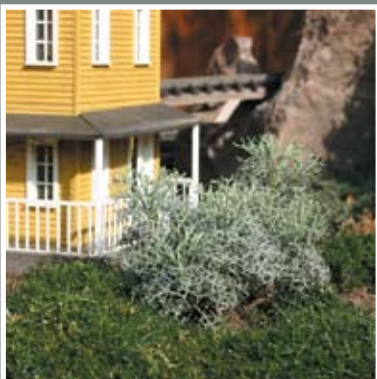
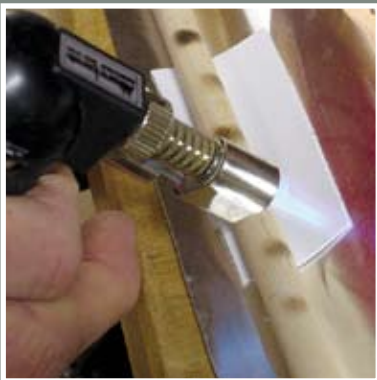


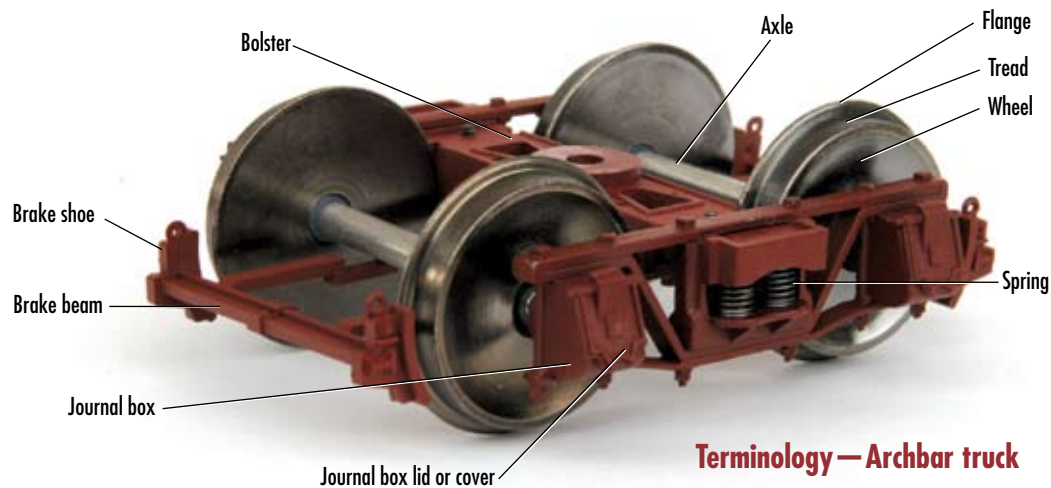
50

Tips & tricks

for your
garden
railway



A supplement to *Garden Railways* magazine



Terminology — Archbar truck

50

Tips & tricks

for your garden railway

1

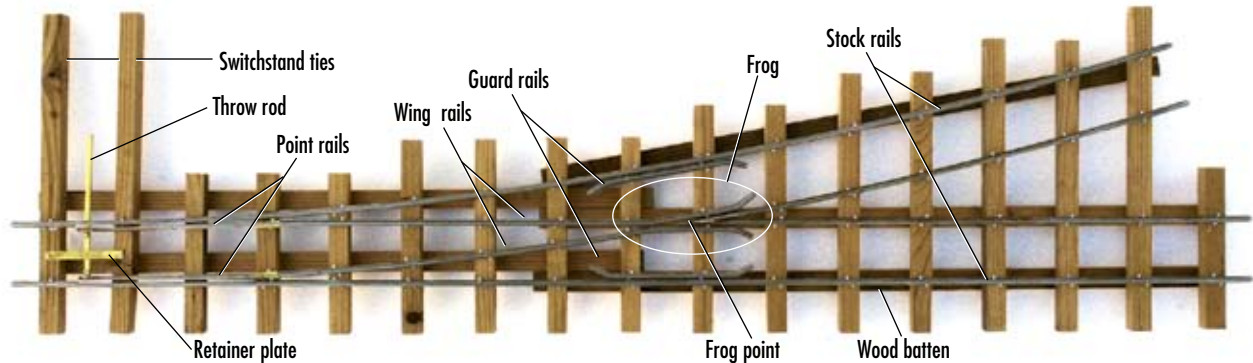
Hanging on to little screws

To keep those pesky little track screws on the end of the driver when getting them started, apply a tiny bit of Elmer's glue stick on the end of the driver. It's white glue in a semi-solid form. Rain and weather will eventually disperse it, but it is enough to provide some hold.

