Shop Drafting Table

Wall-mounted unit is sturdy, adjustable, and folds away flat

BY DWAYNE INTVELD

SIT OR STAND

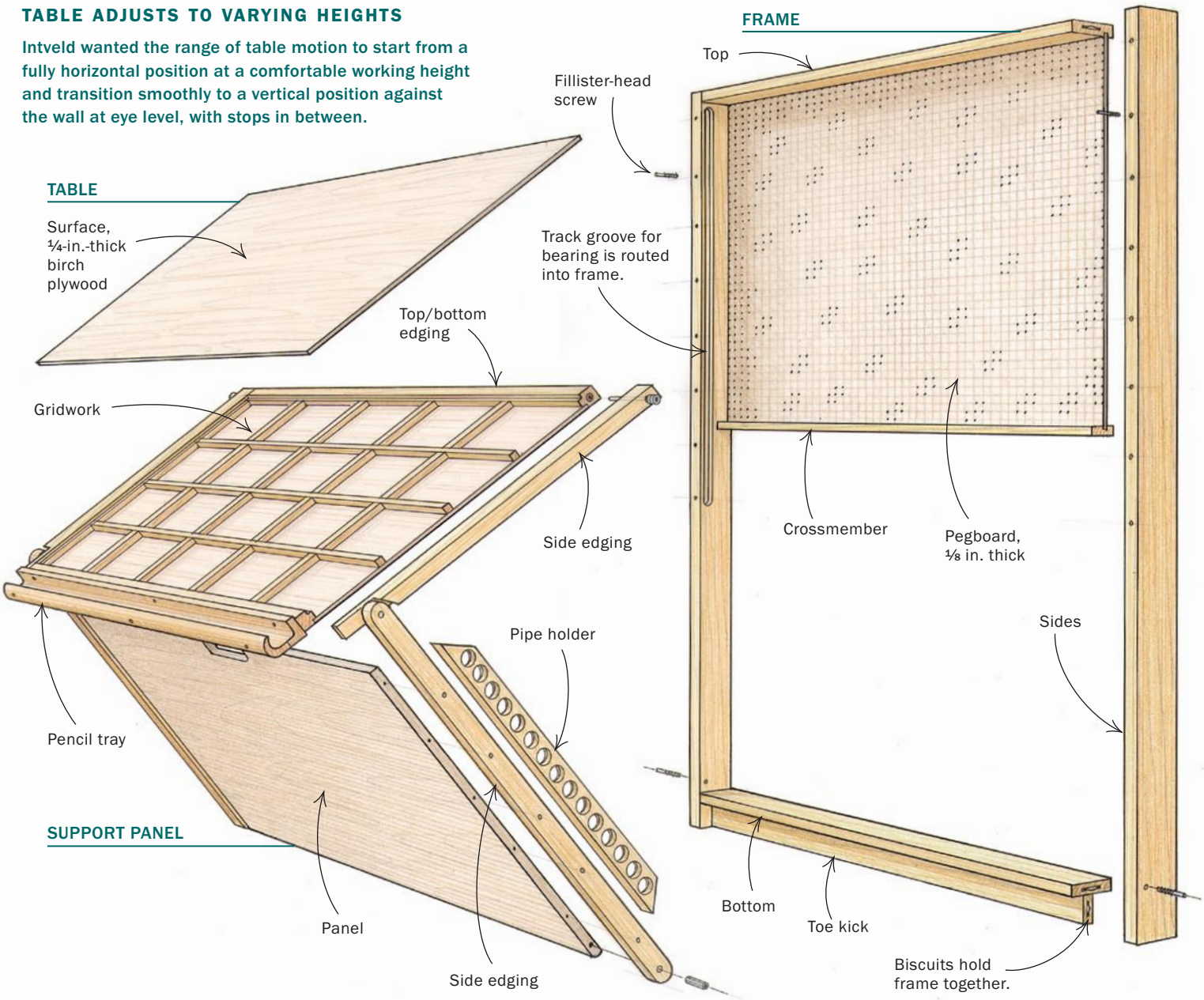
Intveld's table is designed to be used when either sitting or standing. The table folds flat against a wall, taking up virtually no space while allowing the drawing to be referenced at any time during the construction of a project.

For a long time, my "drafting table" was a small sink cutout propped at an angle on my workbench. It worked okay, but it was far from ideal. So a couple of years ago, I decided to make a convenient and functional table.

The tabletop is hinged to a lower panel, and both parts fit into a surrounding frame. Two pairs of bearings at the top of the table roll in a groove routed inside the frame, permitting me to adjust the table to eight different working positions, depending on whether I want to sit or stand, or how my back is feeling that day.

