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This Old House

JANUARY | FEBRUARY 2006

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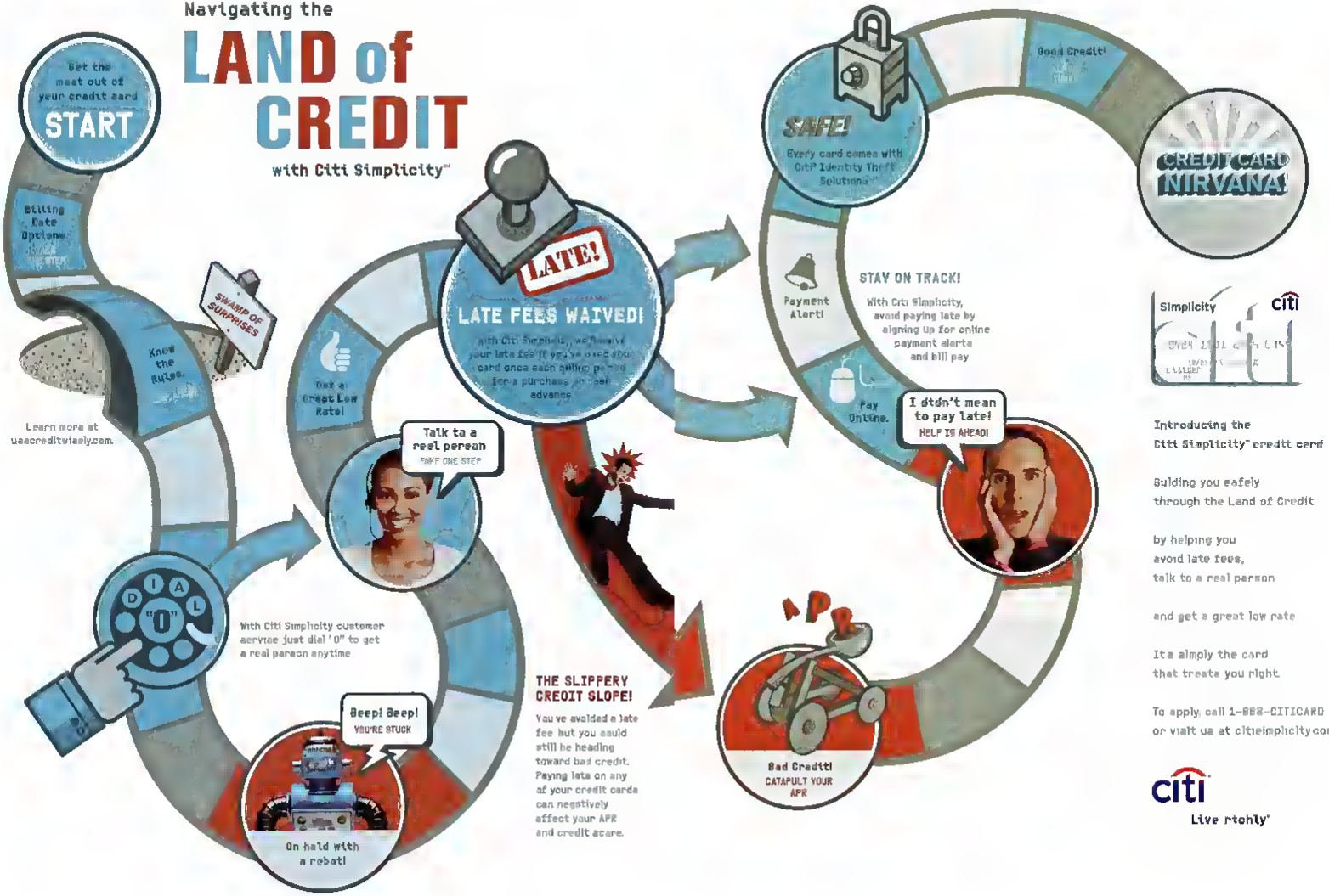

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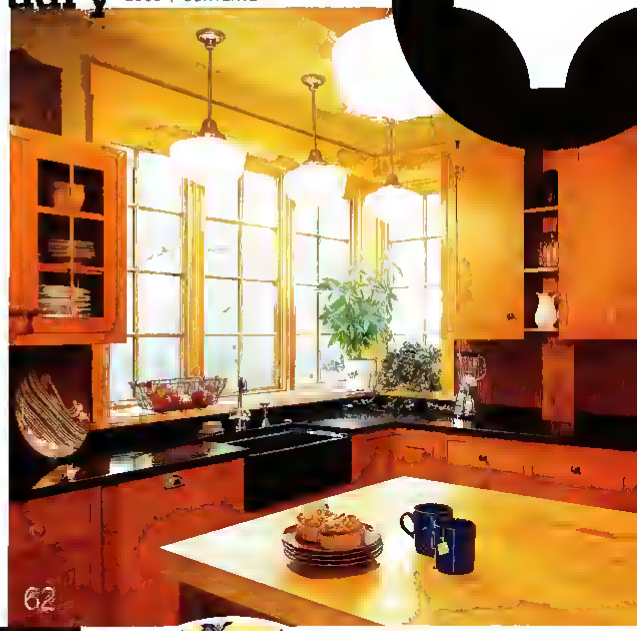

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Cover photography **Dominique Vorillon**

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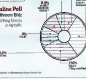
Online Poll

Bathroom Blitz

The first thing I'd redo in my bath:



Take a new poll each week in the Homeowner Know-how section.

Shortcuts

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CONTRIBUTOR
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EDITORIAL INTERNS
Jennifer Chen, Young Hwang, Kalenna Lee, Patrick Ojeda, Jennifer Reading, Natalie Rodriguez

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Look! Up in the sky! It's not a bird or a plane. It's a roof—something that I nearly lost a battle with one day. That's me with technical editor Mark Powers (center) and *TOH* master carpenter Norm Abram (right).

Whether it's how to fix a faucet without causing a flood or dig a hole without getting buried by a power line, our "Survival Skills" story gives you what you need to be master of the house.

Surviving Homeownership

BEFORE I BECAME AN EDITOR I made an honest living. I worked as a carpenter. And while all jobs are tough, I think carpentry is top of the list. I imagine it's a lot like being a soldier. You need to have the know-how to do your job, and then you need to know survival skills so as not to get yourself hurt, or worse, along the way.

For example, a carpenter needs the know-how to tightrope across the ridge of the steeply pitched roof of a farmhouse florist's shop with a bundle of shingles on his shoulder, then save himself when he steps on his own foot (proving that the dance floor is not the only place he lacks grace) and win a tug of war with gravity by knowing how to drive the claw of his hammer into the roof sheathing like an ice pick, hold on tight and lie flat as a pancake, so he doesn't snowball toward the gutter, spill over the edge, bounce off the first-floor overhang, and flop into the bed of a dump truck full of demolition debris—the kind with big, rusty nails and sharp splinters.

I am truly glad Frank Nydam taught me that particular survival skill when he hired me way back when. Without it, nothing good would have come of that day. Sure, he wouldn't have had to go far for the flowers, but still.

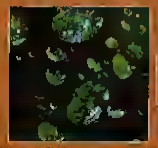
Homeownership requires survival skills, too, even if they're not always a matter of life and death. You'll want to move a refrigerator, say, without tipping it. Fix a kitchen faucet without flooding the place. And turn Grandpa and his shovel loose in the backyard without blowing the fuse in his pacemaker when he severs a buried electrical line. And all of that is why we've put together "Now What Do I Do? 47 Survival Skills Every Homeowner Should Know," starting on page 54.

Master them all (or give it a shot, at least), and you'll have earned yourself some downtime. I'd suggest using it to check out an extra little bit of know-how we've tossed into this issue's mix: the recipe for the first ever *TOH* cocktail. You'll find the Renovator on page 77 in our story on planning a built-in bar—one of the hotter trends in home design. By the third glass, you'll forget all about the fridge, the sink, and Grandpa, and you might even feel like you're dancing along the rooftop yourself. As long as you're not actually on one at the time, you'll be in great shape.

Scott Omelianuk

SCOTT OMELIANUK
EDITOR

Why the siding compromise is over, once and for all.



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True Colors

I was so excited about painting my den the shade of the living room in your cover story ("Re Color Your Rooms" November) since it looks like a green/gray I'd like to use The article states it is Sherwin Williams 6200 Link Gray I picked up the color swatch and it is a deep true gray not at all green How does that happen?

RENE RETTERER VIRGINIA BEACH VA

The editors reply It s easy to be confused by colors you see in magazines because shades just don t appear the same in a photograph as they do to the naked eye And as anyone who has ever picked out paint has learned even the color on a manufacturer s sample chip won t always look the same once you get the paint home and on the wall If you like a shade you find in a magazine but are disappointed when you see the actual paint chip try taking the photo graph to the store with you to match chips to, and get samples or quarts to test at home Most paint stores can also customize a mix for you

Eleventh Use for Coat Hangers

Thanks for the 10 uses for wire coat hangers [Around The House November] but my Number 11 may be the most useful of all Just clip the long straight part off at a steep angle with diagonal cutters and use it as a pilot bit with your drill/driver for locating penetrations through floors ceilings and walls The hole is tiny and the "bit" will go through 10 or more inches of wood It will penetrate insulation and is easy to spot in a crawl space or attic Just remember to let it cool off when you pull it out to avoid nasty red marks on your fingers

FRANK LEVIN HOOD RIVER OREG.

Buying Land

I wanted to add a comment to your article on buying land ["The Lure of Land" November] When my husband and I built our custom home three-and a half years ago we were able to buy 2 acres of land from a private seller with a construction-to-permanent loan This loan enabled us to purchase land outright without the typical 50 percent down payment It works like any other home mortgage The bank closing occurs before construction begins and the land price is considered the first disbursement of the loan The only caveat is that you have to complete your project within 12 months of closing (depending on your lender) but if you re lucky like we were there will not be a final lender s inspection and you can work at your own pace (which has kind of backfired for us—we're still not done!)

LAURA KUEHN HIGGANUM CONN.

Moderne Love

In ["Build-ng a Flat Roof Right" November] you started off by saying Flat roofs aren t architecturally logical —but when you fall in love with a 1947 Art Moderne home like ours with original everything the fact that it has three leaky flat roofs doesn t deter your admiration for those beautiful broad horizontal lines When this issue arrived I practically skipped from the mailbox and called to my husband that we finally might find out the best way to restore this house s flat roofs and save the plaster walls from the moisture that keeps finding its way in

KELLEEN GUYER EAST PATCHOGUE N Y

Address mail to: Letters This Old House magazine, 1185 Avenue of the Americas, New York, NY 10036 or e-mail us at TOH letters@timeinc.com. Please include your full name, address, and daytime phone number Published letters will be edited for clarity and length and may be used in other media.

corrections

"What Is It?," Ask This Old House, November Life with Ease provided us with the Foxtail sliding handle shown You can find this product at lifewithease.com or 800-966 5119.

"No-Wobble Newel" Upkeep November The diameter of the dowel used in Step 4 should be 7/8 inch not 1/2 inch

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around the HOUSE

GOOD TO KNOW

This winter in 1935, the board game Monopoly went on sale, spawning generations of real estate moguls.

Big Tape for Big Projects

The fix-all favorite gets supersized

IF A REGULAR ROLL OF DUCT TAPE could help the astronauts of Apollo 13 safely return from the moon (NASA now requires that the tape be aboard every space shuttle mission), maybe the new foot-wide roll could help us get to Mars.

It's doubtful—but securing drop cloths, bracing windows against high winds, and mending that wide gash in your vinyl Barcalounger just got a whole lot easier and neater. Now, one strip of the fix all tape does the job of six of the 2-inch variety, and you won't have to contend with all those gooey and stringy seams.