2

Wiring in pipes

Don't run wiring under the track. If you have an electrical problem, you'll have to dig up a large part of your railway to find it. Instead, bury 2" pipes beside the line, using 6" plumbing pipe and end caps to make accessible junction pits. Run feeders away from the trenches using small pipe. Wiring can then be easily accessed for repairs, additions, etc. Wiring is also protected from a garden spade. Pits can be hidden or visually softened with plants.



Terminology — Switch

50 Tips & tricks for your garden railway

3

Making translucent “glass”

If you paint newsprint with polyurethane resin, it becomes translucent and stiff. It can be cut with an X-acto knife and is great for use in clerestory windows in coaches, bathrooms, or anywhere else “see-through” glass would be inappropriate.

4

Don’t be afraid to try

People often believe that they are incapable of doing something only because they have never tried. Anyone who has been successful has reached their goals by taking risks and venturing into the unknown. Learning the art of weathering, for example, is a common fear amongst modelers fear, but knowledge will not come without effort. The best tool for learning is to practice on a cheap or old model. If you make a mistake, you can learn what went wrong and try again. This is the best way to both discover and improve your capabilities.

5

Before you paint

Before painting a plastic kit, wash all of the parts in soapy water to remove any mold release or hand oils that would prevent the paint from properly adhering.

6

Use the proper tools

Nothing frustrates more than taking three hours to do a task that should have taken three minutes, if you’d used the proper tools. Using improper ones is like using a plastic butter knife to cut a thick steak. Unless you’re on a diet, it is inefficient and counterproductive. Using improper tools is not only discouraging, it could be dangerous, both to you and your model. The use of proper tools will make the projects flow faster and you will be encouraged by the confidence and skills you develop.

7

Weatherproof control box

If you’re looking for a weatherproof control box for outdoor use, consider using a large, insulated ice chest to keep your electronics safe from the elements.



8

Protecting LGB switch boxes

Commercially available, weatherproof mailboxes will house three LGB switch boxes mounted side-by-side, using the side connectors of each box. Install the main input cable on the rear of one of the boxes, as there is not enough room to use the remaining side connector for input when using three boxes side-by-side. Simply drill holes for front mounting of the switch boxes in the floor of the mailbox and install using small screws, after drilling holes in the rear of the mailbox for incoming/outgoing wires and attaching the wires to the switch boxes. The switch boxes will stay clean year round and can be locked in the mailbox to deter theft. Seal the holes with aluminum duct tape on the inside after wires have been installed if you want a bomb-proof installation. The picture (above) shows these in use: the top box has switch controls, the bottom box has block controls.

9

An easy-to-use track cleaner

Use a "Swiffer" mop for a track cleaner. Cut off 1½" from each end of the mop base, then attach 3" x 6" Scotch-Brite scouring pads to the mop with double-sided tape. This combination makes an excellent track cleaner.

10

Take small steps

Risk taking is good, but you don't have to build the whole Roman empire in one day. Start your modeling career simply, by adding a little detail to a model. Once you build confidence, try painting and lettering a car for your favorite railroad. As you continue to learn, try some light weathering. Skills are not acquired overnight but, once acquired, the results are quite rewarding.

11

Bird-house buildings

Ready-made, unpainted bird houses, available from Hobby Lobby, Michaels, and other craft stores, make excellent starting points for large-scale structures in the garden. A good coat of exterior-grade paint helps make them weather resistant.

12

When planting, plan ahead

Most of us, in our impatience to get lots of green into our garden railways, tend to plant perennials too closely together. Be sure to read the information on how far a plant (particularly a groundcover) can be expected to spread. Consider what to expect in another year or two, and space new starts accordingly. Cover the empty space with mulch and be patient. Your new plantings will fill in the space without intrusively intermingling with others.

