Supercharged End-table

Wirelessly charge your phone by simply setting it near one corner of the top.

Clean design, cool joinery, and generous drawer space make this contemporary piece shine as an end table or night stand. And it hides a secret: a recess below the top holds an inductive charger (see *next page*) for keeping your phone topped off.

DIMENSIONS: 24" W × 18" D × 24" H

Approximate materials cost:

$175

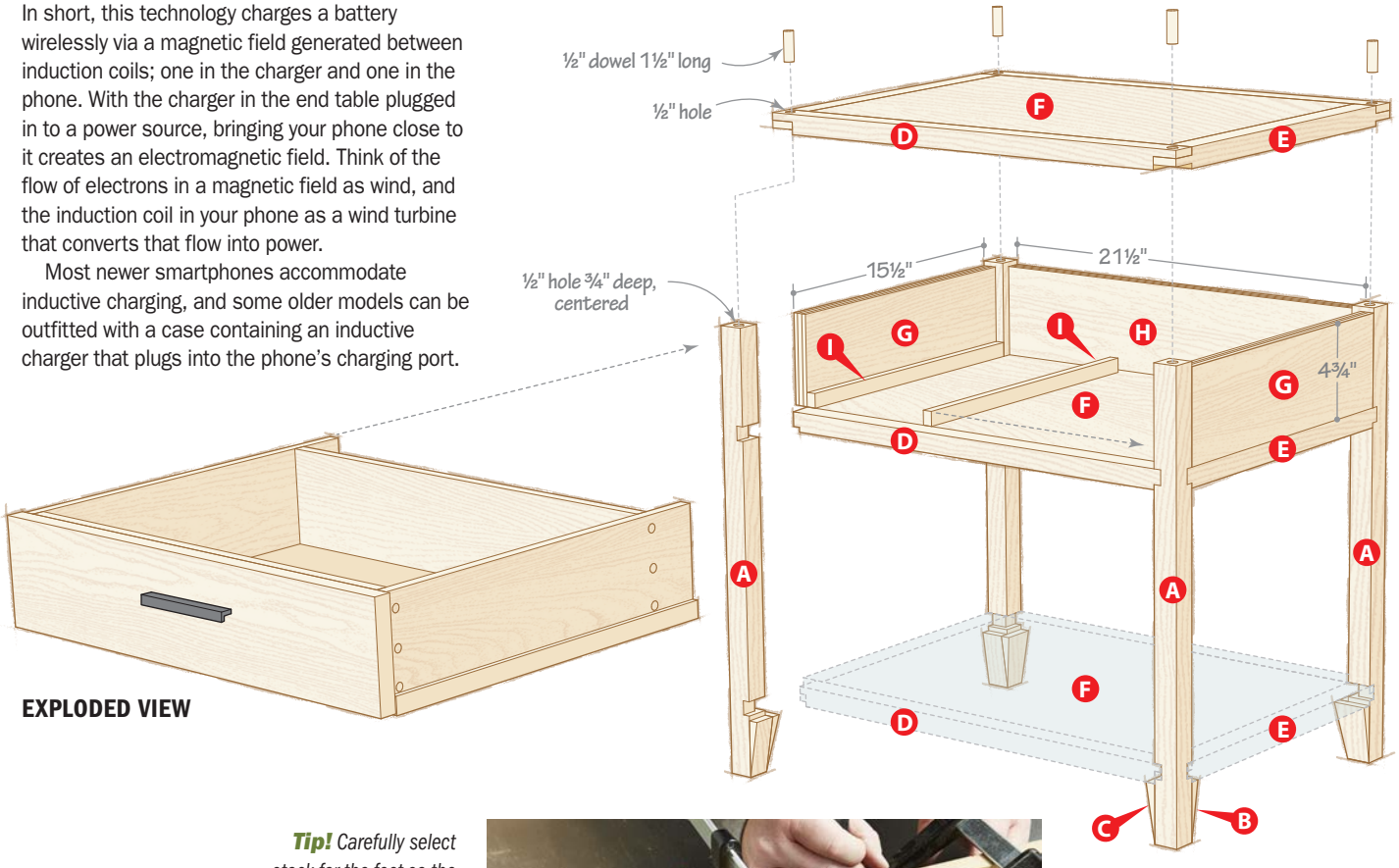
without the charger

A pegged, modified lap joint secures the top to the legs.