You can also cut Big Fix duct tape into custom shapes to match the job, whether it be a stick-on template for woodworking or a circle to temporarily patch a pool liner. A peel off paper backing keeps the adhesive from gumming up your hands and scissors. And like plastic wrap, the roll comes in a box with a built in cutting edge, so you can unfurl and slice off a section. Tyco Adhesives's 30-foot roll of Big Fix tape costs $2.5 at homedepot.com. —ASHLEY WOMBLE

SPEAKING OF DUCT TAPE...

DRY DUCT
Now a workshop mainstay, the tape was first used by World War II soldiers, who wrapped it around ammunition cases to keep their bullets from getting wet.

MISNOMER
Though named for its usefulness in sealing joints in ductwork, the tape loses its grip over time. Most HVAC contractors use aluminum foil tape instead.

NEW HUE
Originally available only in a silvery grey, duct tape now comes in about 20 different colors, from fluorescent green to beige.

LEFT In 1899 Astoria residents gazed upon masted ships in the Columbia river. BELOW: Tankers ply the waves there today.

{ TOH DESTINATIONS }

SHIVELY-MCCLURE HISTORIC DISTRICT

ASTORIA, OREGON
ADDED TO THE NATIONAL REGISTER: AUGUST 4, 2005

Balanced where the Columbia River intersects the Pacific and fir-draped mountains meet the clouds, Astoria has always been a picturesque place to call home. The Chinook tribe knew that, so did New York fur traders in the footsteps of Lewis and Clark. Later Finns who pulled salmon from the river settled there, as did Chinese laborers who canned the fish.

Because of the steep slopes, the historic district—named for two planners who mapped the city's streets—of more than 200 Queen Anne, Shingle, and Gothic Revival houses rises terracelike above the downtown. Standouts are the 1883 Italianate built for M. D. Kant, a local department store owner, at 1064–1066 Harrison Avenue, and the 1901 Georgian at 627 15th Street, with its columned porch, that used to belong to George C. Flavel, son of the town's first millionaire.

To see Astoria from the inside, plan to visit in August, when district residents open their doors for an annual tour of homes. Overnight guests can stay at the Grandview, a turreted bed-and-breakfast at 1574 Grand Avenue. And adventurous early morning risers can follow curving Jerome Avenue up Coxcomb Hill to the Astoria Column, a tribute the city's early history. A 166-stair climb to the top provides a bird's-eye view of the district and beyond.

—C. J. HUGHES

{ ORIGINS QUIZ }

Q/A Chinese inventors in the 13th century B.C. realized that crushed shells, seeds, and sand stuck with tree resin to parchment would smooth rough surfaces. Thousands of years later, sharkskin became a popular alternative in Europe. But it took an ingenious Yank, Isaac Fisher Jr., to dream up sandpaper as we know it. In which year did Fisher score a patent for his paper?

A. 1825 B. 1834 C. 1836 D. 1842

(turn to "Origins Answer," page 22, for the answer)

THE PERFECT STORMS

Get modern all-weather windows without sacrificing on looks

When restoration purist and woodworker John Spencer wanted to make his 1918 farmhouse more energy efficient, replacing the original wavy glass windows was out of the question. As was insulting them with aluminum frame exterior storm windows.

"I wanted my original wooden style storm and screen windows, but I was tired of climbing up the ladder twice a year to switch them out during the spring and winter," says Spencer, who lives in Lincoln, Nebraska. Storm windows from the late 1800s through the late 1930s were simple wooden frames that held glass panes and hung from hooks attached to the exterior window trim. Come spring, homeowners replaced the storms with framed screens to let in the breeze.

Spencer designed an exact replica of his one-over one storm window frame, this time putting a fixed screen on the lower half and glass on the top. He then attached an aluminum track to the frame's interior side for a second pane of glass that slides open or closed from inside. The invention spawned SpencerWorks, a new old-style-storm-window business.

The company now custom-crafts storms to match any vintage windows. Just send in the dimensions, and in about three weeks the company will deliver the storms. A typical 55-by-34-inch storm window costs about $300. For ordering instructions, see spencerworks.com.

—MARK POWERS

Making Paints Safer

A slew of states adopt new finish standards to curb pollution

IF YOU LIVE IN THE NORTHEAST and noticed one of your neighbors hoarding oil-based paint in his garage, it's likely he's heard the rampant rumor that stores will soon yank all alkyd finishes from their shelves.

The rumor is only partly true. The hubbub centers around VOCs (volatile organic compounds). Found in the solvents of all oil-based paints and in some additives in latex, VOCs evaporate into the air as finishes dry, causing ground-level ozone to form. Although ozone high in the stratosphere protects us from the sun's damaging rays, the molecules can cause lung and heart problems when they accumulate close to the earth's surface in the air we breathe.

In an effort to improve air quality, the 1990 Clean Air Act required the Environmental Protection Agency to set national limits on the amount of pollutants, including VOCs, that could be released into the air.

Though all states have complied with the federal limits, California was the first and, until now, the only state to set a VOC standard more stringent than the EPA's. The Ozone Transport Commission (OTC), an organization of states extending from Maine to Virginia, recently developed its own lower VOC model, which it's encouraging member states to adopt this year. So far, New York, Delaware, Pennsylvania, Maryland, and the District of Columbia are in full compliance, and the rest of the states in the group are following suit (see chart at right). Gallons of the higher-VOC paints will be sold until current stock is gone; after that, noncompliant paints will only be available by the quart. —MARK POWERS

GREENER OPTIONS

You didn't stockpile lead-based paints and asbestos insulation in the late '70s. So why hoard VOC-packed paints when there are safer alternatives that perform just as well? Many paint companies have reformulated their old finishes or developed new ones to meet—and in some cases far exceed—EPA standards. Here are a few of the latest offerings.

Sherwin Williams ProClassic XP › For the traditional look of oil on your woodwork, this finish uses high-tech resins to get twice the coverage of the old stuff with 141 grams of VOC per liter.

Rust-Oleum Professional Enamels 3400 System › For preventing rust on iron railings and metal outdoor furniture, a lower VOC recipe with 400 grams per liter is now sold in the Northeast.

Benjamin Moore EcoSpec › This latex paint has less than half a gram of VOC per liter. It comes in a variety of sheens for doors and trim, as well as flat for walls and ceilings.

NEW STANDARDS BY THE NUMBERS

Volatile organic compounds (VOCs) are usually measured in grams per liter (g/l), and the number can be found on the can's label under "Contents." Below are common coatings and their VOC limits by state as well as the Environmental Protection Agency's national standard.

COATINGS	CA, DE, PA, MD, DC, VA, NJ	EPA NATIONAL STANDARD
Primer & undercoat Unpainted wood, plaster, drywall	200 VOC g/l	350 VOC g/l
Specialty primer Stains, sealers	350	450
Flat paint Walls, ceilings, exterior	100	250
Nonflat paint Trim, doors, walls in kitchens and baths, exteriors	150	380
High-gloss paint Trim, doors, walls in kitchens and baths, exteriors	250	380
Rust preventative Wrought iron, outdoor furniture	400	400
Clear & semitransparent stain Woodwork, exteriors	250	550
Opaque stain Exteriors	250	350
Varnish Furniture, woodwork	350	450
Floor finish Wood, concrete	250	400

[continued on page 22]

circa 750

circa 1207

circa 1990

circa 2006

Only [illegible] F-150 earned NHTSA's five-star driver and passenger front crash rating and a "Best Pick" front crash rating from IIHS.

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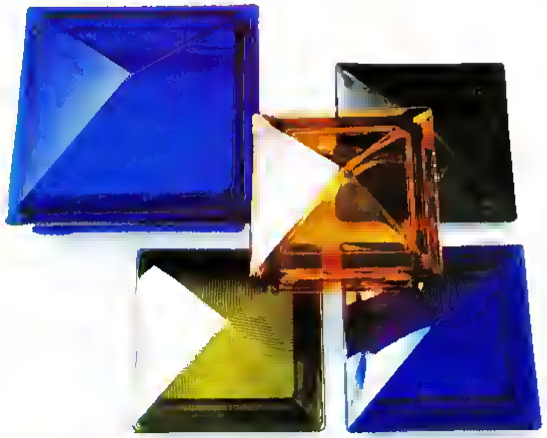
BUILT Ford TOUGH



Decked-Out Decks

Glass post caps add year-round outdoor color to pathways, porches, and decks

BEFORE LONG, BRIGHTLY HUED CROCUSES AND DAFFODILS will show winter's doldrums the door. But if you can't wait for spring's flowers to brighten up your landscape, try topping your fence, deck, and porch posts with colorful glass caps. The caps, which also protect wood post tops from decay, come in amber, cobalt blue, olive green, and black, and cost between $6.75 and $21.50, depending on size. Attach them to standard 4-by-4- or 6-by-6-inch wood posts using a clear adhesive. For odd-size posts or ones wrapped in vinyl sleeves, there's a universal size, which also fits over some existing caps. Visit woodwayproducts.com for dealers. —NATALIE RODRIGUEZ

SAVE UP TO 58% ON YOUR HEATING BILLS

By now, you're already feeling the pinch of our newest national nightmare: skyrocketing home-heating costs. A recent report by the U.S. Department of Energy's Energy Information Administration warns that natural gas customers can expect a $350—or 48 percent—spike in their home heating bills this winter. Those using oil will pay $378 more, and propane users will have to fork over an additional $325. If you think those electric baseboards of yours mean you're immune, think again. Most new power plants are fueled by natural gas, and utility companies typically pass their additional costs on to the consumers. But before you turn down the thermostat and pile on the sweaters, take the following steps to help beat the increase in your bills. And who knows, you might even pocket a few extra bucks. —KEITH PANDOLFI

+ Wrap your water heater tank in a precut insulating jacket to reduce heat loss through the walls of the tank.
» Saves up to 9 percent.

+ Channel warm air only where you need it by shutting doors and heating vents in unused rooms.
» Saves 3 percent

+ Seal around joints in metal ductwork
» Saves up to 20 percent

+ Lower your water heater temp to 120 degrees.
» Saves up to 15 percent.

+ Open curtains during the day to capture the sun's heat, and close them at night to keep warm air from escaping
» Saves up to 12 percent

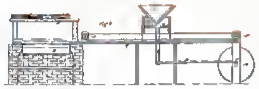
+ Caulk and weatherstrip around doors and windows
» Saves up to 6 percent.

+ Replace your forced-air furnace's filter
» Saves up to 15 percent.

(Source: Edison Electric Institute)

{ ORIGINS: ANSWER }

Q/A B. 1834. In addition to inventing "coating paper," Fisher devised an elaborate machine to make it (below). Credit for the idea, however, should also go to his father, Isaac Sr., a carpenter and joiner who built covered bridges in their hometown of Springfield, Vermont. His son, perhaps seeing Dad's frustration at the roughshod appearance of his work, dreamed up the paper to improve his old man's craft.



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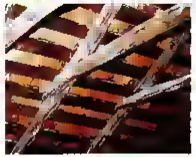
{ DISCOVERIES }

Finding a Home Within a Home

A couple uncovers a piece of the old frontier, smack in the middle of a Texas subdivision



FROM TOP: Before restoration and the discovery of a chimney foundation; chimney rebuilt with salvaged stone; log walls hidden behind 20th-century siding; pole rafters and cross ties in the attic; Michael Collins squaring timbers for new porch posts.

FROM THE STREET the boarded-up house was an eyesore. It looked like three old shacks sandwiched together, and it sat awkwardly on a corner lot in a city subdivision, an "Order to Demolish" sign tacked to its door. Inside, the scene was even worse. "Its rooms were piled three feet high with trash and there were open sewer connections," says Michael Collins, who checked out the place with his wife, Karen, on a house-hunting excursion in Austin, Texas.

But something spurred Michael, an archaeologist, and Karen, a historian, to investigate further. "The walls were a foot thick," says Michael. "There had to be older walls beneath the early-20th-century siding."

