



Raising the **Standard**

Show your true colours

with a traditional wooden flagpole



Each time I approach our cottage by water, I'm welcomed back by our flag. Sometimes waving gently, sometimes snapping tautly in a stiff wind, but always a clear signal that we've arrived safely. It reminds me how lucky I am to participate in an experience – cottaging – that is especially Canadian.

The flagpole we inherited from the previous cottage owners was an unusual collection of aluminum poles and hardware cobbled together to hold the fading standard aloft. It served its purpose but just didn't fit in well with the rustic surroundings. Cruising up and down the waterways around our cottage, I pass many simple flagpoles fashioned from the trunks of small trees. So I thought, why not make a new flagpole using wood from my own property?

My version has a solid, tilting base that allows the pole to be lowered easily for maintenance or a winter rest. The naturally rot-resistant cedar support posts will last many seasons below ground and the tops are protected from rain by copper weather caps. I left my flagpole unfinished, to mellow to a silvery grey as it ages. You might opt to apply a finish to maintain the new-wood colour or even paint it white for a more formal look. >>

Story and Illustrations by PAUL LEWIS Photography by ROGER YIP

Why not make a pole with wood from

your property?

From tree to pole

1] The first step in building the rustic flagpole is to fell a suitable tree (or use a recently fallen one). Cedar and spruce are common, traditional cottage choices, but I used a seven-metre-tall white pine that was growing too close to, and up into the canopy of, a larger tree. It was pretty straggly looking because of the lack of light, but the trunk was fairly straight and the right diameter (about 15 cm at its base) for my 6.5-metre flagpole. The height of your flagpole is a personal choice. I decided if mine were any shorter, the surrounding trees and structures would dwarf the pole; any taller and it would look out of place.

2] After sawing the limbs off the trunk, let it rest for a few days before you start de-barking. The tree will dry out a bit, making the bark easier to remove. One of the many satisfactions of any new project is the opportunity to acquire new tools guilt-free, so I'm now the proud owner of a menacing-looking drawknife. (See top photo, opposite.) Designed to shape wood, and costing about \$40 from Lee Valley, the drawknife has wood handles at either end of a razor-sharp steel blade. Grasp the handles, position the blade flush against the bark, and pull towards you. After some practice strokes, the bark should peel off easily in satisfying, long strips. Try not to cut too deeply or you'll gouge the underlying wood. I found that once I made a couple of initial cuts, it was faster to ease off the surrounding bark with a small chisel and some careful prying and pulling. The bark tends to hang on more tightly around the knots, and they may need further trimming once they're de-barked. For a rougher, rustic look, I chose not to trim the knots too carefully.

3] Trim each end of the flagpole using a handsaw.

Tip: Fresh wood like this is bound to develop vertical splits as it dries. These splits won't affect the overall strength of the pole and will add to its rustic appeal.

4] Cut the support posts. I cheated a little when getting the wood for the posts that support the flagpole. I wanted to use decay-resistant cedar, since the posts would be buried below grade, but a suitable tree wasn't available. Instead, I picked

up a couple of white cedar fence posts at a local fencing-supply company. I was amazed that they only cost about \$8 each and, with true 20/20 hindsight, I patted myself on the back for avoiding all that extra tree felling and bark stripping. Carefully choose where to cut the posts; you want the diameters to be visually equal. Make the angled cut for the top of each post at about 30° – the angle isn't critical as long as the two posts match. The overall length of the posts will depend on your foundation. The posts should have about 80 cm exposed above grade to allow enough room for the two galvanized conduit supports.

Digging holes and securing posts
For a flagpole that's 15 cm in diameter, dig two holes 15 cm apart for the support posts. Make each hole about 20 cm

