with her flower cart— a romantic-looking shelf that is made using only one wood profile. Don't want your knick-knackery where the little ones can get to it? Tuck it all away behind the corrugated doors of Sine Cabinet. The translucent quality of the corrugated plastic shows off the beautiful skeletal-like construction of the cabinet, so it looks great empty or full.

# XX SHELVES

NAOYA MATSUO

Naoya's XX Shelves are taken from his "Less Machine More Hand" collection, which focuses on DIY store materials and lowtech tools for production, or "forms from structures with general materials", as Naoya describes them. XX embodies the concept well. The shelves have simple components: just one sheet of plywood cut into three, four wooden rods, and two strips of polypropylene tape. The tape strips, which also act as a design accent, form braces to keep the structure stable.

Naoya exhibited XX as one of three pieces of knock-down furniture at the Stockholm Furniture Fair in 2011. Every time he exhibits in foreign countries, he designs knock-down pieces and carries them all by hand to save costs.

XX has been launched by a producer in Japan. The initial design was too difficult for a DIY project, so Naoya created an easier DIY version, which is the one shown here.

You will need:

## Materials

- \_ Four wooden dowels, 1½in diameter, at least 36in long
- \_ Two lashing straps, 1in wide, 65in long
- \_ One sheet of plywood, 1 x 36 x 36in
- \_ Twelve ¼in (M4) sharp-point truss-head nails, 2½in long
- \_ Six ¼in (M4) sharp-point truss-head nails, 1in long
- \_ Eighteen ¼in (M4) plastic caps for nails

## **Tools**

\_Scissors

\_Hammer

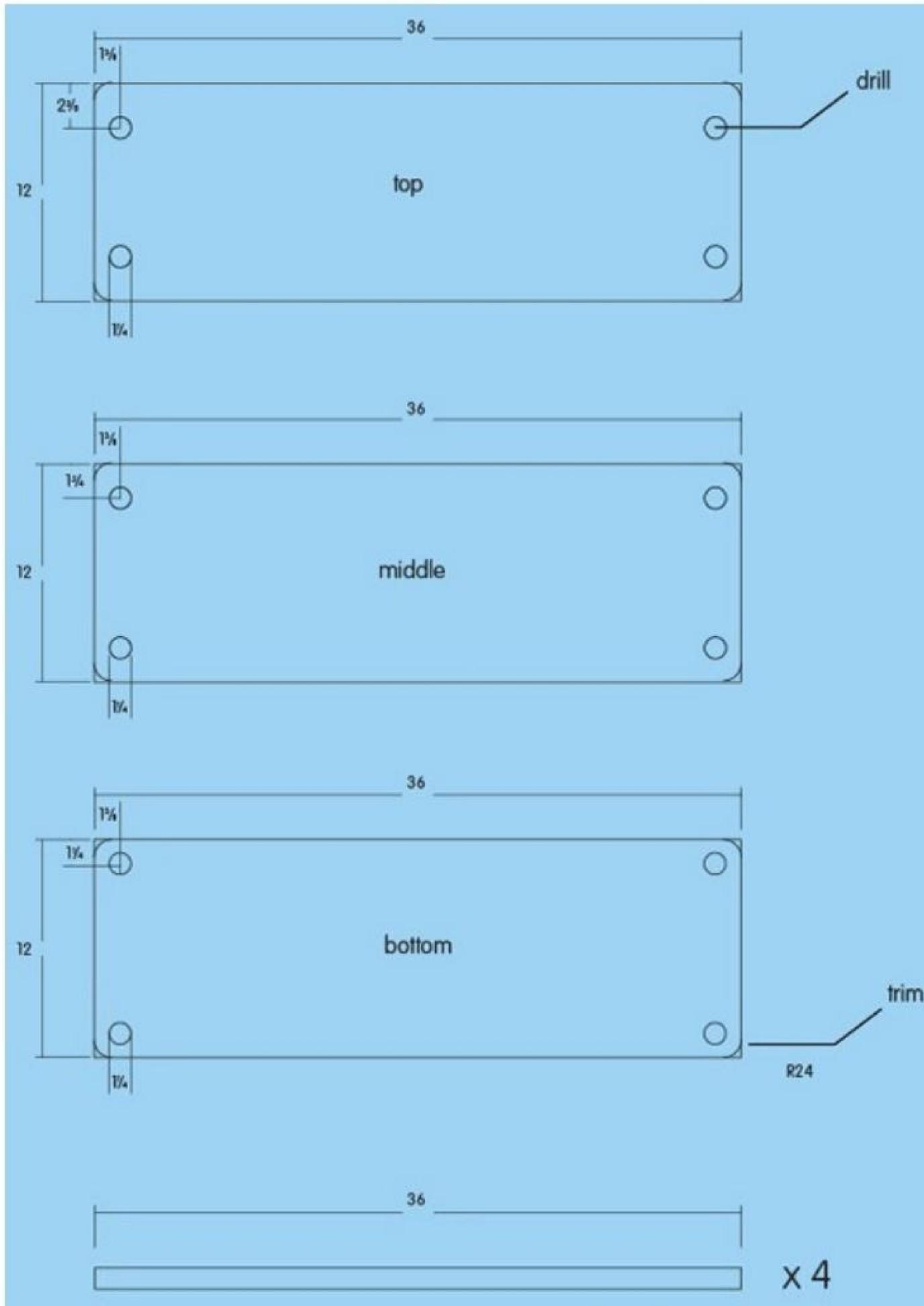
\_Saw

\_Drill

\_Drill bit, 1¼in diameter



# 1



\_Cut the 1in plywood to the following sizes:

\_Three x 36 x 12in

\_Drill four 1¼in holes in each board as shown (be careful to drill them

straight/vertical). The holes are slightly bigger to allow the dowel to insert at a slight angle). Notice that the placement varies on each one:

Top,  $2\frac{3}{8}$ in from edge

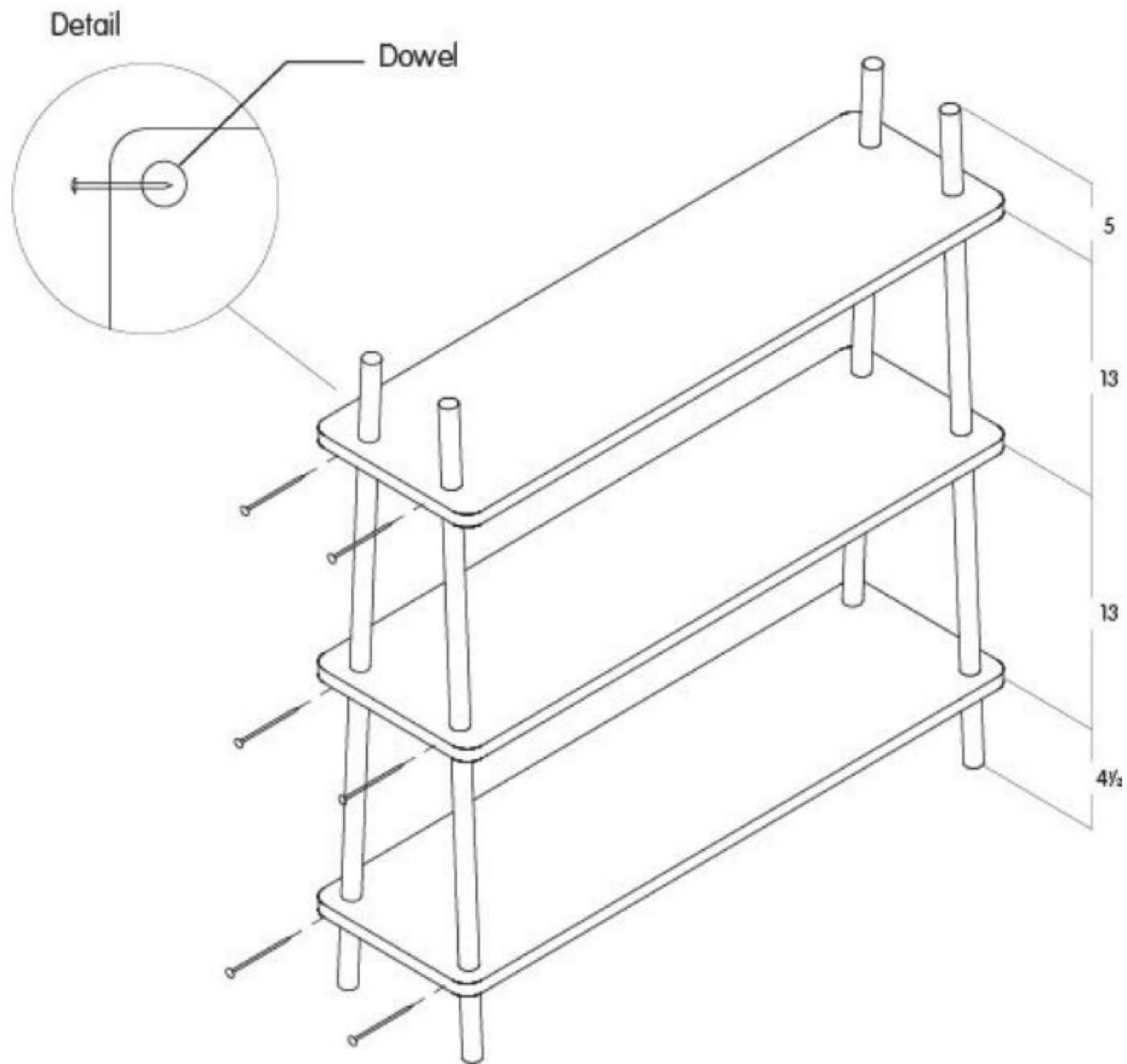
Middle,  $1\frac{3}{4}$ in from edge

Bottom,  $1\frac{1}{4}$ in from edge

\_Cut the four dowels to 36in long

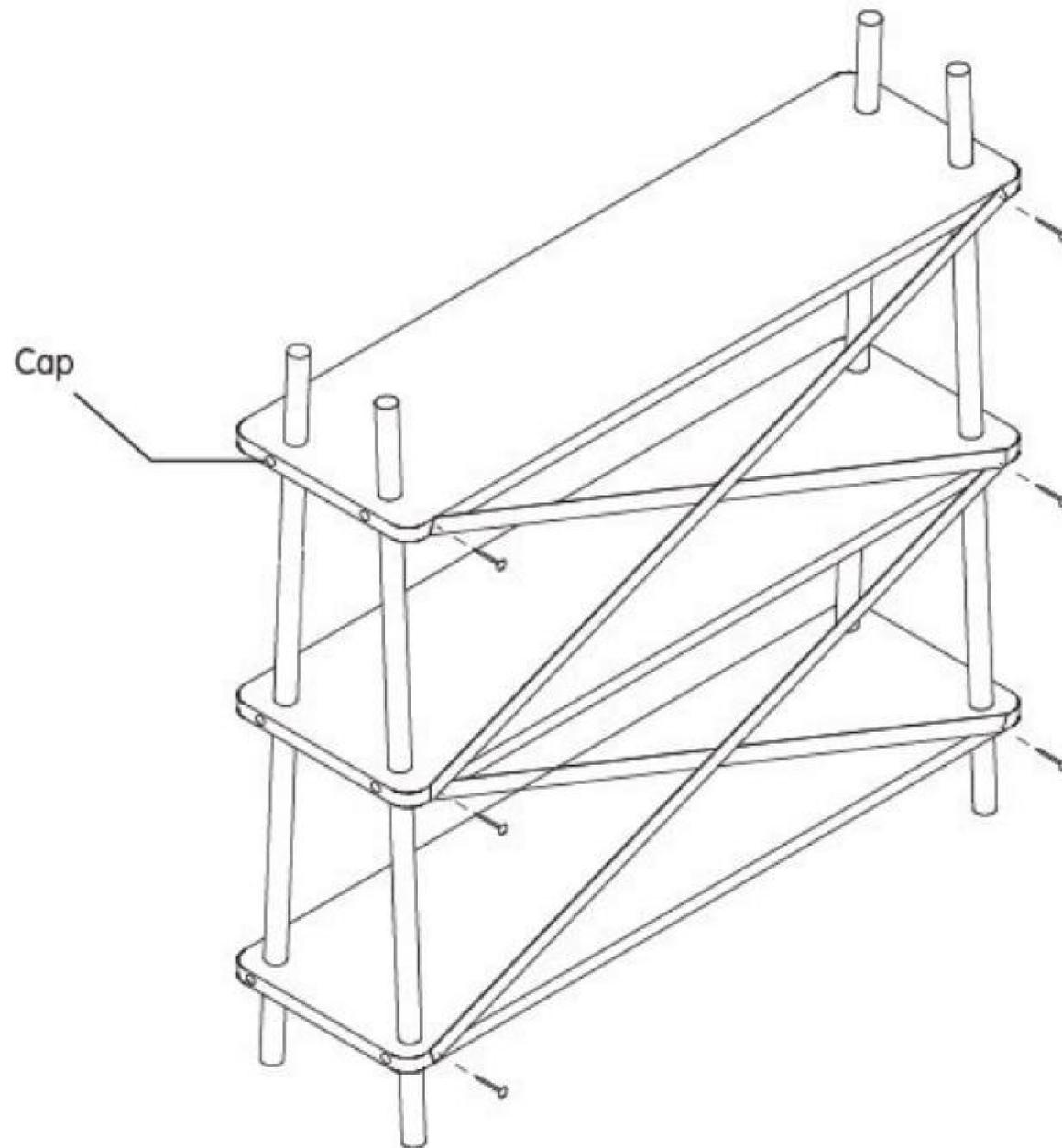
\_Use a jigsaw or sander to trim the corners of the boards as shown, approximately 1in radius.



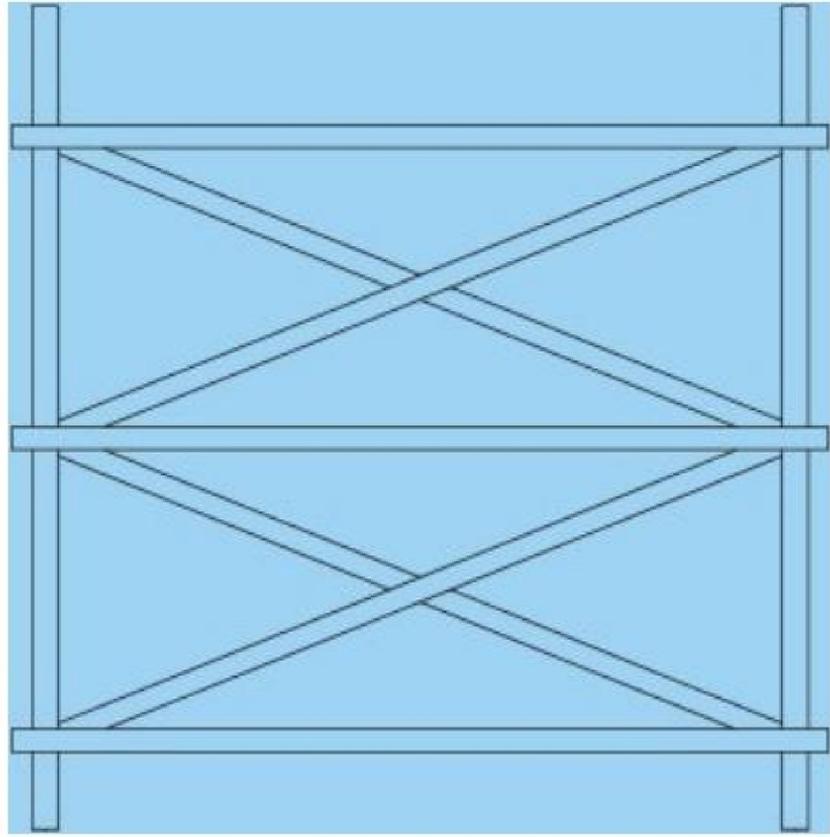


- \_Insert the four dowels through the holes and space as shown (you can cut wooden spacers and place them between the shelves to make assembly easier).
- \_Hammer the 2½in-long nails into the sides of the shelves so they go into the dowel, as shown in the detail.

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- \_ Nail one end of a lashing strap to the back of the top shelf.
- \_ Pulling it tight, stretch it diagonally across and down to the next shelf, and nail it in place with a 1in-long nail.
- \_ Stretch it once more across and down to the next shelf and nail it in place.
- \_ Repeat on the opposite side with the other lashing strap.
- \_ Use scissors to cut the excess strap.
- \_ Use a hammer to cap over the nails.



\_Fill your XX with objects and enjoy!

# SINE CABINET

DIK SCHEEPERS

The inspiration for the Sine Cabinet was twofold. Firstly, in the area of the Netherlands where Scheepers grew up, flowers are sold along the streets. You help yourself to a bunch and leave your money in a tin can. The flowers are often housed in shabby booths made from leftover corrugated PVC, which Scheepers always found disappointing, since this is potentially such an attractive material, especially when light shines through it.

Scheepers' second observation was that when people first buy a cabinet they tend to keep it well organized, and it looks pretty good standing in a room. But after a while, it tends to disappear into its surroundings as all sorts of things are stuffed into it. It becomes just another cabinet.

He wanted to make a cabinet that couldn't be put against a wall, but instead jumped off it, forcing its owner to keep noticing it. That's why the frame of the Sine Cabinet extends beyond just the rear of the cabinet. This cabinet will also change over time—the fuller it gets, the less the transparent PVC will reveal.

People think of corrugated PVC as a throwaway material. By combining it with a traditional material for quality furniture, however, that feeling changes. After a few experiments with other types of wood, Scheepers settled on oak—providing a combination that enables people to see just how nice corrugated PVC can be.



You will need:

### **Materials**

\_Oak (new or old furniture), a total of 197ft in 2 x 2in battens

\_Corrugated PVC, cut into the following panels: 17 $\frac{1}{8}$  x 56 $\frac{1}{4}$ in (panel AA), 18 x 56 $\frac{1}{4}$ in (BB), 13 x 56 $\frac{1}{4}$ in (CC), 12 $\frac{1}{4}$  x 35in (DD)

\_Wood glue

\_Brass screws and hinges

\_Four magnets

\_Nails

## **Tools**

\_Saw

\_Router

\_Planer

\_Jointer

\_Sander

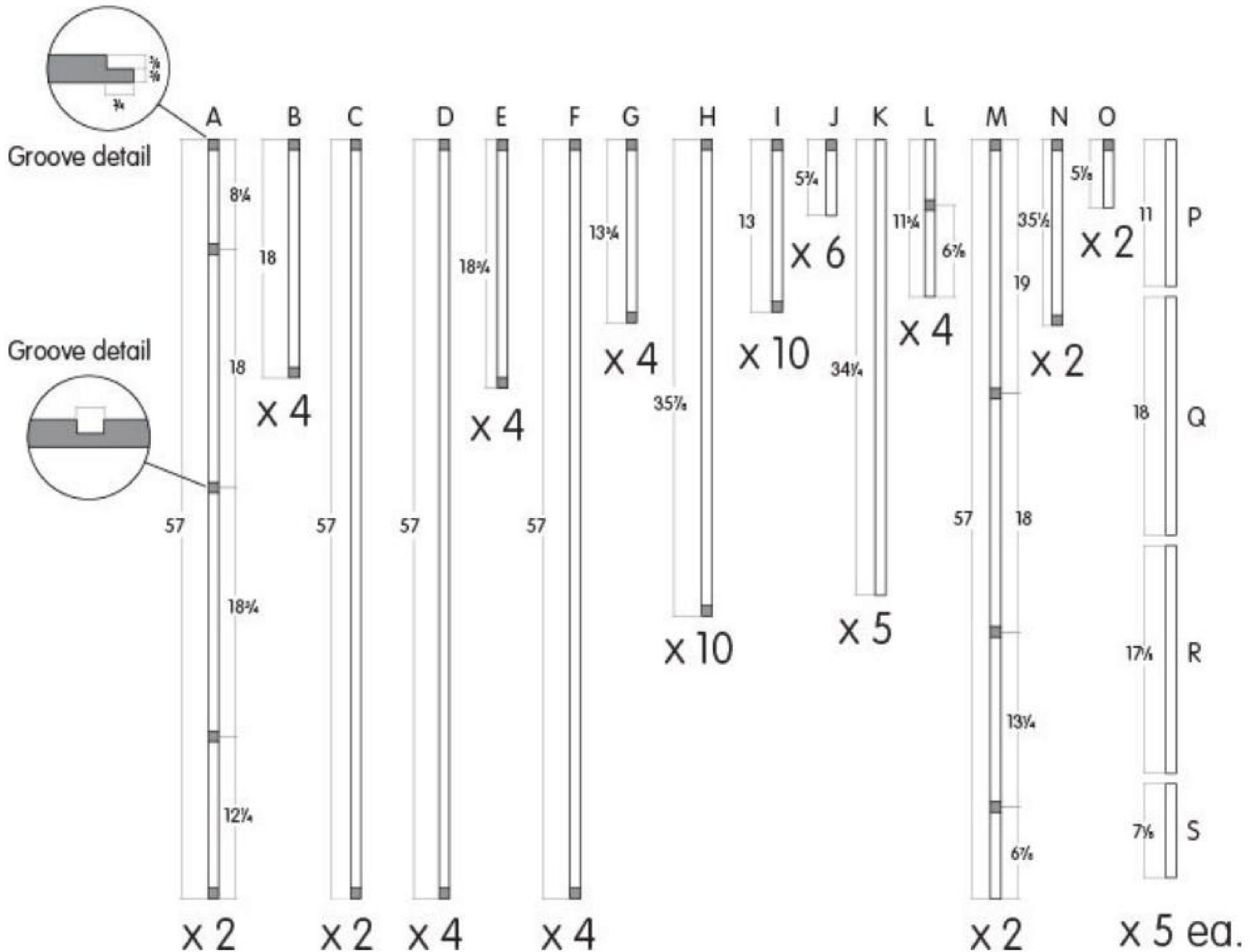
\_Drill

\_Grinder

\_Breathing mask



# 1



## Wooden battens

\_Use the planer and jointer to make sure the cross section of the oak is consistently  $\frac{3}{4} \times \frac{3}{4}$ in.

\_Cut the timber to the following lengths, making sure to add the half-lap groove details highlighted in gray:

## Back panels (parts A–C)

\_Two x 57in (part A)

\_Four x 18in (part B)

\_Two x 57in (part C)

## Door panels (parts D & E)

\_Four x 57in (part D)

\_Four x 18 $\frac{3}{4}$ in (part E)

**Side panels (parts F & G)**

\_Four x 57in (part F)

\_Four x 13 $\frac{3}{4}$ in (part G)

**Horizontal panels (parts H & I)**

\_Ten x 35 $\frac{7}{8}$ in (part H)

\_Ten x 13in (part I)

**Structure (parts J–S)**

\_Six x 5 $\frac{3}{4}$ in (part J)

\_Five x 34 $\frac{1}{4}$ in (part K)

\_Four x 11 $\frac{3}{4}$ in (part L)

\_Two x 57in (part M)

\_Two x 14in (part N)

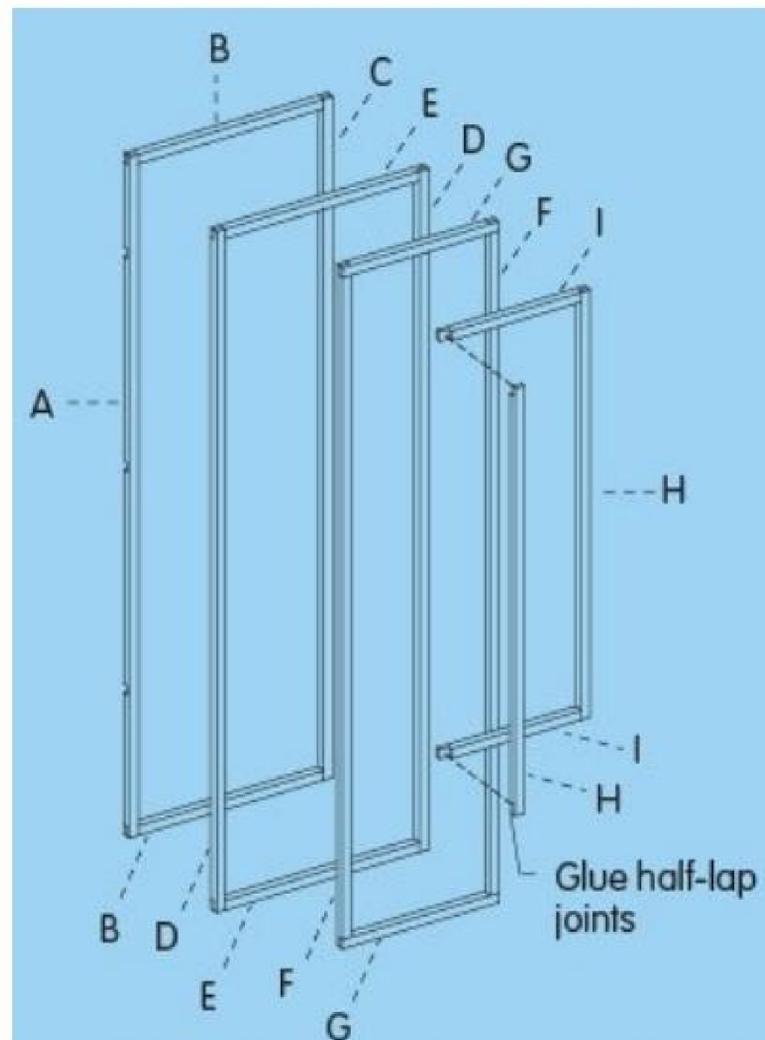
\_Two x 5 $\frac{1}{8}$ in (part O)

\_Five x 11in (part P)

\_Five x 18in (part Q)

\_Five x 17 $\frac{1}{8}$ in (part R)

\_Five x 7 $\frac{1}{8}$ in (part S)



Assemble the panels as shown:

**Back panels (parts A–C)**

\_Use glue at each of the half-lap joints on parts A–C to assemble one back panel (panel A). Clamp and let it dry completely.

\_For the second back panel (panel AA\*), flip parts A and C, then glue and clamp.

**Door panels (parts D & E)**

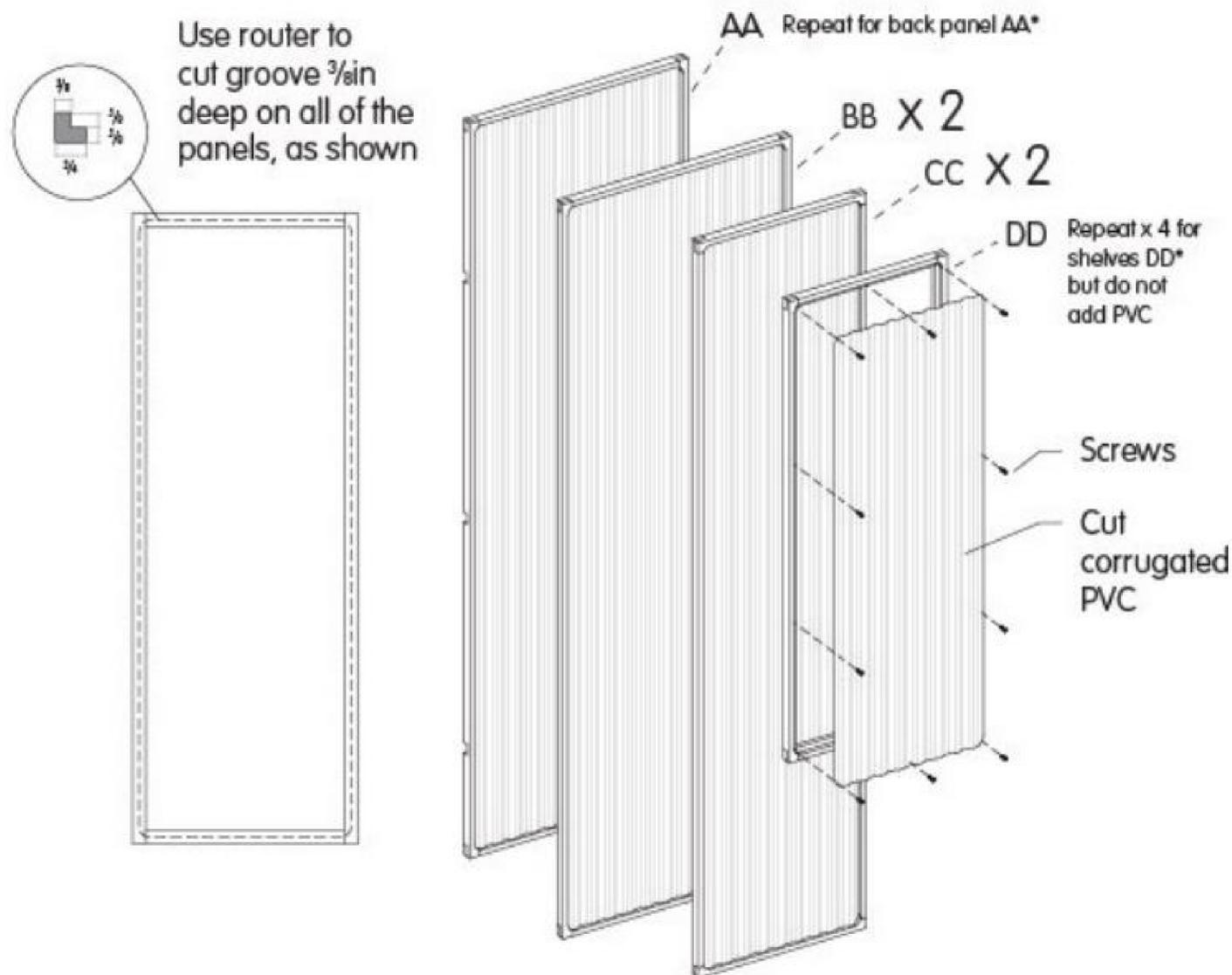
\_Use glue at each of the half-lap joints on parts D and E to assemble one door panel (panel BB). Clamp and let it dry. Repeat for the second door panel (also panel BB).

**Side panels (parts F & G)**

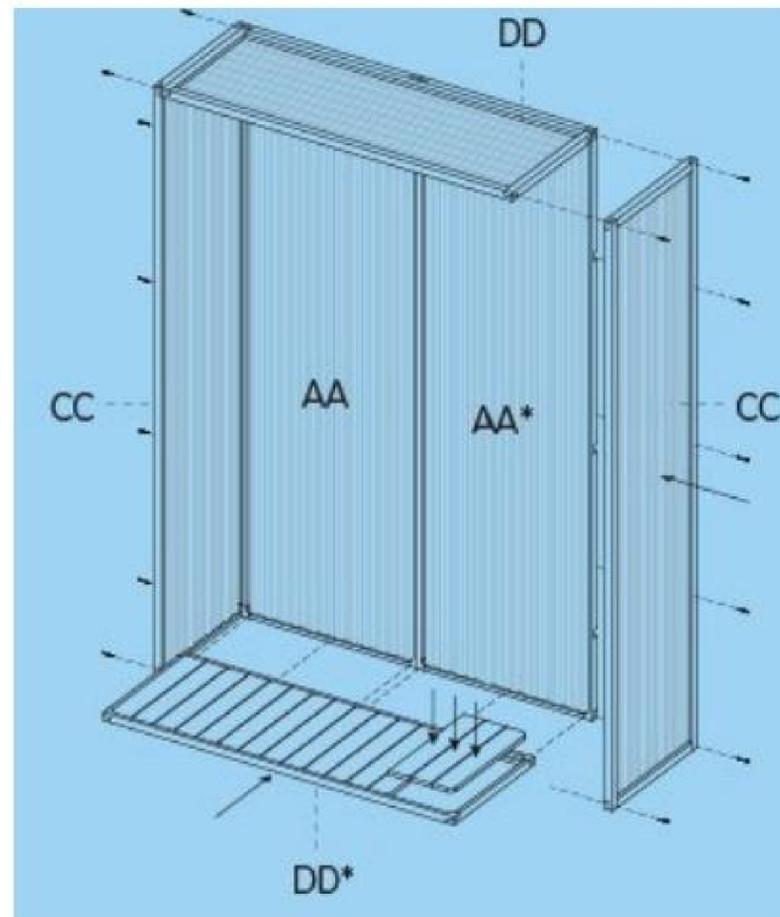
\_Use glue at each of the half-lap joints on parts F and G to assemble one side panel (panel CC). Clamp and let it dry. Repeat for the second side panel (also panel CC).

**Horizontal panels (parts H & I)**

\_Use glue at each of the half-lap joints on parts H and I to assemble one horizontal panel (panel DD). Clamp and let it dry. Repeat four more times (panels DD\*).

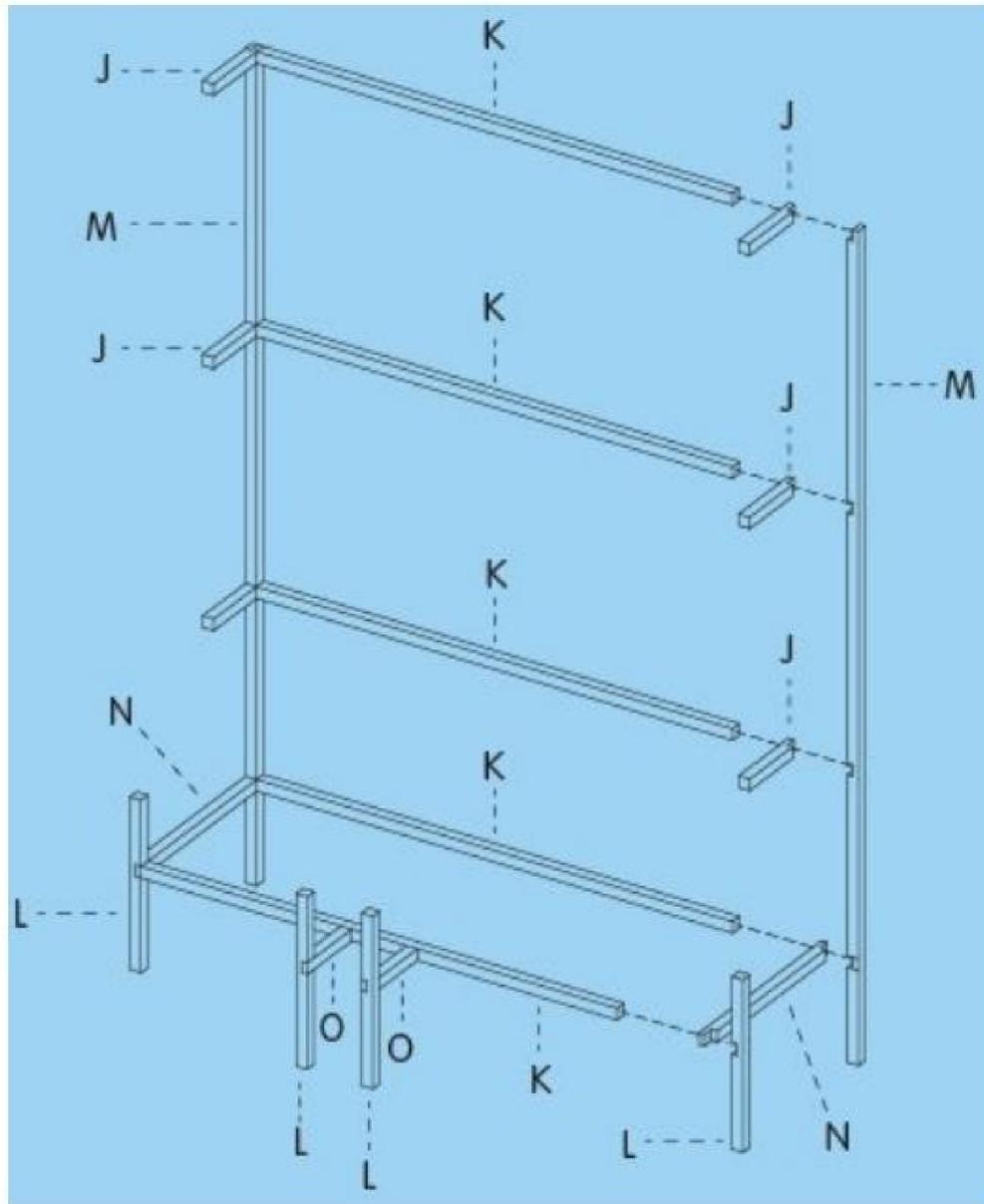


- \_ Using the router, cut a  $\frac{3}{8}$ in deep groove,  $\frac{3}{8}$ in inset from the outside edge of each panel, as shown above, making sure to round the corners. Add the groove detail to all panels AA–DD, including panels AA\* and DD\*.
- \_ Using the grinder, cut the corrugated PVC to size in the following quantities:
  - \_ Two x panels AA and AA\*  $17\frac{1}{8}$  x  $56\frac{1}{4}$ in
  - \_ Two x panels BB  $18$  x  $56\frac{1}{4}$ in
  - \_ Two x panels CC  $13$  x  $56\frac{1}{4}$ in
  - \_ One x panel DD  $12\frac{1}{4}$  x  $35$ in. The four panels DD\* with the groove detail will later have wood planks inserted in the grooves to be used as shelves. Note: do not use a saw because it will cause small pieces to break off. Also make sure you wear the correct breathing mask since dust and fumes may be produced.
- \_ Clean the edges of the PVC panels prior to installing. Pre-drill small holes to prevent splitting and attach the panels with screws.



### **Assembling the cabinet**

- \_ Attach panels AA and AA\* together with glue and screws. Make sure that the three half-lap grooves are on the outside edge of both panels.
- \_ Attach both panels CC to the outside edges of AA and AA\* with glue and screws.
- \_ Attach the top panel DD with glue and screws.
- \_ Cut thin boards of oak and attach the oak planks to the groove panel DD\*. You will need to cut additional thin boards of oak for the four remaining panels DD\*, since they will be used for shelves later.
- \_ Attach the completed panel DD\* with glue and screws at the base of the cabinet.



\_Assemble the cabinet frame as shown, using glue and screws.

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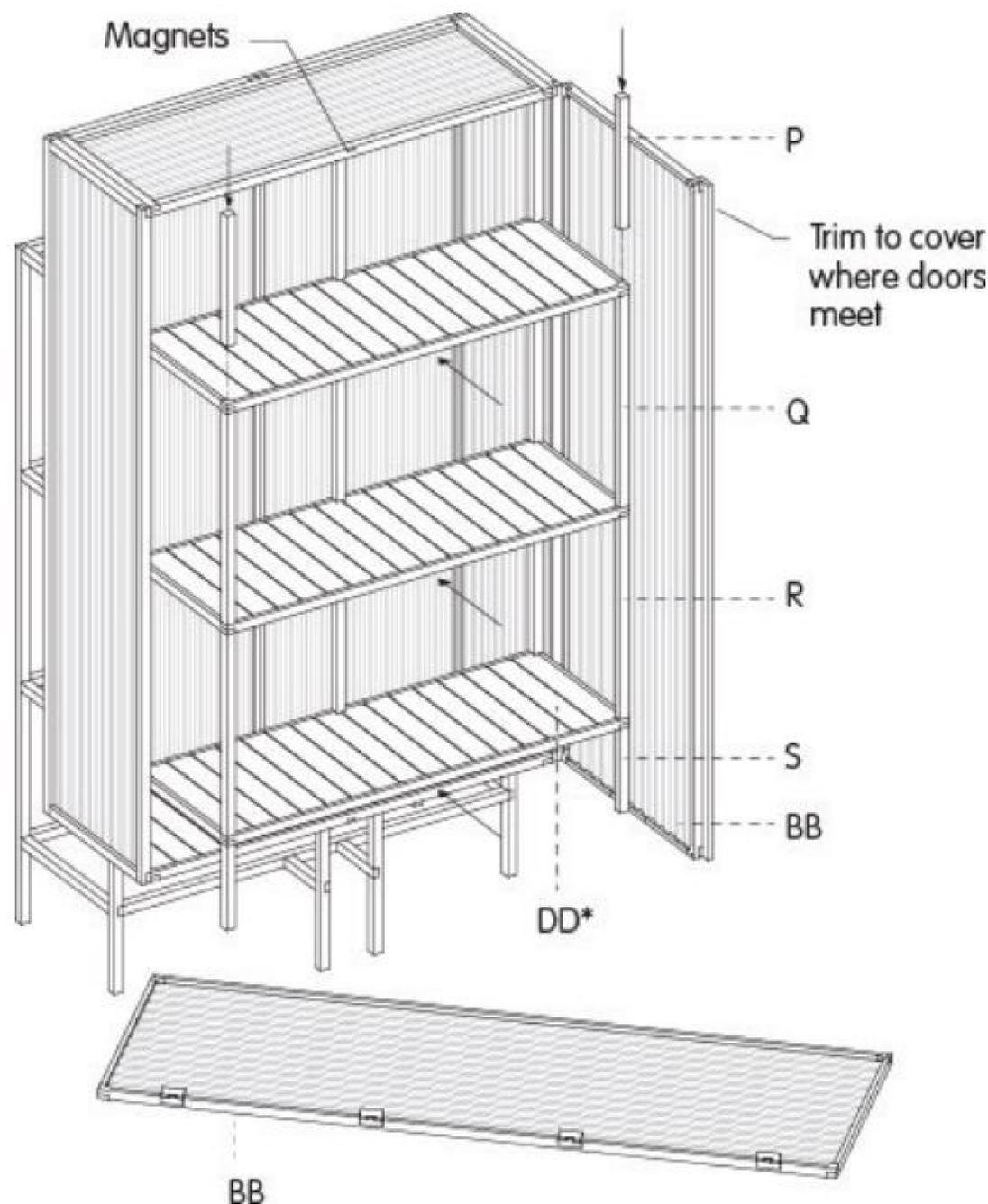


\_Put the cabinet on a block of wood to support it while you slide the frame in place.

Use glue and screws to attach the frame and cabinet. Make sure you line up the frame with the grooves on the back of the cabinet for greater rigidity.

\_Add screws from inside the cabinet, attaching it to both the horizontal and vertical frame pieces.

7



\_Use oak parts P–S as corner columns for supporting each of the shelves (parts DD\*) as shown above. There should be a total of five columns supporting each shelf: four columns in each corner and one column in the back center. Use glue and nails as necessary to attach the shelves and columns to the inside of the cabinet.

\_Mount the doors (parts BB) using four hinges on each door, and adjust the hinges to create even spacing on all sides.

\_Cut a thin piece of trim to length and attach it to one of the doors (parts BB) with a slight overlap to cover where the doors meet when closed.

\_Drill small pockets where the inside corners of the doors meet the cabinet body, and insert four magnets to help keep the cabinet doors in place when shut.



\_Store all of your favorite keepsakes in the cabinet and enjoy!

# 25X25

BLANCA ORTIZ

25X25 is a piece of wooden furniture—pine or beech—designed to honor a reading space and the activity of reading itself. The best place to read and relax is near a window. This also happens to be the best place to plant flowers, which in turn help to create a relaxed atmosphere. The 25x25 flower trolley combines both elements to create the perfect reading spot at home.

This project was designed to be easy for anyone to build, so all the components can be found in any hardware store, and can be replaced if necessary. Its assembly process is very simple too, and uses just screws.

The name 25X25 comes from the metric size of the strip section of the wood used to create the whole structure.

You will need:

## Materials

- \_ Wooden battens, 1 x 1in, 37 $\frac{3}{4}$ ft total length
- \_ Four lengths stainless steel L profile, 1 x 1 x 39 $\frac{1}{2}$ in, with hole openings of 30mm
- \_ White felt,  $\frac{1}{8}$ in thick, 4 x 8in
- \_ 48 wood screws,  $\frac{1}{4}$ in-diameter head, 1 $\frac{5}{8}$ in long
- \_ Ten wood screws,  $\frac{1}{4}$ in-diameter head,  $\frac{3}{4}$ in long
- \_ Metal cross brace, 3 $\frac{1}{4}$ ft (1m) long (can be found at IKEA—Observatör)
- \_ Glue for felt
- \_ Two swivel wheels, 1 $\frac{1}{8}$ in diameter, 2in total height

## **Tools**

\_ Drill bit for predrilling screws

\_ Saw





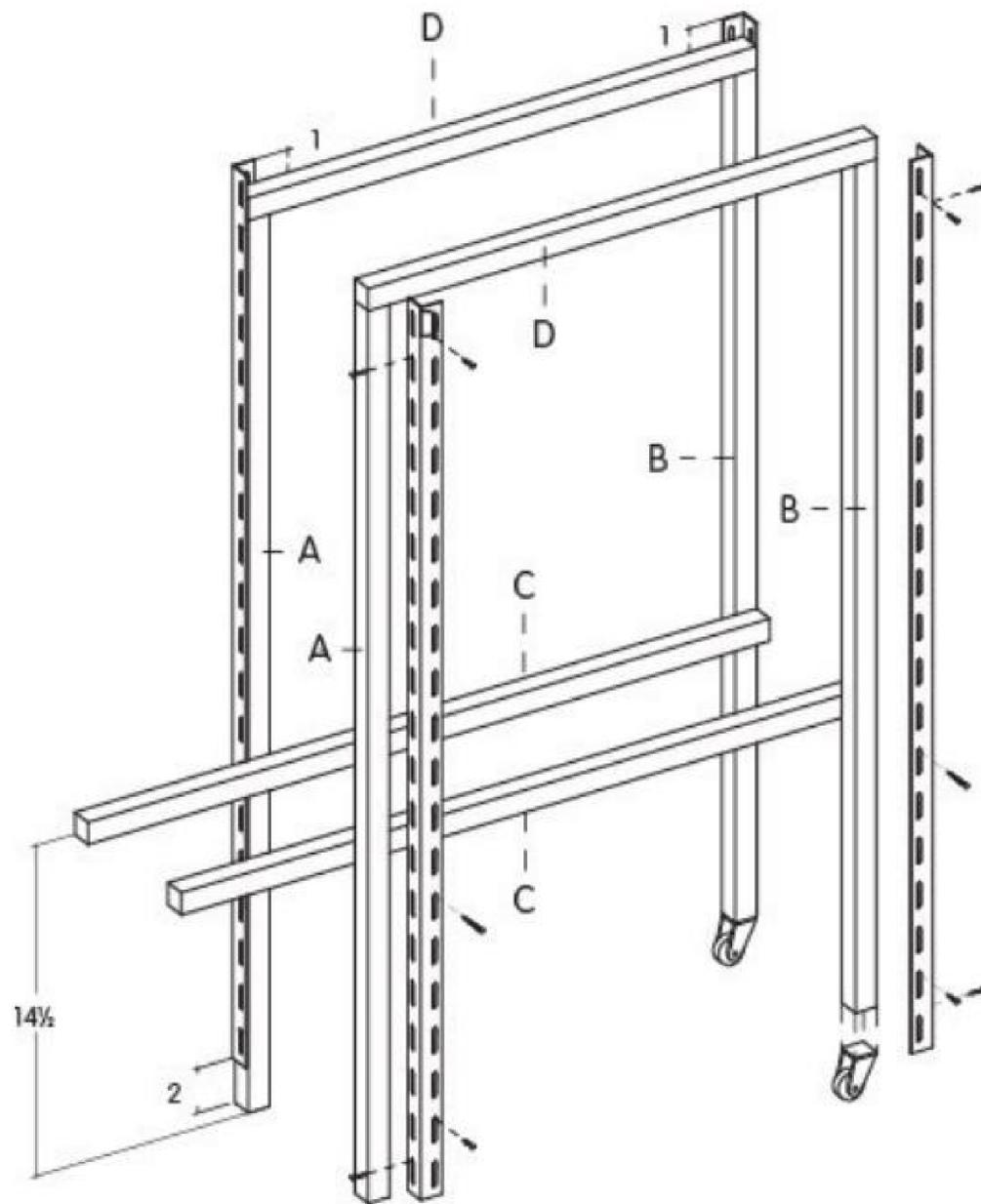
# 1



Use a saw to cut the 1 x 1in wooden battens into the following lengths:

- \_ Two x 39½in (part A)
- \_ Two x 37½in (subtract your wheel height from 39½in) (part B)
- \_ Two x 31½in (part C)
- \_ Four x 23½in (part D)
- \_ Fourteen x 10in (part E)

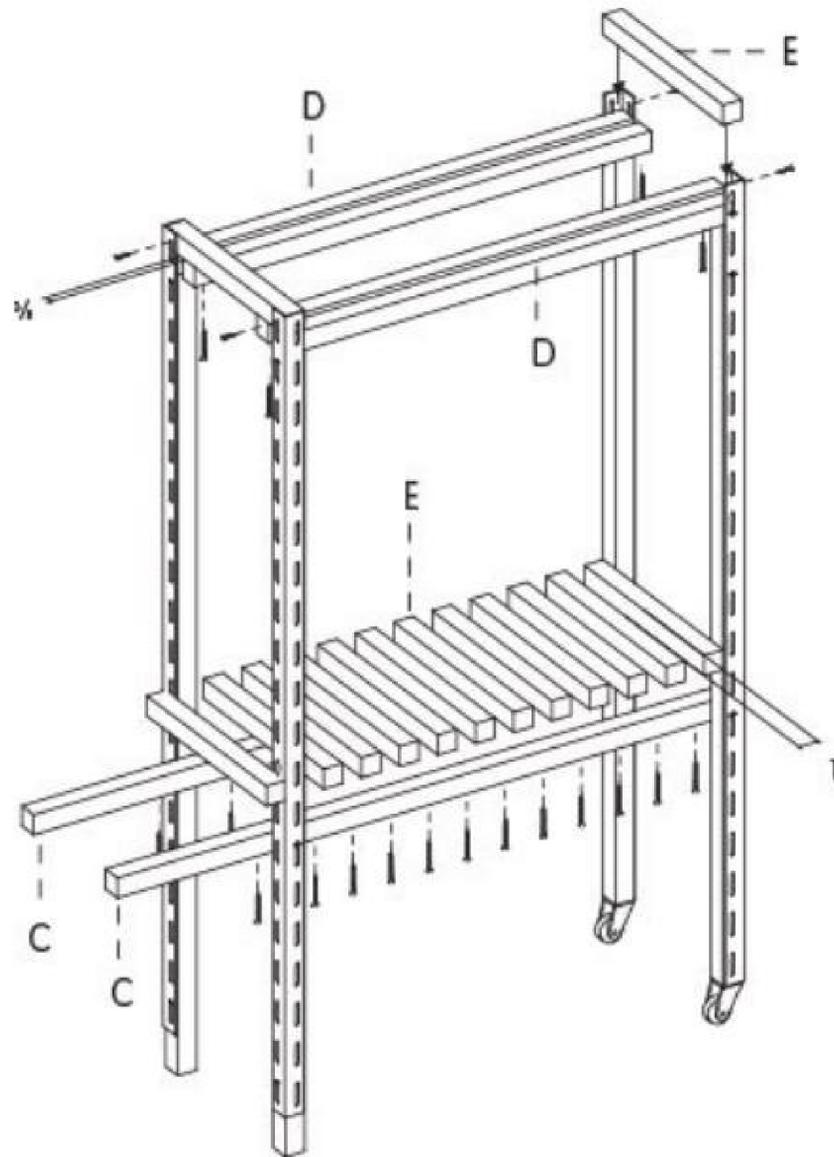
# 2



### **Assembling the sides**

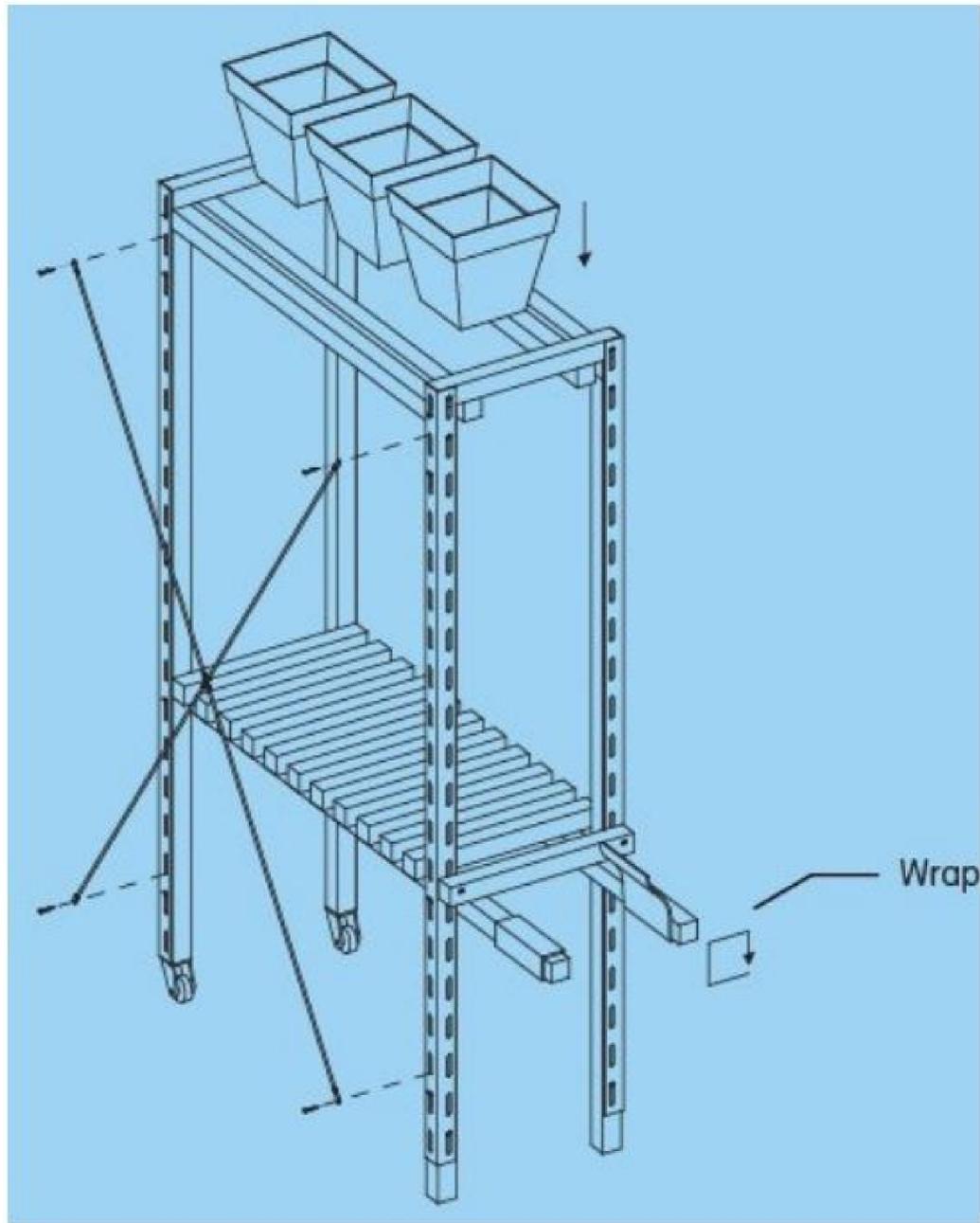
- \_ Use one 39½in length of L-shaped steel profile to connect one part A, D, and B, leaving a 1in space above part D (you can use a scrap piece of 1in board as a spacer).
- \_ Repeat for the other side, but note that the steel is on the opposite side.
- \_ Attach your wheels.
- \_ Place the cross pieces (parts C) 14½in from the bottom and attach by screwing through the appropriate hole in the metal, checking to make sure you attach to the insides (opposite the steel).





### **Connecting the two sides**

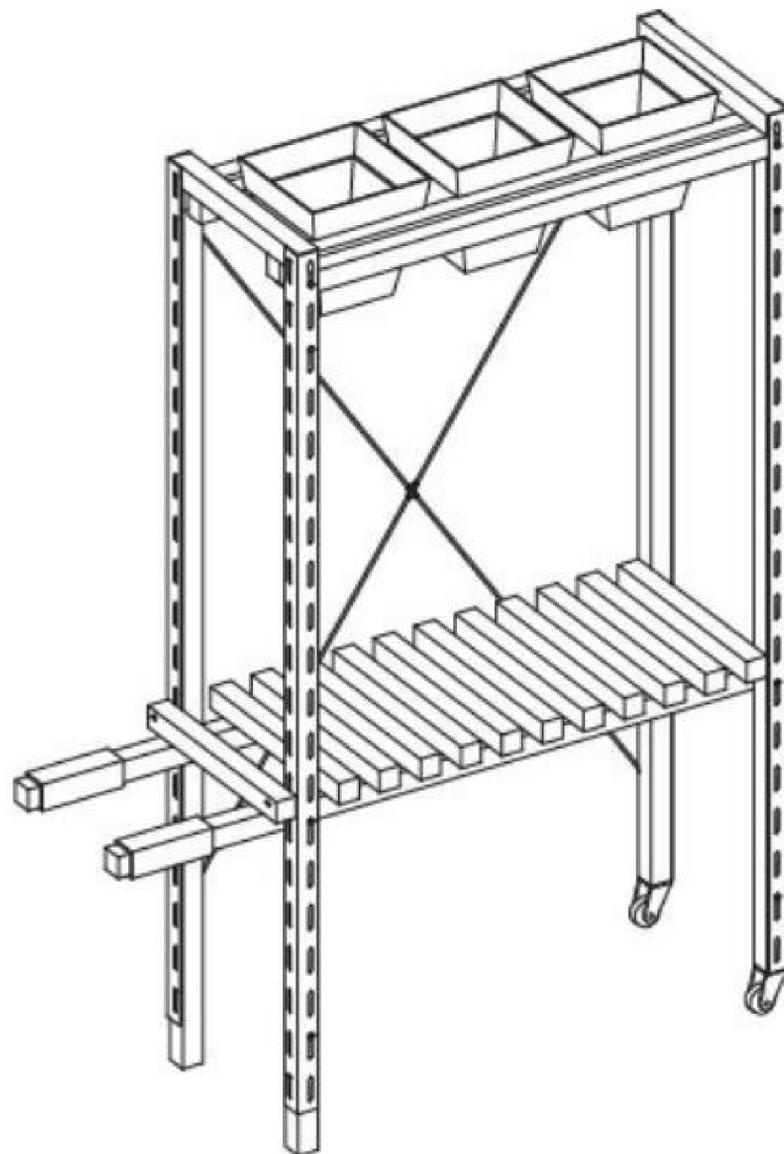
- \_ Place two of the 10in pieces (parts E) on top of your assembled sides, screwing together through the appropriate holes in the metal.
- \_ Attach two more 23½in battens (parts D) to the bottom side of parts E by screwing from underneath into parts E and spacing ¾in from the existing parts D.
- \_ Attach the remaining twelve 10in battens (parts E) by screwing through the underside of parts C, spacing 1in apart.



- \_ Use screws to attach the X-shaped metal support to the side you choose as the back.
- \_ Cut the felt into two pieces, 4 x 4in.
- \_ Use glue to attach and wrap it around parts C.
- \_ Place your planters.



5



\_Fill with plants, wheel to your favorite spot, and enjoy!

# IOLO

THOMAS JENKINS

Iolo is a Welsh dresser that started out as a commission for the studio's local café. The café owners didn't have a massive budget so Jenkins' studio set about creating a solution that could be manufactured internally in their prototype workshop, which has only a few pieces of machinery.

This meant creating a very simple system using only the tools the designers had available to them, as well as keeping manufacturing time as short as possible. The studio was able to create this dresser with just a router, a miter saw, and a pillar drill.

You will need:

## Materials

- \_ Plywood,  $\frac{7}{8}$ in thick
- \_ Small-head finish nails, 2in long
- \_ Copper pipe,  $\frac{1}{2}$ in diameter
- \_ Wooden dowels,  $1\frac{3}{4}$ in diameter
- \_ Wood glue
- \_ Drawer slides no larger than  $13\frac{1}{4}$ in
- \_ Rubber or plastic feet that nail on— $1\frac{5}{8}$ in

## Tools

- \_ Saw
- \_ Drill

\_ Drill bit, 1/2in diameter

\_ Drill bit, 1 3/4in diameter

\_ Drill bit, 1/4in diameter

\_ Router

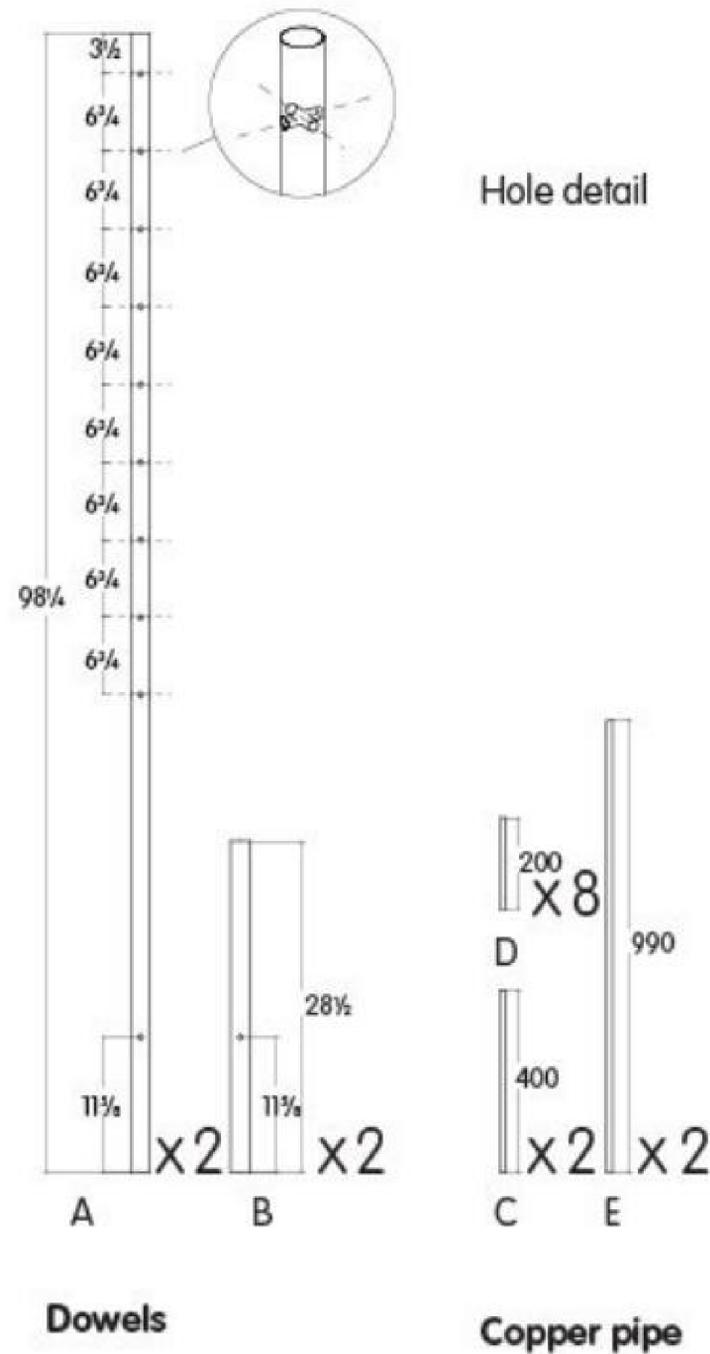
\_ Round 1/2in router bit

\_ Round 3/8in router bit

\_ Hammer



# 1



## Dowels and copper pipe

Cut the 1 3/4in dowels to the following lengths:

\_ Two x 98 1/4in (part A)

\_ Two x 28 1/2in (part B)

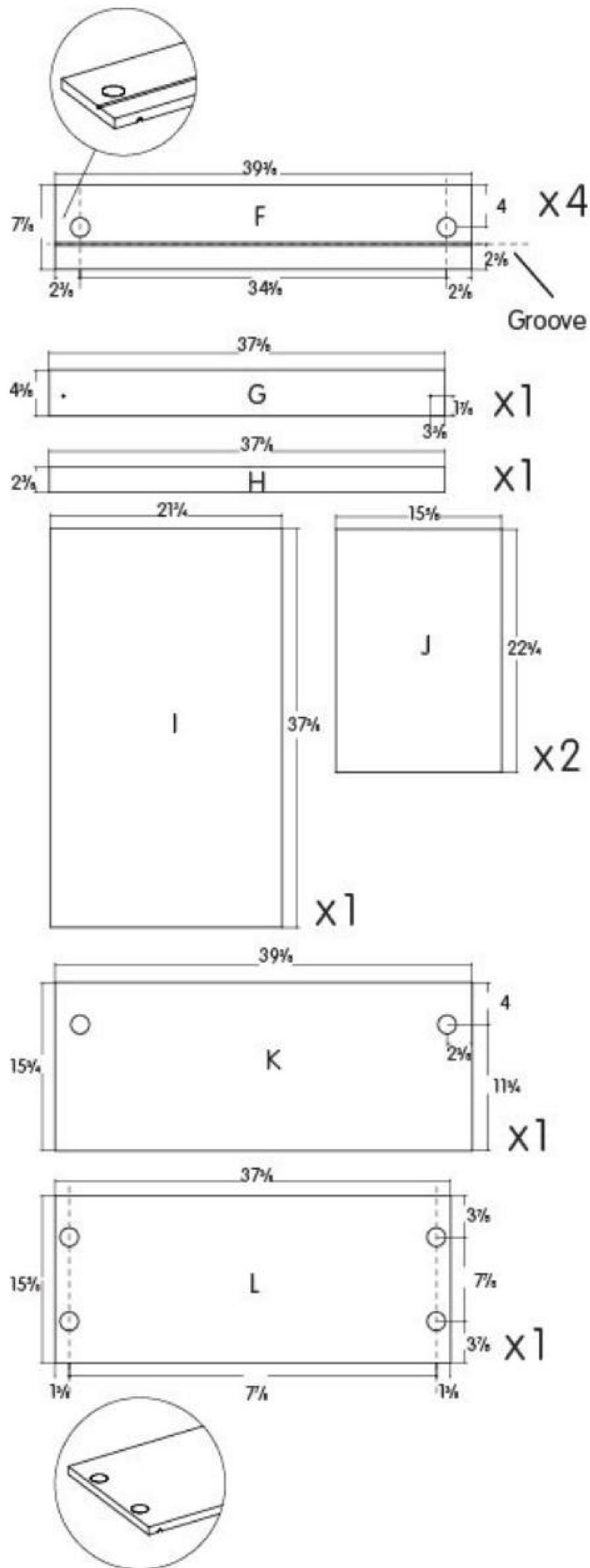
\_ Use a 1/2in drill bit to make holes as shown.

All the holes that are shown facing are drilled on the front side. Where horizontal dotted lines are shown (upper portion of part A), 1/2in holes need to be drilled from the side (perpendicular to the holes from the front side), see detail. Cut the 1/2in copper pipe to the following lengths:

\_ Two x 15 3/4in (part C)

\_ Eight x 7 7/8in (part D)

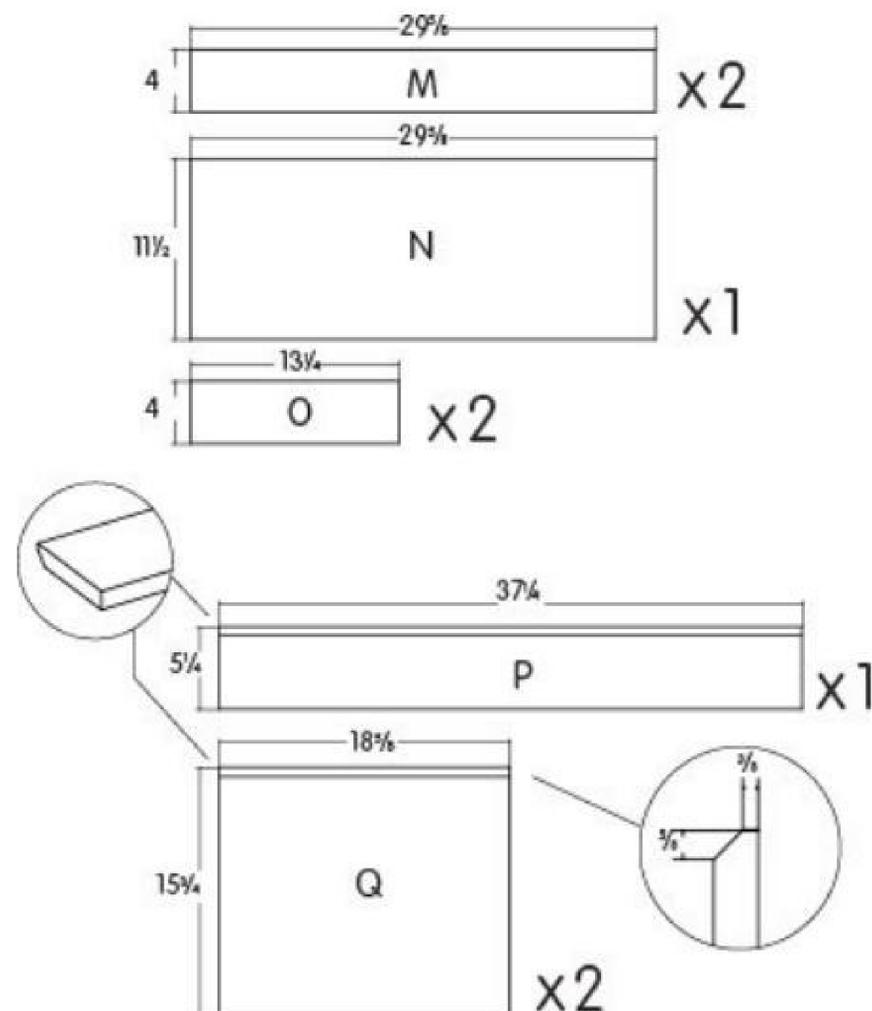
\_Two x 39in (part E)



### Shelves and cabinet

Cut the 7/8in plywood to the following sizes:

- \_ Four x  $39\frac{3}{8}$  x  $7\frac{7}{8}$ in (part F)
- \_ One x  $37\frac{3}{8}$  x  $4\frac{3}{8}$ in (part G)
- \_ One x  $37\frac{3}{8}$  x  $2\frac{3}{8}$ in (part H)
- \_ One x  $37\frac{3}{8}$  x  $21\frac{3}{4}$ in (part I)
- \_ Two x  $22\frac{3}{4}$  x  $15\frac{5}{8}$ in (part J)
- \_ One x  $39\frac{3}{8}$  x  $15\frac{3}{4}$ in (part K)
- \_ One x  $37\frac{3}{8}$  x  $15\frac{5}{8}$ in (part L)
- \_ Use a router with a  $\frac{1}{2}$ in round bit to cut two halfcircle-shaped grooves that run the shorter distance on the bottom side of parts F and L. Parts F will get these  $2\frac{3}{8}$ in from each end as shown. The copper tubes will rest in these grooves. Part L will get these  $1\frac{3}{8}$ in from each end, as shown.
- \_ Use an  $\frac{3}{8}$ in round bit to cut a groove the length of the board,  $2\frac{3}{8}$ in from the front edge, as shown.
- \_ Use a drill and a  $1\frac{3}{4}$ in bit to cut holes through parts F, K, and L, as shown.
- \_ Use a  $\frac{1}{4}$ in drill bit to cut two holes in board G, as shown.



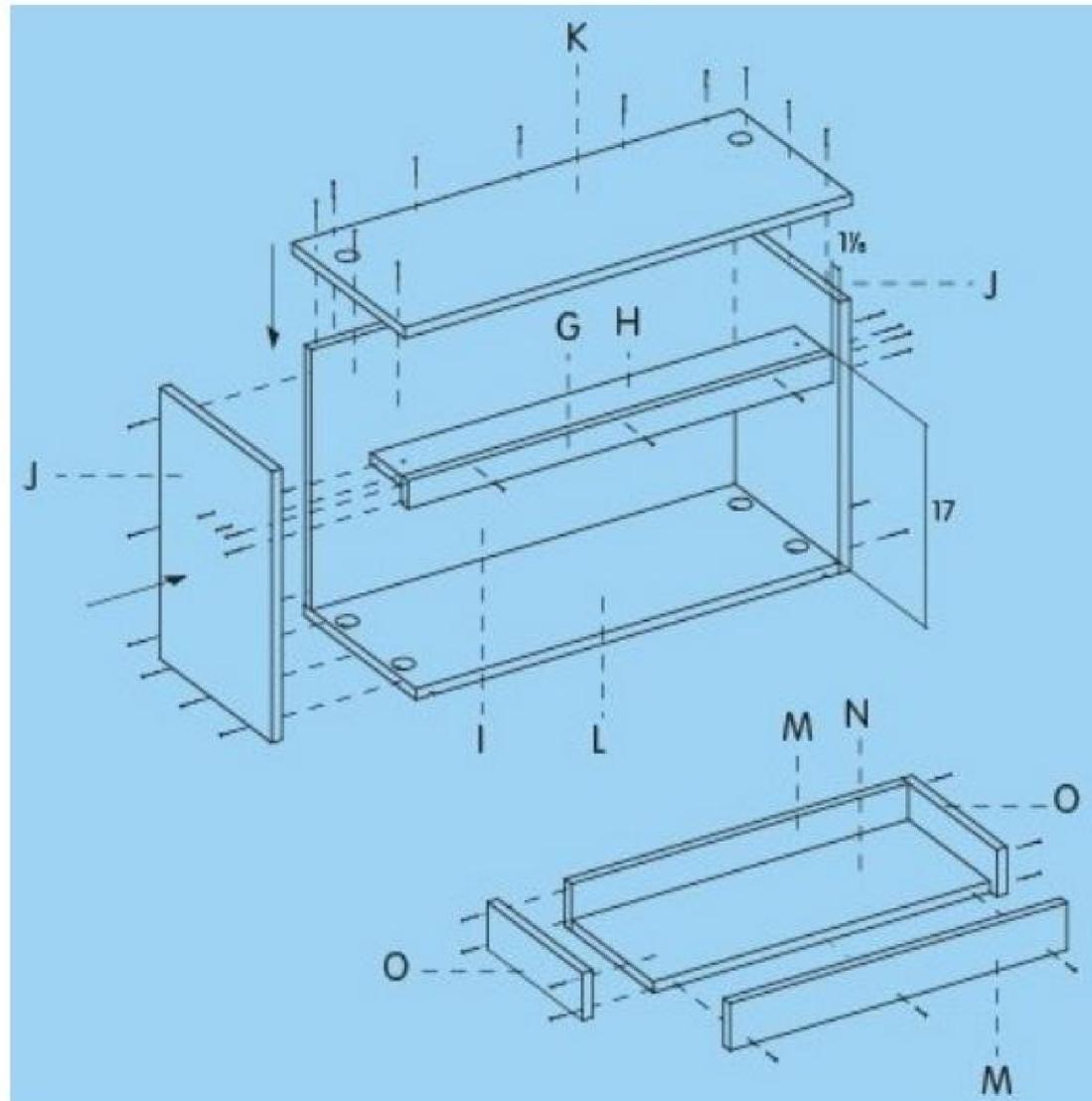
## Doors and drawer

Cut the  $\frac{7}{8}$ in plywood to the following sizes:

- \_ Two x  $29\frac{5}{8}$  x 4in (part M)
- \_ One x  $29\frac{5}{8}$  x  $11\frac{1}{2}$ in (part N)
- \_ Two x  $13\frac{1}{4}$  x 4in (part O)
- \_ One x  $37\frac{1}{4}$  x  $5\frac{1}{4}$ in (part P)
- \_ Two x  $18\frac{5}{8}$  x  $15\frac{3}{4}$ in (part Q)
- \_ Use a saw or router to bevel one edge of parts P and Q, as shown above. These

will be the top edges of the doors (Q x 2) and the bottom of the drawer face (P).





### **Assembling the cabinet**

This is easier if the cabinet is laid on its back (part I).

\_ Attach the bottom (part L) with grooves out, using glue at the seams and nailing together with finish nails.

\_ Attach the sides (parts J) and the top (part K).

\_ Attach the divider and leg support (parts G and H) as shown. First, attach part H to part G, making flush along the top edge and nail in place. Then, spacing 1 1/2 in from the front edge of the cabinet and measuring up 17 in from the top of part L to the top edge of part H, nail in place through parts J.