The Collinses' suspicions were confirmed when Michael peered into the attic crawl space and spotted the tops of eight log walls. Within the condemned house was an old "dogtrot" cabin. The style, characterized by a wide breezeway connecting two large rooms under one roof, was common in Texas in the mid-19th century. The original cabin was built in 1849 by a gentleman farmer named Martin Moore and his wife, Elisabeth, in the middle of a lush oak grove. Back then, the house was surrounded by 520 acres of prairie, but beginning in the 1930s, the land was carved into about 700 residential lots.

Upon their discovery, the Collinses bought the house and set about removing the siding and additions, which dated from the 1870s to the 1970s. On the north and south ends of the cabin they uncovered remnants of the original chimney foundations. Following their outlines, the couple rebuilt the stacks using salvaged limestone blocks, some of which were found on the property.

While the Collinses wanted to bring the cabin back to its as-built condition, they had no intention of reenacting the first homesteaders' hard-scrabble life. They built an addition off the back and added electricity as well as a modern heating and air-conditioning system.

The restored house, which is now listed on the National Register of Historic Places, is the only known log cabin in Austin that is still used a residence and remains on its original site. And to think, it would have been torn down had the Collinses not gotten to it first. —PENELOPE WOOD

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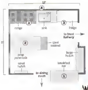
BEFORE The cramped old kitchen, BELOW, was a walled-off hodgepodge. **AFTER** By opening it up, the space was transformed into an efficient cooking and entertaining area. LEFT Warm orange paint (Benjamin Moore's Citrus Orange) brightens the room. Stainless steel covers the counters, as well as the LG fridge and FiveStar range.

Small Wonder

>> Smart use of space and materials gives a pint-size kitchen big personality

BY SALLIE BRADY PHOTOGRAPHS BY ERIC PIASECKI

IT TAKES MONTHS IF NOT YEARS to find a great house, and unless you're on a Bill Gates budget, there will always be a compromise—like the kitchen that you really wish were just a bit bigger. That's what Sabine Meyer was thinking when she bought her circa 1900 red brick home in Beacon, New York. She knew there were good bones beneath the cheesy wood paneling and the ceiling tiles she'd have to rip out, but the real challenge would be how to make the 11-by-12-foot space something she could easily cook and entertain in. Her solution was to remove a dining room wall and replace it with a breakfast bar with tuck-under stools. She also needed more work surface and storage, so she added a second peninsula, using antique pine base cabinets salvaged from her grandmother's house. While Sabine liked the rustic look of the exposed brick she discovered under wallboard, and of the original tin ceiling once stripped of its paint, she was still searching for a "contemporary, urban loft" feeling. Her contractor helped her achieve it with stainless steel countertops that echo the stainless appliances. "The kitchen's small, but traffic flows easily into the opened-up dining room," says Sabine. "And I like that it looks clean and simple."



A work triangle was created in the 11-by-12-foot kitchen by building a prep peninsula opposite the appliances. Removing a dining room wall opened up the room, creating space for a breakfast bar

The Plan

>>Brainstorm clever surface and storage solutions for a space-constrained kitchen

What She Did

1 **OPENED UP THE ROOM FOR SPACE.** Craving an area for a casual snack, Sabine took down a dining room wall and replaced it with a 24-by-74-inch breakfast bar with stools

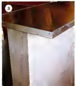
2 **BUILT A PREP PENINSULA.** The avid cook and baker desperately needed countertops, so she used antique cabinets to mount the widest peninsula the small room could handle (23 by 52 inches), which anchors her work triangle

3 **RECONFIGURED APPLIANCES.** The fridge used to be between the windows, and the stove was where the sink now sits. The new kitchen neatly assembles them on one wall.

4 **HIGHLIGHTED ARCHITECTURAL FEATURES.** Under thick paint lay a tin ceiling, and behind wallboard, a brick chimney, which added character to the small space

1

2


3

4

The Details

>>A 21st-century take on tradition adds functional style to a food-prep area redo

1 | **PINE BASE CABINETS,** with carved tulip details, date back to the 1920s. Here, they hold an undermount Elkay sink surrounded by the same ceramic tiles that were used on the floor

2 | **A CONTEMPORARY BAR FAUCET** by Newport Brass was mounted in the corner (there wasn't room between the sink and the brick wall). Knives by Global hang from a magnetic strip

3 | **STAINLESS STEEL** was a solution for the peninsulas, but instead of custom tops fabricated entirely of the material, the contractor suggested using it to cap two layers of plywood. Total cost: $300. Easy-to-clean ceramic tiles were used on the floor and then continued up the side of the bar

4 | **THE BUILT-IN PINE HUTCH,** original to the kitchen, had multiple layers of white paint. It took the homeowner six months to disassemble, then strip, sand, and polyurethane (three coats) the piece before she could put it back together to store her dishes. A much smaller hutch holds overflow

For more kitchen ideas:
thisoldhouse.com/kitchen

FOR MORE INFORMATION, SEE DIRECTORY PAGE 92

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COLONIAL REVIVAL
This recessed cabinet made of poplar has simple Colonial style molding and is based on a design from the early 1900s. 31 by 26½ by 4¾ inches $430 rejuvenation.com

Medicine Show

>>The first thing you see in the morning ought to look good, even if you don't

BY C. J. HUGHES
PHOTOGRAPHS BY MARK WEISS

WITH THE ADVENT OF indoor plumbing, upper-crust homeowners got a fancy new space called a bathroom. And right away, there was a rush to make it one of the most comfortable rooms in the house. In its turn-of-the-century heyday, the Victorian bathroom featured everything from toilet bowls embossed with gold-leaf garlands to toilet-paper dispensers with built-in cigar holders.

The medicine cabinet made its debut around this time, giving the men and women of the house a place to store their shaving cream and rouge pots and a mirror to make sure they could apply them correctly. Mornings would never be the same.

Today, toilets may no longer feature gilding and raised-relief designs, but plenty of medicine cabinets still evoke those early originals, with framed mirrors and deep shelves to keep necessary items close at hand, but, as befits that Victorian sensibility, discreetly out of sight. Join us on a trip through the looking glasses.

[story continued on page 34]

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A powerful 244-hp V-6 engine. Available in 4WD and 2WD. Ample seating for eight. And loads of storage options. The Honda Pilot. Its heart and soul are in the right place.

honda.com. 1-800-33-Honda. ©2005 American Honda Motor Co., Inc.

The Pilot HONDA

CORNER CABINET
Salvaged from an 1870 Queen Anne in rural Pennsylvania, this locking corner cabinet maximized storage in tight spaces. 21 by 17⅞ by 11½ inches; $195; historichouseparts.com

SURFACE MOUNTED
This vintage wood cabinet, pulled from a row house in New York City, still has the original glass knob. 23¾ by 18½ by 6¾ inches; $225; oldgoodthings.com

MODERN TRADITIONAL
With its elaborate trim and satin nickel latch, this dark birch cabinet has a classic look. 32 by 27 by 8 inches; $329; restorationhardware.com

BUILD YOUR SKILL
Learn how to install a recessed medicine cabinet
Workshop p. 83

DECO STYLE
Adjust the side mirrors on this chrome-plated 1920s model to allow a better view of the sideburn trimming process; then store your razor in the center cabinet. 26 by 39 by 6¼ inches; $415; americanstandard-us.com

For space-saving bathroom remodel ideas
thisoldhouse.com/shortcuts

THROWING A CURVE
With its slim, arched top frame, you almost can't tell there's a 4-inch-deep mirror-backed cabinet behind this aluminum door. Includes a side kit for surface mounting. 29½ by 20 inches; $326; kohler.com

MODERN SENSIBILITY
Contemporary interpretations, like this maple surface-mounted model, tend to forgo the elaborate trim of early styles. 31½ by 22⅞ by 4¾ inches; $948; splashworksbathfurnishings.com

The adoption of the medicine cabinet in the early 1900s coincided with the popularity of "patent medicines"—potions whose alleged curative ingredients often turned out to be grain alcohol, cocaine, or opium extracts.

FOR MORE INFORMATION, SEE DIRECTORY, PAGE 92

Cast to Last

»Vintage iron radiators offer comfort on a cold day and style year-round in new and old houses alike

BY AMY R. HUGHES

THEY DRY WET GLOVES, warm homemade pies, and, topped with a pan of water, they can even humidify the air. But the primary reason old cast-iron radiators stand in millions of American houses today is for their ability to gently and evenly heat a room. Late Victorian-era ones with embossed scrollwork and floral motifs are also a reminder of a time when even the most utilitarian fixtures featured high-style design and fine craftsmanship.

Freestanding radiators date to the 1860s, when pioneering American heating contractor Joseph Nason designed an accordion-shaped iron manifold with a central rod to hold its fins, or sections, together. This steam system had a single pipe connecting the radiator to a boiler. As the water boiled and steam rose to fill the radiator, it circulated through the fins and transferred heat to the room. When the steam cooled, it condensed to water and drained back down the pipe and into the boiler, where it was reheated.

By the early 1900s, these one-pipe steam radiators were being replaced by hot water versions with two pipes—one to carry water from the boiler to the radiator, and a second by which it exited and traveled back to the source to repeat the cycle. These two-pipe radiators are the most desirable ones found at salvage yards today because they work with both hot-water and steam boilers, says Chuck Bauer, co-owner of Bauer Brothers Salvage in Minneapolis, Minnesota. So whether you want just one vintage radiator to complete that finished basement or enough to outfit a new addition, you need to figure out which kind of heating system you have before you shop.

Most early-20th-century cast-iron radiators are broad and boxy. But the strong lines of even the plainest models have a timeless graphic appeal.

Some radiators, like this steam model from the late 1800s, have flat grilles on top that are both decorative and useful for drying damp clothes or warming a kettle to humidify a room.

Harry James, co-owner of New England Demolition and Salvage in East Wareham, Massachusetts, tells his customers to work with a plumber to determine how big or small the radiator should be based on the Btu—a measure of a radiator's firepower—needed to efficiently heat the room. The dimensions of the space where you plan to install it need to be factored in as well. A tall, slim six-fin unit may fit nicely between two windows in a front parlor, but two short eight-fin radiators that tuck under the windows may heat the room better.

If you plan to install a radiator in a newly built kitchen, for instance, find one that closely matches those in the rest of the house to help blend the new construction with the old. Your house's architectural style should also influence your choice. A plain radiator with squared-off corners is well-suited for a clean-lined Craftsman, while an ornately embossed one with rounded fins and curved feet is better for an Italianate. The raised patterns on Victorian-era radiators have even inspired people to use them in purely decorative ways (see right).

When replacing a radiator, consider downsizing to a smaller unit. "Back at the turn of the century, houses didn't have much wall insulation. "It took giant radiators to warm them," says James. Those same houses have since been weatherized, and a new radiator that's the same size as the original will overheat the space and "cook you out," he says.

The most common problem with old radiators is leaking—either through a faulty shut-off valve, a damaged bushing (the metal sleeve that seals fin connections) or a cracked fin. Such cracks typically occur when radiators aren't in constant use during the winter, and water left inside freezes and expands. With replacement parts hard to find, it often makes more sense to replace a cracked radiator than to repair it.

Some salvage dealers test their inventory for leaks by pumping the radiators full of air. If the air pressure goes down, it's a lemon. In the absence of a "pressure test" guarantee, make sure any dealer you buy from will replace a radiator or issue a refund if it leaks.

Radiators are often priced by the fin and cost between $10 and $20 per section depending on height, depth, and decoration. Shorter radiators that fit under windows are more scarce than tall models and tend to be on the higher end of the price range, says Bauer.

Most salvage yards sell radiators caked with old paint, much of which contains toxic lead. Buyers can either strip the radiators themselves, taking precautions to avoid releasing lead dust or fumes into the air, or hire a professional to sandblast them. Either way, it's important to immediately coat the bare metal with an oil-based primer. Left untreated for more than a day, the cast iron will begin to rust, says Bauer. Most radiators are then finished with an oil-based enamel that holds up well to heat.