What is inductive charging?

In short, this technology charges a battery wirelessly via a magnetic field generated between induction coils; one in the charger and one in the phone. With the charger in the end table plugged in to a power source, bringing your phone close to it creates an electromagnetic field. Think of the flow of electrons in a magnetic field as wind, and the induction coil in your phone as a wind turbine that converts that flow into power.

Most newer smartphones accommodate inductive charging, and some older models can be outfitted with a case containing an inductive charger that plugs into the phone's charging port.



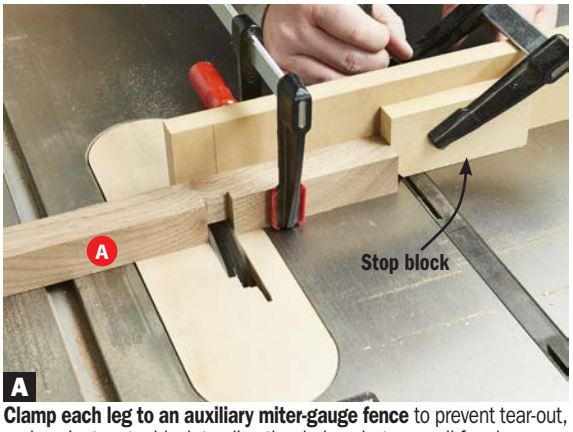
EXPLODED VIEW

Tip! *Carefully select stock for the feet so the grain blends well at the joint lines.*

Start with the legs

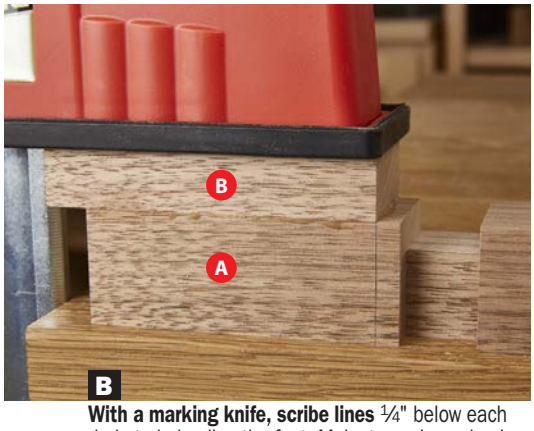
1 Cut the legs (A) to size [**Materials List**, *page xx*]. Dado the inside faces of each leg [**Drawing 1, Photo A**].

2 Cut the narrow and wide feet (B, C) ½" longer than listed. Glue a narrow foot (B) ¼" below a dado on each leg [**Photo B**]. After the glue dries, scrape away glue squeeze-out and plane the edges of the leg and foot flush. Glue the wide feet (C) in place [**Photo C**].



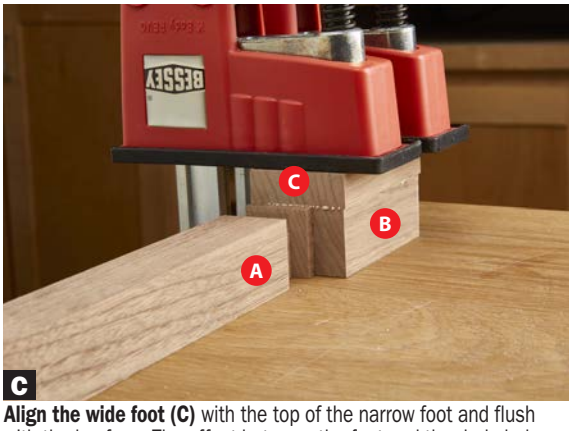
A

Clamp each leg to an auxiliary miter-gauge fence to prevent tear-out, and against a stopblock to align the dadoes between all four legs.