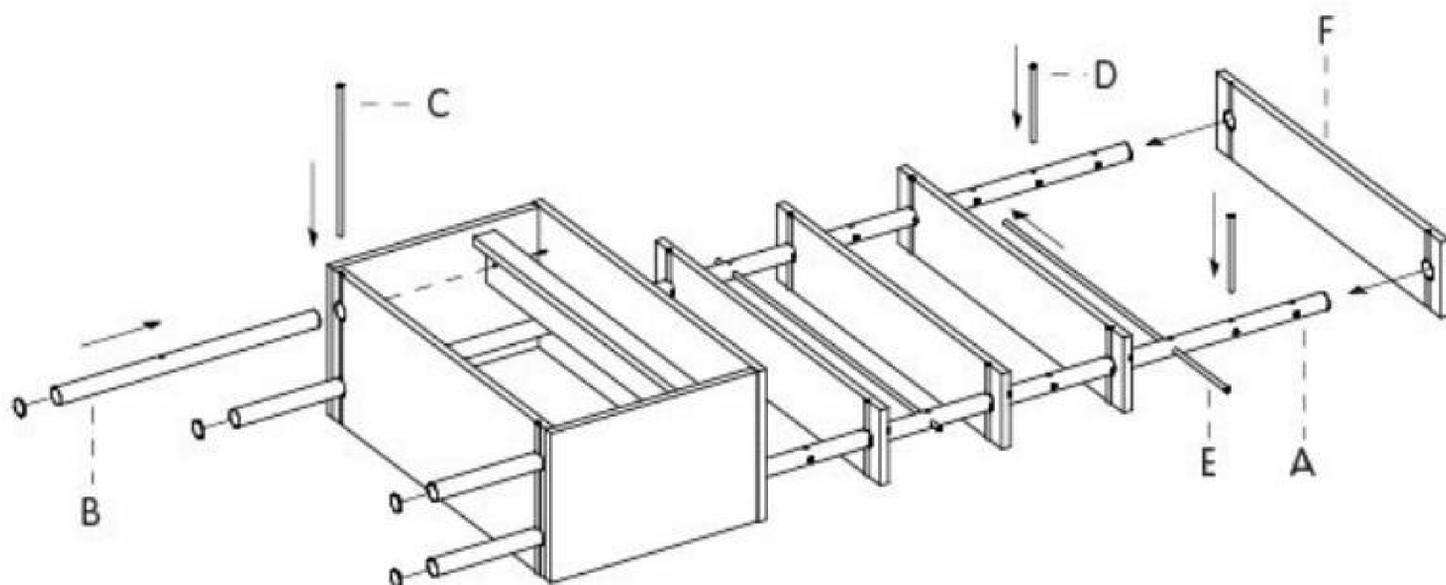
### **Assembling the drawer box**

This will be easier with the bottom (part N) laying flat.

\_ Attach the sides (parts O) and the front and back (parts M) using glue at the seams and nailing together with finish nails.



3



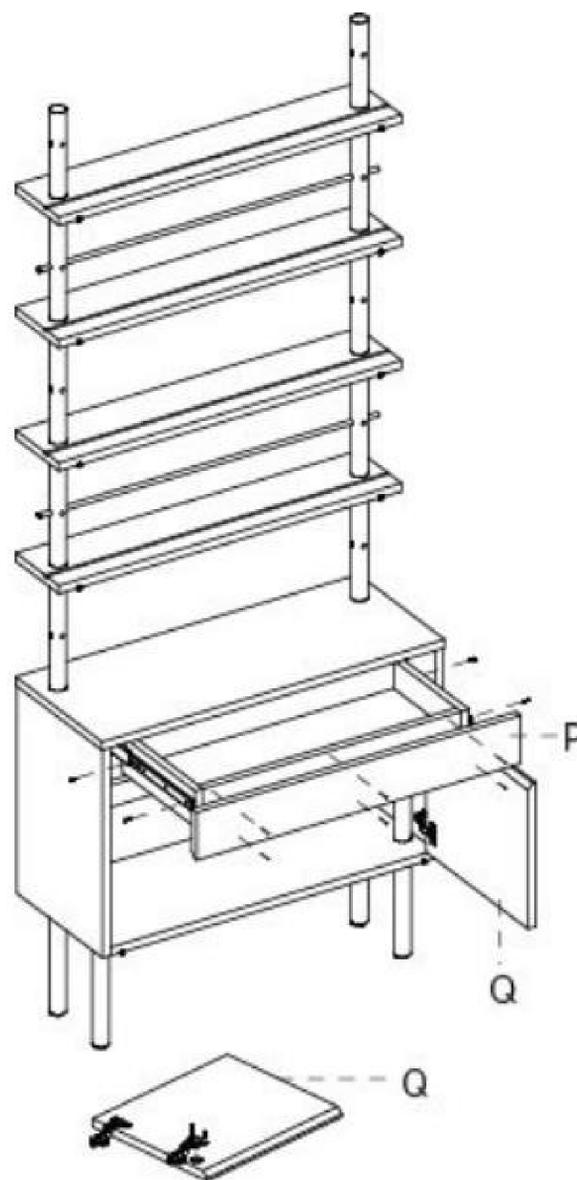
### Assembling the legs and shelving

\_Insert the rear legs (parts A) through the bottom of the cabinet until the last hole is just visible.

\_Insert the front legs (parts B) the same way. The front legs should hit the divider frame just as the last hole becomes visible.

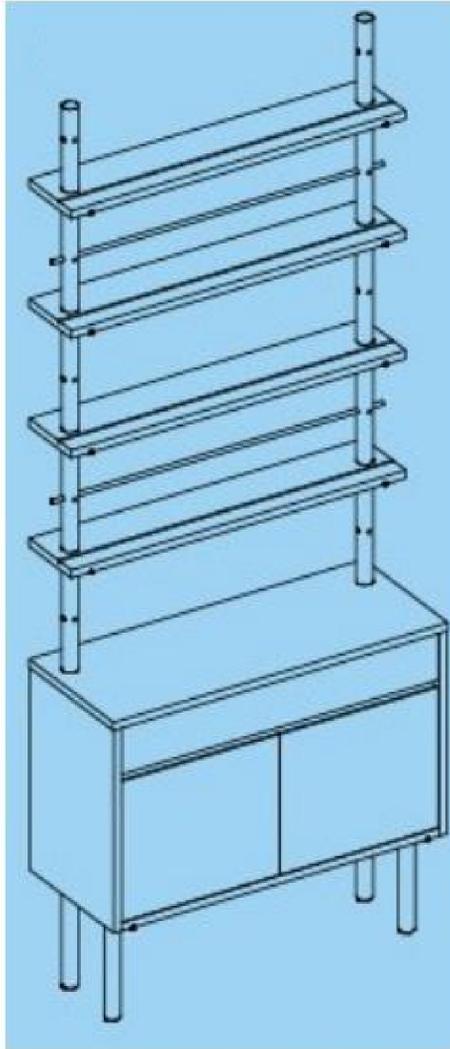
- \_Insert two copper pipes (parts C) into the bottom holes of the legs, going through the front legs (parts B), then through the rear legs (parts A).
- \_Slide each shelf (parts F) over the rear legs, with the side with two grooves facing down. Pin each shelf in place with the shorter copper pipes (parts D), by inserting into the holes in parts A, beneath each shelf.
- \_Add the longer copper pipes (parts E) by inserting in the holes above each shelf that you wish to hold plates.
- \_Optionally add feet.

## 4



- \_Stand the cabinet upright and attach the drawer, using top-mounting drawer slides. The drawer box should be  $\frac{3}{4}$ in from the underside of the top of the cabinet (part K).
- \_Align the drawer face (part P) to the drawer box with the bevel side down and facing in. Space it evenly on the top and sides, then attach using glue and nails.
- \_Mount the doors (parts Q) with the bevel side up and facing in. Use inset-style door hinges and follow the hinge directions for their placement. Adjust the hinges to create even spacing on all sides.

5



\_Display your finest dinnerware and enjoy!



## 2.

# TABLES AND DESKS

The hardware store isn't the only place to find readymade materials ripe for appropriation. Travis Ekmark found that the holes in the common pizza tray could act as predrilled locators to attach shelf brackets repurposed into table legs. The slender profile of Buchshop also utilizes existing shelving parts, but displays books instead of take-out pizza. Add a couple of wooden planks and it transforms into a work surface. Dominik Hehl offers a clever take on the trestle table, cutting each leg from one plank of wood and joining them with a piano hinge so that the wood appears to fold. Stacking wood is another build method used, as demonstrated in Telefonplan, which brings back childhood memories of creating log cabins with Tinkertoys. Niccolò Spirito shows us that PVC doesn't have to be relegated to the basement. Take it to the next level and build the PVC Table to accompany his other PVC contribution, the Diablo Chair.

# ROHLINGTISCH

DOMINIK HEHL

In his latest works, Hehl acts in the spirit of a DIY maker, looking for *Rohlinge*—which translates as “raw materials”—that he can easily transform into useful objects. In German the word also means “rough guy”, so it also has connotations of something rough and raw.

Hehl's aim was to design common, functional objects using raw materials with very few processes. This approach looks for simplicity within the production process and celebrates the chosen source material, whether it comes straight from nature or is industrially processed to some extent.

After spotting a yellow framework panel on a visit to a hardware store, Hehl was inspired to create a table. Rohlingtisch consists of collaged panels, with a metal profile only partially visible. Each table leg is cut from just one framework panel, although the assembly of the diagonally divided panels gives the impression of folded wood. Joined by a hinge, the two legs work like a trestle. The weight of the tabletop in turn stabilizes the position of the legs, so no fixing is necessary.

Any wood can be used to create your own Rohlingtisch!

You will need:

## Materials

- \_ Wood screws,  $\frac{1}{8}$  x  $1\frac{3}{4}$ in
- \_ Wood glue
- \_ Three framework panels, 60 x 20in
- \_ Three framework panels, 80 x 20in
- \_ Wood lacquer

\_ Two hinges,  $2\frac{3}{8}$ –  $3\frac{1}{8}$  in wide (If you want to connect the legs to table, you will need four more)

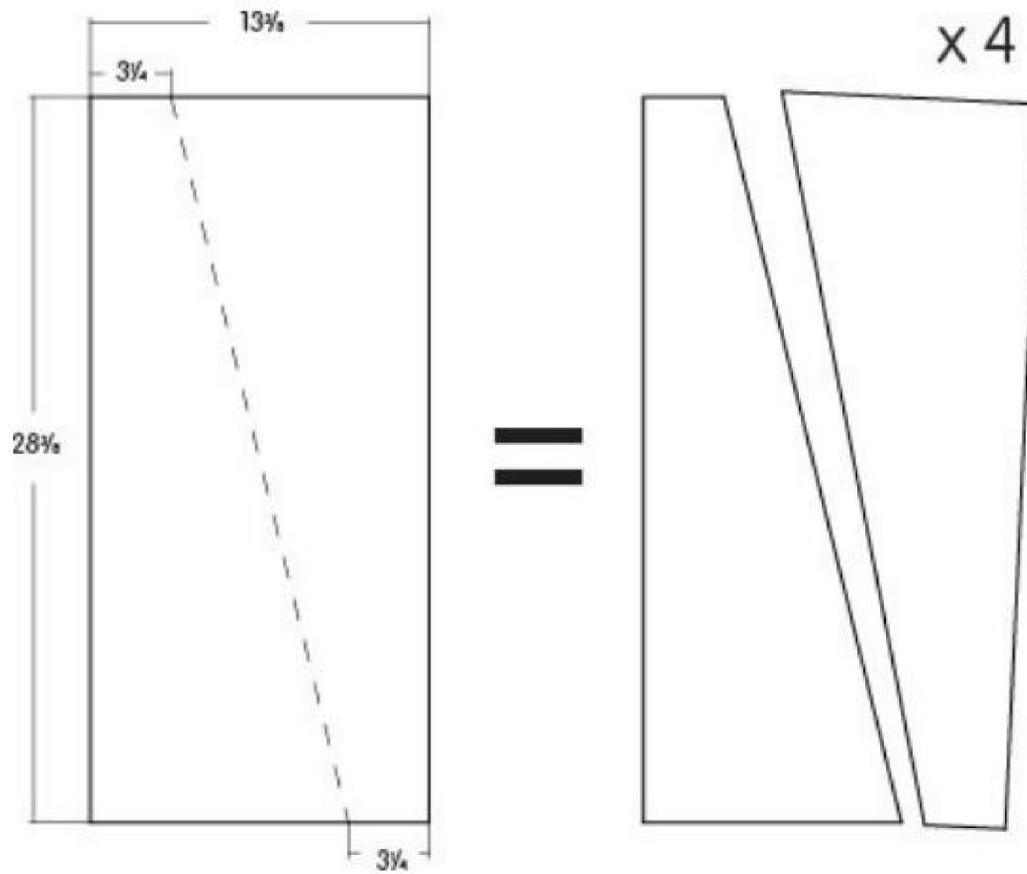
### **Tools**

\_ Saw

\_ Drill



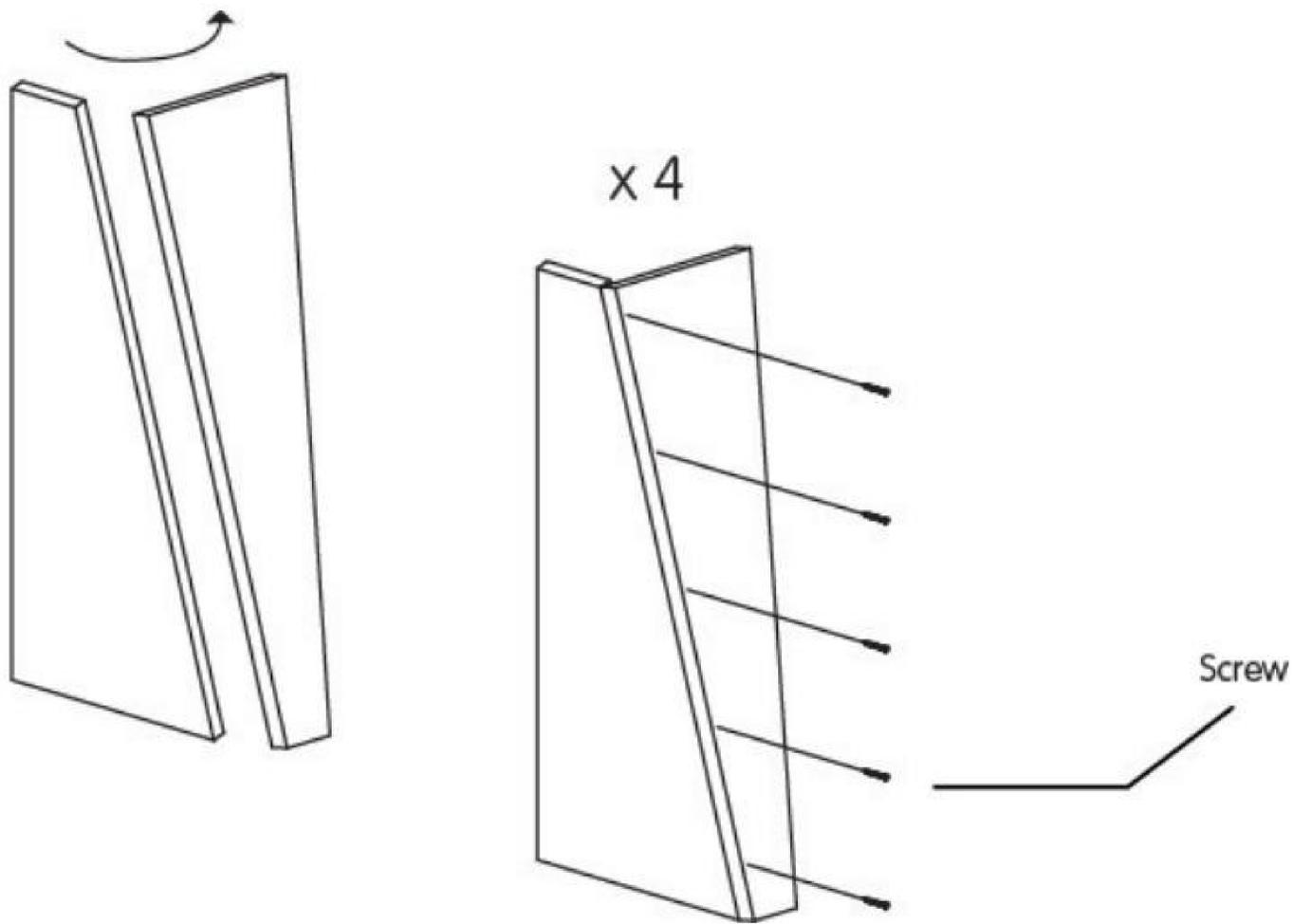
1



**Legs**

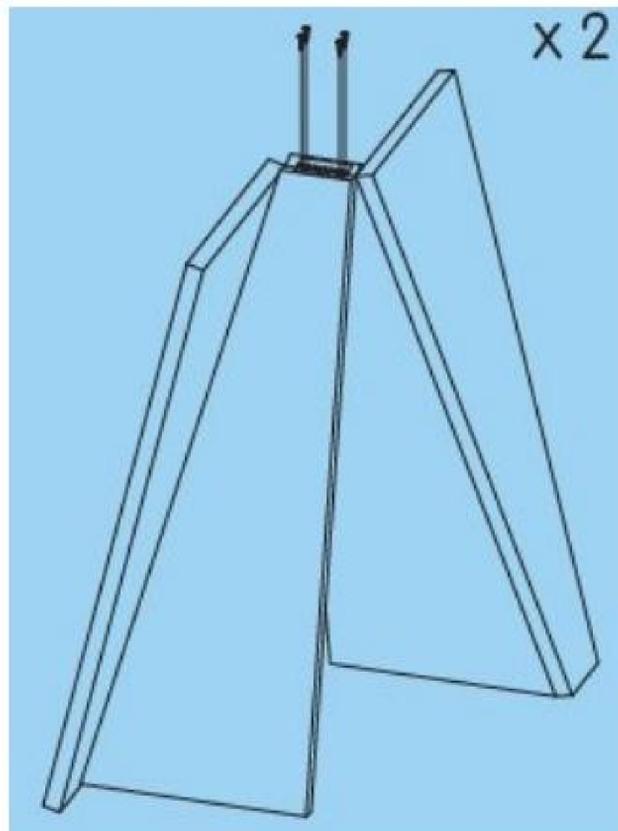
- \_Cut four pieces measuring  $13\frac{3}{8} \times 28\frac{3}{8}$ in out of two 60 x 20in framework panels.
- \_Cut each piece diagonally to make eight matching parts.

2



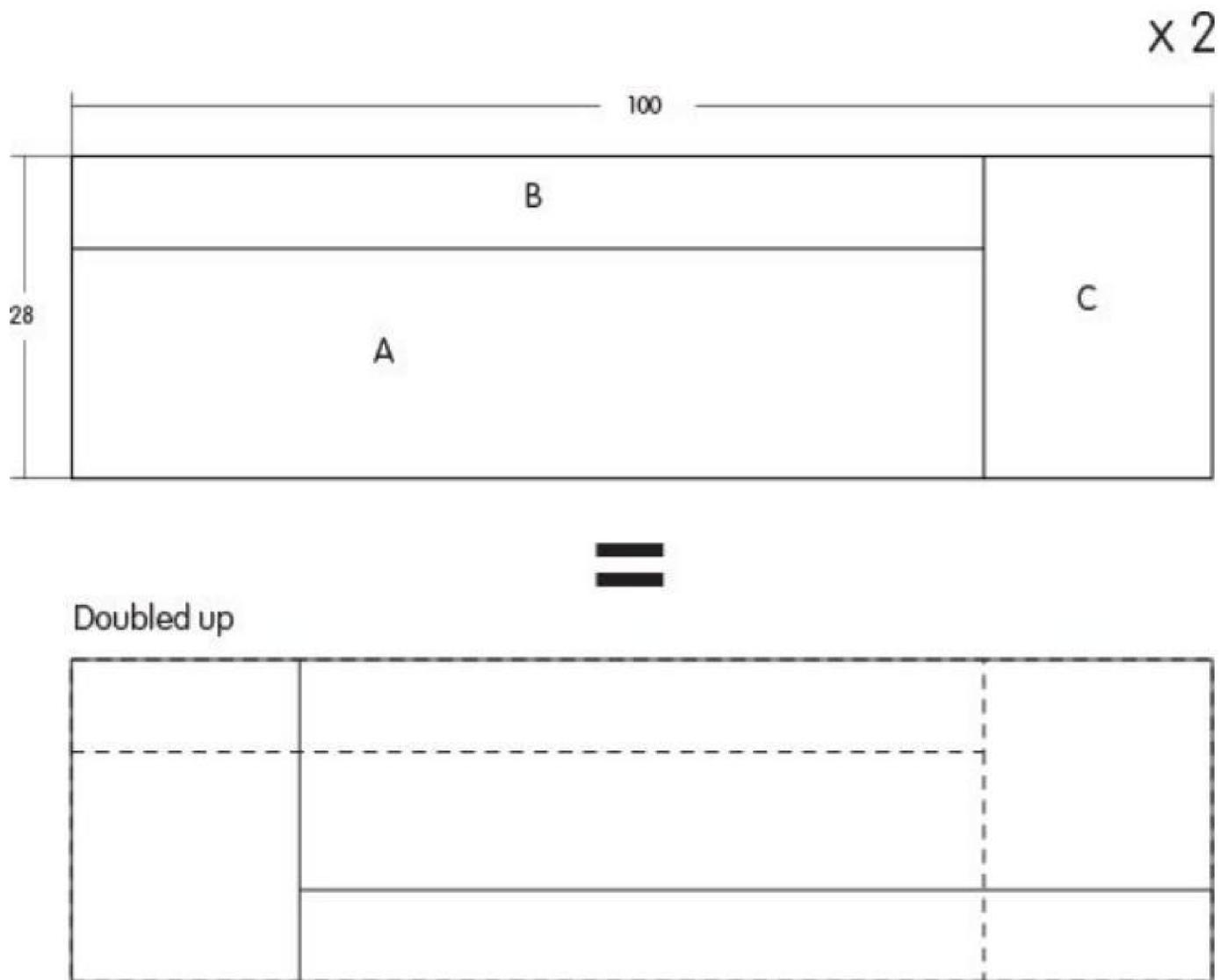
- \_ Rotate one section as if you were folding it.
- \_ Join the two divided parts orthogonally as shown, using wood glue on the joints and securing with screws.
- \_ Repeat this so you have four identical legs in total.

3



- \_ Lean two of the legs against each other and connect them with a hinge and screws.
- \_ Repeat with the other two legs.



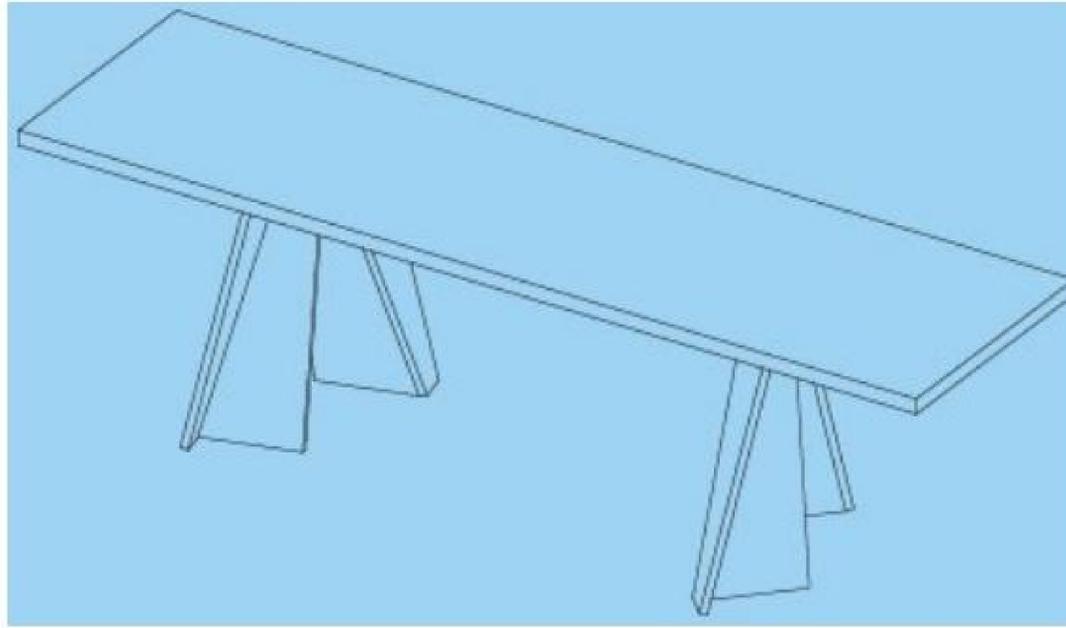


### Tabletop

\_To create the first layer, use one 20 x 80in panel (Part A). Cut the second 20 x 80in panel into two 8 x 80in pieces (Part B). Use one here and one on the second layer. Cut the remaining 20 x 60in panel into two 28 x 20in pieces (Part C), using one on the first layer and one on the second.

\_You can use any type of tabletop. The example shown on page 27 used a framework panel, creating two patterned layers, which were doubled up by screwing them together from the bottom to make one thick top.

\_The layout can be as shown.



\_Seal the wood with lacquer (optional).

\_Set the tabletop on the legs (attach using hinges if you wish), pull up some chairs and enjoy!





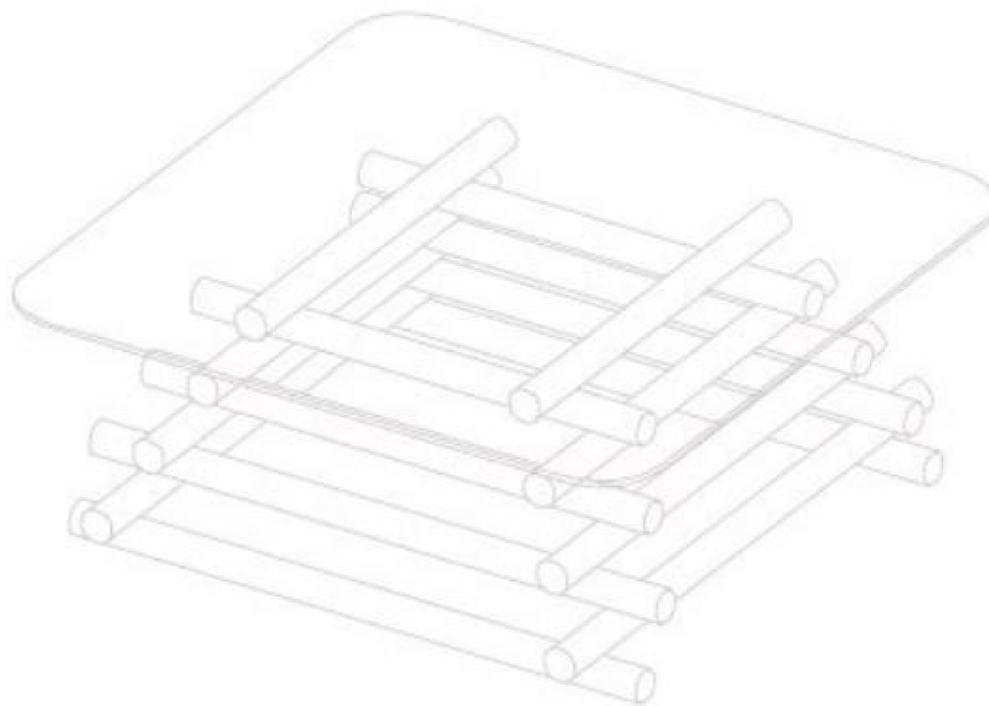
# TELEFONPLAN

DANIEL FRANZÉN OF BUNKER HILL

Franzén's pieces almost always tell a story, which is very common in the design world today, but it was a different story when he first set up his office. When he presented his first piece of jewelry in 2005—a symbol joining the three Abrahamic religions (Judaism, Christianity, and Islam)—it was his way of telling the story of the world around us, but it was not appreciated by everyone at the time.

Telefonplan is both a celebration of the beauty of pine as it comes, straight from a lumberyard, and also a homage to Enzo Mari, the Italian furniture designer who often applies a DIY philosophy to his work. The idea was to create an inexpensive table that could be built by almost anyone.

The table, which was also constructed to incorporate a lamp, was included in the 2008 “Future Living” exhibition in Sweden.



You will need:

## Materials

—Sixteen wooden (pine or other) dowels, 1¾in diameter, at least 31½in long

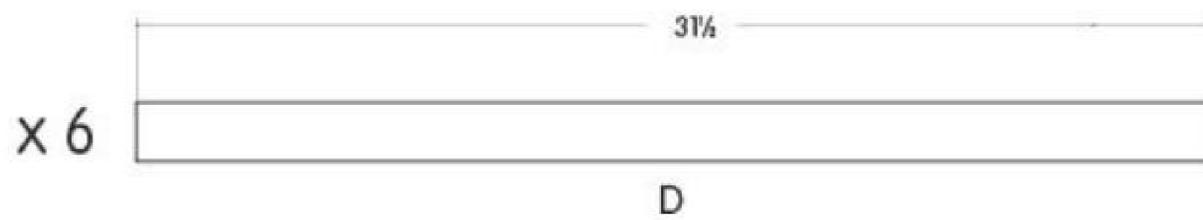
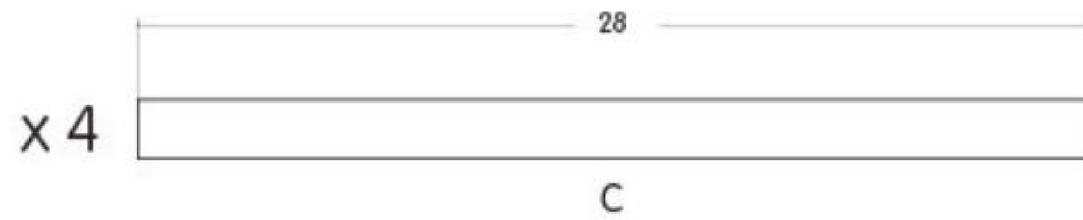
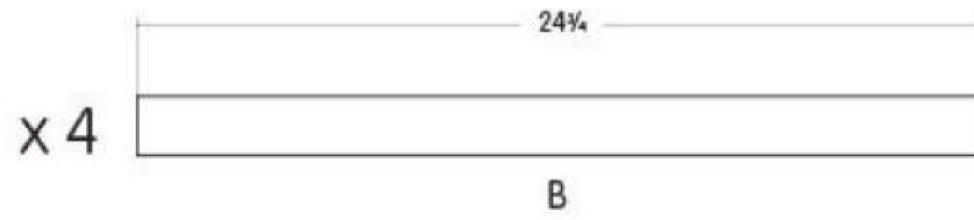
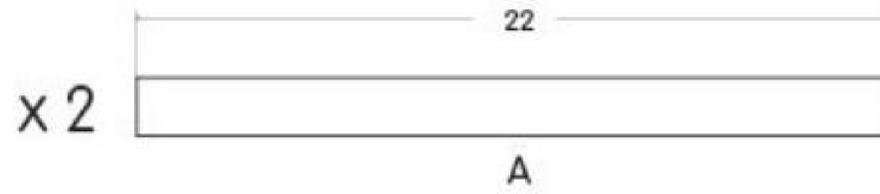
- \_Toughened glass top,  $\frac{1}{5}$ – $\frac{3}{8}$ in thick,  $3\frac{1}{2}$ in radius,  $35\frac{1}{2}$  x  $35\frac{1}{2}$ in with rounded corners
- \_Thirty-two screws,  $2$ – $2\frac{3}{8}$ in long
- \_Four small rubber feet for glass
- \_Wood glue
- \_Wooden plugs that fit the screw hole size (you can also make these yourself using a plug cutter and the scrap from the dowels)

### **Tools**

- \_Drill
- \_Countersink bit



1



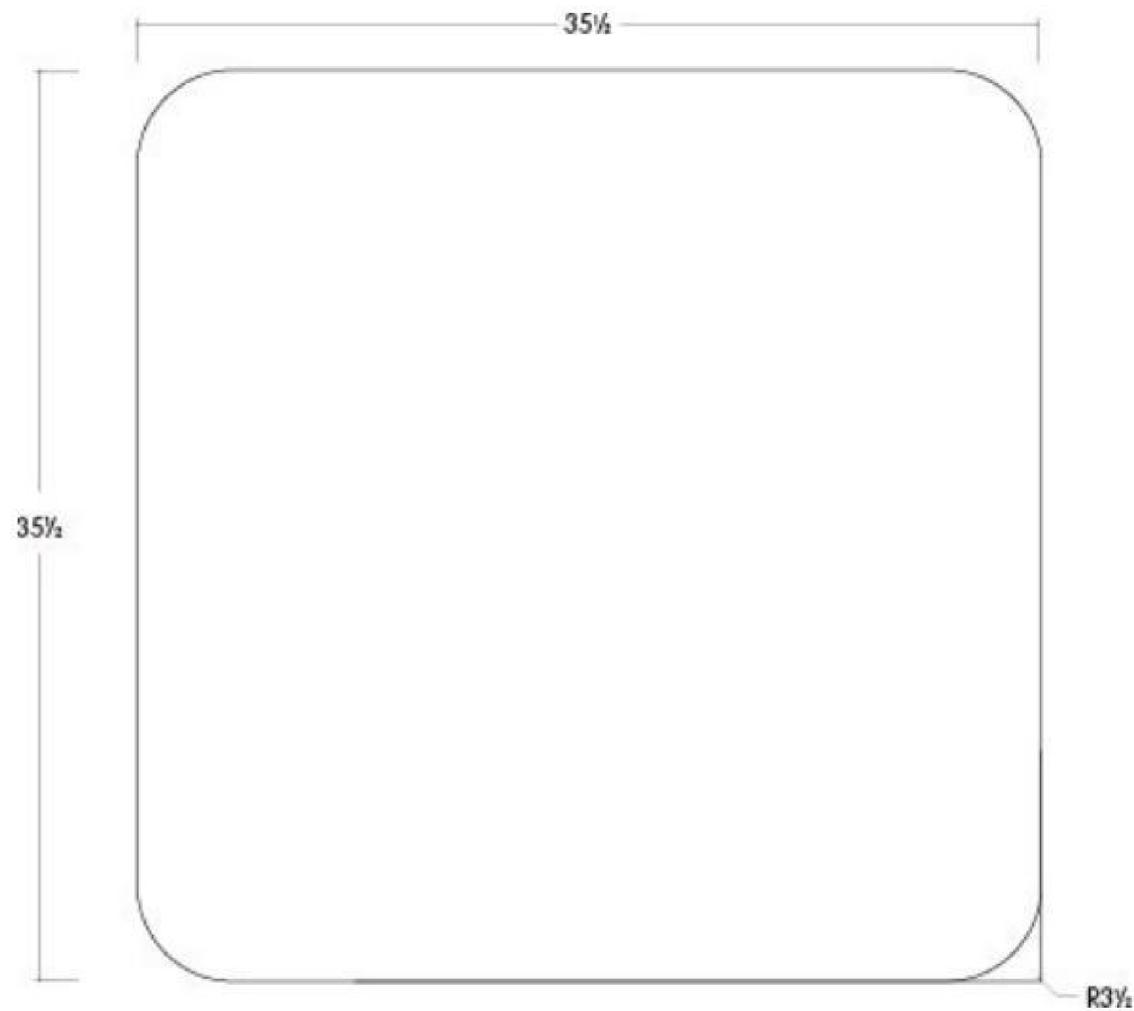
\_ Cut the wooden dowels to the following sizes:

\_ Two x 22in (part A)

\_ Four x 24<sup>3</sup>/<sub>4</sub>in (part B)

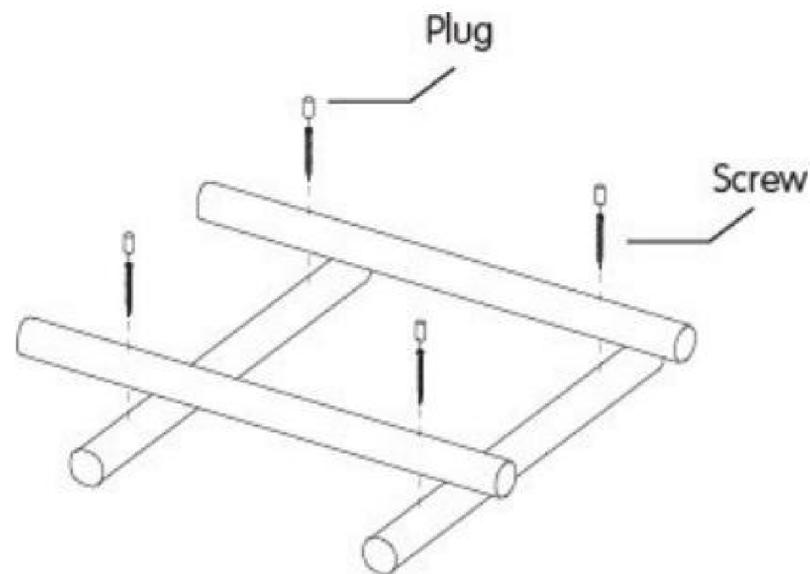
\_ Four x 28in (part C)

\_ Six x 31<sup>1</sup>/<sub>2</sub>in (part D)



\_Have your local glazier cut the glass to the above size and harden. The radius of the corner is 3 1/2 in.

## 2



\_Build the table upside down by stacking two parts A and two parts B to create the first section (refer to Fig. 1 for placement).

\_Hold or clamp the parts firmly and drill through the top dowel and halfway down into the bottom one.

\_If you want to hide the screws, use a countersink bit to drill a pocket (about 3/8 in deep) and plug the holes using a little wood glue.

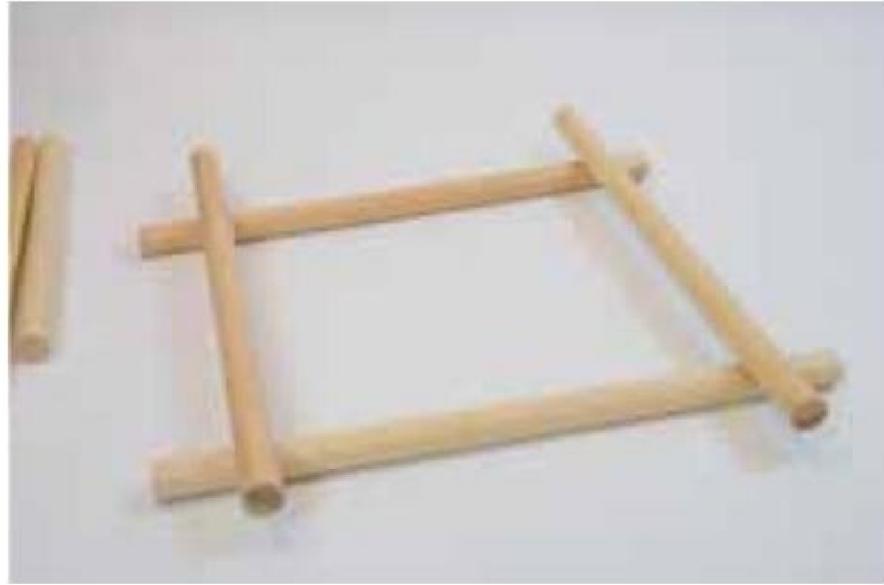
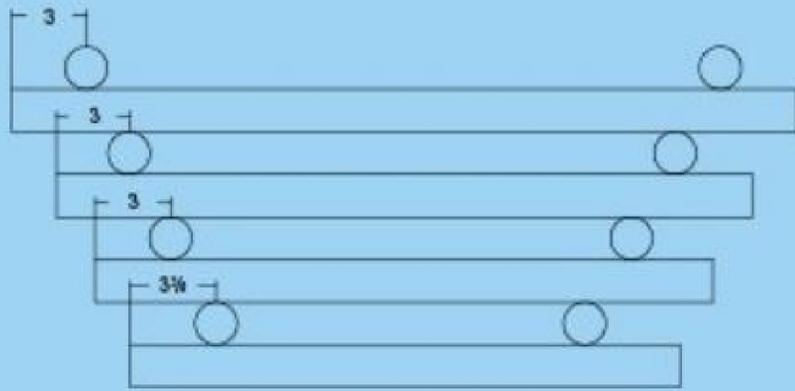
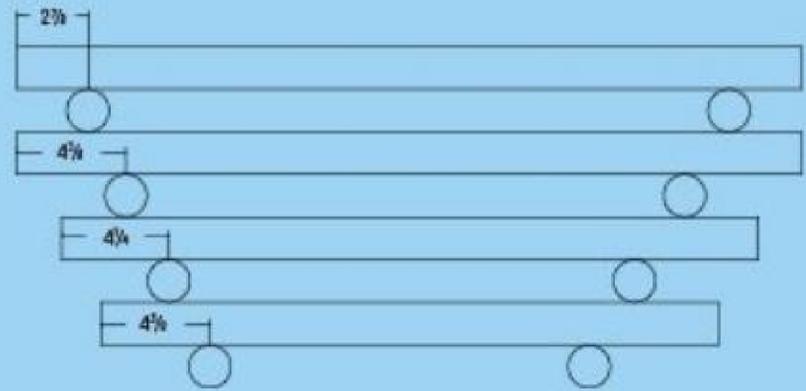


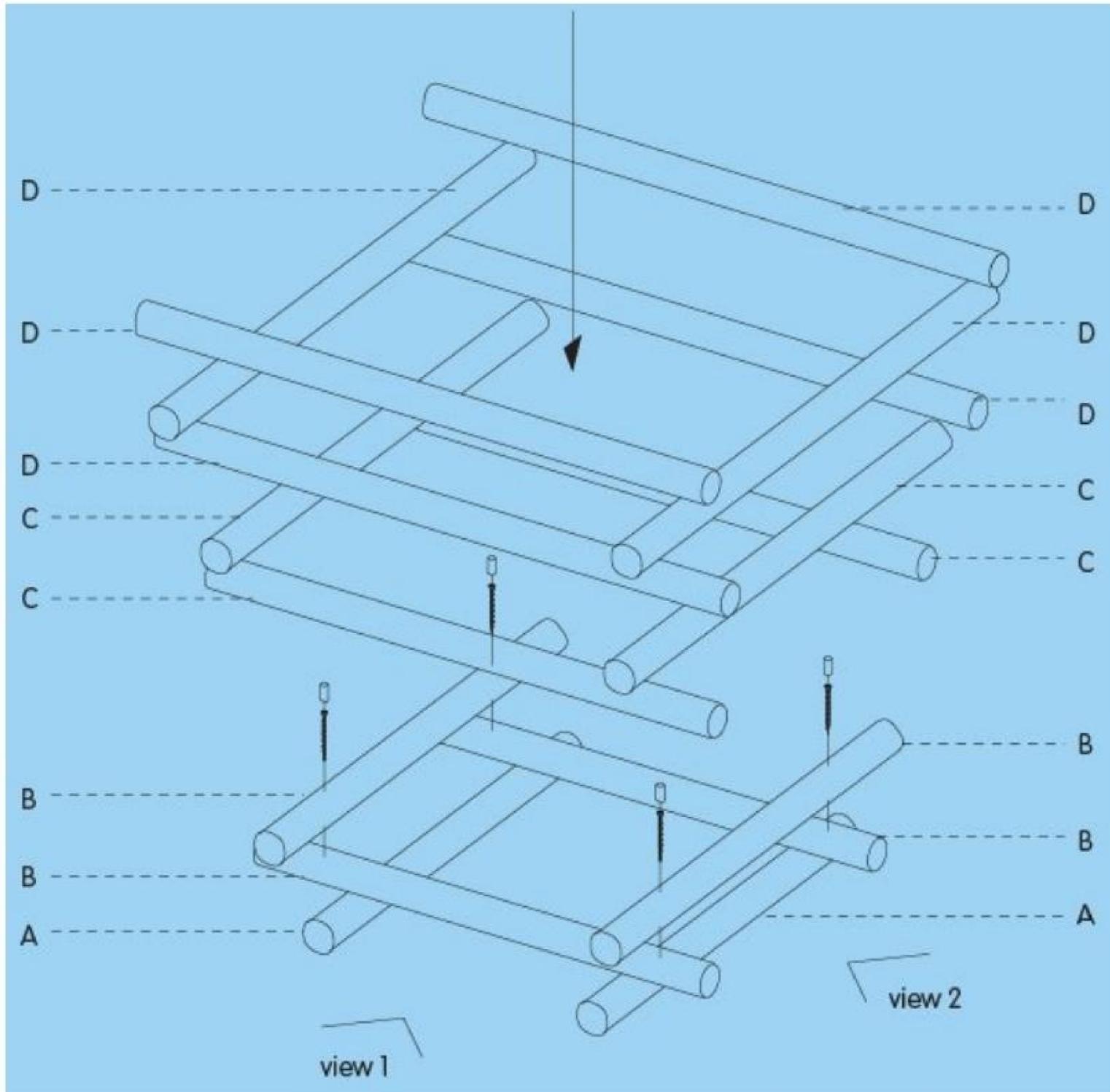
Fig. 1



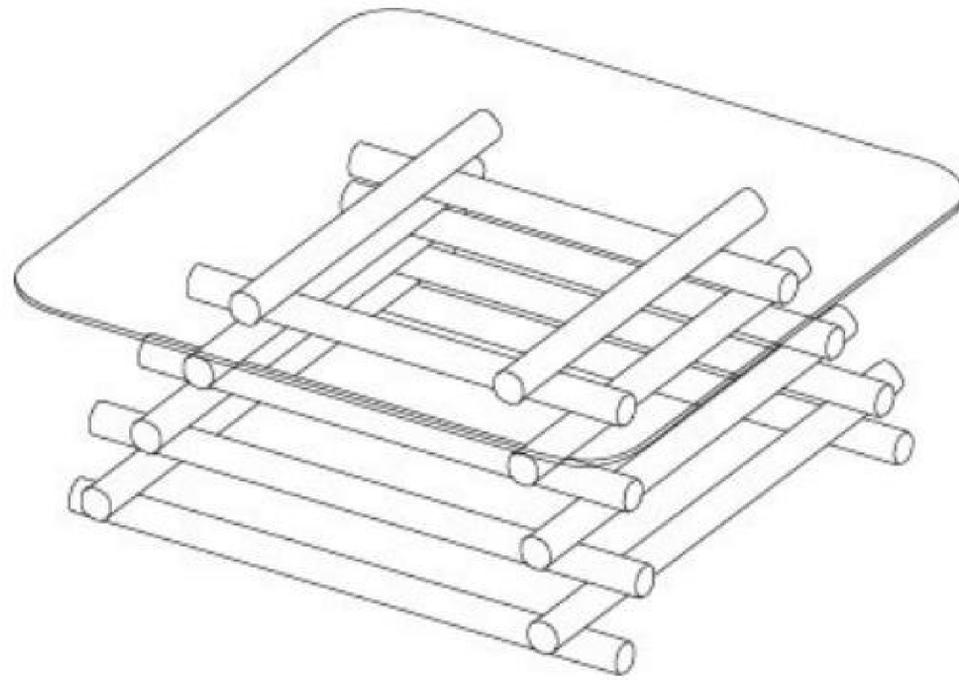
View 1



View 2



- \_Take the remaining two part B dowels and stack them on top of the first section.
- \_Place two part C dowels on top of those and repeat this pattern, screwing the dowels together as shown.



- \_ Turn the frame over, add the glass top, and enjoy!
- \_ Add the small rubber feet between the frame and the glass if you want to keep the glass from sliding.



# PIZZA TABLE

TRAVIS EKMARK

Should everything be designed from scratch? What happens when we edit the purpose of things we already have?

Atlanta-based Travis Ekmark has done just that, by transforming some simple, readymade pizza crispers into a nest of occasional tables. The tables are then finished with dark gray car primer and brass hardware.

You will need:

## Materials

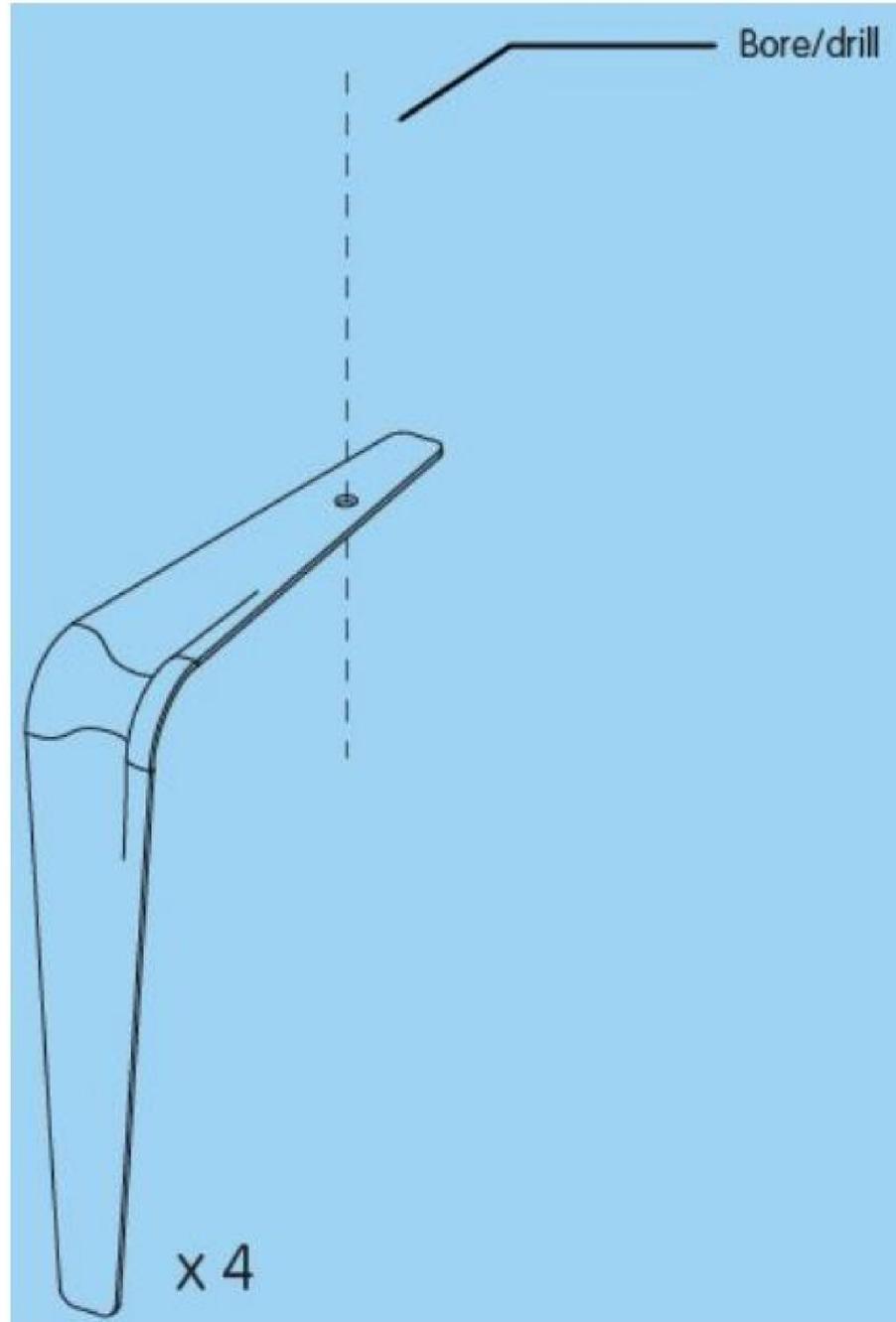
- \_ One Chicago Metallic Commercial II traditional uncoated 14-inch pizza crisper
- \_ Four shelving brackets, 12 x 14in
- \_ Four 12/24 brass wing nuts
- \_ Four 12/24 x 1/4in slotted round top brass bolts, 3/4in long
- \_ Two 12-oz. spray cans of Rust-Oleum Matte Dark Gray automobile primer

## Tools

- \_ Drill press (or handheld drill, in a pinch)
- \_ 1/4in drill bit
- \_ High-grit sandpaper
- \_ Cheap steel wire
- \_ Wire cutters
- \_ Old beach or bath towel

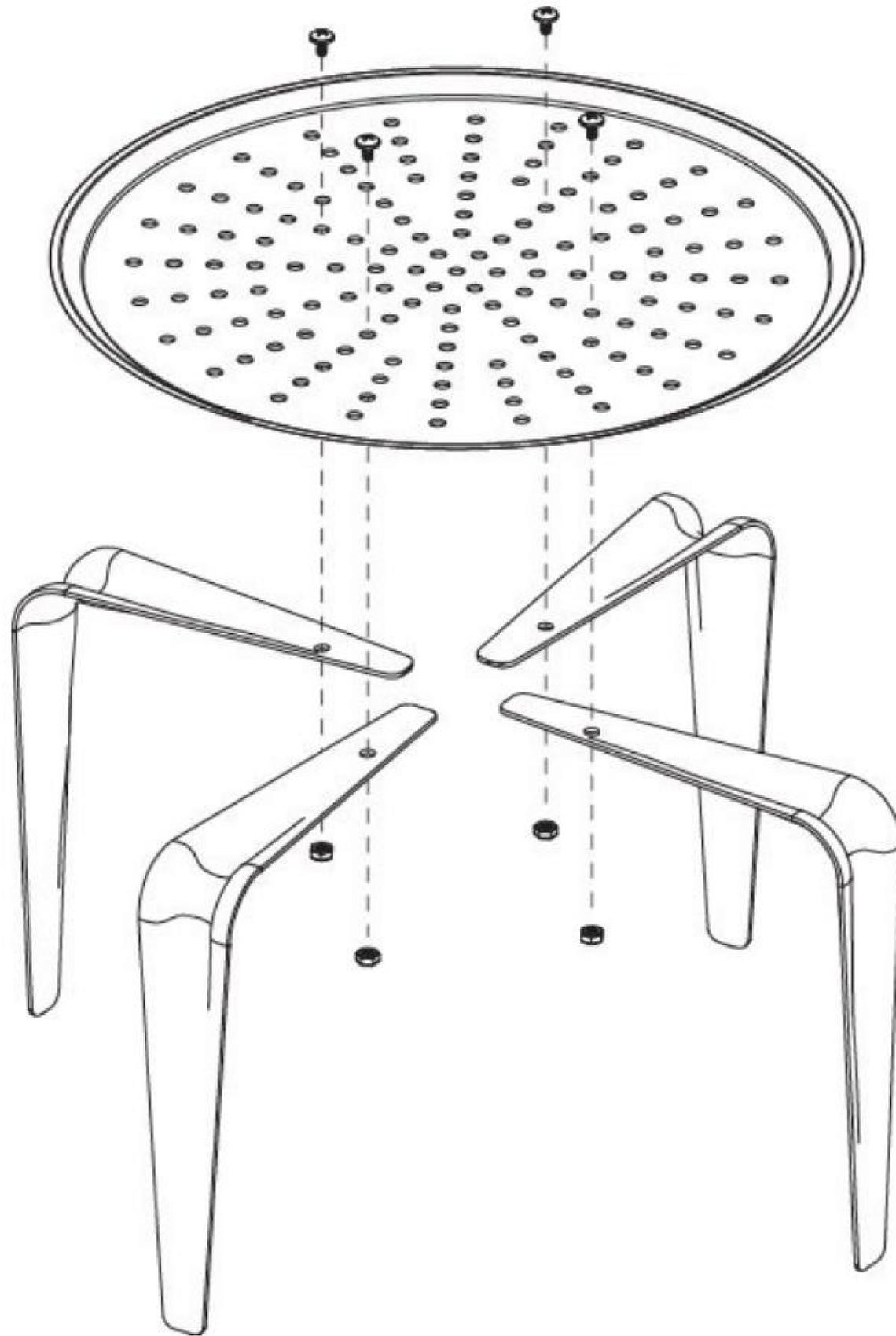


1

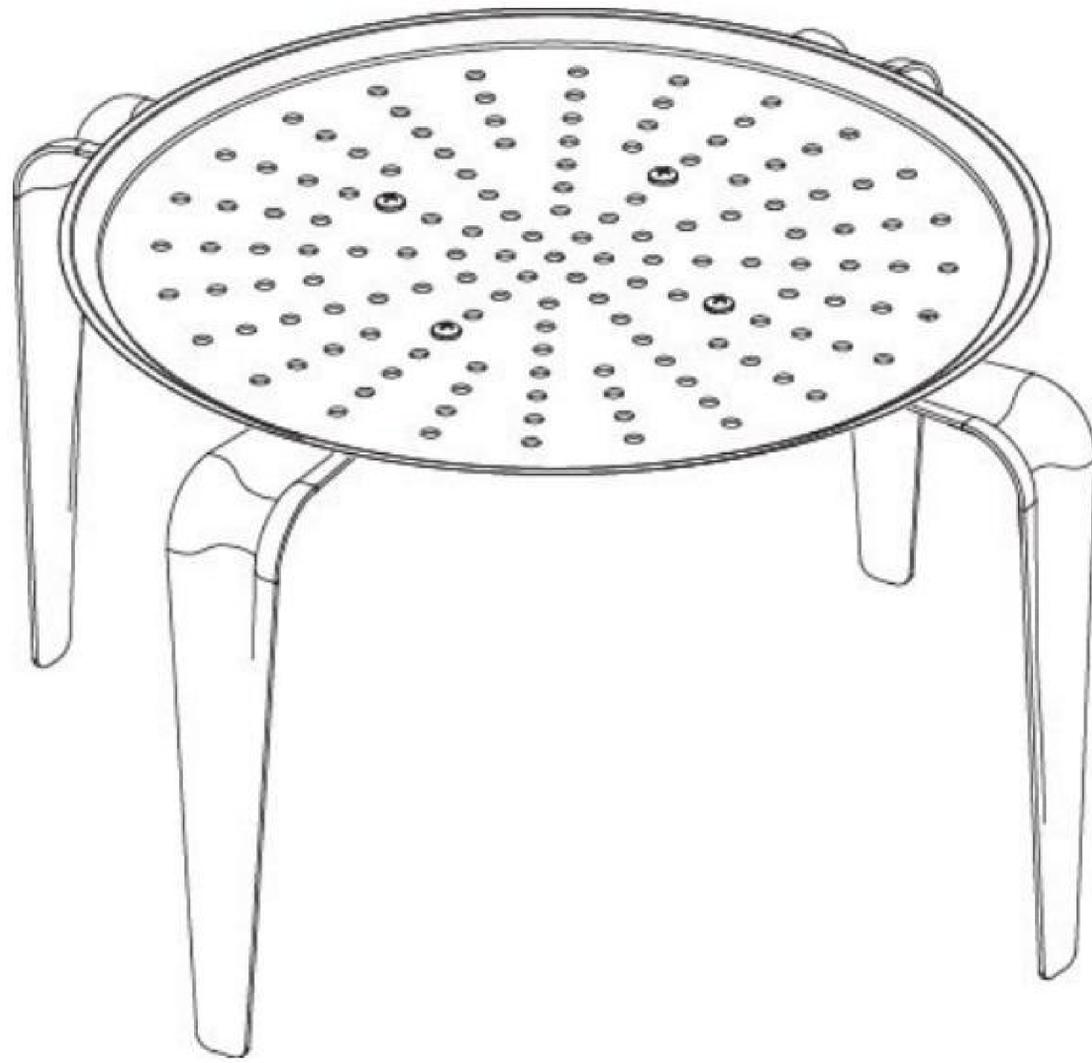


Use the 1/4in drill bit to drill into and expand/bore out the hole at the end of the long side of each bracket.

2



- \_ Lightly sand the crisper and brackets to prepare for painting.
- \_ Using steel wire and wire cutters, suspend the crisper and brackets in a paint booth or from a tree limb.
- \_ Apply three to four even coats of car primer, leaving 30–60 minutes of drying time in between painting sessions.
- \_ Lay a soft towel over the work surface and place the freshly dried parts on top. With the crisper upside down, begin attaching the brackets to the crisper, using the brass hardware.



\_You are done. Consider your nearest possible pizza opportunities and plan accordingly. Take care to incorporate beer into pizza plans as needed!





# PVC TABLE

NICCOLÒ SPIRITO

In his laboratory in Milan, the young Italian designer Niccolò Spirito redefines the concept of recycling by using tools and waste materials to fashion new items.

He attempts to free materials from their usual functions in order to create new aesthetic results and emotional responses. Components such as PVC pipes, wrenches, and carpenter's clamps become the protagonists of new designs—sofas, tables, chairs, and lamps, all designed to stimulate the imagination and define new spaces.

The table shown here forms a companion piece to the PVC Diablo Chair on pp.50–53.



You will need:

### **Materials**

\_ Seven PVC tubes, 4in diameter

\_ Four 4in 90-degree elbows (female on one end, male on the other) (part A)

\_ Four 4in Ts (male on one end, female on opposite end, female on perpendicular end) (part B)

\_ Four 4in sleeves (part C)

\_ Four suction cups

\_ One piece of black Plexiglas 60 x 28 x  $\frac{3}{8}$ in

### **Tools**

\_ PVC cleaner

\_ PVC glue

\_ Packing tape

\_ Can of expanding foam insulation

\_ Handsaw

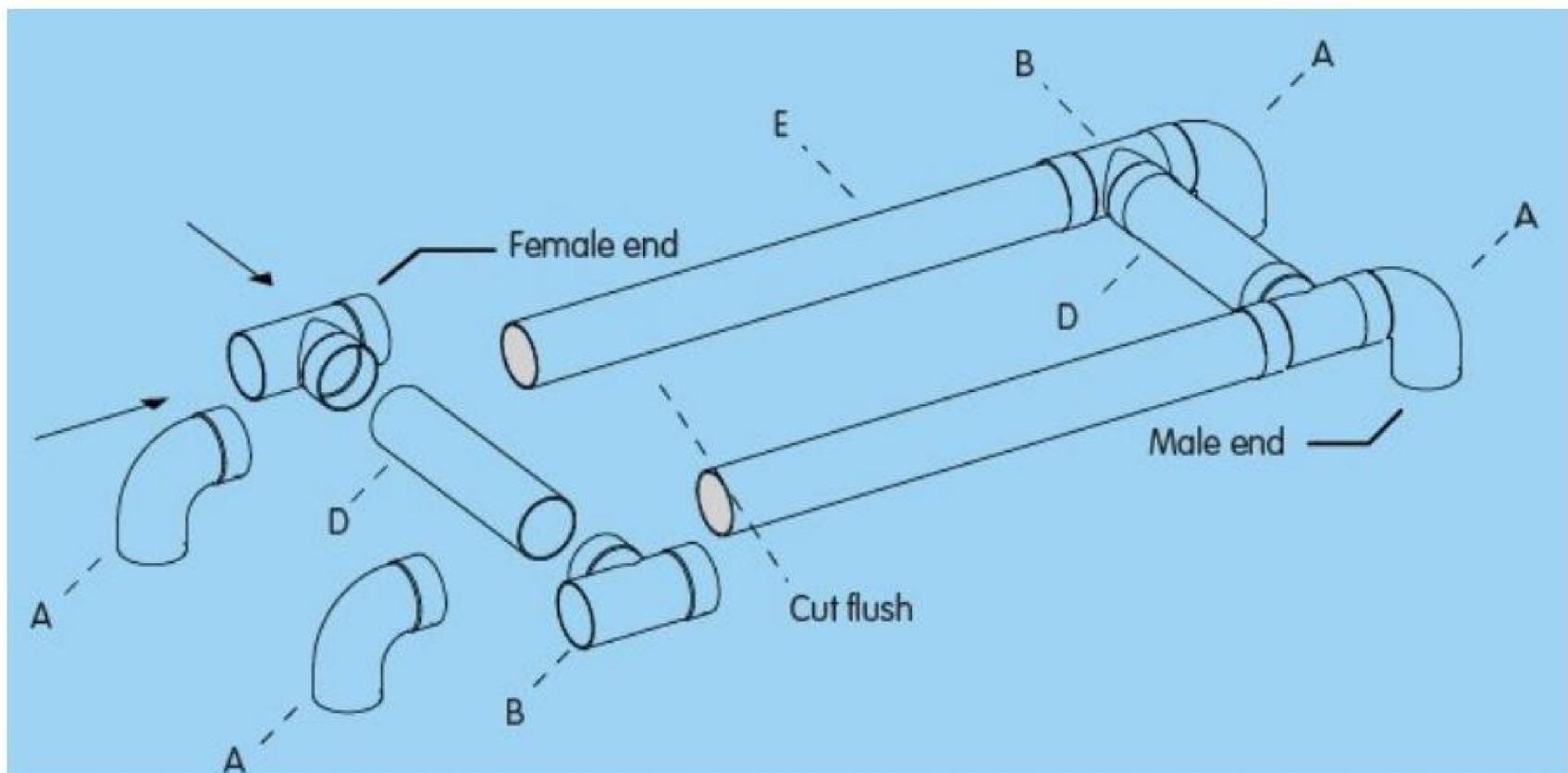
\_ Saw for cutting tube like miter saw or handsaw with miter box (so you can cut straight)

\_ Drill with bit to match stem part of suction cup

# 1

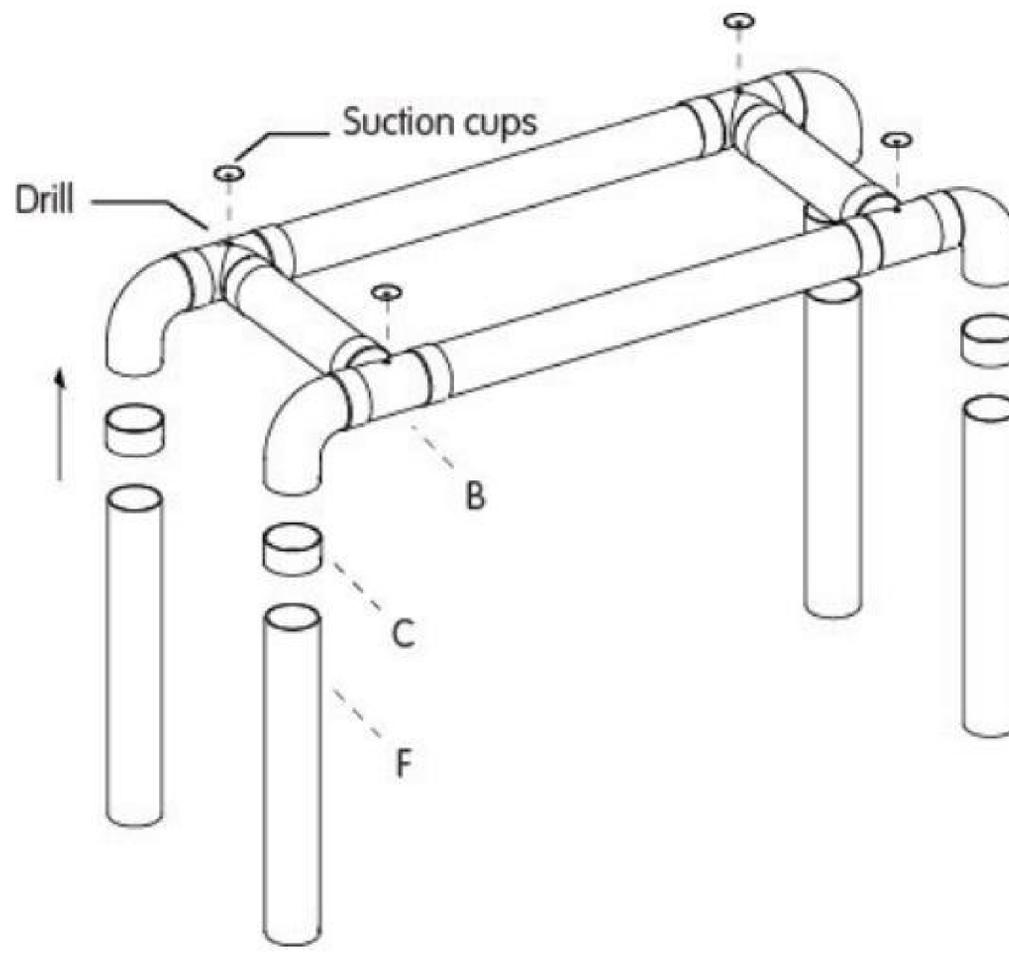
- \_ Cut the PVC to the following lengths:
- \_ Two x 18in (part D)
- \_ Two x 41in (part E)
- \_ Four x 28in (part F)

# 2

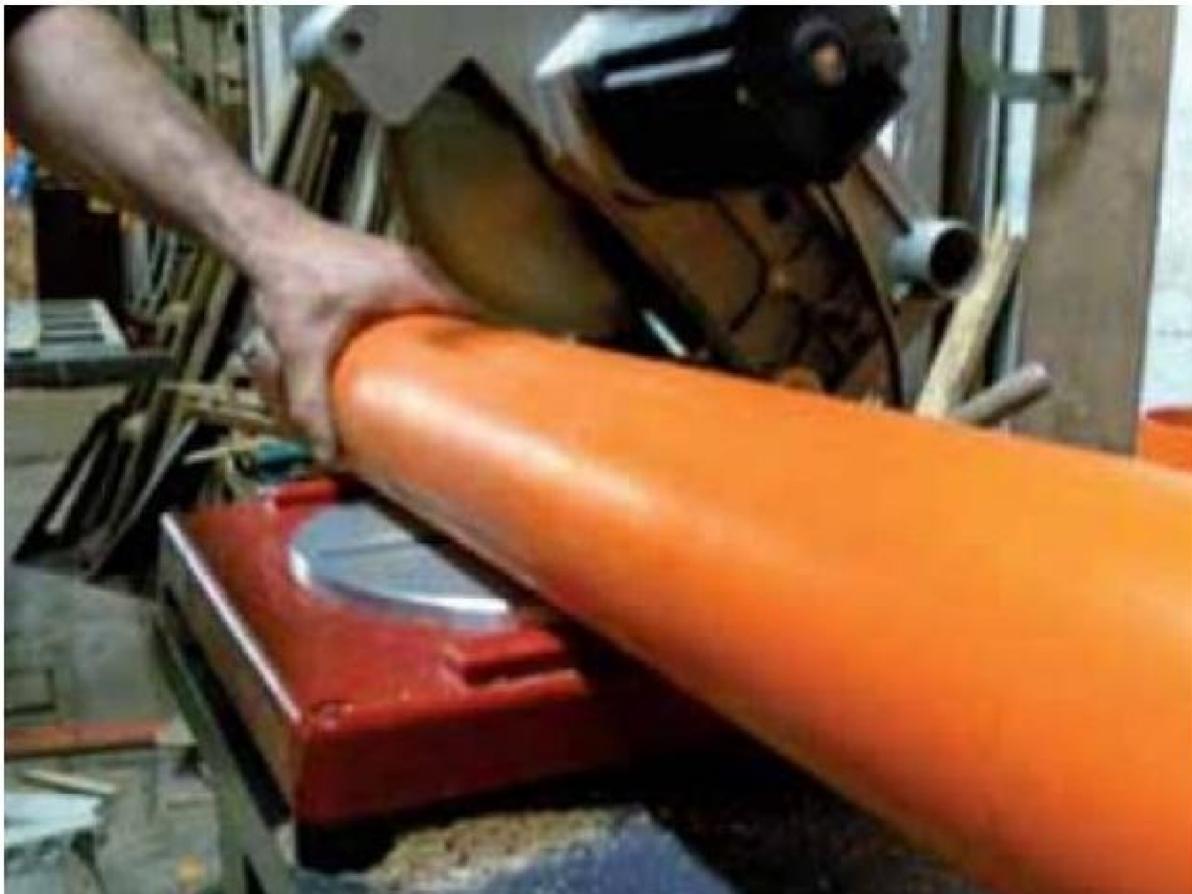


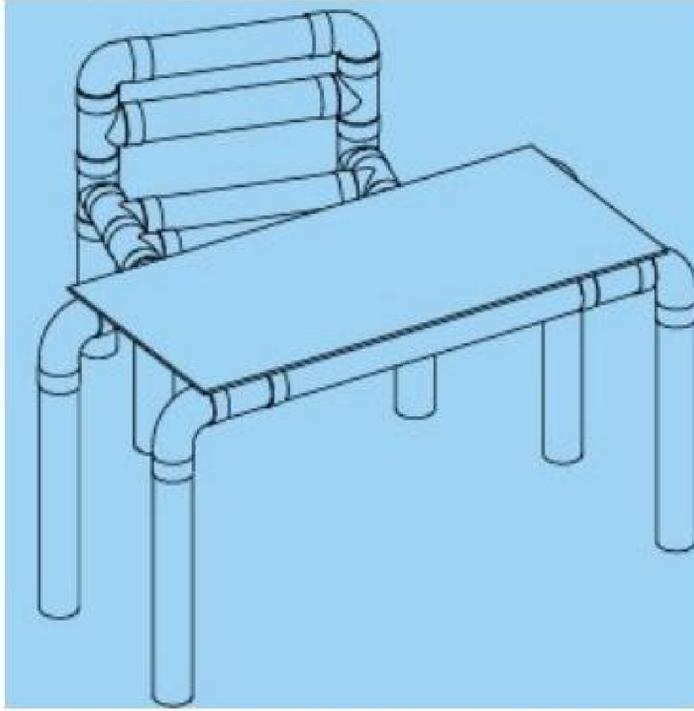
- \_ Use PVC cleaner to clean all the PVC ends where they meet.
- \_ Using PVC glue, attach the following parts as shown (dry fit all parts first):
- \_ Join two 18in tubes (part D) and four Ts (part B), making sure both Ts are even.
- \_ Join two elbows (part A) to one end of each T (part B), ensuring male side down.
- \_ Block the ends with packing tape and fill the tubes with expanding foam, for details see step 3 of the PVC chair on page 52.
- \_ Join together with two 41in tubes (part E).

# 3



- \_ Use PVC cleaner and glue and assemble the legs as shown:
- \_ Join four sleeves (part C) and four 28in tubes (part F) to the male ends of the elbows (part A), ensuring the legs are vertical and even.
- \_ Drill a hole in the top of each T (part B) to hold the suction cups (use a slightly smaller drill bit than the stem of the suction cup, so it is a tight fit).
- \_ Fill the legs with expanding foam and cut excess flush with a handsaw.





- \_Paint the table your favorite color, and add the Plexiglas top.
- \_Pull up a chair and get to work!

# BUCHSHOP

STEPHANIE HORNIG, TINE HUHN, BODO PAHLKE, PASCAL HIEN

This modular system was originally created to provide a temporary exhibition space for over 500 books within 970 square feet. The Buchshop converts the standard shelving system—traditionally used in a vertical position—into a series of horizontal tables to become a presentation space, which allows visitors to open books directly and browse through them. The linear lines of tables, accessible from both sides, also provoke communication among visitors.

The tabletops consist of two hinged surfaces, and the use of standard components provides a very simple, cost-effective way of building a temporary structure.