Finding just the right radiators for your space, getting them cleaned up, and hiring a plumber to install them may seem like a hassle. But before you resort to tinny electric baseboards, remember that these coils of cast iron have been warming homes for more than a hundred years. They must be worth the trouble. ■

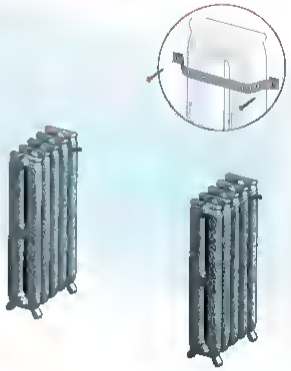
For the right way to paint a radiator: thisoldhouse.com/shortcuts

FOR MORE INFORMATION, SEE DIRECTORY PAGE 92

How to Turn Them Into a Table

Victorian-era housewives topped cast-iron radiators with marble slabs so they could do double duty as food warming stations. Today, a salvager with a bit of imagination might use them as legs for a console table for the front hall. Here's how:

1) Select a pair of tall decorative radiators with flat tops. Narrow five- or six-fin radiators work best where space is tight.
2) Position radiators about 3 feet apart, ends facing the wall.
3) Slide a section of perforated galvanized pipe strap (shown inset)—available at plumbing supply stores, around the top section of the fin closest to the wall.
4) Fold strap ends so holes line up, and secure to the wall with a toggle bolt (for drywall) or a screw and anchor (for plaster).
5) Top with a stone slab, thick glass or wood plank cut to overhang the radiators by 2 inches in front and on the sides; the back edge should sit flush against the wall. Protect the underside of the top from scratches with felt pads or clear rubber disks.



BUILD YOUR SKILL Learn how to silence a noisy radiator. **Workshop**, p. 83

One Touch, Every Light

>> Easy, affordable ways to get whole-house lighting control without rewiring

BY **WILSON ROTHMAN** PHOTO ILLUSTRATIONS BY **WILLIAM DUKE**

>> With a plug-in Insteon tabletop controller you can dim the lights without leaving the sofa. $30; smarthome.com

UNTIL RECENTLY, IF YOU WANTED automated lighting control—the ability to raise, lower, turn on, and turn off all the lights in your home at the touch of a button—you had two ways to get it. First was to upgrade all the wiring in your house, an expensive and impractical option for most people. Second was to use the existing power lines to send simple messages to specially equipped light fixtures and other "smart" devices, a technology known as X-10 automation that never really caught on because electrical interference tended to garble the signals.

But with improvements in wireless and power-line technology, it's never been easier or more affordable to take control of your existing lighting—to coordinate lamps, wall sconces, track lights, and other fixtures into unified schemes that you can control from practically anywhere. For instance, when guests are due over, one touch on a handheld remote keypad kills the overheads, brings up the table lamps, and illuminates the spot over your favorite oil painting. And it's as easy as swapping out a dimmer switch.

GEARING UP

To get these systems to work, you need to do two things. For lights that work on wall switches, you need to replace the switch or dimmer with the new automated hardware. For freestanding lamps, you plug the lamp into a special adapter that fits in a wall socket.

>> A [illegible] wall [illegible] panel [illegible] from [illegible] you group lights together to create "scenes," then control them at the touch of a single button. Both available at smarthome.com

With Intermatic's Z-Wave wireless remote ($45) you can control lights anywhere inside or outside the house from up to 50 feet away

Once the lights are set up, you can control them in different ways. For example, the Z-Wave system works with a wireless remote control. Using the remote, you can turn fixtures on and off or dim them from anywhere in the house, set lights to go on and off at a specific time, or activate a "burglar-deterrent" mode that operates them at random when you're away.

Other platforms, like Insteon and Universal Powerline Bus (UPB), use plug-in or wall-mounted control panels, which communicate with the light switches and lamp adapters throughout the house via the existing power lines, sending digital signals that are far less susceptible to electrical interference than the old X-10 equipment.

At right are some scenarios where automated lighting controls come in handy, and what you need to do to set them up. Keep in mind that while being able to operate all of the lights in a room, individually or in clusters, is a nice convenience, these systems can add safety to your home, too. ■

Dimmer switch making your light buzz? For tips on how to quiet it: **thisoldhouse.com/shortcuts**

THREE WAYS LIGHTING CONTROL COMES IN HANDY

{scenario} 1

> When you go to bed at night, you'd like the ability to control all the lights in the house from your nightstand. That way, if you forget to turn out a light downstairs, or if you hear a noise in the yard in the wee hours, you don't have to leave the bedroom.

HOW TO GET IT: Select the lights you want to control—hallway, kitchen, backyard—then swap out those switches for automated dimmers. Assign the switches to buttons on the controller, either one light per button or groupings of lights you want to operate together, say stairway and kitchen for late-night snack runs. Some controllers also have "all on" and "all off" buttons, which will operate every switch assigned to it at once.

{scenario} 2

> You're away from home frequently, or you own a vacation house, and you want to time lights to discourage would-be burglars.

HOW TO GET IT: Swap out the switches for automated hardware and program the timing of each at the control pad or wireless remote. Set the lights at haphazard intervals so that an observer would really think someone is wandering from room to room. The advantage to digital timing is that, unlike with those pesky plug-in timers, you can switch the lights on and off whenever you want while you're home and the timer will be unaffected.

{scenario} 3

> You don't want to run around adjusting lights when company's at the door.

HOW TO GET IT: The ultimate in lighting control is using the system to set a whole-room scene. Dim a light here, bring up another there, until the mood is just the way you want it. Then assign your newly designed "scene" to a control panel or keypad button. You can even create several scenes in a room for different purposes—one button for cocktail party mode, another for television watching, and a third when it's time to clean up.

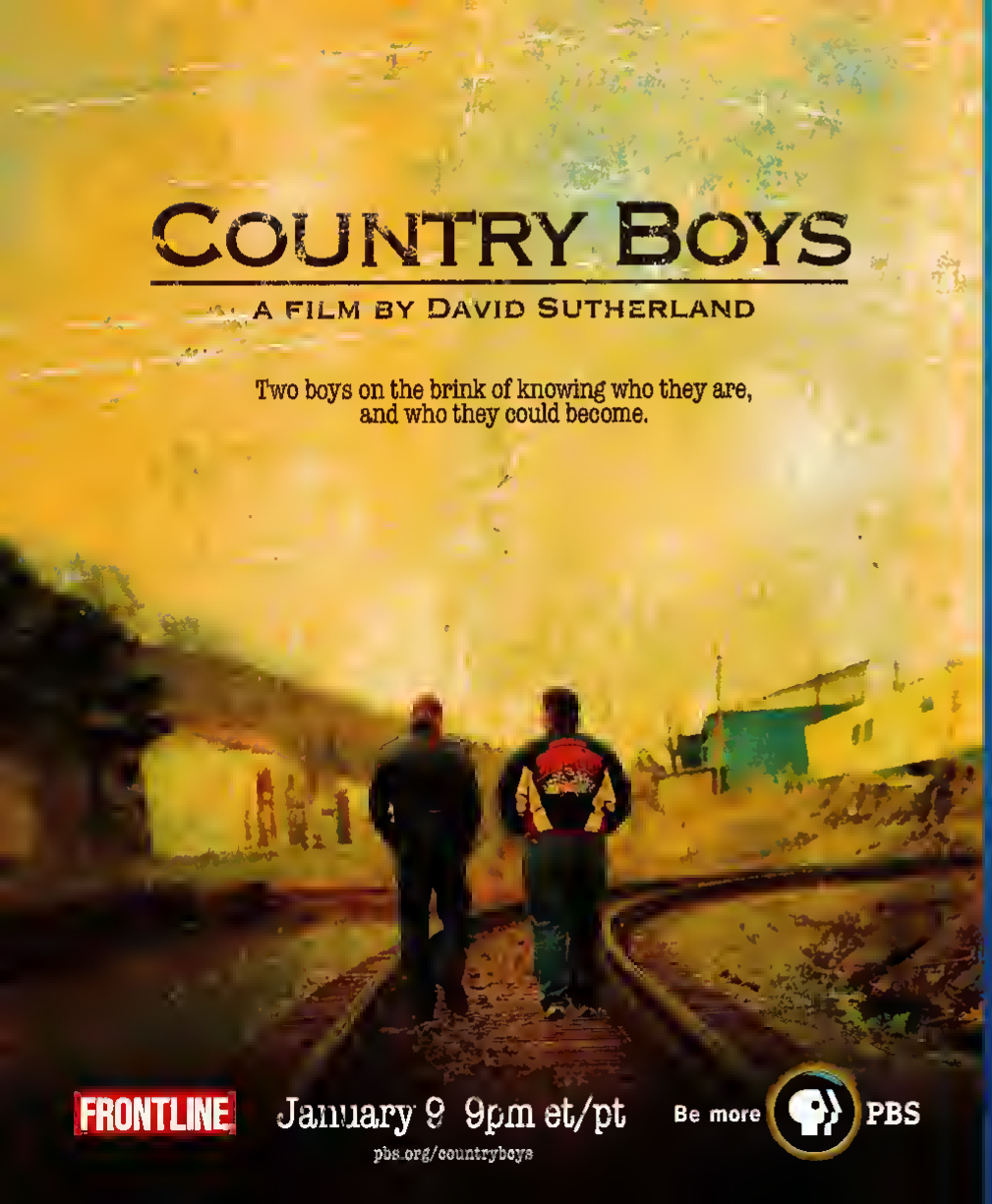
DIMMER DILEMMAS

When it comes to lighting automation, there are some sticky areas to be aware of, particularly regarding dimmers. You must use incandescent bulbs or dimmable fluorescents. (Most standard fluorescents don't behave in any kind of dimmer, automated or otherwise.) Low-voltage lighting systems may also pose problems, the most common of which is an electric humming sound. "Depending on the transformer, a product may or may not like being dimmed," says Ken Fairbanks, SmartHome's vice president of business development. He notes that as lighting controls become more popular, manufacturers are taking steps to integrate new electronics that work better with automated dimmers.

COUNTRY BOYS

A FILM BY DAVID SUTHERLAND

Two boys on the brink of knowing who they are,
and who they could become.



FRONTLINE January 9 9pm et/pt Be more PBS

pbs.org/countryboys

Coping Mechanisms

›› A simple saw is the secret to perfect trim

BY HARRY SAWYERS PHOTOGRAPH BY MARK WEISS

THE COPING SAW IS JUST A NARROW BLADE HELD TAUT in a C-shaped frame with a simple handle. Yet it can literally run circles around any other handheld saw, even a jigsaw. With a coping saw, you can cut out a heart in the back of a child's chair or make gingerbread trim for your roof eaves. Equip it with the right blade and you can cut curves in tile or metal. And, of course, you need it to create one of the most useful and elegant cuts in finish carpentry—the cope, which earned this saw its name.

A cope is the best way to marry the ends of wood molding at inside corners so the joints stay tight. It's made by carefully sawing away the profile of one molding, leaving an undulating "cope" that overlaps the profile of the adjacent piece of trim. A tight cope joint signals a hard-earned mastery of this delicate tool.

So perfectly is this saw attuned to its task that it has hardly changed since it was invented almost 90 years ago. No power, no "improvements," no bells or whistles. Just hand, eyes, and tool skillfully engaged in the shaping of wood. Craftsmanship doesn't get any purer.

PROFILER A coping saw's thin blade excels at following the twists and turns of complex moldings. $13; bahco.com

Secrets of coping crown molding: thisoldhouse.com/shortcuts

What to Look For

The size of the throat—the span between blade and frame—varies from 4 to 6 inches, yet all coping saws use the same 6⅓- to 6½-inch blades. The few other differences between saws are just as subtle.

Tension adjustment All blades are tightened by twisting the saw handle. Some saws also have a knob screw **(1)** opposite the handle, which pulls the blade taut after the handle is engaged. The flap on the T-slot fitting **(2)** makes it easy to adjust the blade's angle when necessary.

