

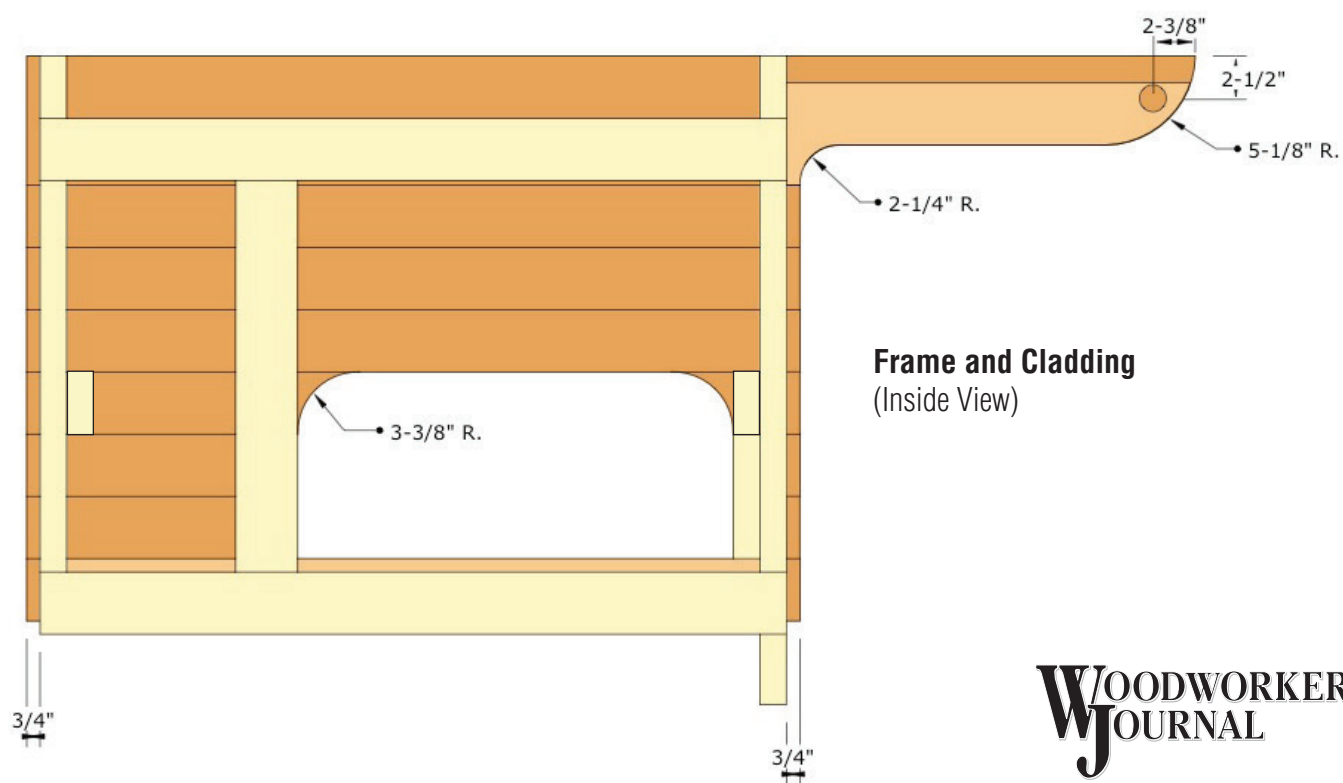
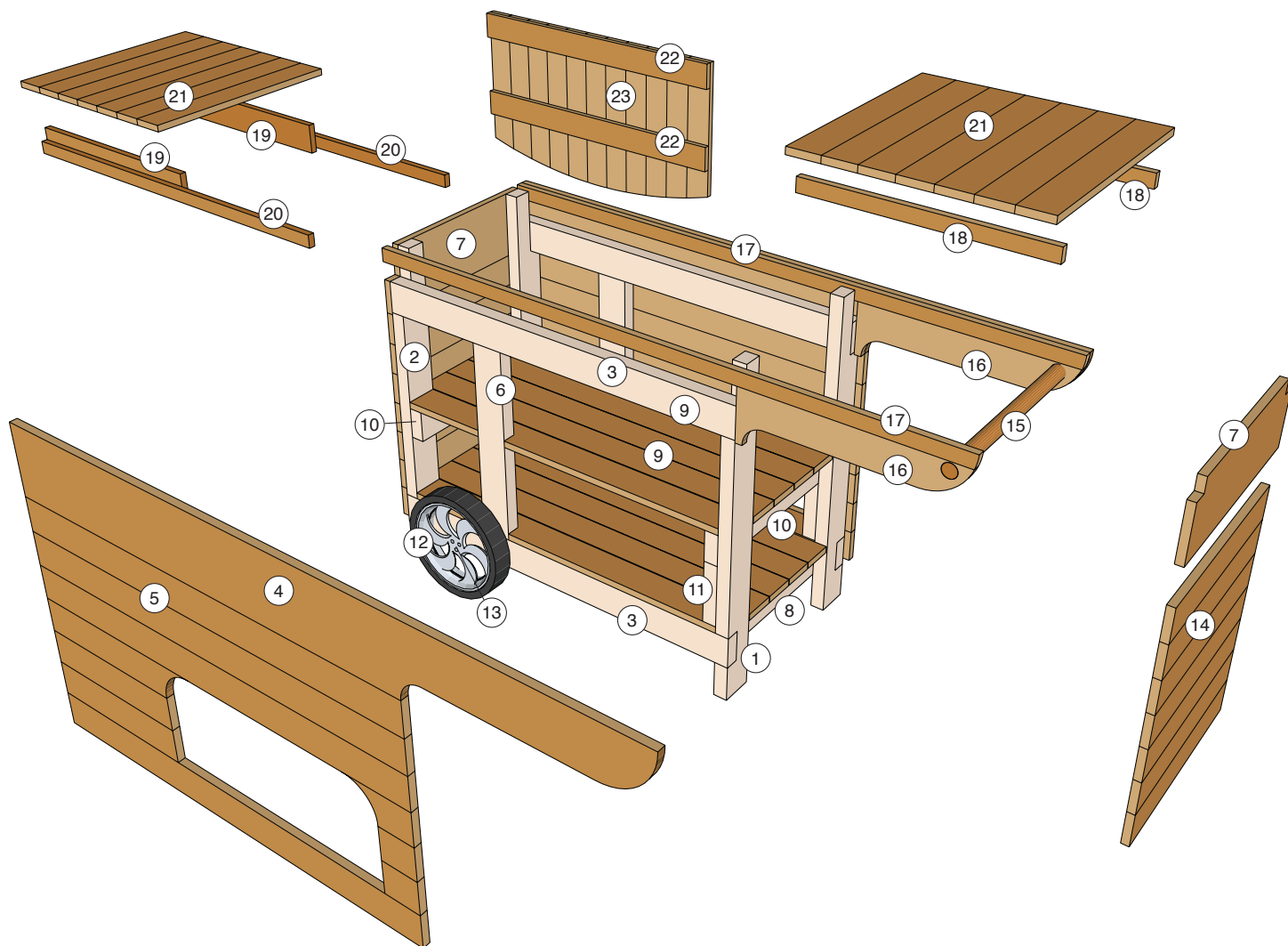
MATERIAL LIST