You will need:

## Materials

\_ Ten 9½in (240mm) Antonius brackets (IKEA)

\_ Four wall uprights, 35½in long

\_ Two spruce boards, 47 x 12 x ¾in

\_ Sixteen screws, ½in long

\_ Wood glue

\_ Tape

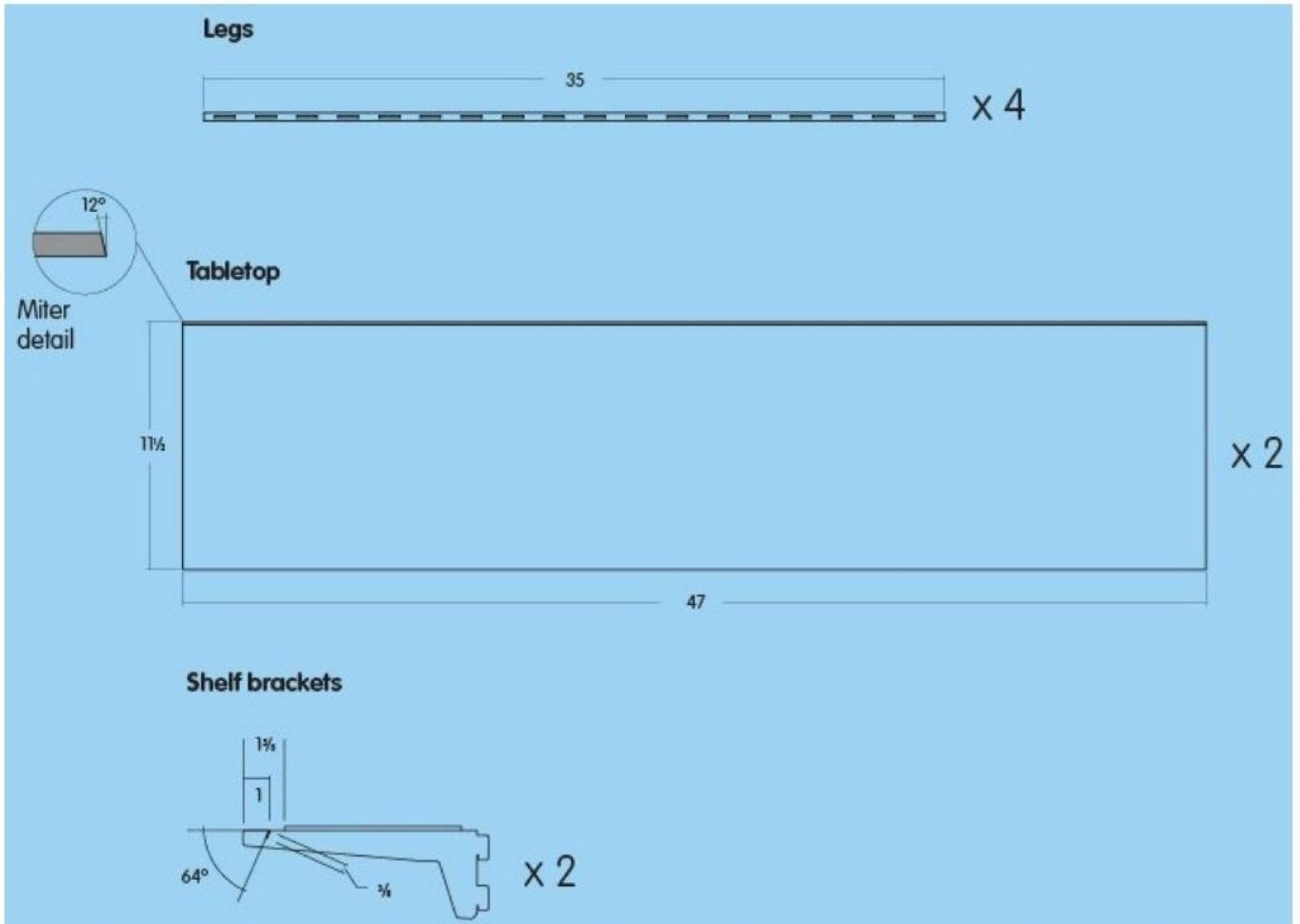
## Tools

\_ Drill

\_ Metal snips



# 1



## Legs

\_Cut the four wall uprights down to a length of 35in.

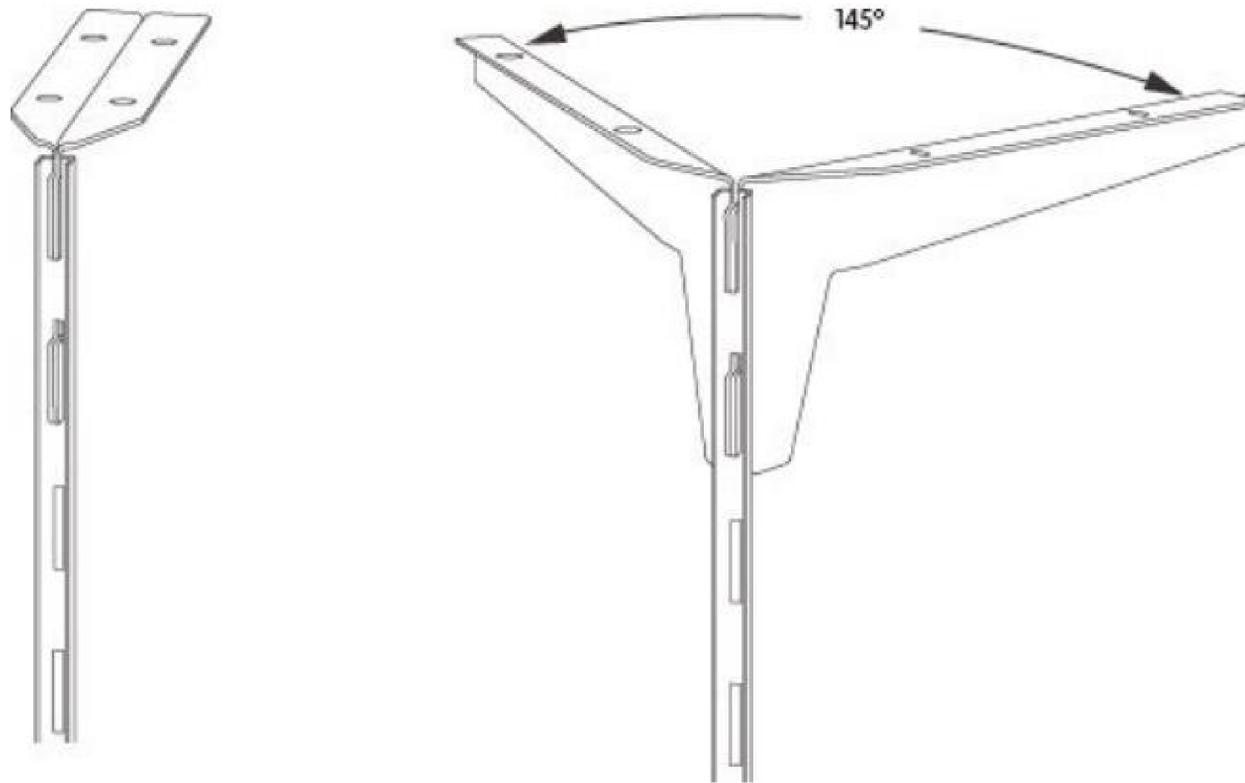
## Tabletop

\_Cut the two spruce boards down to a width of 11½in, at an angle of 12 degrees on one length of the board, as shown.

## Shelf brackets

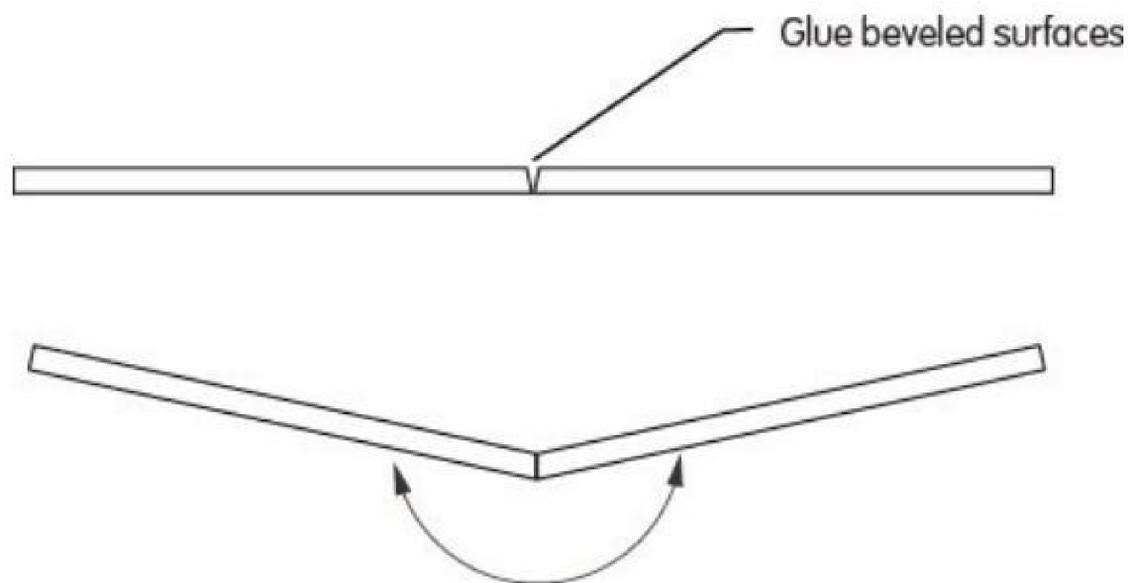
\_Take two of the shelf brackets and make a  $\frac{1}{16}$ in-wide cut at  $\frac{3}{8}$ in long and at an angle of 64 degrees, as shown.

# 2



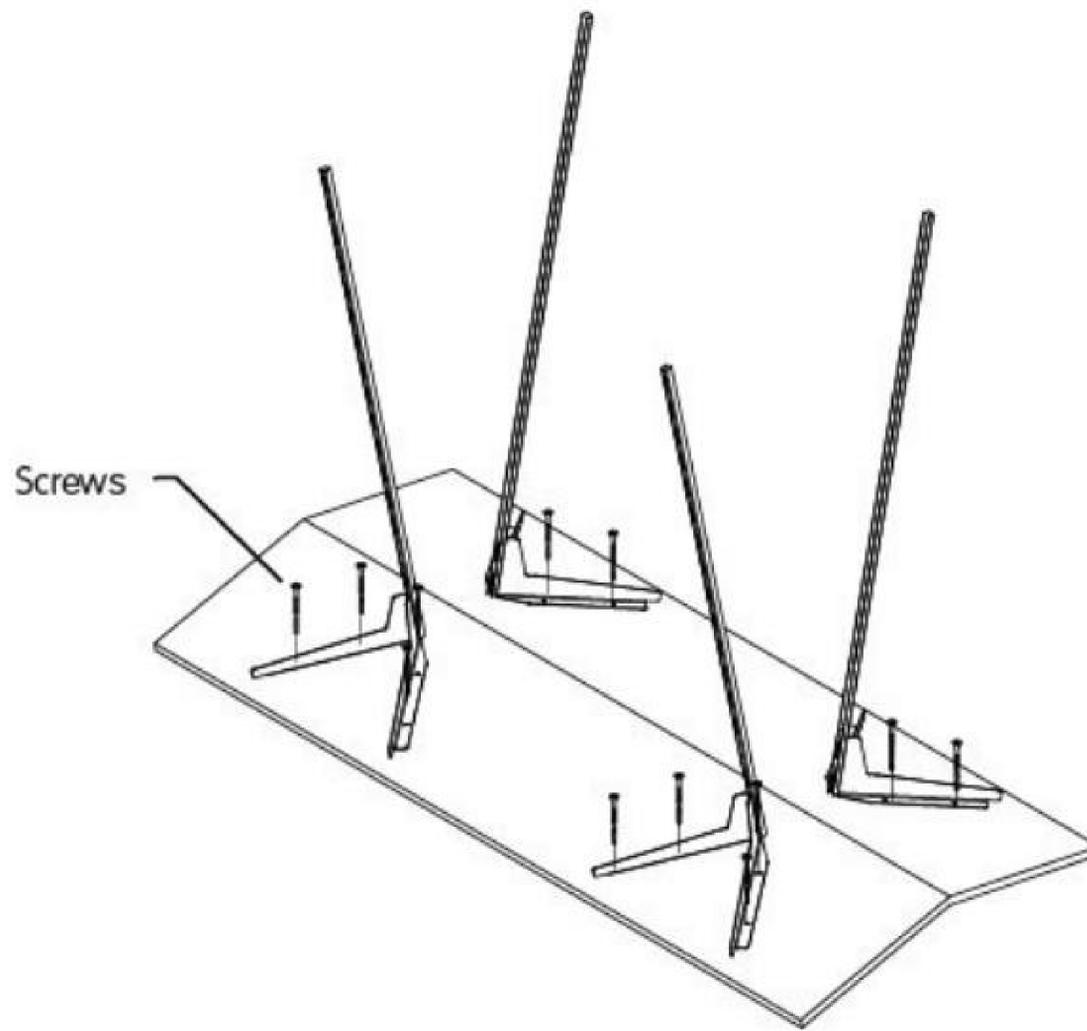
\_Press one left and one right bracket together into one hole. Bend them away from each other to create an angle of 145 degrees.

3



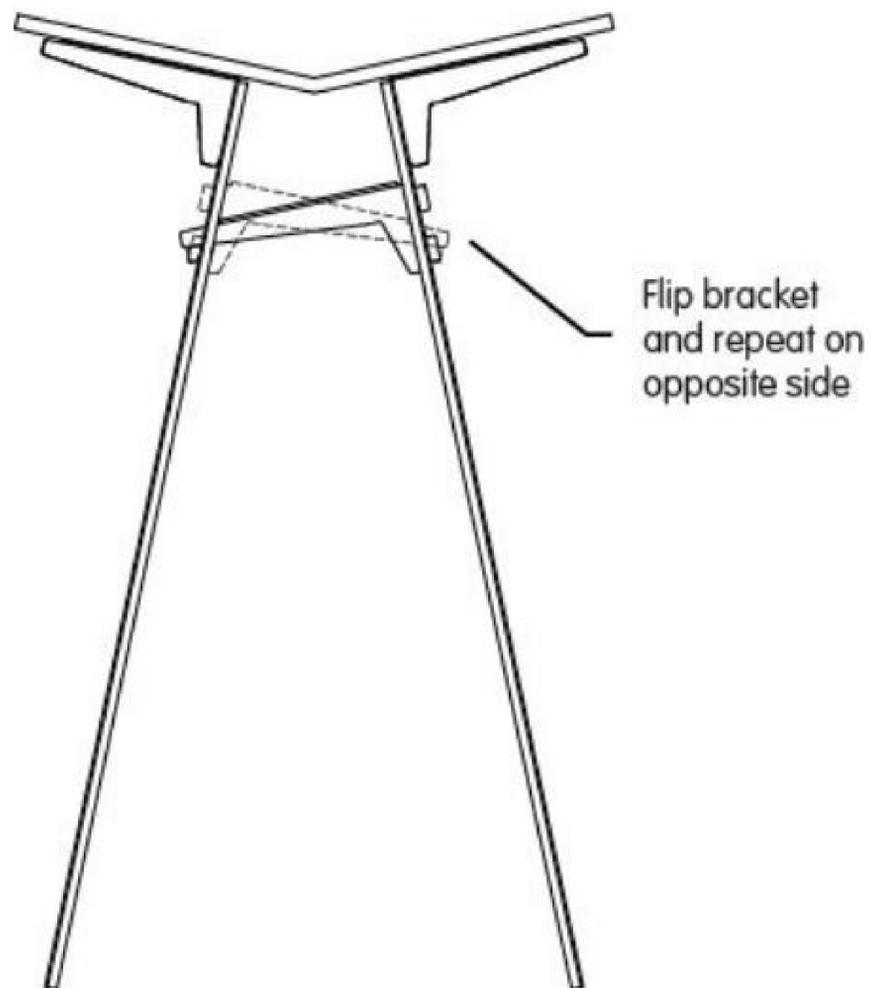
\_Align the prepared spruce boards with their beveled edges together.  
\_Apply glue on the two beveled surfaces and fix both pieces together. Use tape to help hold them together while the wood glue dries.

4



\_Use screws to attach the legs to the tabletop.

5



\_Put one of the cut brackets a few holes down from the top.

\_Flip the second cut bracket, and put it a few holes down from the top on the opposite side.



6



\_Flip the table over and use it to hold all of your favorite magazines!

7



- \_You can also cut additional spruce boards to the correct width and place them on the angled surfaces to create a flat work surface.
- \_Place your laptop on the flat tabletop and enjoy!



SEA CHAIR  
50 2823' N  
5 2388' W  
001

### 3.

## SEATING

This chapter could easily be renamed “process and materials”. With five different approaches to creating seating, and supply lists that may have you scratching your head, you’ll want to try your hand at each one. If you are new to this making thing and don’t know where to start, try the Diablo Chair. You don’t need plumbing experience to make this PVC seat. Ever wondered what you should do with that half-used bag of concrete you’ve been storing in the garage? The aptly named Leftovers stools put it to good use, along with other job remnants you might have lying around. Studio Swine shows us how to manufacture a Sea Chair by remelting and pressing plastic that has washed ashore, while a straightforward design proudly featuring OSB as the primary material deserves an equally straightforward name like Chair. If you need to warm up to low-brow materials, then this quilted blanket chair cover is one to try. Or if swinging is more your style and you’ve always wanted to learn macramé, Ladies & Gentlemen Studio’s Ovis Macramé Hanging Chair should tie you over.

# OVIS MACRAMÉ HANGING CHAIR

LADIES & GENTLEMEN STUDIO

Chairs must perform two fundamental functions—support and comfort—and these functions are addressed in varying ratios by different designers.

The Ovis Macramé Hanging Chair's frame and sling construction provides a fresh way of addressing these opposing functions. Hard machined materials (metal and wood) are paired with soft textural ones (cotton ropes) to create a rigid structural frame that is intersected by a flowing woven sling. The result is a balance that feels at once supportive and comfortable.

You will need:

## Materials

- \_ Sixteen  $\frac{1}{4}$ in cotton twist cords, 28ft long
- \_ One  $\frac{1}{2}$ in cotton twist cord, 17ft long
- \_ One  $\frac{1}{2}$ in cotton twist cord, 20ft long
- \_ Two 2in-diameter hardwood dowels, 29in long
- \_ One 1 $\frac{1}{2}$ in-diameter hardwood dowel, 24in long
- \_ 1in-diameter copper tubing with  $\frac{1}{16}$ in walls, 90in long
- \_ Four brass wood screws, #8 x 1 $\frac{3}{4}$ in
- \_ Two screw hooks & rope to secure chair frame against the wall while creating the sling (optional)
- One stainless screw hook with at least  $\frac{3}{8}$ in diameter and 2 $\frac{3}{4}$ in length of threaded surface (for attachment to ceiling)
- \_ One brass marine snap hook, 3 $\frac{1}{2}$ in or more

\_ 1/2in rope to hang from ceiling hook (length depends on height)

Brass tube 32mm diameter, 76mm long

## **Tools**

\_ Saw

\_ Metal saw for copper tubing

\_ Drill or drill press

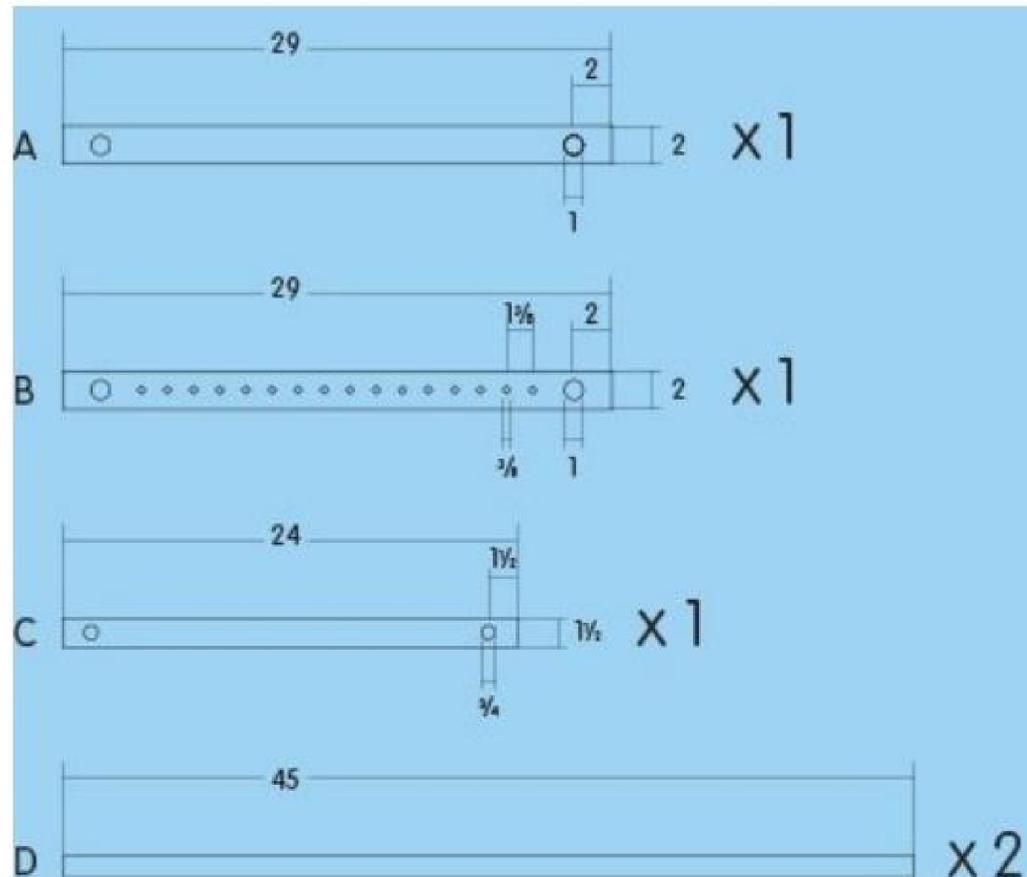
\_ 1in, 3/4in, 3/8in, 1/8in drill bits

\_ Scissors

\_ Masking tape



1



Cut the wooden dowels to the following sizes:

\_ Two x 29in (parts A and B)

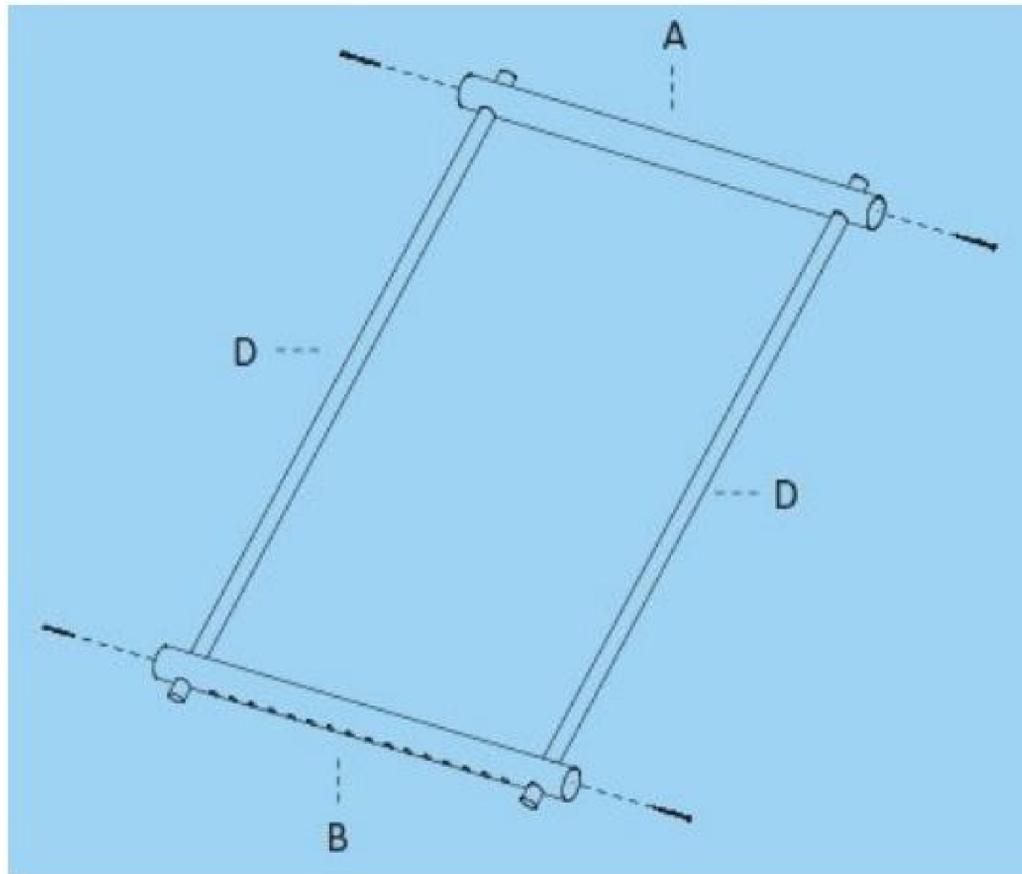
\_ One x 24in (part C)

Cut the copper tubes to the following size:

\_ Two x 45in (part D)

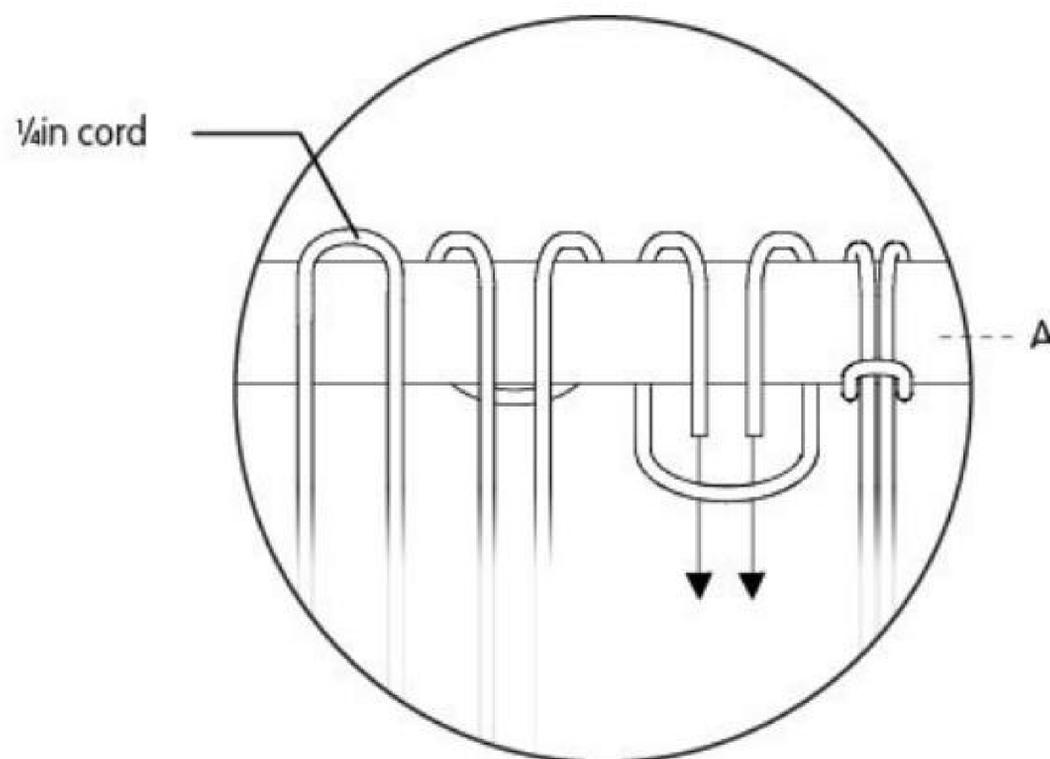
\_ Drill holes in the A, B, and C dowels as shown, making sure the holes are perfectly in line and parallel.

2



- \_ Slide the copper tubes (parts D) into the 1in holes on each side of the 2in dowels (parts A and B).
- \_ At the center of where the 2in dowels (parts A and B) and copper tubes (parts D) intersect, secure the frame with the brass screws (pre-drill the holes using a 1/8in bit prior to screwing in).
- \_ Temporarily hang the top of the chair frame against a wall to keep the chair stable during the macramé process (see Fig. 1). Part A should be at the top.

### 3

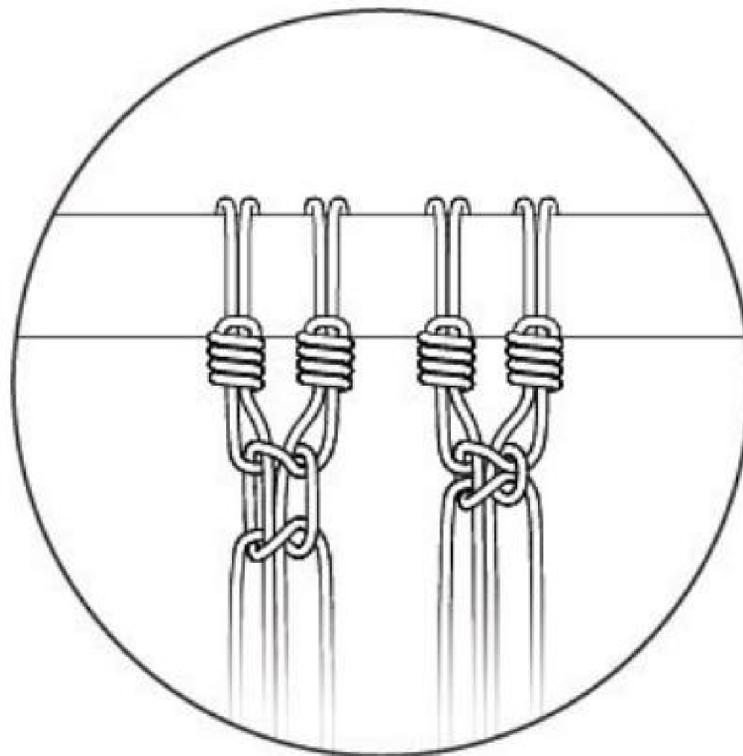


- \_ Fold one of the 1/4in twist cords in the center and wrap it around the top of part A to

make a starting knot. Finish up with an overhand knot (see Fig. 2). Repeat this 16 times across the top.

\_Make bundles with each separate rope length using tape so that they are easier to manage when macraméing, and to prevent the rope from fraying.

4



\_A) Begin the first row by making alternating square knots. Take the first and fourth strands and make a square knot around the second and third strands (see Fig. 3). Then take the fifth and eighth strands, wrap them around the sixth and seventh strands, and continue this pattern until the end of row.

\_B) Skip the first two strands and start a square knot at the third strand instead. Tie the knot at about 2in below the first row. Repeat making square knots across the row.

\_Repeat Steps A & B, alternating the rows. Continue until the sling reaches 45in long.

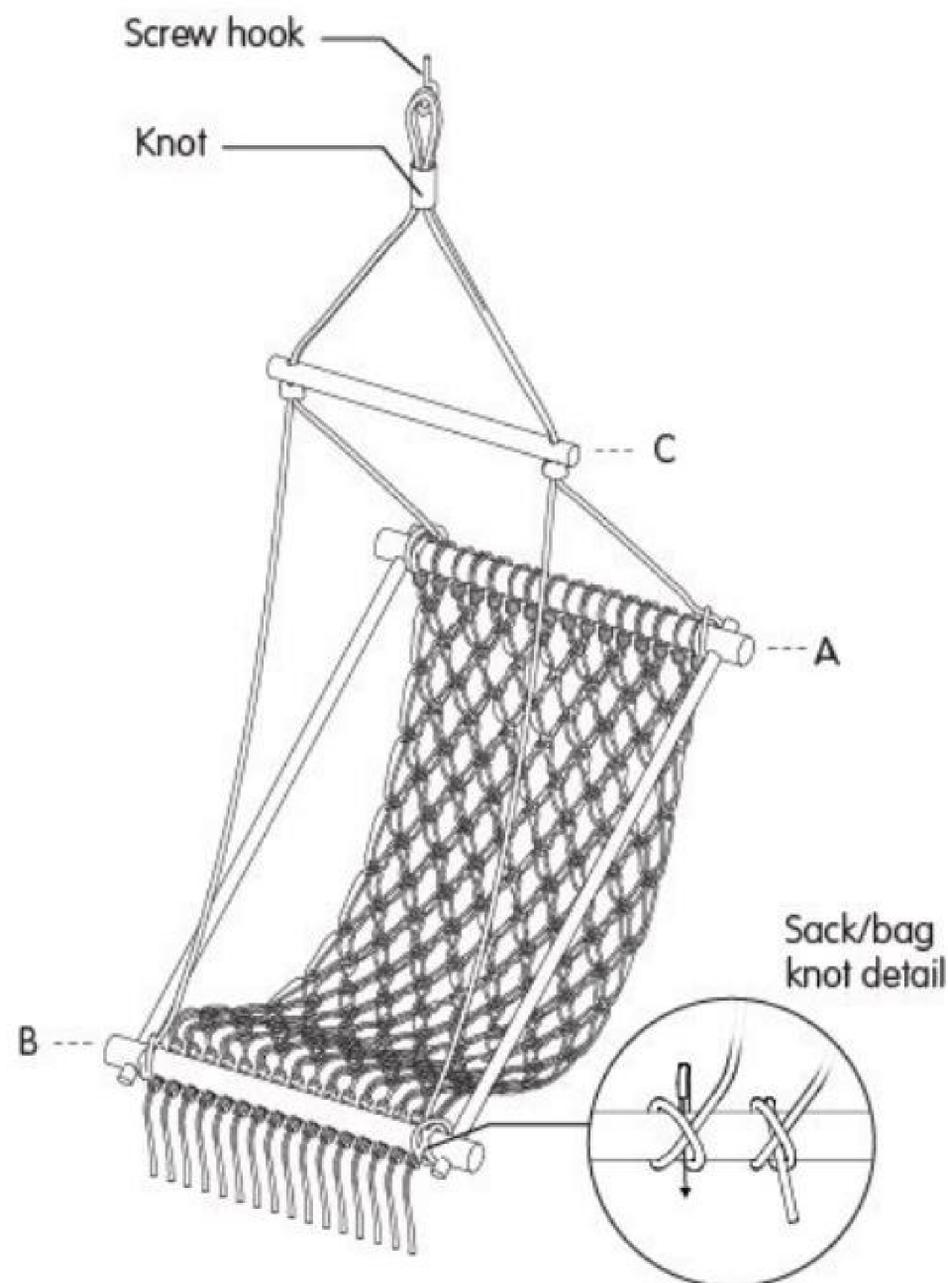




## 5

- \_Once the sling reaches the ideal length of 45in, take the first two ropes and tie them together with an overhand knot. Repeat this with every two ropes until all are tied.
- \_Take each two-rope bundle and thread the ends through the  $\frac{3}{8}$ in holes on the bottom dowel (part B). Tie another knot as close and tight to the dowel as possible and repeat for each two-rope bundle.
- \_Cut each rope to your preferred tassel length, and untwist the rope to make loose tassels. You can wet and press the rope with an iron to straighten out any kinks.

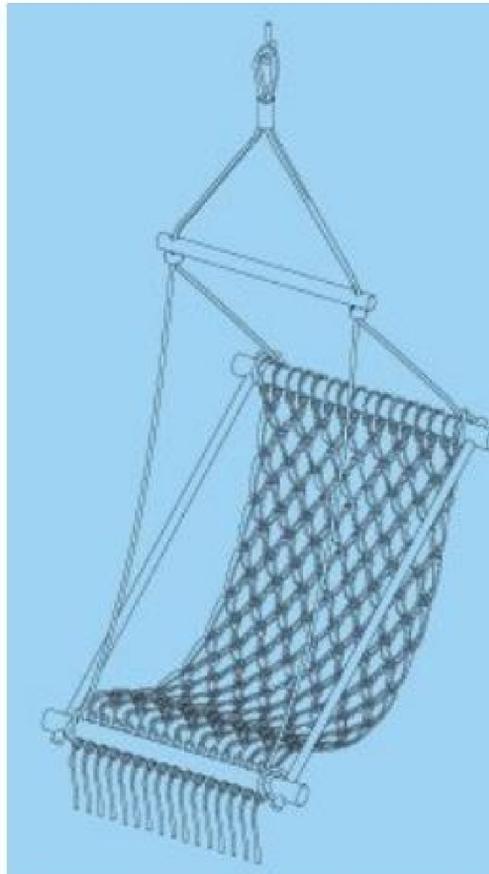
## 6



- \_ Take the 17ft and 20ft lengths of ½in-wide rope and find the center of each by folding them in half and taping the two sides together. Measure 6in down from the center fold and knot both rope sides together to make a loop for the top of the chair to hang from.
- \_ Secure the threaded hook into a ceiling beam (make sure the beam can hold the load), then hang the desired length of rope.
- \_ Slide the brass tube over the knot, then connect the rope to the top loop of the chair with the brass marine snap hook.
- \_ For each side of the chair pair one 17ft and one 20ft section at each end of the knot and thread them together through the hole on each side of part C. Keep the rope straight and not twisted. Measure from the bottom of the upper knot and mark 18in down on all four ropes. On each side, take the two ropes and tie a knot at that 18in mark and below part C. The dowel will rest on these knots. Note: before fully tightening the knots, re-measure the ropes and check that both sides are even and that the dowel is level.
- \_ Take the short ropes and make a sack or bag knot around part A on each side of the sling, inside the copper tubing. Ensure that the crisscross part of the knot faces the bottom side of the frame. Repeat the process with the long ropes around part B.



7



\_Below the sack knots and the frame, use the remaining rope length to tie an overhand knot close and tight to the dowel to keep it secure. Cut the extra rope to your ideal length and untwist it to make tassels. You can wet and press the rope with an iron to straighten out any kinks.

\_Take a seat, relax, and enjoy!



# DIABLO CHAIR

NICCOLÒ SPIRITO

This chair was the first object that Niccolò made with PVC tubes. “I’ve always seen these PVC tubes and their connectors as objects capable of more versatile solutions; using them solely for drainage seemed a waste of their potential.”

He bought some lengths of the PVC and some fittings, and after playing with the material, he realized that they lent themselves to various constructions. “They looked better than Lego.”

The decision to build objects was immediate. The chair and table (see pp. 38–39) were born, and with them the idea of bringing a material back to life again.

The color of PVC drainpipe varies depending on whether it’s used indoors or outdoors, as well as what country it is made in. You can choose to keep it in its molded color, or simply spray with a unique color.

You will need:

## Materials

- \_ Four PVC tubes, 4in diameter
- \_ Four 4in 90-degree elbows (female on one end, male on the other) (part A)
- \_ Eight 4in Ts (male on one end, female on opposite end, female on perpendicular end) (part B)
- \_ Two 4in sleeves (part C)

## Tools

- \_ PVC cleaner

\_PVC glue

\_Packing tape

\_Can of expanding foam insulation

\_Handsaw

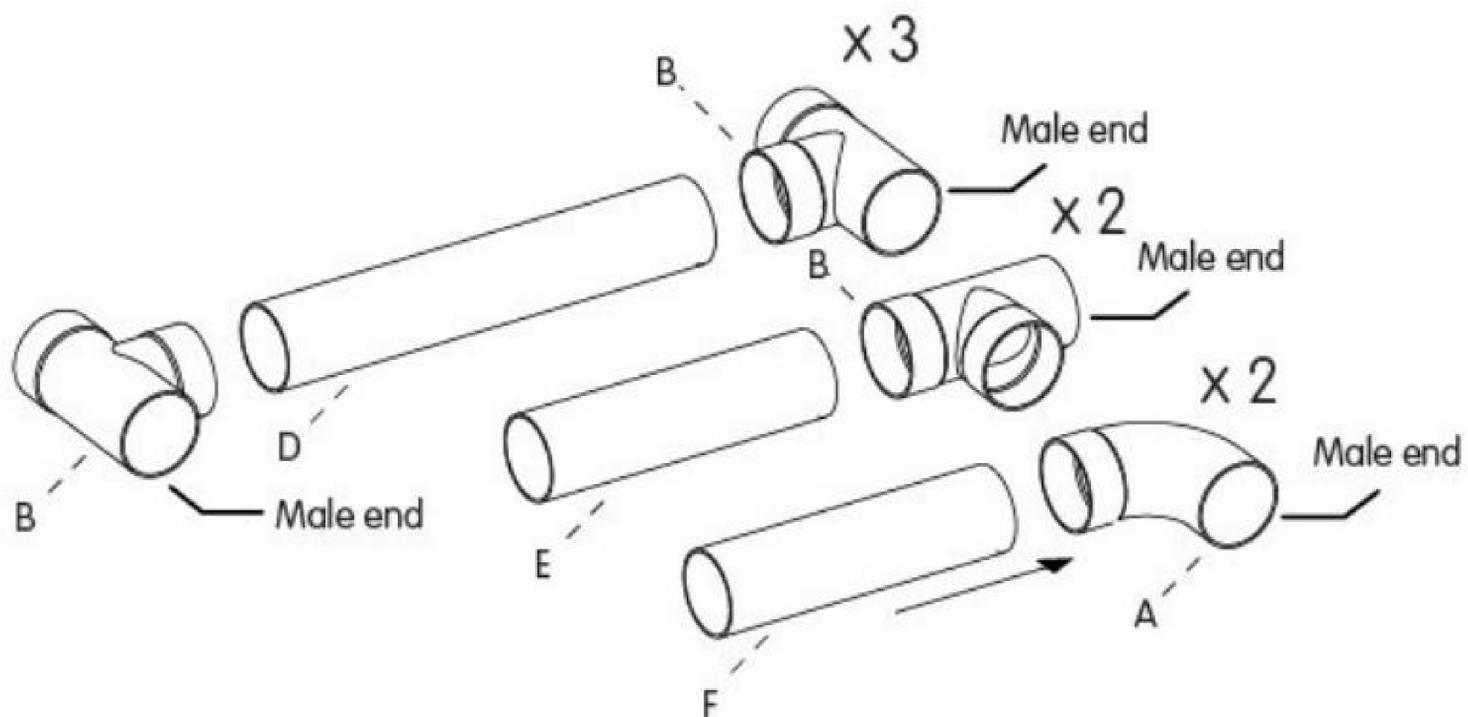
\_Saw for cutting tube like miter saw or handsaw with miter box (so you can cut straight)



1

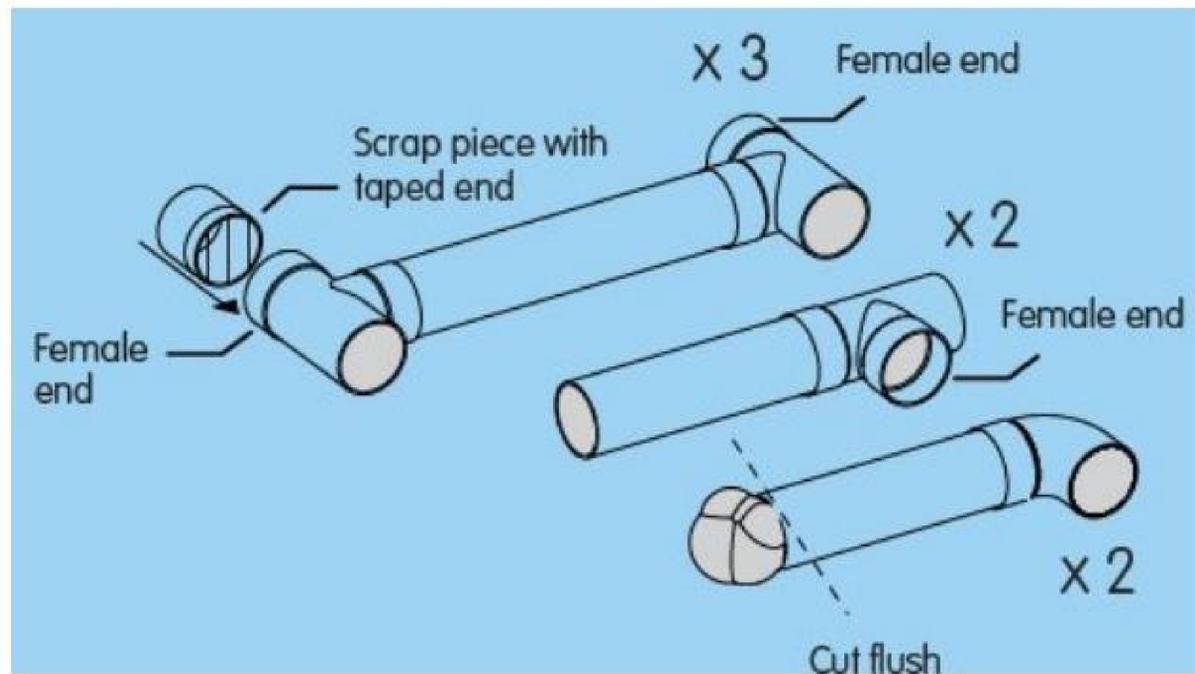
- \_ Cut the PVC to the following lengths:
- \_ Three x 23½in (part D)
- \_ One x 20in (part E)
- \_ Four x 15¾in (part F)

2



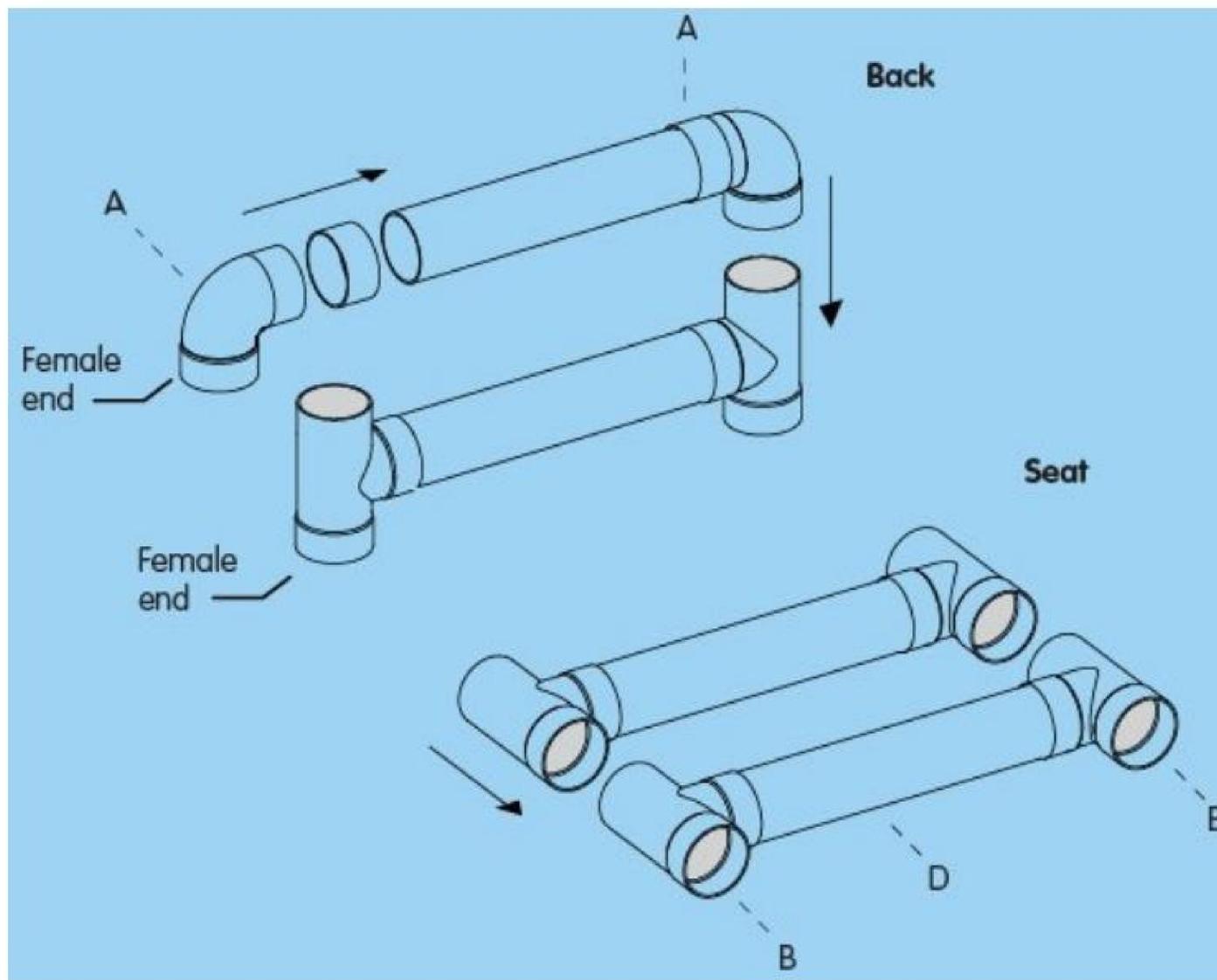
- \_ Use PVC cleaner to clean all the PVC ends where they meet.
- \_ Using PVC glue, attach the following parts as shown (dry fit all parts first):
- \_ Join three 23½in tubes (part D) and six Ts (part B), making sure both Ts are even.
- \_ Join two 15¾in tubes (part F) and two elbows (part A).
- \_ Join two 20in tubes (part E) and two Ts (part B).

3



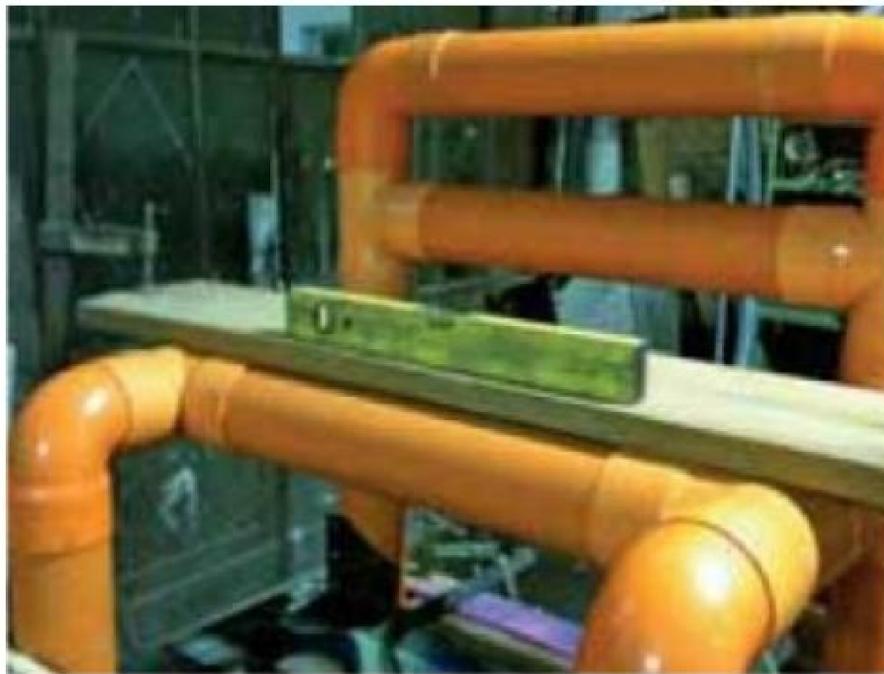
- \_ Use packing tape to tape one end of a scrap piece of PVC.
- \_ Make two of these and use them to plug the female ends of the tube (this is to keep the expanding foam from filling these areas).
- \_ Fill the tubes with expanding foam, cutting the excess off flush with a handsaw.
- \_ Remove the scrap pieces.

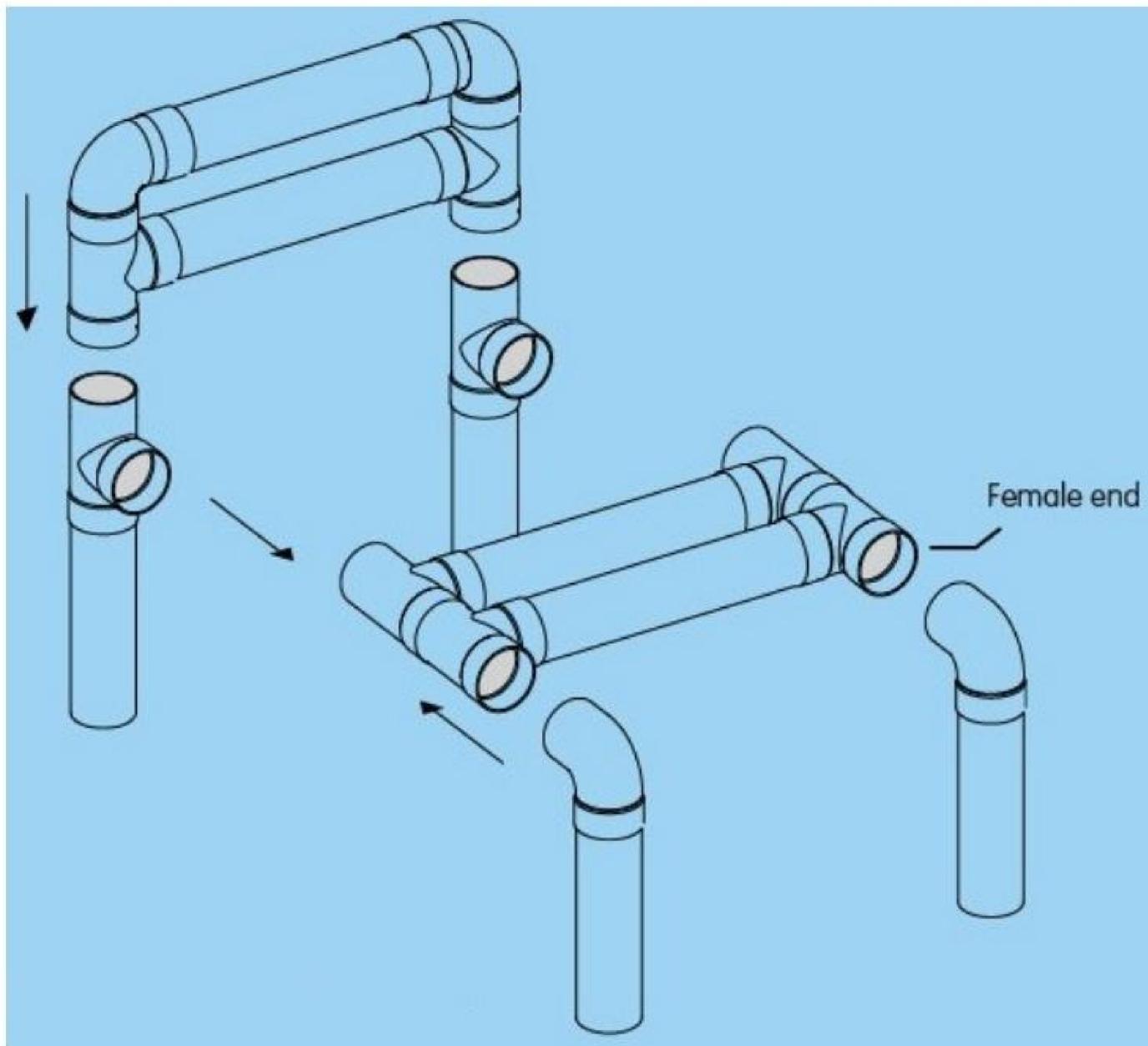
4



- \_ Use PVC cleaner to clean all the PVC ends where they meet.

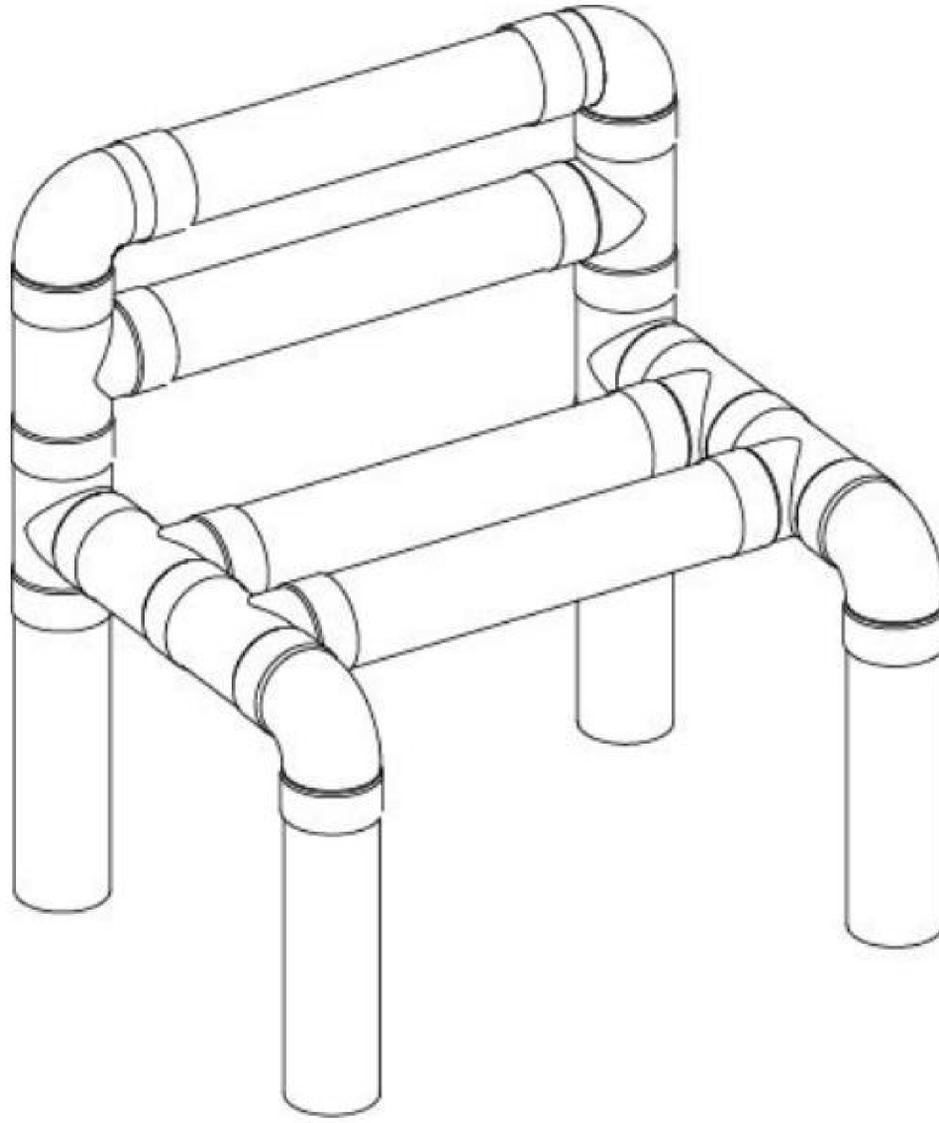
- \_Using PVC glue, assemble the seat and back as shown.
- \_Join two previously assembled double-T units to make the seat.
- \_Join the two remaining elbows (part A), two sleeves (part C), and the remaining previously assembled double-T unit, as shown.





\_Use PVC cleaner, then glue and assemble the legs and join the seat and back as shown, taking care to make sure all parts are level and even.

6



\_Allow the glued joints to dry overnight.  
\_Paint your favorite color, sit, and enjoy!



# SEA CHAIR

## STUDIO SWINE

Ship stools were first made from wood or walrus tusks by seamen to occupy their time on long voyages; the Sea Chair uses plastic waste found at sea and a simple furnace to make a contemporary version. This open-source design uses readily available materials and basic DIY skills.

The United Nations estimates that some 100 million tons of plastic waste are floating in the world's oceans, a proportion of which washes up on coastlines around the globe. In 2012, Japan, for example, had more than 200,000 tons of plastic debris wash up along its shores. This abundance of plastic presents an opportunity—the material is delivered by the sea to coasts, where it can be collected and processed to make new products, thereby helping to clear the marine environment of plastic waste for good.

### **PRECAUTIONS**

Since plastics emit toxic fumes when melted, some precautions are necessary. The lid and filter will help minimize exposure to fumes, but make sure you do any melting in a well-ventilated place, away from others—outside, if possible. Use a good mask and goggles to protect your eyes from the smoke. Hot plastic will stick to the skin, too, so always wear long sleeves and thick gloves (leather gardening gloves are fine).

You probably won't be able to easily identify a lot of the plastic you collect. The key is to collect a sizeable quantity of the same type so that it will mix well when melted. It's common to find large quantities of the same type of "nurdles" (pellets) on beaches near where spills have occurred; after you've identified the melting point, these can form the majority of the mix that then glues the rest together. Some beaches may contain mostly PET due to large numbers of discarded drink bottles; other beaches will contain a mix.

The majority of plastic waste consists of Type 1 (PET), 2 (HDPE), and 4 (LDPE) plastics. Wherever possible, avoid polystyrene and PVC, as they emit toxic fumes. The nurdles are all thermoplastics, which means they can be remelted. Small plastic fragments found in the top ocean layer are most often HDPE, LDPE, and PP, as they are less dense than sea water and float. However, even if you find thermosetting plastics (which do not melt), these will still form an aggregate within

the melted mass.

You will need:

### **Materials**

\_Thick tin foil

\_Glass fiber roofing insulation

\_Crushed charcoal (for best results use perforated charcoal from an old water filter)

\_One scrap aluminum L section, approx. 2 x 2 x 15in

\_Two steel or stone sheets (for best results use polished stone scraps from kitchen countertops, sink cutouts or leftover floor tiles)

\_Wax for mold release (beeswax or automobile polish)

\_Three long screws, approx. 3in

\_One or two small nuts and bolts

### **Tools**

\_Camping stove

\_Food tin

\_Steel kitchen pan with lid

\_Cooking thermometer

\_Metal scraper

\_Hacksaw

\_Drill and metal bits

\_Screwdriver

**For collecting**

\_Two buckets

\_Kitchen or fine garden sieve

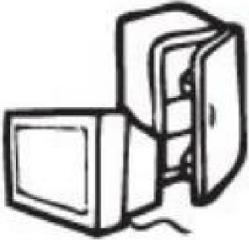
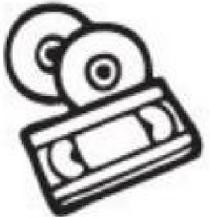
\_Dustpan and brush

\_Big bag

\_Rubber gloves



1

1	2	3	4	5	6
polyethylene terephthalate	high-density polyethylene	polyvinyl chloride	low-density polyethylene	polypropylene	polystyrene
soda bottles, mineral water, fruit juice containers, and cooking oil bottles	containers for milk, cleaning agents, laundry detergents, bleaching agents, shampoo, dishwashing and shower soaps	trays for candy and fruit, plastic packaging (bubble foil), and foils used to wrap foodstuffs	crushed bottles, shopping bags, highly-resistant sacks, and most wrappings	furniture, luggage, and toys, as well as bumpers, lining, and external borders of automobiles	toys, hard packaging, refrigerator trays, cosmetic bags, costume jewelry, audio cassettes, CD cases, vending cups
					
480°F–500°F Safe	Around 250°F Safe	210°F–500°F Toxic	230°F–320°F Safe	260°F–340°F Safe	Around 460°F Toxic

## Collection

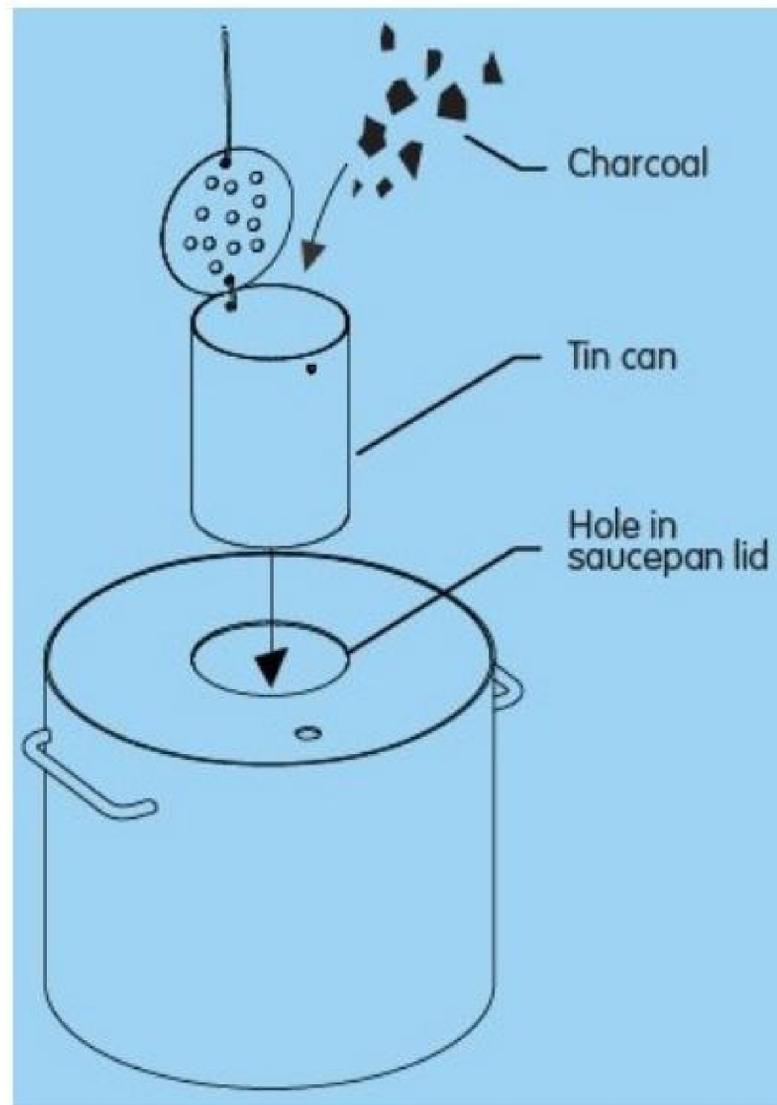
\_Collecting washed-up plastic on the beach is the easiest way to get sea plastic. It also prevents this plastic from returning to the sea to harm marine life. Visit beaches during low tides for deposited materials.

\_A dustpan and brush are effective for collecting nurdles. These are often found deposited in lines below the main strand line of heavier materials such as seaweed. If sand is flat and damp, then nurdles can be swept off the surface without collecting the sand. Where sand is collected, separate the sand and plastic by sinking it in a bucket of water and scooping out the floating plastic with a sieve.

\_Sort the plastic using the chart to the right. Separate PET from LDPE, HDPE, and PP, which share similar melting points. Dispose of any PVC or polystyrene. Small plastic pieces and nurdles are difficult to identify, but if your averages are correct with the large items, the mix will work well.

- \_The plastic should all be broken into pieces around  $\frac{1}{2} \times \frac{1}{2}$  in. This can be done by hand or in a kitchen food processor. Add some water to the mix when using the processor to prevent the plastic from melting around the blades.
- \_Remember to dry the plastic before melting.

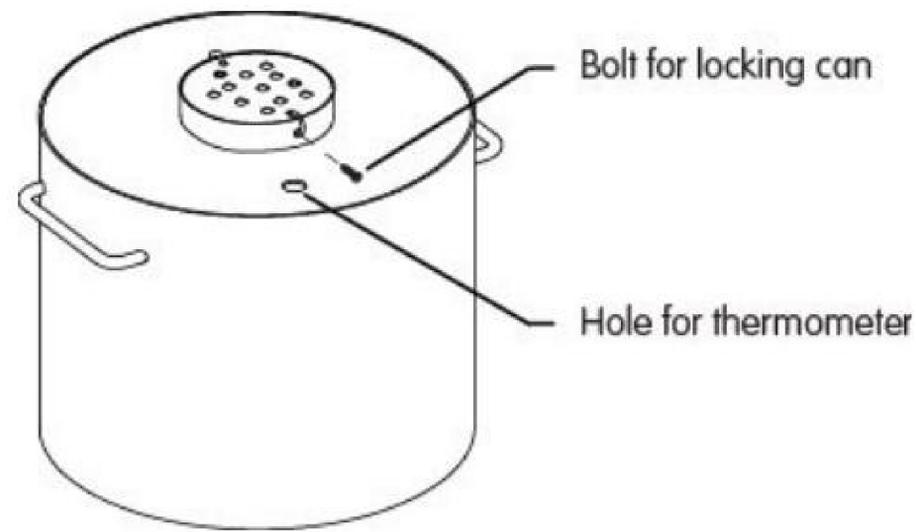
2



### Furnace

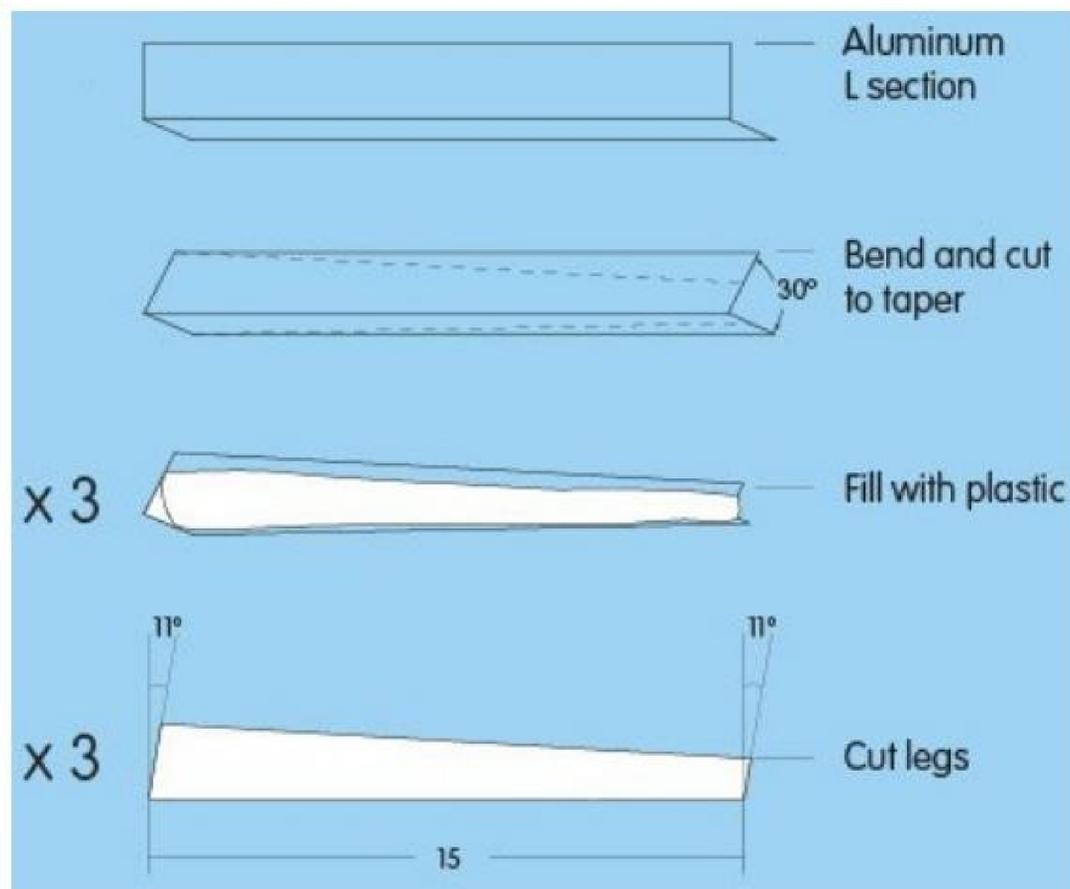
- \_Drill holes in the lid and the base of the can, and two holes on its sides.
- \_Thread wire through the lid and tin to form a hinge.
- \_Break up the charcoal into the smallest possible pieces for better fume absorption, and fill the can.
- \_Drill a hole in the saucepan lid large enough to take the can and insert the can into the lid.

3



## Furnace

- \_ Bolt the can to keep it from falling all the way through the lid.
- \_ Insulate the pan and lid with glass fiber roofing insulation and wrap with tin foil. Do not insulate the base of the pan.
- \_ Check the pan when the temperature reaches around 360°F. If the mix is still hard, turn the heat up to 480°F, checking at intervals to see if the mix is molten. As soon as it is molten enough to form a doughy ball in the pan when stirred, it is ready to use.
- \_ Don't worry if some of the plastic pieces aren't fully melted—as long as the majority are, they will form a colorful aggregate within the material. Be careful not to leave the mixture too long, or the plastic will begin to burn and create more toxic smoke.
- \_ You need to decide whether your plastic mix is largely Type 2, 4, and 5 or Type 1. In most cases it's best to make a mix that mostly consists of Type 2, 4, and 5, which melt in the range of 230–340°C, and use the Type 1 (melts at 480°F) as an aggregate.
- \_ If melting mainly Type 1 (PET), the plastics with a lower melting temperature can be added when the mix is molten and the stove turned off just before filling the mold.
- \_ To make a stool, it's recommended that you heat around three batches of plastic separately, filling the pan each time about a third full. Adding too much in one go will make it difficult to achieve an even temperature throughout the mix.
- \_ An improvised windshield may be required for your furnace to reach higher temperatures.



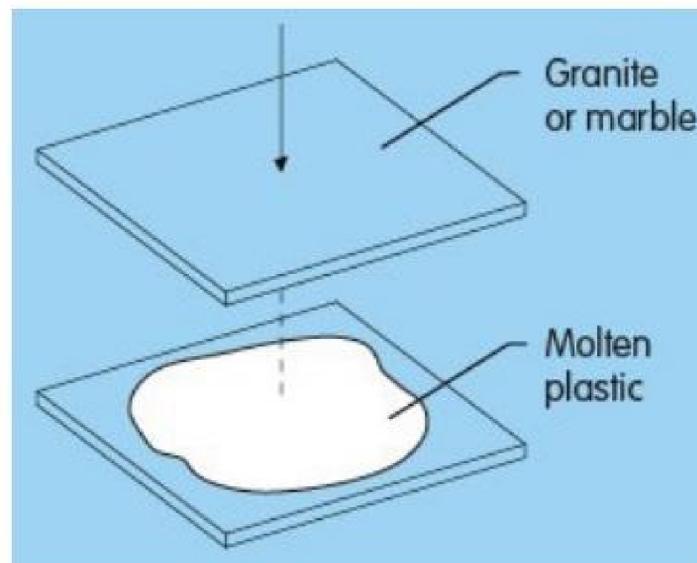
## Legs

- \_ Take the scrap aluminum L section and bend it to form a 30-degree angle. Taper the sides by cutting the angle at a taper.
- \_ Polish the leg mold with a cloth, and preheat the mold over the gas stove.
- \_ Use a metal scraper to scoop plastic into the mold, overfilling it slightly. Press the full leg mold upside down against the flat surface (stone or steel sheet) until the metal sides are flat against the surface and the excess plastic squeezes from either side. Cut off the excess with the metal scraper and return it to the pot for reuse.
- \_ Submerge the mold in cold water—this speeds up the curing process and causes the plastic to shrink from the sides of the mold, enabling easy release.
- \_ Repeat the casting process for the other two legs.
- \_ Cut each leg at top and bottom at an 11-degree angle, as shown.





5

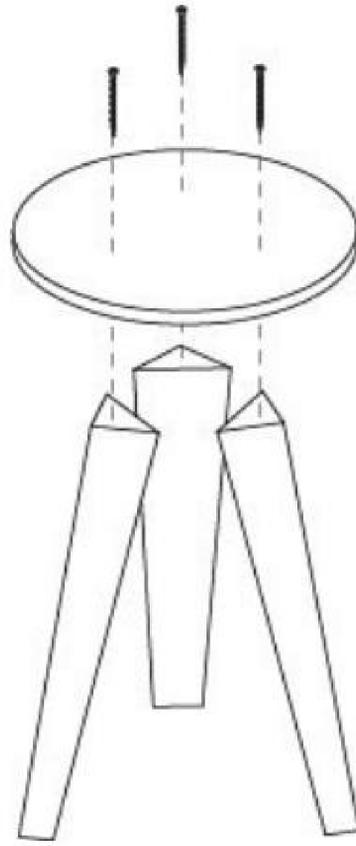


### Seat

\_A large blob of molten plastic forms the seat. Pour enough molten plastic to form a seat of 12in diameter on to a 18 x 18in granite or marble scrap. Sandwich the plastic between this and a second 18 x 18in piece of stone. Preheat the surface of the stone so that the plastic stays in a molten state when pouring, which will result in a smoother finish.

\_You can also use a sheet of smooth metal instead of stone. Lubricate it with oil or wax to prevent the plastic sticking to it.

6



### **Assembly**

\_Mark out an equilateral triangle on the base of the stool where the legs are to be positioned. Drill holes and screw in the legs with the screws.

If required, use some of the leftover melted plastic to weld the legs to the base of the seat to add strength and prevent them from twisting.

7



\_Take a seat and enjoy!

# CHAIR

CHRIS RUCKER OF RUCKERCORP

Chris Rucker made his basic chair in 2001. It was the first truly functional piece he had managed to create after experimenting with oriented strand board (OSB) in various ways, and it became the building block for the rest of his OSB furniture.

Rucker has always been interested in using lesser materials, and pushing them beyond their intended purposes. He is also drawn to materials that are designed to imitate other lesser materials—in this case, OSB as a cheaper version of plywood—and the process of taking a fake of a fake and elevating it to the point where it becomes the “real thing.” Aesthetically Rucker was inspired by the sparseness and rigid simplicity of Donald Judd’s work, as well as Jasper Morrison’s Plywood Chair, and this has been his default approach ever since. “I’ve made fifteen [other] versions of this chair—curved back, tapered legs, taller, shorter ... they have succeeded at times, and not at others, but I’m not sure they’ve ever surpassed it.”