Rigid frame A flat frame with a rectangular cross-section **(3)** will hold a blade in greater tension than a round bar of the same width **(4)**.

Slotted pins (5) With these, you can use blades with loop ends (see the tile-cutting blade at right) as well as the standard wood-cutting blades with pins in their ends.

HOW TO USE IT
See how *TOH* master carpenter Norm Abram cuts a cope.
Workshop, p. 83

CHOICE CUTS

Enhance your coping saw's versatility by changing its blades.

METAL Composed of the same high-carbon steel as hacksaw blades, these can make straight cuts through thin sheets of nonferrous metal or nonhardened steel, as when making a cutout in a tin ceiling panel.

TILE A tungsten carbide–encrusted wire makes precise, curved cuts in ceramic tile for valves or drain openings.

PLASTIC Helical teeth slice through solid surfacing as well as soft Mexican-clay tiles. Because the blade cuts in all directions, it makes sharp turns with only a shift in pressure.

WOOD Coarse blades (those with 15 teeth per inch or fewer) remove material quickly, which helps you follow the line of your cut. Fine blades with 18 teeth per inch or more can follow tight curves, but they're slow. For most applications, a coarse blade is sufficient because you'll file or sand the cut to make the molding fit perfectly flush.

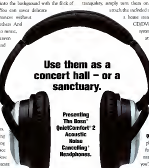
FOR MORE INFORMATION, SEE DIRECTORY PAGE 92

Now With Enhnnced Audio Performeece And Styling

Think of them as a reprieve from the world around you. Whether it's the engine roar inside an airplane cabin, the bustle of the city or the distractions in the office, Bose QuietComfort® 2 headphones help them fade softly into the background with the flick of a switch. You can savor delicate musical nuances without disturbing others. And when you're not listening to music, you can slip into a tranquil haven – where you can relax and enjoy peace and solitude. Clearly, these are no ordinary headphones. It's no exaggeration to say they're one of those things you have to experience to believe.

Reduce noise with Bose technology. Our headphones were designed primarily for airplane travelers. But owners soon started telling us how much they enjoy using them in other places to reduce distractions around them. Bose QC™ 2 headphones incorporate patented technology that electronically identifies and dramatically reduces noise, while faithfully preserving the music, movie dialogue or tranquility you desire. *Technologyreview.com* reports, "It's as if someone behind your back reached out, found the volume control of the world, and turned it way, way, down." Perfect for listening to music, whether you're on the go, at home or in the office.

Enhanced audio from our best sounding headphones ever. When QC2 headphones were first introduced, *CNET* said, "All sorts of music – classical, rock, and jazz – sounded refined and natural." *Travel & Leisure Golf* said, "Forget 'concertlike' comparisons; you'll think you're onstage with the band." With their enhanced audio performance, today's QC2 headphones are even better, delivering audio that's so crisp and clear you may find yourself discovering new subtleties in your music.



"The QuietComfort 2 lives up to its name. It's easy to forget they're on your head." That's what columnist Rich Warren says. To enjoy peace and tranquility, simply turn them on. To add Bose quality sound, attach the included audio cord and connect them to a home stereo, laptop computer, portable CD/DVD/MP3 player or in-flight audio system. They also offer improved styling and a fold-flat design for easy storage in the slim carrying case.

Try the QC2 headphones for yourself, risk free. Our 30-day, in-home trial guarantees your satisfaction. If you aren't delighted, simply return your headphones for a full refund.

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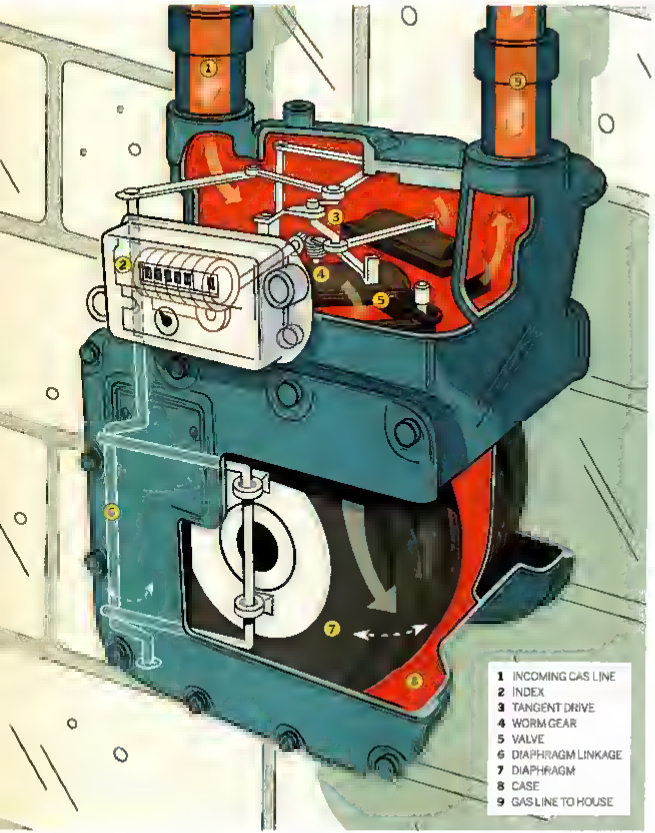


Gas Cop

>> Understanding how your meter works can help save you money this winter

BY **MAX ALEXANDER**
ILLUSTRATION BY **HARRY CAMPBELL**

LIKE ALL FOSSIL FUELS natural gas is a finite resource that's not getting any cheaper. And the first step in conserving it is knowing how much you're using. That's the job of a gas meter, the gray metal box with the array of dials that sits in (or outside) a home, connected to the gas line. About 63 million American households use natural gas, and each one has its own meter.

The device has hardly changed since Englishman Thomas Glover perfected it in the 1850s (see "Meter Moments," opposite page). Basically, it's a sealed container with two chambers, known as cases, each with a bellowslike diaphragm, and two valves that control where the gas goes. The outside supply line pushes gas at low pressure (about ¼ to ½ pounds per square inch) through a valve and into one case. As the case fills, it compresses the gas-filled diaphragm, which exhausts into the outlet pipe to the house, and your stove and furnace and water heater. At the same time, a second valve opens the way for gas to fill the compressed diaphragm in the adjacent case. As the diaphragm expands, it pushes the gas from the case into the outlet pipe. When this second case is nearly empty (and the first one nearly full), a linkage attached to the diaphragms changes the position of the valves so gas now fills the diaphragm in the first case and compresses the one in the second case, repeating the cycle. Because each diaphragm and case hold and displace a precise amount of gas, their alternating expansion and contraction (transmitted via tangent drives and a worm gear to the meter's dials) provide an accurate measure of the amount of gas being used.

There have been some improvements in the intervening century and a half. Today's meters have more accurate indexing (currently within 2 percent), longer-lived casings (once tin or cast iron, now aluminum), and more durable diaphragms (formerly sheepskin, now a synthetic elastomer). The latest technology is automatic meter reading. Instead of employing a small army of clipboard-carrying meter readers to tramp door to door writing down numbers, some utilities now outfit meters with an encoded reader transmitter (ERT) and drive through neighborhoods in specially equipped vehicles that automatically capture readings from the meter. Even more advanced systems can transmit those readings via power line, telephone, or radio to a central location, which eliminates the need for driving and saves a different kind of gas.

Just as meter readers seem to be going the way of buggy whips and milkmen, the same fate may at last be in store for Glover's diaphragms. "Ultrasonic meters are the latest way to measure the large volumes of gas flowing along interstate pipelines," says Ali Quraishi, an engineer with the American Gas Association in Washington, D.C. "That technology is now being miniaturized for the home." ■

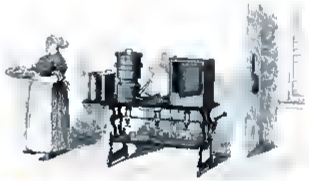
NATURAL GAS FACTS

81,700 cubic feet
Average amount of natural gas used by residential gas customers per year in U.S.

$10
Average cost of 1,000 cubic feet of gas, winter of 2004–2005

15-30 years
Average life span of a gas meter

63 million
Number of households in U.S. using natural gas



Meter Moments

>> In the beginning, before meters were invented, gas companies charged consumers a flat rate based on the number of burners or gaslights owned. There were obvious drawbacks to this arrangement. It depended upon people being honest about the number of gas appliances they had and it gave them no reason to limit the amount of gas they used. Thomas Glover's dry meter put an end to all that in 1850. Finally, gas companies had a reliable means to measure how much gas their customers consumed—and could bill them accordingly.

1815 Samuel Clegg (England) invents a wet type gas meter sealed with water but water's tendency to freeze and evaporate proves to be a handicap.

1817 First gas street lamp in the United States is lighted in Baltimore, Maryland.

1830s John M. Slaney, former employee of Samuel Clegg, sets up the Phoenix Meter Company, becoming the first gas meter manufacturer in the U.S.

1833 John Bogardus (U.S.) invents a "dry" gas meter.

1850 Thomas Glover (England) develops the first commercially successful dry meter, the forerunner of today's two-diaphragm meters.

1985 Minnegasco, a Minnesota utility, is the first in the U.S. to put transmitters on its meters.

How to Read a Gas Meter

Reading a gas meter with numbered cylinders, like the one on the opposite page, is no different from reading a car odometer. But meters with dials, the kind used on most houses, aren't so intuitive. These meters have four numbered dials, each with a clocklike pointer that's geared to rotate in the opposite direction from the one next to it. Here's how to read one:

1) Begin with the left-hand numbered dial. Write down from left to right the lower of the two numbers that any pointer is between (9 is lower than zero).

2) Double-check any pointers that rest exactly on a number. If a dial (let's call it dial A) has a pointer in this position, check the dial to the right (dial B). If dial B's pointer is touching zero or has passed it, then write down the number that dial A's pointer is touching. If dial B hasn't reached zero, record the lower number for dial A. In the illustration above, for example, the meter reads 1495.

3) Multiply by 100. That shows how many cubic feet of gas have passed through the meter.

4) Subtract this number from your next reading. You'll see how much gas you used during that period. The two smaller unnumbered dials are for checking meter accuracy; the sensitive little "half foot" dial will register even the gas consumed by a single pilot light.

To see how your electric meter works: **thisoldhouse.com**

FOR MORE INFORMATION, SEE DIRECTORY PAGE 92

Installing Glass Fireplace Doors

BY ALEXAN[illegible]RA BANDON
PHOTOGRAPHS BY KOLIN SMITH

A COZY LOG FIRE ON A COLD WINTER'S NIGHT is a delight. But it quickly loses its charm when you have to wait for it to burn out before you head up to bed. A wood fire left untended is not safe. Unlike a gas fire, which you can just switch off, the only way to walk away from a wood fire is to close it off with glass doors, blocking the sparks and smothering the flames.

These days, most new fireplaces come with glass doors. But if you want to add this safety feature to an existing fireplace (and get to bed on time), retrofitting them is not difficult. The doors come in standard sizes that fit in any flat firebox opening, with a lip to overlap the surround. (Stone and other rough-faced fireplaces need custom doors that sit inside the opening and must be installed by a pro.)

We asked Justin Calemmo, who owns Five Sons Chimney Service in Brookfield, Connecticut, to sh[illegible]es, so the glass doors make it safer by blocking the fire from the too close wood floor and mantel. Calemmo points out that installing doors is quick work, and a do-it-yourselfer would save about $150 in labor costs. With our advice, a couple of holes carefully drilled, and some screws and ratchet bolts tightened, your fireplace will soon look all dressed up and ready to face the flames.

Glassfyre II Insight doors, in satin brass, from Portland Willamette, $690.