13

Better spray painting

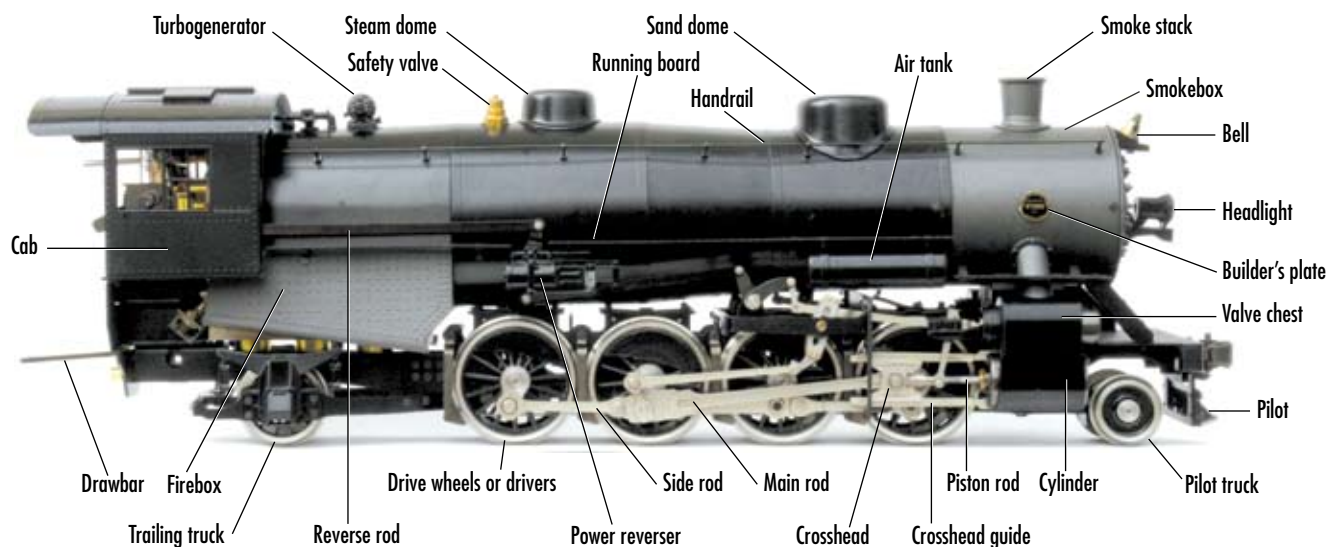
Spray paint in cans from the hardware store (Krylon and other brands) is capable of giving a fine finish. To help it along, immerse the can in warm water for 10 or 15 minutes before spraying. This helps the solvents flow better, giving a very fine spray.

14

Weathered enamelled signs

Here's an easy way to simulate old, rusting enamel signs. First, invent and print the sign, or digitally photograph a real one. Print it onto gloss photo paper. With a scalpel, scrape away the top color in places, leaving the white base. Then, in a smaller area, scrape away further until you are left with just the ragged paper. Blob some gray-brown acrylic paint on, then wipe it off right away. It will soak into the ragged paper and remain. Give it a light spray with a sealant. The result is that your enamel sign now not only has areas where the enamel has chipped away realistically, but this has a genuine three-dimensional effect to it. It is quicker to do than to describe.





Terminology — Miniature steam locomotive

50

Tips & tricks

for your garden railway

15

Stone mulch

Consider using crushed stone as mulch around alpine plants. Most alpine plants grow naturally in poor, but well-drained soils. Stone mulch has heat retention qualities that are conducive to giving your plants a good start in spring, and the excellent drainage it provides will discourage crown rot.

16

Headlights for live steamers

A working headlight adds a lot to a locomotive. On a live-steam engine, you'll have to run one off a battery. Running wires can be problematic, sometimes. However, it's possible that all you'll need to run is a single wire. A live-steam locomotive is largely metal. You may well be able to solder one wire from the battery box directly to the floor or cab wall of the engine, using the metal structure of the locomotive to complete the circuit. Then

you'll only need to run a single lead to the headlight. The light's other lead can be soldered to the headlight bracket or smokebox. Use a continuity tester to see if this will work for you.

17

Add color with roses

Micro-miniature roses (under 12" high) can be pruned to look like scale trees or shrubs. They will add color and texture to both urban and rural scenes.

18

Avoid distractions

Have you been guilty of wasting time because you tried to work on a model while watching television? This doesn't work. Your attention is drawn to the television program instead of your work on the model and, before you know it, you will have accomplished little in the time you have set aside. Avoid this distraction by listening to music instead. You'll still have the background noise, but you will be more focused on the work at hand.

19

Conduit

If you are running a lot of wiring to distant tracks, PVC pipe makes an excellent, inexpensive conduit. Sections are easily connected to one another using special cement available at hardware stores.

20

Plan your work

When contemplating a project, you must first set goals regarding what you want to achieve. Part of this is simply deciding what you want to build. You should then quantify your goals by deciding how much work you want to put into the project. Whether you decide to do a little work or a lot, you have control of your own choices.