You will need:

### **Materials**

\_ One 4 x 8ft sheet of  $\frac{3}{4}$ in OSB, or other  $\frac{3}{4}$ in sheet material

\_ Glue

\_ Brad nails

\_ Moving blanket

### **Tools**

Circular saw (a left-tilt table saw; a right-tilt can also be used, but left is easier)

\_ Nail gun

\_ Jigsaw

\_ Router,  $\frac{3}{8}$ in-radius flush trim bit, top or bottom bearing

\_ Six 18–20in clamps

\_ Sixteen 3–4in C clamps

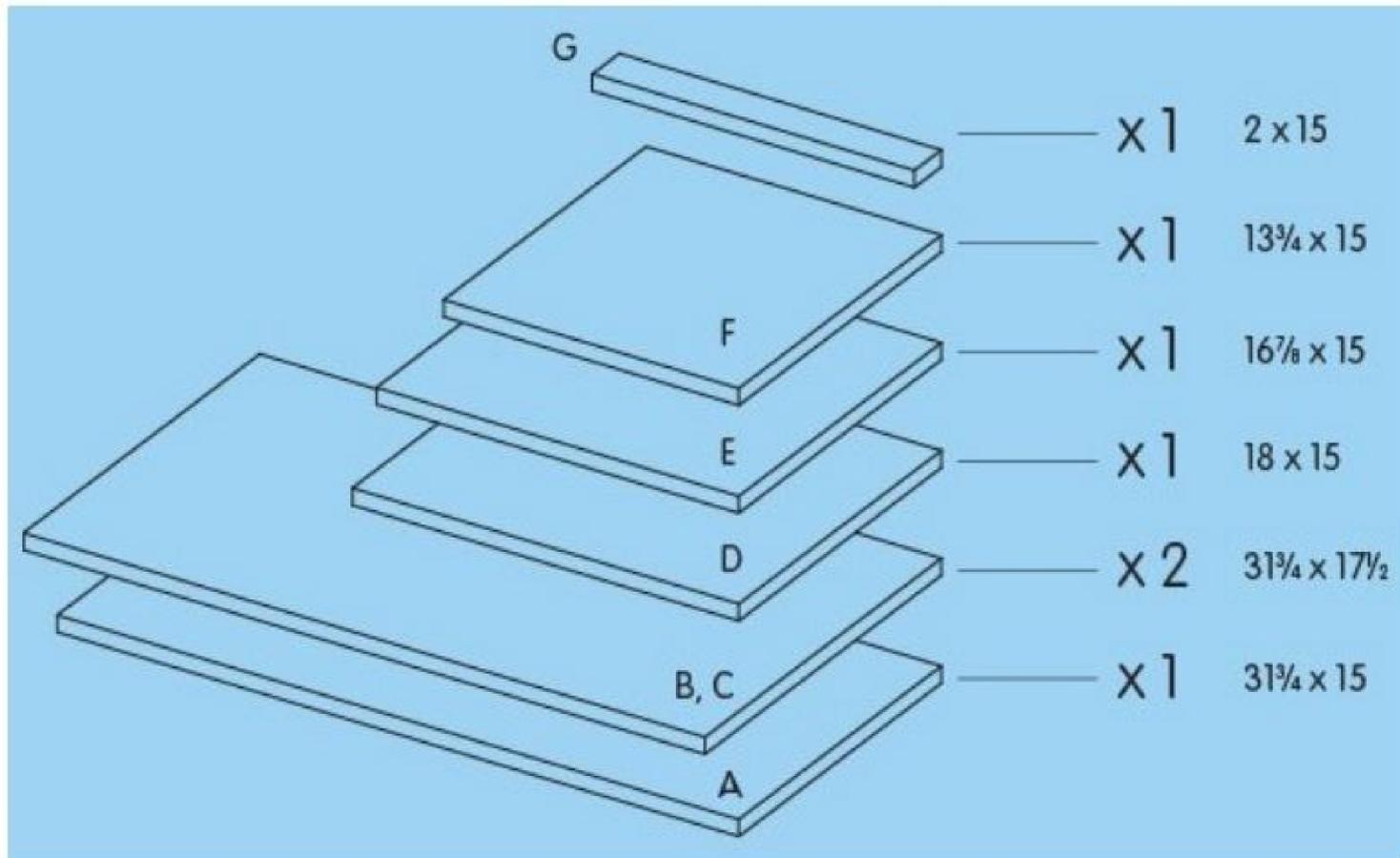
\_ Scissors

\_ Sewing machine





1

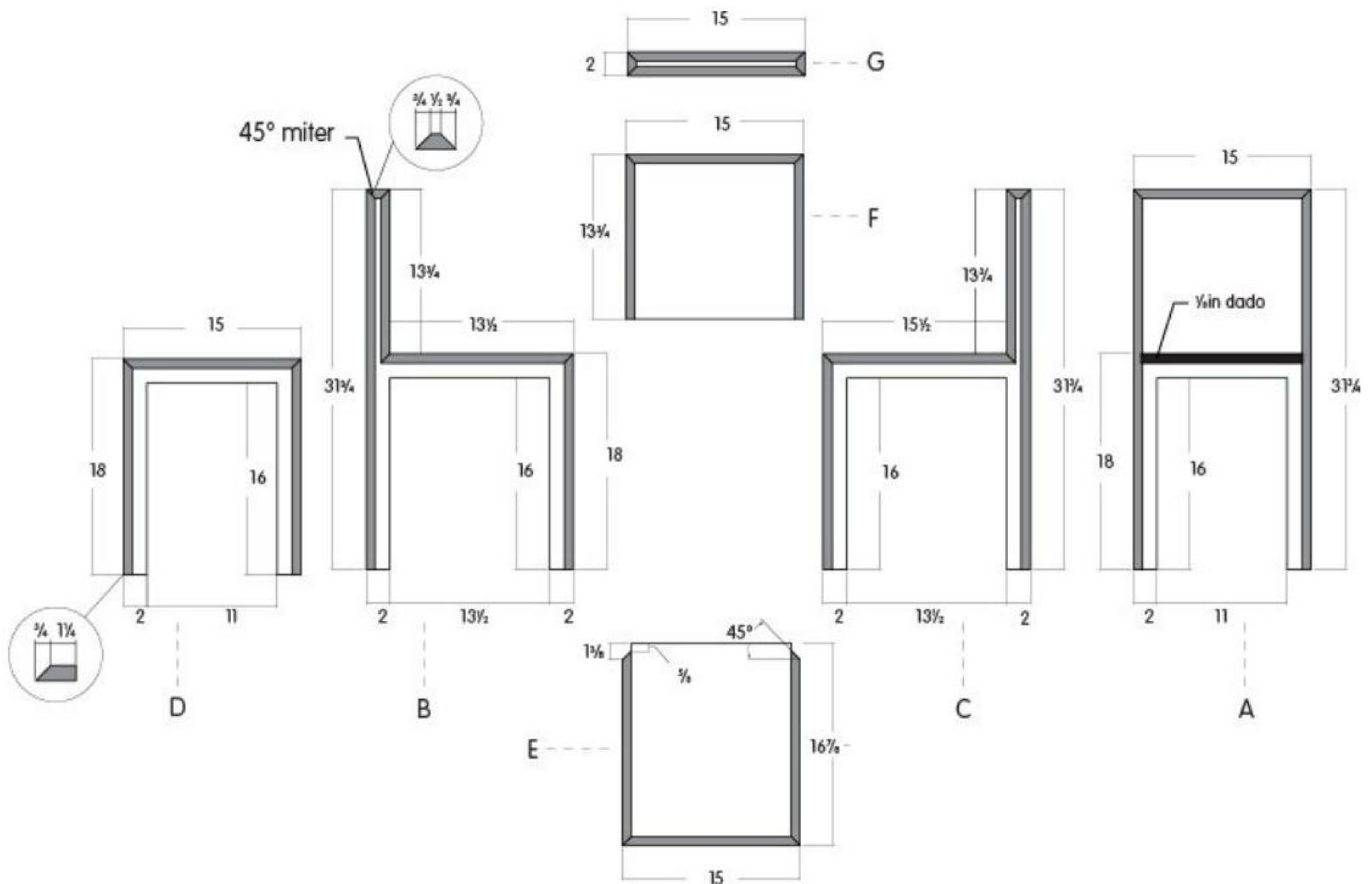


\_ Cut the sheet of OSB into thirds across the 8ft length, ending up with three identical pieces, measuring 32 x 48in. Cut out the following seven chair parts from the three OSB pieces:

- \_ One x 31 3/4 x 15in (part A)
- \_ Two x 31 3/4 x 17 1/2in (parts B and C)
- \_ One x 18 x 15in (part D)
- \_ One x 16 7/8 x 15in (part E)
- \_ One x 13 3/4 x 15in (part F)
- \_ One x 2 x 15in (part G)



2



\_ Clamp the pieces to a piece of scrap material and use the circular saw to cut out the chair parts from the OSB following the dimensions above. Or, if you are as skilled as Chris Rucker, you can use a table saw and raise the blade through the OSB in order to cut the various chair parts.

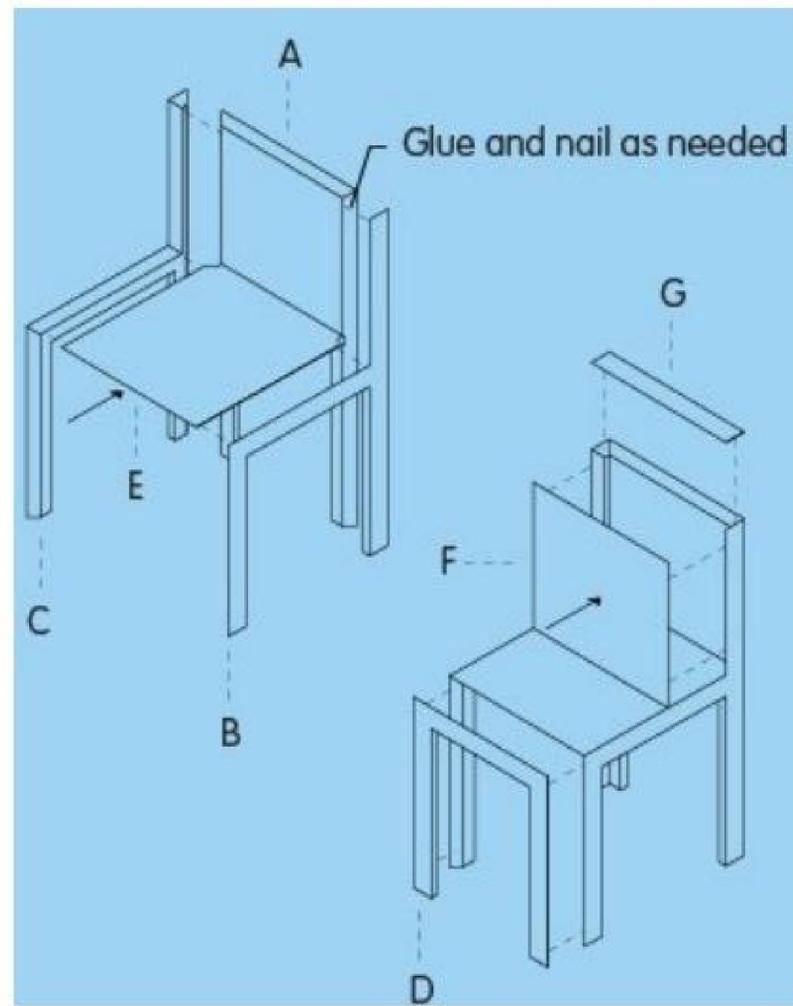
\_ Cut a miter of 45 degrees on the edges highlighted right in gray.

\_ Cut a 1/8 in dado (3/4 in-wide channel) into part A, as shown.

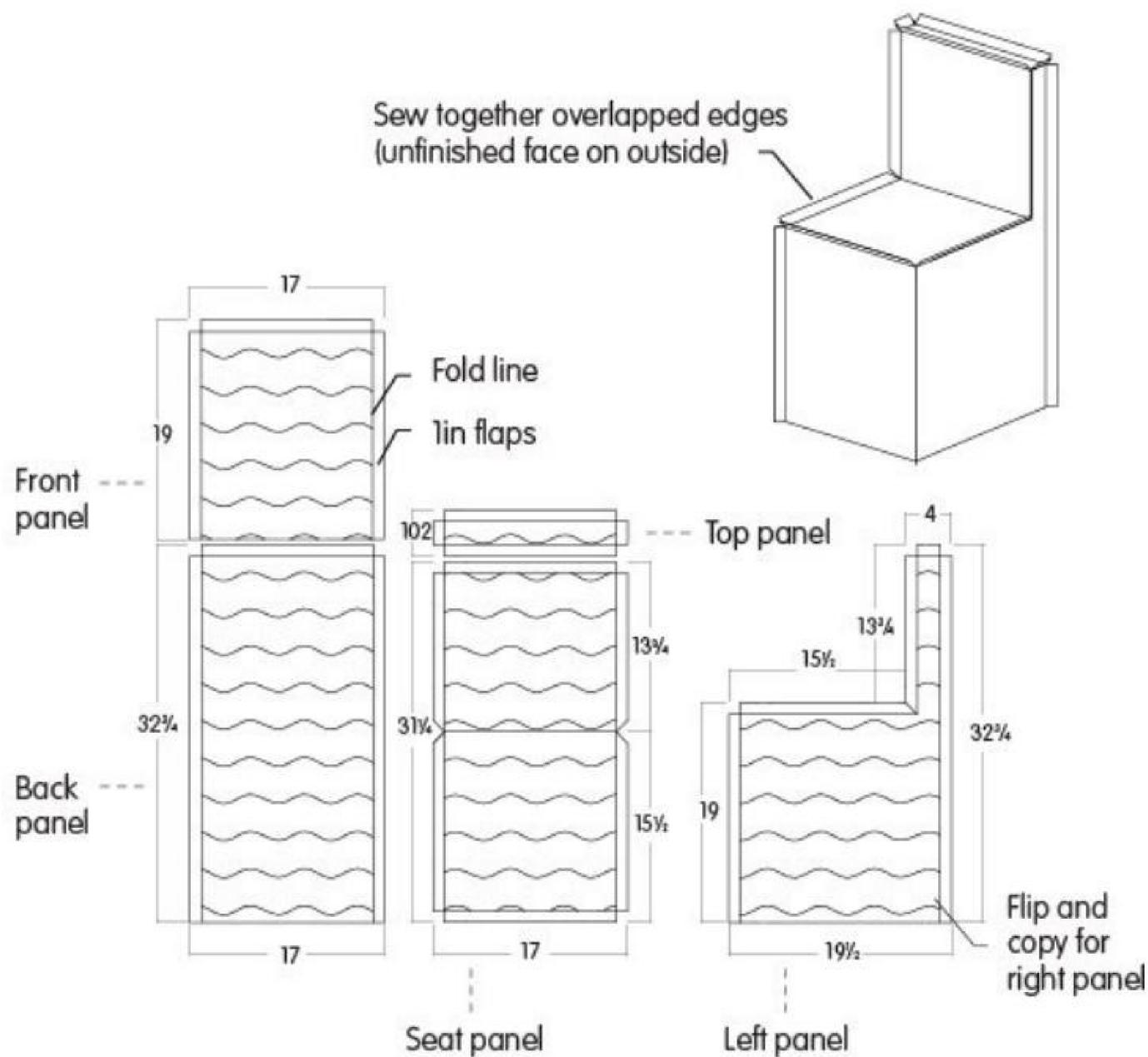
The location of the channel is critical as it joins the seat and establishes the seat height.

\_ Use the jigsaw to help cut out the tighter corners on part E and the material between the legs, leaving enough material to make a 3/8 in radius on the inside corners with the router.

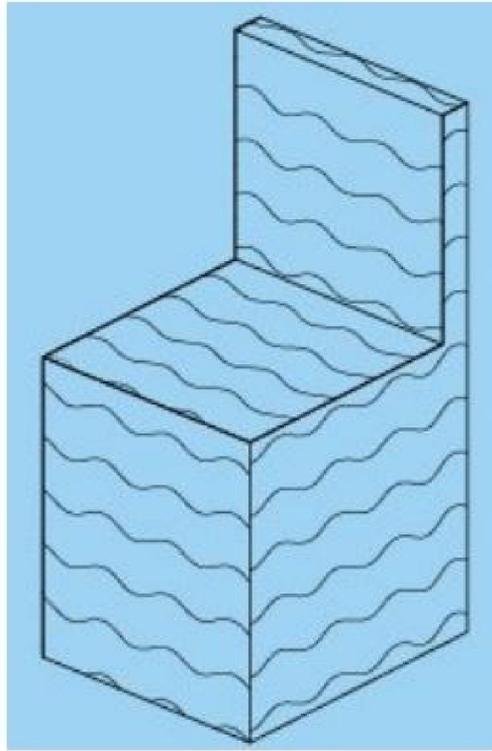
\_ Use a router with a 3/8 in radius flush trim bit and round.



- \_ Start by gluing the seat (part E) to the back (part A) via the dado channel. Fit them together and use a nail gun to shoot a couple of nails in from the back.
- \_ Glue and nail the side legs (parts B and C) to the chair.
- \_ Glue and nail the front legs (part D), seat back (part F), and top piece (part G) to finish off the assembly.
- \_ Clamp the chair across its width above the legs in a few places, and put two clamps from the back to the front over the 17½in dimension with an adjacent clamp out at the front of the seat. Then with as many 3–4in C clamps, clamp the miters of all the legs; four clamps per leg is best, as shown in Fig. 1.



- \_Use scissors to cut the moving blanket into chair cover parts following the dimensions above; 1in flaps have been added to the three sides that don't touch the floor for attaching to each adjacent piece.
- \_Once all the pieces are cut out, pin the cover on to the chair, making sure the unfinished side of the cover is facing outward. You'll have an extra couple of centimeters of material at every seam, so account for that when you're pinning it. Tailor the cover a little bit and trim any seams if necessary.
- \_Take the pinned cover off the chair and sew/bind all the seams.



\_Flip the sewn cover inside out (finished side and seams facing outward) and place it on the chair. The cover should fit the chair snugly.

\_Take a seat and enjoy!



See also p.106 for Chris Rucker's Quilt.

# LEFTOVERS

KLEMENS SCHILLINGER

The Leftovers stools are simple pieces that are formed by using a conventional builder's bucket as the mold for the seating surface. Wooden scrap pieces are clamped into the bucket. Concrete is then poured into the void. Within a few hours the hardened concrete bonds in the wooden legs and the stool is ready for use.

The idea for the stools was derived from using a reversed bucket as a seat as well as often finding leftover plaster and other hardened casting materials in the bottom of a builder's bucket after a day in the workshop. The simple materials used capture the spirit and the aesthetics of the informal design language. The project also suggests the use of informal molds for other products (lampshades, vessels, etc.) as quick and cheap alternatives to the laborious formal mold-making process.



You will need:

## Materials

\_ Concrete mix

\_ Three wooden planks (approximately 40cm)

## **Tools**

\_ Handsaw

\_ 3 G clamps

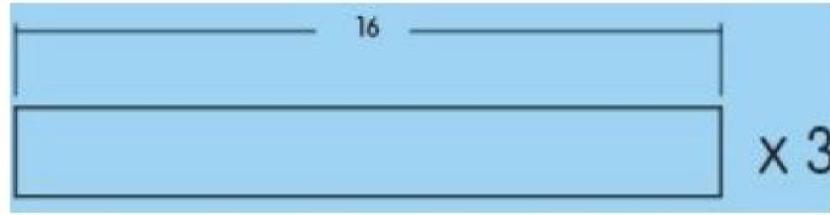
\_ 2 builder's buckets

\_ Stanley knife

\_ Brown packaging tape



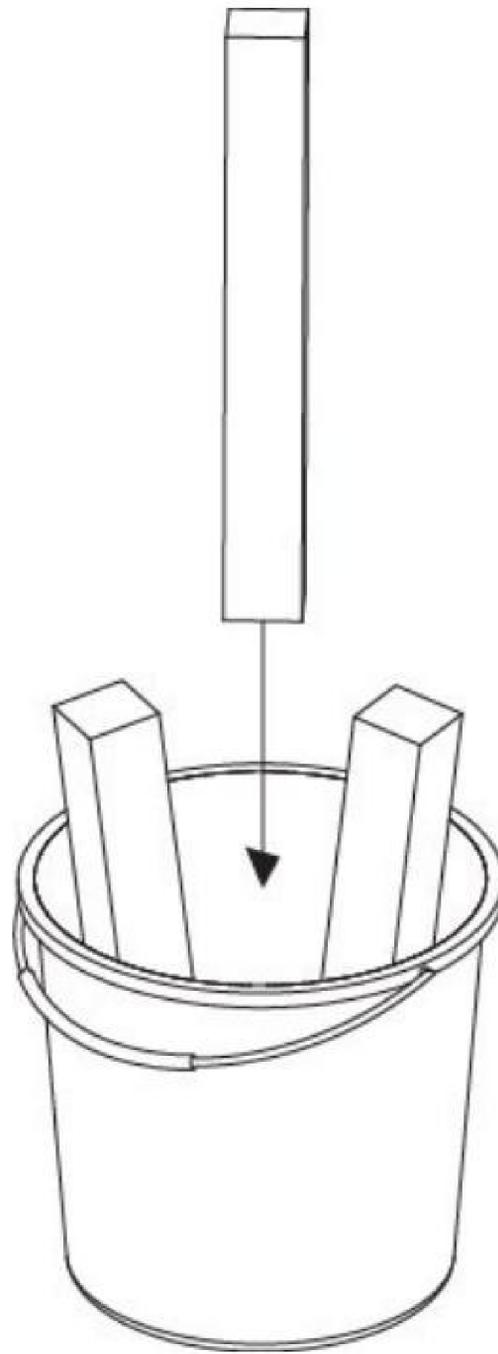
# 1



## **Stool legs**

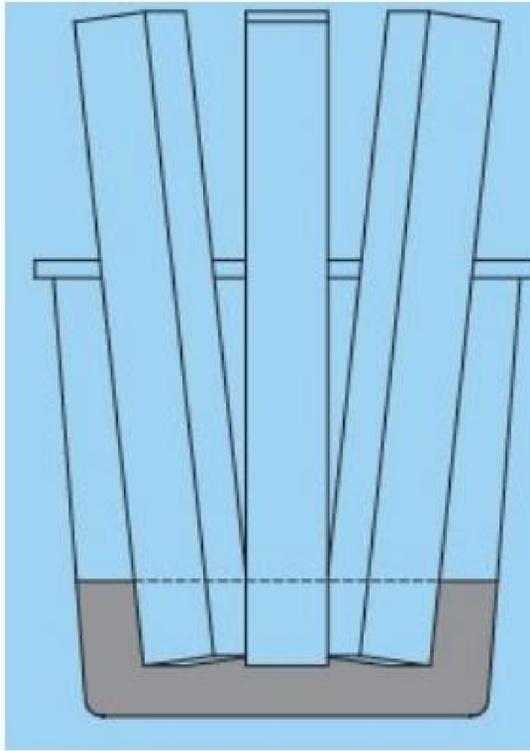
- \_Cut the wooden planks into three equally long parts. Approximately 16in is a conventional stool height.
- \_Cut a little groove in each leg. This will ensure the leg is captured in the concrete.
- \_Seal the end of the planks that will go into the concrete with brown packaging tape (this prevents the wood from absorbing the water, which might make it expand and crack the concrete).

# 2



- \_ Insert the three stool legs into an empty bucket.
- \_ Clamp the legs with a spacer (approximately  $\frac{1}{2}$ –1in thick) onto the wall of the bucket (shown in Fig. 1).
- \_ Make sure the legs do not touch the bottom of the bucket and the legs are equally spaced in the bucket. Optionally, you can reinforce the concrete by wrapping wire around the legs when already clamped into the bucket.

3



\_Take the second bucket and start mixing the concrete thoroughly. Once the concrete has been mixed (Fig. 2), start pouring it into the void of the prepared bucket (shown in Fig. 3) with the clamped wood legs, then shake the bucket for a few seconds to even out the liquid mix. Tip: You can use premixed concrete from the DIY store, or if you prefer to mix your own concrete, use one part cement to one part sand then add water and mix to a consistency that is neither too dry nor too soupy.  
\_You can also add some wood glue to the mix to strengthen the mixture.

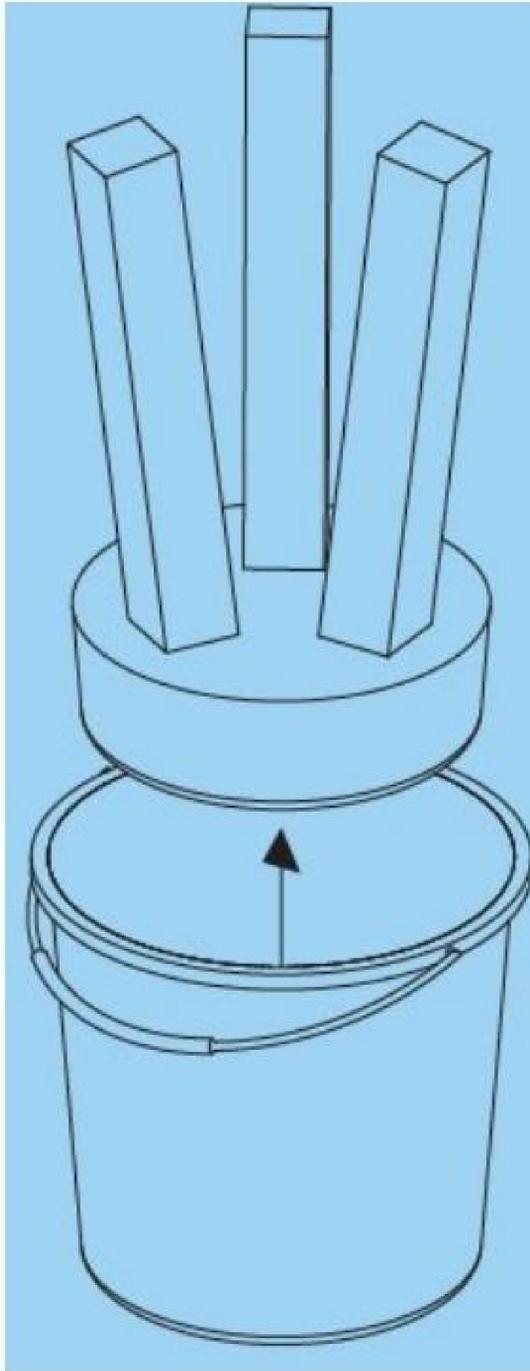




Fig. 2



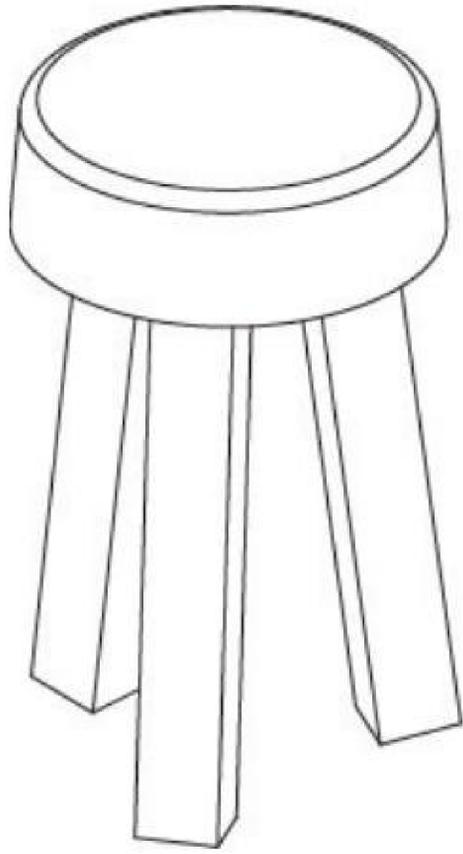
Fig. 3



\_Wait for the concrete to cure. Depending on the concrete, this can take up to 24 hours.

\_Remove the stool from the mold. Cut away any visible brown tape from the underside of the concrete with a utility knife.

5



\_Take a seat and enjoy!





## 4.

# LIGHTING

Utility has never looked so good! The designers in this section are well versed in bringing standard materials into a new light. Two of the designs rethink standard fixtures and bulbs that you would normally see in industrial applications, while two others build on the way we interact with light. Dim(Some) does just that, allowing the user not only to dim the amount of light, but, through Arduino coding, the intensity of light too, while 45 Kilo have created a light that can be easily adjusted to shine where you need it. Sara Ebert gives the cage light a new spin and skin, adding a sleeve of rubber to create multiple playful configurations. Growing out of a simple block of wood, the U-shaped bulb of the T8 light appears to draw its shape into the air. Regardless of your preference, this round-up of lights will certainly have you flipping switches.

# CONTOUR LAMP

SARA EBERT

Inspired by the properties of industrial heat shrink tubing, these lamps were created by forming large-diameter tubing over the wire lightbulb guards often used on construction sites. The tubing becomes extremely taut, accentuating the contours of the steel forms and creating a shade for the bulb.

This project was conceived in response to the brief put forth by the American Design Club for their show “Raw + Unfiltered.” The premise of the show was to showcase designs that highlighted a material or process in its most natural, unfiltered state.

Sara is based in the US so we have reproduced her wiring instructions overleaf but if you live outside of the US, you will need to adapt the wiring to local specifications.

You will need:

## Materials

The following can be found at Grand Brass:

- \_One standard single socket (SO10045C)
- \_10in black 18/3 SVT cord (WI183SVTBL)
- \_One stress reliever terminal (BG500BLK)
- \_Plug (PL183BL)
- \_Heat shrink tube (HS2-600), at least 6in (available from BuyHeatShrink)
- \_Light cages (available at various hardware outlets; this one can be found on Amazon)

## **Tools**

\_Scissors

\_Standard screwdriver

\_Precision micro screwdriver

\_Wire stripper

\_Utility knife

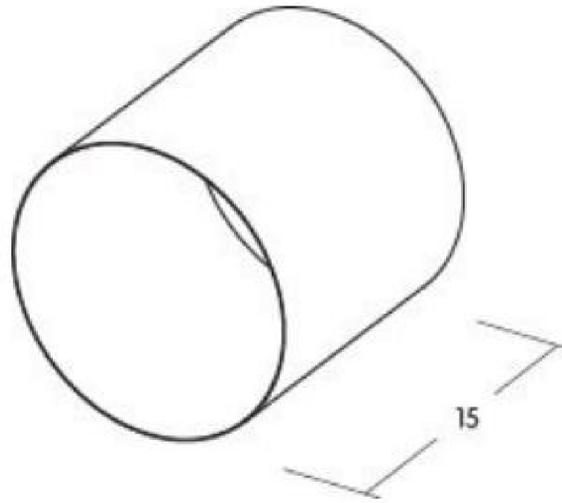
\_Metal ruler

\_Heat gun



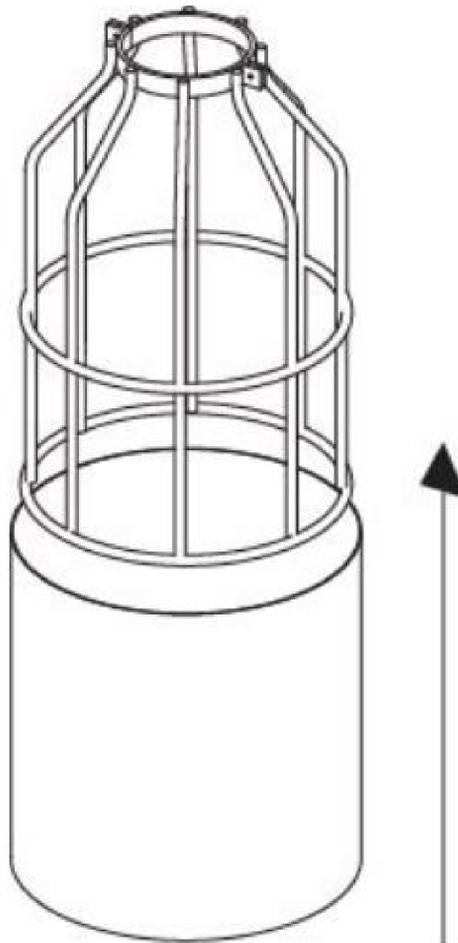


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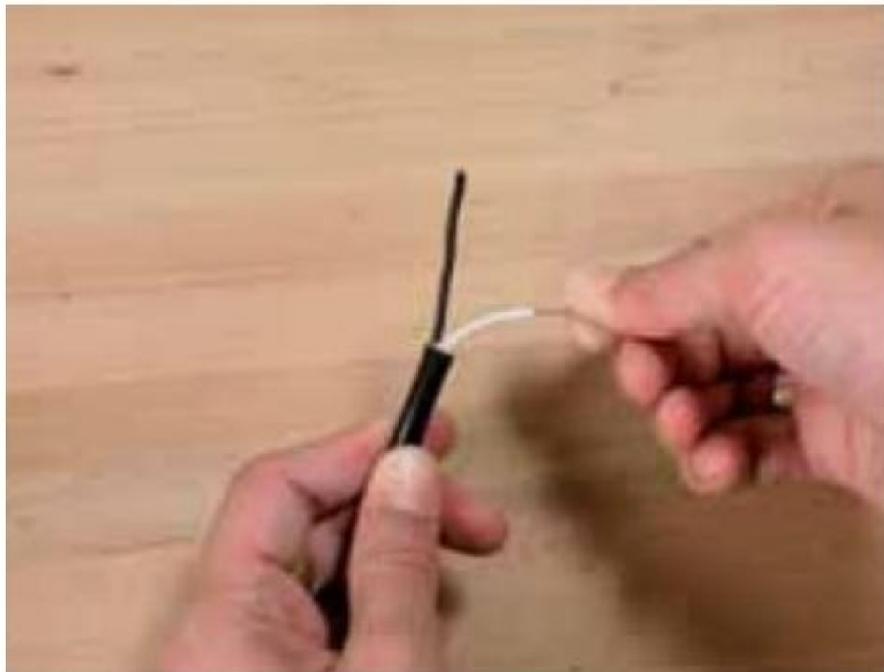
\_Cut 6in of heat shrink tubing. The tubing arrives in a flattened state and can easily be cut using a metal ruler and utility knife.

2



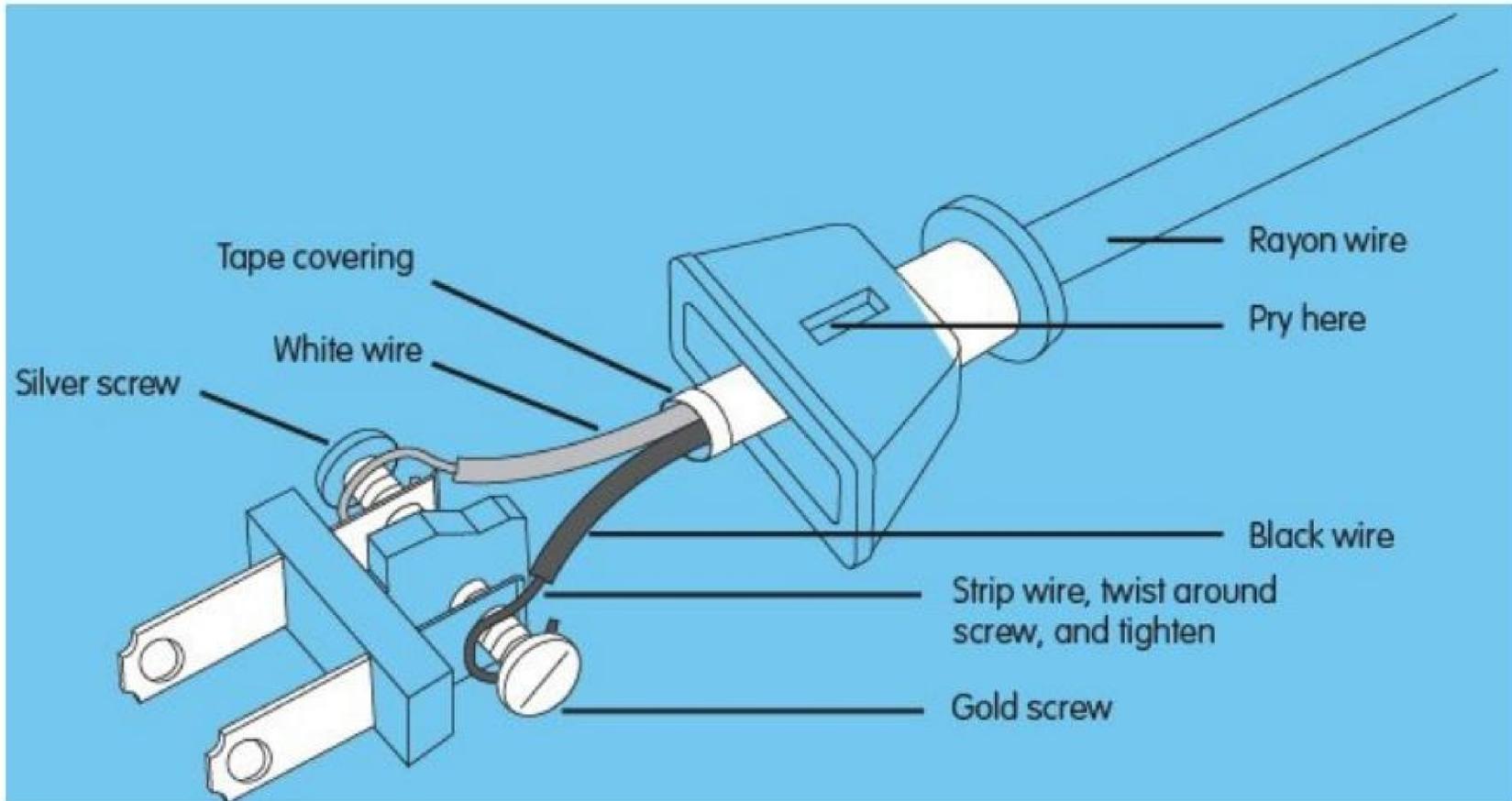
\_Slide the tubing over the top of the cage.

\_Apply heat to the tubing using the heat gun, constantly moving around the cage to ensure an even, consistent shrinkage.





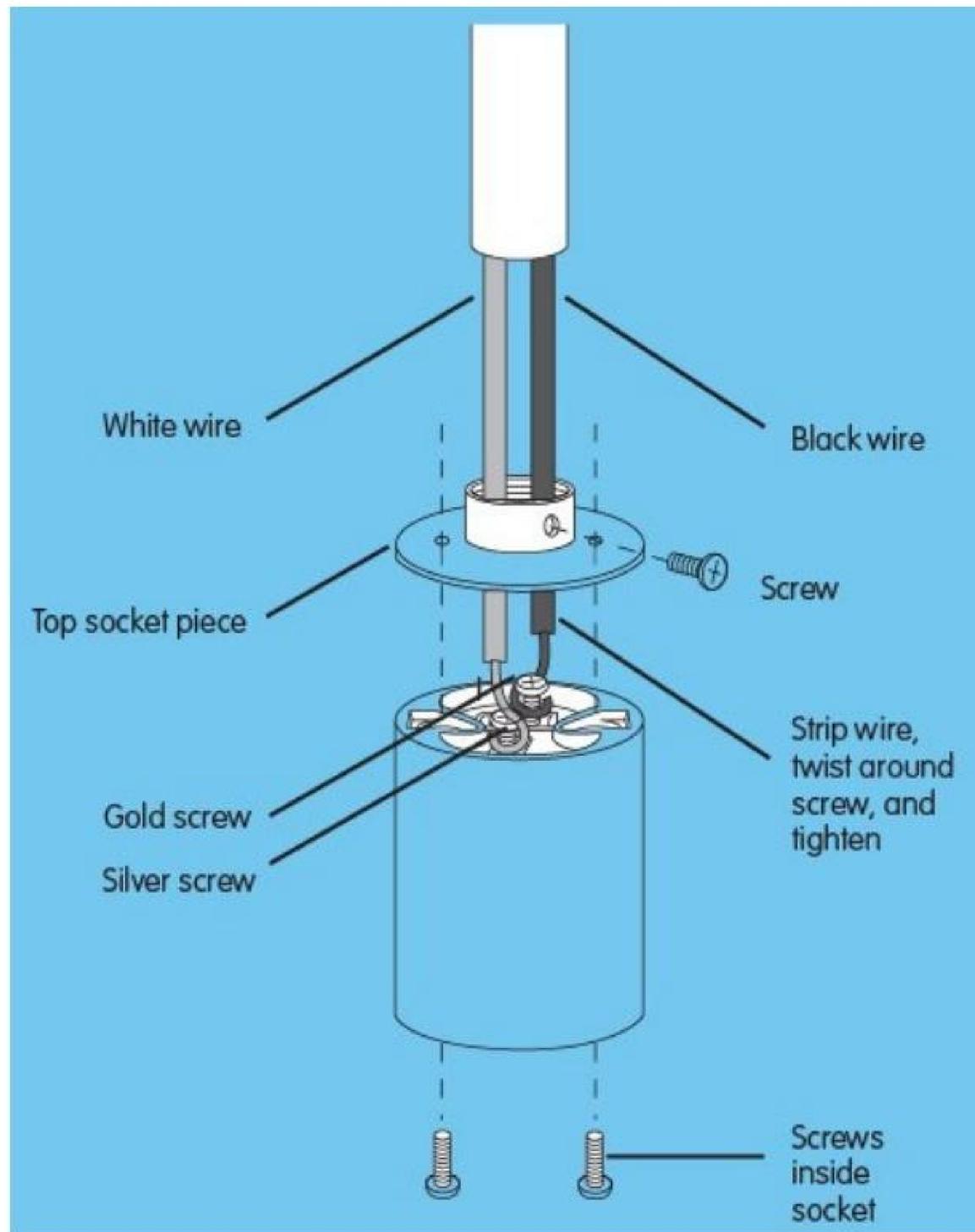
3



### Wiring the plug

- \_ Use a screwdriver to prize the rubber cover off the plug interior.
- \_ Tape the rayon covering to keep it clean.
- \_ Strip the wires, twist them around the screws, and tighten the screws down (black wire to gold screw, white wire to silver screw).
- \_ Push the rubber cover back in place.

4



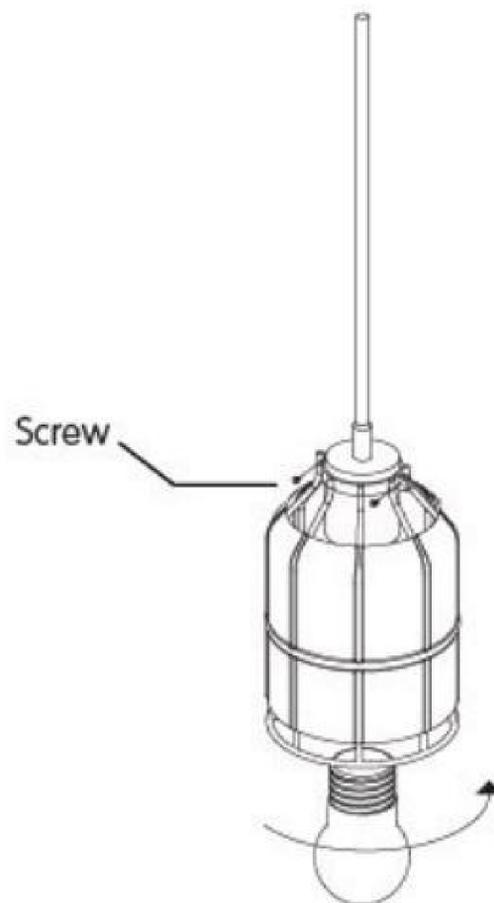
## Wire socket

- \_ Strip both wires.
- \_ Attach the black wire to the gold screw and the white wire to the silver screw.
- \_ Screw in the stress reliever terminal (ensure the stress reliever parts and the top of the socket are slid onto the cord before completing the wiring socket connections).
- \_ Slide the top of the socket down and screw it into place. Slide the lower part of the stress reliever terminal down and screw it into the socket.
- \_ Slide the top of the terminal down the cord and screw it into place over the lower part.



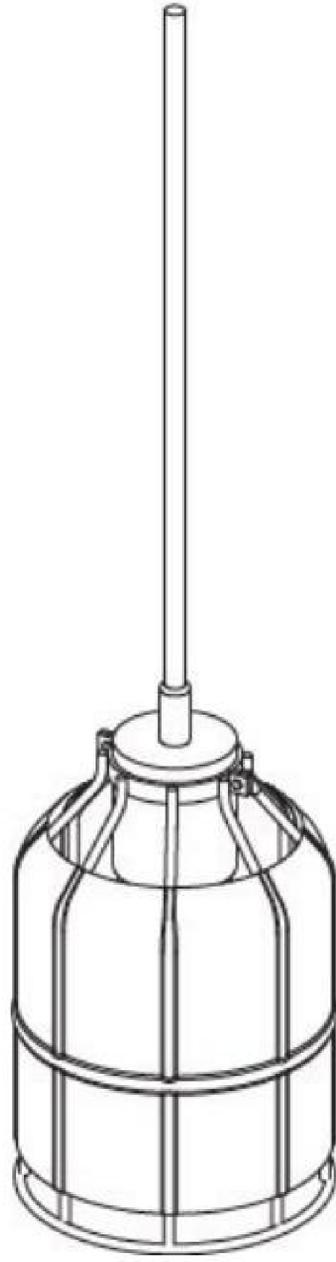


5



- \_ Place the socket into the ring on the top of the light cage.
- \_ Hold it in place and screw both sides, clamping the socket in place (move it back and forth between the two screws as the cage is tightened to ensure even clamping).
- \_ Add your lightbulb.

6



\_Hang and enjoy!



# T8

SARAH PEASE

The T8, little brother of the T12, is an exploration in form and material. This light is designed from readily available, standard parts, combined with solid black walnut and a soft fabric cord.

This project was an experiment using premade parts—most of which can be found in any hardware store. The entire piece is constructed with magnets and press-fit components, so is easily disassembled/reassembled. The base consists of two pieces of wood held together by magnets. These design features also allow for simple assembly and easy access for troubleshooting—perfect for an ambitious DIYer. The design itself is easily customizable, too; changes to the wood or metal finishing can produce an end result with its own unique aesthetic.

Once the T8 U-bulb is inserted into the base, the light comes to life. Its overly luminous fluorescent light, set against the polished, elegant materials, creates new associations for an industrial product.

You will need:

## **Materials**

- \_ Four neodymium magnets, 1/2in diameter
  - \_ One toggle switch
  - \_ Lamp cord, 8ft long
  - \_ One plug
  - \_ One fluorescent lighting kit or comparable materials (ballast, wires, etc.)
  - \_ One T8 fluorescent U-bend lightbulb with 6in leg spacing
- Wire nuts

\_Solder

\_Electrical tape

\_Epoxy

\_Aluminum tubing (large enough for the lightbulb to fit into, 1¼in diameter)

\_Wood of choice

Wood finish

### **Tools**

\_Wire strippers/cutters

Flathead screwdriver

\_Soldering iron

\_Table saw

\_Hand router

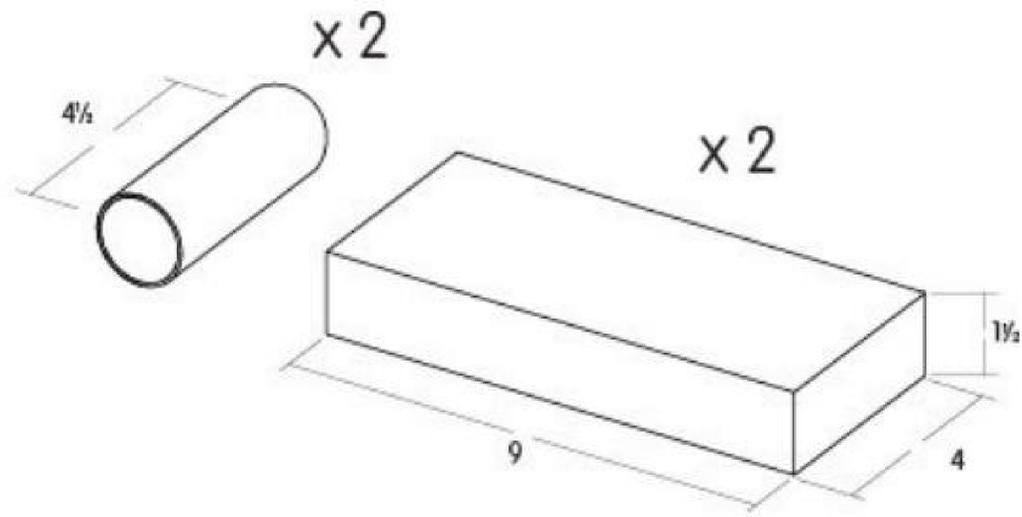
\_Drill, with bits to match the size of the metal tubing, magnets, and toggle switch

\_Sandpaper

\_Safety equipment



1

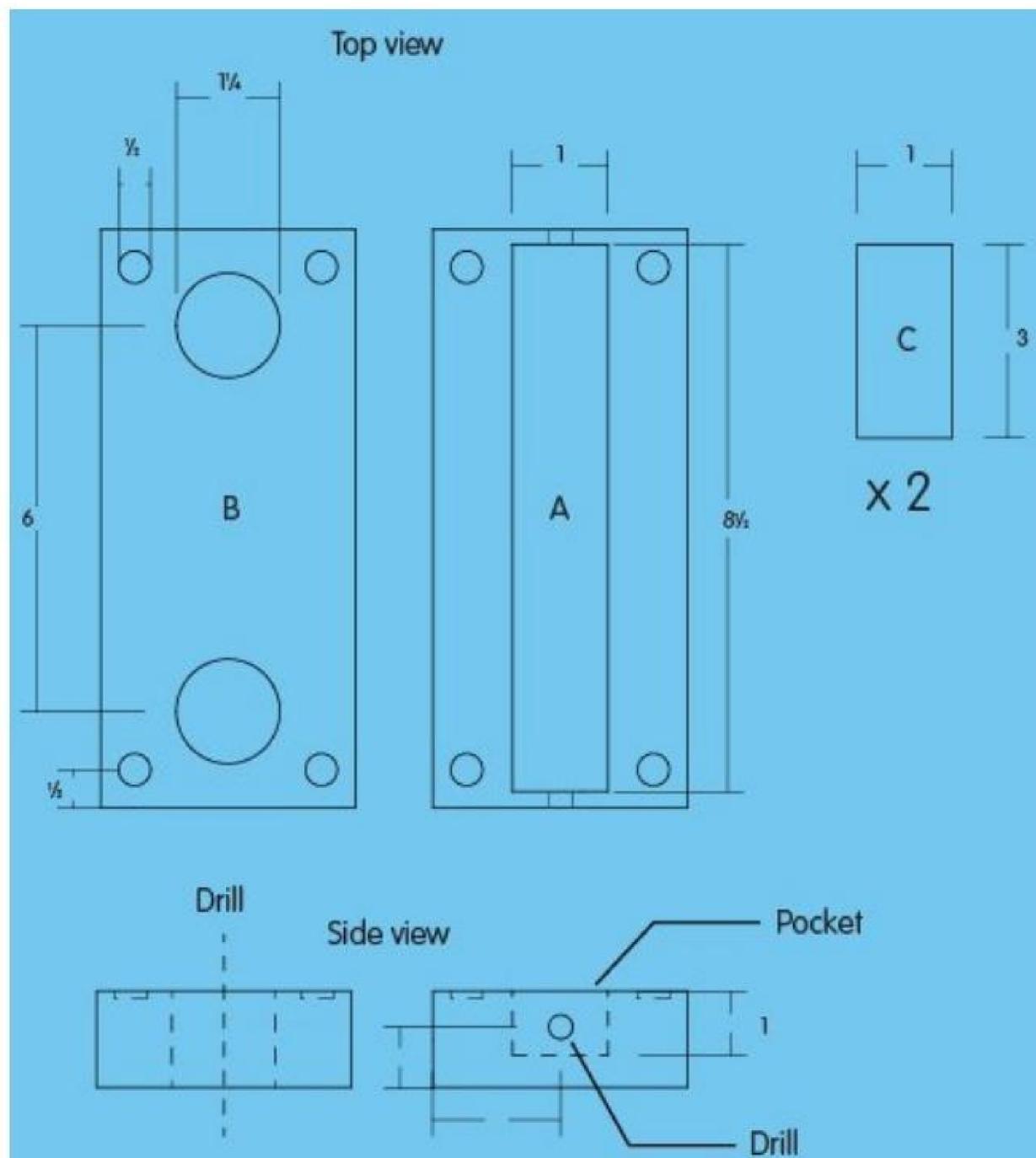


\_Cut the metal tubing into two lengths of  $4\frac{1}{2}$ in.

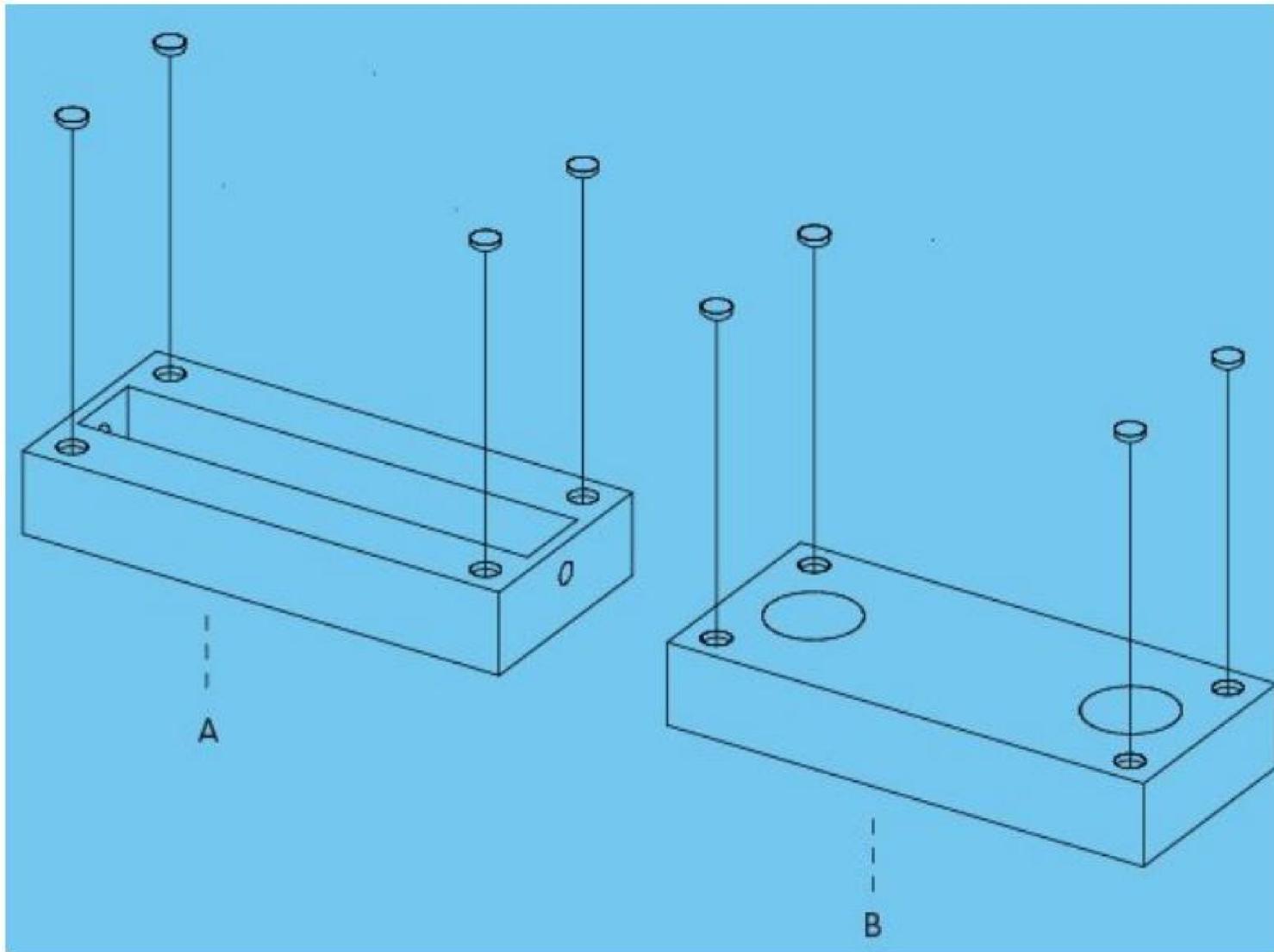
\_Cut the wood into two pieces measuring 4 x 9 x  $1\frac{1}{2}$ in.



2

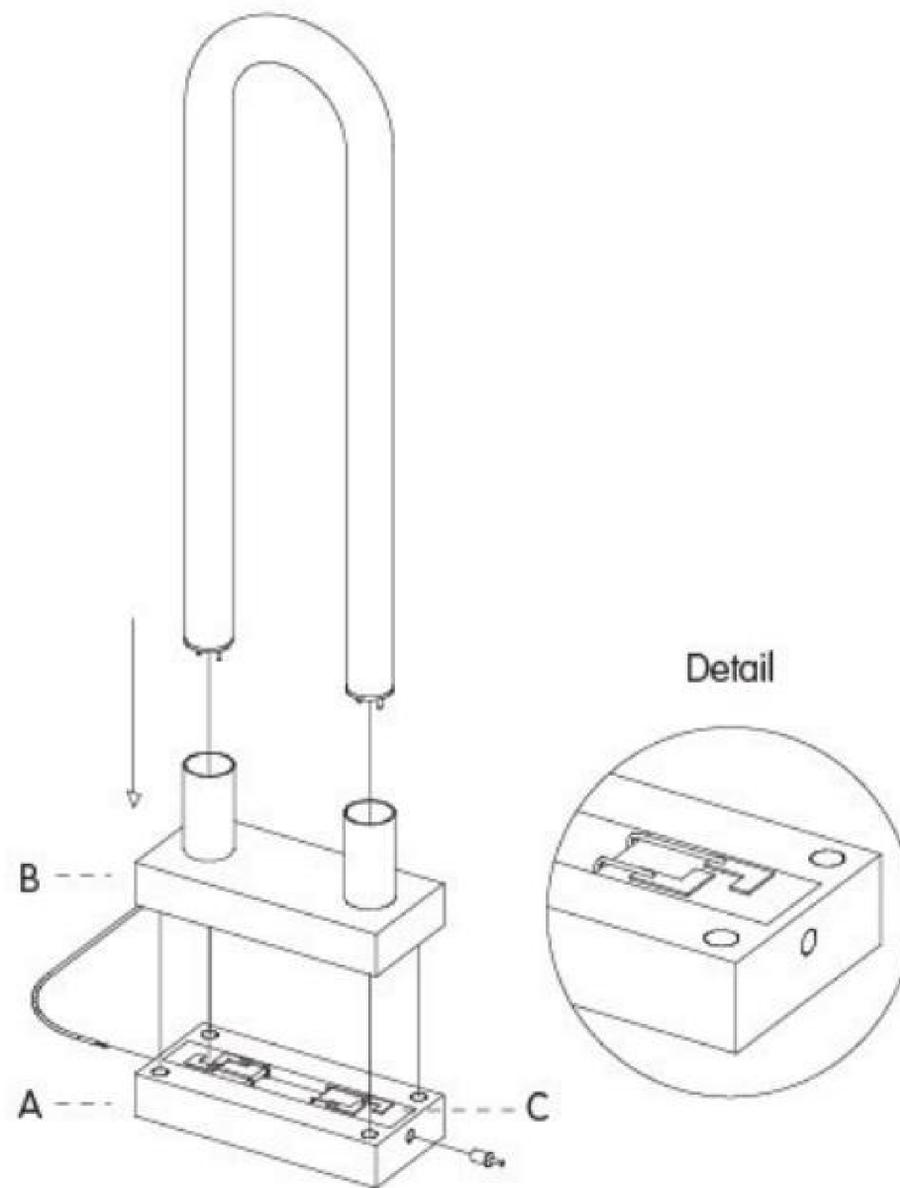


- \_ In both pieces of wood, drill aligning shallow holes in all four corners of one of the wider faces. (These should be the depth of your magnets, so that when they are glued in they sit flush with the top of the wood.)
- \_ Use the router to cut out a pocket in the middle section. The resulting hole should be a rectangle that measures 1 x 8 1/2 x 1 1/2 in deep. This piece will be the bottom of the light (part A).
- \_ Drill a hole in the center on both ends of the bottom piece. One hole should fit the toggle switch, and the other hole should fit the lamp cord.
- \_ Take the other piece of wood, which is the top (part B), and drill two larger holes with diameters that correspond to the metal tubing (1 1/4 in). The holes should be 6 in apart, center to center.
- \_ Cut two scrap pieces the width of the pocket (1 in) and 3 in long (part C).



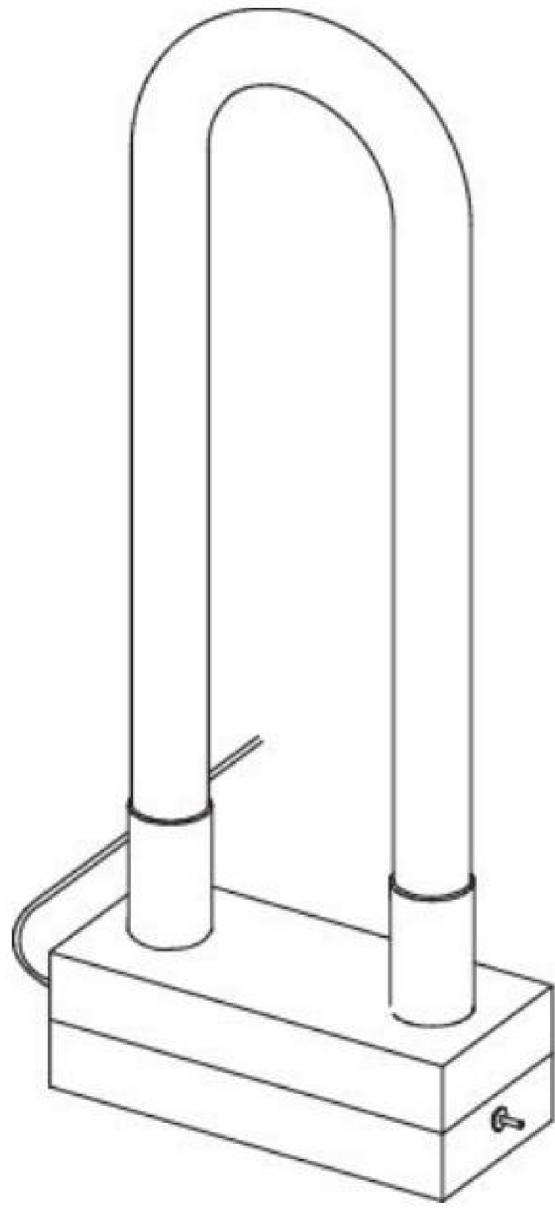
\_Glue the magnets into the holes using epoxy so that the pieces of wood will snap together to make one larger piece, measuring 4 x 9 x 3in. Make sure that the magnets are aligned with their counterparts, otherwise they will repel and the wood will not stick together.

4



- \_ Place the ballast inside the pocket of part A.
- \_ Place the two scrap pieces of wood (parts C) on top of the ballast, using epoxy to glue the wires down so that the copper contact will line up with each pin of the T8 bulb.
- \_ Snap the two pieces of wood together and insert the metal tubes into the two holes.
- \_ If there is a stretcher bar connecting the bottom of the U-bulb, remove it.

5



\_Insert the lightbulb into the metal tubes, turn on, and enjoy!



# MOKKA LIGHT

45 KILO

The Mokka Light is simply put together, using a classical geometric lampshade made from passe-partout (framing board), some standard copper piping, and some electrical wire. Assembling these parts creates a certain lightness—the lamp seems to be floating in the room.

The adjustable ceiling installation also allows the lamp to be placed where it is needed. By pulling the wire through the rod, the height of the shade can easily be changed.



You will need:

## Materials

\_Black-and-white passe-partout cardboard, 28 x 40in

\_Roll of adhesive aluminum tape, width  $\frac{3}{4}$ in

\_Lightbulb

\_Bulb holder

\_Electrical wire, 200in long, diameter not more than  $\frac{3}{8}$ in

\_Copper pipe, 100in long,  $\frac{3}{8}$ in diameter

\_Ceiling hook, at least  $\frac{1}{2}$ in diameter

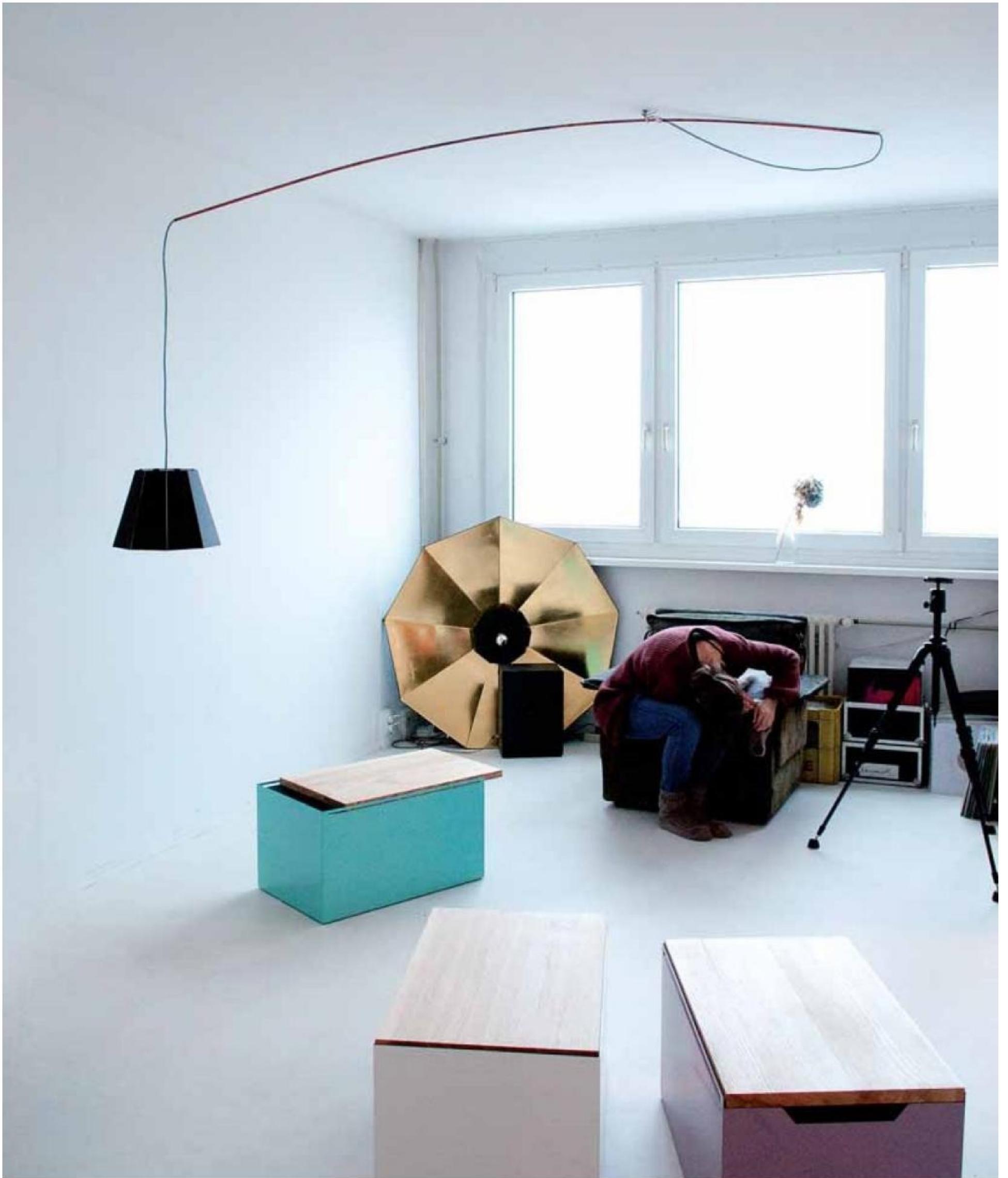
### **Tools**

\_Cutter

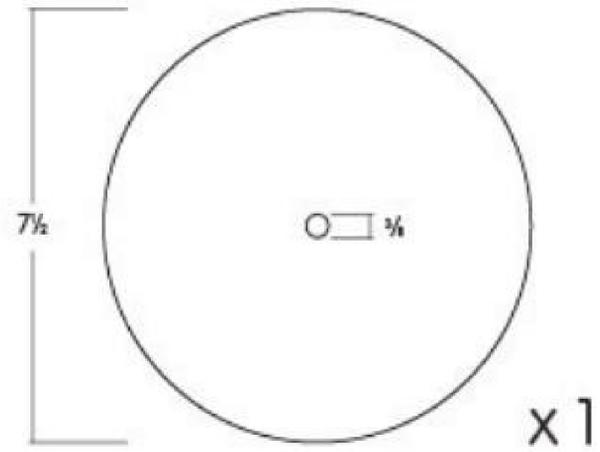
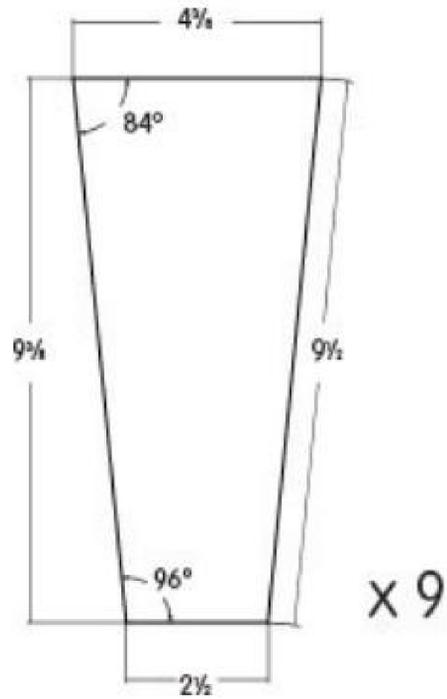
\_Scissors

\_Steel ruler

\_Cutting mat



1



### Shade

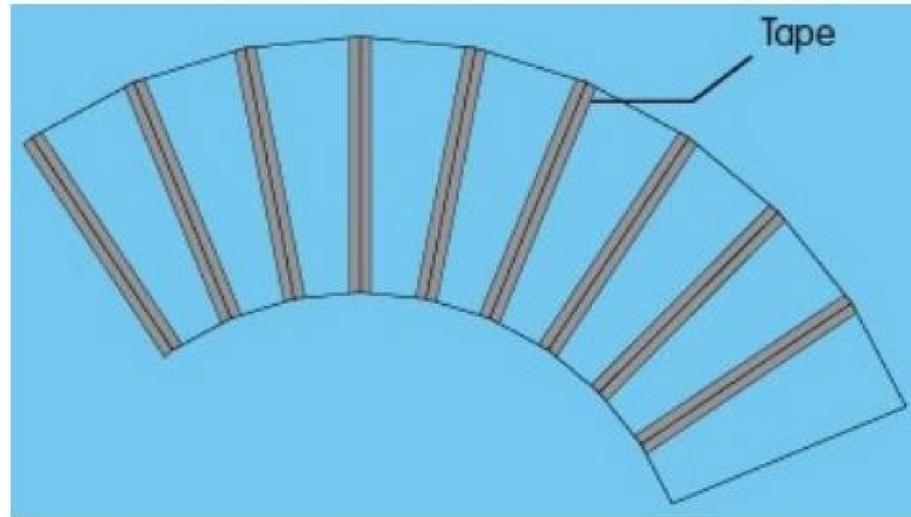
\_ Create the two templates shown.

\_ Use them to cut nine trapezoids and a circle from the passe-partout black-and-white cardboard, working from the white side of the cardboard.



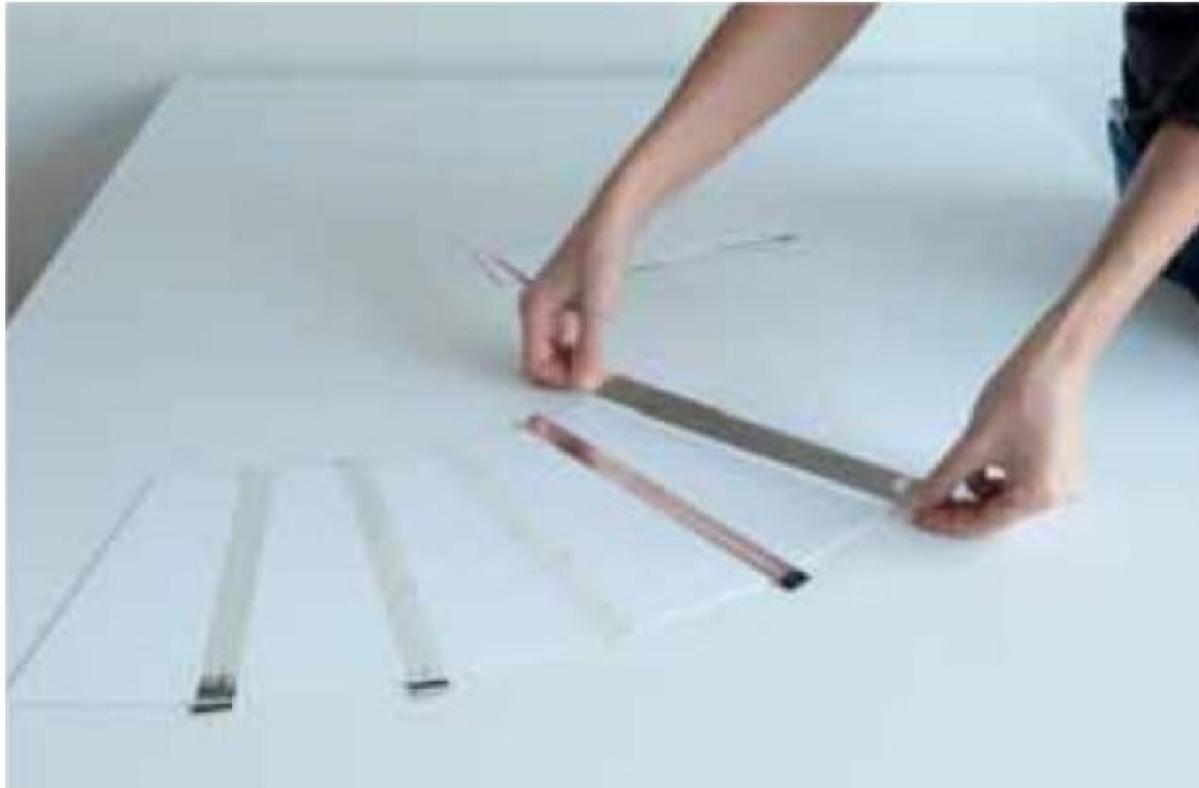


2



\_Use the aluminum tape to join the trapezoids together on the white side.  
\_Tape the two ends together to make the shade.





3

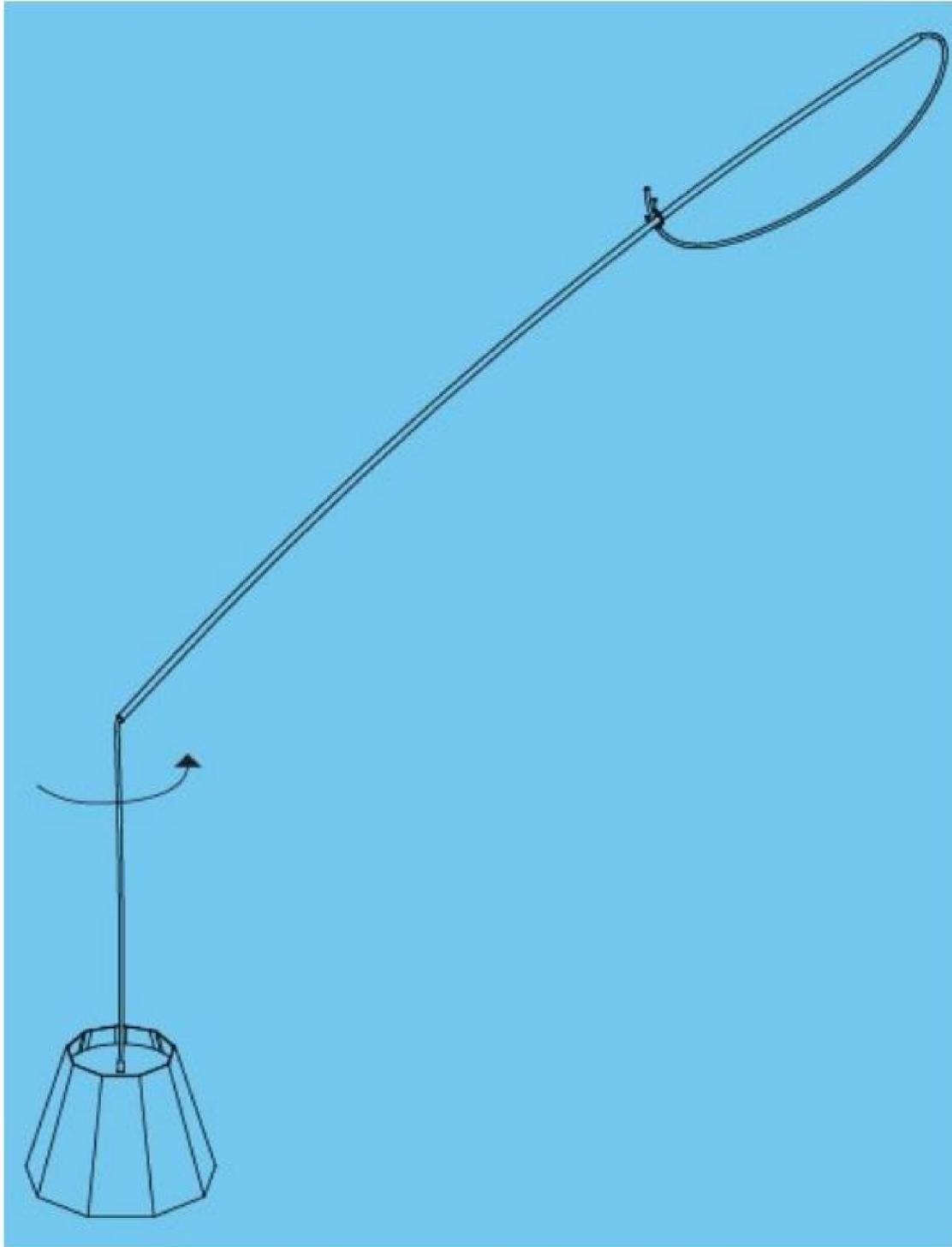


### **Pivot arm**

- \_ Cut the copper pipe to 100in and pull the cable through it.
- \_ Make sure the fuse for the ceiling outlet is turned off.
- \_ Hang the pipe on the ceiling hook next to the outlet and connect the cables.
- \_ Mount the bulb holder with the cardboard circle at the other end of the cable.