FOR COMPLETE INSTRUCTIONS: TURN THE PAGE AND UNFOLD

TOOLS FOR THIS PROJECT

DROP-LIGHT

PHILLIPS HEAD SCREW DRIVER

DRILL/DRIVER with 5/16-inch masonry bit

HAMMER

GLOVES for handling fiberglass insulation

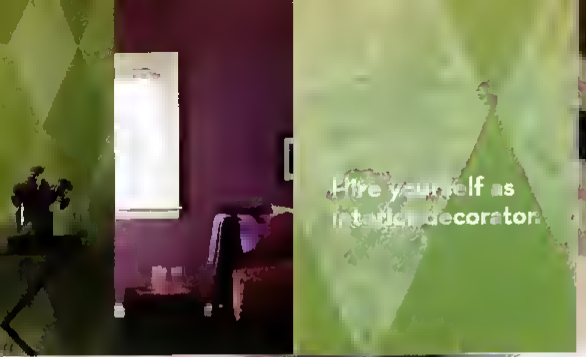
SOCKET WRENCH for tightening bolts on base brackets

PLIERS for tightening thumbscrews on lintel clamps

COST:
$300 to $1,500 for standard doors

TIME:
1 to 2 hours

DIFFICULTY:
Fairly easy, but the doors are heavy and the frame can scratch if you're not careful.



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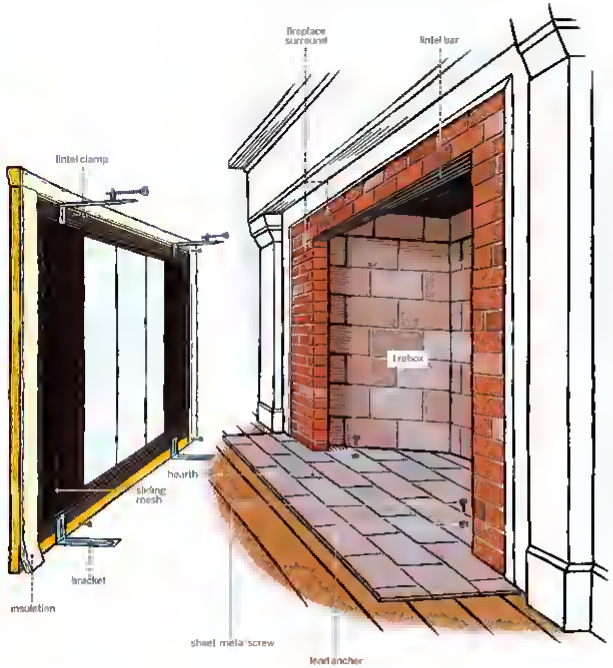
You can do it. We can help.™

{ overview }

INSTALLING A FIREPLACE DOOR is simply a matter of fitting the door unit into the firebox opening and attaching it to the masonry. The process is fairly simple when you're dealing with a squared-off brick firebox that has a substantive lintel bar at the top. If you have a firebox made from a rough, textured material, such as fieldstone, you won't be able to use a standard door because it can't overlap the opening's edge. Instead, you'll need to order a door that fits entirely inside the opening and have a professional do the installation.

If you're dealing with an older fireplace, you'll want to be watchful when drilling into the brick, in case it's brittle. But you should be most concerned about protecting the door while moving it around during installation. The unit is heavy—as much as 50 pounds—the glass fragile, and the frame easily scuffed. In fact, many of the metals, particularly polished brass, have a coating that, once marred, can't be repaired. Eventually, the frame will tarnish unevenly at the scratches. So make sure you can lift the door before you start the installation, or call in a second set of muscles to help you maneuver it unscathed.



shopping list

GLASS DOOR KIT
Comes with everything you will need for the installation, including all brackets, screws, anchors, and insulation.

Many doors come in standard sizes, and larger distributors keep popular sizes in stock. Otherwise, you will need to order the door, which can take up to eight weeks.

Measure the size of your firebox opening, both horizontally and vertically. Make sure to measure in a couple of places and note the smallest measurement for each so the door will slide into the space.

Also measure the width and height of your surround between any protruding parts of the mantel. A narrow surround may require a smaller door to accommodate the overlap at the firebox edge.

ILLUSTRATIONS BY GREGORY NEMEC

{ step by step }

1

Attach brackets and lintel clamps to door »

Stand the door on its bottom edge and either lean it against your leg as you work or have a helper hold it for you.

With a Phillips-head screwdriver, remove the four screws located on the back of the door where the brackets (bottom) and lintel clamps (top) will go. Set these aside; you will need them later to attach the brackets and clamps.

Screw the two L-shaped brackets in place at the bottom. Assemble the two lintel clamps and attach them to the door at the top. RIGHT

TIP **Never lay the unit on its glass front or you will damage the doors.**

2

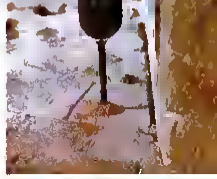
« Mark for screw holes

Carefully fit the door into the firebox opening, making sure not to scratch the finish. Align the unit snugly into the opening.

Hang a droplight inside the firebox to light your work.

Holding the unit in place, reach inside to mark where the bottom brackets meet the floor of the firebox. Use a thick marker, such as a Sharpie, and mark through the grooves in the brackets. LEFT

3



Drill holes and insert anchors »

Remove the door from the firebox and set it aside.

Using a drill/driver fitted with a 5/16-inch masonry bit, drill a 2-inch-deep hole at each of the two bracket marks. RIGHT

Gently tap a lead anchor into each hole. INSET

TIP **Always drill into brick, not mortar, which crumbles easily and won't hold the anchor. Make sure to drill straight down or you may have trouble getting the screw into the hole.**

4

« Insulate door

Put on a pair of gloves and unroll the fiberglass insulation that comes with the door. Tear off pieces to fit into the channels at the two sides and the top of the unit.

Stuff the insulation into all three channels. LEFT: Don't worry about keeping the fiberglass fluffy as you would with wall insulation—it's mainly there to seal the door and keep smoke from seeping out, and to protect any finish on the door frame from the heat.

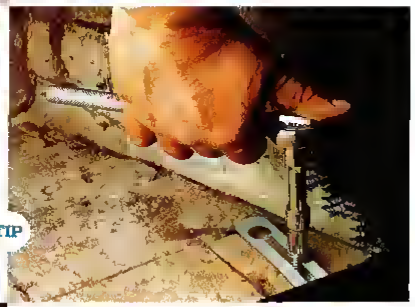
Screw door to firebox floor »

Carefully slide the door into the firebox opening. Check that no insulation is sticking out around the edge of the frame.

Make sure the door is flush to the face of the firebox. Reach inside and twist sheet-metal screws through the bottom brackets and into the lead anchors.

Using a socket wrench, tighten the screws to secure the unit to the brick. RIGHT:

TIP < **Be careful not to tighten the screws too much or you may loosen the anchor in the brick or break off the head of the screw.**



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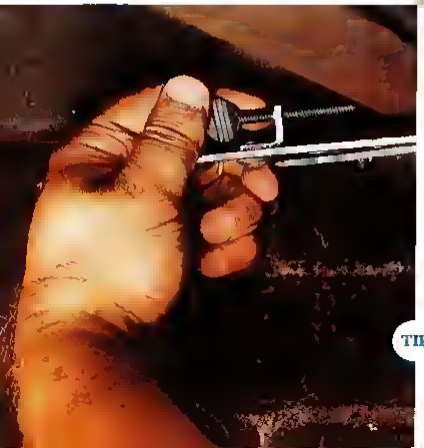

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« Clamp door to lintel

The clamps that hold the door to the metal lintel bar at the top of the firebox are adjustable. Make sure the clamp is positioned so it can span the depth of the lintel.

Finger-tighten the thumbscrew to clamp the hardware onto the lintel. LEFT: When you can't turn the thumbscrew anymore, use a pair of pliers to give it another quarter-turn.

TIP > **Don't tighten the thumbscrew too hard or you will bend the clamp.**

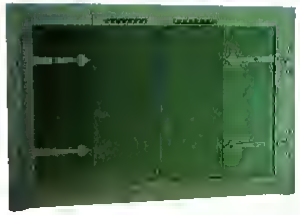
For more on fireplace surrounds: **thisoldhouse.com/shortcuts**

{ buying guide }

Fireplace door designs are as varied as the mantels that surround them: with bifold or cabinet doors, sliding or gate mesh inside and myriad colors and finishes. Here's a look at a few of our favorites.

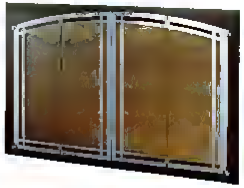
WROUGHT IRON
*Decorative flourishes dress up a fireplace. Vine and Leaf, with cabinet doors and gate mesh, from Diamond-W, $1,420.**

MODERN
Iron and brass meet in clean lines for a contemporary room. Traditional Iron with Overlay Trim, with bifold doors, from Stoll Fireplace Equipment, $888.

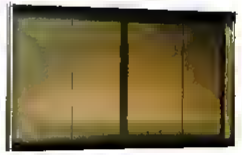


MEDIEVAL
Tinted doors with rivets and metal strap hinges add old world flare. Old English Wrought Iron Gate, with bifold doors, from Diamond-W, $1,415.

ARTS AND CRAFTS
Leaded glass mimics Craftsman bungalow windows. Window Pane, with bifold doors and gate mesh, from Diamond-W, $1,485.



ART DECO
Chromelike arches recall the designs of the 1930s. Ovation II, in polished nickel and black frame with bifold doors, from Portland Willamette, $1,175.



MINIMALIST
A thin brushed steel frame lets the fire be the focus. Envision, with bifold doors and gate mesh, from Portland Willamette, $740.

SPANISH REVIVAL
Dark iron scrollwork complements Mediterranean-style interiors. Traditional Scroll Pattern, with cabinet doors, from Stoll Fireplace Equipment, $738.

**All prices are for doors that fit a 36-by-29-inch opening.*

FOR MORE INFORMATION, SEE DIRECTORY, PAGE 92

Now what do I do?

47 Survival Skills EVERY Homeowner SHOULD Know

TOO BAD A HOUSE DOESN'T COME with an owner's manual. And a week-long seminar where you learn what every button, switch, and wire is for. Alas, the keys to the castle come with no troubleshooting guide to dog-ear—and we're betting, no wise master to unlock the mysteries of the place you call home.

Then again, that's what we're here for: to provide fast-fix-it advice when it's time for you to do your homeowning duty. Because at some point, you're going to have to know how to change out a light fixture without zapping yourself to kingdom come. Or paint a double-hung without gumming up the works. Or stem the flood when the toilet overflows. And you're going to want to do things right. The first time.

So consider these pages a crash course in homeowner self-confidence. And study them well. Cause owning a house means you're going to have questions. Lucky for you, we've got some answers.

ILLUSTRATION BY **Jonathan Carlson**

1 Fix a leaky faucet This particular type of water torture is likely due to a failed washer inside a handle. The faucet is just the messenger.

To replace the washer, turn off the water supply valve under the sink. Stuff a rag in the drain so you don't lose parts, then take the handle apart. Pop the screw cover on top, remove the screw, and pull off the handle. Use a wrench to disassemble the stem, and line the parts up on the counter in the order they came off, so you know how it goes back together. Examine rubber parts or plastic cartridges for cracks, and take the offending piece to the hardware store for an exact replacement. Reassemble the parts you've laid out in reverse. Then revel in the ensuing peace and quiet.

2 Move a refrigerator by yourself Clarence Yuzik, aka The Fridge Doctor, has two words for you: Magic Sliders. Put these little plastic disks under the fridge's front feet (you can lever them off the floor with a long pry bar), then pull. Most refrigerators have wheels in the back, so the whole unit should glide forward effortlessly.

3 Dig a hole A stomp on a pointed shovel: that's easy—and so's electrocuting yourself when you slice into a buried power line. Which is why, says *This Old House* landscape contractor Roger Cook, any prospective hole maker should first visit digsafely.com to find the agency in his or her area that keeps track of underground utilities. It'll send someone out to your place, mark any lines you have, and save you from getting buried yourself.