21

Sawdust for weed suppression

After cutting up old redwood fence boards for ties, timbers, etc., keep the sawdust. Neither bugs nor weeds like it, and it makes a good corral floor or pathway. Even a layer $\frac{1}{4}$ " thick will stay down and look good. When it begins to fade, just add another layer!

22

Flat wire source

A good source for flat wire or modeling projects is to use staples from cardboard packing boxes. These are an inexpensive source of materials for making boxcar sections and other small details.

23

A carrying case for trains

An old suitcase, lined with foam, makes a fine carrying case for locomotives and rolling stock. Pull the lining out of the suitcase and glue the foam in with contact cement.



24

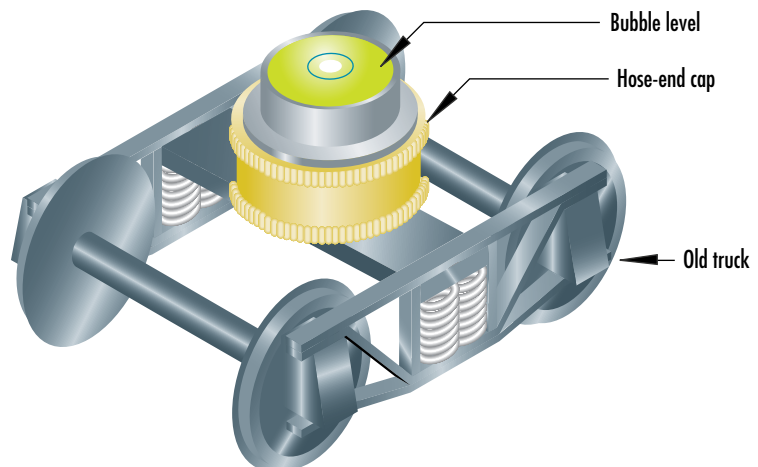
Keep your switches clean

To help keep switches from getting clogged by blowing debris (dirt, ballast, leaves, etc.) when the railway is not in use, look for some shallow plastic planting trays at your local hardware store or garden center, that are just a little larger than your switches. Mark the sides of the tray where they intersect the rails, then cut out openings for the rails with a hacksaw. Place the tray on top of the switch, using a brick or stone for added weight. Cut the openings deep enough for the tray to rest on the ground. For a really tight seal, You can use aluminum duct tape to cover the openings around the rail.

25

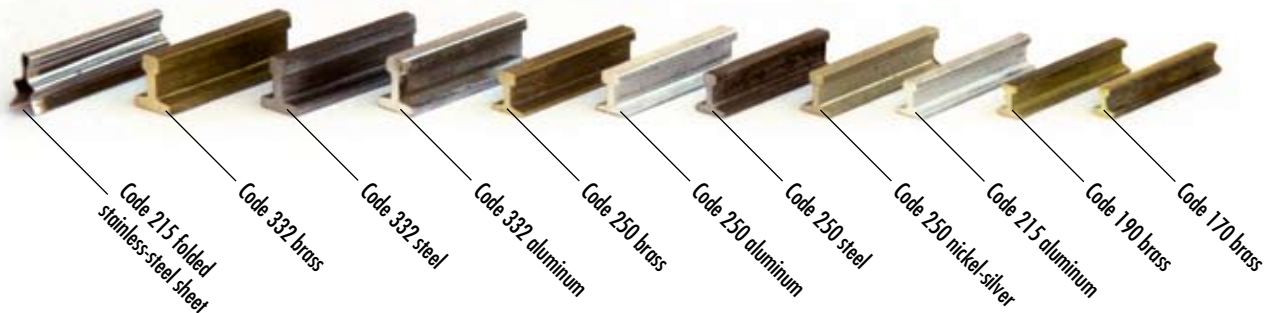
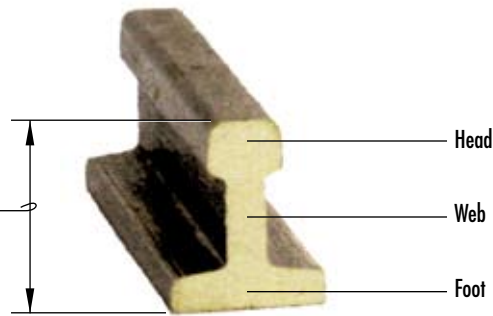
A rolling level for track ballasting and maintenance

Here's a quick-and-easy project that will help keep your track in fine trim. Take an extra truck and glue a hose-end cap with a fairly flat blank end to the truck, using either clear silicone or "Goop." Glue the cap over the truck's bolster with the open end down. Buy a bubble level (the round, centering type that some places use to balance tires) at a hardware store and glue that onto the flat hose cap surface and you'll have a rolling level. It works great for rolling along as you reballast and relevel your track after a season of weather's ravages!