4



\_ Hang the shade over the circle and you're done.

\_ Now you can circle the light around the room and change the height of the shade by pulling the cable to one side or the other. Enjoy!



# DIM(SOME) CHANDELIER

BRENDAN KEIM

This chandelier explores how light can grow both in quantity and intensity, controlled through the familiar interface of dimmer knobs. The user can create more light by turning bulbs on or off with one knob (quantity), while a second knob adjusts the brightness of the light emitted from each bulb (intensity). Intensity can also be manipulated at each level of quantity.

The integration of the Arduino platform into Brendan's work is one more way of embracing DIY design. "The whole basis for Arduino is open-source software and hardware. The open-source community surrounding Arduino is rooted in the idea of sharing your ideas with others ... not only to show off what you've made to the world, but also to allow others to alter your ideas ... either for their own needs and designs, or to enhance and improve what you have made. I don't really consider myself an expert in coding or electronics, but the Arduino platform allows me to make my ideas real. If someone else can make it better or suggest methods for me to make it better, that's great. It's like collective intelligence."

You will need:

## Materials

### From Grand Brass

- \_ One 2-pronged plug (part A, item # PL183PBK)
- \_ Cloth-wrapped cord, 10ft long (part B)
- \_ One 3-sided cluster body, 1/4F bottom, 1/8F top (part C, item # BOLG3)
- \_ Two 3-sided cluster bodies, 1/8F bottom, 1/8F top (part D, item # BOLG3X8)
- \_ Two 4-sided cluster bodies, 1/4F bottom, 1/8F top (part E, item # BOLG4)
- \_ Three 9in x 1/8 IPS brass pipe stems, threaded both ends (part F, item # PIBR09-0X8)
- \_ Three 7in x 1/8 IPS brass pipe stems, threaded both ends (part G, item # PIBR07-0X8)

- \_ Two 5in x 1/8 IPS brass pipe stems, threaded both ends (part H, item # PIBR05-0X8)
- \_ Three 3in x 1/8 IPS brass pipe stems, threaded both ends (part I, item # PIBR03-0X8)
- \_ Five 1in x 1/8 IPS brass pipe stems, threaded both ends (part J, item # PIBR01-0X8)
- \_ Four 3/4in x 1/8 IPS threaded nipples (part K, item # N10-3/4x1/8)
- \_ Eighteen black Edison (E-26) base phenolic sockets (part L, item # SO7175B)
- \_ One 14in x 1/4 IPS brass pipe stem, threaded both ends (part M, item # PIBR14-0X4)
- \_ One 6in brass canopy, 1in deep (part N, item # BAFL06NW)
- \_ One brass loop 1/4 IPS (part O, item # LO103)
- \_ One female rounded brass hook 1/8 IPS (part P, item # HK105)

### **From McMaster-Carr**

- \_ Black stranded single conductor wire, 200ft long (part Q, item # 7587K133)
- \_ White stranded single conductor wire, 200ft long (part R, item # 7587K138)
- \_ Two knurled brass knobs (part S, item # 5125K1)

### **From most hardware stores**

- \_ One Leviton Trimatron 600-watt electro-mechanical push dimmer (part T)
- \_ 3/4in board, 3 x 60in
- \_ 1/4in board, 24 x 24in
- \_ 24 small nails

### **From Digi-Key**

- \_ Twelve solid state relays, 8A (part U, item #425-2403-5-ND)

### **From RadioShack**

- \_ One 10K-ohm linear potentiometer (part V, item # 271-1715)

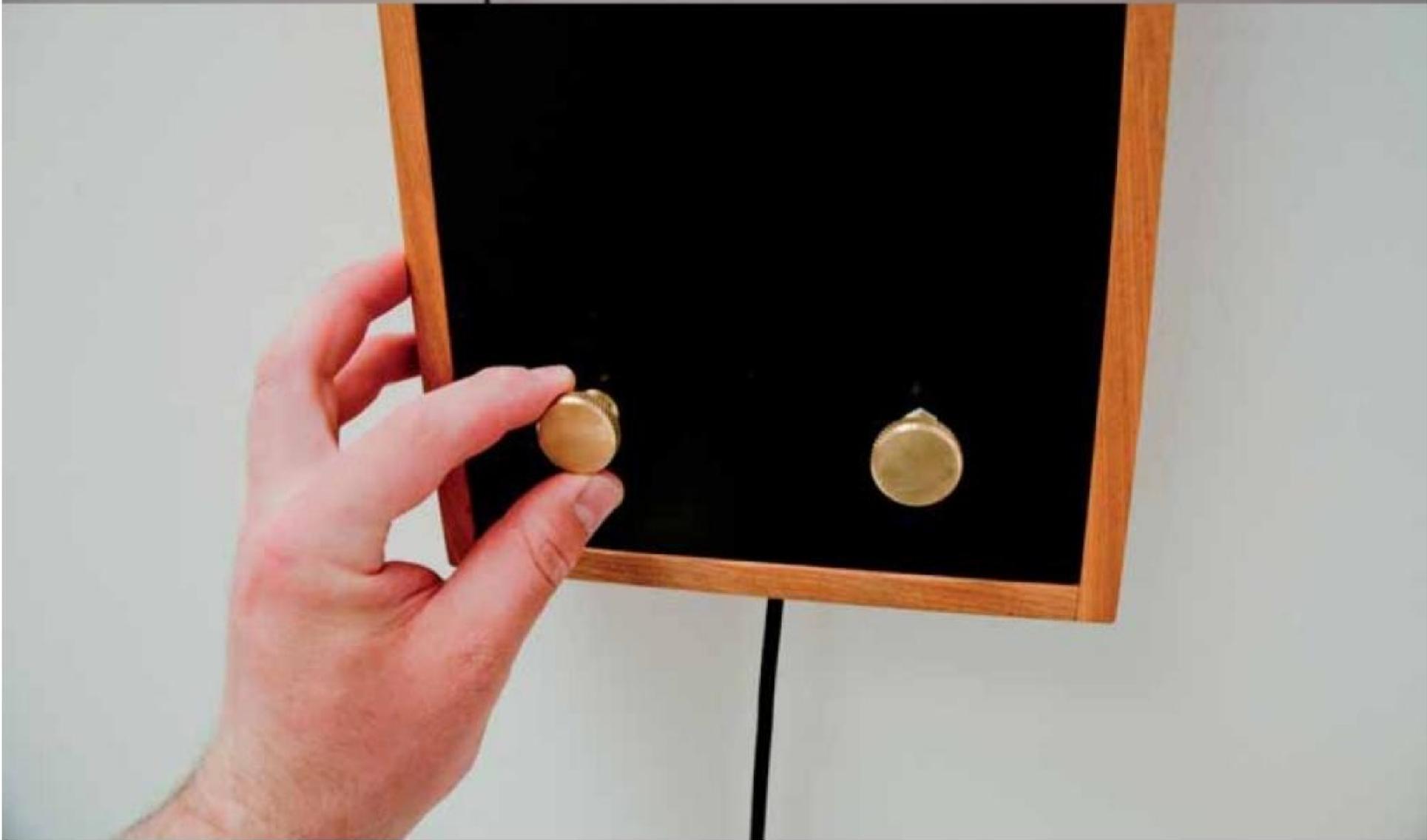
### **From Modern Device**

- \_ One Arduino board (part W, item # MD0001)
- \_ One wall power adapter, 6V 1A (part X, item # MD0405)

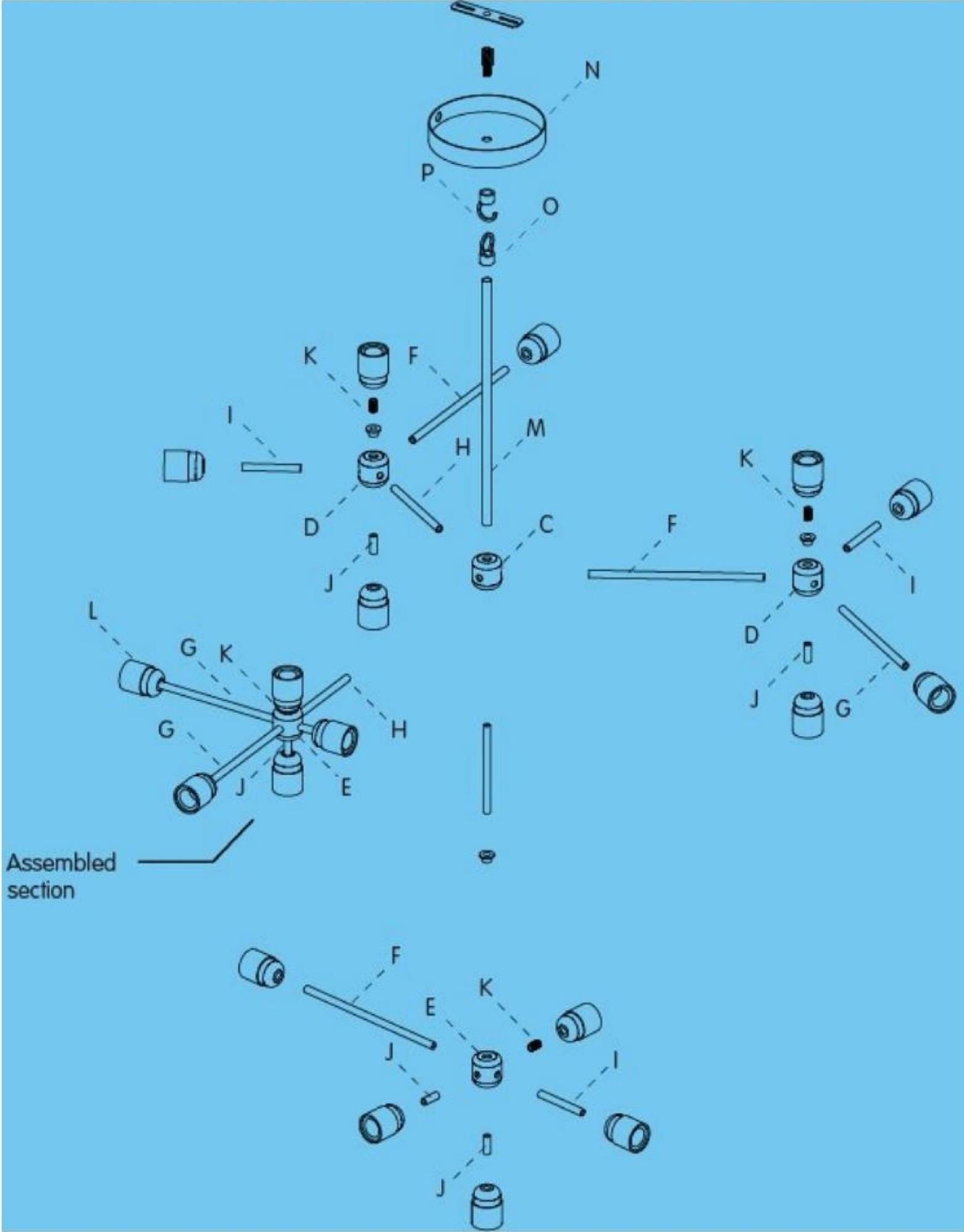
- \_ Eighteen terminal blocks, 2 position (part Y, item # CP0712)
- \_ Housing box (with removable lid). Approximately 9in W x 15in H x 2½in D (custom box shown).

## **Tools**

- \_ Arduino (software & hardware) w/ computer
- \_ Wire strippers
- \_ Soldering iron
- \_ Diagonal snips
- \_ Screwdrivers—Phillips and flathead, various sizes
- \_ Voltmeter/multimeter
- \_ Saw
- \_ Miter saw
- \_ Router or table saw for grooves
- \_ Drill
- \_ Hammer
- \_ Wood glue

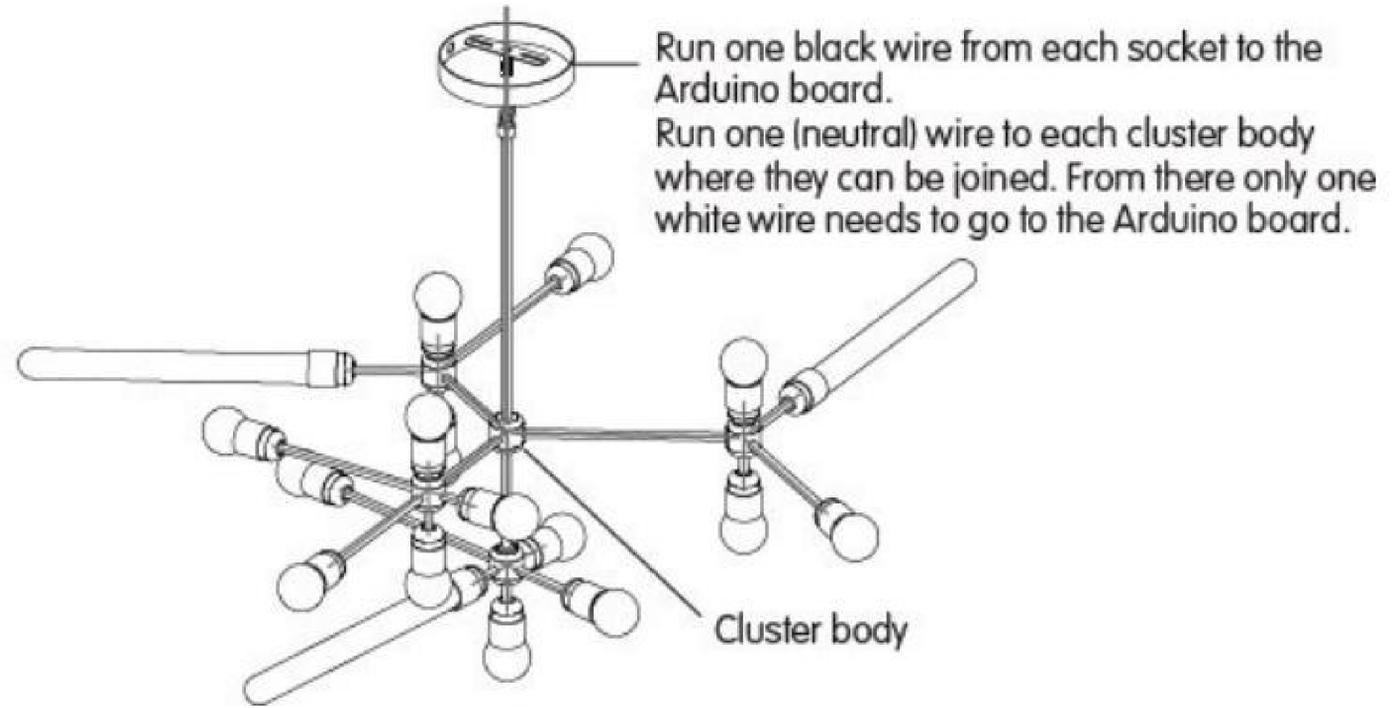


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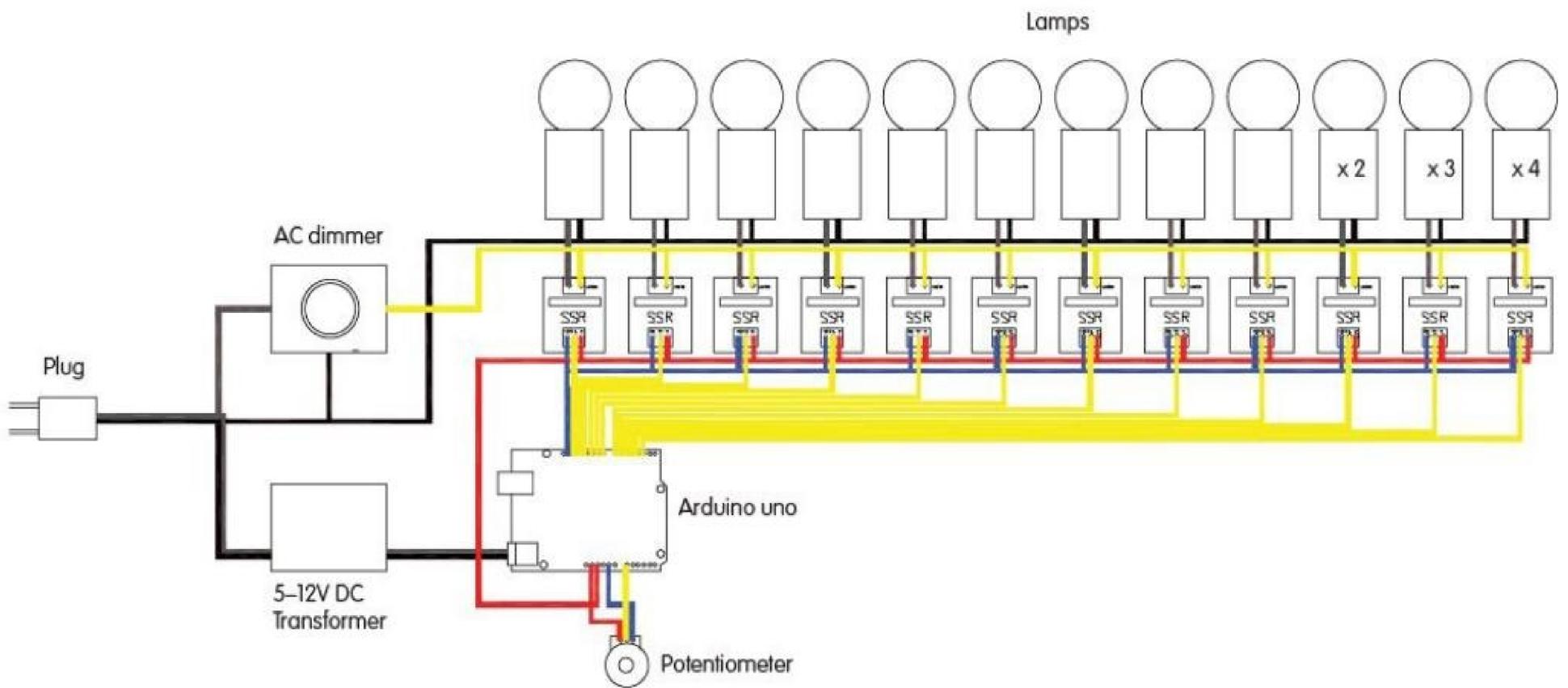


\_Assemble the chandelier as shown (see Fig. 1 for a wiring overview).

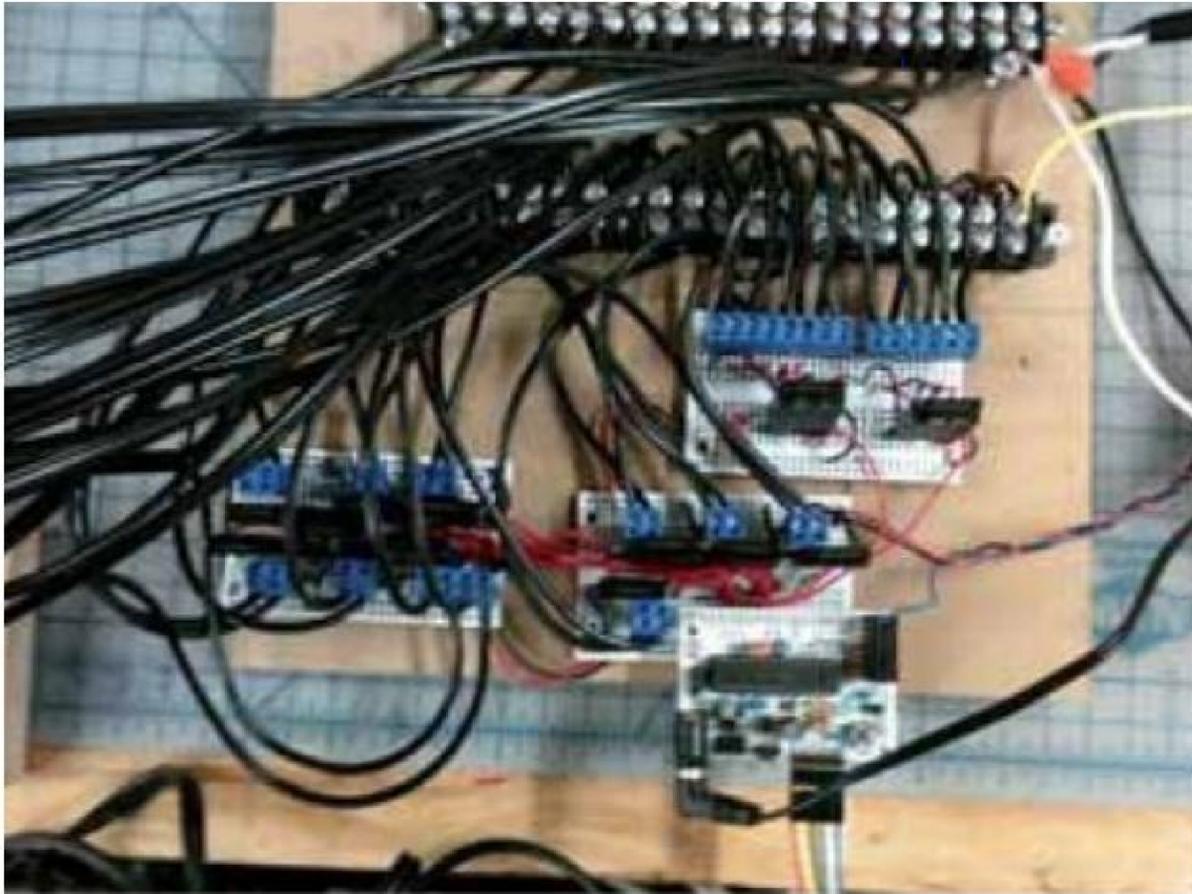
Fig. 1



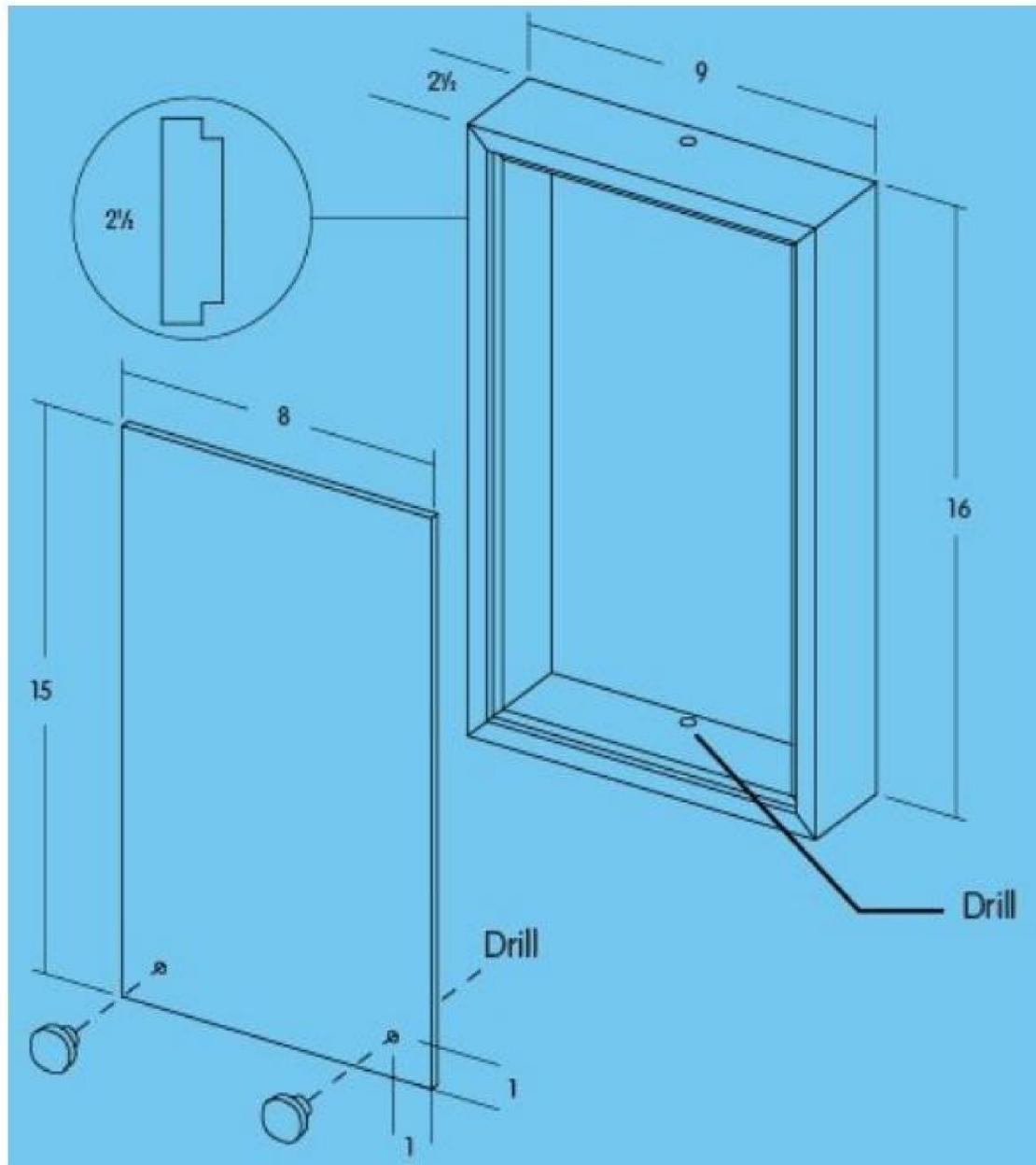
2



\_Assemble the dimmer board as shown.



3



\_Create a box large enough to house the electronics.

- \_ Use  $\frac{3}{4}$ in boards to create the perimeter. Cut to  $2\frac{1}{2}$ in wide and use a router or table saw to notch out  $\frac{1}{4} \times \frac{1}{4}$ in on the inside corners.
- \_ Cut to the following lengths and miter the ends: Two, 16in long; two, 9in long.
- \_ Use wood glue where they join, and screw or nail them together.
- \_ Drill a hole in the top and bottom boards for your cord.
- \_ Cut two  $\frac{1}{4}$ in-thick panels to 15 x 8in. In one of the panels, drill two  $\frac{1}{4}$ in holes for your knobs approximately 1in from each corner as shown.
- \_ Attach with small nails.

## 4

*/\*Dim(Some) Board by Brendan Keim. [www.brendankeim.com](http://www.brendankeim.com)Read a potentiometer and output reading to digital pins.*

```
*/
int potVal = 0;
int potPin = 0;
void setup() {
  pinMode(2, OUTPUT);
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
  pinMode(5, OUTPUT);
  pinMode(6, OUTPUT);
  pinMode(7, OUTPUT);
  pinMode(8, OUTPUT);
  pinMode(9, OUTPUT);
  pinMode(10, OUTPUT);
  pinMode(11, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
  Serial.begin(9600);
}
void loop() {
  potVal = analogRead(A0);
  delay(20);
  //Serial.println(potVal, DEC);
  // delay(300); // short delay to keep from sending too much data to serial port
  potPin = map(potVal,0,1023,0,14);
  //Serial.println(potPin, DEC);
  //delay(300);
```

```
if (potPin == 0)
{
digitalWrite(2, HIGH);
digitalWrite(3, LOW);
digitalWrite(4, LOW);
digitalWrite(5, LOW);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 1)
{
digitalWrite(2, HIGH);
digitalWrite(3, LOW);
digitalWrite(4, LOW);
digitalWrite(5, LOW);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 2){
digitalWrite(2, HIGH);
digitalWrite(3, LOW);
digitalWrite(4, LOW);
digitalWrite(5, LOW);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
```

```
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 3){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, LOW);
digitalWrite(5, LOW);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 4){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, LOW);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 5){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, LOW);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
```

```
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 6){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, LOW);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 7){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, LOW);
digitalWrite(9, LOW);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 8){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
digitalWrite(9, LOW);
```

```
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 9){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
digitalWrite(9, HIGH);
digitalWrite(10, LOW);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 10){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
digitalWrite(9, HIGH);
digitalWrite(10, HIGH);
digitalWrite(11, LOW);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 11){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
```

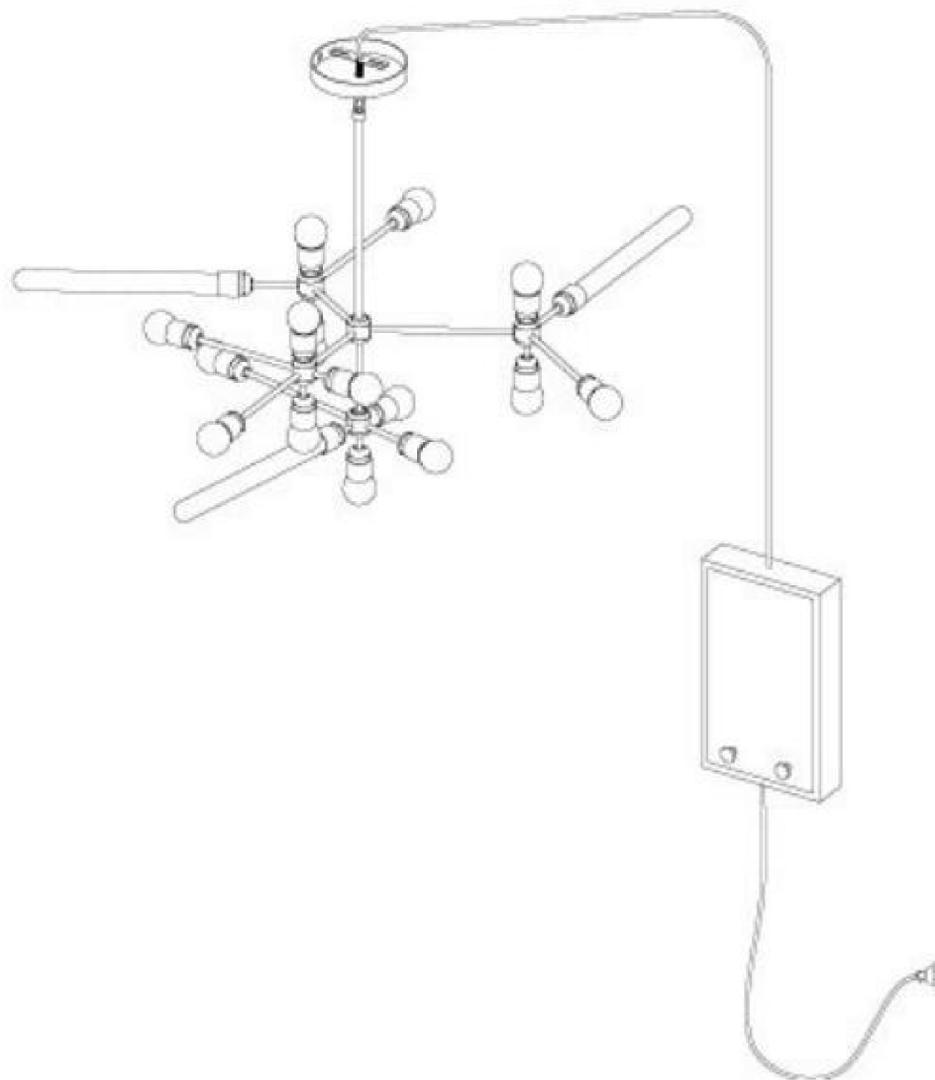
```
digitalWrite(9, HIGH);
digitalWrite(10, HIGH);
digitalWrite(11, HIGH);
digitalWrite(12, LOW);
digitalWrite(13, LOW);
}
else if (potPin == 12){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
digitalWrite(9, HIGH);
digitalWrite(10, HIGH);
digitalWrite(11, HIGH);
digitalWrite(12, HIGH);
digitalWrite(13, LOW);
}
else if (potPin == 13){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
digitalWrite(8, HIGH);
digitalWrite(9, HIGH);
digitalWrite(10, HIGH);
digitalWrite(11, HIGH);
digitalWrite(12, HIGH);
digitalWrite(13, HIGH);
}
else if (potPin == 14){
digitalWrite(2, HIGH);
digitalWrite(3, HIGH);
digitalWrite(4, HIGH);
digitalWrite(5, HIGH);
digitalWrite(6, HIGH);
digitalWrite(7, HIGH);
```

```
digitalWrite(8, HIGH);  
digitalWrite(9, HIGH);  
digitalWrite(10, HIGH);  
digitalWrite(11, HIGH);  
digitalWrite(12, HIGH);  
digitalWrite(13, HIGH);  
}  
}
```

\_Upload custom code to Arduino.

Found at: [www.brendankeim.com/DIM-SOME-CHANDELIER](http://www.brendankeim.com/DIM-SOME-CHANDELIER)

## 5



\_Hang the chandelier and mount the dimmer board on a wall.

\_Plug in, Dim(Some), and enjoy!







## 5.

# BEDROOM

Closets are overrated. They are usually cramped, dark spaces that do a better job of hiding junk than functioning as a place from which to select your daily digs. From storage that displays to a quilt that once moved, this selection of designs will get you inspired at the start of your day. If you need a room within a room, Retreat will give you privacy while you dream up your next project. Wake up and drop down the incorporated desk and get to work making Ruckercorp's Quilt from moving blankets. We provide you with the bones for creating this eye-popping piece of modernism so that you can make it your own. Display your most cherished fashion-forward item prominently in the A.O.CMS Glass Cabinet, originally designed for a store in Sweden to showcase their wares. Love Aesthetics' take on a clothing rack is not only functional but also a beautiful example of minimalism. The Lesser Dresser, a monolith of OSB, also shows off your belongings. The top drawer is designed to house your collection of accessories, which are visible through a slightly reflective glass top that also functions as a mirror.

# CLOTHING RACK

## LOVE AESTHETICS

This is a new version of the standard clothing rail, made out of basic plumbing parts. The design has been kept as easy and uncomplicated as possible—it is essentially just a frame that leans against the wall.

The weight of the clothes pushes the rack against the wall and makes it sturdy, while the simplicity of the design also makes it really easy to deconstruct and move around.

You will need:

### **Materials**

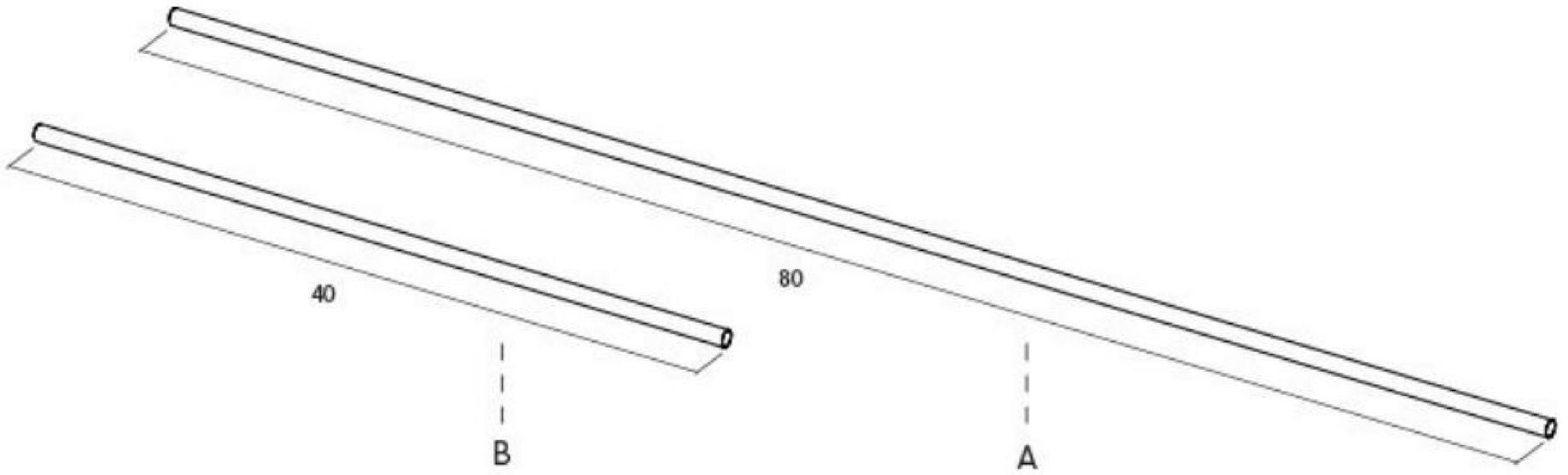
- \_ Plumbing tube,  $\frac{7}{8}$ in diameter, 160in long
- \_ Plumbing tube,  $\frac{7}{8}$ in diameter, 80in long
- \_ Four 3-way joints for plumbing tubes
- \_ Roll of strong plastic tape

### **Tools**

- \_ Cutter
- \_ Scissors



1

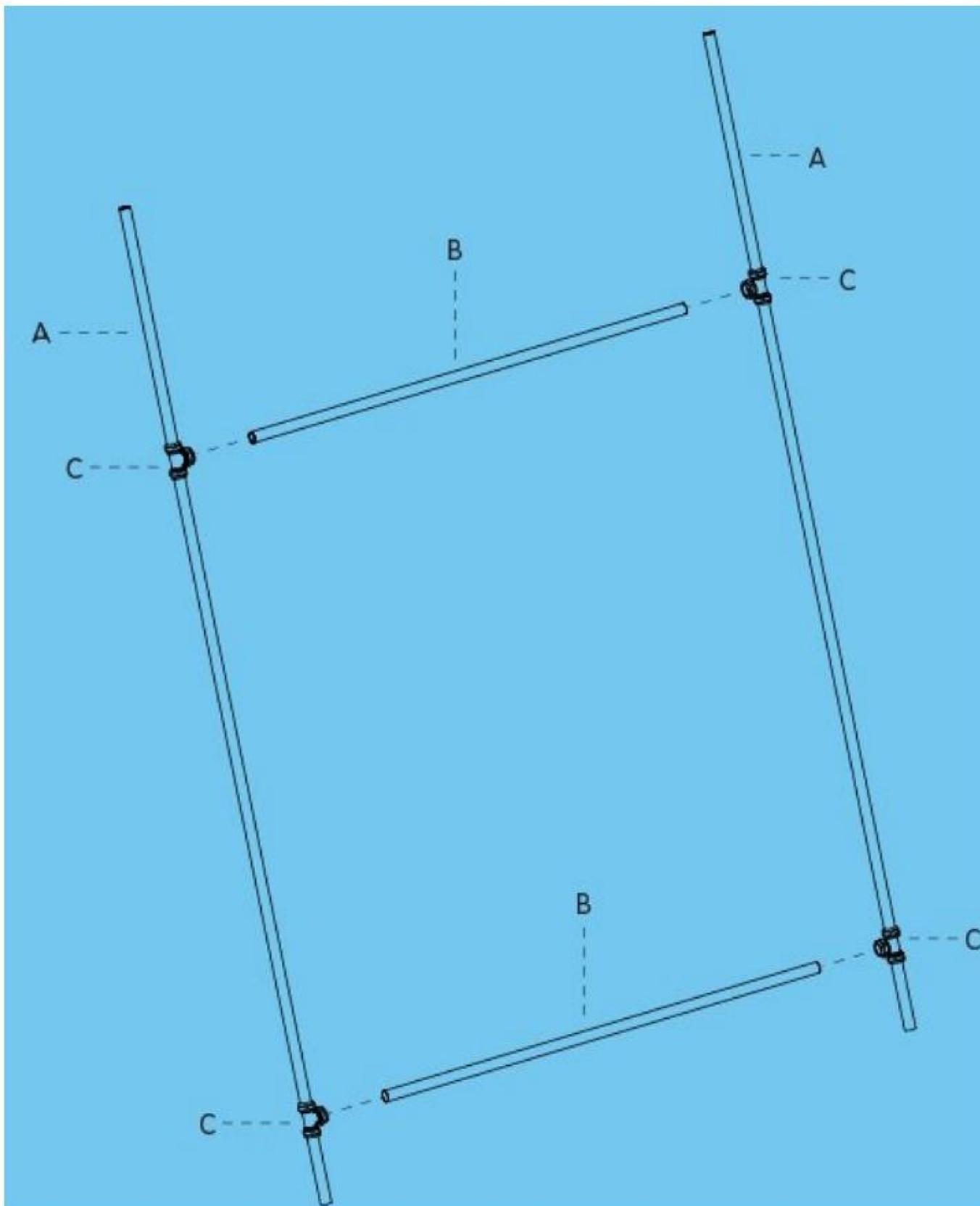


Cut the  $\frac{7}{8}$ in-diameter plumbing tube to the following lengths:

\_ Two x 80in (part A)

\_ Two x 40in (part B)

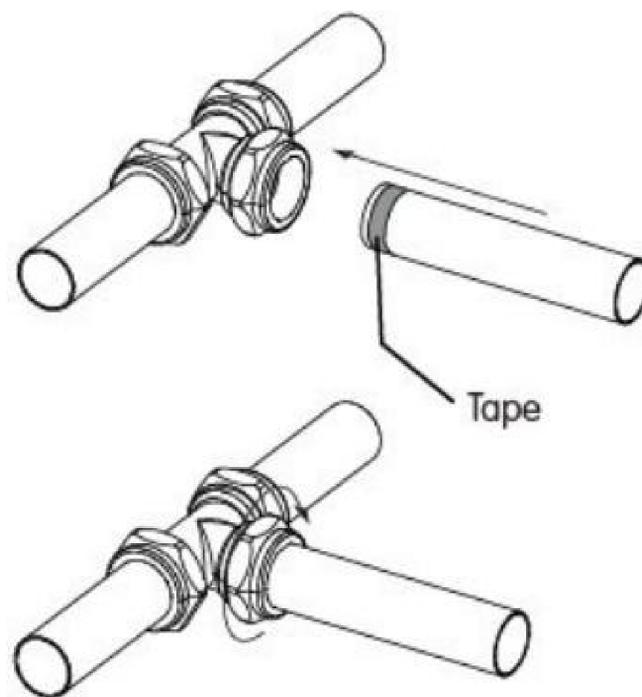
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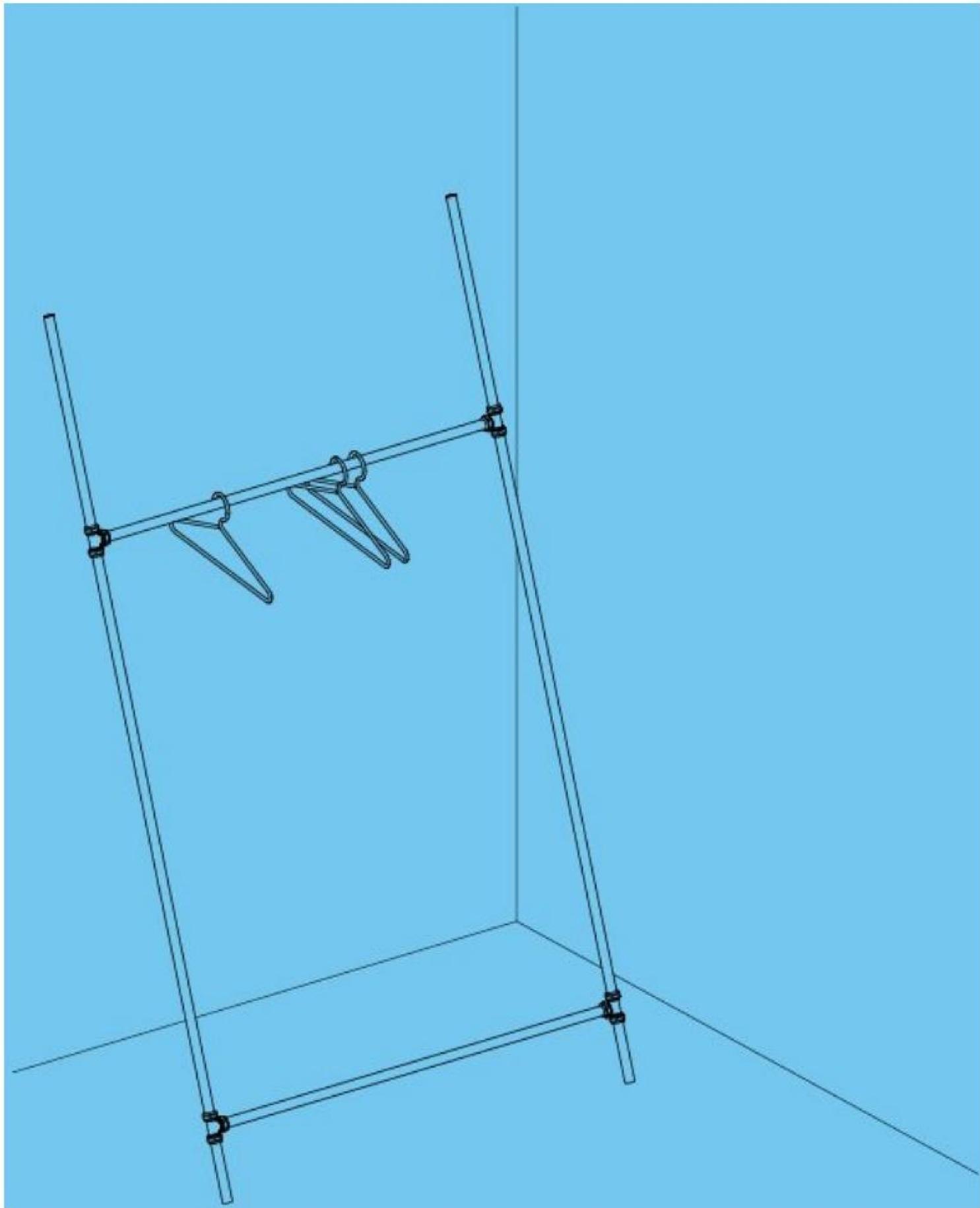


- \_ Put the long tubes against the wall at an incline, with the bottom approximately 30in away from the wall.
- \_ Position a hanger at a height where it doesn't touch the wall and mark this spot on the tube (see Fig. 1). This is where the horizontal tube (part B) will be located.
- \_ Put a piece of strong tape around the ends of the horizontal tubes (parts B) before inserting into three-way joints (parts C) to prevent them from sliding.
- \_ Once all four joints have been placed, finish assembling the rack by connecting the long tubes with the short horizontal ones in between (see Fig. 2).



Fig. 2





\_Lean the rack against the wall, hang up your clothes, and enjoy! Optionally, two screws can be put into the floor where the tubes meet the ground so as to fix them in position.



# OSBEAUTIFUL LESSER DRESSER

CHRISTOPHER STUART

Oriented strand board (OSB)—also referred to as chipboard, shit board, wafer board, pancake board, sterling board, exterior board, smartply, and “that crappy stuff that gives you bad splinters”—is a subpar sheet commonly used for underflooring, roofing, decking, and crates. On the woodworker’s desired list of materials, it rates even lower than plywood.

Christopher Stuart chose to use this material, not only because it is so rarely used for furniture but also because it was potentially so well suited to a dresser form—a crate, just like a dresser, tends to inspire curiosity about what’s inside. To incorporate this sense of curiosity, Stuart removed all visible hardware from the outside, allowing the dresser to feel like one solid object.

The usual solid top of a dresser is replaced here with reflective bronze glass—it is somewhat see-through, but requires the effort of leaning over, which adds a bit of intrigue. Opening the top drawer reveals corrugated foam, which could cradle precious collectables like watches or jewelry.

Historical cabinet-making techniques were used for this piece— matched “grain” and rough drawer sides—alongside high-end ball-bearing slide hardware, creating an odd pairing of low- and high-brow. It is this pairing that elevates the OSB to another level and earns it the nickname, OSBeautiful.

You will need:

## Materials

- \_ Ten 16in-long ball-bearing slides
- \_ One piece of tempered reflective bronze glass
- \_ Four sheets of OSB,  $\frac{3}{4}$  x 95 x 48in

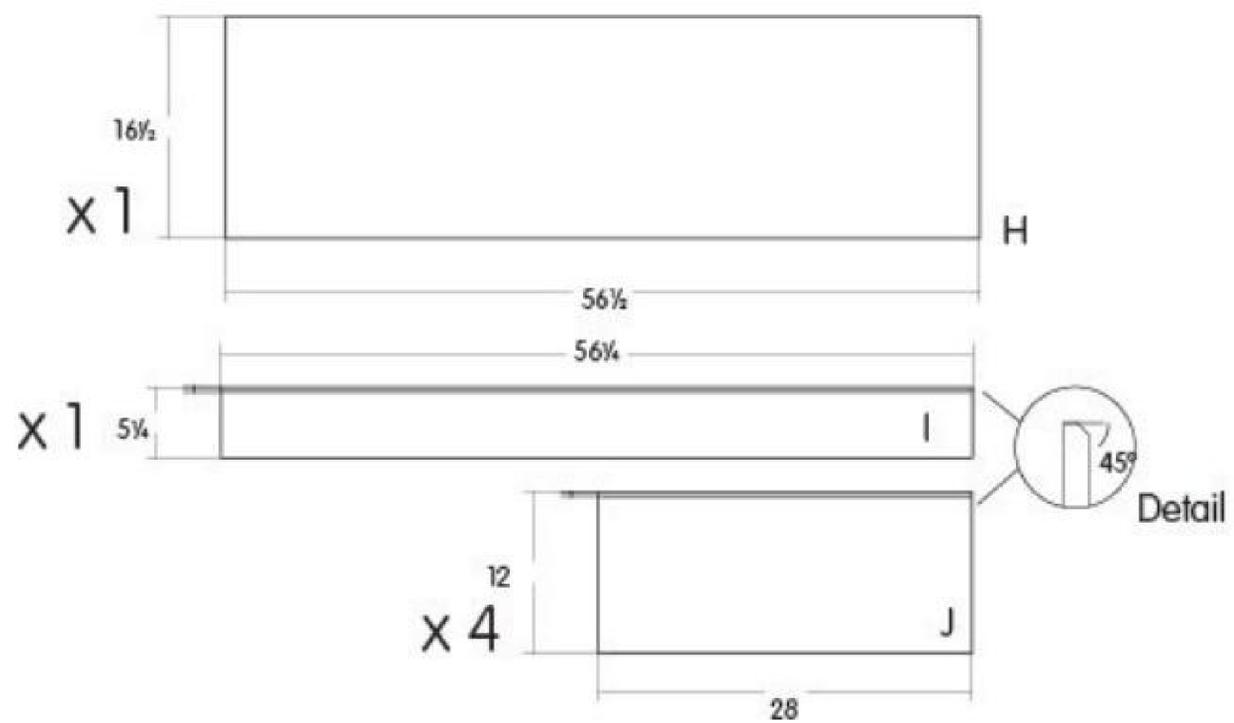
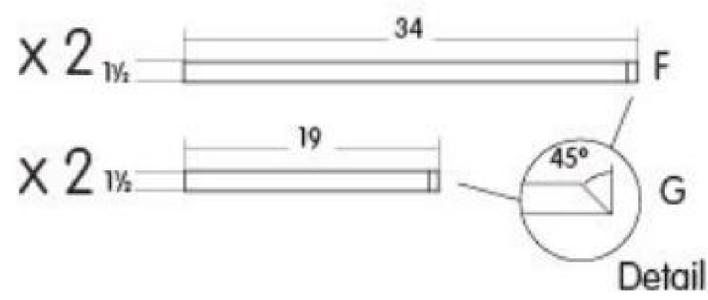
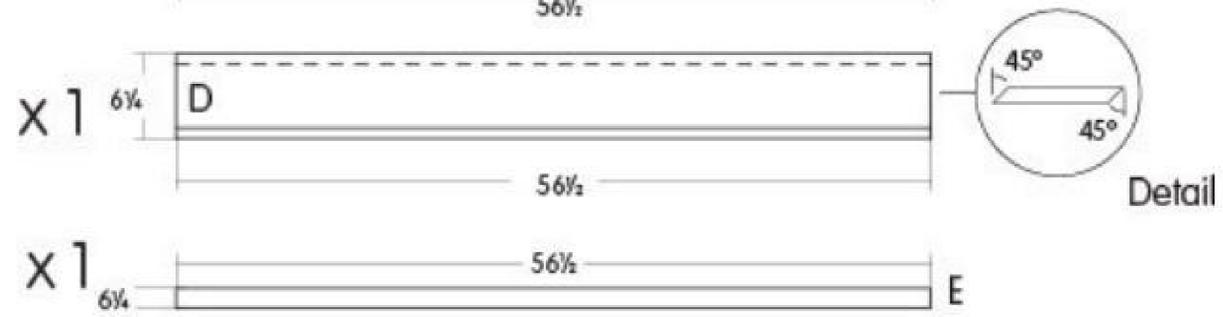
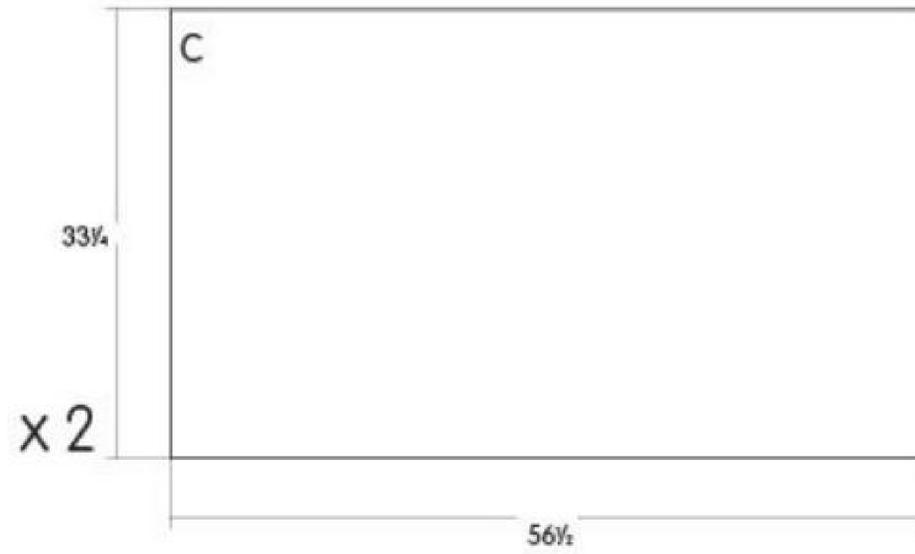
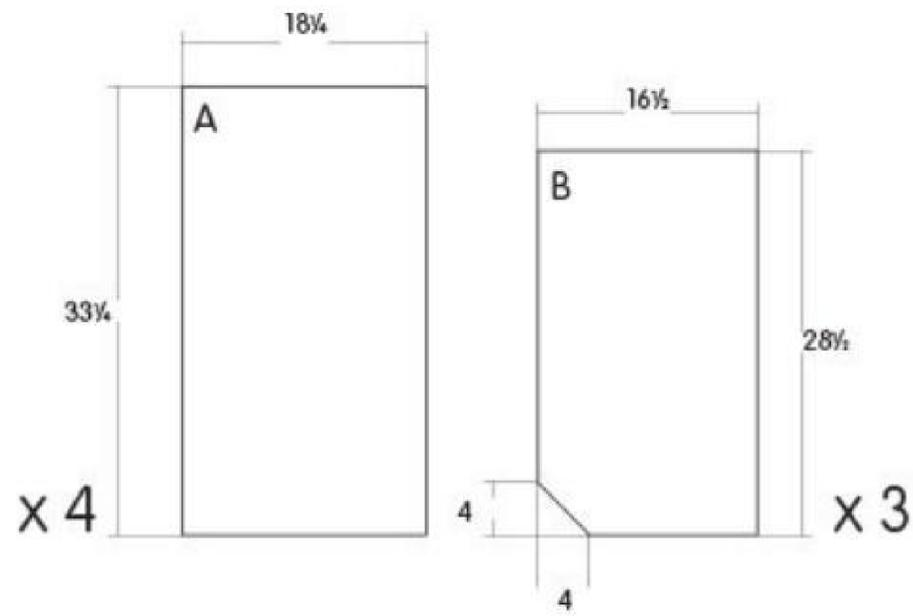
- \_Two sheets of OSB,  $\frac{1}{2}$  x 95 x 48in
- \_Two aluminum angles,  $\frac{1}{2}$  x  $\frac{1}{2}$  x 60in
- \_Drywall screws,  $\frac{1}{2}$ in long
- \_Drywall screws,  $1\frac{3}{4}$ in long
- \_Drywall screws,  $2\frac{1}{2}$ in long
- \_Finish nails,  $1\frac{1}{4}$ in long
- \_Wood glue

### **Tools**

- \_Drill
- \_Drill bit for metal,  $\frac{1}{8}$ in diameter
- \_Metal hacksaw
- \_Saw
- \_Hammer
- \_Long-bladed utility knife



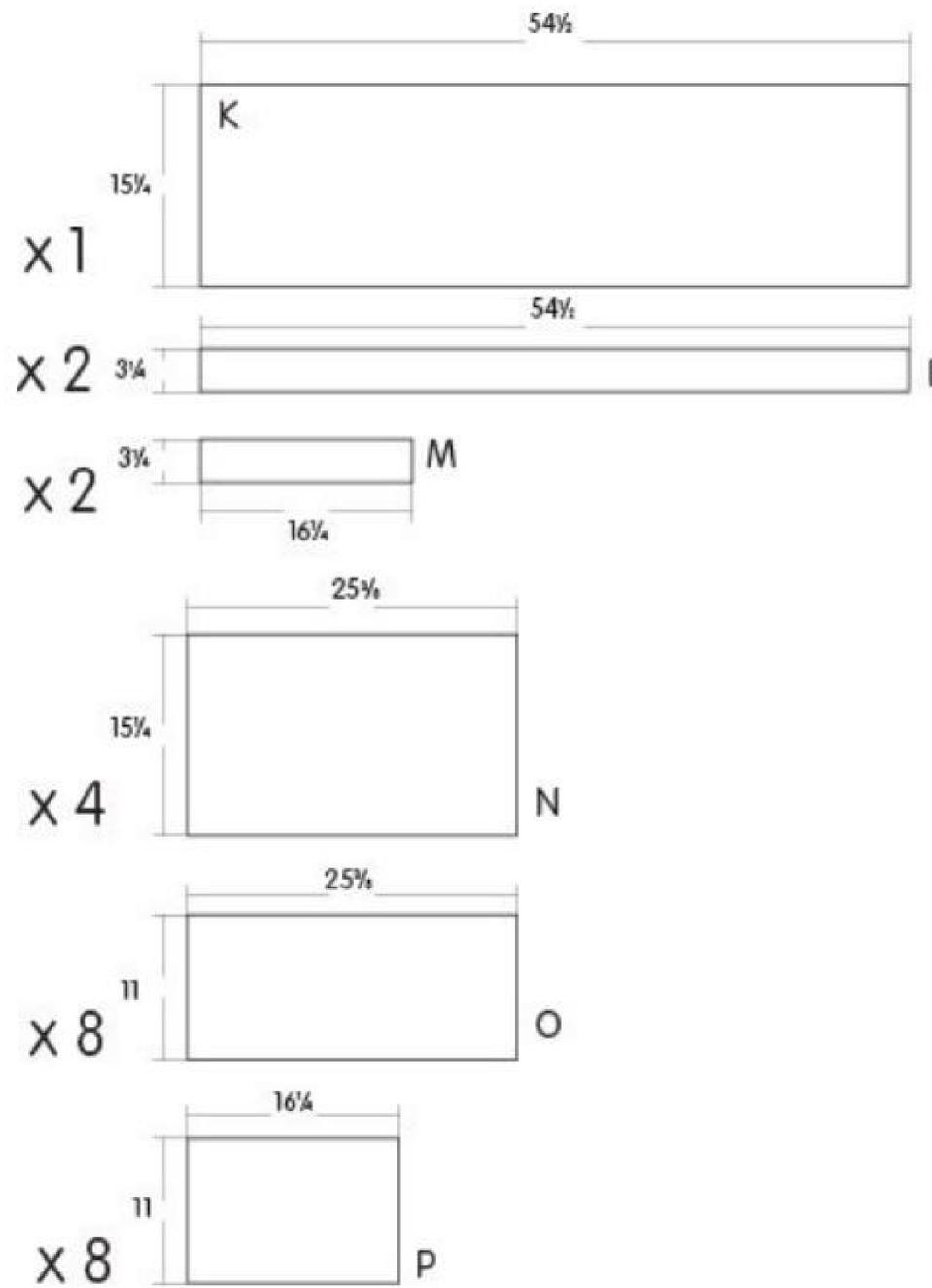
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Cut the  $\frac{3}{4}$ in OSB to the following sizes:

- \_ Four x  $18\frac{1}{4}$  x  $33\frac{1}{4}$ in (part A)
- \_ Three x  $16\frac{1}{2}$  x  $28\frac{1}{2}$ in with 4in diagonal corner (part B)
- \_ Two x  $56\frac{1}{2}$  x  $33\frac{1}{4}$ in (part C)
- \_ One x  $56\frac{1}{2}$  x  $6\frac{1}{4}$ in with mitered sides, see detail (part D)
- \_ One x  $56\frac{1}{2}$  x  $1\frac{1}{2}$ in (part E)
- \_ Two x 34 x  $1\frac{1}{2}$ in with mitered end, see detail (part F)
- \_ Two x 19 x  $1\frac{1}{2}$ in with mitered end, see detail (part G)
- \_ One x  $56\frac{1}{2}$  x  $16\frac{1}{2}$ in (part H)
- \_ One x  $56\frac{1}{4}$  x  $5\frac{1}{4}$ mm with beveled edge, see detail (part I)
- \_ Four x 28 x 12in with beveled edge, see detail (part J)

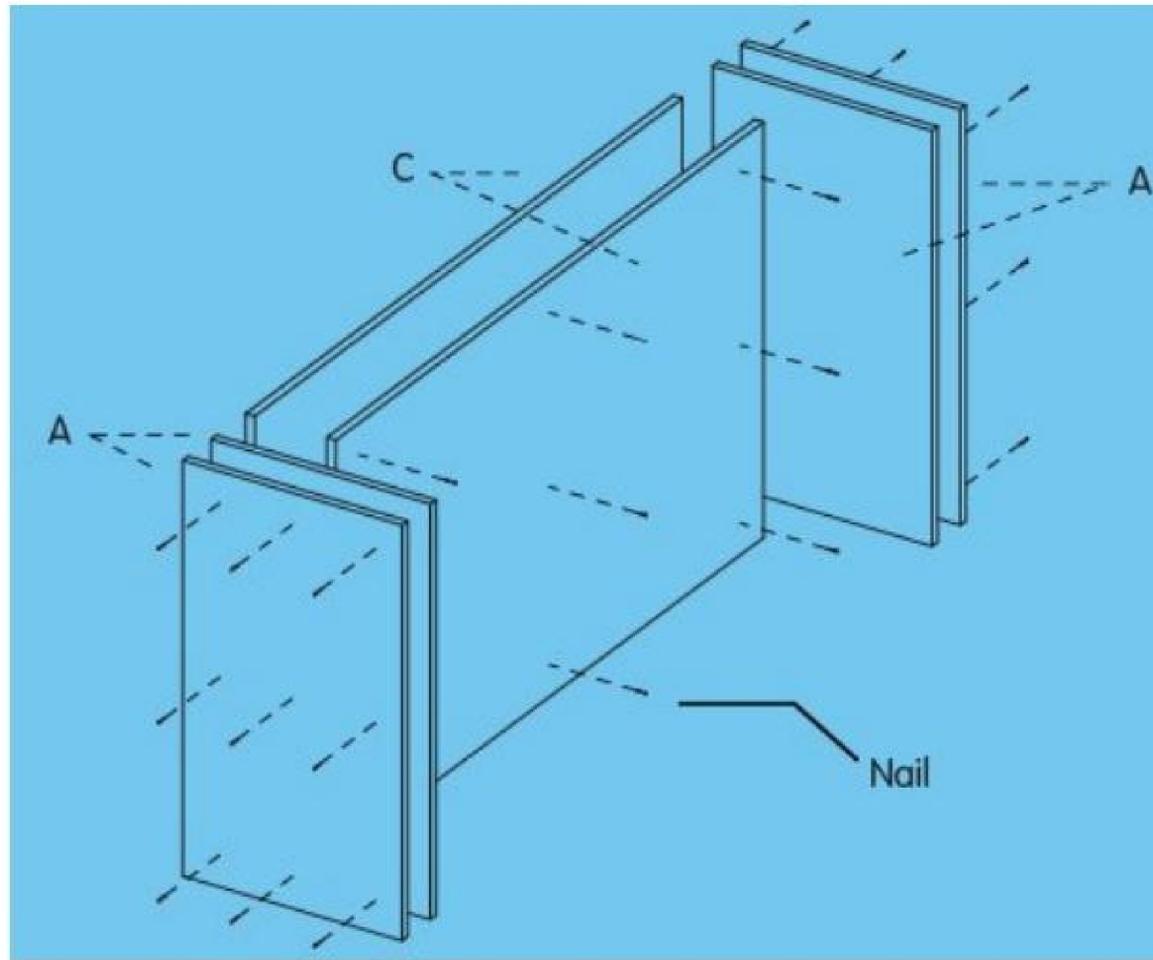




Cut the  $\frac{1}{2}$ in OSB to the following sizes:

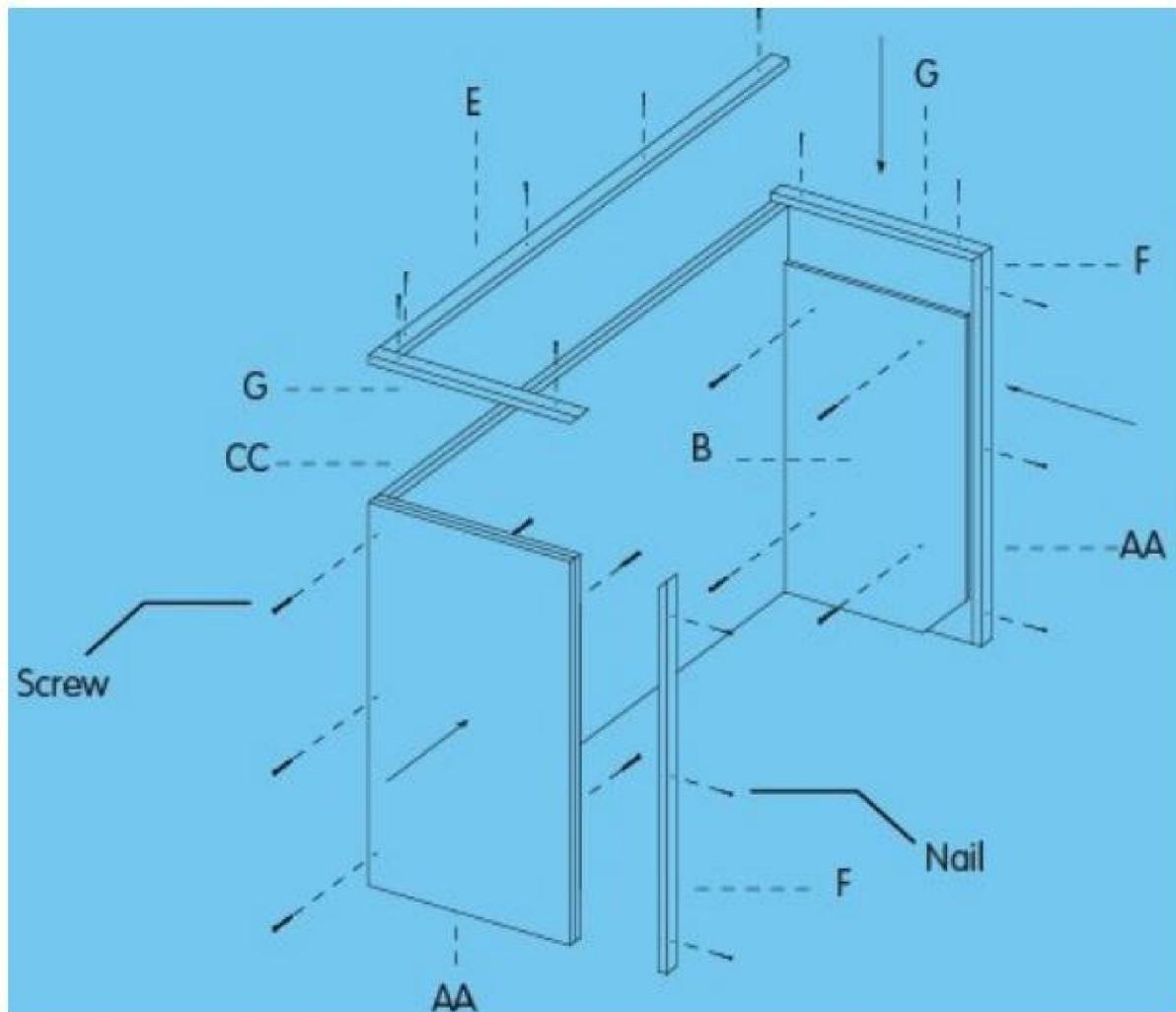
- \_ One x  $54\frac{1}{2}$  x  $15\frac{1}{4}$ in (part K)
- \_ Two x  $54\frac{1}{2}$  x  $3\frac{1}{4}$ in (part L)
- \_ Two x  $16\frac{1}{4}$  x  $3\frac{1}{4}$ in (part M)
- \_ Four x  $25\frac{3}{8}$  x  $15\frac{1}{4}$ in (part N)
- \_ Eight x  $25\frac{3}{8}$  x 11in (part O)
- \_ Eight x  $16\frac{1}{4}$  x 11in (part P)

3



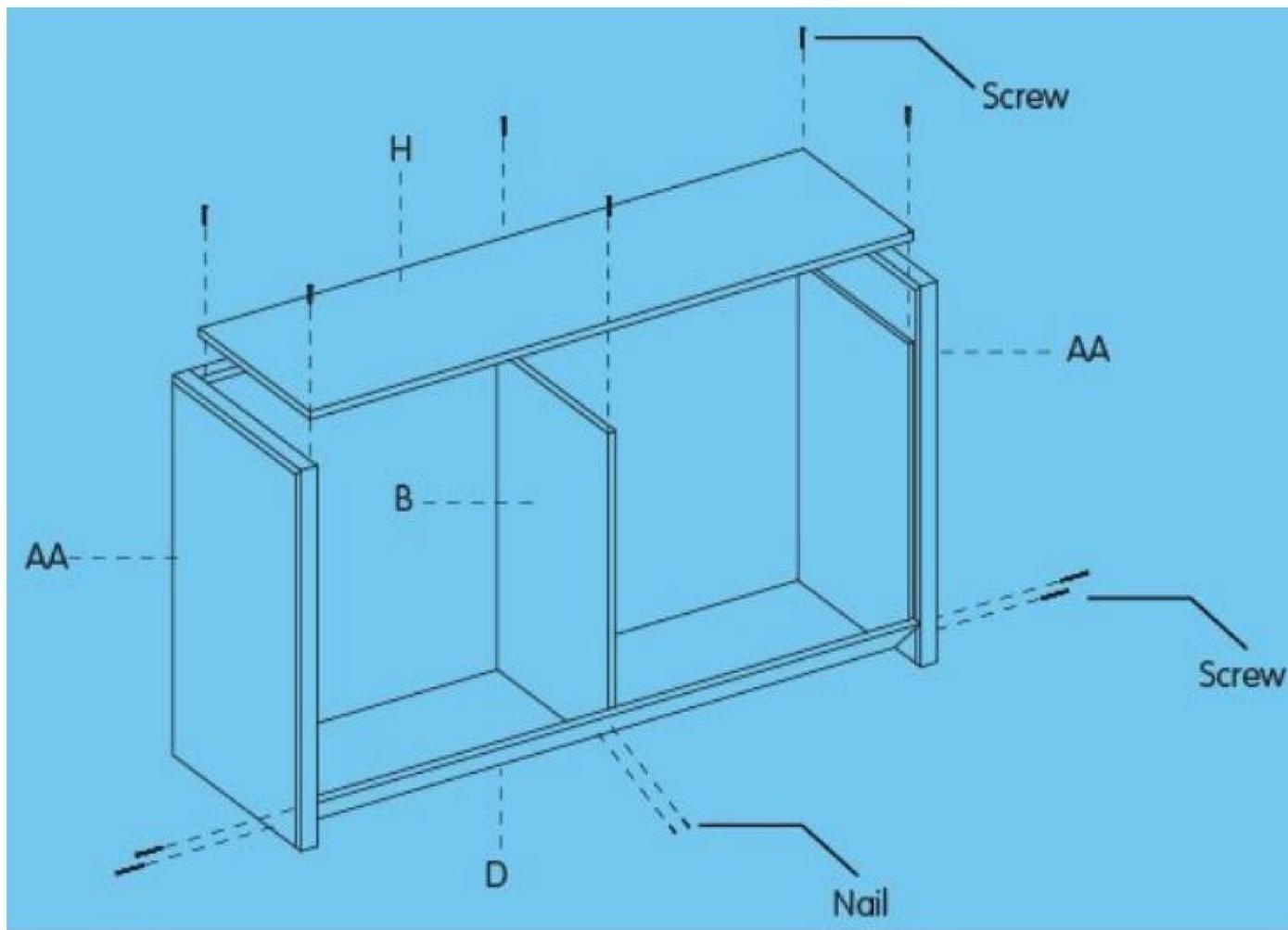
### **Assembling the sides and back**

- \_ Attach two part Cs together using finish nails, creating the back (part CC), applying wood glue between the surfaces.
- \_ Attach two part As together using finish nails, creating one side (part AA), applying wood glue between the surfaces.
- \_ Repeat with the other two part As to create the other side (part AA).



### Completing the sides and back

- \_ Attach each side (part AA) to the back (part CC) as shown, using the 2½in screws.
- \_ Cap the top of part CC with part E, the tops of parts AA with parts G, and the fronts of AA with parts F using finish nails and matching the miters as shown (apply a coat of wood glue to both facing surfaces and miters to secure them).
- \_ Attach part B to part AA using 1¾in screws, ensuring it is flush against the back (part CC) and that the diagonal corner is on the bottom facing out, as shown.
- \_ Repeat with part B on the opposite side.