	T x W x L
1 Legs (2)	1½" x 3½" x 36⅞"
2 End Uprights (2)	1½" x 3½" x 32½"
3 Stringers (4)	1½" x 3½" x 42"
4 Top Cladding, Long (2)	¾" x 7¼" x 65¾"
5 Side Cladding (14)	¾" x 3½" x 43½"
6 Vertical Supports (2)	1½" x 3½" x 22"
7 Top Cladding, Short (2)	¾" x 7¼" x 21½"
8 Bottom Shelf Supports (2)	1½" x 3½" x 18½"
9 Shelf Slats (12)	¾" x 3½" x 42"
10 Top Shelf Supports (2)	¾" x 3½" x 21½"
11 Filler Strips (2)	1½" x 3½" x 7"
12 Wheels (2)	12" x Dia.
13 Axle (1)	1/2" Aluminum
14 End Cladding (14)	¾" x 3½" x 21½"
15 Handle (1)	1¼" Dia. x 21½"
16 Handle Braces (2)	¾" x 5½" x 22¼"
17 Channel Stretchers (2)	¾" x 1½" x 65¾"
18 Deck Stringers, Narrow (2)	¾" x 1½" x 24½"
19 Deck Stringers, Wide (2)	¾" x 3½" x 24½"
20 Slide Rails (2)	¾" x 1½" x 45½"
21 Decking (14)	¾" x 3½" x 24"
Optinal Side Shelf	
22 Stretchers (2)	¾" x 3½" x 38½"
23 Decking Pieces (11)	¾" x 3½" x 24"
24 Folding Shelf Supports (2)	