Homeowner SURVIVAL Guide

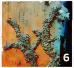
HOW-TO TIPS # 4–19

4 Locate a stud Say you want to hang a shelf. Knocking the wallboard can pinpoint a stud. But to better the odds when your electronic stud finder's gone missing, use deductive reasoning. Most studs are placed at 16-inch intervals, so once you know where one is, you can usually find the rest.

Start at a corner, where there's always a stud. Or take the cover plate off an electrical outlet and find out on which side it's mounted to the stud. From there, measure 16, 32, 48 inches, and you should hit a stud at each go. Eliminate all guesswork by using a thin bit to drill a test hole at the top of the base molding, which you can easily repair with a dab of caulk.

5 Deal with a seized lock Hit the 7-Eleven before you call that $100-a-visit locksmith. Some WD-40 sprayed into the keyhole will lube the mechanism quickly. If that doesn't do it, you may have a broken spring or tumbler—and need that pro after all. If so, keep the new lock from locking up by giving it a yearly spritz of long-lasting Teflon spray.

6 Check for termites Despite your worst nightmares, you won't hear a distinct munching sound. And these guys don't hide in plain sight, so you need to scout out places where wood framing is exposed, like crawl spaces. Inspect them for raised, branchlike tubes that, when broken open, reveal cream-colored or yellowish insects.


6

Also, check where siding meets the foundation for salt-size droppings or tiny clumps of dirt next to pinholes. If you spot even one, you need a licensed and bonded exterminator to squash those tunneling bugs.

7 Unclog a sink "Chemicals rarely clear a stoppage—they only make a small hole," says *TOH* plumbing and heating expert Richard Trethewey. "A full stoppage requires mechanical cleaning."

Remove the stopper and block off overflow holes. With water in the bowl—the water puts more pressure on the clog—plunge with a flat-faced plunger. If that's not enough, get under the sink and take off the trap to see if that's where the clog is lodged. If the blockage is deeper, rent yourself a hand snake. Slowly push the coil down the drain, carefully twisting, pulling, and pushing when you hit the blockage. If the snake fails, then the still waters truly run deep. Call a drain-cleaning service to get things flowing.

8 Hire a handyman Skip the classifieds—no one any good needs to advertise. Try the local hardware store instead. The guys behind the counter know who's buying supplies for paid jobs. Or find out who does the maintenance at the school or town hall. Maybe he moonlights. Just be sure to check references and find out whether your town or state requires a license. Also ask if he carries liability insurance—otherwise, be sure your homeowner's insurance will cover him.

9 Ensure a lightbulb's long life You know that popping sound that signals another lightbulb has burned out before its time? The cause: The little brass tab inside the lamp socket that makes contact with the bulb base is dirty or bent, interrupting the connection and causing the filament to imperceptibly flash on and off, shortening its life. With the fixture unplugged or the circuit breaker switched off, clean the tab with a Q-tip and rubbing alcohol, then nudge it up with a screwdriver so that it stays in contact with the bulb base.

10 Get a plumber to show up on a holiday

Everyone has a price: a fat check, a bottle of Scotch, a plate of homemade oatmeal-raisin cookies. And when the powder-room toilet won't flush just hours before the relatives are to descend, you'd better know what your plumber's is. These guys appreciate loyalty, so if you frequent the same pro (and he knows it), he'll be more inclined to return your frantic call. But you should also know a 24-hour plumber who's equipped for off-hours emergencies. Larry Dawson, head plumber with Metropolitan Plumbing in Minneapolis and a 30-year veteran, is one such pro. "The truth is, there is no plumbing emergency," he says. "If I can talk homeowners through shutting off the water main, they can wait till the next day." Rapid response will cost you—at least 20 percent more than a standard weekday service call. "But for people whose lives are disrupted, I guess it's worth it," Dawson says.

11 Remove a stripped screw Hey, even *TOH* master carpenter Norm Abram has been there. He recommends a hand screwdriver appropriate for the screw and a double dose of elbow grease to fix this unfortunate bit of handiwork. Gently hammer the screwdriver into the head. Then use as much downward force as you can while you slowly back out the screw.

12 Avoid stripping a screw That's what the clutch, that sliding ring of numbers on a drill/driver, is for. It stops the bit from turning when the motor feels a certain amount of torque, or twisting resistance—less at lower numbers, more at higher numbers. As a rule, set it low for small screws and high for large ones. But use a low setting when putting up drywall, so you don't sink the screw's head too far and break the paper. When dealing with hardwoods, a higher setting may help get the screws in, but first drilling a pilot hole is even better.

13 Remove the base of a broken light bulb Cut a raw potato in half and, with the power off or the lamp unplugged, press the cut end onto the jagged glass. For a comfortable grip, select a potato with a tapered shaft. The University of Idaho's Stephen Love, Ph.D., recommends a Russet.

13

14 Drill through tile without cracking it Go get a drywall screw and a hammer. Place the tip of the screw exactly where you want to drill, then tap it ever so gently with the hammer to pierce the glaze and create a little divot. Now load a masonry bit into your drill driver and use the divot to hold it in place as you start drilling. No fissures, no scratches, no fuss.

15

15 Hardwire a light fixture Anything powered by electricity requires that the current make a full circuit to and from the main box. So all the wiring in a house has two lines: one that brings in the electricity (the hot wire) and one that carries it back (the neutral wire). Connect hot wires to each other and neutrals to each other. And just make sure you don't become the conduit in between.

The hot is usually black and the neutral white. But if yours look different, use a circuit tester. With the electricity on, touch one node of the tester to the wire and the other to something metal—that is NOT touching you. If the light goes on, that's your hot wire.

Turn off the electricity and connect the black (or hot) wire to the black wire on your fixture and the white to white. If your fixture has two like-colored wires, the one with writing or grooves connects to the hot wire. Be sure to connect the copper grounding wire from the cable to the green grounding screw in the junction box, then to the grounding wire coming from the fixture, if there is one.

17

16 Pick an interior lock Your 2-year-old is in the bedroom bawling, you're out in the hall, and there's a locked door between you. On the door's knob or on the plate around it, there should be a small hole that's made just for this situation. Take a slim piece of metal, such as a small flathead screwdriver, and slip it in the hole. Compress the spring inside or slip the screwdriver head into the slot on the spring and turn. Door unlocked, toddler safe, shoulder not broken.

17 Unstick a door "Doors stick for a lot of reasons: a loose hinge, too much paint, a settling house, or humidity in the air," says *TOH* general contractor Tom Silva. If the door suddenly jams in dry weather, your problem is the hinge—likely a loose screw. A door that's been painted too much or is sticking because the house is settling can be sanded or planed at the trouble spot, then repainted.

If the door is swelled by humidity—often a front door or bathroom door—it's usually because part of it wasn't painted and moisture is getting into the wood. Check the top and bottom edges. Shave down the door as little as possible to make it just fit. "Normally you want a crack the width of a nickel around a door, but in this case make it a dime," says Tom. Then paint over any exposed wood on all six sides to seal it. When the humidity lessens, the door will shrink to a perfect fit, opening without a hitch.

19 Clean stained grout "All grout can be cleaned," says Debby Parker, a contractor who bills herself as The Tile Lady. Her secret weapon: a steam cleaner, which brings most any stain to the surface so it can simply be wiped away. Brushing on a penetrating sealer will keep the grout stain-free.

18 Bypass the electric garage-door opener when the power is out » That red cord dangling from the ceiling-mounted operator—haven't you always wanted to pull it? Now's the time. Doing so disengages the chain drive, so you can manually slide the door up its track.

Homeowner SURVIVAL Guide

HOW-TO TIPS # 20–34

20 Know which breaker to turn off

When you finally get around to putting in that dimmer switch, you won't want to be stumped by a poorly labeled breaker box. Ditch the pencil and paper chart—you're not changing your wiring anytime soon. Instead, write directly on the metal next to each switch with a fine indelible marker. Have a friend plug lamps into all the sockets in a room and tell you via cell phone which ones go dark when you flip a switch. Then be specific ("sofa and window walls only" or "kitchen minus fridge") when you jot it down.

21 Dry out a flooded basement

After a disastrous storm, water below ground level must be removed slowly to equalize pressure on both sides of the basement walls, says David Miller, an administrator with the Iowa Homeland Security and Emergency Management Division. Pumping it out too quickly or too early can cause structural damage or a cave-in. "The water in your basement is pushing back, preventing your basement walls from collapsing," says Miller.

Test groundwater levels by digging down a few inches just outside your basement. If the water pools, wait a day or two to hook up a submersible pump. Don't go in without turning off the electricity first (if you can't, call your utility and don't go in at all). Don gloves, eyewear, and a mask to protect yourself from cleaning agents or wastewater that may have seeped into the basement soup. On the first day, remove just one foot of water (send it as far from the house as possible, preferably to a storm drain) and wait overnight. If the water level is back up, it's too early to pump. Once the water stops rising, pump out two or three feet each day until the basement returns to dry land.

22 Make friends with the new neighbors

It's just a matter of time before your kids trample their tulips, the dog makes a mess of their lawn, or you want to put up a fence or cut overhanging limbs from their tree. So when they've barely unloaded the moving van, arrive with a warm coffee cake or an invitation to join the school carpool. Tell them funny stories about the crazy widow who used to live in their house. As time goes on, offer to take in their mail when they're away or clear their driveway during a storm. Be sure to invite them to your annual holiday cocktail party. Being neighborly will help keep the peace—and your property as you want it.

23 Deal with a downed power line

Don't. Always assume any downed line is energized. Just 100 volts can deliver a lethal jolt, and residential power lines carry 7,200; a ringing phone line, 70 to 120. So stay far away from any downed line and call your electrical provider to turn it off.

24 Hang heavy objects on drywall

Those thin cone-shaped plastic anchors aren't for wallboard; they're meant to sink into plaster. A toggle bolt provides the best holding power in drywall. The metal bar folds or pivots to go through a hole in the wall, then flips open flat against the back of the board to brace whatever's screwed to the front of the wall.

24

25 Use a fire extinguisher

Work fast—the typical extinguisher has as little as 8 seconds of life, so know how yours works in advance. And make sure to stow it near an exit so you can back out as you fight the flames. Then remember the acronym "PASS": 1) Pull the pin. 2) Aim the nozzle at the base of the flames. 3) Squeeze the trigger. 4) Sweep the spray from side to side. And don't assume the fire is out just because the flames are gone. Call 911 and wait for the fire department to give you the high sign.

26 Dispose of leftover paint

Unless it has dried to a solid, you need to take special precautions: tossed in the trash, paint solvents can eventually contaminate groundwater. You can speed up the drying process by putting cat litter in the can. Or go to earth911.org for links to programs in your area that recycle paint by giving it to schools or charities. The site also lists the 2,000 household hazardous waste centers in the country that accept all sorts of hard-to-dispose-of stuff from batteries to cleansers.

27 Cut down a big tree »

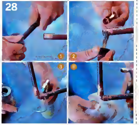
In 2004, 45,300 people were hospitalized from chainsaw, ax, and hatchet injuries, and that number doesn't include the thousands hurt by falling trees. If the tree's big enough for you to climb, call a certified arborist to remove it.

28 Solder a copper pipe

Learn to sweat a pipe properly and you can save some bucks by doing simple plumbing repairs yourself. Just make sure your joint starts with clean pipes (no water or grit inside).

1) Deburr inside the pipe ends with a reamer, then polish the outside with an emery cloth. 2) Coat both parts with flux and fit them together—wherever the flux is, the solder will flow. 3) Hold a propane torch flame on one side of the joint. When the flux bubbles, touch the solder to the other side of the joint and move the flame away. The solder will be sucked all around the fitting. "The heat draws the solder toward the hottest point," says Richard Trethewey. 4) Immediately wipe the joint with a damp rag. New joint, no sweat.