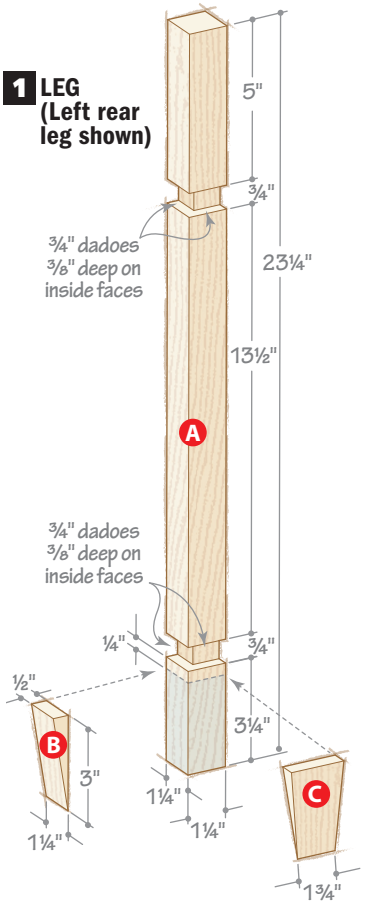
B

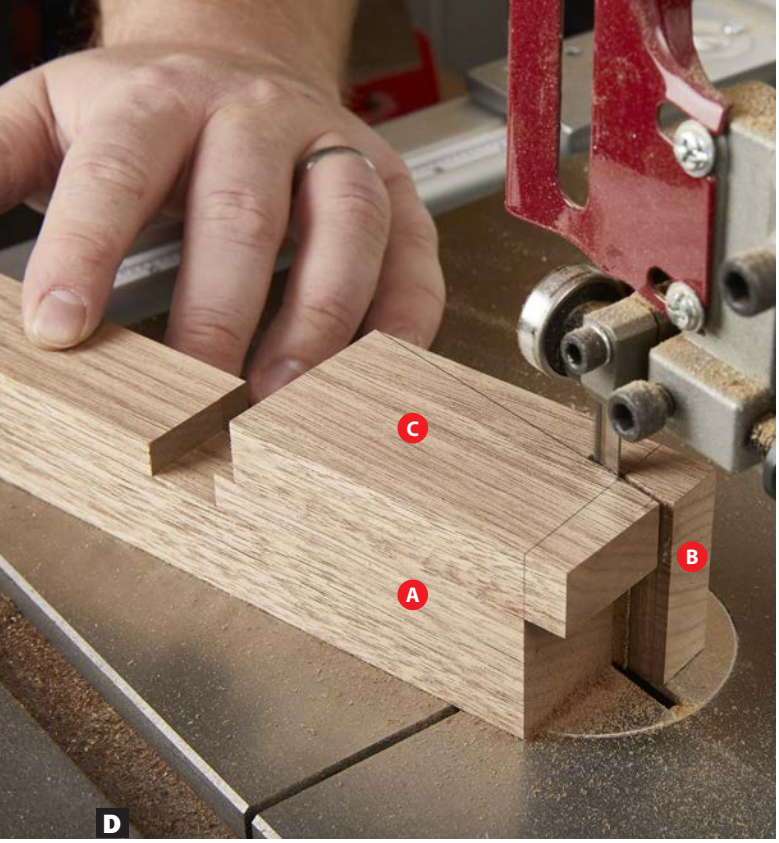
With a marking knife, scribe lines ¼" below each dado to help align the feet. Make two mirrored pairs of legs.