Terminology — Rail

The height of the rail is called the “code” and is expressed in thousandths of an inch. For instance, code 332 rail is .332” tall.



50

Tips & tricks

for your garden railway

26

Finding dropped parts

A small part or screw, if dropped on a heavily patterned floor, can often be difficult to find. One useful technique is to turn the lights down, then use a flashlight, laid flat on the floor, to look for the part. The beam of light will cause the part to cast a long shadow, essentially enlarging it and making it easier to find.

28

Blowing out the fire

If you're running alcohol fired, live-steam locomotives, the fire can sometimes be difficult to blow out, especially if it is protected by a good firebox. Canned-air products, like “Dust-Off,” can be quite effective. Just point the nozzle down the side of the firebox, or down the stack on an internally fired engine, and give it a blast. The fire will be out in a second.

27

Toning down LEDs

White LEDs often have an unrealistic blueish cast to them, making them less than desirable for lighting. You can mitigate this somewhat by “painting” the LED with a yellow or orange permanent marker, giving it a more realistic yellowish cast.

29

Keeping track of joiner screws

If you have trouble keeping tiny Aristo-Craft track screws on the hex driver, simply take some white construction paper and crease it the long way so it forms a shallow “V.” Place this under the joint in the rails. When the screw falls off, it will roll into the center of the paper and be easy to retrieve. When finished with one rail joint, just slide the paper down to the next and continue on.



30

Forming tight curves in thin styrene

To bend .020" styrene into a ½"-diameter curved surface, cut a 6"-long piece of thin, metal roof flashing that is longer than the plastic stock and clamp the plastic on top of the flashing and under a ½" dowel. Apply a limited amount of heat with a micro-torch, then pull up on the flashing as the styrene becomes soft. Gradually roll both the plastic and the flashing tightly around the dowel. Hold them in place until they both cool. The styrene will hold its curvature. You can glue end caps on to permanently hold it in place.

31

Foundations for buildings

Buildings look best when sitting on good foundations. Ceramic tiles, 12" x 12" or 16" x 16", can be used as foundations under buildings. Turn them upside down and paint them black or gray (paint won't stick to the glazed side).

32

Paint holders

When weathering models, several colors are often used. Twist-off caps from soda bottles make convenient receptacles for holding small amounts of color and washes. When you are finished, just throw them away.

33

Avoid overload

It's easy and common to want to accomplish as much as you possibly can in a short span of time. However, doing too much, too fast will quickly burn you out. Weight lifters often get the most out of their workouts by lifting more repetitions with lighter weights to avoid tiring too fast. Modelers should work in a similar fashion by accomplishing smaller amounts of work over several days than trying to do everything in one or two days. This gives you time for other things and won't cause you to burn out. Remember, the hobby is supposed to be fun.