RYOBI NATION

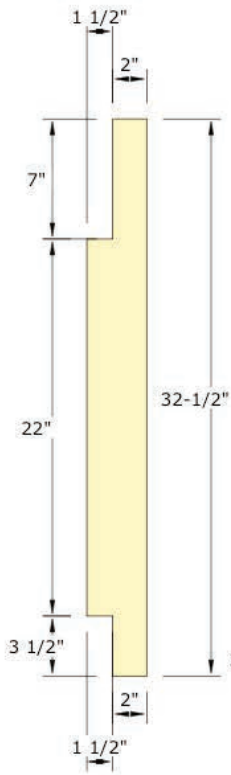
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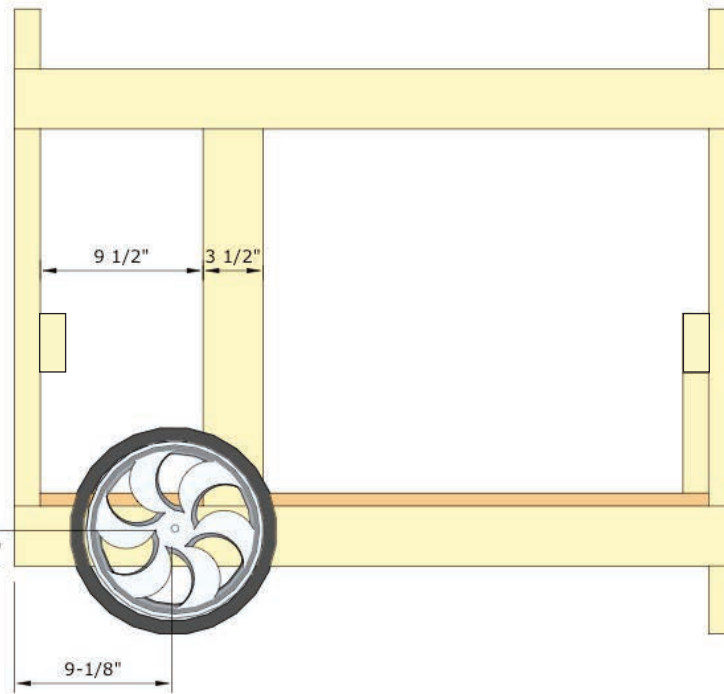


Frame and Cladding
(Inside View)