C

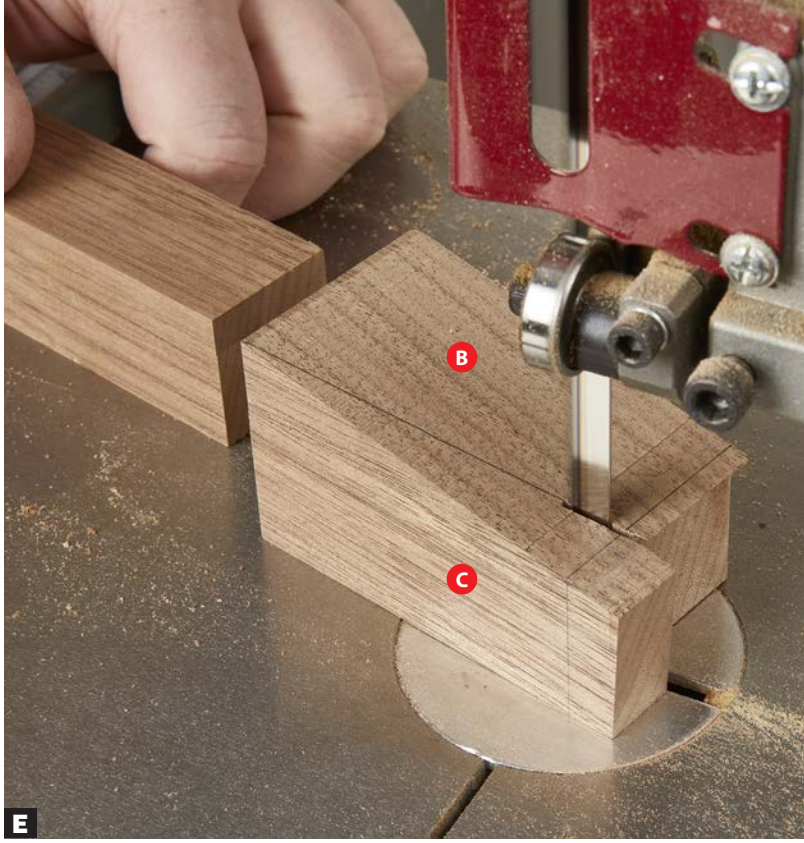
Align the wide foot (C) with the top of the narrow foot and flush with the leg face. The offset between the feet and the dado helps support the lower shelf.





D

Scribe the bottom of the leg onto the edges and faces of the feet (B, C). Then mark and cut the taper on the wide foot.



E

Mark the taper on the just-sawn face and bandsaw it. Sand both tapers smooth.

3 Mark the taper on each wide foot (C) and bandsaw to the mark [**Drawing 1, Photo D**]. Repeat for the second taper [**Photo E**]. Cut the feet flush with the end of the legs; then set the legs aside.

Next, the shelves

1 Cut the rails (D, E) to size, along with a few test pieces of the same thickness and width [**Drawing 2**]. Cut the rail joints [**Skill Builder**].

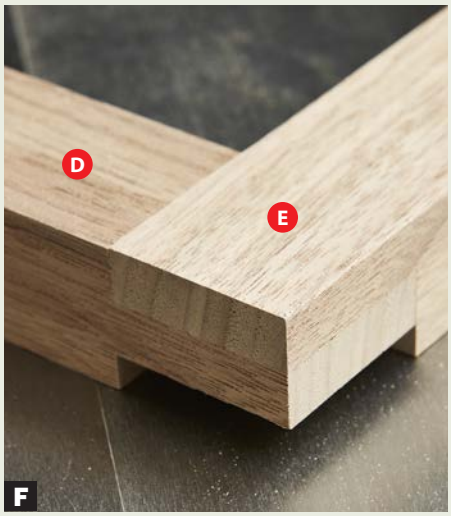
2 Dry-fit a set of rails (D, E), measure for the top and shelf panels (F), and cut them to size. Glue the rails around the panels [**Drawing 2**].

3 Use a marking gauge to scribe the rails of the two shelves to fit into the leg dadoes [**Photos K, L, Drawing 2a**]. Cut the notches. Test the fit of the shelves in the leg dadoes.

SKILL BUILDER

Cut a "Swedish lap joint"

Not a true half-lap, but cut in a similar fashion, this joint is actually a bridle joint missing half the bridle. A dowel through the overlapped area pins the pieces to the table legs (A). We couldn't decide what to call it, so we dubbed it the Swedish lap joint in honor of Design Editor John Olson's heritage. Cut test joints first, and when one comes together properly, use those pieces to help reset the blade height as you cut the rails.