34

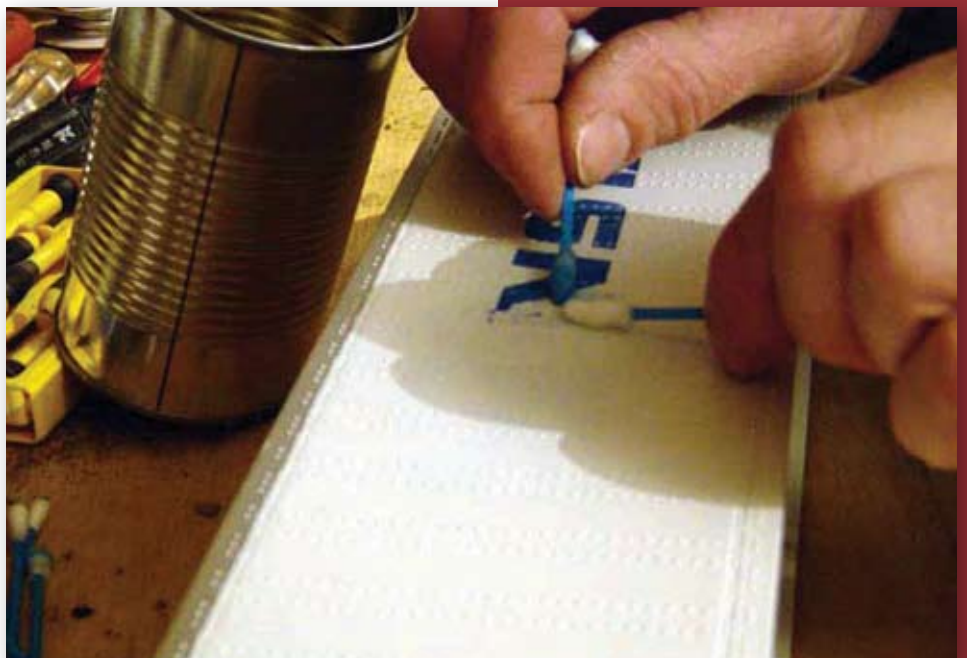
Keep an eye on the gas

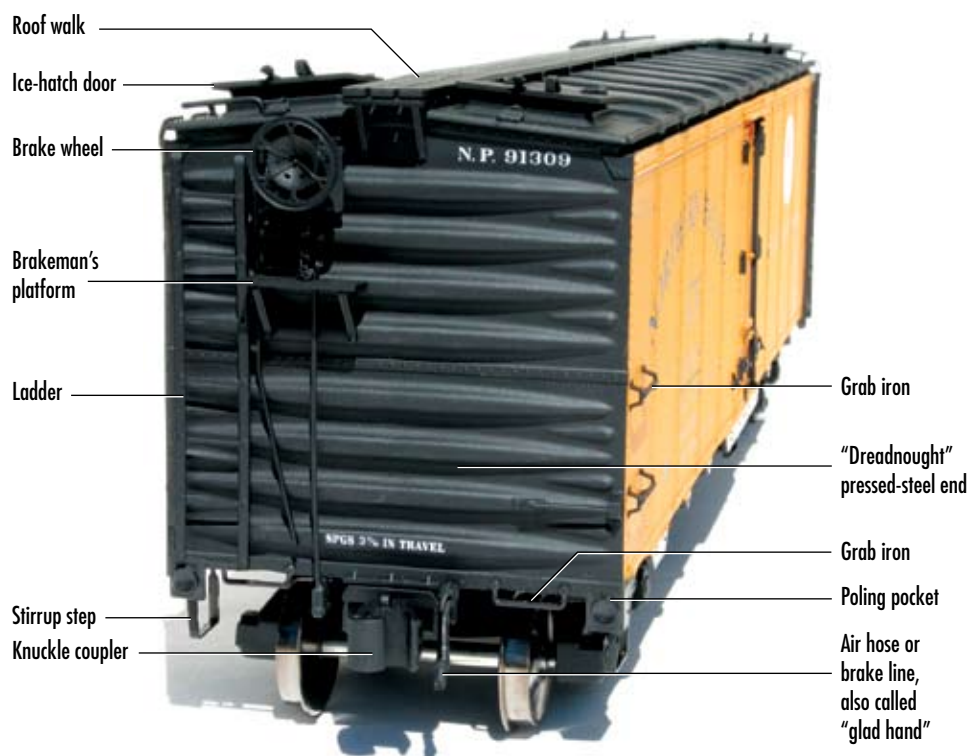
Gas-fired live steamers, especially smaller engines, may have the gas tank mounted close to the boiler. As the boiler heats up, so will the gas tank, increasing the pressure inside the tank. While this is not dangerous, it can be wasteful, as more gas will be fed to the burner. For longer runs and less waste of both fuel and water, keep an eye on the gas. You'll be able to tell by the sound that the pressure in the tank is up. Just turn it down to a more reasonable level.

35

Removing lettering from cars

Engines and rolling stock often have what is called hot-stamp printing on them. Sometimes you may want to remove the logo or road name from a car, but leave all the markings and car info. Try using lacquer thinner on a Q-tip. Put a small amount of thinner in a can (not plastic). With a wet Q-tip in one hand, rub gently until the lettering starts to come off. As it comes off, use a dry Q-tip in the other hand to lift off the unwanted paint. Take your time so you don't hurt the base paint under the letters. Be sure to *not* have any open flame nearby when doing this, and do it in a room with adequate ventilation. Also, test this method on the underside of the car first, to make sure the base coat won't be damaged.