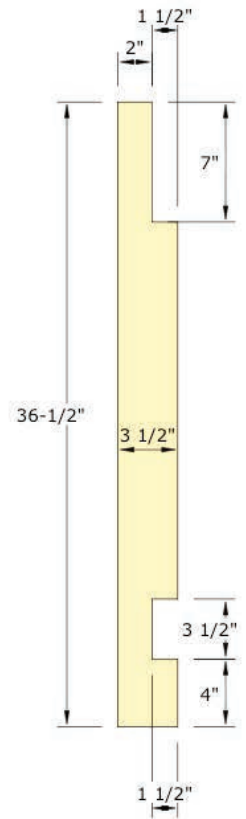
End Upright



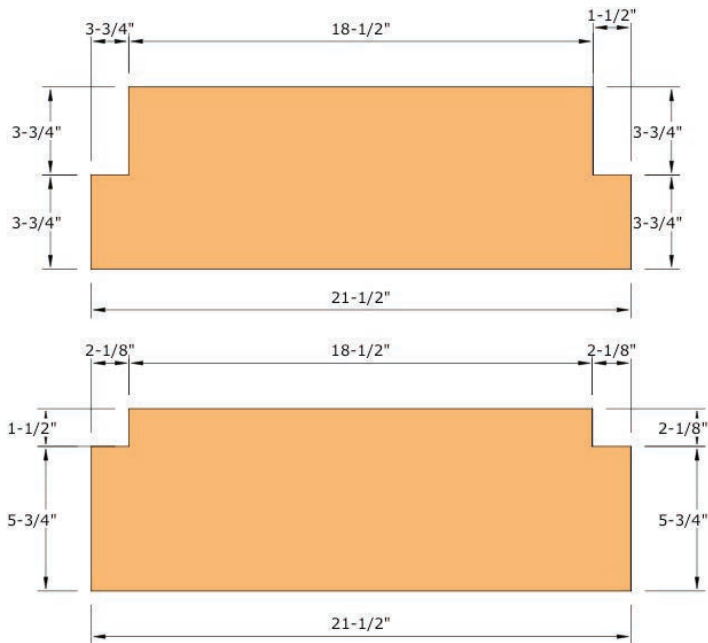
Frame Assembly
(Side View)



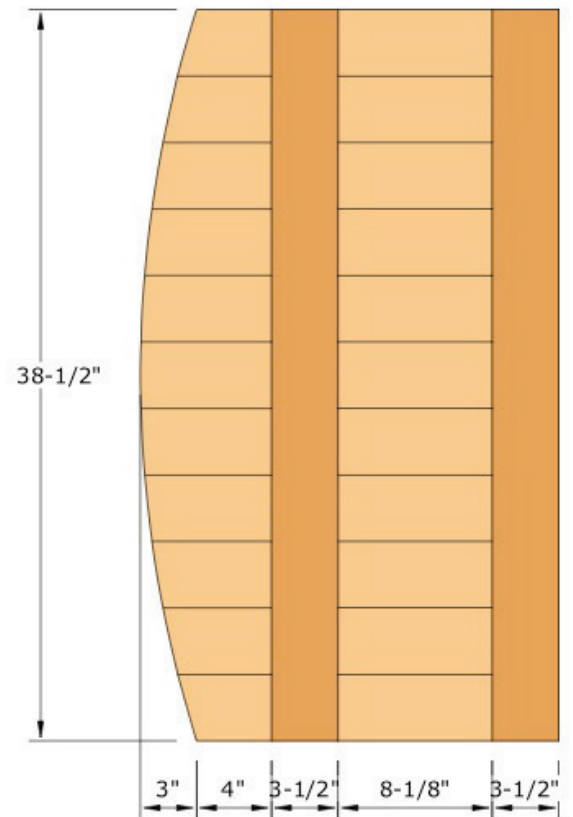
Leg



Top Cladding Short



Side Shelf
(Bottom View)



Project Overview:

This rolling outdoor cart is made of weather-resistant cedar with a pair of sliding decks that open to a spacious top compartment. The inner compartment is sized to fit a 48-quart chest cooler for refreshments and a five-gallon bucket for ice. An open area beneath the main compartment is accessible from either side of the cart for storing other party supplies.

Tools Used: Tape measure, combination square, drill bits, countersink and driver bits, compass, jigsaw, circular saw, miter saw, drill/driver, impact driver.

Materials used (Cart w/o side shelf):

- 1x2x8 ft. (3)
- 1x4x8 ft. (21)
- 1x6x8 ft. (1)
- 1x8x8 ft. (2)
- 2x4x8 ft. (4)
- 24-in. hardwood dowel (1-1/4-, 1-3/8- or 1-1/2 in.-dia.)
- 12-in.-dia. wheels (2)
- 1/2-in.-dia. x 24-in. aluminum rod
- 1/2-in. push nuts w/ plastic hubs (2)
- 1/2-in. nylon washers (4)
- 2-1/2-in. stainless or coated deck screws
- 1-5/8-in. stainless or coated deck screws

Optional tip-up side shelf:

- 1x4x8 ft. (4)
- 1-5/8-in. stainless or coated deck screws
- Folding shelf brackets (2)
- 3/4-in. shelf bracket attachment screws (16)

STEP-BY-STEP INSTRUCTIONS:

Refer to Material List, Drawings and Photos for part names and numbers.