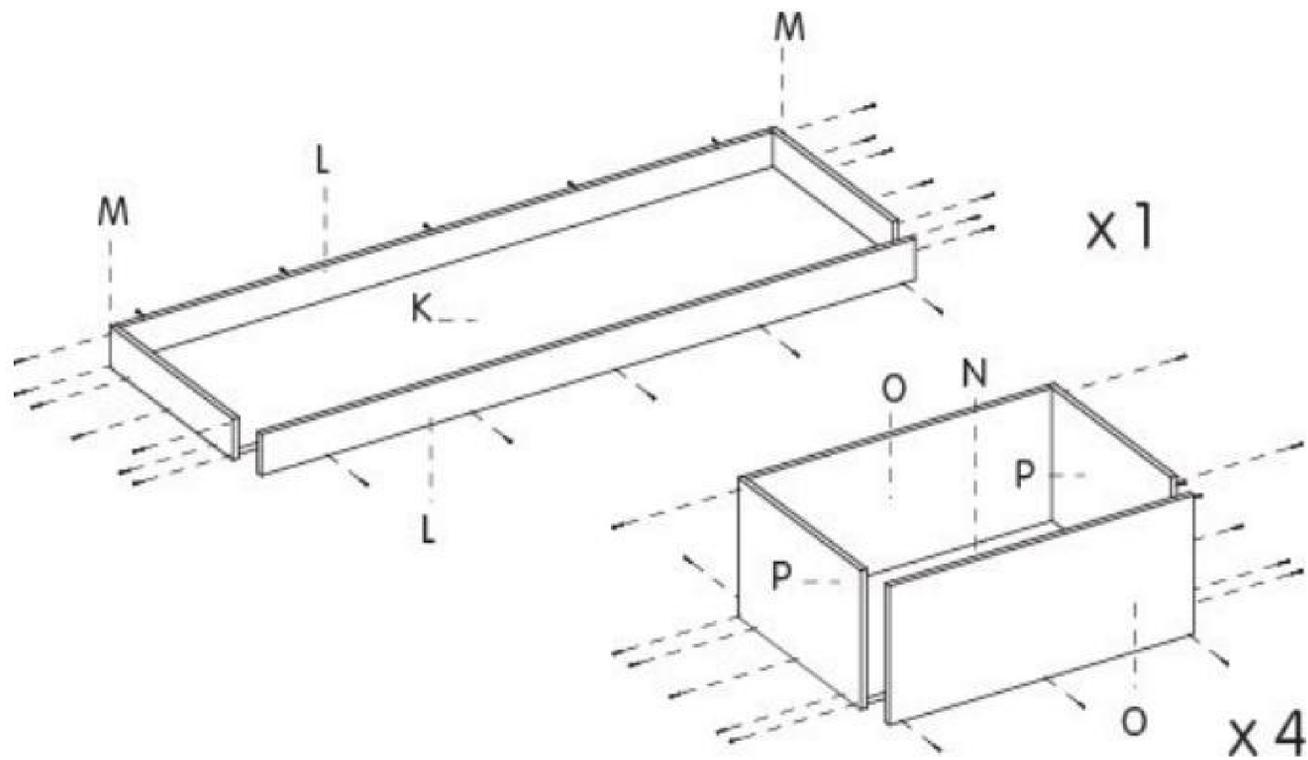


### Completing the cabinet

- \_ Mark the center of the inside and attach the center support (the remaining part B), screwing in through the back panel (part CC) with 2½in screws.
- \_ Attach the kickplate (part D) by screwing through the sides (parts AA) with 2½in screws. Nail the center of the kickplate (part D) to the diagonal edge of the center support (part B).
- \_ Attach the cross support (part H) by attaching to parts B with 1¾in screws, ensuring the back edge is flush against the back (part CC), and the side edges are flush against the sides (parts AA). This will create a strong box.



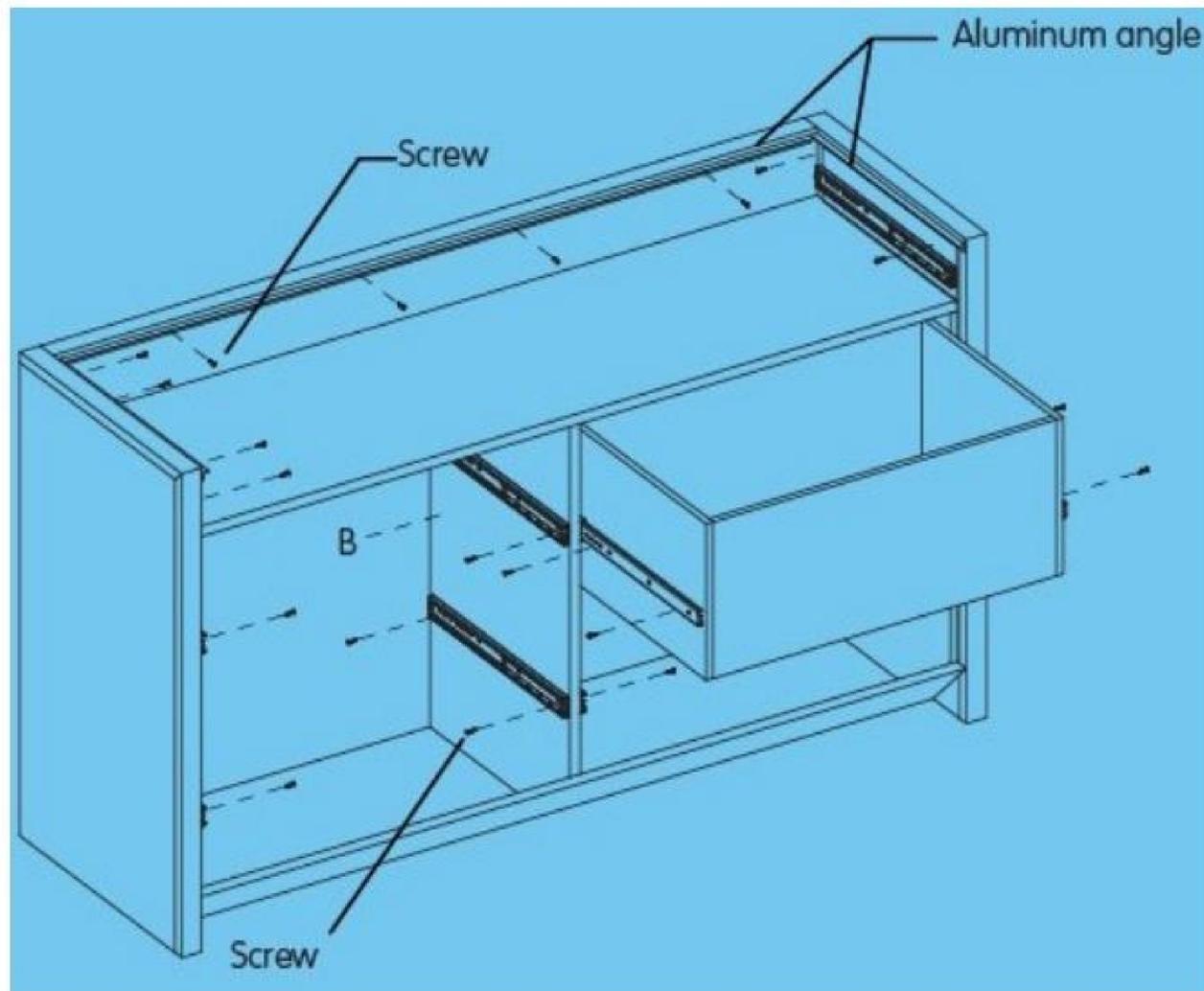
# 6



## Assembling the drawers

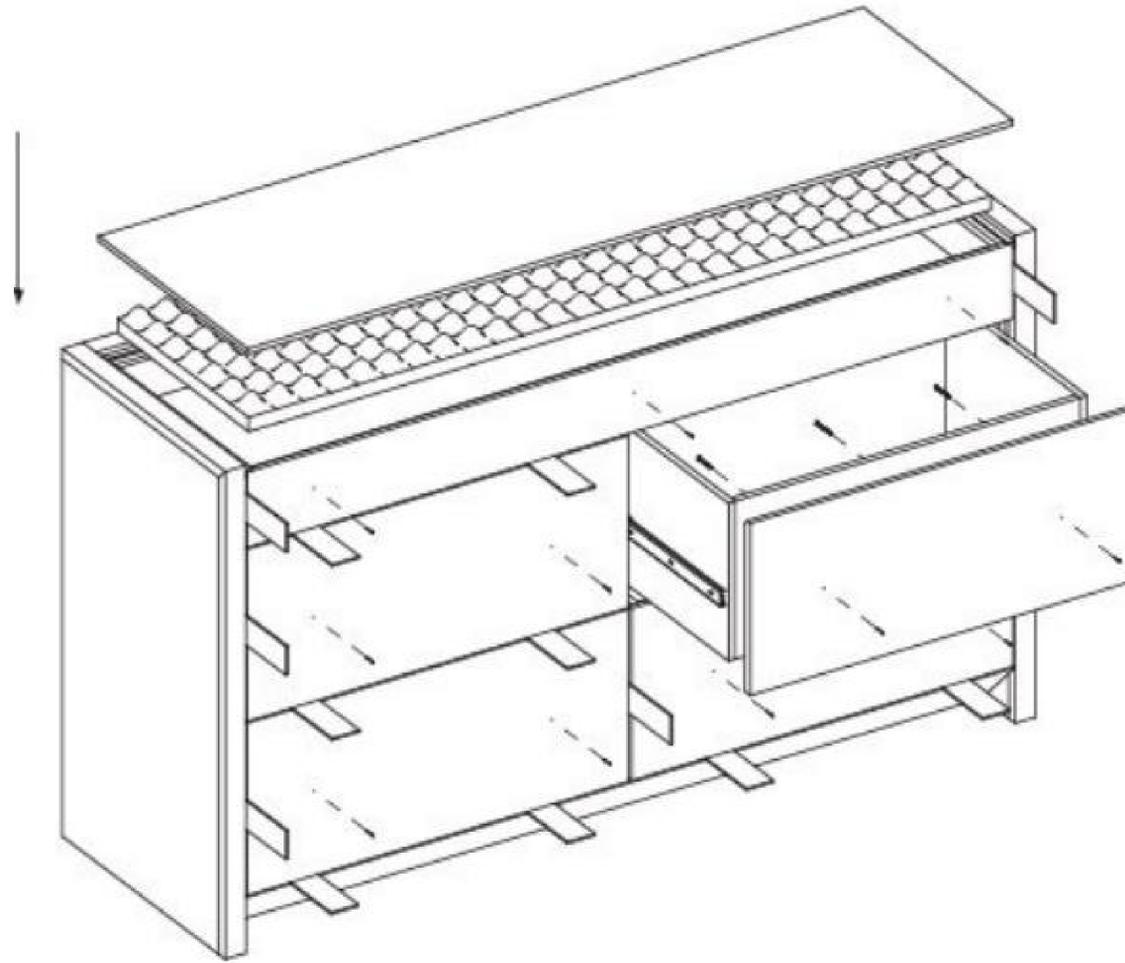
- \_Set part K on a flat surface and create a box using two parts L and two parts M (parts L should fit between parts M).
- \_After confirming positions, apply glue to the edges that touch and nail them together using finish nails. This is your top drawer.
- \_Set part N on a flat surface and create a box, using two parts O and two parts P (parts O should fit between parts P).
- \_After confirming positions, apply glue to the edges that touch and nail them together using finish nails. This makes one bottom drawer.
- \_Repeat using parts N, O, and P to make a total of four bottom drawers.

# 7



### Attaching the hardware

- \_ Cut the aluminum angle to fit along the inside of the sides and back. Drill holes and attach with  $\frac{1}{2}$ in screws, leaving a  $\frac{3}{8}$ in space for glass. (Spray-paint flat black if you like).
- \_ Attach the slides to parts B, making sure they are flush to the front edge of parts B. You can make a wood spacer to set the slides on while you attach them. This will ensure that all slides stay the same height. (The screws should come with the slides.)
- \_ Extend the slide and set the drawer on a spacer until level, and attach it to the sides of the drawer.
- \_ Repeat for all drawers.

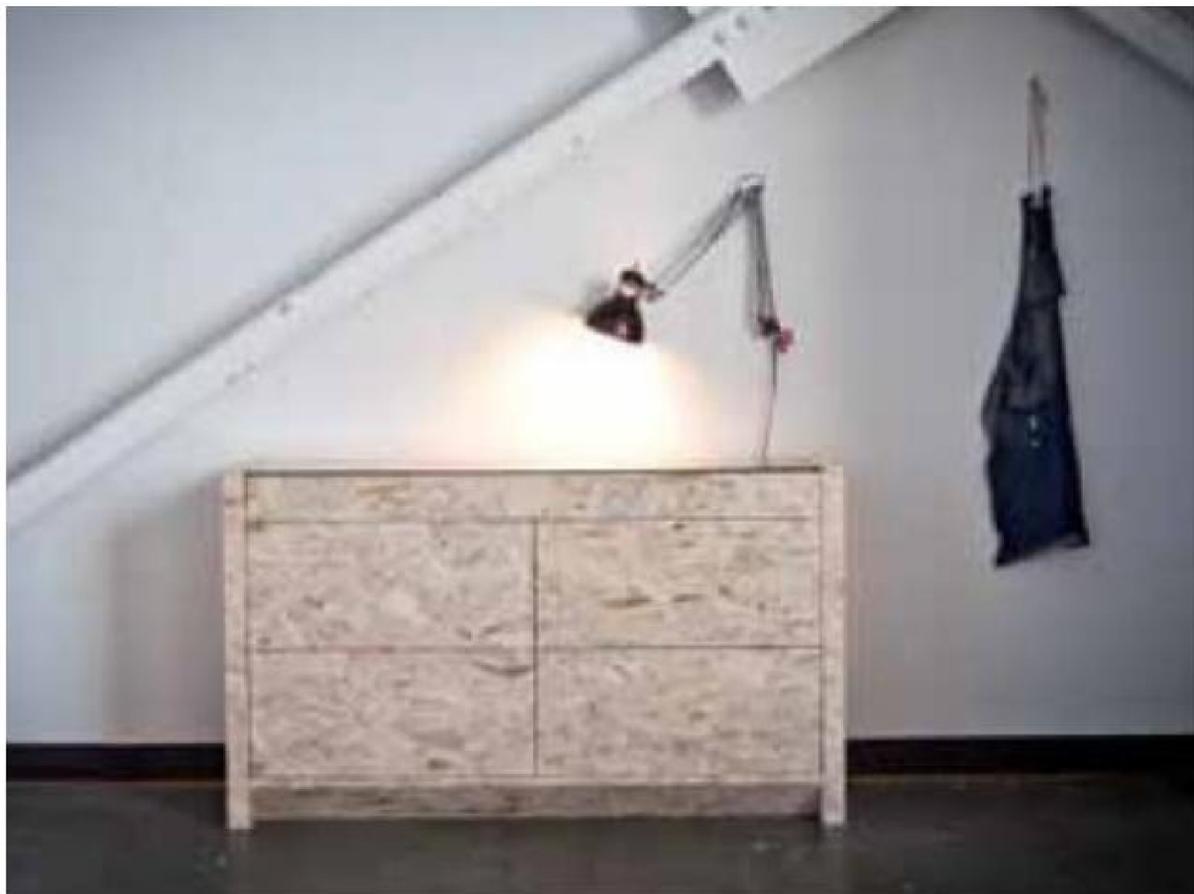


### **Attaching the drawer faces and inserting foam**

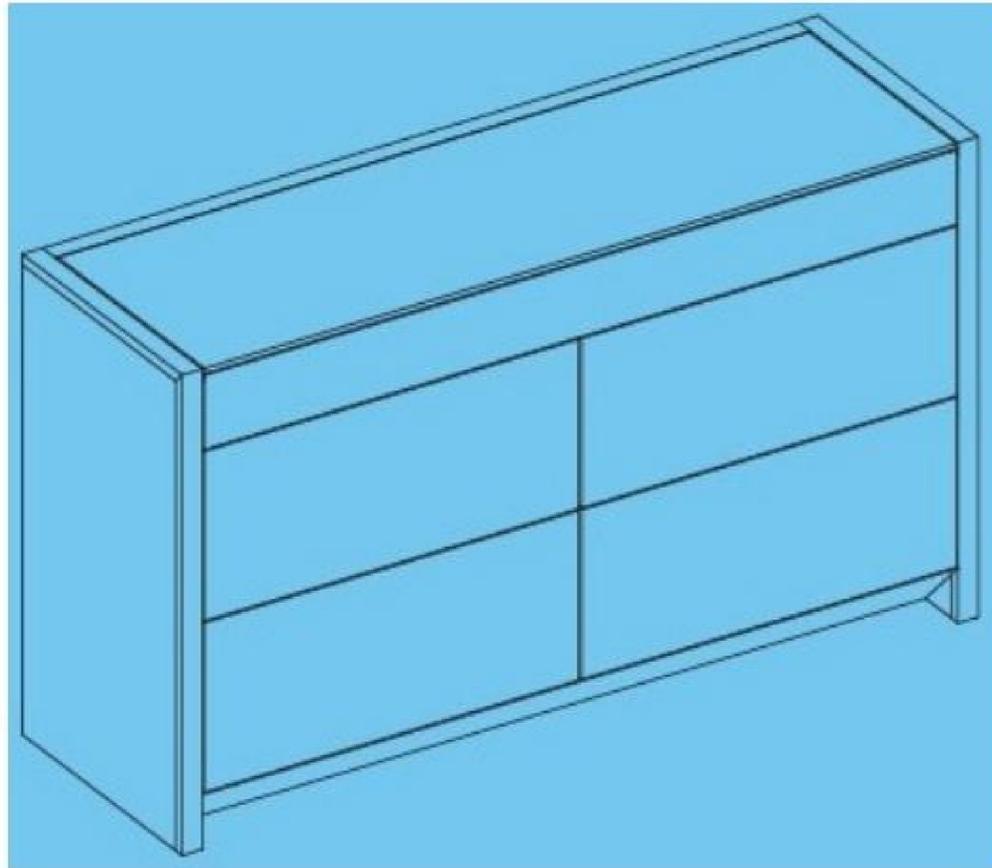
\_ Place the drawer faces on the drawers, using shims to get even spacing around them. Ensure that the beveled edge of the drawer face is facing in and up. Use finish nails to hold them in place, then screw in from the inside with 1 $\frac{3}{4}$ in screws to secure.

\_ Place the foam face down and cut to fit inside the top drawer, using a sharp utility knife with a long blade. Then fit the foam inside the drawer face up.

\_ Place the glass, resting it on the aluminum.



9



\_Place shiny objects in the crevices of the foam and enjoy!

# RETREAT

MAARTJE DROS AND FRANÇOIS LOMBARTS

In answer to a brief for sleeping places for guests at an exhibition and symposium in Zurich, designers Maartje Dros and François Lombarts experimented with a series of different sleeping arrangements to find what effect these might have on the common space and the dynamics of the participants. The solutions ranged from the most basic sleeping places through to self-contained modules. One of the latter is shown here.

It was an exercise in finding intimacy within the existing architecture, but also in creating it. The different sleeping proposals look for the line between private and public, sealing themselves off from their surroundings yet at the same time being exposed. The most basic sleeping units could be considered somewhat confrontational in their simplicity and positioning, and form a contrast to the more isolated modules.

The sleeping module shown here is built from wooden pallets. Wooden frames are attached to the pallets and sealed off with scaffolding cloth, creating a more intimate space. The step-by-step instructions overleaf can be adapted according to the surroundings and desires of the maker.

Retreats was a solution for sleeping modules for the Faculty of Invisibility's "Assembly" symposium. The series of different sleeping situations were spread out within the exhibition space of Shedhalle in Zurich, Switzerland, 2010.



You will need:

### **Materials**

- \_ Two twin-size mattresses
- \_ Four pallets approx.  
40 x 40in (part A)
- \_ Two wooden beams  
(2<sup>3</sup>/<sub>4</sub> x 2<sup>3</sup>/<sub>4</sub> x 100in)
- \_ Fifteen wooden boards  
(<sup>3</sup>/<sub>4</sub> x 4<sup>3</sup>/<sub>4</sub> x 95in)
- \_ Two wooden boards  
(<sup>3</sup>/<sub>4</sub> x 4<sup>3</sup>/<sub>4</sub> x 118in)
- \_ Twelve wooden boards  
(<sup>3</sup>/<sub>4</sub> x 3 x 40in)
- \_ Large box of screws, 1<sup>3</sup>/<sub>4</sub>in long

\_ Fifty screws, 2in long

\_ Scaffolding cloth  
(158 x 355in)

\_ Rope

\_ Four metal washers

### **Tools**

\_ Drill

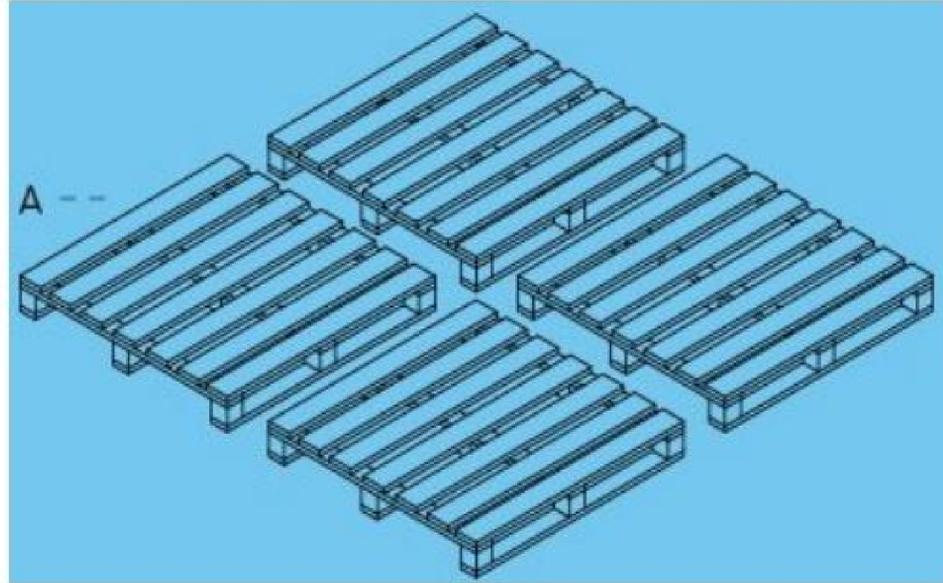
\_ Drill bit for predrilling

\_ Saw

\_ Staple gun and staples



# 1



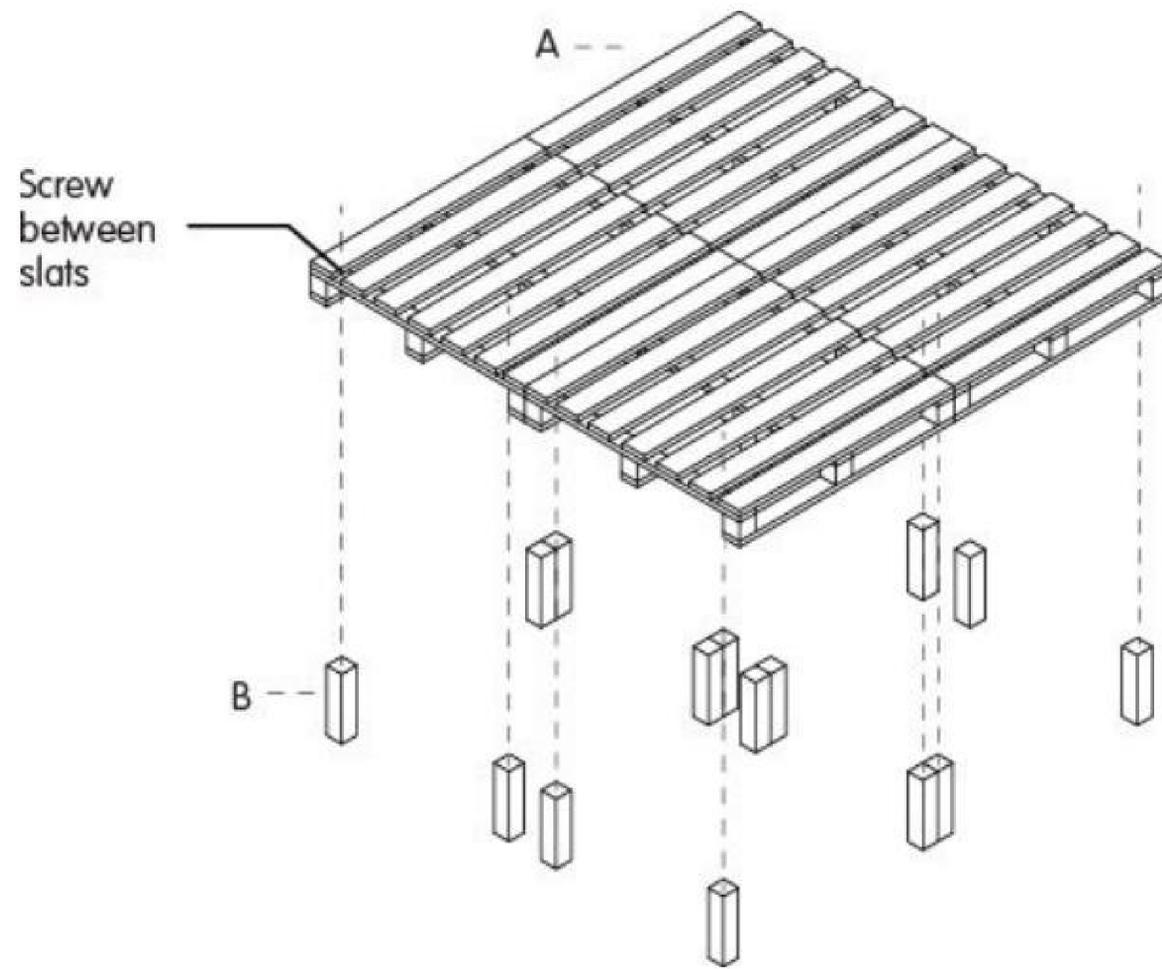
Pallet sizes vary from country to country. It is important that you choose and adjust the size of your pallets according to the measurements of your mattress. For this design, we used two twin-size mattresses and four 40 x 40in pallets. Use the following dimensions as a guide and adjust based on your mattress size and needs.

## **Pallets**

Pallets form the base of the design.

\_Collect 4 similar pallets and arrange as shown (parts A).

# 2



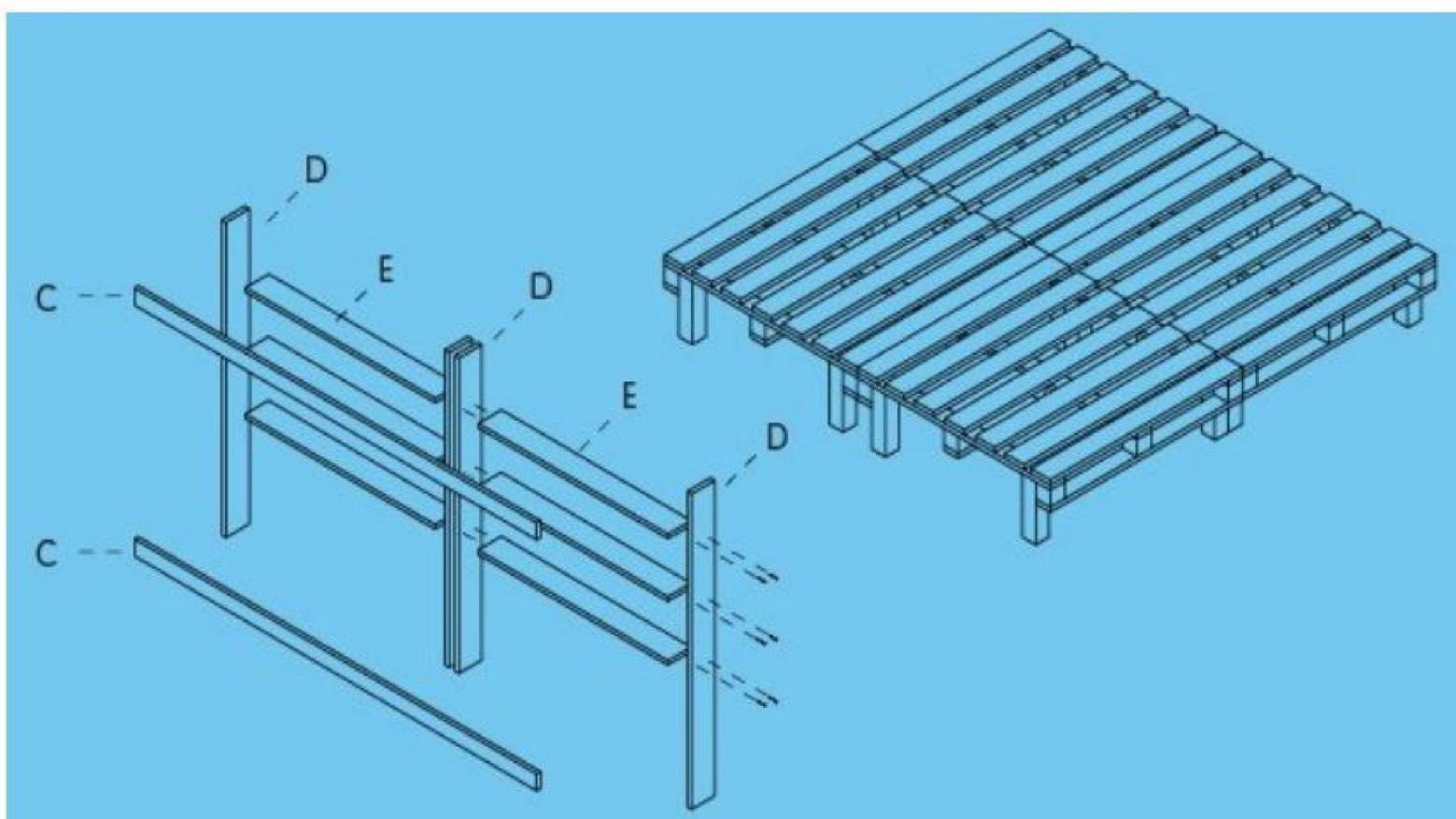
### Feet

Cut the  $2\frac{3}{4} \times 2\frac{3}{4}$ in wood beams to the following length: Sixteen x beams, 11in long (part B)

\_ Attach the feet as shown, placing each against the top cross support of the pallet.

\_ Pre-drill and screw them into place using the longer screws.

3

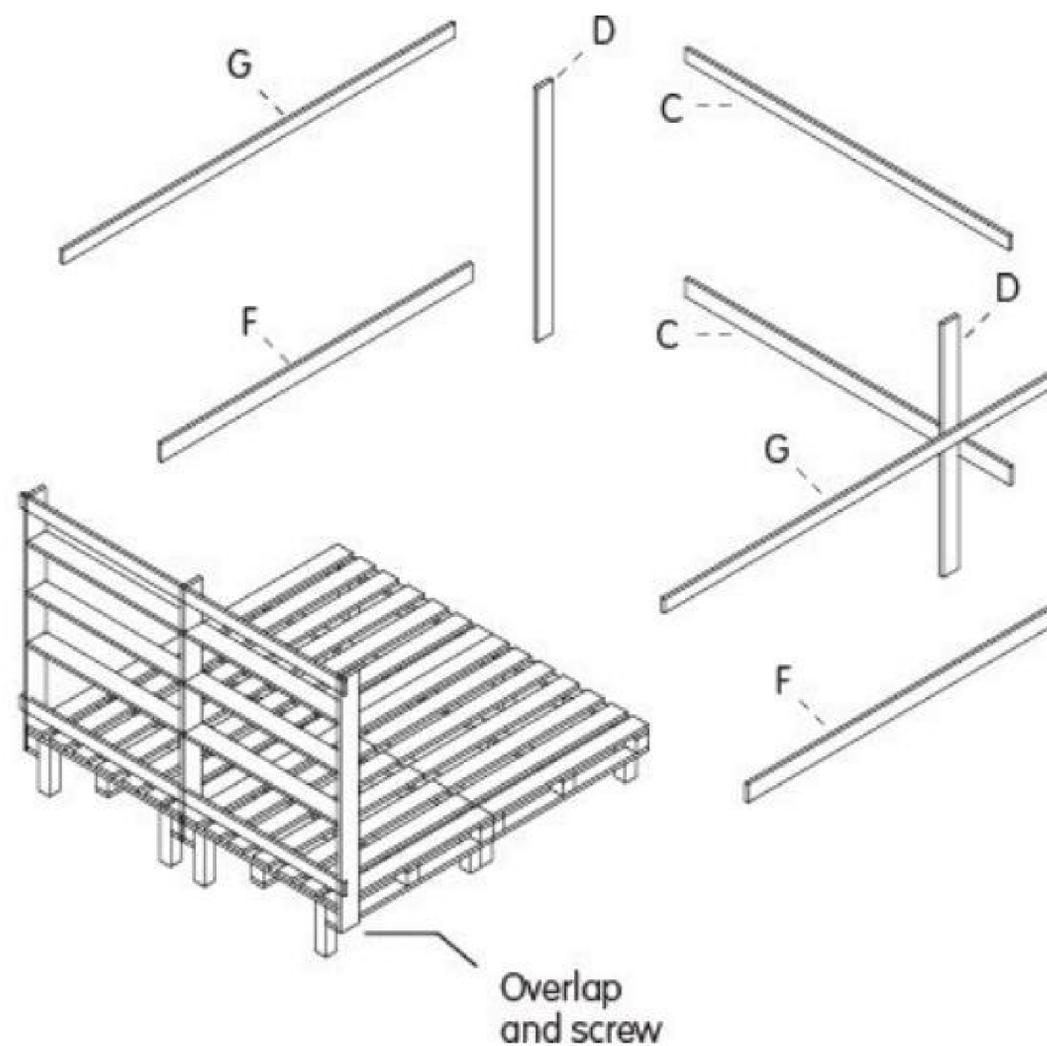


## Headboard

Cut the  $\frac{3}{4}$  x  $4\frac{3}{4}$  x 95in boards into the following lengths:

- \_ Two x 82in long (part C)
- \_ Four x 55in long (part D)
- \_ Six x  $38\frac{3}{4}$  in long (part E)
- \_ Screw vertical planks (parts D) to the pallet.
- \_ Screw shelves (parts E) in between.
- \_ Connect vertical planks at top and bottom with side rails (parts C).

4



## Frame

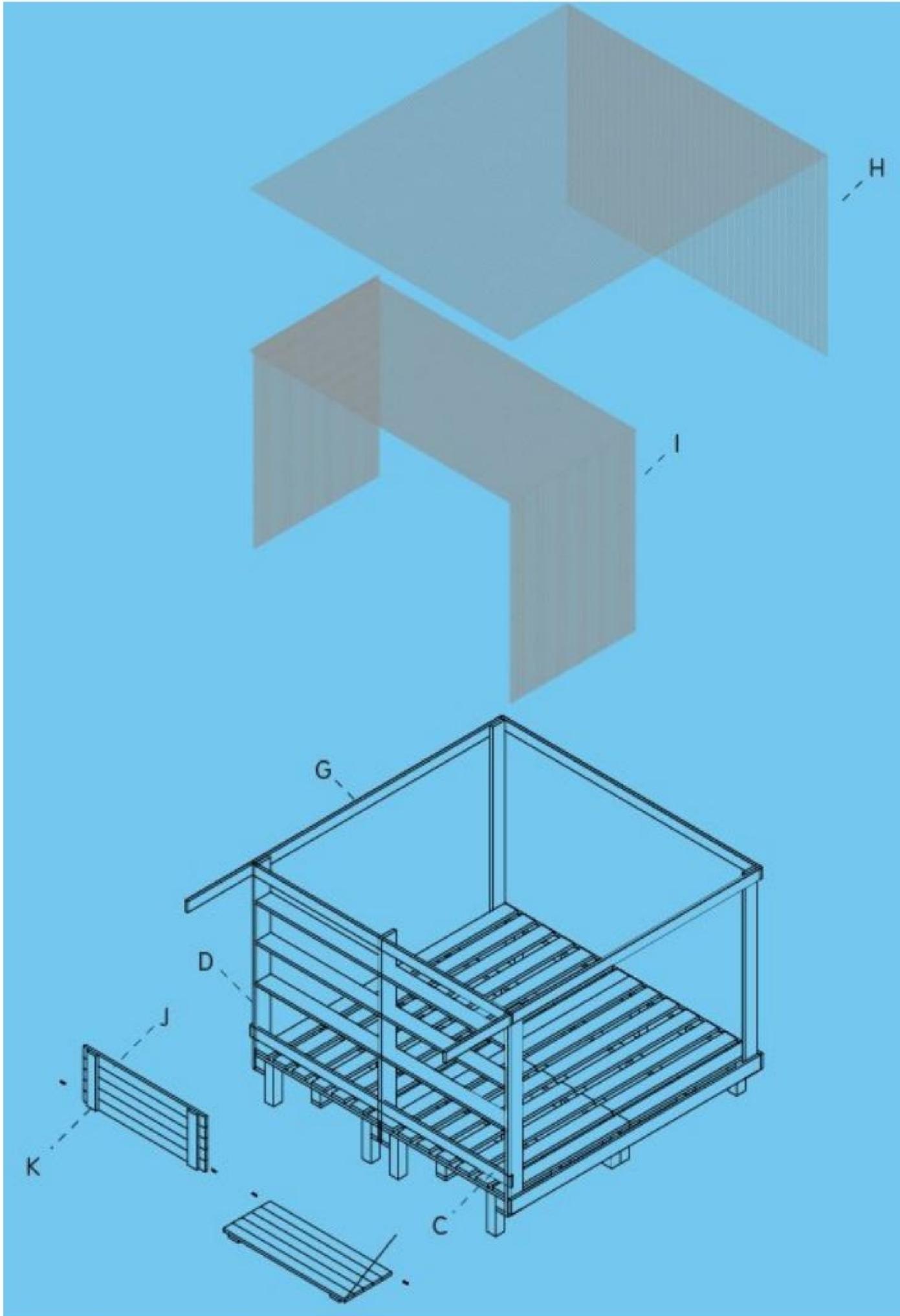
Cut the  $\frac{3}{4}$  x  $4\frac{3}{4}$  x 95in boards into the following lengths:

- \_ Two x 82in long (part C)
- \_ Two x 55in long (part D)
- \_ Two x  $78\frac{3}{4}$ in long (part F)

Cut the  $\frac{3}{4}$  x  $4\frac{3}{4}$  x 118in boards into the following lengths:

- \_ Two x 99in long (part G)

- \_ Screw vertical planks at the foot of the bed.
- \_ Connect vertical planks to the upper parts and as side rails around the pallets.



### Canopy

For the canopy use scaffolding cloth or any semitransparent cloth for an open yet intimate effect. For the configuration shown above, cut to the following dimensions, adding a  $\frac{3}{4}$ in margin to each side for folding over:

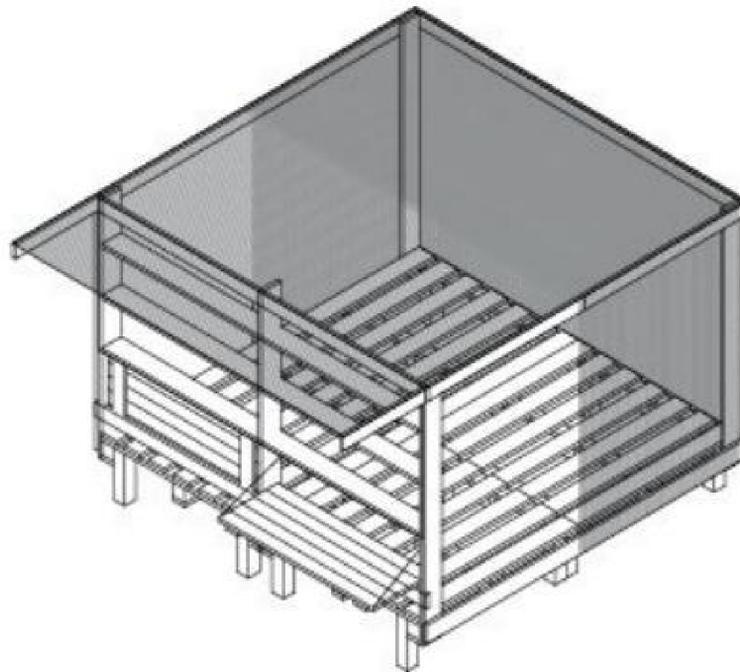
- \_154x 82 $\frac{1}{8}$ in (part H)
- \_190 $\frac{3}{8}$  x 39 $\frac{3}{8}$ in (part I)
- \_Fold the edge of the cloth and staple to the bottom side of the under frame.
- \_Stretch the cloth around the upper frame.
- \_Straighten the edges of the cloth by folding. Staple to the frame end.

### **Workstation**

Cut the  $\frac{3}{4}$  x 3 x 40in boards to the following lengths:

- \_Ten x 38 $\frac{3}{8}$ in long (part J)
  - \_Four x 14 $\frac{3}{4}$ in long (part K)
- \_Attach five parts J and two parts K to form one work surface. Repeat for an additional one.
- \_Use the horizontal beam (part C) on the front side as a support, while inserting two screws on either sides through the frame (part D) and into the end parts of the table. (Don't forget to add a metal washer before screwing the table to the frame in order to facilitate folding).
- \_Drill holes and attach rope to both table and frame. Hang the workstation.

## 6



The variations are endless and personal.

- \_Add your mattress and enjoy your retreat!

# A.O.CMS GLASS CABINET

CHRISTIAN HALLERÖD

The A.O.CMS display cabinet was created for the Stockholm store of the fashion brand of the same name. The brand, A.O.CMS, makes premium wardrobe staple pieces that are a testament to simplicity and endurance.

Echoing that simplicity, two sister cabinets were designed to carry a large number of products in a small area of a few square feet. One has display shelves that are removable, which allows for flexibility in the display—for instance, a single shelf can easily be placed on the cash desk—and the other highlights a single article, which proudly hangs behind glass as though it were an exhibit in a museum.

You will need:

## Materials

\_ Four  $1\frac{1}{4}$  x  $1\frac{1}{4}$  in hardwood boards, at least 71in long

\_ Six  $\frac{1}{2}$  x  $1\frac{3}{4}$ in hardwood boards, at least 32in long

\_ One  $\frac{1}{2}$  x 28 x 16in hardwood board

\_ Two pieces clear tempered glass  $\frac{1}{4}$  x  $26\frac{1}{2}$  x  $54\frac{3}{8}$ in (have your local glass store cut and temper them for you)

\_ Wood glue

\_ Wood finish

\_ Screws

\_ Small finish nails

\_ Metal clothes rail and end brackets

\_ Hanger

## Tools

\_Table saw

\_Router

\_1/4 in straight bit for router

\_Drill

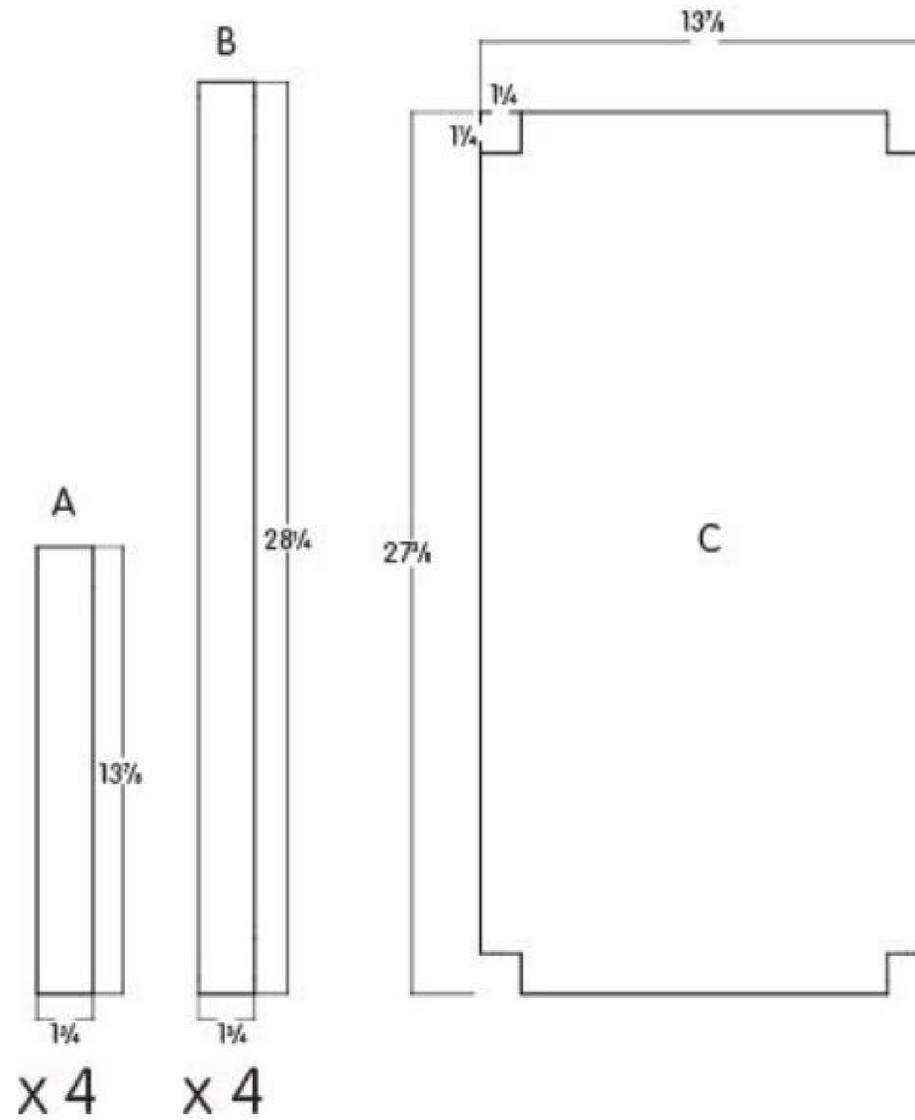
\_Countersink bit

\_Punch for small nails

\_Hammer



1



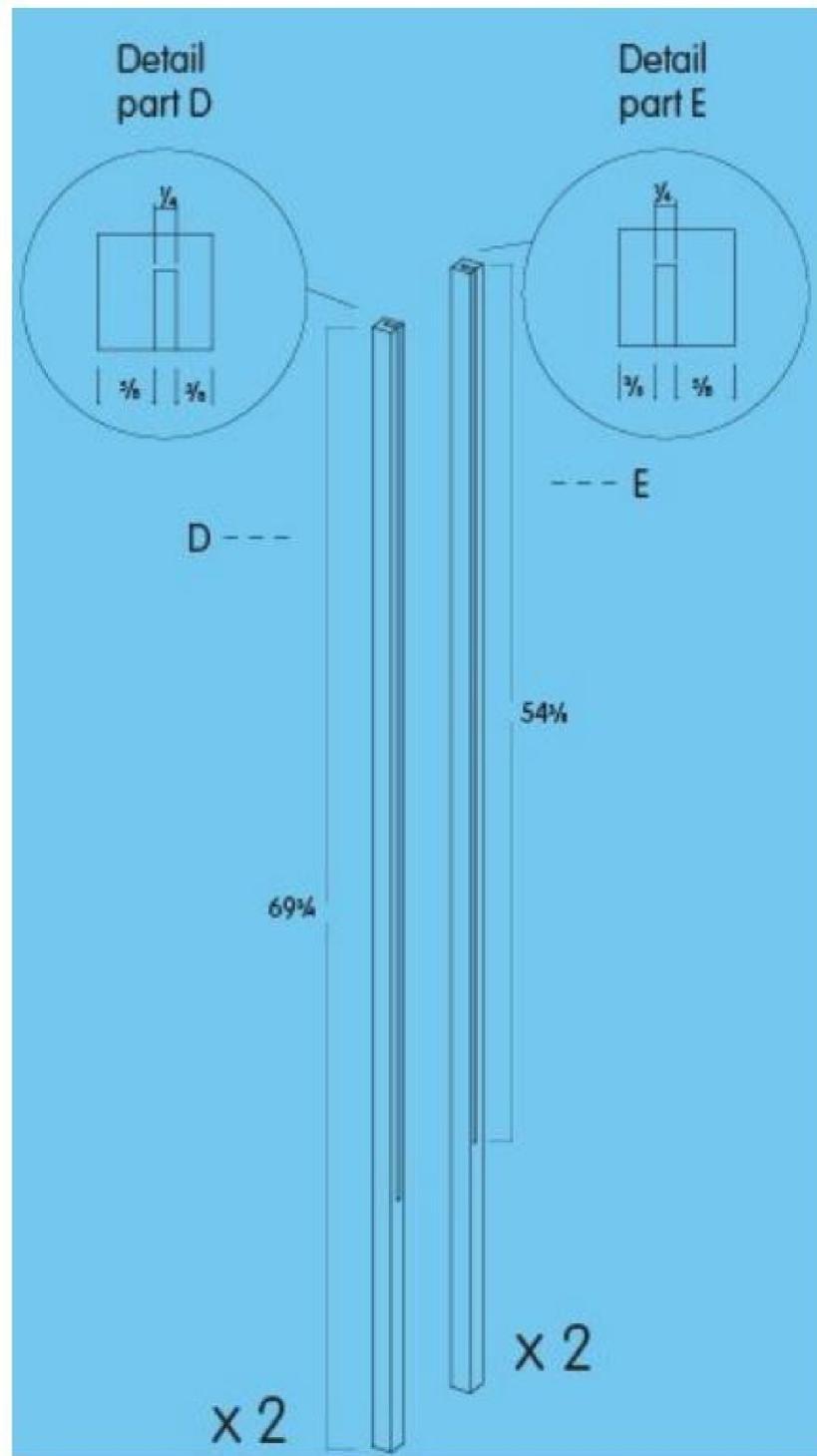
Cut the  $\frac{1}{2} \times 1\frac{3}{4}$ in boards to the following lengths:

\_ Four x  $13\frac{7}{8}$ in long (part A)

\_ Four x  $28\frac{1}{4}$ in long (part B)

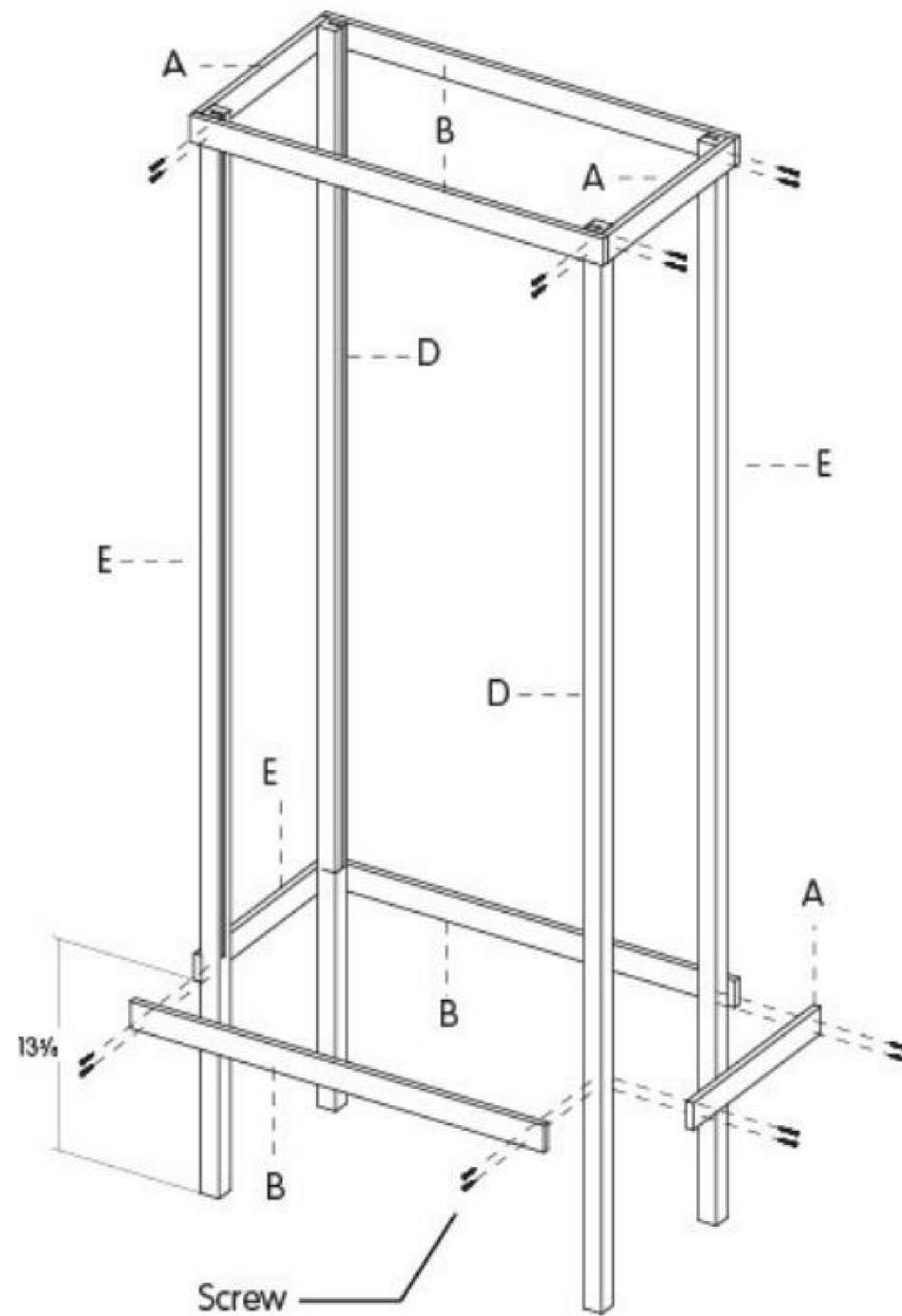
\_ Cut the  $\frac{1}{2} \times 28 \times 16$ in board as shown to make part C, notching all four corners  $1\frac{1}{4}$ in each direction.

2



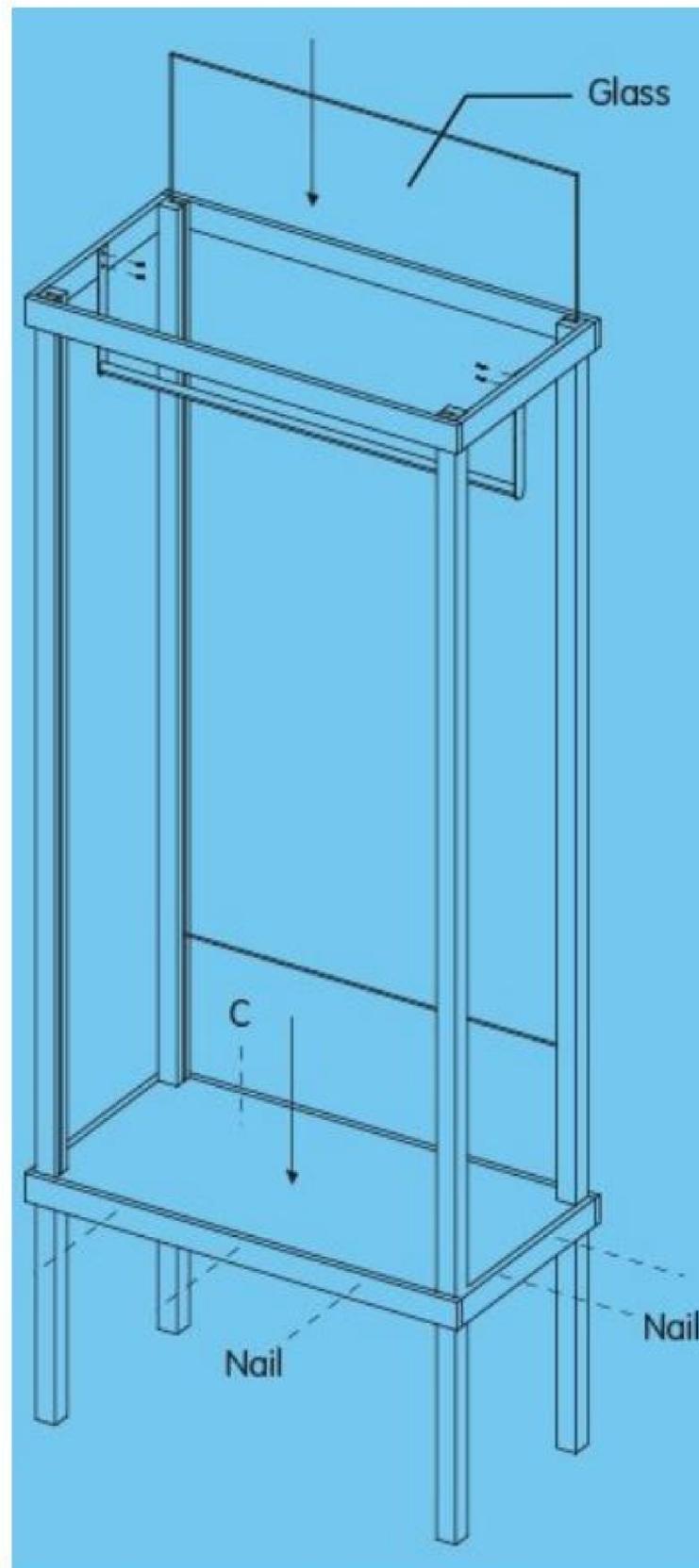
- \_ Cut the  $1\frac{1}{4} \times 1\frac{1}{4}$ in boards to the following lengths: Four x  $69\frac{3}{4}$ in long.
- \_ Use the router to cut a groove in each board.
- \_ When looking down the board, make two with the groove  $\frac{3}{8}$ in from the right side (part D) and two with the groove  $\frac{3}{8}$ in from the left side (part E).

3

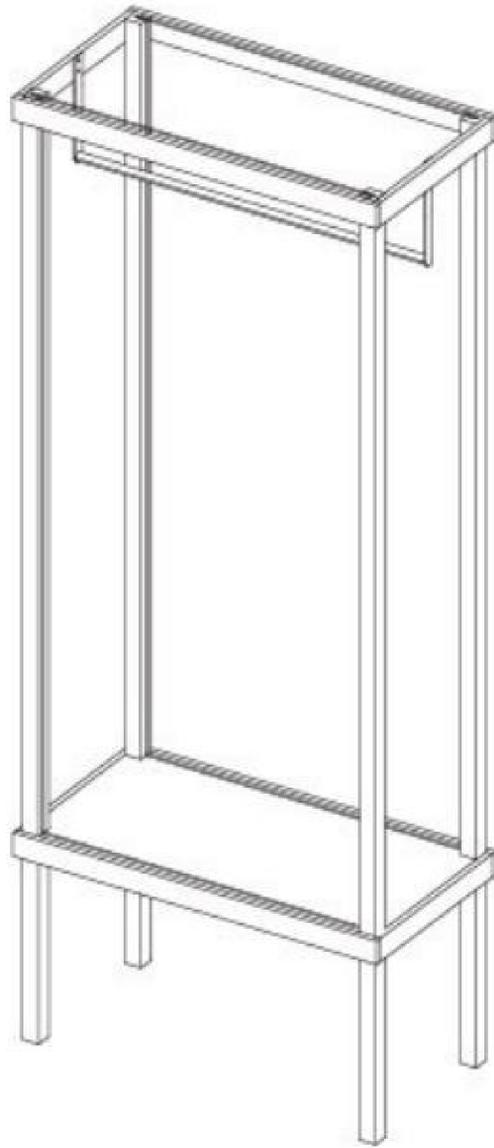


- \_Predrill with the countersink bit and assemble as shown, using screws and wood glue where the boards overlap.
- \_The top boards should be flush with the top of parts D and E.
- \_The lower boards are 13<sup>5</sup>/<sub>8</sub>in from the ground to the bottom edge.

4



- \_ Position part C so the top is flush with the tops of the lower boards.
- \_ Nail through the lower boards using small finish nails, being careful not to hit the wood with the hammer.
- \_ Use a small punch to hit the nails just below the wood surface.
- \_ Attach the metal clothes rail across from the center of the top boards (parts A). (You can use the adjustable style or cut it to fit.)
- \_ Slide the glass into the front and back slots.



\_Grab a hanger and display your favorite clothes!



# QUILT

CHRIS RUCKER OF RUCKERCORP

Rucker has always been surrounded by quilting. His mother is an avid quilter, as was her mother before her. Although Rucker himself liked them, and liked the rituals connected with them— making quilts for the birth of a child, a marriage, and so on— quilting in its traditional form was not on his agenda.

When he began making his own “quilts,” he made them out of the old moving blankets that he had used for years on construction sites to protect surfaces from damage, or to wrap cabinets that were in transit to job sites. Although they were worn, he didn’t want to just throw them out, so the idea of turning them into quilts, and ultimately transforming them into precious or sacred objects that carried all the marks and stains of their years of use, appealed to him.



You will need:

## **Materials**

\_ Moving blanket (only one is needed to create the alternating thread pattern; add more as needed to vary the colors)

\_ Scrap fabric 60 x 70in

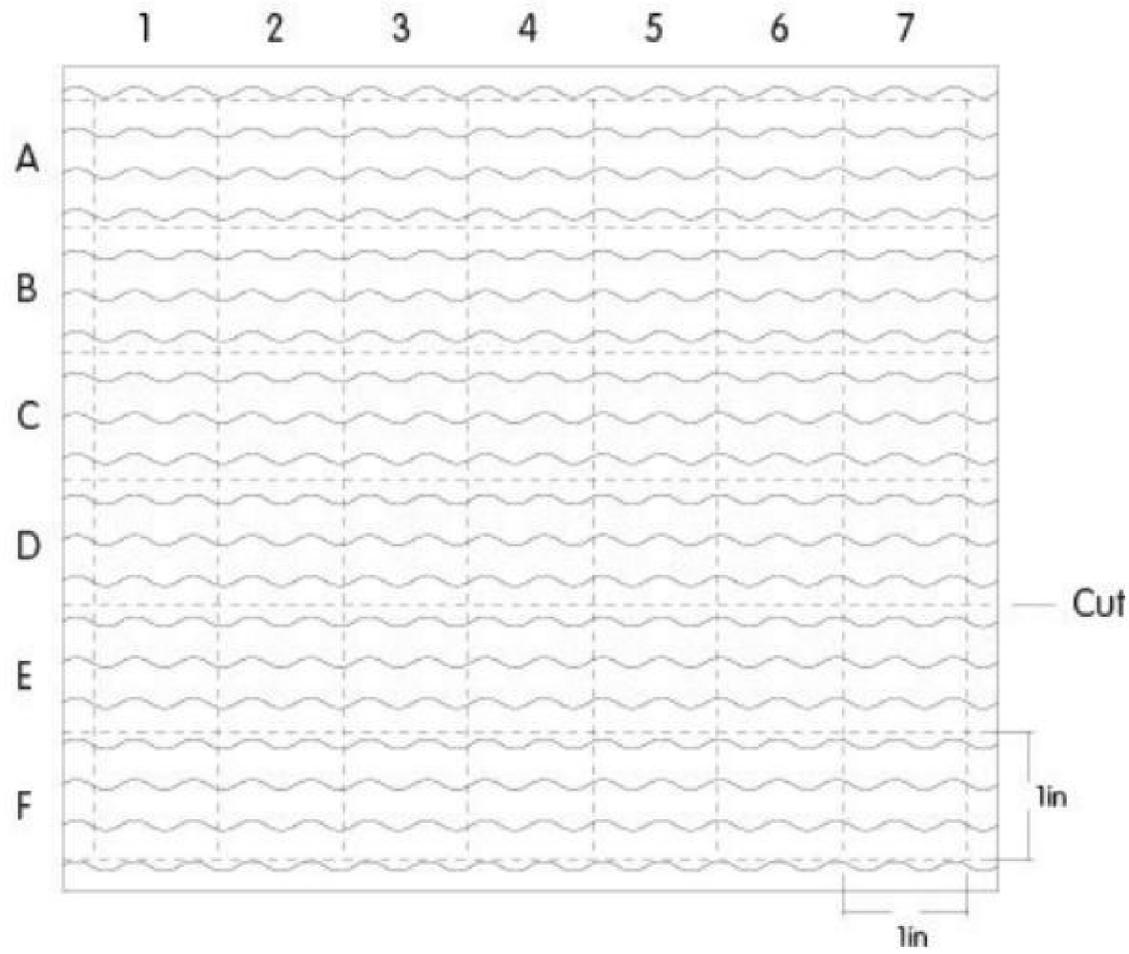
## **Tools**

\_ Sharp scissors

\_ Sewing machine with large needle

\_ Seam ripper

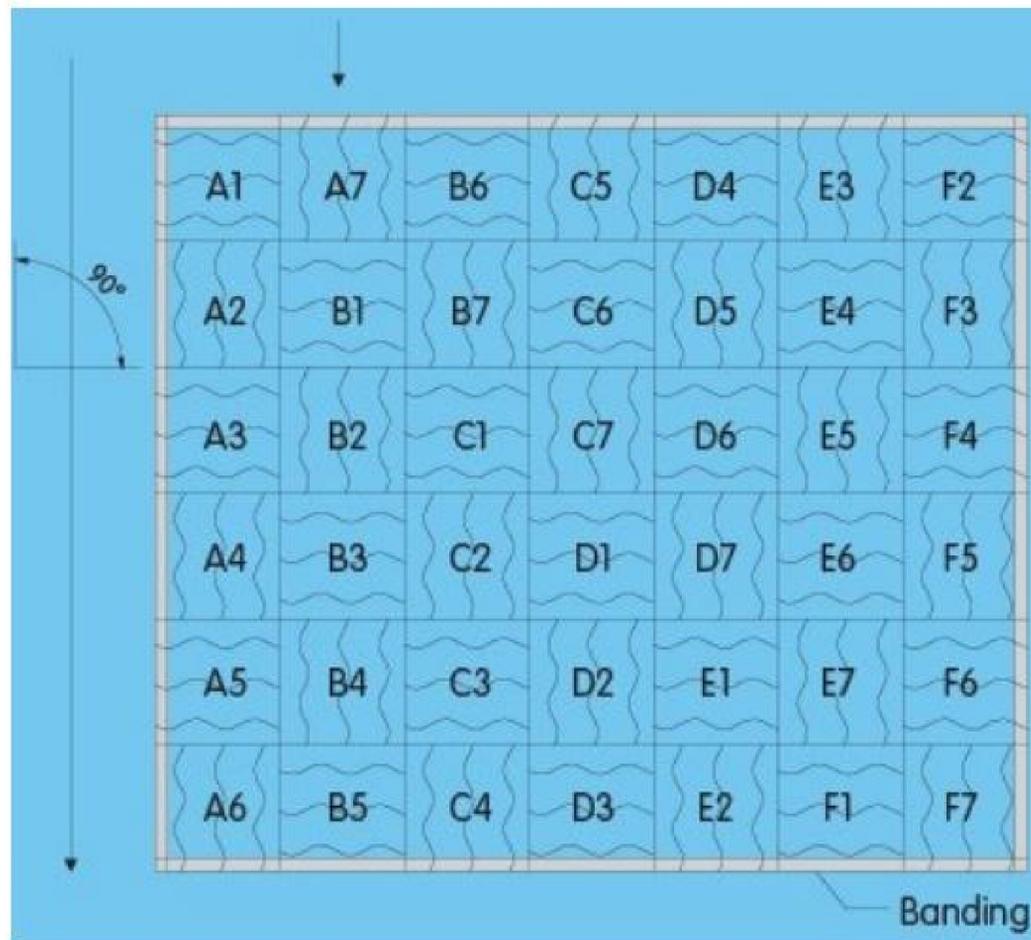
1



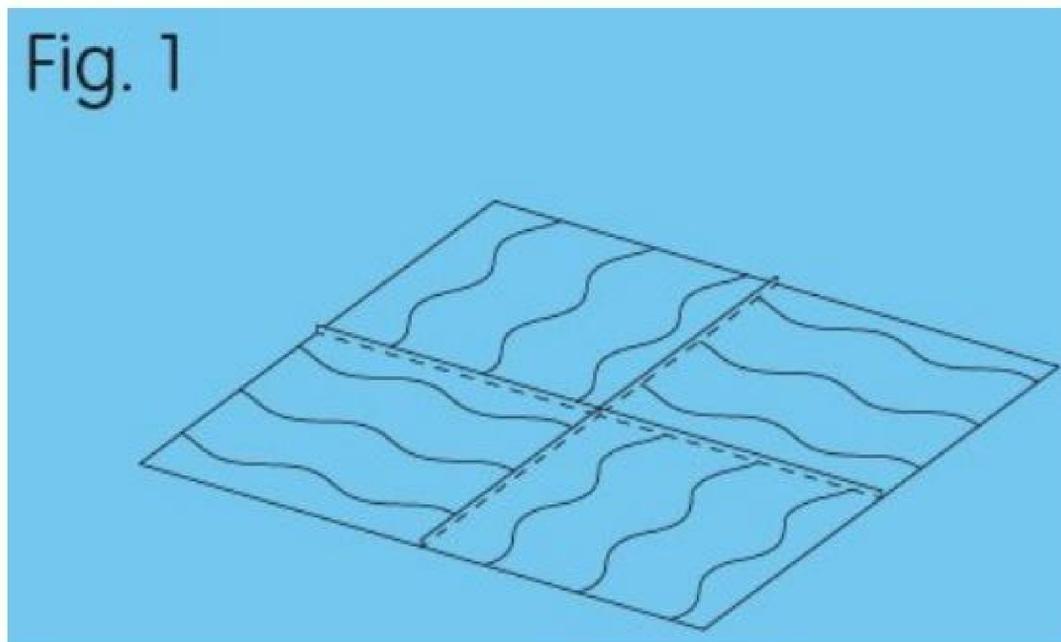
\_Use the scissors to cut the moving blacket into 42 squares, each measuring 1 x 1in, cutting off the border.

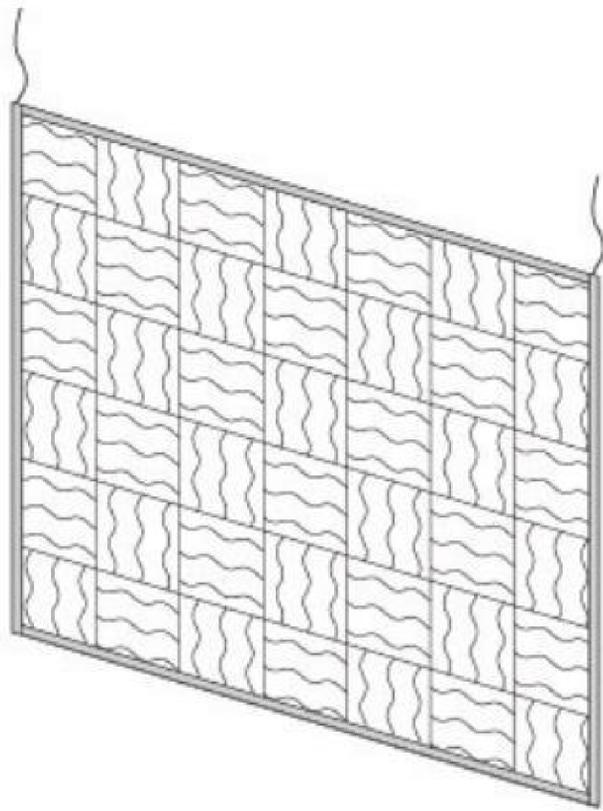
\_Use the seam ripper to remove the edge band carefully, so you can reuse it.

2



- \_ Configure the squares as shown, rotating every other square.
- \_ Sew them together from one side by slightly pulling together the edges where they meet (see Fig. 1).
- \_ Using scrap fabric, cut and sew a large piece to the reverse of the blanket.
- \_ Cover the edges with the material you removed earlier and sew it in place.





\_Hang up or snuggle up and enjoy!



## 6.

# OUTDOOR

Throw out that plastic lawn set (or turn them into some Sea Chairs) and get with these outdoor designs. They look so good, you might just want to pitch a tent. The convenience of Outdoor Kitchen by Studiomama will have you spoiled and looking like one smart host at your next cookout. Wash up at the sink and serve up an intimate dinner for two on Chimney Pot Stools, a clever way of using clay chimney stacks to make perfect stools and a table. Oh! And don't forget the candles. We cover those in the Miscellaneous chapter. If things heat up and you find yourself needing a little privacy, get cosy behind Odlá, an easy-to-make screen created from off-the-shelf perforated metal. Put what you've learned in this book to the test and design yourself a planter box. Grapevines would look and taste great at your next cookout.

# ODLA

DANIEL FRANZÉN, ADAM ALMQUIST, AND OSCAR TITELMAN

The Odlá series of products for the garden is produced by a Swedish company focusing on the rehabilitation of ex-cons into “normal” society. The brief for this design was for a construction that almost anybody could build.

The series was designed by Franzén, together with Adam Almquist and Oscar Titelman.



You will need:

### **Materials**

\_ Five pine boards, 1 $\frac{3}{4}$  x 2 $\frac{3}{4}$  x 67in

\_ Powder-coated perforated metal, at least 45 x 61in

\_ Screws, 2 $\frac{3}{4}$ in and 3 $\frac{7}{8}$ in long

\_ Wooden plugs that fit the screw hole size (optional). You can also make these

using a plug cutter and the scrap wood.