For smooth operation, the groove should be about 1/32 in. wider than the diameter of the bearings. I used two light-duty bearings

Photos: Tom Begnal



(available from Reid; 800-253-0421) with an inside diameter of ¼ in. and an outside diameter of ¾ in. Although I chose maple for the frame, you can use any reasonably dense hardwood, mainly so the bearings that ride in the track have a hard surface to bear against.

Drill ¼-in.-dia. cross-holes through the routed groove at 6-in. intervals. Drilling these holes before routing helps prevent chipout from breaking into the groove. Two small fillister-head screws slipped into a pair of these holes act as pegs for the bearings to rest on and establish the position of the drawing table. A cupboard-door catch mounted on the crossmember holds the table in its vertical stored position.

For quick assembly, use a biscuit joiner on all of the joints in the frame. Then rout a groove in the back of the frame to accept the ⅛-in.-thick pegboard panel. Finally, apply a water-based polyurethane finish to protect all exposed wood parts.

Table is light but rigid

The table is made using torsion-box construction. Using half-lap joints, glue together a ¾-in.-thick pine grid and sandwich it between two ¼-in.-thick birch-plywood panels with the edges trimmed in maple. This construction, though only 1¼ in. thick, keeps the table flat and light yet rigid and resistant to twisting. The bearings are attached to each upper corner of the table with ¼-in. bolts. The bolts thread first into nuts epoxied into the table, and then into blind holes drilled and tapped into the table's maple trim.

Mount a pencil tray to the bottom of the table. I shaped the bottom of this tray to capture pencils, erasers, and rules, whether the table is in a horizontal or vertical position. A vinyl drawing-board cover, clamped along the edge of the top, provides an optimum drawing surface. Although I installed a commercial parallel rule that keeps all horizontally drawn lines parallel automatically, a T-square would function fine.

The lower panel consists of a ¾-in.-thick maple-plywood sheet with maple edging screwed on each side. Lengths of 1½-in.-dia.

Drawings: Vince Babak

plastic pipe store rolled-up drawings behind the lower panel. The PVC pipe sections are held in counterbored holes in three brackets screwed to the back of the lower panel. There is space behind the panel for mailing tubes that store large batches of drawings.

All four pivot points that hinge the table and support panel are made with threaded-rod connectors and T-nuts. Drill the holes 1/32 in. smaller than the 5/16-in. threaded-rod connector bodies, and press and epoxy the connectors into these holes. After the 5/16-in. T-nuts are recessed and epoxied into the mating piece, drill out the threads to provide a smooth bearing for the pivots. The pivots themselves are 5/16-in. bolts with the hex heads cut off and screwdriver slots hacksawed in the end.

Putting it all together

Position the frame against the wall and secure it in place by driving two screws through the center crossmember into the wall studs. Then, with the table positioned horizontally, slip one of the bearings into its track and tip the other end of the table down slightly to engage the opposite bearing. With the table rotated up to a vertical position and lifted to the top of the track, insert two pegs into the top holes to hold the table in its top position.