ASSEMBLE THE CART SIDES

Step 1: Measure and crosscut the legs (part 1), end uprights (part 2) and stringers (part 3) to length from 2x4s (see the Material List for part lengths). Then lay out and cut notches for the stringers in the legs and end uprights, using a jigsaw. These notches measure 1-1/2 in. x 3-1/2 in. for the bottom stringers and 1-1/2-in. x 7 in. for the top stringers (**See Photo 1 and the Drawings for details**). Locate the notches in the legs for the bottom stringers 4 in. up from the bottoms of the legs. The other notches are flush with the ends of the frame parts

Step 2: Assemble the legs, end uprights and stringers into two cart frames. The ends of the stringers should be aligned flush with the outside faces of the end uprights and legs. Fasten the frame parts together with 2-1/2-in. countersunk screws.

Photo 1



Step 3: Crosscut the long top cladding (part 4) to length from 1x8s. Use a compass or other circle shapes in your shop to draw the curved handle end on one cladding piece (**See Photo 2**). Refer to the Drawing to help you lay out the 2-1/4-in. and 5-in. radii that make up this shape. Cut the handle to shape with a jigsaw.

Step 4: Now use the first shaped top cladding piece as a pattern for tracing the handle shape onto the other top cladding piece. Cut it out, too. Sand the curved edges of both handle profiles smooth.

Step 5: Fasten the top cladding (part 4) to the cart frames with 1-5/8-in. countersunk screws. Align the top edges of the cladding with the top ends of the frames, and allow the square end of the cladding to overhang the end uprights by 3/4 in. (or, if your cladding is thicker or thinner, use the actual thickness of your cladding stock for the overhang dimension). The reason for the overhang is that the long top cladding and the side cladding will overlap the short end cladding to hide its ends.

Step 6: Crosscut the 14 side cladding pieces (part 5) from 1x4s. Make them several inches longer than specified in the Material List, and fasten them to the frames with pairs of 1-5/8-in. countersunk screws driven into the frame members. Leave an even overhang on both ends of each cladding piece. Once it's all installed, you'll see that the side cladding stops short of the bottom edge of the bottom stringers by 3/4 in. Now mark and trim the cladding to final length (**See Photo 3**), remembering that the side cladding overlaps the end cladding.

Photo 2





Photo 3

Step 7: Crosscut the two vertical supports (part 6) to length from 2x4s so they fit snugly between the top and bottom stringers (part 3), and clamp them in place on the frames. Drive pairs of 1-5/8-in. countersunk screws through each of the side cladding pieces and into these supports to install them.

Step 8: Lay out and draw a lower shelf opening on the side cladding (part 5) of both cart side assemblies. See the Drawing for these layout details. The overall height of the openings should be three cladding pieces tall. The bottoms of these openings begin at the top edge of the bottom cladding piece. Cut the openings to shape with a jigsaw, starting the cuts in a pilot hole that fits your jigsaw bit (See Photo 4).



Photo 4

COMPLETE THE FRAMEWORK

Step 9: Crosscut the two short top cladding pieces (part 7) to length from 1x8s. Mark and cut notches into the top corners of these pieces with a jigsaw. As noted in the Drawing, the notches in the cladding piece closest to the handle measure 1-1/2 x 1-1/2 in. The other cladding piece has larger notches, measuring 1-1/2 x 3-1/2 in. Cut out the notches with a jigsaw.

Step 10: Stand the two side assemblies up, and clamp the short top cladding pieces (part 7) in place between them to erect the frame (**See Photo 5**). Align the top edges of the cladding with the top ends of the frames. Use 1-5/8-in. countersunk screws driven through the cladding and into the frame members to attach the parts.

Step 11: Crosscut the two bottom shelf supports (part 8) to length from 2x4s. Fasten them to the inside faces of the legs (part 1) and end uprights (part 2) with 2-1/2-in. countersunk screws to secure the bottom of the cart's frame. Position the bottom shelf supports so they line up evenly with the bottom stringers.

Photo 5



Step 12: Crosscut the 12 shelf slats (part 9) to length from 1x4s (**See Photo 6**). Note that the two outermost slats of each shelf (four slats in all) are 3 in. shorter than the rest — they fit between the legs and end uprights, while the other slats extend all the way to the end cladding (part 14).