\_ Plastic or rubber feet, approx.  
1 $\frac{3}{4}$  x 1 $\frac{3}{4}$ in

\_ Wood glue

## **Tools**

\_ Saw

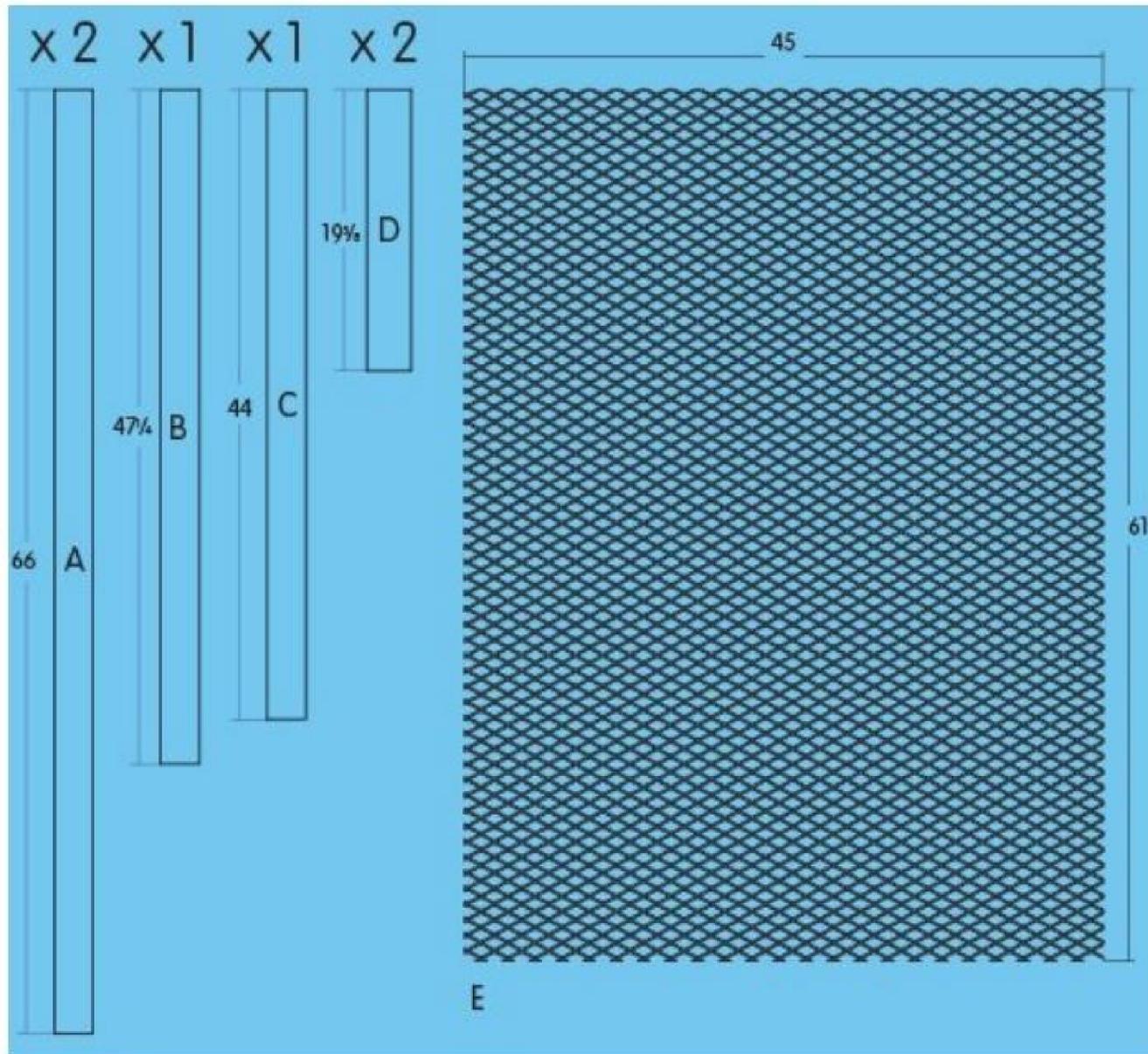
\_ Router with a  $\frac{3}{8}$ in straight bit

\_ Drill

\_ Countersink bit

\_ Metal shears

1



Cut the wooden boards to the following lengths:

\_ Two x 66in (part A)

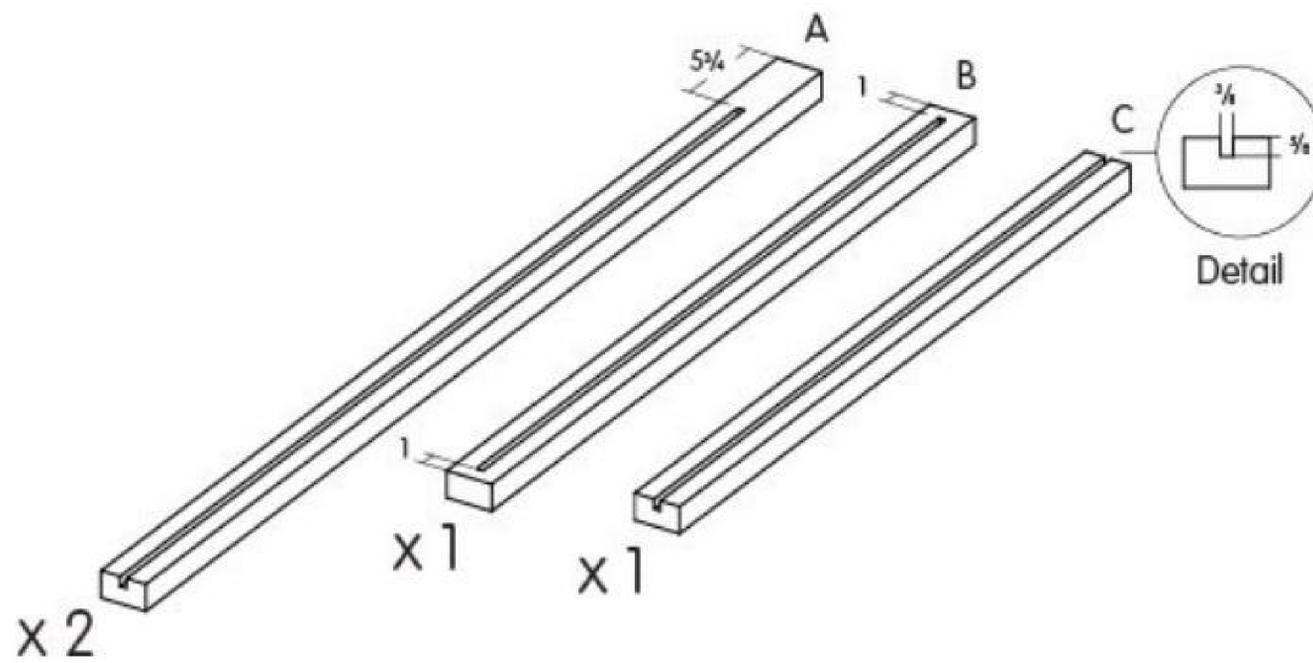
\_ One x 47<sup>1</sup>/<sub>4</sub>in (part B)

\_ One x 44in (part C)

\_ Two x 19<sup>5</sup>/<sub>9</sub>in (part D)

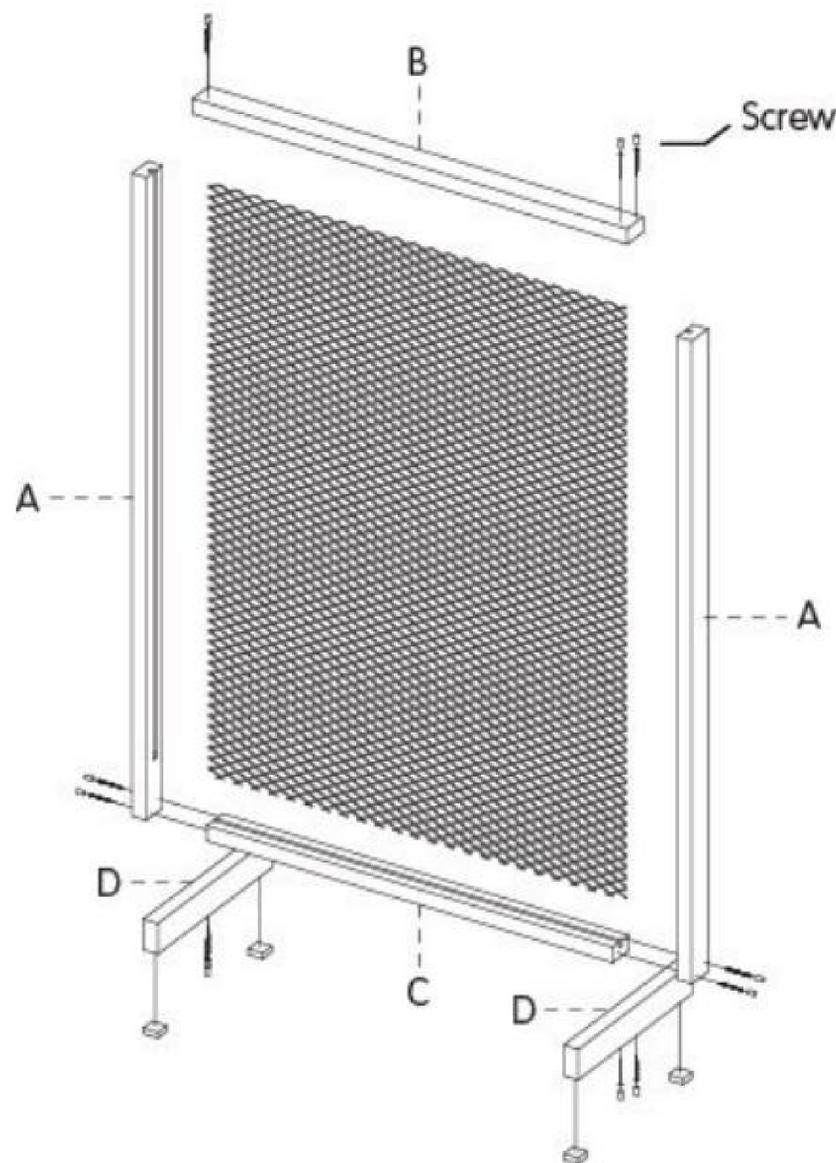
\_ Use the metal shears to cut the perforated metal to 45 x 61in.

2



- Use the router to cut the following  $\frac{3}{8}$ in-wide x  $\frac{5}{8}$ in-deep grooves:
- \_ Two x part A from one end, stopping  $5\frac{3}{4}$ in from the opposite end
  - \_ One x part B from end to end, leaving 1in on each end.
  - \_ One x part C for the entire length.

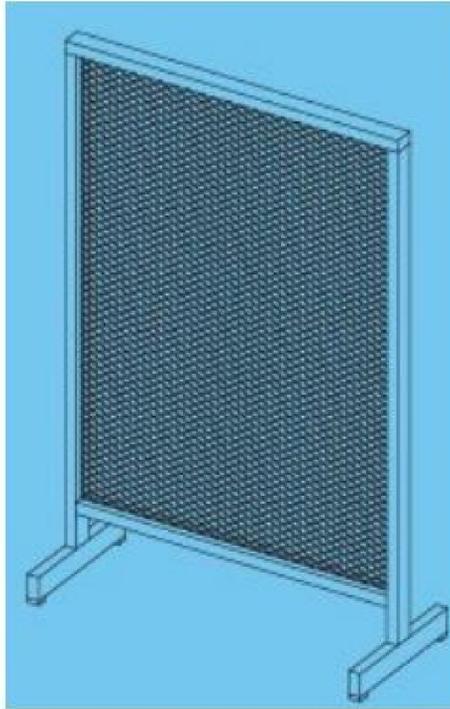
### 3



- \_ Assemble as shown using longer screws to attach parts D, and shorter screws for all the other parts, using glue on all the joints.

\_Attach the feet by predrilling with the countersink bit and using small screws. (Or use some self-adhesive feet.)

4



\_Let some plants grow and enjoy your privacy!

# CHIMNEY POT SERIES

JONATHAN LEGGE

Like lots of good ideas, this series evolved from a spontaneous action. A need for an extra table, a neighbor's chimney pot, and a sheet of wood. It worked for the evening in question, and the next day Jonathan decided to refine the idea into a more stable piece of furniture.

There is no big concept, no attempt at something particularly new, just a simple table fabricated from an off-the-shelf chimney pot and wood. They are not objects asking for any great intellectual understanding—it is really just a simple idea, but the result is a series of objects defined and created by their use.



You will need:

## Materials

\_Two wooden boards, 29½ x 29½ x 1¾in (cedar and white oak are both good woods for outdoor use)

\_Wood screws, 3 $\frac{1}{8}$ in long

\_Wood glue

\_Wood sealant for outdoor use

\_Two clay roll-top chimney pots, 17 $\frac{3}{4}$ in tall

\_One clay roll-top chimney pot, 29 $\frac{1}{2}$ in tall

## **Tools**

\_Jigsaw

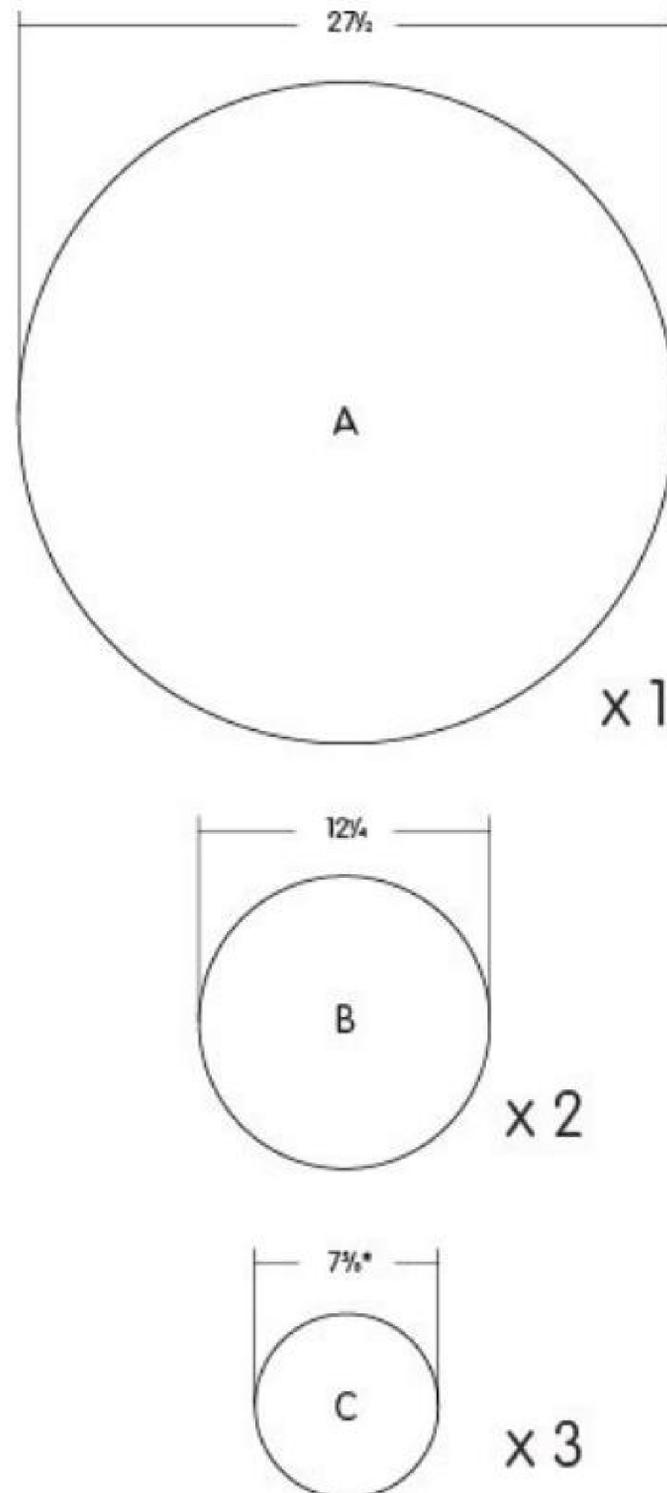
\_Sandpaper

\_Drill

\_Drill bit, 3 $\frac{7}{8}$ in diameter



1



Cut the wood into circles of the following diameters:

\_ One x  $27\frac{1}{2}$ in (part A)

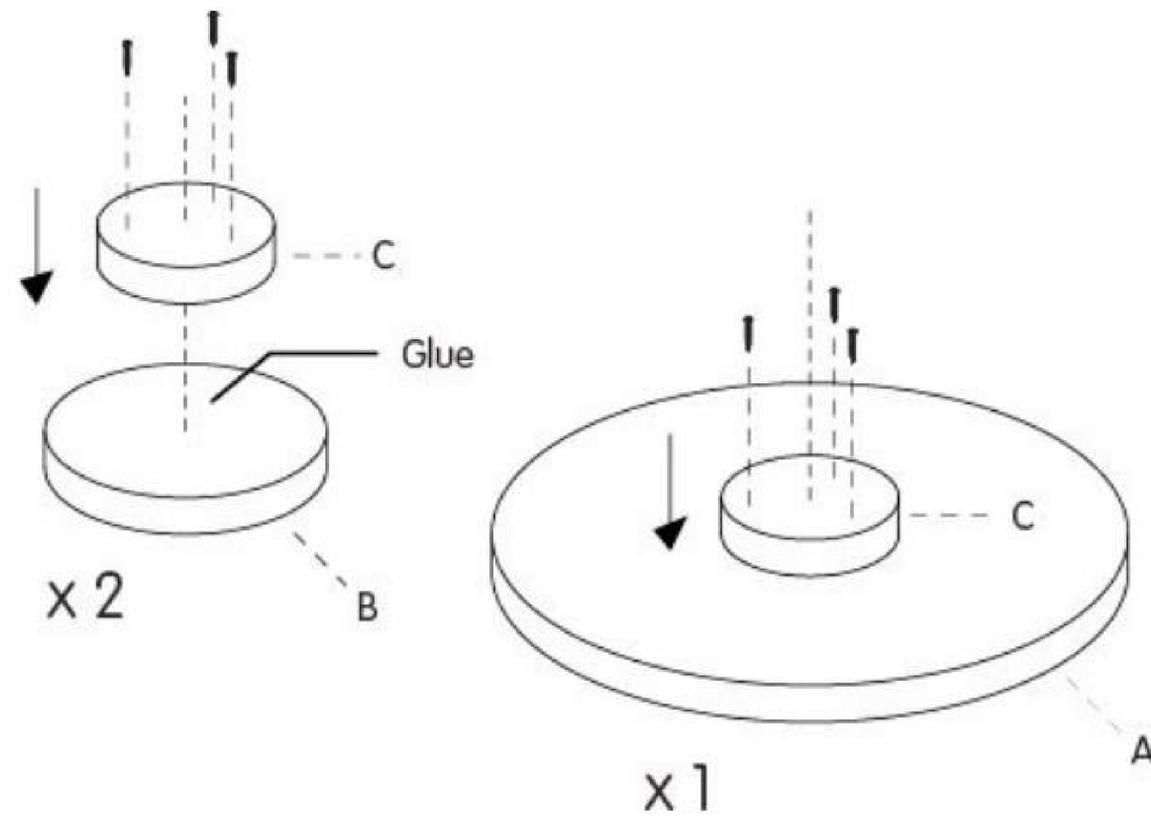
\_ Two x  $12\frac{1}{4}$ in (part B)

\_ Three x  $7\frac{5}{8}$ in (part C)

\* this dimension should be slightly smaller than the inside lip of the clay pot as it needs to rest inside.

\_ Use coarse sandpaper to refine the shape.

2

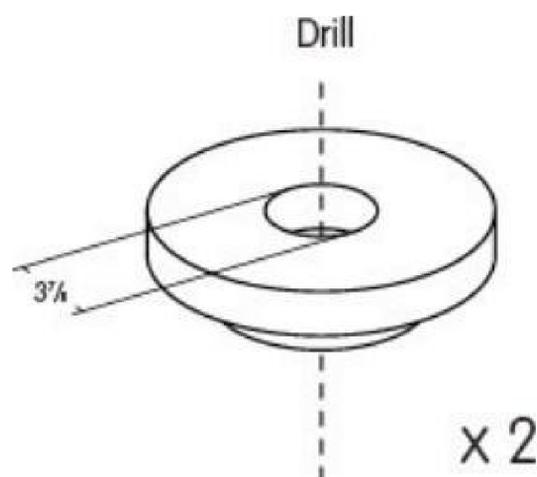


\_ Attach one part B and one part C as shown, using wood glue where they meet. Secure with screws, but keep the screws away from the central area because this will be drilled in the next step.

\_ Repeat this so that you have two small disk sets. These will be the tops for your stools.

\_ Attach one part A and one part C as shown, using wood glue where they meet and securing with screws. This will be your tabletop.

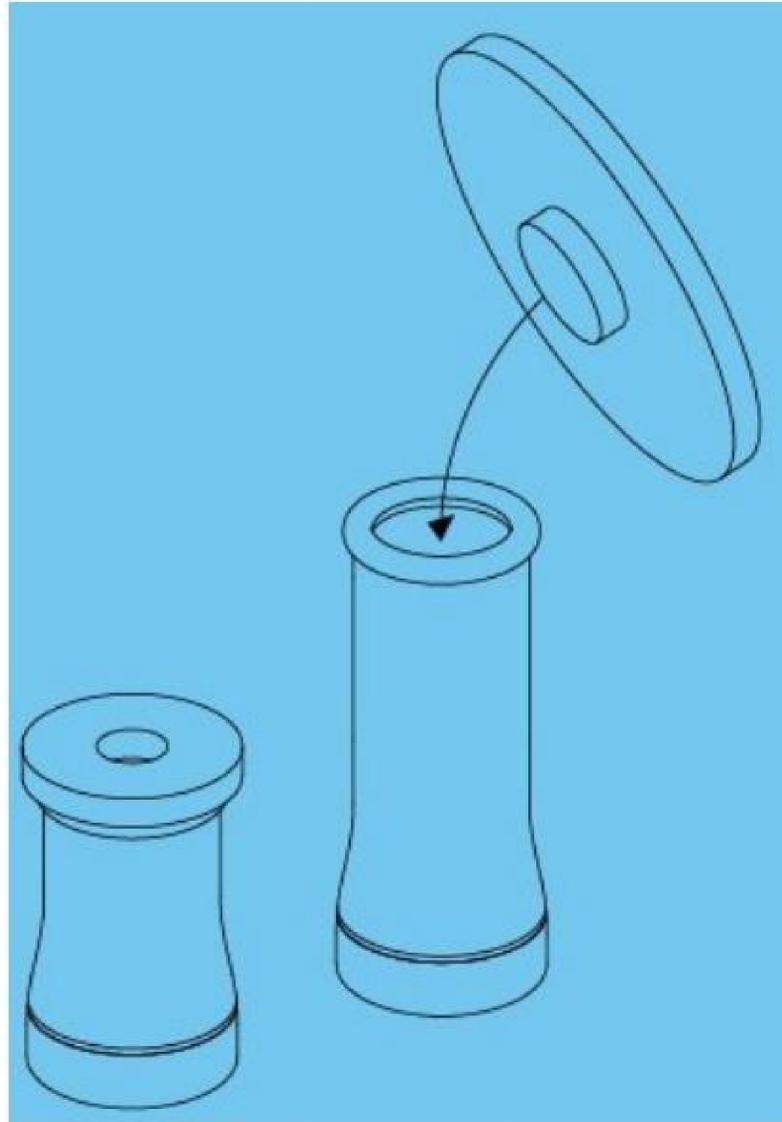
### 3



\_ Drill a  $\frac{3}{8}$ in hole through the connected stool tops.

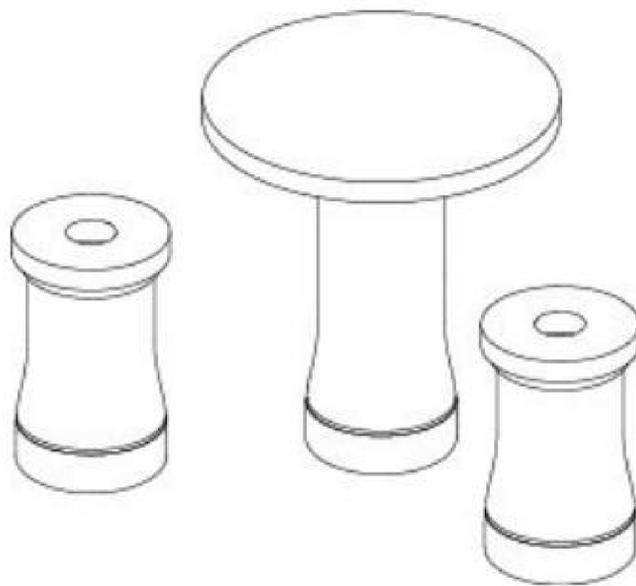
This is optional, but allows water to drain so that it will stay reasonably dry. The size of the bit is really up to you.

### 4



- \_ Flip the tops over and set on the chimney pots. The taller pot is for the table.
- \_ Sand the tops and sides to a smooth finish.
- \_ Seal the wood with a coat of clear sealant suitable for the outdoors.

5



\_ Pull up a chimney stool and enjoy!



# OUTDOOR KITCHEN

NINA TOLSTRUP AND JACK MAMA OF STUDIOMAMA

When the weather is up to it, this construction will let you do all your chopping, peeling, and cooking outside. The outdoor kitchen comprises a gas cooking hob, a bucket sink, a chopping board, and storage for crockery, utensils, and a few food ingredients. Water is connected from the garden hose and waste water is collected in a watering can placed beneath the sink, so that it can be reused.

Although the product instructions give different options for construction, depending on level of skill and access to tools, you'll need to be confident in the workshop to embark on this project. Alternatively, you could get a skilled carpenter to make it for you.

All the components can be sourced from hardware stores. The boxes are constructed from ply and the structure from broomsticks and some screws. The surface treatment can be tailored to suit personal preference—the version shown here was treated with Osmo oil.

You will need:

## Materials

- \_ Two  $\frac{1}{4}$ in plywood, 96 x 48in
- \_ One  $\frac{1}{2}$ in plywood, 48 x 48in
- \_  $\frac{3}{4}$  x  $\frac{3}{4}$ in batten, 16 $\frac{1}{2}$ ft long
- $\frac{5}{8}$ in timber
- \_ Two castors, 5in (metal rim heavy duty)
- \_ Broom handles, 1 $\frac{1}{8}$ in diameter, 28ft long
- \_ Gate valve (compression fitting),  $\frac{5}{8}$  x  $\frac{5}{8}$ in

- \_Copper pipe,  $\frac{7}{8}$ in diameter, 3ft long
- \_Solder ring/fitting reducer,  $\frac{7}{8}$  to  $\frac{5}{8}$ in
- \_One  $\frac{5}{8}$ in diameter copper pipe, 6in long
- \_Two pipe clips
- \_One  $\frac{7}{8}$  to  $\frac{5}{8}$ in copper pipe reducer
- \_One M6 x 25 washer
- \_One M6 x 20 washer
- \_M4 screws, 1in
- \_M6 screws,  $2\frac{1}{8}$ in
- \_Cross dowels M6
- \_Cross dowel bolts M6 x  $3\frac{1}{8}$ in
- \_Hinges
- \_Hose connector
- \_Plastic bucket
- \_Watering can
- \_Foker cast iron single gas burner
- \_Gas flask
- \_Osmo finishing oil
- \_Angled sink waste,  $1\frac{1}{4}$ in

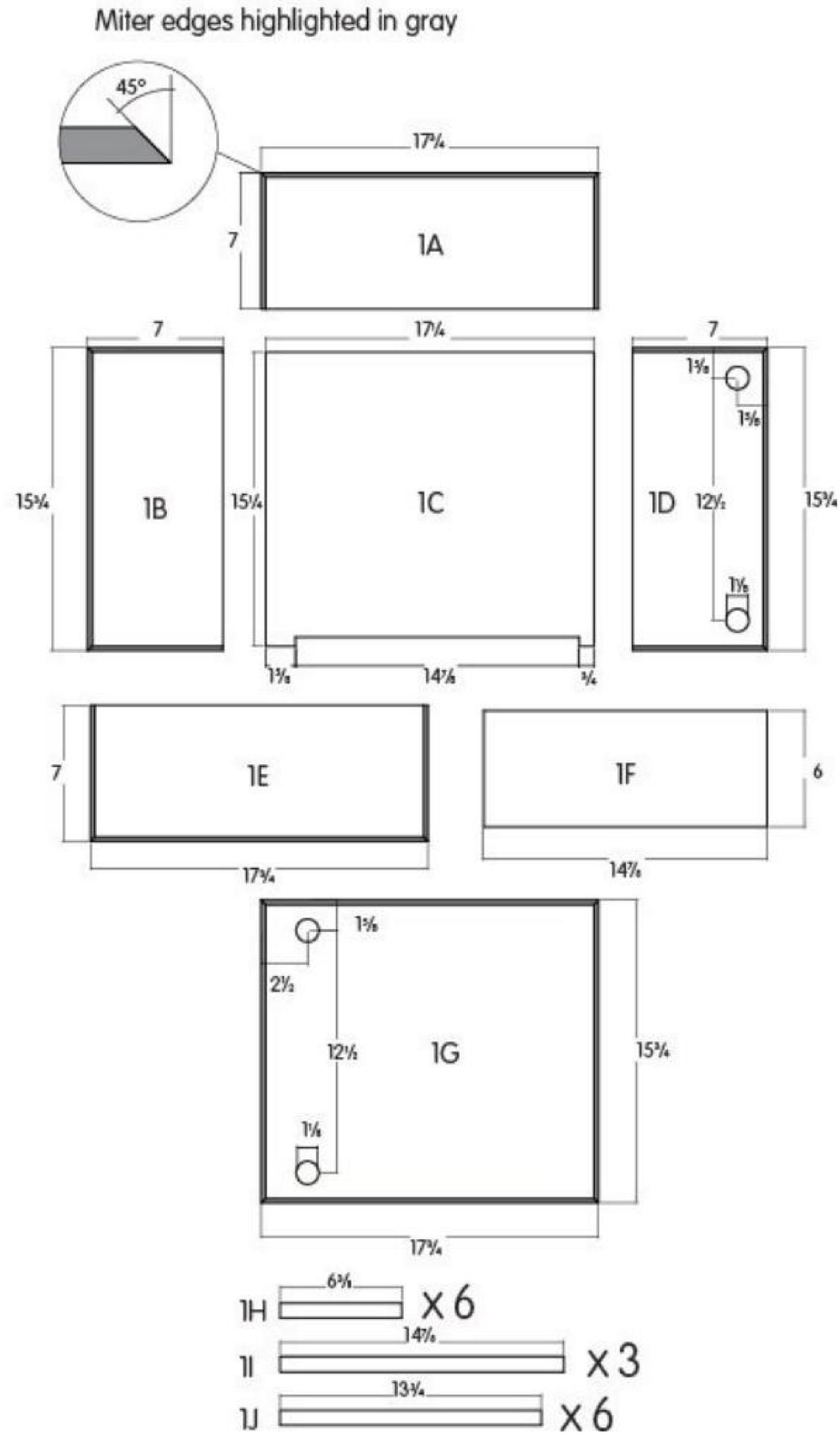
## **Tools**

- \_Bench saw
- \_Router

- \_ Drill and  $\frac{5}{8}$ in drill bit
- \_ Countersink drill bit
- \_  $1\frac{1}{8}$ in Forstner drill bit
- \_ Pinkgrip D4 wood glue
- \_ Sandpaper
- \_ Adhesive tape
- \_ Clamps
- \_ Vise
- \_ Tape measure
- \_ Pencil for marking up
- \_ Center punch
- \_ Chalk
- \_ Micrometer



# 1



## Drawer box

Cut the 1/4in plywood to the following sizes:

\_One x 17 3/4 x 7in (part 1A)

\_ One x 7 x 15<sup>3</sup>/<sub>4</sub>in (part 1B)

\_ One x 7 x 15<sup>3</sup>/<sub>4</sub>in (part 1D)

\_ One x 17<sup>3</sup>/<sub>4</sub> x 7in (part 1E)

\_ One x 17<sup>3</sup>/<sub>4</sub> x 15<sup>3</sup>/<sub>4</sub>in (part 1G)

Cut the 1/2in plywood to the following sizes:

\_ One x 17<sup>1</sup>/<sub>4</sub> x 15<sup>1</sup>/<sub>4</sub>in (part 1C)

\_ One x 14<sup>7</sup>/<sub>8</sub> x 6in (part 1F)

Cut the 3/4 x 3/4in batten to the following lengths:

\_ Six x 6<sup>3</sup>/<sub>8</sub>in (part 1H)

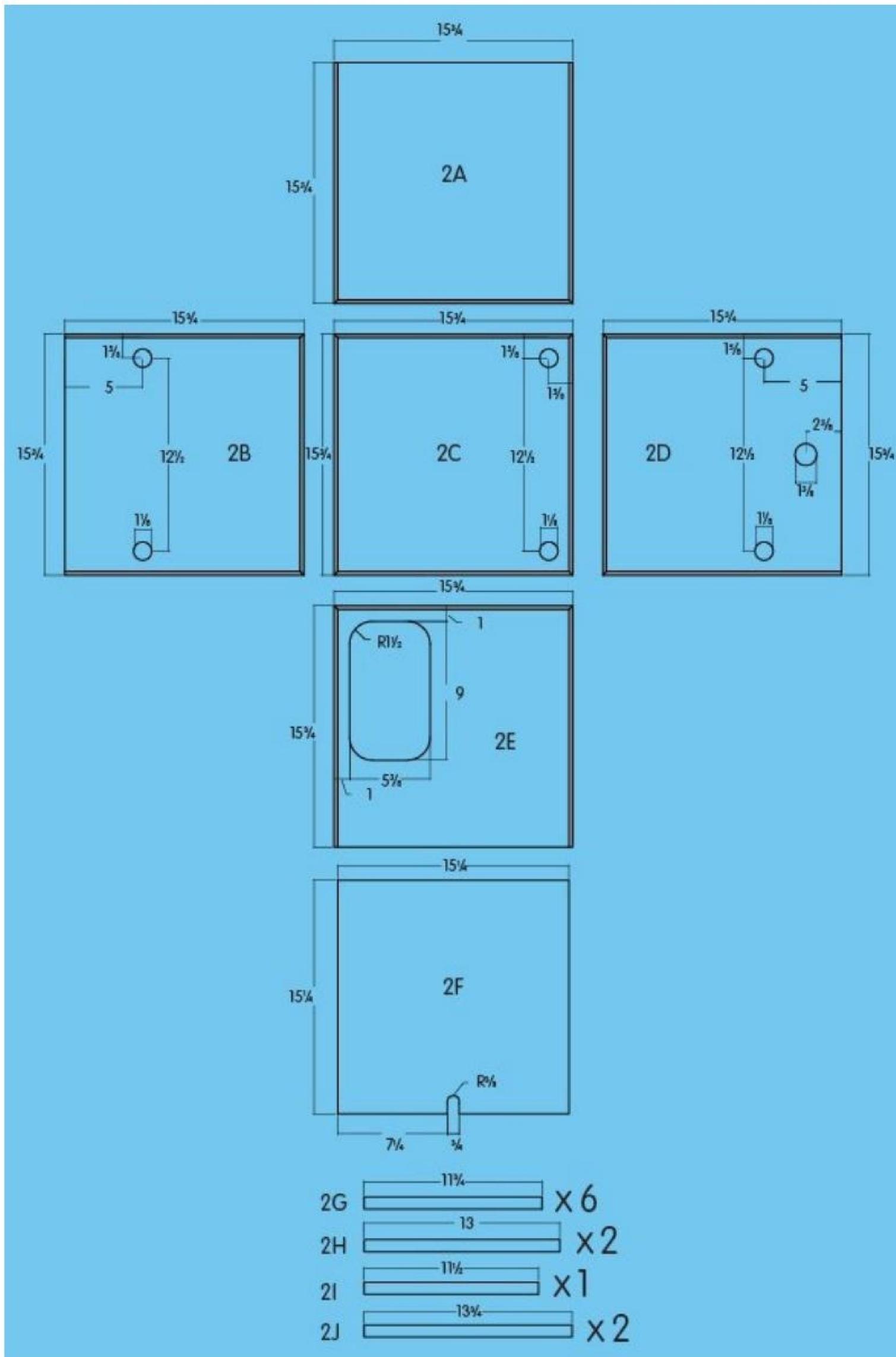
\_ Three x 14<sup>7</sup>/<sub>8</sub>in (part 1I)

\_ Six x 13<sup>3</sup>/<sub>4</sub>in (part 1J)

\_ Use a bench saw or router to miter the edges marked in gray above.

\_ Locate and drill all the cutouts/holes as shown above.

## 2



## Burner box

Cut the 1/4in plywood to the following sizes:

- \_ Five x 15 3/4 x 15 3/4in (parts 2A, 2B, 2C, 2D, 2E)
- \_ One x 15 1/4 x 15 1/4in (part 2F)

Cut the  $\frac{3}{4}$  x  $\frac{3}{4}$ in batten to the following lengths:

\_ Six x  $11\frac{3}{4}$ in (part 2G)

\_ Two x 13in (part 2H)

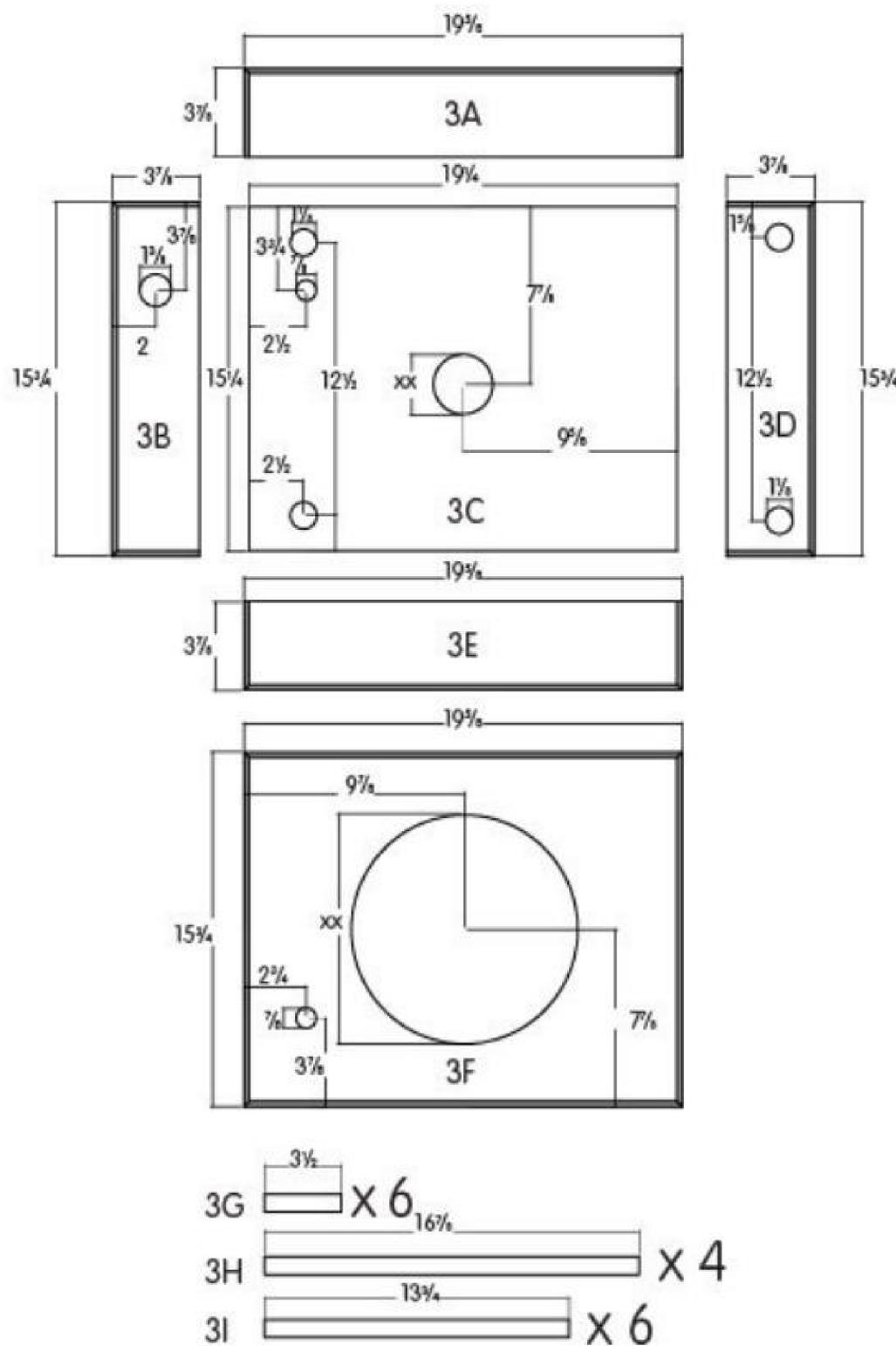
\_ One x  $11\frac{1}{2}$ in (part 2I)

\_ Two x  $13\frac{3}{4}$ in (part 2J)

\_ Use a bench saw or router to miter the edges marked in gray above.

\_ Locate and drill all the cutouts/holes as shown above.

### 3



### Sink box

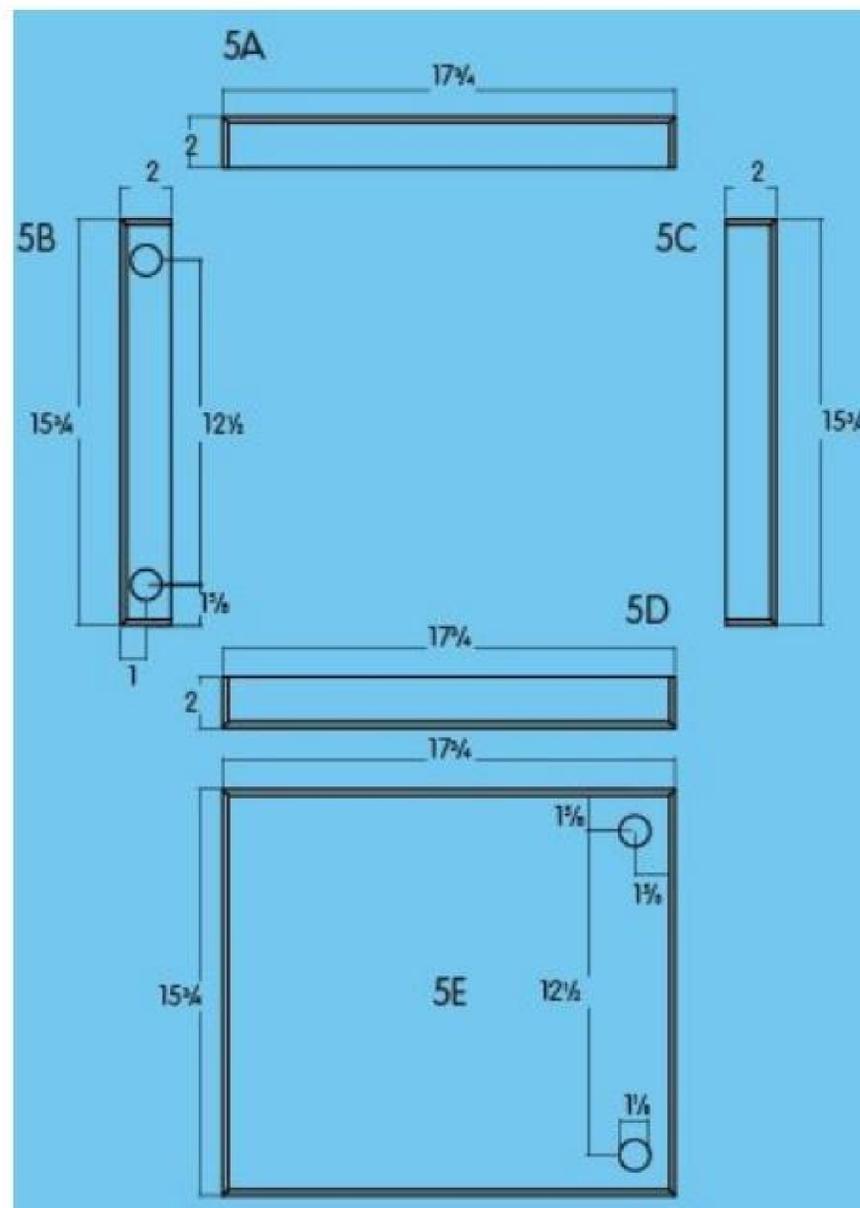
Cut the  $\frac{1}{4}$ in plywood to the following sizes:

\_ One x  $19\frac{5}{8}$  x  $3\frac{7}{8}$ in (part 3A)

\_ One x  $3\frac{7}{8}$  x  $15\frac{3}{4}$ in (part 3B)

- \_ One x  $3\frac{7}{8}$  x  $15\frac{3}{4}$ in (part 3D)
  - \_ One x  $19\frac{5}{8}$  x  $3\frac{7}{8}$ in (part 3E)
  - \_ One x  $19\frac{5}{8}$  x  $15\frac{3}{4}$ in (part 3F). Note for hole xx: this diameter could vary, depending on the sink bowl used.
- Cut the  $\frac{1}{2}$ in plywood to the following size:
- \_ One x  $19\frac{1}{4}$  x  $15\frac{1}{4}$ in (part 3C). Note for hole xx: this diameter could vary, depending on the sink bowl used.
- Cut the  $\frac{3}{4}$  x  $\frac{3}{4}$ in batten to the following lengths:
- \_ Six x  $3\frac{1}{2}$ in (part 3G)
  - \_ Four x  $16\frac{7}{8}$ in (part 3H)
  - \_ Six x  $13\frac{3}{4}$ in (part 3I)
- \_ Use a bench saw or router to miter the edges marked in gray above.
  - \_ Locate and drill all the cutouts/holes as shown above.

## 4

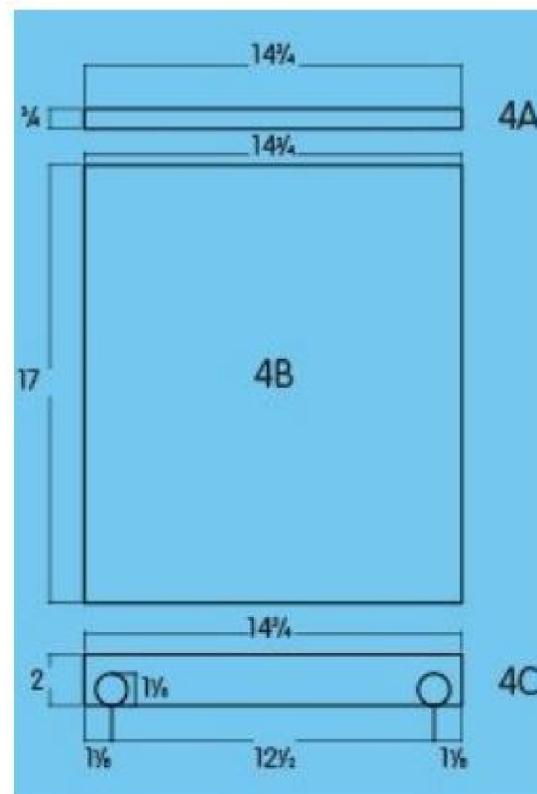


### Chopping board box

- Cut the  $\frac{1}{4}$ in plywood to the following sizes:
- \_ One x  $17\frac{3}{4}$  x 2in (part 5A)

- \_ One x 2 x 15 $\frac{3}{4}$ in (part 5B)
- \_ One x 2 x 15 $\frac{3}{4}$ in (part 5C)
- \_ One x 17 $\frac{3}{4}$  x 2in (part 5D)
- \_ One x 17 $\frac{3}{4}$  x 15 $\frac{3}{4}$ in (part 5E)
- \_ Use a bench saw or router to miter the edges marked in gray above.
- \_ Locate and drill all the cutouts/holes as shown above.

## 5

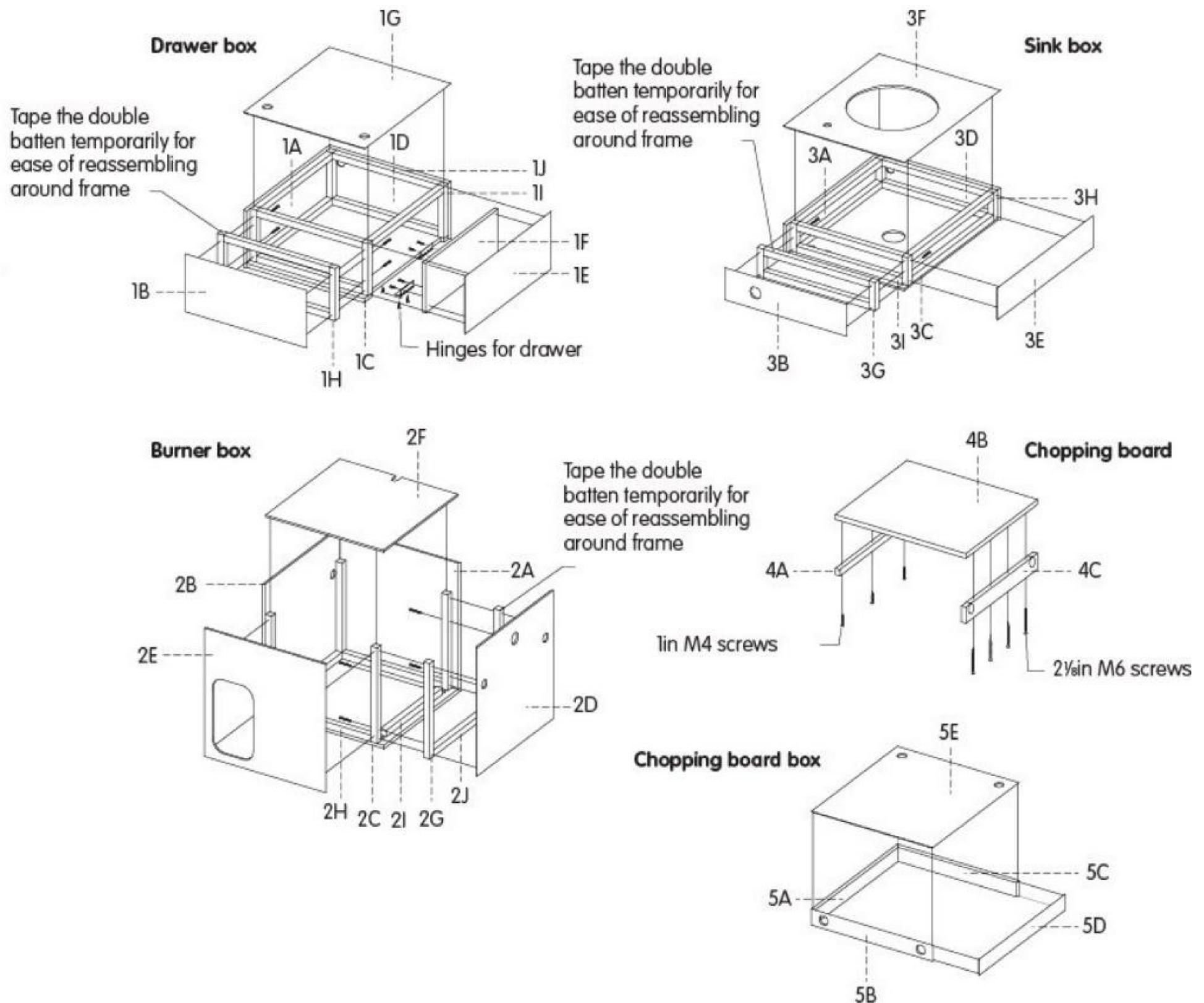


### Chopping board

Cut the  $\frac{5}{8}$ in wood to the following sizes:

- \_ One x 14 $\frac{3}{4}$  x  $\frac{3}{4}$ in (part 4A)
- \_ One x 14 $\frac{3}{4}$  x 17in (part 4B)
- \_ One x 14 $\frac{3}{4}$  x 2in (part 4C)
- \_ Locate and drill both the cutouts/holes as shown above.

## 6



## Assembly

Construct the boxes while not attached to the frame, as shown. This allows for a neat final construction.

Since the boxes are first made up, then disassembled before attaching to the frame, it is important that some of the joints are not glued. Assemble the box faces as shown, and glue and clamp them together as required until each assembly is dry.

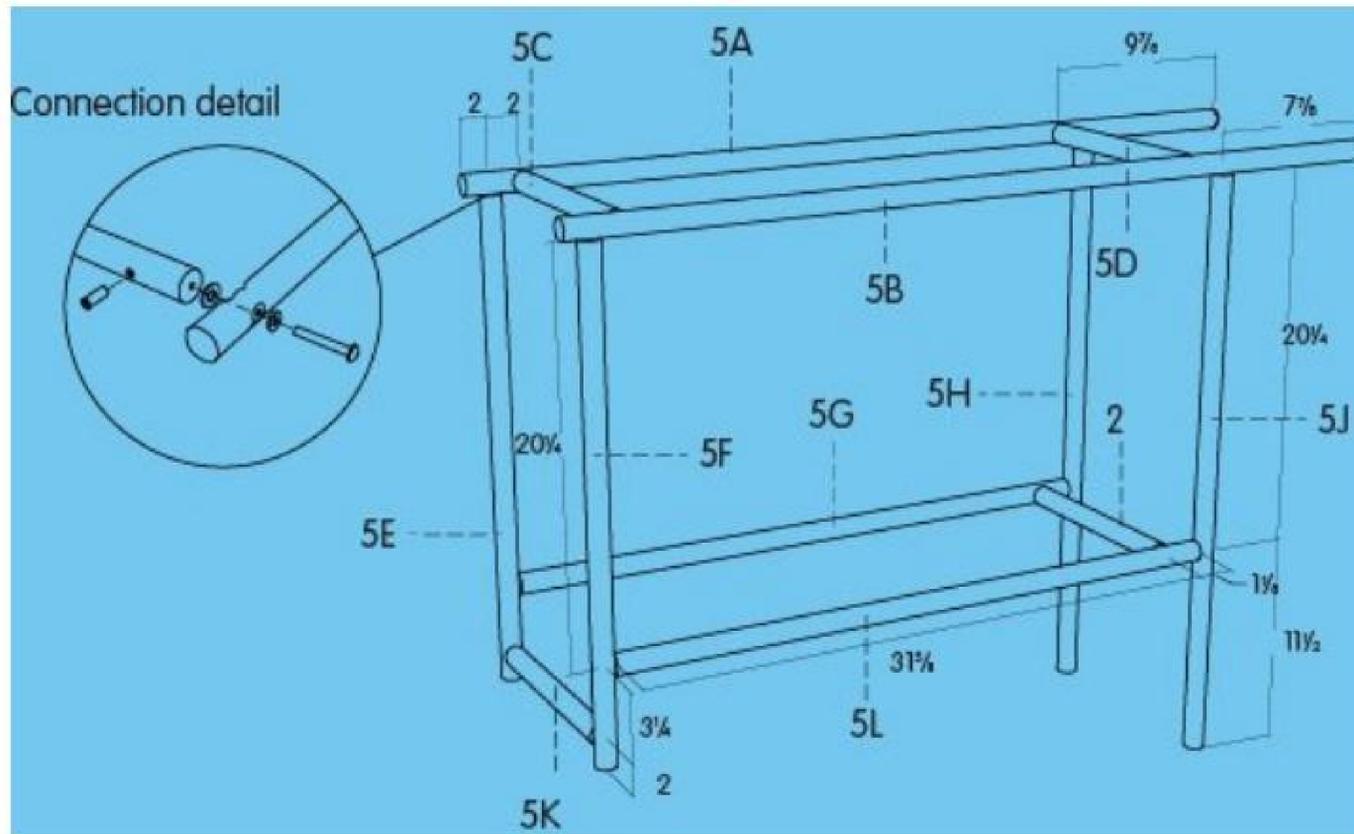
For the drawer box, be sure to glue/ clamp the inner and outer board (parts 1E and 1F) prior to attaching the two hinges. Note: You will not attach the drawer face (parts 1E and 1F) to the remaining drawer box assembly until after the frame is completely assembled.

Fit the double battens (remembering to temporarily tape them) into the box assemblies. Fit the remaining batten structures into the boxes as shown, using glue as required. For double battens, drill holes in the battens, which will later accept screws. Use screws to assemble the chopping board as shown.

Attach part 5C after the frame is completely assembled.

\_Apply finishing oil/paint to the box assemblies as required.

## 7



### Frame preparation

Note: The illustration here is to be used for initial identification/ measurements. Once the broom handles are cut to length, the frame connections (explained below) will need to be coordinated with the box installations explained in Step 8.

Cut the 1 1/8 in-diameter broom handles to the following lengths:

\_ Four x 11 3/4 in (parts 5C, 5D, 5K, 5I)

\_ Two x 47 in (parts 5A, 5B)

\_ Two x 25 1/2 in (parts 5E, 5F)

\_ Two x 31 3/4 in (parts 5H, 5J)

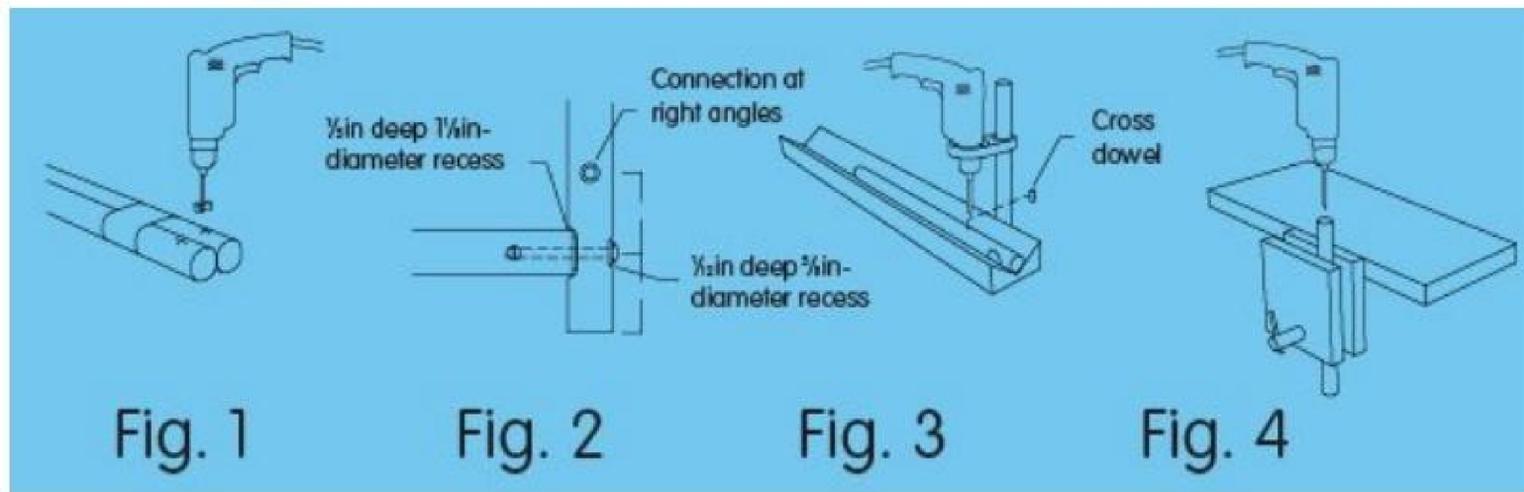
\_ Two x 34 3/4 in (parts 5G, 5L)

\_ Mark up all the connection locations on the cut broom handles as shown.

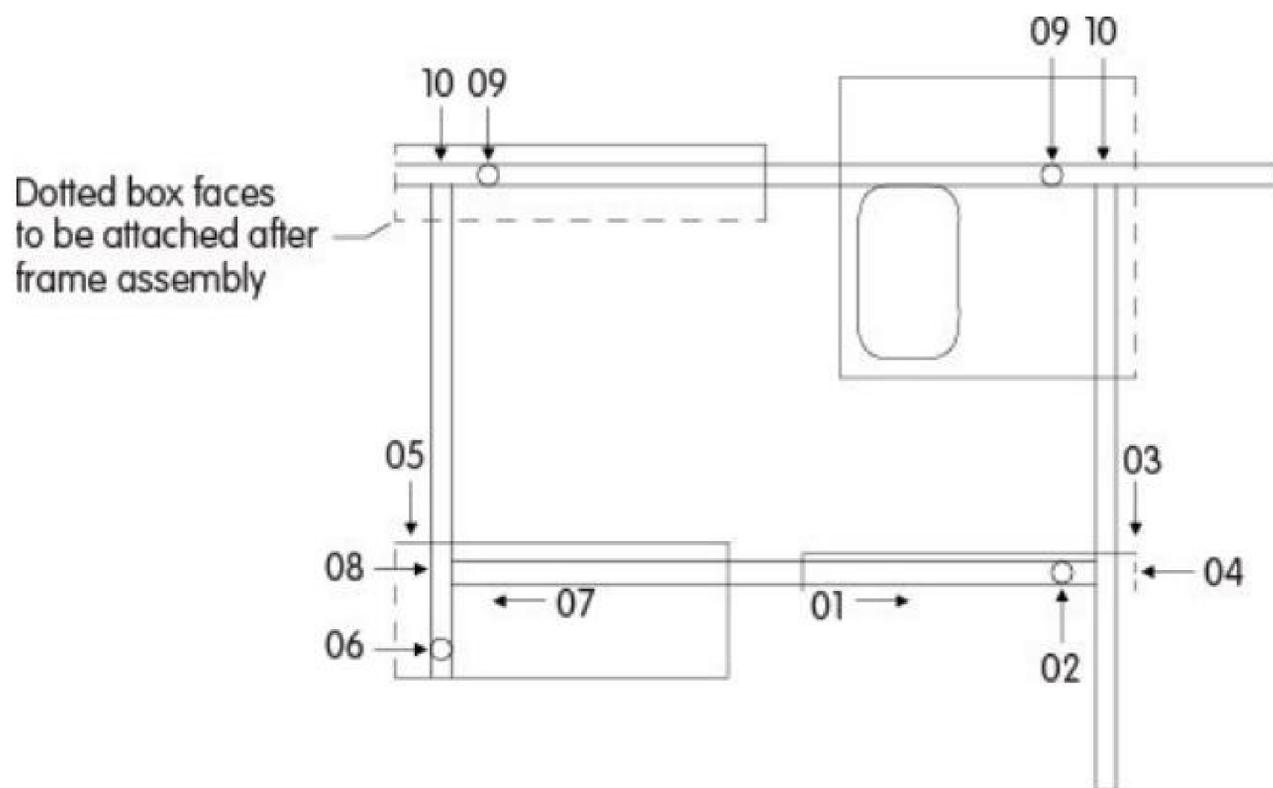
\_ Tape the two broomsticks together (see Fig. 1) to prevent them from twisting during drilling. Drill all large recesses (1 1/8 in diameter) 1/5 in deep and small recesses (5/8 in diameter) 1/12 in deep on the opposite side (see Fig. 2).

\_ Use a valley-shaped rest (see Fig. 3) to hold the broom handles in place as you drill the holes for the cross dowels.

\_ Clamp the broom handles (see Fig. 4) vertically in a table vise and drill the holes along the length of the broom handle for insertion of the cross dowel bolt. Start each hole with a center punch to reduce the chances of going off-course.



8



### Frame assembly

- 1\_Slide the broom construction into the chopping board box.
- 2\_Connect the cross broom 5I to 5H and 5J.
- 3\_Slide brooms 5H and 5J into chopping board box.
- 4\_Connect the vertical brooms 5H and 5J to 5G and 5L.
- 5\_Slide brooms 5E and 5F into the drawer box.
- 6\_Connect cross broom 5K (see Figs 5, 6, 7).
- 6a\_Slide broom 5E into the drawer box (Fig. 5).
- 6b\_Rotate so the connection 5E–5K faces outward (Fig. 5).
- 6c\_Position broom 5K (Fig. 6).
- 6d\_Connect brooms 5E and 5F to 5K (Fig. 6).
- 6e\_Rotate through 90 degrees (Fig. 6).
- 6f\_Slide broom 5G into the drawer box (Fig. 7).
- 6g\_Connect brooms 5E and 5G (Fig. 7). Repeat with brooms 5F and 5L.
- 7\_Slide frame construction into the drawer box.

8\_ Connect 5E–5G and 5F–5L.

9\_ Slide brooms 5A and 5B through the burner and sink boxes.

10\_ Shift the boxes along the brooms to access connections.

\_ Using double battens, attach the remaining faces of the boxes with screws through the predrilled double battens. Attach the drawer face via the two hinges on the drawer box.

\_ Place the chopping board on top of the chopping board box.

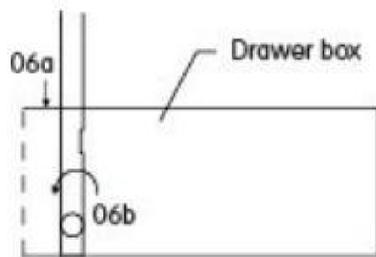


Fig. 5

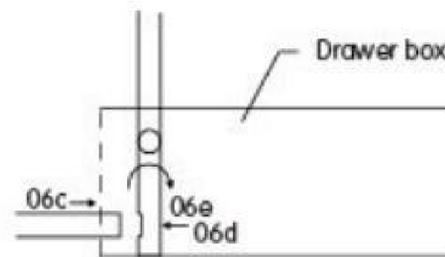


Fig. 6

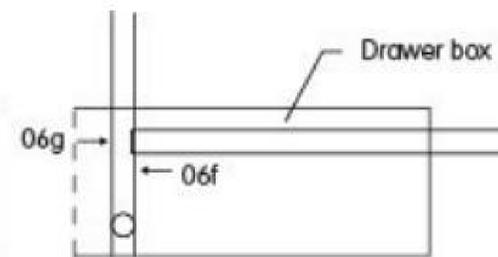
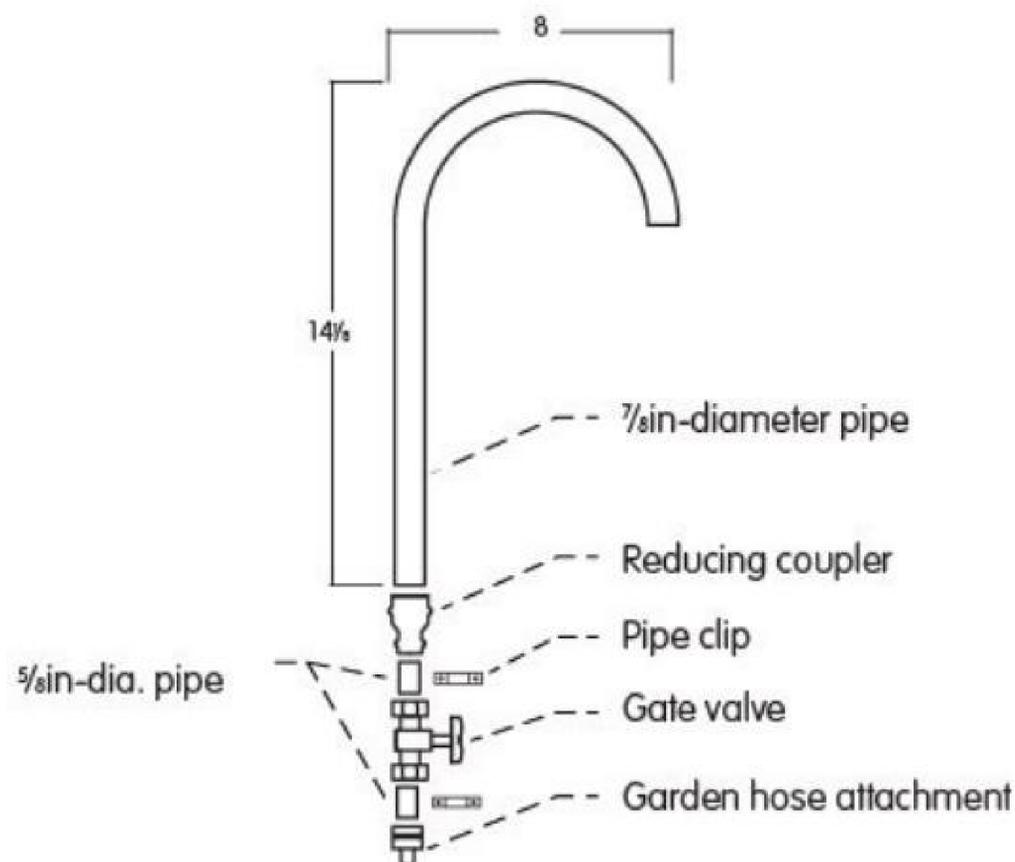


Fig. 7

9



### Pipe tap

\_ Use a pipe bender (see Fig. 8) to carefully bend the copper pipe to the radius shown above. Be careful not to crimp the pipe while you are bending it.

\_ Use two pipe clips to fix the plumbing to the battens with screws (see Fig. 9).

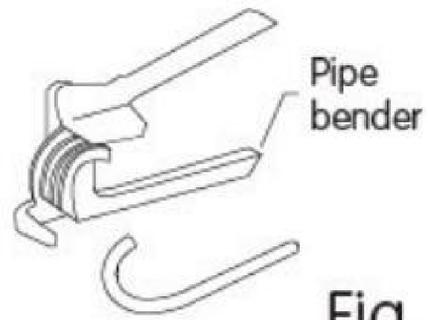


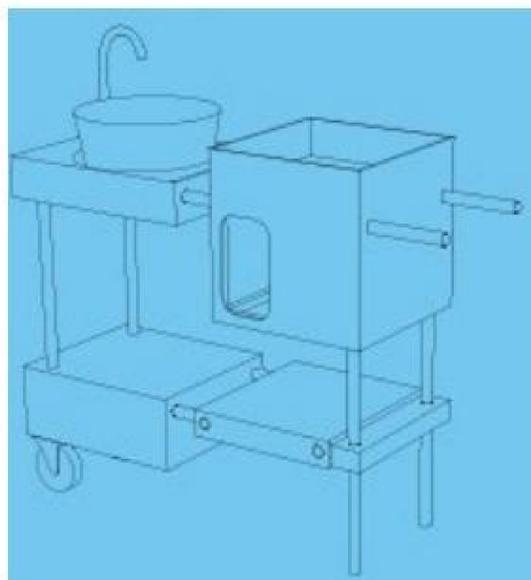
Fig. 8



Fig. 9



10



\_Attach the heavy-duty castors and insert the sink basin and gas burner.

\_Cook a delicious meal with your outdoor kitchen and enjoy!



## 7.

### MISC.

Small, but mighty! Here's a collection of accessories that pack a designer punch. And if you've been looking to get your hands dirty, there are two rock solid projects to get you on your way. Portland—named after the cement used in the creation of these stunning candlesticks—are cast in PVC and broken (yes, broken) to various lengths to create the artistic base. Chen Chen and Kai Williams are no strangers to the hands-on approach to design. Scraps of granite and found objects get preserved in Rockite to form these modern-day fossils, perfectly shaped to bookend your DIY books. Duplicate the efforts of your hard work by hanging the simply shaped Circle Mirror from Jean-Philippe Bonzon's Geometric collection. Lower your brow and crank up the tunes to the worksite-inspired, high-tech meets lowtech Radiola Table, which goes to show that inspiration can come from unexpected places.

# GEOMETRIC: CIRCLE MIRROR

JEAN-PHILIPPE BONZON

The pieces for Jean-Philippe Bonzon's Geometric series, of which Circle Mirror forms a part, were created as objects that are easy to manufacture and easy to make yourself.

This 24in-diameter mirror, which employs just a hole and a piece of rope, is very easy to assemble. You just need to go to your favorite glaziers and ask them to cut it to size for you—show them your construction drawing with the three dimensions detailed opposite. Then buy a nice piece of rope; the best is probably one made of natural fibers for that antique look, but ropes are available in many different beautiful colors at your local DIY store if you want to match it to your other furnishings.

Follow the instructions opposite and then enjoy looking at yourself in your new mirror. You can make a whole wall of mirrors, using different diameters, large or small. Hang them all in a row, or hang several from one piece of rope. With all those reflections, great effects are guaranteed!



You will need:

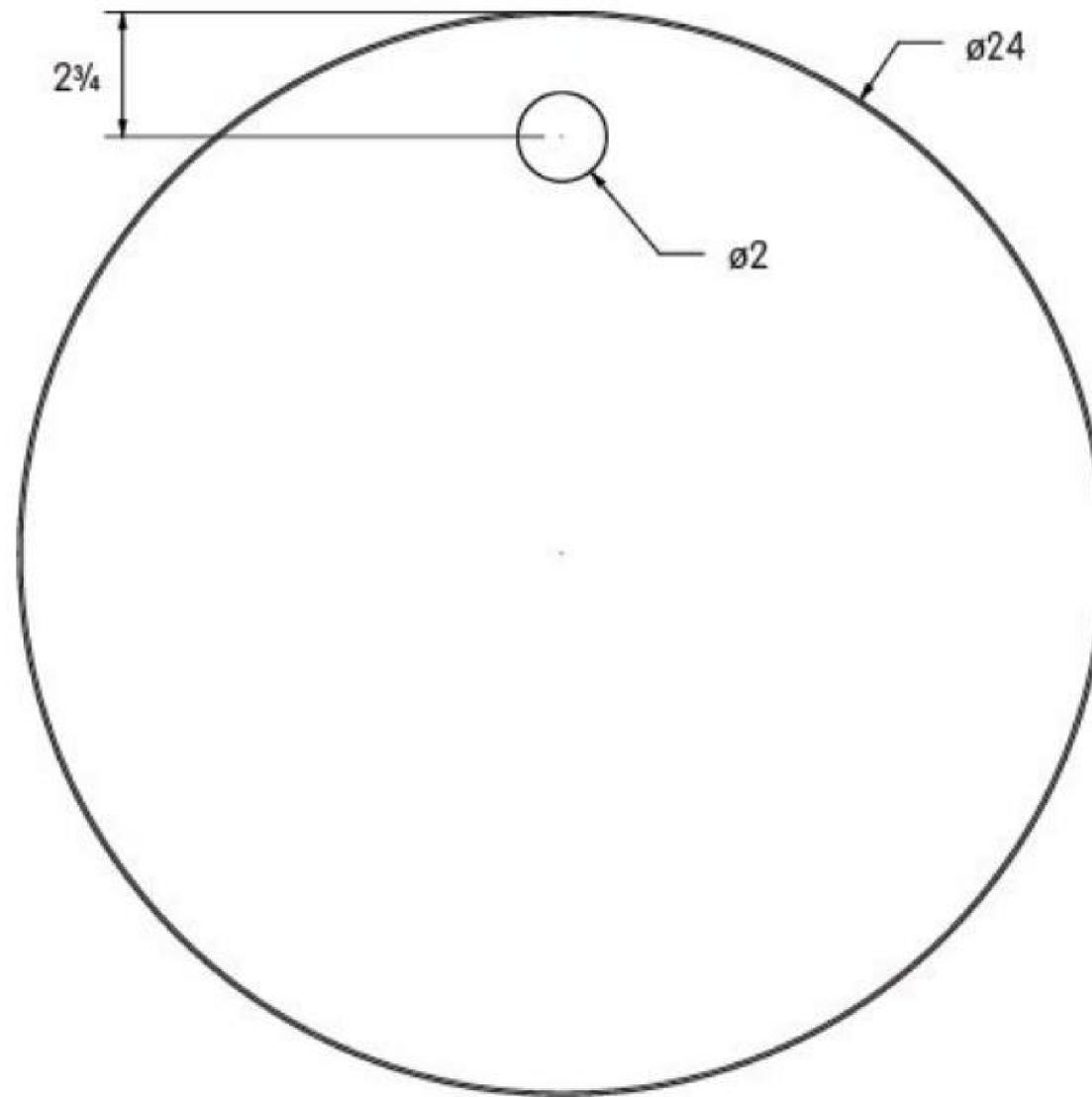
### **Materials**

- \_ Mirror, approx. 24in diameter
- \_ Natural rope, 1 $\frac{3}{4}$ in diameter, 6ft long
- \_ Scrap piece of plywood, slightly larger than the mirror

### **Tools**

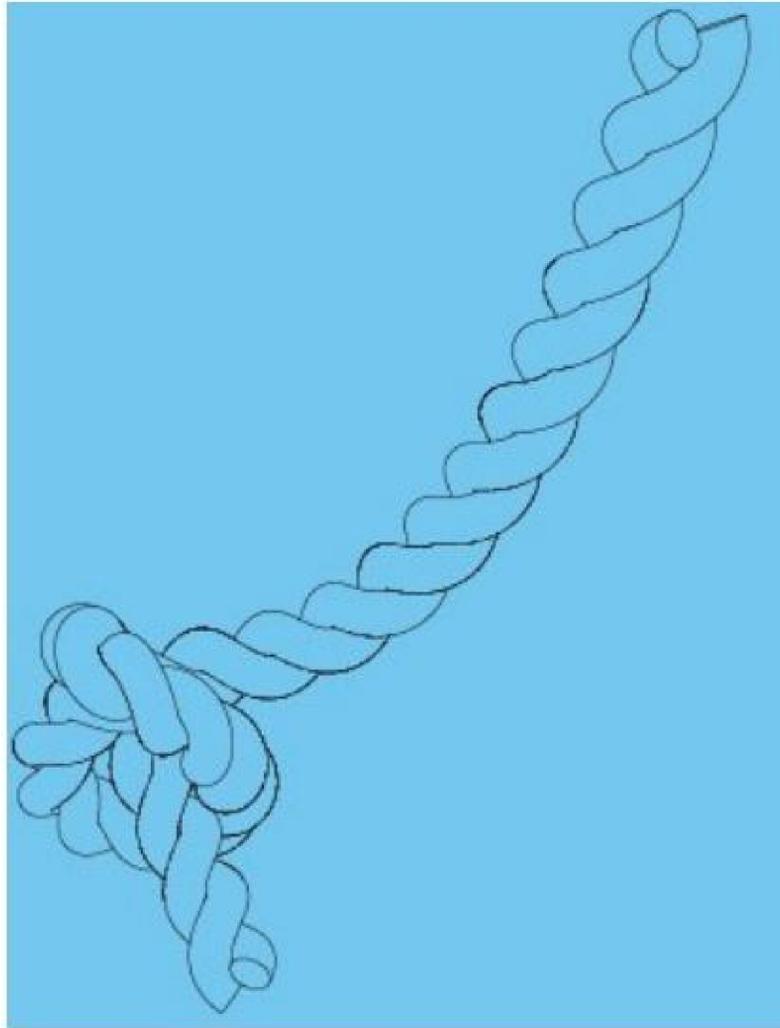
- \_ Knife
- \_ Drill
- \_ Diamond drill bit for glass, 2in diameter
- \_ Clear packing tape
- \_ Dust mask
- \_ Water bottle with squirt-type top
- \_ Glass cleaner

# 1



- \_ Place the mirror face down on the scrap plywood (being careful not to scratch the surface).
- \_ Mark the hole location as shown and place clear packing tape over the circle where it will be drilled.
- \_ Using light pressure, slowly drill through the mirror (wear your dust mask so that you don't breathe in the glass particles).
- \_ Keep the bit cool by squirting water on it, occasionally lifting the bit to allow water to get in.
- \_ Flip the mirror over and clean up the hole from the other side by taping it as before and lightly drilling it again.
- \_ Remove the tape and clean the mirror with glass cleaner.
- \_ Another option is to take your mirror to your local glazier. Less risk of cutting yourself!

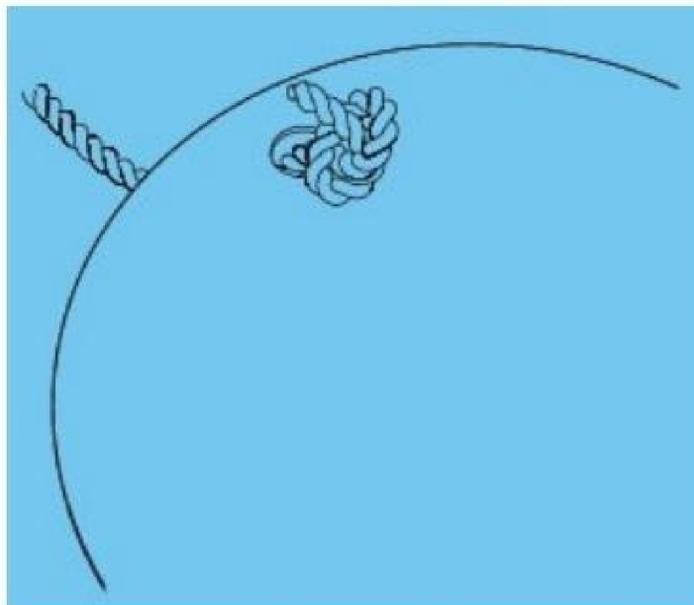
# 2



\_Tie a solid knot in one end of the rope.