Terminology — Refrigerator car ("reefer") end

50

Tips & tricks

for your garden railway

36

Minimizing root encroachment

If you want to minimize root encroachment from plants like mint, try sinking a plastic or terra-cotta pot with no bottom into the ground and grow your plant in that. This is also a good way to make use of broken pots.

37

Easy shade gardening

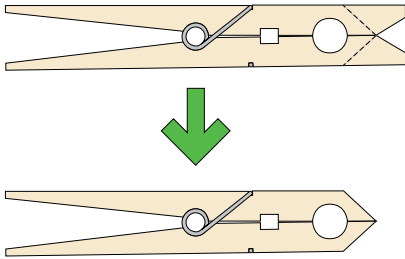
Many garden railroads are built in heavy shade to make summer use more pleasant, but at the expense of more difficult gardening. Here's a suggestion for preparing the soil in a heavily shaded garden with compacted soil. Leave the base soil undisturbed, then spread a 6-8" layer of fresh, well-composted soil. Then

plant shade-tolerant species for your local climate. The layer of fresh soil acts as a mulch to inhibit the original vegetation from growing through and, as a bonus, this approach is easy on the back, as no really hard work is involved.

38

Take your time

Never rush anything you do. Always think about what you are doing before you begin so you can tackle each step with confidence. Your excitement level will rise as you complete each step of your project, but this same excitement (and anxiety) can cause you to rush your work unnecessarily, which can also lead to errors. Taking your time may add a few more days to your work, but a quality job done with patience will be more satisfying than a sloppy job done quickly.



39

Small clamps

Wooden clothespins can make excellent clamps for holding small parts when soldering or painting. Jaws can be modified so that parts are easier to grasp.

40

Improving LGB's 0-4-2T

LGB's Grizzly Flats 0-4-2T is an attractive little engine, but a dismal hauler. You can dramatically improve its performance merely by adding weight. The diamond stack comes apart. Fill the cavity with lead shot and reassemble it. Likewise the bunker behind the cab. A solid metal "toolbox" can be painted black and added to the pilot. You'll be surprised at how much the tiny engine can pull.

41

Weed cloth

For inexpensive weed cloth, try using "house wrap." This is the synthetic material, called "Tyvek" or "Tyvar," that is used as a moisture barrier on new houses. Put the printed side face down to let the moisture through.

42

Always encourage

The biggest advantage many have found with large-scale modeling, besides the larger size of the models, is the camaraderie amongst modelers. Encouragement is freely given to one another, which is the way it should be. Ours is a hobby in which we want to promote continuous

growth, and we need to mentor less experienced people just as we have been mentored. If you see somebody making an attempt that perhaps didn't come out as well as could be hoped, don't criticize. Instead, offer suggestions on how they might improve their efforts. This is what garden railroading is all about!

43

Switches on small railroads

Even in very small garden railroads, it's good to use larger-radius switches. These allow easier movement of trains and look much more realistic. If you build your railroad so others can run on it, they will come.

44

Keeping switches cleaner

The use of concrete pavers or one of the various plastic "boards" available today under switches reduces maintenance on your railroad by helping to keep switches free of debris.

45

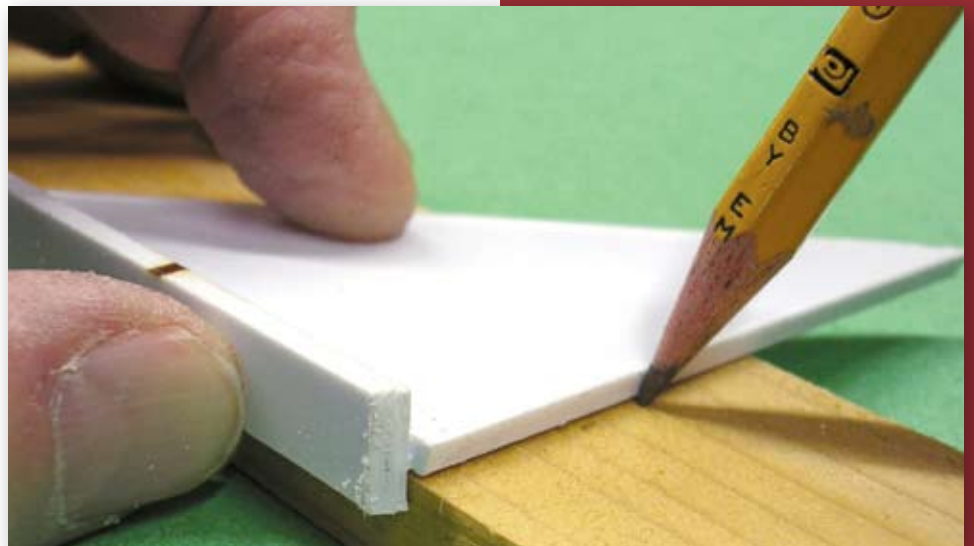
Protect your lungs

If you cut redwood or cedar with a power saw, be careful. Chemicals in these woods can be lung irritants. Always wear a dust mask to protect yourself.