Step 13: Lay out notches in the outermost shelf slats so they'll fit around the vertical supports (part 6). You can find the notch locations easily by setting the slat into place and extending lines across the slat from the vertical support to mark its width, using a combination square. The depth of the notch is 1-1/2 in. Cut out the notches with a jigsaw. Then install the bottom shelf slats on their supports with 1-5/8-in. countersunk screws, spreading out the slats evenly to fill the space. Use two screws per attachment point. The gaps between the slats measure about 1/8-in. wide. (Note: If you have access to an 18-gauge brad nailer, it can be helpful for tacking the slats in place on the supports before driving the attachment screws.)

Step 14: Refer to the Material List again to cut the two filler strips (part 11) and top shelf supports (part 10) to length from 2x4s. Using the filler strips as spacers, position the top shelf support on the inside faces of the end uprights (part 2). Fasten only the top shelf support to the End Upright with 2-1/2-in. countersunk screws. Then remove the filler strips and use them to position the other top support against the inside faces of the legs (part 1). Attach the filler strips and top support to the legs with 2-1/2-in. countersunk screws.

Photo 6



Step 15: Install the top shelf slats (part 9) with countersunk screws, spreading them out evenly to fill the space, just as you did for the bottom shelf (See **Photo 7**).

Step 16: Then reinforce the short side cladding pieces (part 5) that lay over the filler strips by driving more pairs of countersunk 1-5/8-in. screws here.

Step 17: Crosscut the 1x4 end cladding pieces (part 14) to length, and fasten them below the short top cladding (part 7) with pairs of 1-5/8-in. screws to complete the cart's outer sheathing. As with the side cladding, the bottom edge of the bottom piece of end cladding should stop 3/4 in. up from the bottom of the cart.

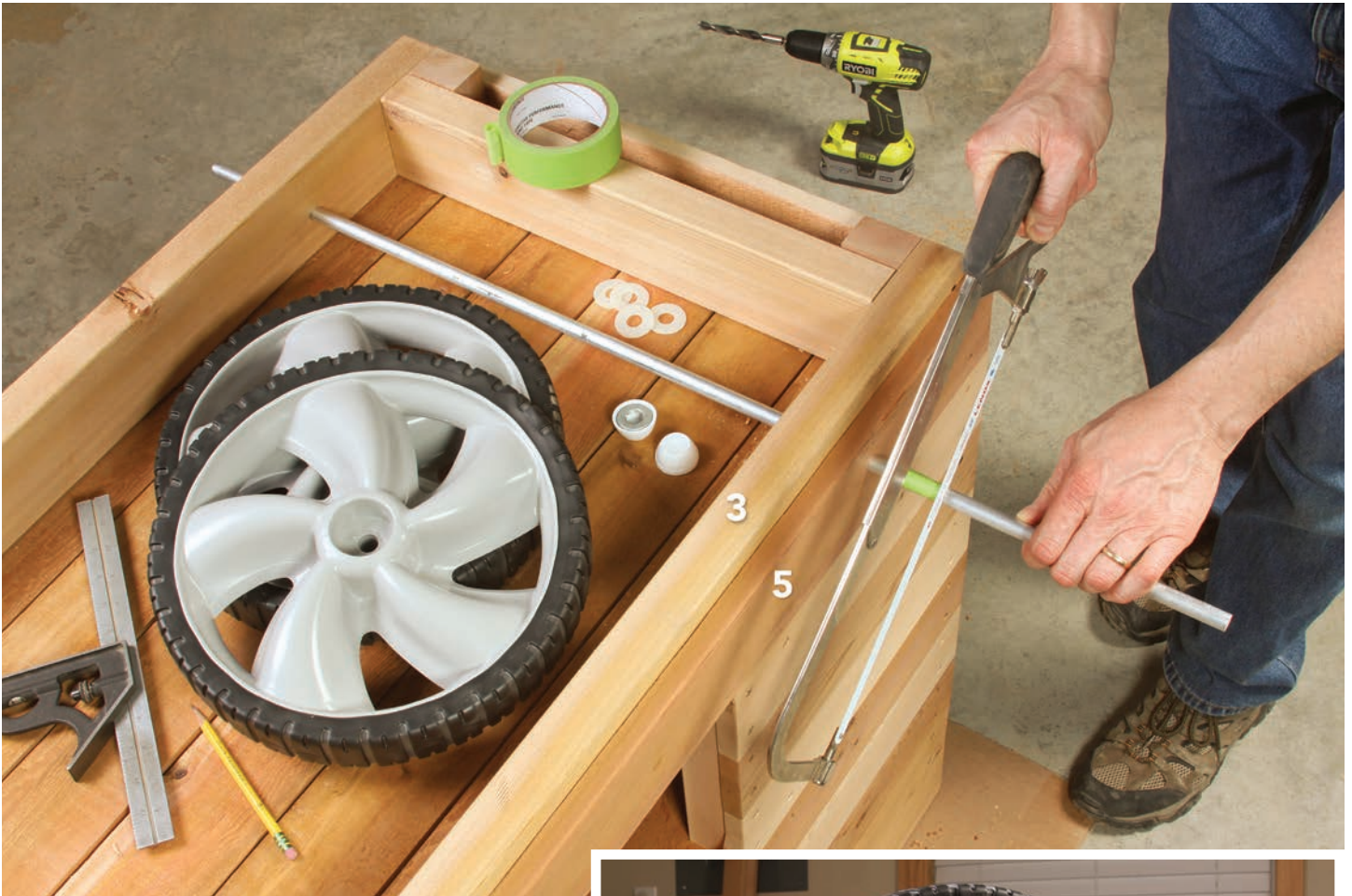
Step 18: Mark and drill a 1/2-in.-dia. axle hole through the bottom piece of side cladding (part 5) and stringer (part 3) on each side of the cart. Refer to the Drawing to position these holes carefully so the wheels will clear the cart's side openings and the cart will be level once the wheels are installed.