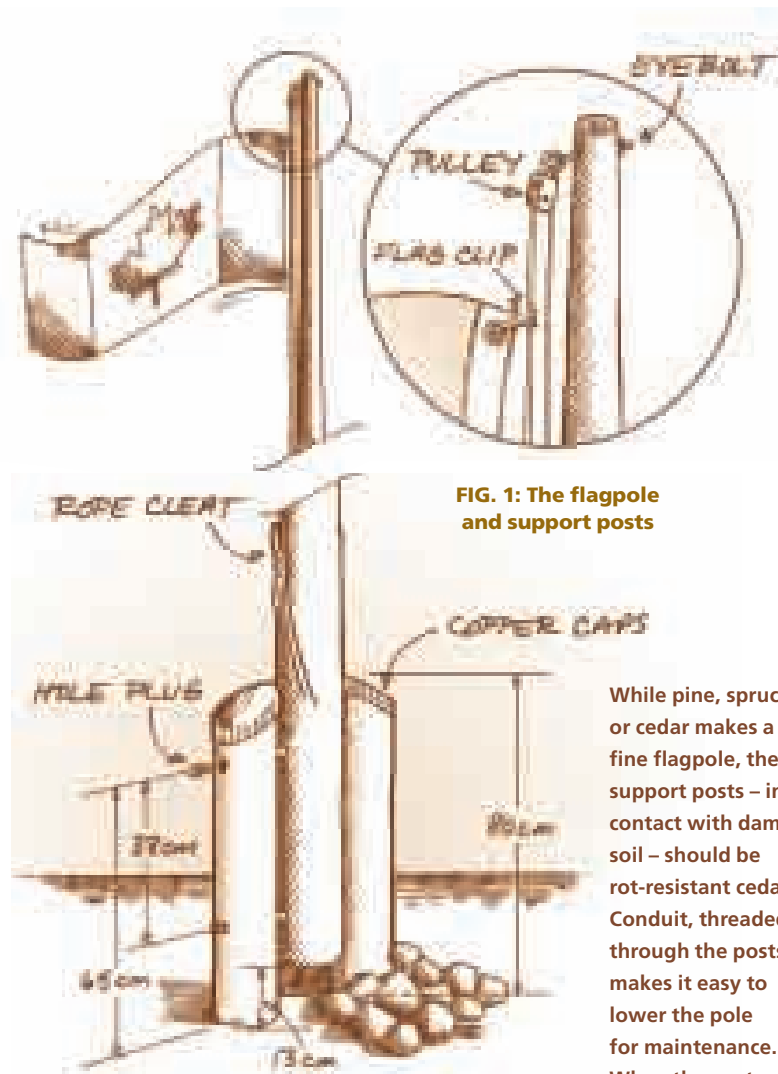


FIG. 1: The flagpole and support posts

While pine, spruce, or cedar makes a fine flagpole, the support posts – in contact with damp soil – should be rot-resistant cedar. Conduit, threaded through the posts, makes it easy to lower the pole for maintenance. When the posts eventually rot, the high-and-dry pole can be reused.

across and 120 cm deep. The holes are close together, so there's a good chance the soil bridge between them will collapse – not a problem if it does; you'll just end up digging a sort of elongated trench. In many parts of cottage country, the soil is shallow and you'll hit bedrock before you get down 120 cm: The depth of your hole will determine the method you use to secure the posts (see "Firm Footings," p. 114).

Weather-beating copper tops

1] The copper weather caps on each post add a touch of refinement to this flagpole and ensure the longevity of the posts by keeping out moisture. I used 18-gauge copper flashing from a roofing-supply

company. Make two patterns by tracing the top of each post onto a piece of cardboard. Enlarge each pattern by 2.5 cm all around and transfer it to the copper. Cut out the copper ellipse using tin snips, then make relief cuts all around the perimeter about 3 cm apart (see photo, right).

Tip: Your relief cuts should end just shy of the outline of the post. Make a mark on the tin snips 2 cm in from the blade tip. Line up this mark with the edge of the copper and snip away.

2] Once all the relief cuts are made, position the copper on top of one of the posts, bend the flaps down, and check the cap for fit. It should be snug on the post and the now-vertical cuts shouldn't extend up onto the top of the post. Secure each flap with a 3/4" copper nail (I found them at Lee Valley; they're also available through boatbuilding supply companies). Repeat for the second post.

Mounting the pole

1] The flagpole is attached to the support posts with two lengths of 3/4" galvanized electrical conduit inserted through holes in both the posts and flagpole. Measure and mark the location of the holes (see Figure 1), then drill through one post with a 1 3/16"-diameter spade bit. The slightly oversized bit makes the conduit installation much easier and gives some wiggle room for minor variations from level. The holes should be level and square to the posts so the conduit will slip through easily and the pole will tilt smoothly. My drill has a bubble level



A drawknife (top) is the best tool for peeling bark and trimming knots.

The flagpole can be left rough and rustic or smoothed, according to your taste and skill with the blade. Decorative copper caps, like those used on maritime dock pilings, help keep the posts' vulnerable end grain dry.