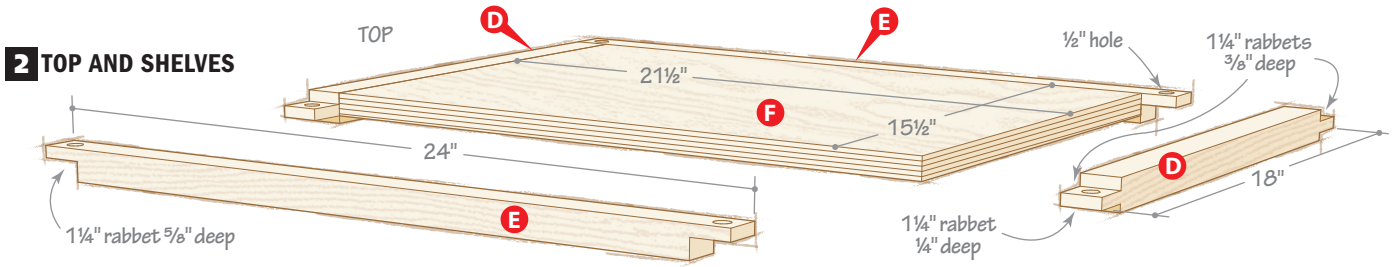
F

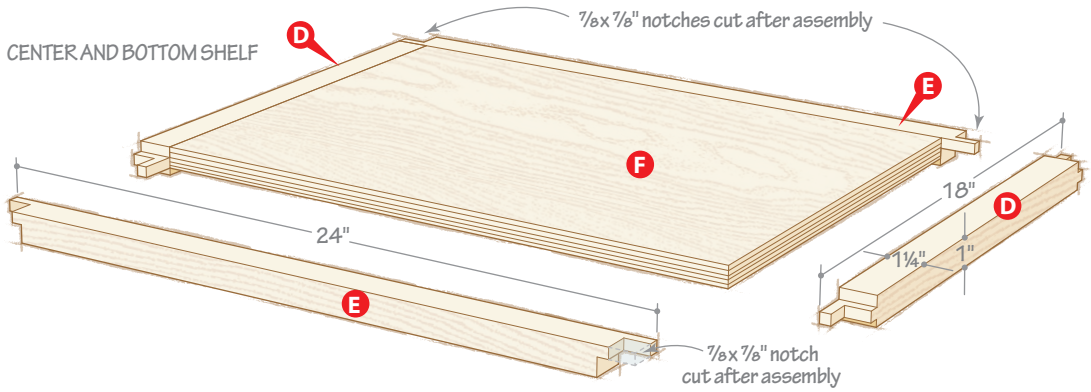
A modified bridle joint we're calling a Swedish lap joins the rails. The recess at the bottom of the completed joint accepts the tops of the legs (A) later.


G

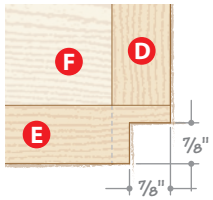
Use a test piece to set your rip fence so the outside edge of the piece is flush with the outside tooth of the blade.

2 TOP AND SHELVES

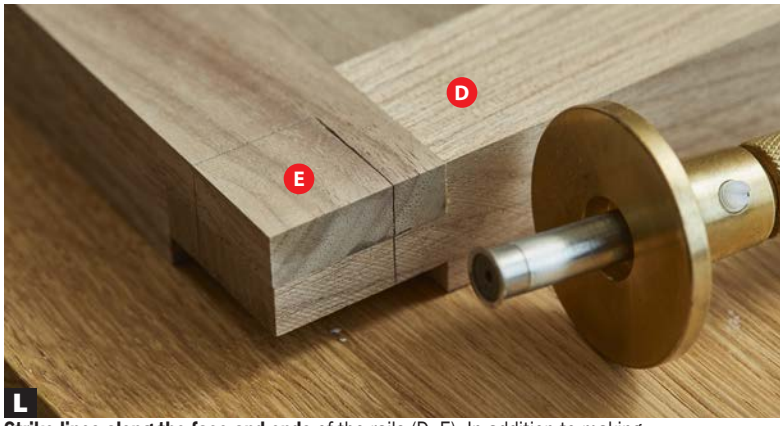




2a CENTER AND BOTTOM SHELF DETAIL



K **Set a marking gauge** to match the remaining width of the leg.