Photo 7



Step 19: Slide a length of axle rod into place in the two axle holes. Install the wheels on the axle temporarily with a nylon washer on each side of the wheels to act as spacers. Press the wheels and washers against the cart sides. Shift the axle as needed to leave 1/2 in. protruding past one wheel, and mark the axle's final length on the other end (allow for a 1/2-in. protrusion here, too). Remove the wheels and washers. Wrap a strip of tape around the axle at your layout mark to act as a cutting guide. Use a hacksaw to saw the axle to length, following the edge of the tape as you cut (**See Photo 8**). File the cut edge smooth, if needed.

Photo 8



Step 20: Re-install the wheels and washers on the axle, and tap push nuts in place on the ends of the axle with a soft-faced mallet or a hammer and block of wood to secure the wheel assembly (**See Photo 9**).

Photo 9



FORM THE DECK CHANNEL

Step 21: Crosscut the two long channel stretchers (part 17) to length from 1x2s. Glue and clamp them into place so they're flush with the top inside faces of the top long cladding pieces (part 4). Drive countersunk screws through the channel stretchers and into the cladding to install them. (Note: Depending on the thickness of your channel stretcher and cladding stock, you may need to use shorter 1-1/4-in. screws here to keep the screw tips from poking through the cladding.) Position these screws about every 6 in. along the stretcher lengths.

Step 22: Crosscut overly long blanks for the handle braces (part 16) from 1x6s, and clamp them to the inside faces of the long top cladding (part 4) in the handle area, flush against the stretchers (part 3). Use the shaped cladding as patterns for tracing their profiles onto the braces (**See Photo 10**). Remove the braces and cut their curves to shape with a jig-saw. Sand the sawn edges smooth.

Photo 10



Step 23: Measure the distance between the long top cladding, taking your measurement where the long top cladding and the end cladding meet (this is a more accurate location than measuring the span between the long top cladding at its far ends, where the boards may not be perfectly straight). Crosscut your handle dowel to this length.

Step 24: Refer to the Drawing to mark locations on the handle braces (part 16) for drilling through holes for the dowel handle. (The diameter of these holes will depend on the diameter of the dowel you buy. Dowels with diameters of 1-1/4, 1-3/8 or 1-1/2-in. all will make suitable handles for this cart.) Drill these through holes in the braces with a spade or Forstner bit.