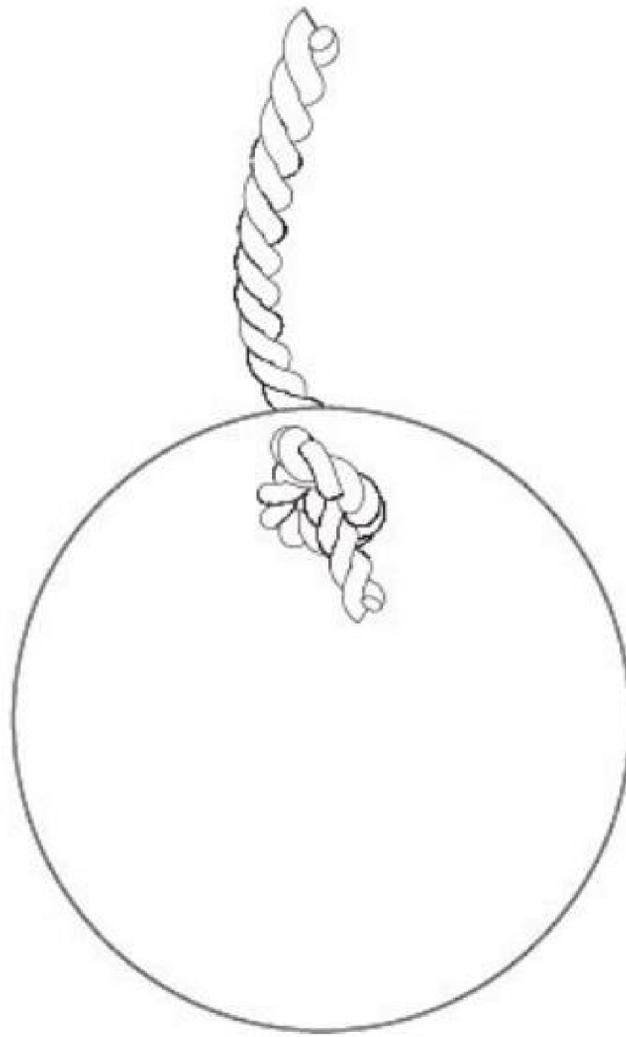
\_Measure how long you would like the mirror to hang and use a knife to cut the rope to length.

3



\_Pass the other end of the rope through the hole.

4



Attach the rope to a hook and check yourself out!



# RADIOLA TABLE

## STUDIOMK27

The “Prostheses and Grafts” project—a 16-piece collection—was conceived by the team of architects at StudioMK27. The highly functional furniture came from the project sites of the office, constructed anonymously by civil construction laborers in Brazil. All of the furniture in the exhibition was used at the sites.

These pieces then underwent small modifications at the hands of the designers and architects at StudioMK27 before a brief selection was gathered and presented at the Micasa Vol B store in São Paulo in March 2010.

Radiola Table, a bench table with an iPod dock, was numbered 01 in the exhibition. It works as a support for any type of small music device that can be plugged into the speaker stand.

You will need:

### **Materials**

- \_ Two  $\frac{3}{4}$ in thick wooden boards, 24 x 24in
- \_ Screws
- \_ Two speakers, approx.  $3\frac{1}{2}$ in diameter, with audio jacks/connectors
- \_ iPod/iPhone universal adapter

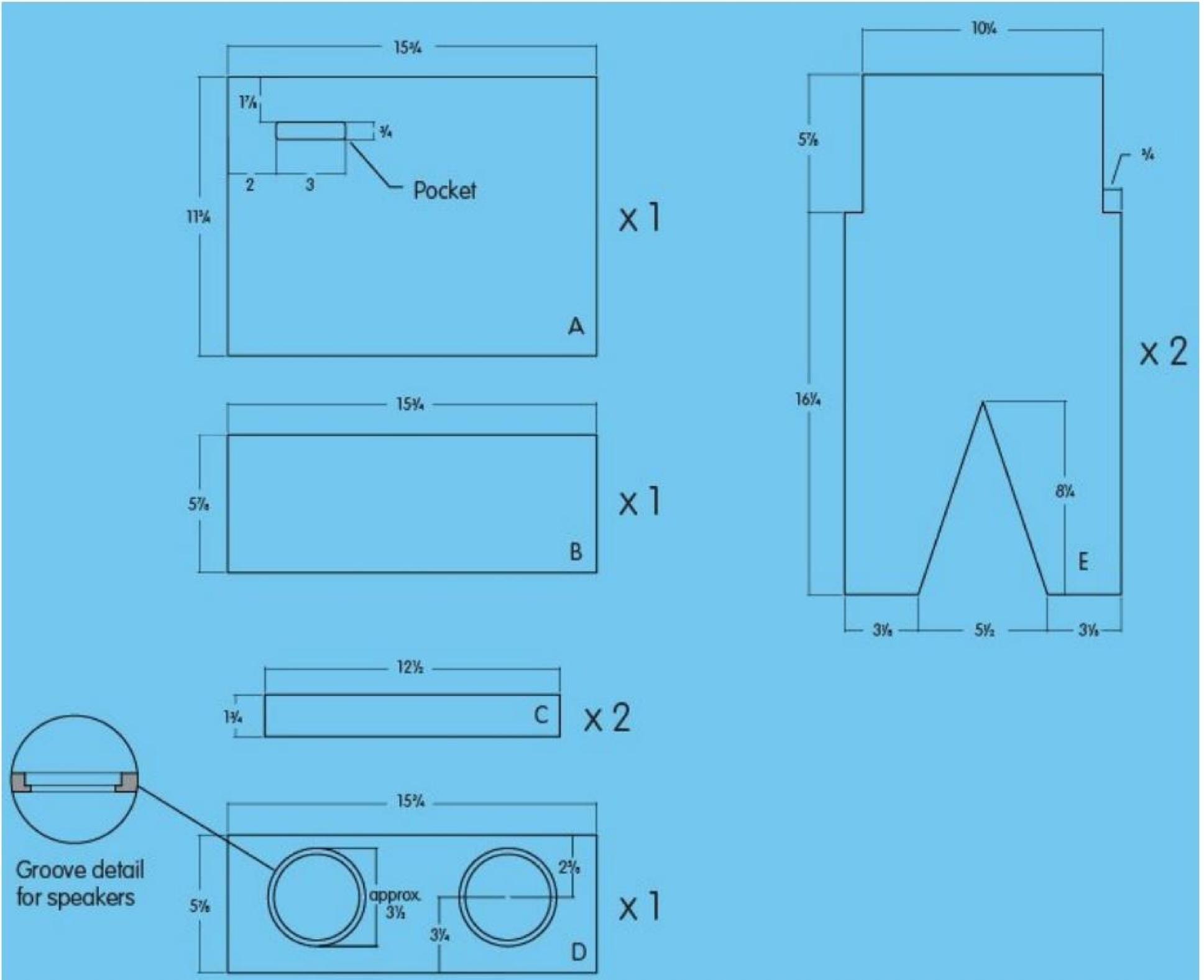
### **Tools**

- \_ Saw
- \_ Drill
- \_ Router

\_Soldering gun

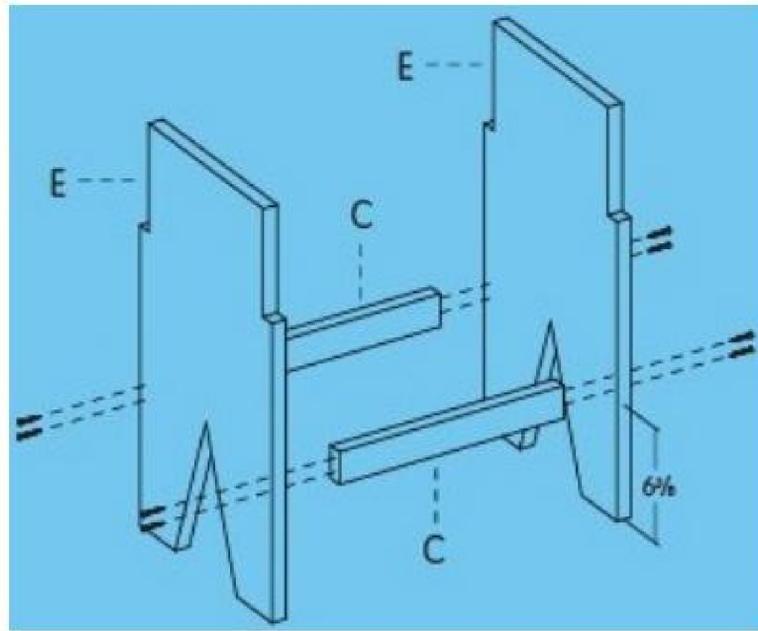


1



- \_ Cut the 3/4in-thick wooden boards according to the dimensions above. The pocket slot in Part A is 15mm deep.
- \_ With a router, create a pocket/slot in Part A as shown.
- \_ In Part D, create a groove detail large enough to fit the two speakers.

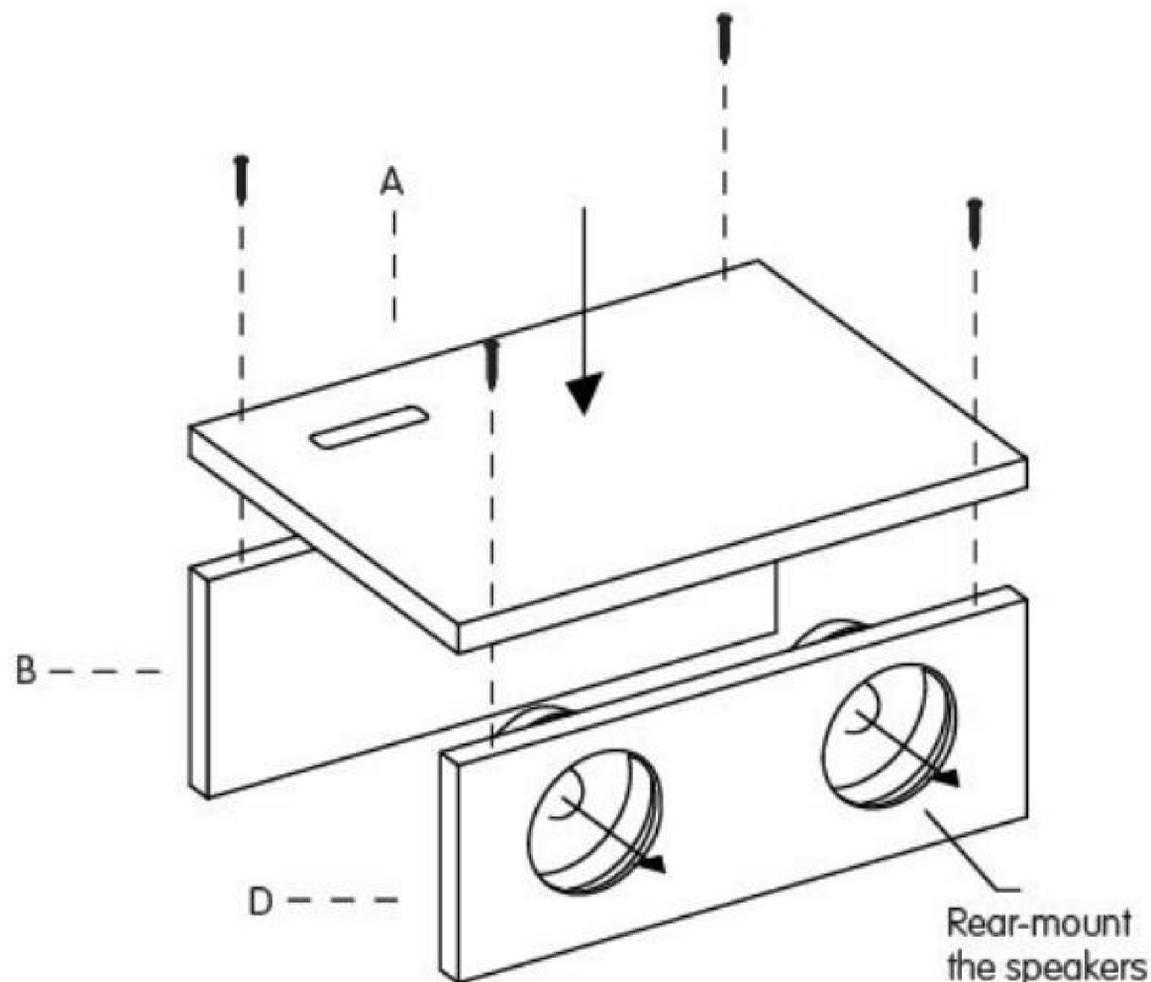
2



### Legs

\_Place the horizontal braces (parts C) between the sides of the stand (parts E) and attach them with screws. Make sure the bottom of the horizontal braces are 6<sup>3</sup>/<sub>8</sub>in from the base of the sides.

3



### Speaker cabinet

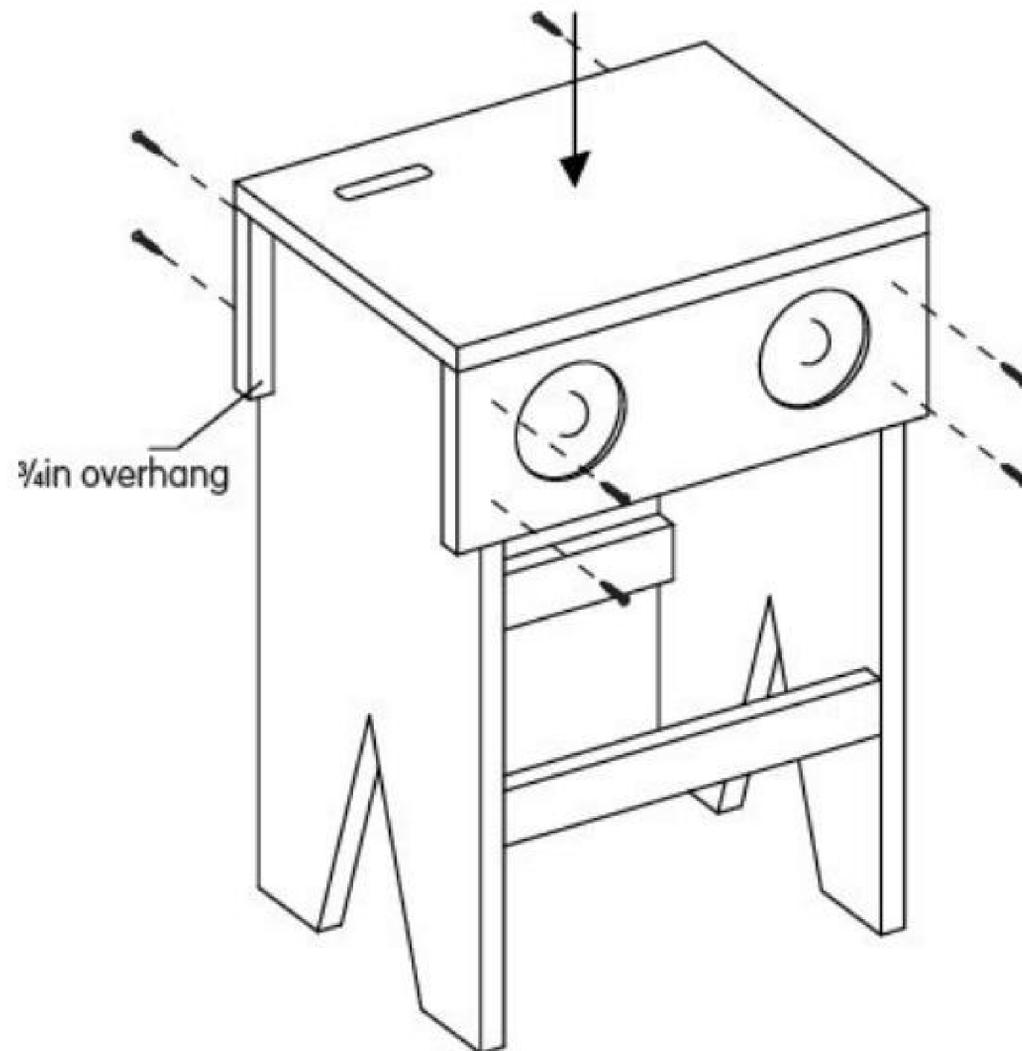
\_Rear-mount the two speakers into the pocket grooves on the back of the front face (part D). Mount the jacks/connectors and solder the wiring.

\_Locate the iPod/iPhone universal adapter in the pocket on the top of the stand (part A). Drill a hole through the pocket in order to connect the adapter to the speakers.

\_Mount the top of the stand (part A) to the front and back faces (parts B and D) with screws.

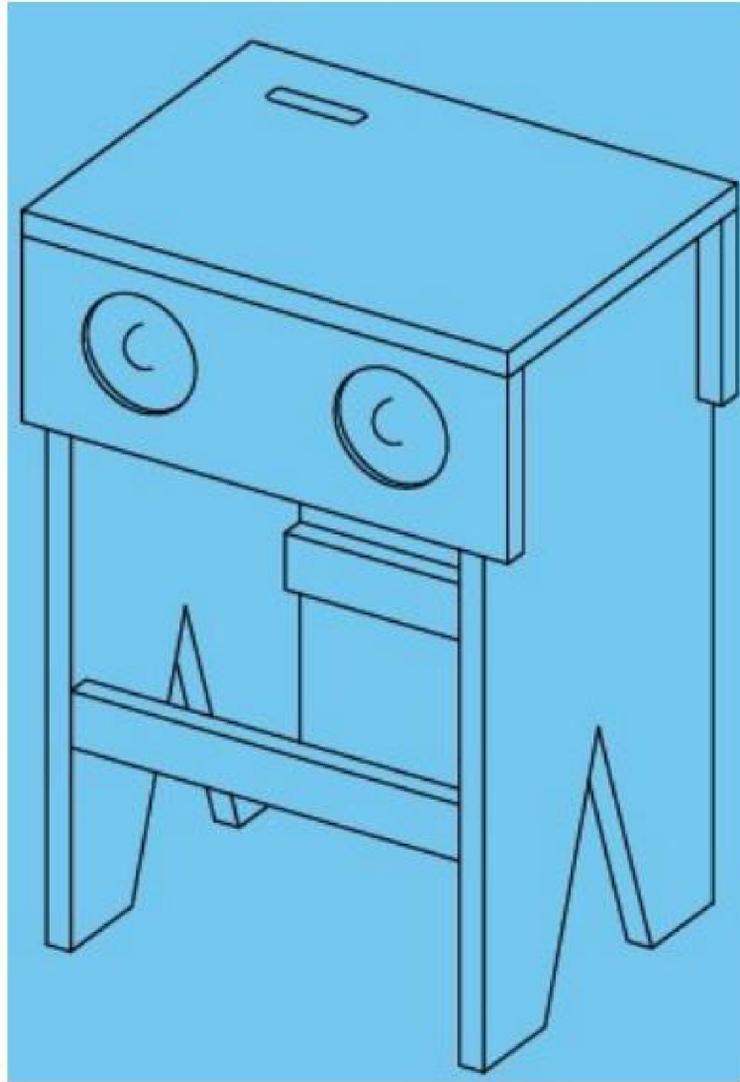
\_ Optionally, you can get a grille cover (e.g. from [www.parts-express.com](http://www.parts-express.com)) and mount the cover prior to mounting the speakers.

4



\_Mount the speaker cabinet on the legs with eight screws. The speaker cabinet should extend out past the legs by 1/4in on either side.

5



\_Insert your iPod/iPhone, plug into the amplifier, and rock out!



# PORTLAND

DAVID TAYLOR

Portland makes a statement. Robust imagery and material selection give a brutal aspect to an object that is essentially used to create a warm and intimate ambiance.

The production of Portland is relatively simple and can be tackled by almost anybody with access to the most rudimentary tools. The beauty of this piece is that it's very easy to repeat but impossible to clone, making every piece individual. Each concrete part used is unique—the result of how it is made. As the concrete sticks are broken to length, a group of components of different lengths is gathered. Each piece has a different fracture pattern and a different set of imperfections from the casting, such as bubbles, sand marks, and cuts. It's from this group that pieces are brought together to form a candlestick.

David Taylor himself makes six or seven of these pieces at a time, which allows for a good margin of waste—sometimes a piece just doesn't work out and has to be binned, so he needs to make several in order to be happy with a few.

You will need:

## Materials

\_Copper sheet,  $\frac{1}{25}$ in thick

\_Hydraulic cement such as "Rockite"

\_PVC electrical duct,  $1\frac{1}{4}$ in diameter, at least 55in long

\_Copper pipe,  $1\frac{1}{4}$ in diameter, at least  $2\frac{1}{2}$ in long

Candleholder

\_240 grit sandpaper

\_Two M5 nuts, bolts, and washers

\_Solder

### **Tools**

\_Hacksaw

\_Bucket and paddle

\_Tape

\_Funnel (or a cut water bottle)

\_Utility knife or Dremel

\_Hot glue gun

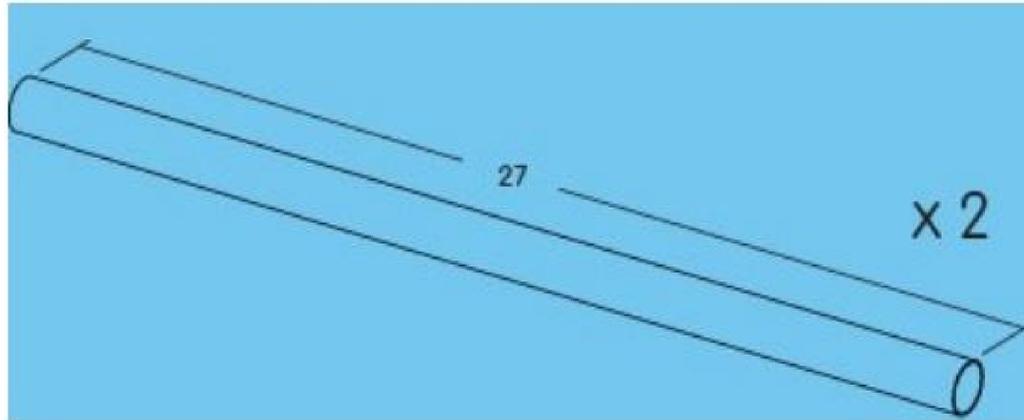
\_Metal shears

\_Drill and  $\frac{1}{6}$ in drill bit

\_Soldering iron

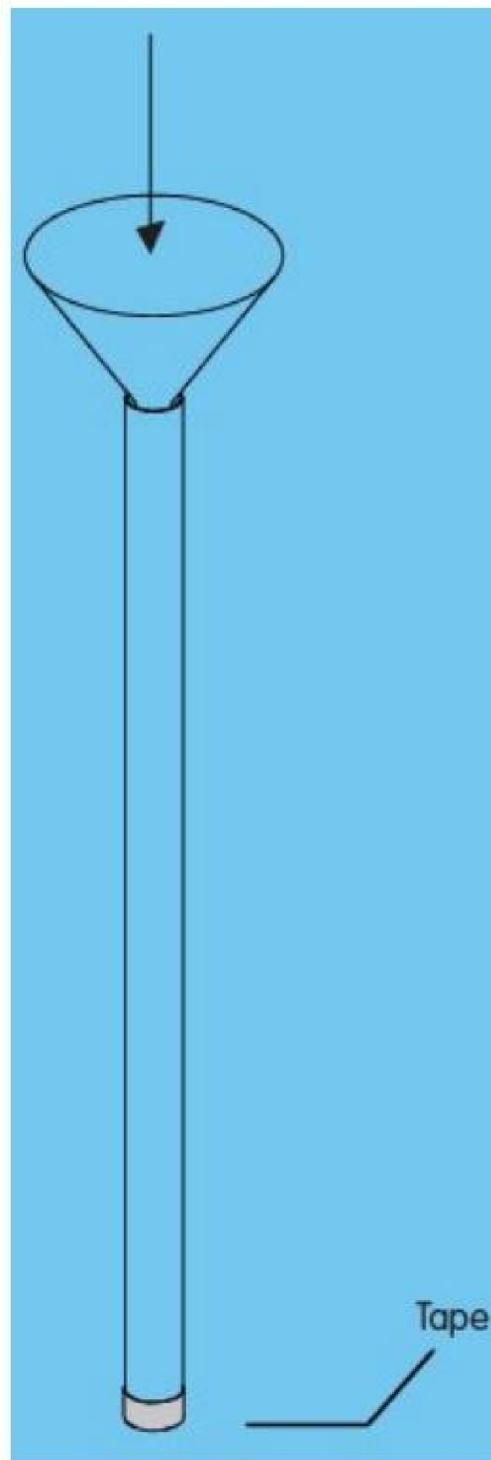


1

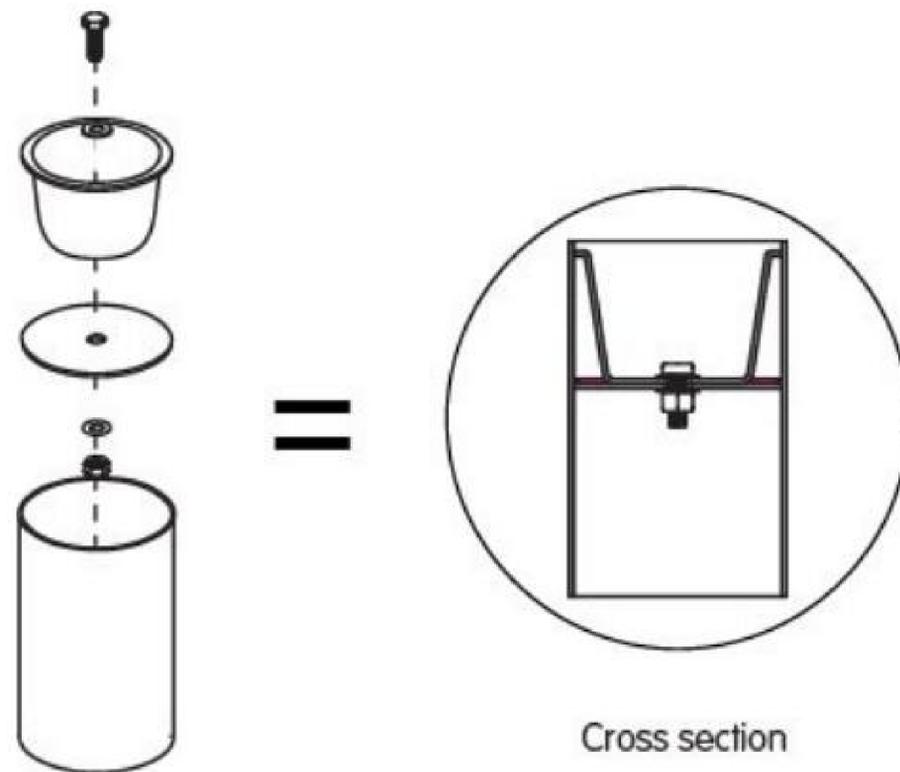


\_Cut the PVC duct to two lengths of 27in each.

2



- \_Tape one end of the PVC.
- \_Mix your cement so that it's not too firm and not too runny—a bit like honey (it has to run through your funnel into the PVC ducts).
- \_Fill the PVC ducts with the cement. Tap them a bit to remove the largest air bubbles and to ensure the concrete has filled each one.
- \_Let them dry for at least 24 hours before cutting them free. (A utility knife can be used for this but I strongly recommend a power tool like a Dremel.)
- \_Once removed from the duct, let the concrete sticks dry properly—for at least another 24 hours.

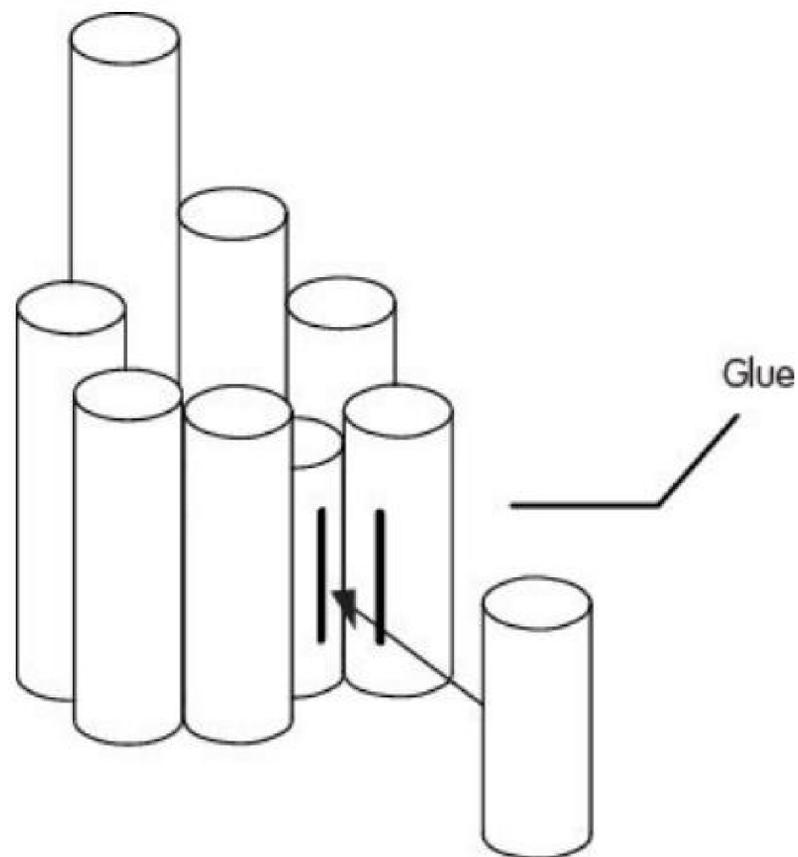


- \_Cut a length of copper tube, about 2–2 $\frac{3}{8}$ in.
- \_Cut out a disk of copper from your sheet and solder it in place in the copper tube, making sure the top of the candleholder is flush with the top of the copper tube.
- \_Drill a  $\frac{1}{6}$ in hole in the soldered disk and attach the candleholder with an M5 nut, bolt, and washer.



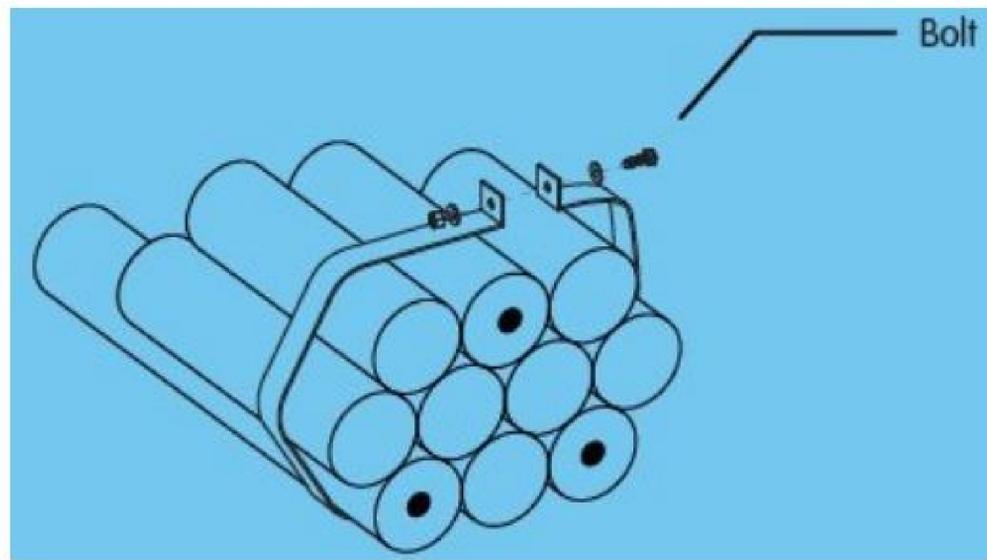


4



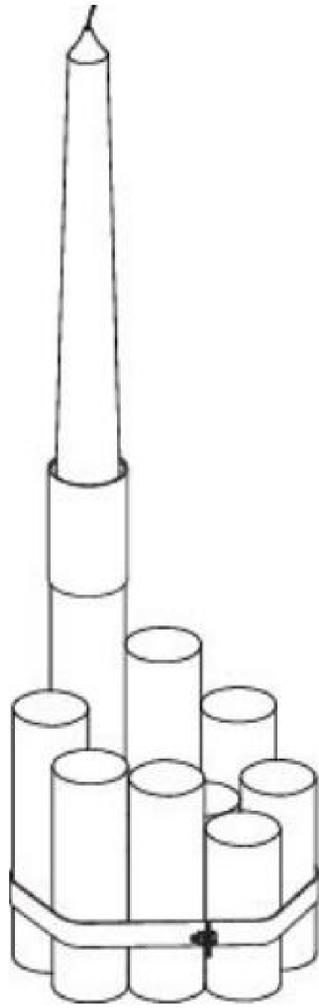
- \_Use your hands to break the concrete into eight different lengths. Remember to make one much longer than the others for the candleholder itself.
- \_Compose your group of eight sticks and use hot glue to stick them together. Make sure that there are no obvious remnants of glue showing.

5



- \_ Use the metal shears to cut a copper band,  $\frac{1}{2}$ in wide and long enough to go all the way around the group of concrete sticks, adding an extra  $1\frac{1}{2}$ in.
- \_ Finish the copper band and tube by sanding them with the 240 grit sandpaper.
- \_ Wrap the copper band tightly around the body of the candlestick, bending up the ends so they come neatly together.
- \_ Drill a  $\frac{1}{6}$ in hole through the end to allow an M5 nutbolt and washer to be used to hold the sticks tightly together.
- \_ Attach some feet by applying three generous blobs of glue to the bottom of the candlestick.
- \_ Allow the glue to set, then cut it back with a utility knife so that the candlestick stands straight.





\_Put the candleholder in place and insert a candle.

\_Open your beer, light the candle, put on some soft music, and let the love begin!



# METAMORPHIC ROCK BOOKENDS

CHEN CHEN AND KAI WILLIAMS

Although visually very complex, at their core the Metamorphic Rock Bookends are also very basic. Their beauty comes from their simplicity.

Bookends need to be heavy and to have faces where they can mate with a book and a shelf. By putting a few scraps from a stone yard into a corner mold and filling it with cement, you can take useless yet beautiful industrial trash, and create an interesting composition with a functional purpose. The process stays the same for each Bookend but each composition is unique.



You will need:

## Materials

\_Rockite cement

\_Plywood, 1/2 x 24 x 24in

\_Aluminum flashing, 24 x 24in

\_Plasticine

\_Broken granite and marble

\_Self-adhesive rubber feet

\_Concrete sealant

\_Scrap piece of 4–5in-diameter PVC pipe, approx. 3in long

\_Water-based contact adhesive for laminate, such as Fastbond

\_Screws, 1in long

### **Tools**

\_Drill bit slightly smaller than screws

\_Two plastic cups

\_Scale

\_Stirring stick or scrap flooring tile

\_Knife

\_Wood file

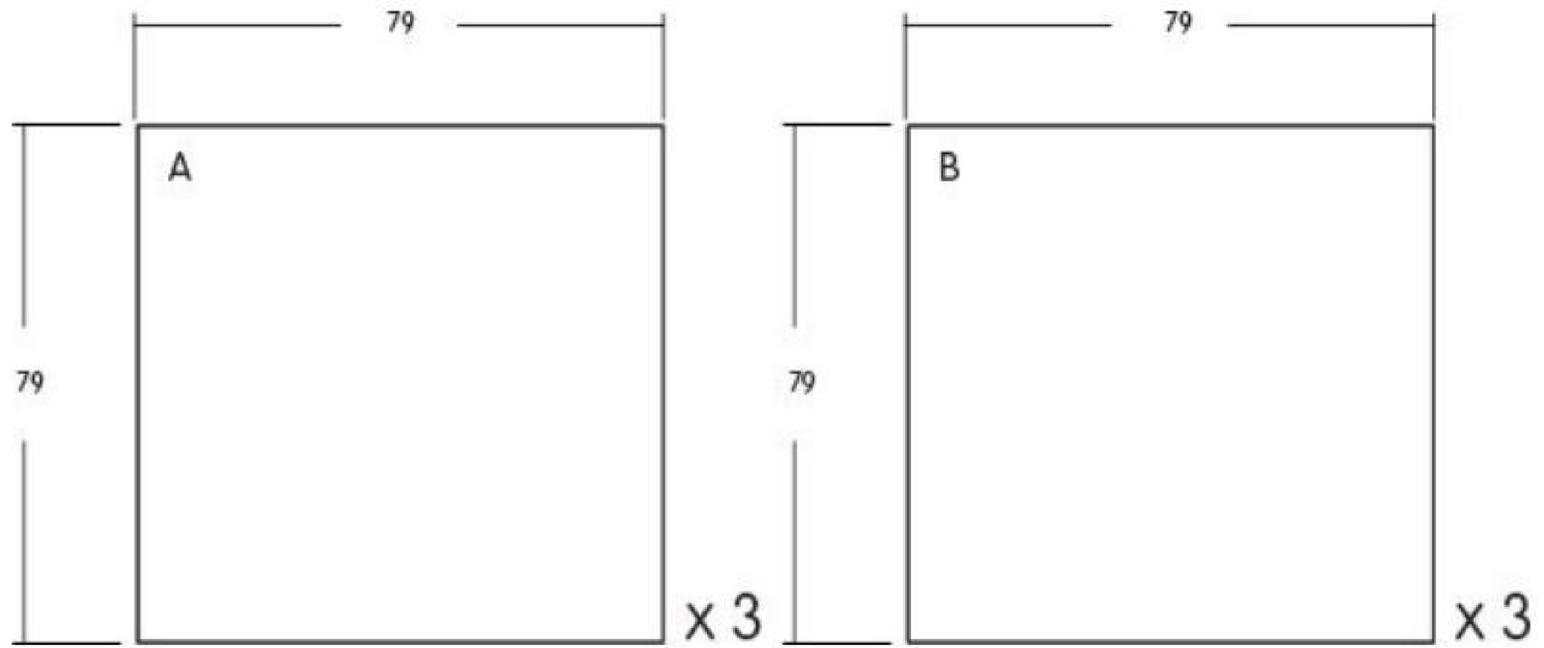
\_Foam brush

\_Metal shears

\_Saw



1



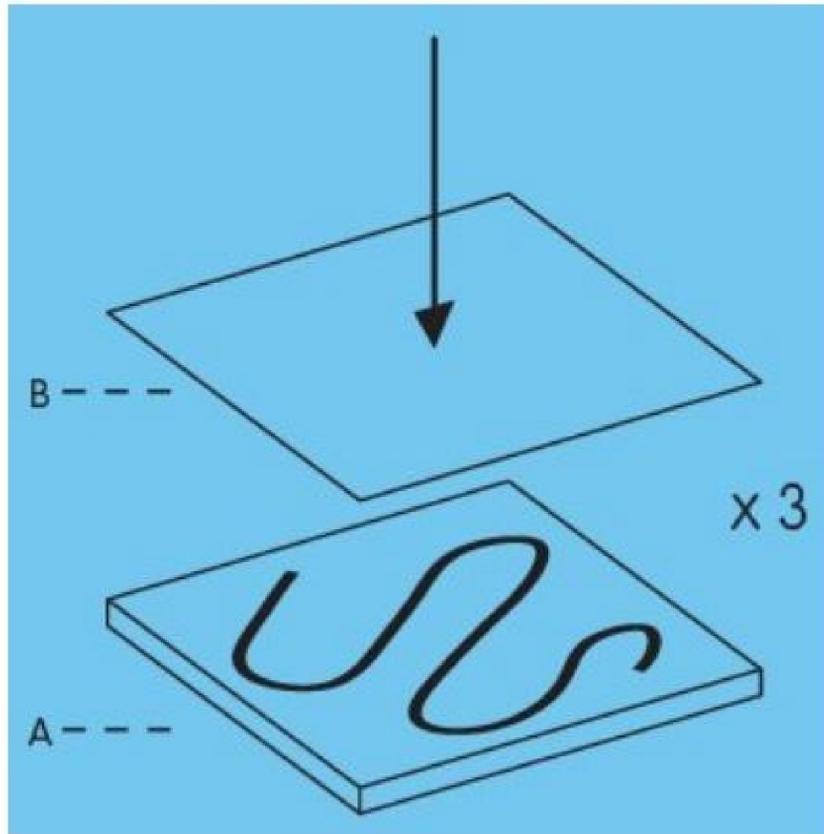
\_Use the saw to cut the plywood into three x 79 x 79in (part A).

\_Use the metal shears to cut the flashing into three x 79 x 79in (part B).



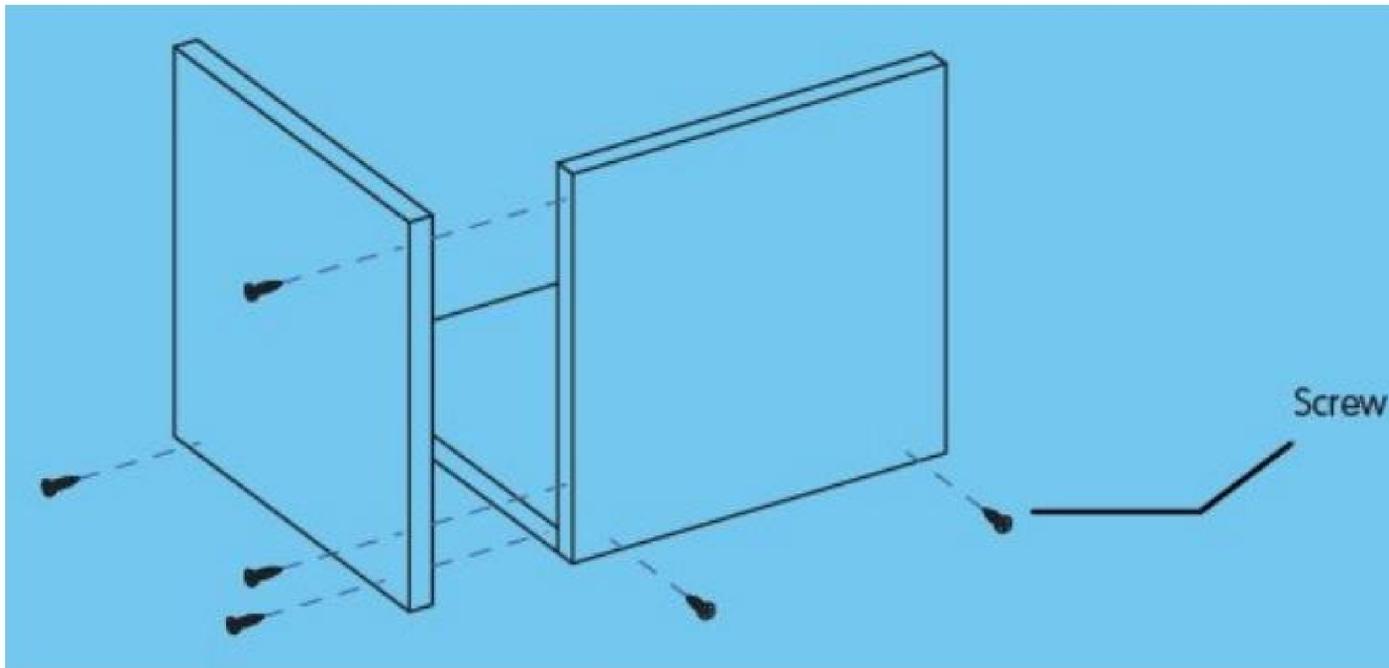


2



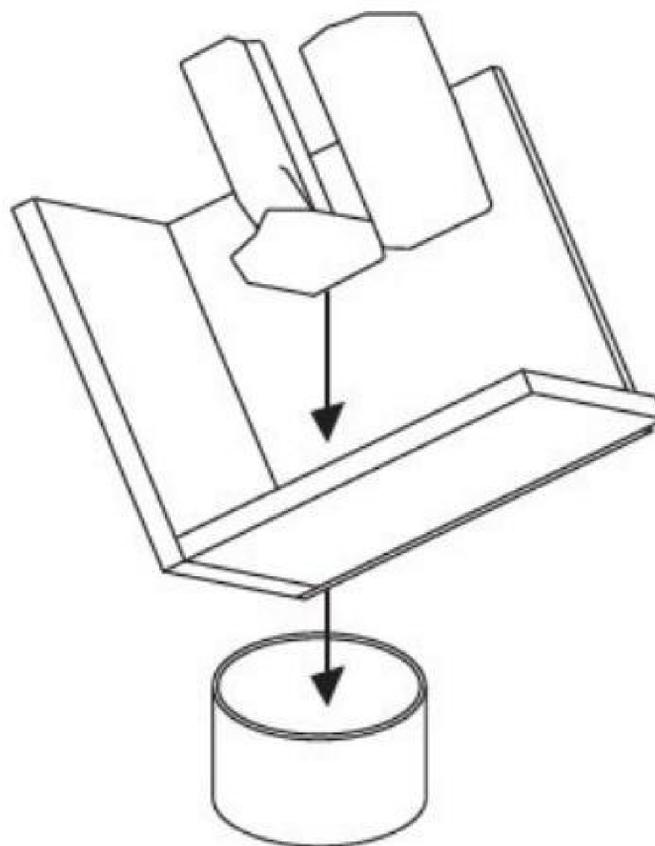
- \_ Adhere the flashing (parts B) to the plywood (parts A) using contact adhesive.
- \_ Repeat so that you have three laminated squares.
- \_ These may need to be clamped or weighted while the glue is drying (follow adhesive instructions).

3



\_Complete the mold by attaching the three squares with screws, as shown. (Predrill the holes to get through the aluminum flashing.)

4

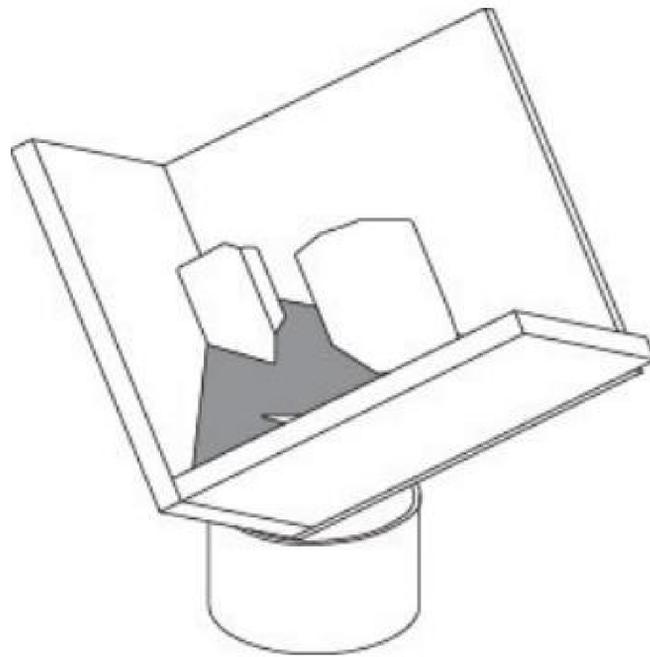


\_Seal the mold by working a thin bead of plasticine into the corners.

\_Hold the mold up by placing it on a section of PVC pipe (the mold does not necessarily have to be level).

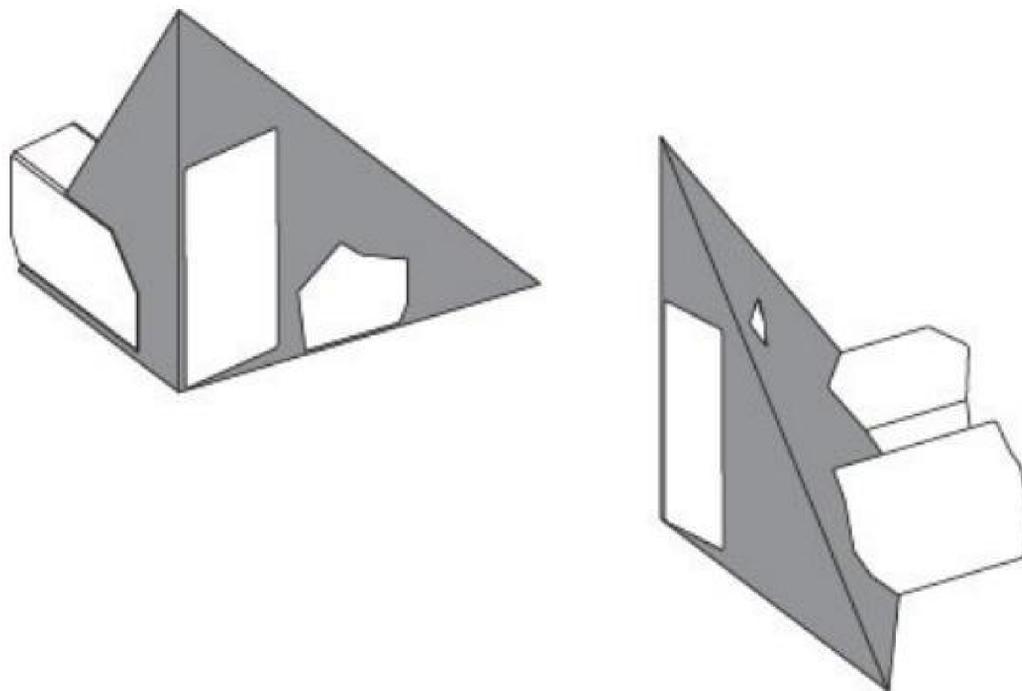
\_Place broken stones in the mold. Stones placed flush with the flashing will be visible in the final product.

5



- \_ Mix the cement: 1lb Rockite to 4oz water (always add cement to water and not the other way around). Mix well.
- \_ Pour the cement into the mold.
- \_ Wait at least 15 minutes before demolding.
- \_ Remove the bookend from the mold. Unscrew the mold if the cement will not release.
- \_ Clean up the faces, edges, and sharp corners with a file and knife.
- \_ Wait at least one day before applying cement sealant.
- \_ Place three self-adhesive rubber feet on your least favorite surface.

## 6



- \_ Display prominently with your favorite books and enjoy!





## Jean-Philippe Bonzon

Swiss-Argentinian Jean-Philippe Bonzon completed his studies in Switzerland, where he obtained a degree in Industrial Design and Products at ECAL, Lausanne, in July 2007. The designs he completed during his studies—including a boot removal device, a hair slide with bristles, and lamps made of cable binders—were praised for their choice and use of materials, as well as their ability to combine functional solutions with tongue-in-cheek humor. During the past few years, he has exhibited in New York (Vitra's store and ICFE), Cologne (IMM, Koelnmesse), Lausanne (MUDAC) and Milan (Furniture Fair), and he obtained third place at the Pavillon Suisse Le Corbusier contest in Paris. His project Modular Racks Staple obtained a Swiss Federal Design Award, which enabled him to exhibit in Zurich (Bellerive Museum). Jean-Philippe currently works in Shanghai.

[www.jpbd.ch](http://www.jpbd.ch)



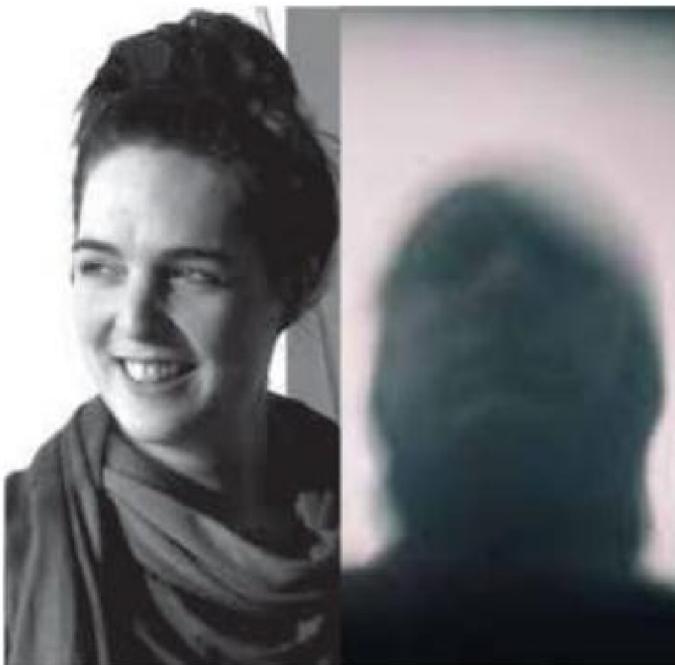
## Chen Chen and Kai Williams

Chen was born in Shanghai in 1985. His family later emigrated to Wyoming, moving to Canada before settling in New York City. While at Pratt, Chen spent a semester at the Gerrit Rietveld Academie in Amsterdam, where he was exposed to a nuanced and experimental design culture that has permanently influenced his practice. On graduation, he began working for Moss, rising to Display Director in 2010.

Williams was born in New York in 1984. During his studies at Pratt he worked doing high-end architectural metal fabrication and interned at 2x4, a graphic design company. After graduation he worked for the artist Tom Sachs as liaison between the artist and the studio, eventually overseeing installations at the Guggenheim in Bilbao and the preparations for his Lever House show.

Chen and Williams met while studying industrial design at Pratt Institute in Brooklyn. In 2011 they founded a design studio and have shown work with Moss, Phillips de Pury, The Future Perfect, Matter, all in New York; both Elemental, and Inventory Objects in Miami; Colectivo Amor de Madre, São Paulo; Museo di Arte Moderna e Contemporanea di Trento e Rovereto; and the Wunderkammer pavilion at the 2012 Venice Biennale.

[chen-williams.com](http://chen-williams.com)



## Maartje Dros and François Lombarts

Dros's work is focused on the use and dynamics at the periphery of space and borders in the public realm. Her work creates collaboration between the user and the space rather than giving center stage simply to the object; it questions not only the hardware of our environment but the finished design can also be seen as an

expression of social structures.

François Lombarts has been active as an independent designer since 2007. He focuses on physically experiencing, researching, and defining the various aspects of public space. His fascination with public space is especially rooted in its informal use, where everyday basic needs often manifest themselves in unstructured and informal ways. His designs strive to create situations and develop means in which this spontaneity can manifest itself.

[www.maartjedros.nl](http://www.maartjedros.nl)



## **Sara Ebert**

Ebert spent several years co-managing the family gallery before attending Pratt Institute to study industrial design. She currently calls Brooklyn, NY, home. Ebert's approach to design often involves merging her craft background with industrial methods and materials. She is inspired by forms and solutions found in nature, as well as the simplicity and efficiency of utilitarian objects. Above all, she reminds herself to never take her work too seriously, and strives to inject a dose of fun and beauty into all she does.

[saraebert.com](http://saraebert.com)



# Travis Ekmark

Travis works with design agencies, start-ups, nonprofits, and small businesses to create visual strategies, brand identities, user interfaces, and weird objects. His previous experience includes projects with Coca-Cola, College Board, Intel, and Scoutmob. He currently runs an anti-design office called Brothers with his business partner, Alvin Diec. He makes dystopian housewares under the name Object Trust with his business partner Collin Farill. He is also a co-founder of the Southern Design Concern and a member of the American Design Club. Educated at Georgia Tech, his approach to design is rooted in research, collaboration, and appropriation.

[travisekmark.com](http://travisekmark.com)



# 45 Kilo

The design studio 45 Kilo was founded in Berlin in 2007. Their work is focused on furniture and interior design and often combines industrialized production processes and materials with crafts, using a very simple, reduced visual language. The studio creates basic designs that reflect a functionalist and sometimes playful approach to everyday objects. They work both as a design studio, and as producers of custom-made furniture alongside a series of their own products.

[www.45kilo.com](http://www.45kilo.com)



## **Daniel Franzén, Adam Almquist, Oscar Titelman**

Born in 1972, Daniel Franzén is an interior architect. He studied at Konstfack University in Sweden, and Tohoku University of Art and Design in Japan. He set up the company TAF Architects with two friends in 2002 and ran this until 2005, after which he set up his own office—Bunker Hill—in order to focus on the projects that he finds most interesting and meaningful. He has designed jewelry worn by Swedish and international pop stars, the smallest apartment in Stockholm (at 11 square meters/118 square feet), modern barn houses, stores, and restaurants. He is also one of the most progressive users of Swedish pine, evidenced in such projects as the Blomkvist apartment in Stockholm, decorated almost entirely in pine plywood with a splash of marble. Franzén has exhibited in London, Paris, Tokyo, Berlin, and Milan.

Adam Almquist (born 1975) works as a designer and design strategist. He has previously worked as an antiques dealer and in fashion. He lives in Stockholm with his family, several dogs, and a horse.

Oscar Titelman (born 1975) is a former chef. He studied art and art history and has a bachelor's degree in industrial design. He is based in Stockholm, where he works as a product designer.

[www.bunkerhill.se](http://www.bunkerhill.se)



## **Christian Halleröd**

Christian Halleröd Design was founded in Stockholm, Sweden, in 1998. CHD works on a wide range of projects of varying scales, including product and furniture design, store concepts, and interior design. Their design strategy is rooted in a sensitivity to material choices. They also have extensive experience in the production and manufacturing process and always involve their clients, from the design conception stage through to product execution.

[www.chd.se](http://www.chd.se)



## **Dominik Hehl**

Dominik Hehl studied product design at the University of Applied Sciences in Potsdam and ECAL in Lausanne. After graduation in 2007 he designed a series of furniture pieces for family spaces and childcare. In 2008 Dominik assisted An Te Liu in the creation of "The Cloud" installation for the Venice Biennale. Before setting up his own

studio in 2010, Dominik joined the Jerszy Seymour Design Workshop, and worked on product development for Magis (Flux Chair), Vitra, and Moulinex.

His studio projects range from customized furniture installations to serially manufactured products. One of his main interests is in designing and developing products and spaces for learning environments. His latest works are characterized by a very careful use of resources. The manufacturing processes of the Rohlingtisch result in very little waste, and the pieces all demonstrate how a seemingly rational approach can lead to playful designs with a joyful simplicity.

The Rohlingtisch is designed to be copied. So feel free to build, change, and enhance.

[dominikhehl.de](http://dominikhehl.de)



## **Stephanie Hornig, Tine Huhn, Bodo Pahlke, Pascal Hien**

Stephanie Hornig, Tine Huhn, Bodo Pahlke, and Pascal Hien formed a team for a one-week workshop during their studies at the Berlin University of the Arts. The project was awarded the first prize and resulted in a pop-up bookstore. Each of the four has now gone their own way. Tine Huhn and Stephanie Hornig finished their Diploma in Industrial Design in 2012. After working for Industrial Facility in London and Outofstock in Singapore, Tine Huhn is currently doing freelance work in Berlin. Stephanie Hornig is now based in London and works as a Junior Designer for Barber

Osgerby. Bodo Pahlke worked for OFD studio in Stockholm before returning to Berlin to finish his studies as an industrial designer. After studying at ENSCI in Paris and working for the Arik Levy studio, Pascal Hien also returned to Berlin to finish his diploma at the University of the Arts.

[www.stephaniehornig.com](http://www.stephaniehornig.com)



## **Thomas Jenkins**

Thomas Jenkins, born 1980, is a British designer based in Oslo, Norway. Thomas currently divides his time between his own studio and branding agency work. Thomas attended London South Bank University, and graduated with a first-class honors degree in Engineering Product Design in 2002. His career started immediately afterward, working for Dyson appliances, until 2006 when he moved to Oslo as a Senior Designer for Frost Produkt. In September 2008 he was invited to attend a summer school in the UK run by the Royal Designers for Industry. Here he worked with and learned from some of the UK's best designers and, following this, he was invited to become a fellow of the Royal Society of Arts. On his return to Oslo, Thomas began working on some self-initiated projects while freelancing for TBWA\Oslo. This continued until late 2011 when he was asked to run the MA design program at the National Academy for the Arts in Oslo (KHiO) for four months.

In his work, Thomas strives to create value by combining traditional craft with the best of today's manufacturing techniques and materials. He aims to create idealistic yet pragmatic solutions through playful yet functional objects.

[thomasjenkins.co](http://thomasjenkins.co)

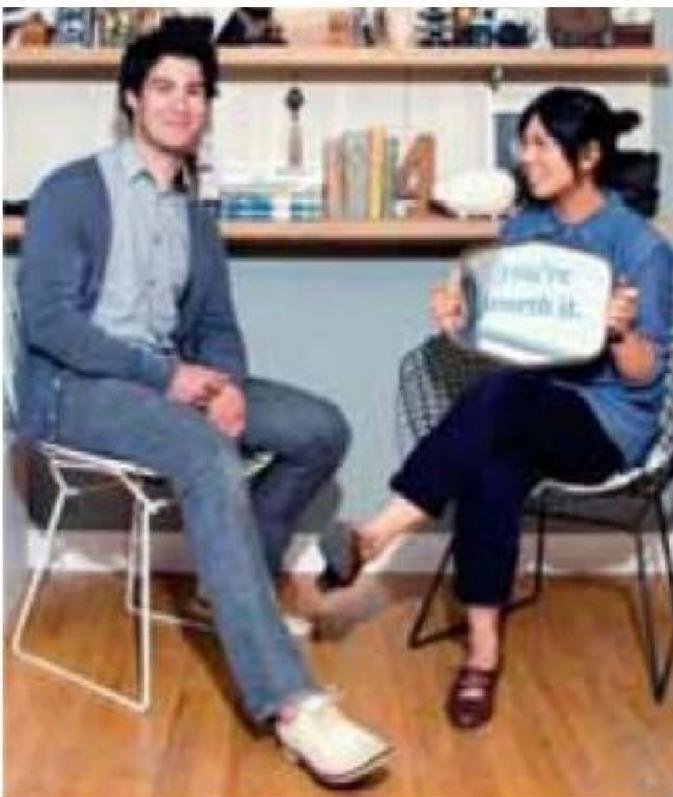


## **Brendan Keim**

Brendan is a Brooklyn-based artist and designer, raised on the shoreline of Connecticut. He attended Pratt Institute and completed a Bachelor's Degree in Industrial Design. After graduating in 2005, Brendan spent the next five years working with various designers and firms throughout the five boroughs, including Lindsey Adelman, Patrick Townsend, Clodagh, PICO, Keith Recker, and Nick Dine.

In 2012, Brendan received his Master's of Fine Arts at Rhode Island School of Design's Furniture program in Providence, RI.

[www.brendankeim.com](http://www.brendankeim.com)



## **Ladies & Gentlemen Studio**

Founded by Dylan Davis and Jean Lee in 2010, Ladies & Gentlemen Studio's playful explorations in materiality blend their resourceful curiosity with the desire to find ideal

pairings of material and function. The studio's open, multidisciplinary approach is fed by inspiration collected from their everyday discoveries, explorations, and surroundings. From these observations, L&G creates a diverse set of products, from small objects, to jewelry, furniture, lighting, and beyond.

Jean and Dylan met in 2002 while studying industrial design at the University of Washington. Their studies also took them to Rome and on travels throughout Italy and France. When they are not fixated on L&G design tasks, the pair spend time contributing to JOIN Design Seattle and Brite Collective, organizations with the mission to promote and advance independent design in the US Northwest. They also enjoy working on their home, gardening, traveling, and cooking.

[ladiesandgentlemenstudio.com](http://ladiesandgentlemenstudio.com)



## **Jonathan Legge**

Jonathan Legge is a Creative Consultant working in London and Dublin. He is Founder and Creative Director of the Irish e-commerce company, Makers&Brothers. Before founding Makers&Brothers in 2011 he worked as a project designer with Ilse Crawford at Studioilse. During his five years there he led projects in London, Cambridge, Stockholm, and Newfoundland. During 2012 he was a guest tutor at the Royal College of Art. In recent years he has exhibited his work in New York, London, Milan, and Berlin. Jonathan studied at the Dublin Institute of Technology and then moved to London where he did a Master's in Design Products at the Royal College of Art, studying under Ron Arad.

[www.makersandbrothers.com](http://www.makersandbrothers.com)



## **Love Aesthetics**

Love Aesthetics is a blog run by 24-year-old Ivania Carpio, who is based in the Netherlands. She has been running her blog for five years and she makes furniture, jewelry, and clothes. Ivania lives by the motto of “Less is More,” but one look at her computer confirms her as a digital hoarder.

[love-aesthetics.blogspot.co.uk](http://love-aesthetics.blogspot.co.uk)



## **Naoya Matsuo**

Naoya Matsuo was born in Tokyo. He studied design and learned welding there, then studied woodworking in London. After working for a designer’s studio, he founded the studio Grand Furniture and Factory. He now runs his own workshop in Tokyo as a designer-maker. He exhibited XX as one of three knock-down furniture pieces at the 2011 Stockholm Furniture Fair. Every time he exhibits in foreign countries, he designs knock-down pieces and carries them all by hand to save costs.

[www.naomat.jp](http://www.naomat.jp)



## StudioMK27

StudioMK27 was founded at the beginning of the '80s by Marcio Kogan and today works with 20 architects, besides collaborators in numerous countries around the world. The architects of the studio develop the projects from start to finish, and sign as the projects co-authors. The studio has won numerous international awards such as: Wallpaper\* Design Awards, Record House, Interior Record, D&AD, LEAF Awards, Dedalo Minosse, Barbara Cappochin of the International Biennial of Padova, Spark Awards, and World Architecture Festival. In 2011, *Wallpaper\** and *Época* named Marcio Kogan as one of their 100 most influential people, and he received the title of honorary member of the AIA (American Institute of Architects) and in 2012 represented Brazil in the Venice Biennale. In Brazil he has received 13 awards from the Instituto de Arquitetos do Brasil (Brazilian Institute of Architects).

StudioMK27's projects are valued for their formal simplicity, always working with special attention to details and finishings. Marcio Kogan and the architects of the team, great admirers of the Brazilian modernist generation, seek to fulfill the difficult task of giving continuity to this line of production.

[marciokogan.com.br](http://marciokogan.com.br)



## **Blanca Ortiz**

Born in Madrid in 1984, from an early age Blanca has been passionate about textures, colors, materials, and product design, especially furniture. After completing a degree in law she studied industrial design at the Istituto Europeo di Design and then began an internship with Ciszak Dalmas in Madrid, working on the creation of new furniture for the MAX&Co, Milan, and Madrid stores.

In 2012 she set up her own studio with two interior designers and they created an online platform called “Homeless Design Network: Objects Looking for a Home” that aims to promote responsible design and gives visibility to emerging designers, craftsmen, and small producers. They organize design exhibitions all around Europe, such as the “Homeless Design Competition” for the Salone del Mobile in Milan 2012, which had the Campana brothers as jurors. They also participated in the “Better World” exhibition at the 2012 Venice Biennale.

In addition, Blanca’s personal work has been shown at several exhibitions, including “Decoración” and “Hand in Hand” at Mad Gallery, both in Madrid.

[www.intresign.com](http://www.intresign.com)



## Sarah Pease

Sarah is an independent designer, maker, and researcher. Through her work in all media, Sarah strives to create products that challenge notions of value and function. Her appreciation for straightforward thinking and efficient construction manifests itself in minimal aesthetics and intuitive interfaces. Sarah is a recent graduate of the Rhode Island School of Design, where she studied furniture and product design, with a heavy emphasis on craftsmanship and user interaction. She believes strongly in local manufacturing, and relies on the skilled craftspeople of New England to aid in the production of her work.

Sarah was recently noted in *Dwell* magazine as one of the “youngest and most promising designing minds at work today,” and has been highlighted by *Core77* and *Lifehacker* for her work as a visiting student at the MIT Media Lab.

[sarahpease.com](http://sarahpease.com)



## Chris Rucker

Chris Rucker graduated with a degree in sculpture from the University of Connecticut in Storrs, where he also grew up. He's been working in design and build in New York City for over 16 years, both under the name Ruckercorp and with his own firm, Ar & Dee, located in Brooklyn. The firm is a design collaboration between Chris and Rob Herschenfeld, the culmination of a decade of joint work on projects of all scales across many disciplines.

Adapting to a changing New York City, which has pushed out smaller design–build firms, the two have worked toward their shared vision of an environment that fosters design, craftsmanship, and apprentice-style training. Recognizing the lack of skilled designers with a firm knowledge of manufacturing techniques, and a shrinking pool of high-level fabricators in traditional woodwork, cabinet-making, welding, and machining, they took it all under one roof to encourage cross-disciplinary dialogue and training focused on the progress of individual craftsmen.

[aranddee.net](http://aranddee.net)



## **Dik Scheepers**

Dik Scheepers was born in Amstelveen, the Netherlands, in 1978 and studied product design at the Academy of Fine Arts in Maastricht. After graduating, Dik started his own studio in the south of the Netherlands where he now works on designing and making new products both in-house and on commission.

He works by trying, discarding, and experimenting with different materials and/or combinations, taking a design apart and putting it back together again differently. That, he believes, is how things evolve and new designs arise. The way a design has been made is as important to him as the end result—to think of a different way, simplifying matters in search of new possibilities.

[dikscheepers.nl](http://dikscheepers.nl)



## **Klemens Schillinger**

Klemens Schillinger is an independent designer from Austria who currently lives and works in London. After graduating from the Royal College of Art in 2011 he has been

working as a freelance designer for various design studios as well as carrying on with his own work. In general his work engages with art, design, craft, co-creation, ad-hocism, and DIY. His products revolve around transparency in terms of manufacture, clarity of form, material, and content, but also humor. He aims to develop simple yet carefully thought-out products, design methods, and DIY recipes, which intend to capture and acknowledge imperfections and unpredictable outcomes.

[www.klemensschillinger.com](http://www.klemensschillinger.com)



## Niccolò Spirito

Niccolò was born in Milan in 1980. During his teens he followed his passion for street art and graffiti and attended a high school for the arts in Arenzano, near Genoa. He then began to create surfboards, perfecting his technique in a shipyard in Genoa, where he learned about fiberglass manufacturing. He returned to Milan to follow another dream: cinema, working as a handyman for some freelance film production houses. He then went on to make several video clips and write two feature films, and worked on several advertising productions, but all without losing his passion for manual work.

In 2009 Niccolò began to build furnishings, lighting, and gifts. June 2010 saw the first exhibition of his work—"Poligonale 30 32" in Milan—and he has exhibited every year since then, including at the FuoriSalone and Milan Design Week. From the outset his work has been covered by the Italian and international press: *Domus*, *Il Venerdì di Repubblica*, *Elle*, *Case da Abitare*, *Abitare*, *PIG*, *Side* and *A Magazine*.



## Studiomama

Nina Tolstrup's design studio Studiomama is based in the East End of London. Studiomama designs products, furniture, interiors, exhibition design, and accessories for companies including Habitat, Lexon, Trip Trap, E&Y, the Danish Embassy in London, Wentworth, Twentytwentyone, and Bloomberg. Studiomama was shortlisted as Designer of the Year by the Design Museum in 2010 and has won the Eureka Prize, the Worshipful Company of Pewterers prize, and "Best Contribution to 100% Design" for the curation and exhibition design for "Made in Denmark."

Studiomama's work has been widely publicized in the international press and has featured in numerous books. Nina is also a consulting professor at Syracuse University, a member of 100% Design's advisory board, and curator of the Danish "Craft Collection." She previously worked as a design manager for Eleven Danes and was an examiner at the Danish Design School and a board member of the "Designfondation," with a budget from the Ministry of Cultural Affairs. Nina studied at ENSCI in Paris and also received a business degree from the Copenhagen Business School.

[www.studiomama.com](http://www.studiomama.com)



## **Studio Swine**

Studio Swine is a collaboration between Azusa Murakami and Alexander Groves. Azusa graduated from the Bartlett School of Architecture, London, and Alexander from the Ruskin School of Fine Art, Oxford, before both gained an MA in Design Products from the Royal College of Art.

Studio Swine explore design through material innovation and focus on creating new sustainable systems while placing equal importance on aesthetics, believing that desire is the greatest agent of change.

Operating in the fields of design, fashion, and architecture, Studio Swine have exhibited at the Barbican Centre, Victoria & Albert Museum, New York and London Fashion Weeks, and the Gwangju Biennale, curated by Ai Weiwei. They are currently based in London.

[www.studioswine.com](http://www.studioswine.com)



## **David Taylor**

David Taylor's work can be seen as the continuation of an old tradition. From a historical perspective the silversmith's work has focused more on effect than function, in a discipline where visual impact is paramount. Taylor embraces this tradition and, although an element of function is always present in his work, it is seldom at the top of his agenda. When function is relegated to that old "Form Follows ..." adage, his work becomes his playground and something stirs in a sleepy corner of the crafts world.

[www.superdave.se](http://www.superdave.se)

# Acknowledgments

I want to thank everyone at Laurence King Publishing as well as the foreign publishers that contributed to the success of the first book. Without your efforts, we wouldn't have this book. I want to thank you as well for giving me the opportunity to work on the second book. Many thanks to my editor, Peter Jones, who has a keen eye for detail and patience for math; it was a pleasure working with you again. And thank you Jason Ribeiro for your work on the art layout.

Of course I want to thank all of the contributing designers for not only being part of this book, but also for being pioneers in design. You are all incredibly brilliant and my heroes!

A special thanks to my amazing wife, Rachel for helping with the research and to my right-hand man, James for helping with the illustrations.

This book is dedicated to creatives everywhere. Follow your heart, never listen to those who say you can't, and in the words of contributing designer to the first book, Anne-Mette Manelius, "Question everything."

## Photography

Juriaan Booij: pages 5 (first image, second row), 55–57

Bunker Hill: pages 31–33, 110–11

Ivania Carpio: pages 89–91

Andrea Caruso: page 17, 18–19 (background image)

Reinaldo Coser: pages 5 (Misc.), 127–29

Anthony Deangelis: page 138 (second from bottom)

Billy Delfs: page 144 (author image)

Maartje Dros / Inga Zimprich: pages 86, 98–101

45 Kilo: pages 2, 76–79, 139 (top)

Mats Håkanson: pages 122, 131, 133 (bottom right), 143 (bottom)

Leonhard Hilzensauer: pages 62–65

Stephanie Hornig & Tine Huhn: pages 24, 41–43

Malte Cornelius Janteen: page 140 (second from top)

Thomas Jenkins: pages 5 (Shelves and Storage), 21–23

Kyle Johnson: page 140 (bottom)

Ladies & Gentlemen Studio: pages 47–49

Jonathan Legge: pages 112–15

Kendall Mills: pages 69, 71 (bottom right)

Elliott Romano, page 142 (top)

Jon Scott: pages 5 (Bedroom), 93, 96–97 (background image; upper right)  
Fredrik Skogvist: pages 103, 104–05 (background image)  
Studiomama: front cover, pages 5 (Outdoor), 117–21  
Studio Swine: pages 45, 143 (third from top)  
Phillip Zwanzig, [www.phillipzwanzig.com](http://www.phillipzwanzig.com): pages 5 (Table), 27–29 (except bottom left on page 28)

### **Illustration**

Brendan Keim: page 83 (top right)  
Studio Swine: pages 56–57 (steps 1 and 4)  
All other illustrations by Luur

### **Additional credits**

25 x 25

Text written by Blanca Ortiz

Dim(Some) Chandelier

Arduino code provided by Brendan Keim: page 84

Retreats

Released for: Faculty of Invisibility, Sonke Hallmann, and Inga Zimprich

The Circle Mirror

Jean-Philippe Bonzon: I would like to thank all my friends who helped me to build this project, and a special thanks to Julia and Fiona.

Radiola Table

Lead by Marcio Kogan

Co-designers: Beatriz Meyer, Diana Radomysler, Carolina Castroviejo, Eduardo Chalabi, Eduardo Glycerio, Elisa Friedmann, Gabriel Kogan, Lair Reis, Luciana Antunes, Maria Cristina Motta, Mariana Simas, Oswaldo Pessano, Renata Furlanetto, Samanta Cafardo, Suzana Glogowski. Development and execution: Alvaro Wolmer Movelaria Fina Ltda Collaborators for the development and execution of prostheses and grafts: Daniel Alberto Lavaroni, Oswaldo Machado de Campos, Houssein Jarouche, Micasa staff.

## **About the Author**



Christopher Stuart is an American designer-maker working in his home state of Indiana. He is influenced by art, craft, functionalism, and minimalism. As an industrial designer, he has worked in both corporate and consultant settings, developing products for many well-known brands. He received his BFA in Furniture Design from Herron School of Art and Design. As founder and principal of LUUR, a multidisciplinary design and build studio, he continues consulting for companies providing services in interior, furniture, product, and graphic design. Chris divides his time between client programs and self-initiated ones, working on his personal furniture and product lines.

[www.luurdesign.com](http://www.luurdesign.com)