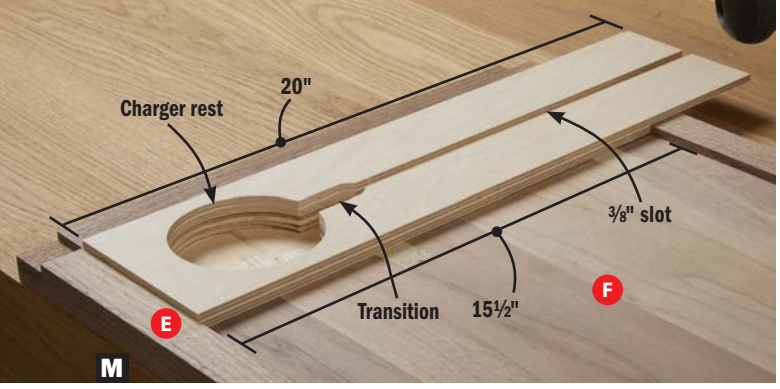


L **Strike lines along the face and ends** of the rails (D, E). In addition to making precise marks, the gauge severs the fibers, reducing chip-out.

H **Attach an auxiliary fence to your miter gauge** to prevent chip-out. Set the blade ¼" above the table, and rabbet the *bottom* face of each side rail (D).

I **Raise the blade to ⅜"** above the table and rabbet the *top* face of each side rail (D).

J **Raise the blade to ⅝"** and rabbet the bottom face of the front and back rails (E).



The bottom piece of plywood fits snug between the front and back rails. The top piece extends past the back rail. Make both pieces as wide as your router base.

Hide the charger

1 To rout the recess for the charger, make a template by laminating two pieces of ¾" plywood with the edges and one end flush [**Photo M**]. Set the template on the underside of the top (D/E/F). Place the charger [**Sources**] on the template in the desired location and trace around the charger. Jigsaw and sand the template opening to the line. To make a path for the cord, cut a ⅜"-wide slot from the charger opening along the length of the template. Shape a transition between the cord slot and charger opening wide enough to allow access to plug the power cord into the charger.

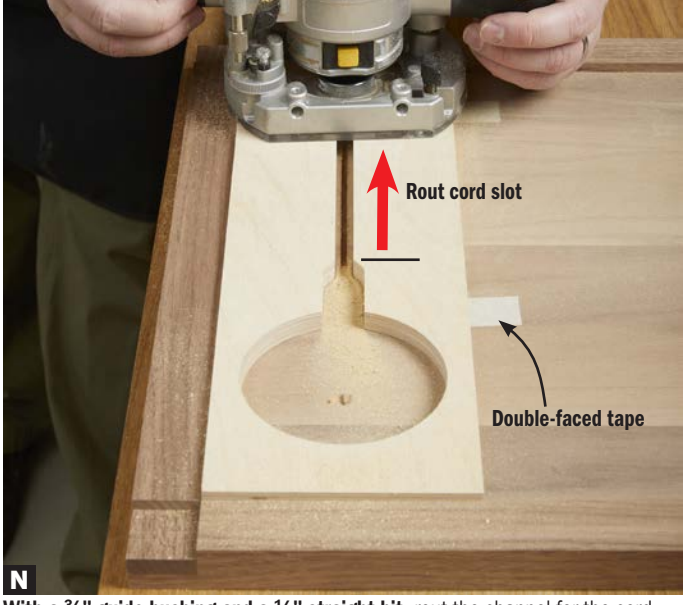
2 Secure the template to the underside of the top with double-faced tape, then rout the slot and recess [**Photos N, O**]. Chisel a slot in the back rail wide enough to allow the port (small) end of the cord to pass through.

Put things together

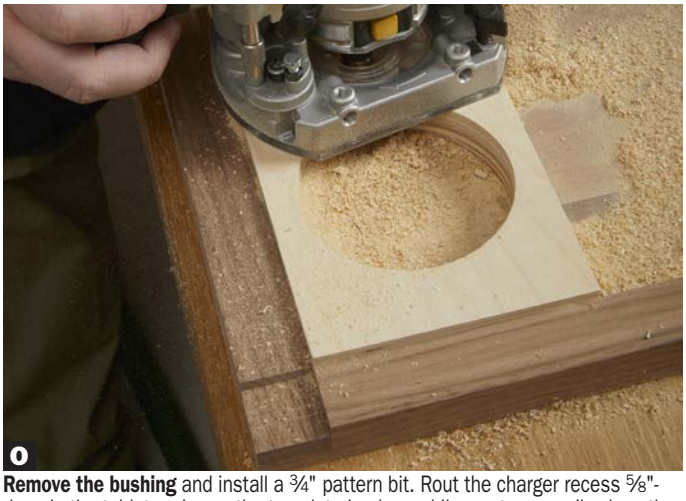
1 Glue the legs to the shelves [**Exploded View**]. Cut the side and back panels (G, H) to fit between the legs. Dry-fit the side and back panels, check the fit of the top, then glue the panels in place [**Photo P**].