Materials and hardware

	MATERIAL	QTY
Posts	5"-diameter white cedar fence posts	2
Flagpole	7-metre white pine tree (or other species)	1
Copper caps	18-gauge copper flashing 9" x 18"	1
Copper nails	3/4"	50
Conduit	3/4" galvanized (cut to fit)	48"
Eyebolt	3"	1
Pulley	1"	1
Rope (halyard)	3/16"-diameter nylon	15 metres
Rope cleat	4" stainless steel	1
Wood screws	#6 stainless steel	2
Flag clips		2
Flag	nylon 36" x 72"	1

Firm footings

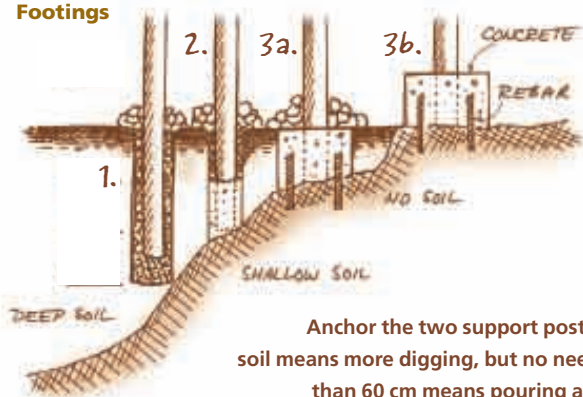
built into the casing to make level drilling much easier. If your drill doesn't have a level, tack a scrap of wood to the post as a temporary visual aid for drilling straight. Once you've made two holes in one post, use a hacksaw to cut the lengths of conduit to size, about 6 cm shorter than the distance across the posts to allow space for the cedar plugs you'll add later. Push the conduit lengths through to ensure they meet up with the other post in roughly the right location. Repeat the drilling procedure for the holes on the opposite post.

2] Next, mark and drill the upper hole in the base of the flagpole. Enlist a friend to help position the flagpole horizontally between the uprights and lift the base while you thread a length of conduit through the first post, flagpole, and opposite post.

Tip: If the conduit jams in a hole, use a short scrap of conduit and a hammer to tap it through. >>



FIG. 2:
Footings



Anchor the two support posts according to your soil: deep soil means more digging, but no need for concrete; soil shallower than 60 cm means pouring a concrete plinth for the posts.

The amount of soil above bedrock is unpredictable in cottage country, so setting solid posts can be tricky. The deeper the soil, the better – and the simpler a solid post solution is. But shallow soil, and even no soil, can support a flagpole if you use the right anchoring method. Regardless of method, be sure to attach the two posts together with temporary bracing before lowering them into a hole or encasing them in concrete. It's much easier to keep the posts aligned to each other this way, rather than trying to wrangle them independently.

1] **deep soil** Post-setting is easiest when you can dig holes between 90 and 120 cm deep, and about 20 cm across. This depth is enough to support the posts without concrete, and they won't be compromised by frost heave. Drop 15 cm of gravel in the bottom of the hole for drainage and set the posts on top. Brace the posts plumb in the hole using some scrap lumber. Backfill the holes with more gravel, tamping it down every 20 cm until you reach grade. Finish off by piling small stones around the base to hide the gravel.

2] **shallow soil** If you can dig only 60–90 cm before hitting bedrock, you'll need to widen your holes to about 25 cm and add concrete around the post. Clean the bedrock off at the bottom of the hole so that the concrete will make a good connection. Brace the posts plumb in each hole and pour in 30 cm of concrete to anchor them (1½ cu. ft. of concrete should do it). Use a stick to agitate the wet concrete and release any trapped air. Once the concrete has cured, backfill whatever is left of the hole with more tamped gravel.

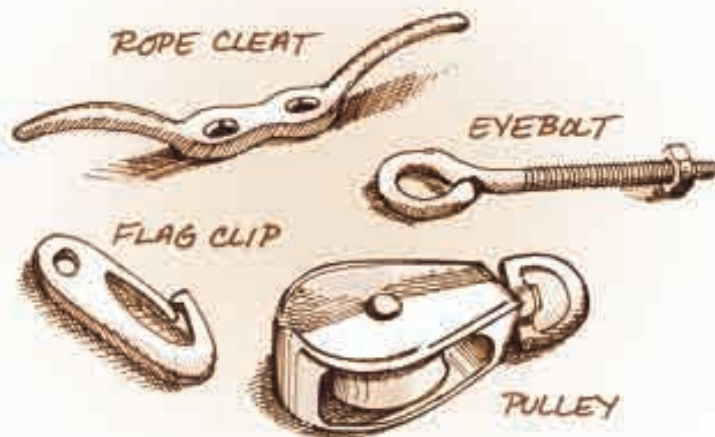
3] **no soil** If you have less than 60 cm of soil (3a), or exposed bedrock (3b), the base of the post assembly needs to be encased in a rectangular concrete plinth, or slab, which is, in turn, anchored to the underlying rock with rebar. The plinth should be 30 cm deep

and 25 cm wider on all sides than the footprint of the assembled support posts. If the plinth sticks up above ground, you can improve its appearance by covering it with a rock cairn. Just remember to plan the length of the posts and the location of the flagpole to accommodate the finished cairn.