46

A quick square for right-angle lines

When you need to draw a line at right angles to a piece of plastic or wood stock, a machinist's square is too big and clumsy, while a drafting triangle often slips before you can draw the line. You can make a simple, accurate square by taking a piece of thick styrene (2.5mm is good) and, selecting a corner of the sheet that has not been previously cut (with a 90°-angle corner), make a diagonal cut so you have a 45° x 45° x 90° triangle in styrene. Then cut a rectangular piece of the same styrene 5/16" wide by 2 1/2" long and glue it at right angles along one of the triangle edges. Now you can press the foot piece of the square tightly against the edge of the stock to be marked and have a reliable guide for a 90° line (or a 45° line, if you should need that).



STEAM LOCOMOTIVE CLASSIFICATION

There are, generally speaking, two systems of steam locomotive classification in the world today. Europeans use the UIC (Union Internationale des Chemins de Fer) system, which counts axles, while the English-speaking world uses the Whyte system, which counts wheels.

Frederick Methvan Whyte, a mechanical engineer for the New York Central Railroad, came up with his method in 1900, and we still use it today. In Whyte's system, there are usually three groups of wheels—the leading (unpowered) wheels; the driven wheels, or drivers; and the trailing (unpowered) wheels. A locomotive that has, for instance, four leading wheels, six drivers, and no trailing wheels, is known as a 4-6-0. Articulated locomotives that have more than one set of drivers, have an additional number or two, like Union Pacific's Big Boy (4-8-8-4) or the Erie Railroad's Triplex (2-8-8-8-2). Geared locomotives, such as Shays, Climaxes, and Heislars, do not fall under this system.

The letter "T" behind the number designation (2-6-2T) indicates a "tank" engine—a locomotive that carries its own water in a tank and does not have a tender.

Whyte also assigned names to the most common of the wheel arrangements, as shown in the chart.

The Whyte system of steam-locomotive classification

Columbia	2-4-2	●●●●
Mogul	2-6-0	●●●●●●
Prairie	2-6-2	●●●●●●
Consolidation	2-8-0	●●●●●●●●
Mikado	2-8-2	●●●●●●●●
Berkshire	2-8-4	●●●●●●●●
Decapod	2-10-0	●●●●●●●●●●
Santa Fe	2-10-2	●●●●●●●●●●
Texas (Selkirk in Canada)	2-10-4	●●●●●●●●●●
American	4-4-0	●●●●
Atlantic	4-4-2	●●●●●●
Jubilee (Canada)	4-4-4	●●●●●●
Ten-wheeler	4-6-0	●●●●●●
Pacific	4-6-2	●●●●●●●●
Hudson (Baltic outside US)	4-6-4	●●●●●●●●
Mountain	4-8-2	●●●●●●●●
Northern (also Niagara, Mohawk, Greenbriar)	4-8-4	●●●●●●●●
Mastadon	4-10-0	●●●●●●●●●●

50 Tips & tricks for your garden railway

47

Natural planting

Don't be afraid to mix all sorts of groundcovers, shrubs, trees, and hedging. All things in nature vary in color, texture, and height, so feel free to plant away. You can always prune later.

48

Making signs

A good method for making signs is to print them on paper, then use a polyurethane resin (the stuff they use for car and boat repairs) to glue it to a wood or plastic base. Depending on the paper, you may have to paint the wood prior to gluing the two together, as the resin will soak into the paper, turning it translucent in some cases.

49

Securing plastic handrails

Handrails on some large-scale models are made from a slippery plastic that can't be glued. Sometimes the holes become enlarged and the rails slip out of place. One way of getting them to stay put is with a soldering iron. From the inside of the car, where it won't be seen, just touch the end of the handrail stanchion with the hot iron to flatten it a little. This will prevent it from pulling out through the side of the car.

50

Vitamin B1 for root growth

Use vitamin B1 transplanting solution at planting time, and again in fall, as a tonic for plants. VitB1 promotes root strength without forcing top growth. In the fall, conifers especially respond to it.