2 Rip the spacers (I) to size and glue them between the legs [**Exploded View**]. Glue the top (F) to the side and back panels (G, H).

3 Make a drilling guide [**Photo Q**] to help drill holes into each leg. To do this, at the drill press, drill a ½" hole in a thick scrap, centered ⅝" from an end and edge. Tack on fences to register the jig. After drilling the holes, glue in lengths of walnut dowel. Cut and sand the dowels flush after the glue dries.



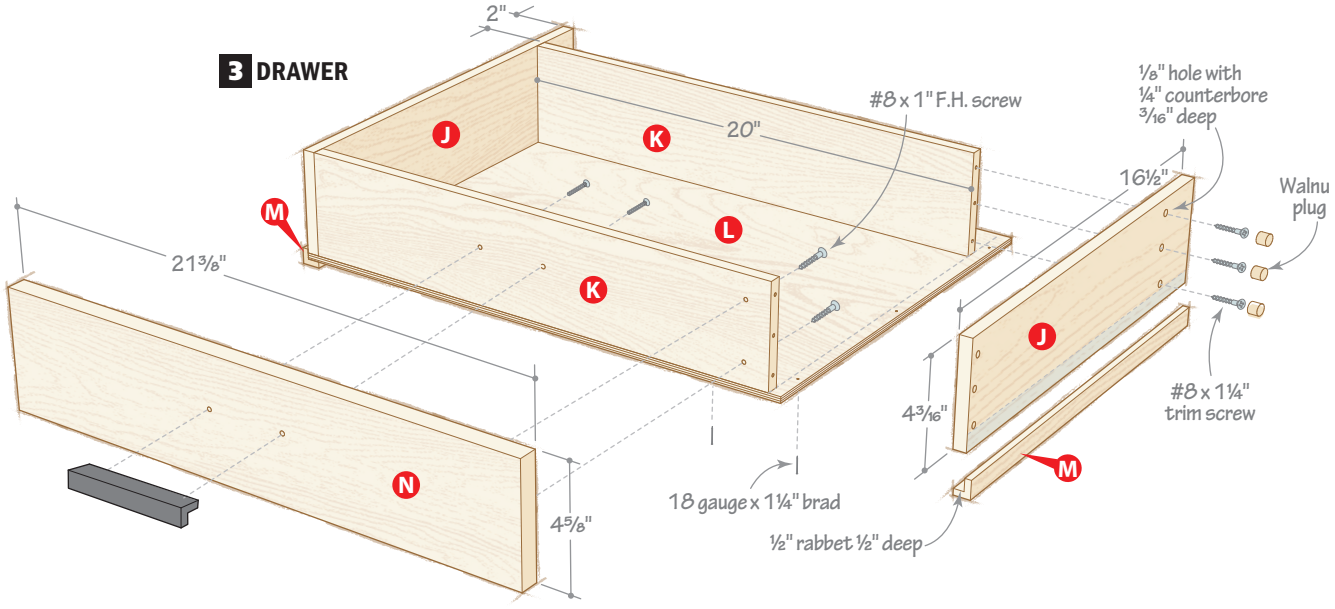
With a ⅜" guide bushing and a ⅛" straight bit, rout the channel for the cord. Rout slightly deeper than the cord thickness.



Remove the bushing and install a ¾" pattern bit. Rout the charger recess ⅝"-deep in the tabletop. Leave the template in place while you temporarily place the charger and test its fit and function.

Glue and clamp the side and back panels to the legs and to the top shelf.

Clamp the drilling guide at each corner with the fences pressed against the table front and side. Drill with a brad-point bit.



Add the drawer

1 Cut drawer parts J–L to size [**Materials List**]. Glue the sides (J) to the front and back (K) [**Drawing 3**], then drill counterbored pilot holes, and drive trim screws. Glue the bottom (L) to this assembly. Fill the counterbores with walnut plugs.