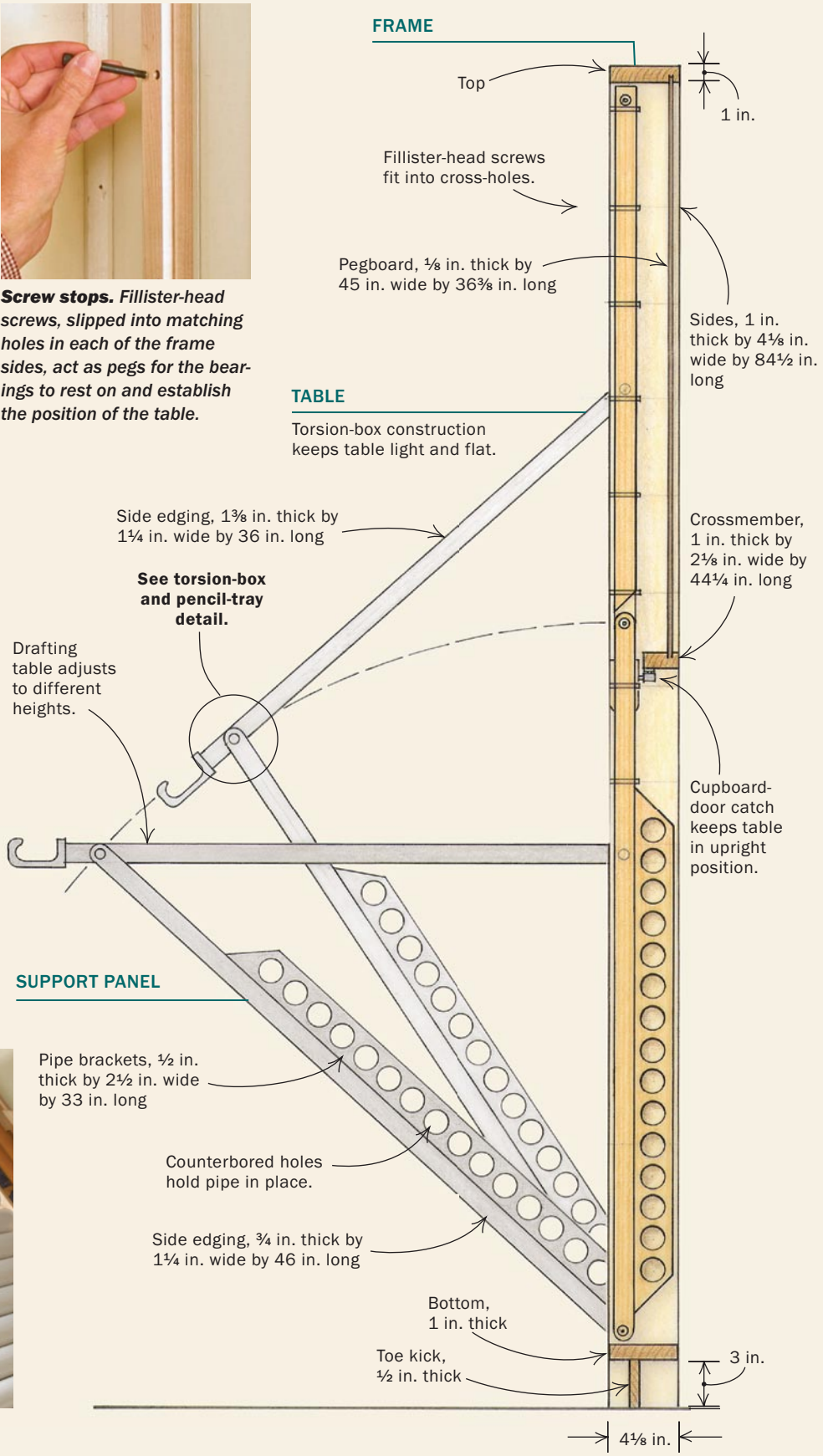
Next, put the lower panel in place, inserting two pivot screws through the frame sides into the threaded-rod connectors in the bottom of the lower panel. Swing the lower panel up to mate with the drawing table, and install the last pivot screws. □

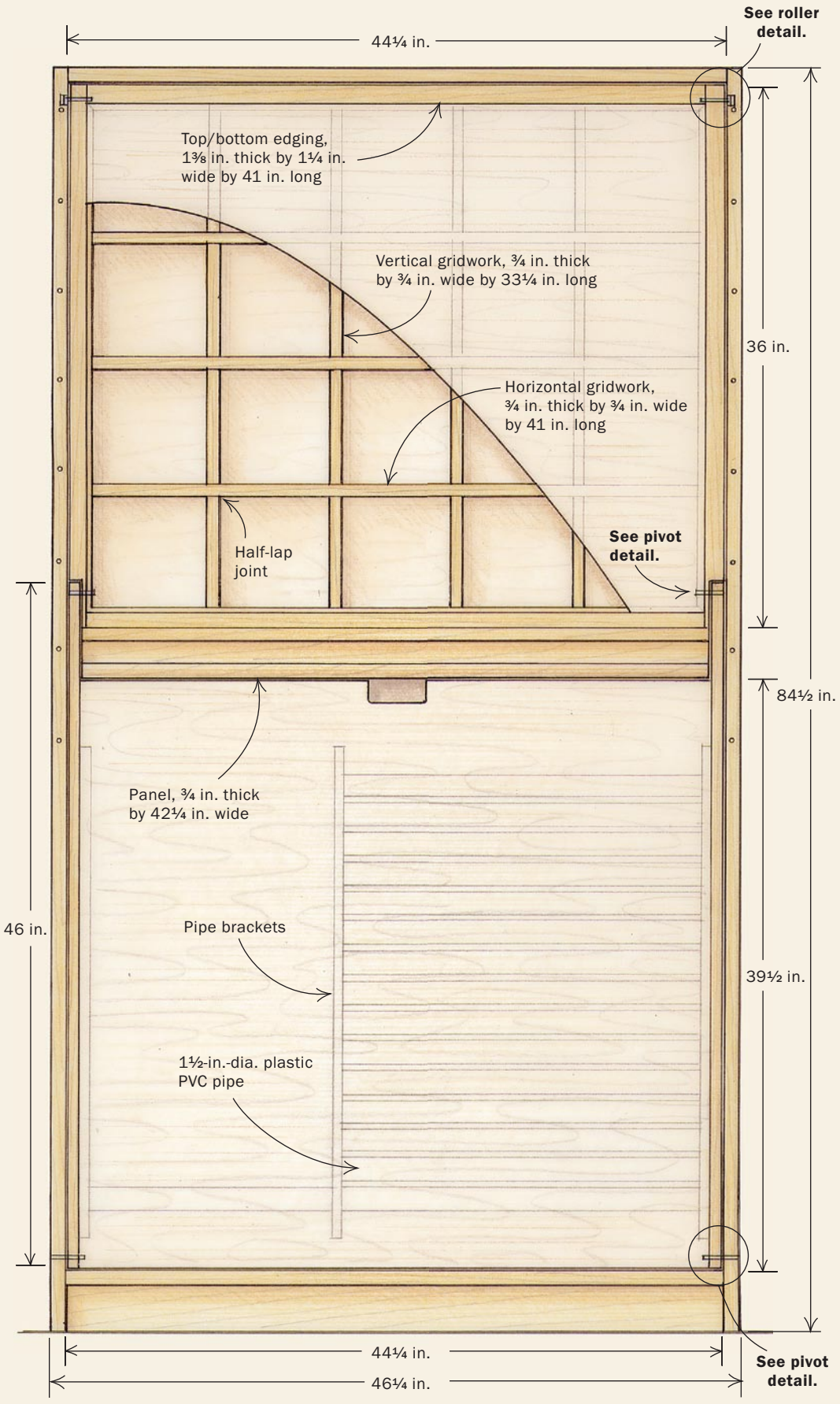
Dwayne Intveld builds custom furniture and cabinets in Hazel Green, Wis.