Step 25: Fit the dowel ends into the holes in the handle braces (part 16) to form a loose assembly. Spread glue on the outside faces of the braces, then slide and clamp them into place against the inside faces of the top cladding (**See Photo 11**). Drive countersunk screws through the braces to secure them to the top cladding.

Step 26: Drive a single 1-5/8-in. countersunk screw through the long top cladding and into each end of the dowel handle to reinforce the assembly here.

Photo 11



MAKE THE SLIDING DECKS

Step 27: Refer to the Material List to mark and crosscut the wide deck stringers (part 19) to length from 1x4s. Cut the narrow deck stringers (part 18) and slide rails (part 20) to length from 1x2s. Cut the 14 decking pieces (part 21) to length now, too, from 1x4s.

Step 28: Slip the slide rails (part 20) into the cart's top channels and push them all the way in. Now, lift them up so they're flush against the bottom edges of the channel stretchers (part 17). Clamp them in position here. Insert the wide deck stringers (part 19) into the channels next to the slide rails, and align the ends of these parts flush with one another. Clamp the stringers and slide rails together. Drive countersunk screws through the stringers to attach them to the slide rails (**See Photo 12**). Be sure to choose screws that are short enough so they won't penetrate the long top cladding when driven fully home.

Step 29: Unclamp the stringer/slide rail assemblies in the channels and center them in these openings so they have a bit of clearance. Lay out seven pieces of decking (part 21) on top of the wide stringers (part 19), with the decking ends and edges aligned. Shift the

Photo 12



Photo 13



decking pieces as needed to create an even overhang on the sides of the cart. Drive pairs of 1-5/8-in. countersunk screws down through the decking and into the stringers to complete this sliding deck piece.

Step 30: Build the other “handle end” section of the cart’s top deck by attaching the remaining seven pieces of decking (part 21) to the two narrow deck stringers (part 18) with countersunk screws (**See Photo 13**).

Step 31: Slide the moving deck sections back and forth in their channels. If they rub, use sandpaper or a block plane to smooth the outside faces of the slide rails and stringers to improve the action. Now load the cart up with an ice bucket and your cooler (**See Photo 14**).

Photo 14



OPTIONAL SIDE SHELF

You can add even more deck space to your cart by installing a tip-up side shelf, and it's simple to make. Cut two 38-1/2-in. stretchers (part 22) and 11 pieces of 24-in.-long decking (part 23) from 1x4s. On a work surface, arrange the decking pieces side by side into a long panel, and position one stretcher on top of the assembly so its edge is flush with the ends of decking. Attach the stretcher to the decking with 1-5/8-in. countersunk screws, using two screws per joint. Locate the second stretcher so its outer edge is 16 in. away from the first stretcher's outer edge and parallel to it, and fasten this second stretcher to the decking with more screws. Flip the shelf over so the stretchers are underneath.

As noted in the Drawing, the outer edge of this shelf has a gentle curve. To lay it out, measure along the decking 19 in. from the “stretcher” end and make a mark. Do this on both outermost decking pieces. Measure and mark the center deck slat at 22 in. from the stretcher end. Drive three nails close to the marked points on the “waste” side of the curve, and bend a flexible yardstick or a batten of thin wood against the nails to establish the curved shape. Trace the curve onto the decking (**See Shelf Photo 1**). Pull out the nails and cut the curve with a jigsaw (**See Shelf Photo 2**). Smooth the cut edge with sandpaper.

Photo 1





Photo 2

To mount the shelf, position the two folding shelf brackets against the side of the cart 1-1/2 in. down from the top decking surface (this will ensure that the shelf will be even with the cart's deck when it's tipped up). Lay out the bracket positions on the cart so the shelf will be centered on its length. Also, plan to have the shelf overhang the outsides of the brackets by a few inches. Use heavy-gauge 3/4-in.-long stainless or galvanized pan-head screws or lag screws to attach the shelf brackets to the cart (**See Shelf Photo 3**). Now tip the brackets up and set the shelf in place on them. Pull the shelf out slightly in order to leave about a 1/8-in. clearance gap between it and the cart's sliding decks so they'll have room to move back and forth. Drive attachment screws up through the bracket holes and into the shelf stretchers to install it.



Photo 3