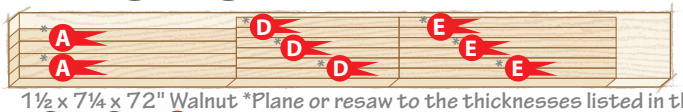
2 To make the runners (M) [**Drawing 3**], rabbet each edge of a 3"-wide blank, then rip a runner from each edge. Glue a runner to each side of the drawer.

3 Cut the false front (N) ⅛" narrower and shorter then the drawer opening. Slide the drawer into the table, and position the false front [**Photo R**]. Remove the drawer and secure the false front with the pull [**Sources**] and screws [**Drawing 3**].

4 Apply a finish. (We sprayed on a satin-finish lacquer.) Secure the charger and cord with hot-melt glue so they can be removed if needed.

Apply double-sided tape to the drawer front (K). Use 1/16"-thick spacers to position the false front (N) with an even reveal all around. Press the false front against the drawer, then pull out the assembly.

Cutting Diagram

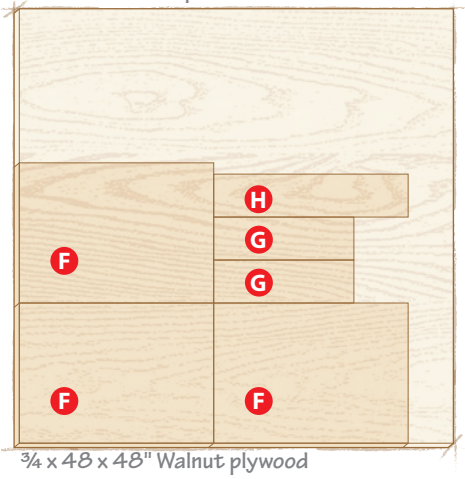


1½ x 7¼ x 72" Walnut *Plane or resaw to the thicknesses listed in the Materials List.

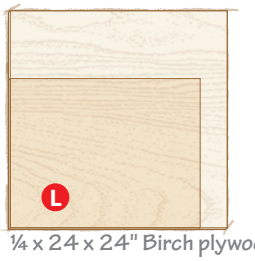
½ x 2 x 48" Walnut

¾ x 5½ x 48" Walnut

½ x 5½ x 96" Maple



¾ x 48 x 48" Walnut plywood



¼ x 24 x 24" Birch plywood

Materials List

Part		FINISHED SIZE T	W	L	Matl.	Qty.
Carcase						
A	legs	1¼"	1¼"	23¼"	W	4
B*	narrow feet	½"	1¼"	3"	W	4
C*	wide feet	½"	1¾"	3"	W	4
D	side rails	1"	1¼"	18"	W	6
E	front/back rails	1"	1¼"	24"	W	6
F	top/shelf panels	¾"	15½"	21½"	WP	3
G	side panels	¾"	4¾"	15½"	WP	2
H	back panel	¾"	4¾"	21½"	WP	1
I	spacers	½"	¾"	15½"	W	2
Drawers						
J	sides	½"	4³/16"	16½"	M	2
K	front/back	½"	4³/16"	20"	M	2
L	bottom	¼"	16½"	21"	BP	1
M	runners	¾"	¾"	16½"	W	2
N	false front	¾"	4⅝"	21⅜"	W	1

*Parts initially cut oversize. See the instructions.

Materials key: W-walnut, WP-walnut plywood, M-maple, BP-birch plywood.

Supplies: #8×1¼" trim screws, #8×¾" flathead screws, #18×¾" brads, ½×12" walnut dowel.

Blade and bits: Dado set; ¾" top-bearing pattern, ⅛", ¼" straight router bits; ⅜" guide bushing.

Sources: SurgeDisc wireless charger, no. SD180, $25, 5-volt, 2-amp power adapter with microplug, $7, woodmagazine.com/surgedisc; Hickory Hardware 96mm pull in Flat Onyx, no. 4880368, $5.79, menards.com.

Produced by **Craig Ruegsegger** with **John Olson**
Project design: **John Olson**
Illustrations: **Roxanne LeMoine, Lorna Johnson**