After cleaning any soil off the bedrock, build a ¾" plywood form to contain the concrete and shim it level on the rock. Mark a cutting line along the sides of the form to match the rock's contour. Use a jigsaw to cut the sides along the line. You'll need to roughly figure the size of the contoured cut beforehand to maintain the 30-cm depth at the shallowest point of the form.

To drill the holes in the bedrock for the 30 cm lengths of ½" rebar, you'll need to rent a rotary hammer with a carbide bit. There is no good substitute for this tool unless you want to spend most of your summer drilling holes in rock. Drill four ½"-diameter holes into the bedrock, 15 cm deep, spaced evenly under the plinth (but not where the posts will sit). Drive a length of rebar into each hole. Put the form in position and, with scraps of wood, brace the posts plumb and centred in the form. You'll need 7–8 cu. ft. of concrete to fill the form. Once the concrete has set, remove the plywood form.

The posts will be secure, but really ugly. If you have access to small rocks (about 10–20 cm in diameter), a good solution is to build a simple rock cairn around the base to hide the concrete. Building the cairn needs only moderate stone-setting techniques since there is no structural requirement here. Mix up a batch of mortar (don't use concrete for this; the gravel in it will make it hard to position the rocks) and trowel a five-centimetre-thick bed around the base of the concrete plinth. Place the first row of rocks in the mortar bed around the perimeter (use the largest rocks on the bottom, smaller as you work up), leaving a five-centimetre gap between the back of the rock and the plinth (the gap allows room for the rocks to slope upwards). Trowel on some more mortar and embed the second row, then let the mortar set for a couple of hours before adding another two rows or so to finish. Once the mortar between the rows has set, push more mortar in between all the rocks to seal up the cairn.



Faster flag-raising

If carving your own doesn't appeal, the market abounds with retailers and manufacturers of ready-made flagpoles and hardware. Cottage-sized flagpoles (16'–28') are available in steel, aluminum, or fibreglass. Steel poles in a powder-coated finish have a long life expectancy, but eventually need repainting. Aluminum is even sturdier and won't rust. Fibreglass poles are cheapest, starting at as little as \$70, but bend more in high winds. You can choose from three styles: one-piece, telescoping, or sectional. Most poles are tapered – wider at the base than the top – for strength and to better resist wind, but one-piece poles are strongest. Unfortunately, they're also more difficult and expensive to ship. Telescoping poles have several nested tubes, each locking into place when pulled out of the one below. Sectional poles come in, you guessed it, sections that snap together, though the pieces don't extend one from the other. Once a sectional, or one-piece, pole is in place, the flag is raised and lowered with an external halyard, or rope, whereas with the telescoping pole, the flag is attached to the top section and extending the pole in effect raises the standard. —Blair Eveleigh

You'll need a helper or two to raise the pole and steady it while you mark the position of the lower pipe on the pole for drilling. A few more steps, and you'll be hoisting the red-and-white, or your cottage flag, to a lakeside position of honour.

3] Now pivot the flagpole to its upright position to mark the location of the lower support hole. Have someone with a good eye stand back and make sure the pole is plumb before marking the hole as any minor adjustments are best made now. Lower the pole and drill the bottom hole. 4] Install the eyebolt and pulley about 4 cm from the top of the pole (see Figure 1, p. 112), and thread the rope (also called the halyard) through the pulley. Lift the pole back up and install the lower support conduit. This length of conduit can be tapped out if the flagpole needs to be pivoted down later. 5] Seal the conduit holes from weather with wood plugs. I used some scrap cedar, driven into the holes and trimmed off about 5 mm out from the posts. I left the plugs a little long so they can be easily removed later if necessary. You could also just find some sticks lying around that fit in the hole and tap them in.

Raising the flag

1] Use stainless-steel screws to attach the cleat to the flagpole about chest high. 2] Secure the flag to the rope using two flag clips: Knot the top clip on the rope so it's fixed, but let the bottom clip slide free. Attach the flag and hoist away. **tip** Don't skimp on the size of the flag. A good rule of thumb is for the length of the flag to be about $\frac{1}{3}$ the height of the pole. The right-sized flag for a pole this high looks enormous at ground level. I used a 36" x 72" flag and, yes, when it's at the top of the pole it appears much smaller.

Once you're sure the whole thing runs smoothly and you've ruled out embarrassing rope-and-pulley malfunctions, it's time for a formal cottage flag-raising ceremony. Gather friends and family, raise the standard, and sing a rousing "O Canada" at the top your lungs – or, being Canadian, perhaps just one quick chorus (*sotto voce*, so the neighbours don't hear you) – while you admire the majestic surroundings. After the celebrations have died down, take some time for that final, required step for every cottage project: Carve your initials and the date into one of the posts for future flag-raisers to find. 🐾

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