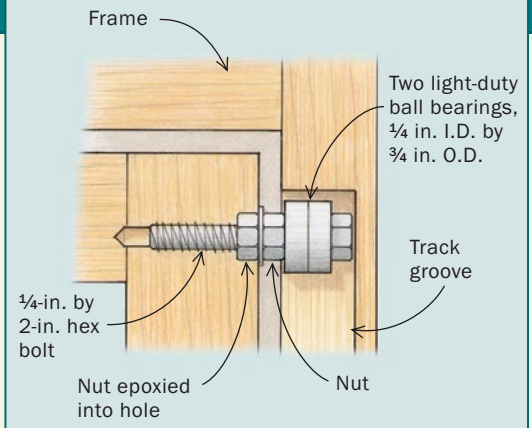
A place to store finished drawings. *Completed drawings can be rolled up and stored in PVC tubes mounted behind the support panel.*

Make a drafting table for the shop

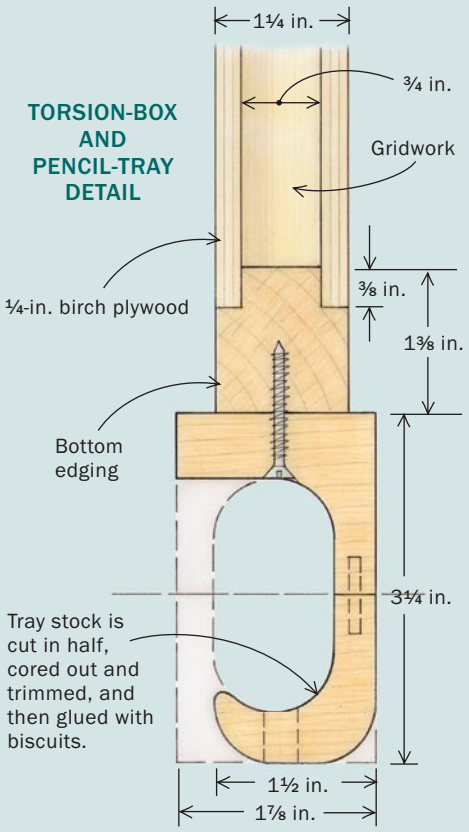
Screw stops. *Fillister-head screws, slipped into matching holes in each of the frame sides, act as pegs for the bearings to rest on and establish the position of the table.*

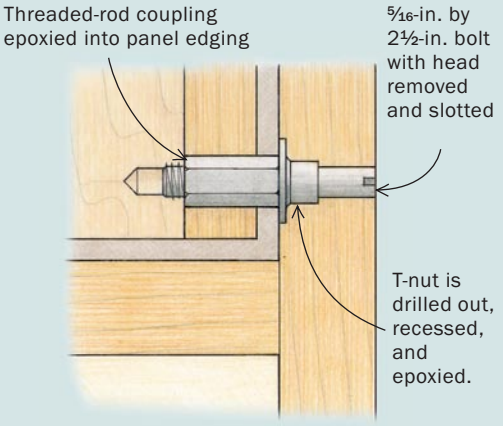






ROLLER DETAIL





PIVOT DETAIL