28



29 Deal with the strong smell of gas

A closed-up kitchen with gas flowing from an open unlit burner can create a combustible atmosphere in as little as 10 seconds. So if you smell gas—we mean *really* smell gas—do not turn on the lights or use a telephone, cell phone, flashlight, or computer, all of which could create a spark, blowing the place sky-high. Instead, haul everybody out of there and call the gas utility or the fire department immediately.

30 Stem a flood—and save your wiring

As a safety measure, you should know where your main water and electrical shutoffs are. The water shutoff will be near where the water enters the house. Look for a metal wheel or a flat handle like a paddle. Or check outside for a mini manhole cover—the shutoff may be there. The main electrical switch will be in or near the main box. On an old fuse system, it may be a big lever or a handle that pulls out a whole block. On a modern breaker box it will be an isolated switch near the top of the box. Flip it to keep the circuits (and you, too) from getting fried.

31 Spot asbestos

Can't always tell by looking, but there are likely places you'll find the carcinogenic mineral fiber widely used in homes built before 1970. If your pipe and water heater insulation resembles troweled-on plaster, don't even touch it—the tiny particles get airborne quite quickly. According to the Environmental Protection Agency, asbestos may also be in the metal used for these pipes and furnaces, as well as in other kinds of insulation, artificial ashes in gas fireplaces, ceiling tiles, cement siding shingles, textured paint, patching compounds, and vinyl floor tiles made before 1986.

31

Undisturbed, the material shouldn't pose a risk. But to be safe, you should have a licensed and bonded asbestos abatement contractor encapsulate or remove it.

32 Keep grout, cement, or plaster from roughing up your hands

Clean your hands with lemon juice or vinegar. The acid neutralizes the caustic alkalinity in these materials and keeps skin from drying out.

33 Paint a double-hung window

Toss the blue tape. Your number-one tool is a 1½- to 2-inch sash brush. Its angled bristles come to a point, giving you a fine line.

33

Raise the bottom sash and lower the top sash so they've almost switched places. 1) Paint the exposed parts of the top sash (now on the bottom), including the muntins. 2) Carry a thin line of paint onto the glass to seal the glazing. Next, nearly close the window and (3) paint the rest of the top sash, as well as (4) the entire bottom sash without getting paint between the sash and the stops (the pieces of wood in front that hold them in place). 5) Then paint the casing, sill, and apron. Before the paint dries, move the sash up and down. "If you can't see a clear crack between the sash and the stop because of wet paint," says Tom Silva, "then you just glued the window shut."

34 Secure a loose screw

You'll need to fill in the hole before you can get the screw back in tight. The best filler is more wood, held in place with yellow carpenter's glue. Matchsticks, toothpicks, golf tees, packed in tightly, will do the trick. But better yet is a piece of ⅜-inch dowel. First, use a ⅜-inch drill bit to enlarge the

Homeowner SURVIVAL Guide

HOW TO TIPS # 35–47

hole. Cut off a small length of dowel with a utility knife or small saw. Dab it with glue and tap it into the hole. When the glue is dry, use a chisel or the saw to slice off the excess. Then drill a new hole and reattach the hardware. And print those golf tees to their intended use.

35 Repair a doorbell

A doorbell has three parts—the switch, the bell, and a transformer between them. If you don't hear anything when you press the button, check the switch's wire connections (no worries—the voltage is too low to hurt you). Try touching the two wires together. If the bell rings, then you need to replace the switch. If the chime doesn't ring or makes a tinny noise, check the bell. Clean it, inspect the wiring, and make sure the hammer isn't bent away from the bell or jammed by dirt. If you still don't hear that welcoming ring-a-ling, then it's likely the transformer is the problem. To fix that, you'll need an electrician.

36 Open a door with no knob

The key is engaging the spindle—the four-sided bar connected to the knob that retracts the bolt or latch. If the knob is off but the spindle is still sticking out, use pliers to grip and turn it. But if the spindle has fallen irretrievably on the far side of the door, find a suitable substitute—say a large flathead screwdriver or even a fat pen. Fit it tightly into the spindle hole and turn.

37 Work safely on an extension ladder

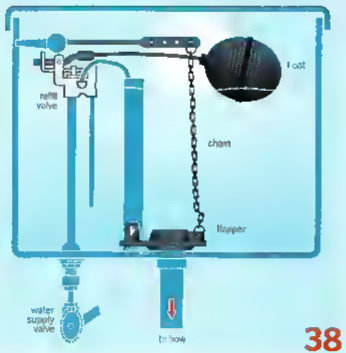
Unless your last name is Wallenda, don't try any acrobatics high up—184,000 people were injured last year working on ladders.

Make sure the ladder's rung locks (those hooks that grab onto the rungs) are anchored in place and the pulley rope is tied to a rung. Use levelers on the feet if you're on uneven ground and a stabilizer at the top if you can't lean on anything sturdy. To set it at the right angle, stand with your toes at the ladder's feet and extend your arms straight out in front of you; your fingertips should brush the ladder's rails.

Face the ladder as you ascend or descend, and never climb higher than the fourth rung from the top. Once there, keep your hips centered between the side rails as you work. This is one situation in which you don't want to overreach.

38 Stop an overflowing toilet

A toilet works by gravity. The water in the tank—just enough to fill the bowl—drops down and pushes waste through the drain. The float drops, opening a valve that lets in water to refill the bowl and the tank simultaneously. The valve closes when the float rises far enough to shut off the water.



If the water from the tank can't leave the bowl fast enough, then the refill will spill over. To stop the refill action, take off the top of the tank, grab the float, and pull it up to close the valve. That should give you time to reach down and shut off the water, or at least wait for some of the water in the bowl to drain.

39 Pick up a big paint spill on carpet

Cut two pieces of cardboard from a box. Use the edges of the cardboard to corral the pool of paint. Then use the pieces to form a scoop, and lift the liquid back into the bucket. When most of the liquid has been cleared, get two more buckets—one with fresh water and one empty. Saturate the remaining spill with the clean water, then scrape and scoop it up with a tea spoon and put it in the empty bucket. Work fast and continuously, replenishing the clean water as necessary. Rent a carpet cleaner to follow up, just be sure to keep the paint spot wet until it gets there.

40 Pull out a nail without marring trim »

Use a block of wood as a fulcrum under the claw of your hammer. The additional height will give you more leverage and the hammer head will push against the block without damaging the trim.

41 Catalog your house for insurance

What should make the master list? Whatever's not nailed down: from furniture and rugs to furs, dishes, and jewelry. If you kept the receipt when you bought these items, great; jot down the value. If not, note where and when you got it.

Then photograph, or better yet, video every room. From every angle. Burn the information onto a couple of disks and send one copy for safekeeping to Aunt Becky on the other side of the country. A tip: Go to knowyourstuff.org for free software that lets you create a virtual replica of your home online and then tally the value of what's in it.

42 Shovel snow without having a heart attack

Heart attack fatalities spike after a heavy snowstorm. Avoid early morning snow clearing; your blood clots more easily after you've been sleeping. And don't drink coffee or smoke before shoveling, because caffeine and nicotine speed your heart rate and constrict blood vessels. When you do go out to tackle the white stuff, try pushing it like a plow instead of lifting. Wet snow is a lot heavier—about 20 pounds per cubic foot—and won't push well. If that's the case, then make sure to keep your back straight and your knees bent as you drive the shovel into the snow (1). Lift with your legs (2), then walk to the place you want to dump it (3). Spraying silicone on your shovel before you use it makes the snow slide off more easily. If you get winded, take a breather; have some cocoa, and come out later to finish the job.

43 Keep in contact during a blackout

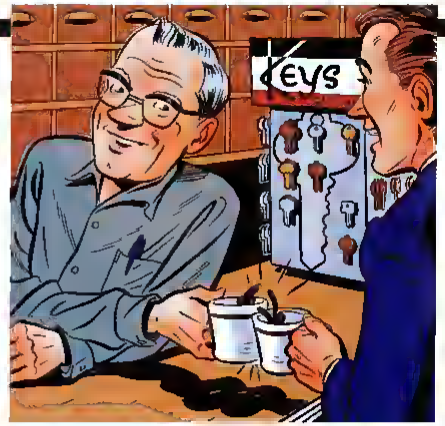
Remember that outdated push-button phone you tossed in the attic—the boxy one with only 12 keys, a tangled spring cord, and no electrical plug? That will work, unlike your cordless, which runs on electricity, or your cell phone, which relies on a tower that runs on electricity. If you sold yours at that garage sale years ago, head to RadioShack for a cheap princess phone. Then find a place to plug it in, so it'll ring on when the power's off.

44 Fix a hammer mark on trim

If the ding's on a finished surface, poke the area repeatedly with a needle, then flick several drops of water on it. Cover it with a damp rag and iron it on the cotton setting. The water absorbed into the wood will evaporate and expand the crushed wood cells. Concentrate the iron's heat on just the shape of the ding by placing an upside down bottle cap over it. Repeat until the wood regains its shape.

45 Reuse paint thinner

Clean brushes used to apply oil-based finishes in a wide-mouthed jar filled with paint thinner; then cover the jar and let the paint residue settle to the bottom. After a few days, carefully pour off the clarified solvent into another jar. Cap the jar and save it for the next cleaning. Let the residue in the first jar dry and harden (keep it away from flames), then discard.



46 Get free advice from the guy at the hardware store

Like the wise neighborhood pharmacist who dispenses free advice, your local hardware store clerk is a pro on demand—and in demand. So don't wait until you're renovating to get on his radar. Make his place of business a regular pit stop for essentials on the way home from work or in the afternoon; avoid Saturday mornings. Make friends in his down time, and you're guaranteed special attention when you need it.

"A lot of people start a project and get in over their heads," says John Olson, owner of Home Hardware, a 53-year old business in Waldwick, New Jersey. "We're happy to help out. And if they're a regular, we'll open up a tab and guide them from demolition to finishing."

47 Safely lash lumber to your car

If you must haul your stack of 2x4s home rather than wait a day for delivery (which can also put you out $50 or so), lay the boards from front to back on the car roof to minimize wind resistance. Cushion the load with cardboard so you don't scratch your car's paint, and stack the wood neatly. Secure it at two or more points with nylon ratcheting straps, wrapping the straps through your open front and rear car doors before closing the doors over them. Bypass bungee cords, which flex and shift the load, or rope, which won't allow you to close the doors. Have an employee at the lumberyard check your work, and fasten a flag to it before you drive off—carefully. ■

Want to learn more? thisoldhouse.com/survivalskills

FOR MORE INFORMATION, SEE DIRECTORY, PAGE 92

WELCOME TO THE NEIGHBORHOOD, OPPOSITE. With intersecting rooflines, a dormer, divided light windows, and a columned entry porch, this new house was designed to blend in with the existing homes that surround it. **LEFT TO RIGHT.** All are located in an established Chicago suburb, where many of the homes date back to the 1930s and 1940s.

Chip off the Old Block

The house is new, but you'd never know it. How one couple built a home in tune with their neighborhood's architectural heritage **BY SALLIE BRADY**

PHOTOGRAPHS BY JUDITH BROMLEY

It's become a familiar story:

Couple buys old house intending to renovate, couple is blown away by cost and limitations of a redo, couple razes home and starts over. Enter chorus of upset neighbors, unrelenting town building commissioners, and contractors gunning to build big.

But a teardown doesn't have to play out that way.

When Doug and Dana Reese relocated from San Diego to Chicago, they fell hard for a charming suburb only 23 miles west of the city. Glen Ellyn, Illinois, had everything they were looking for, an old-fashioned Main Street with a movie theater they could walk to, an atmospheric mix of older homes, and a good school system.

So when they settled on a small 1953 Cape Cod on a tree-lined street, their plan was to remodel while keeping the home's traditional feeling. They knew they faced some hurdles: The damp basement had a mold problem, the tuck-under one-car garage was impractical for a two-car family, and there was no space in the cramped 1,300-square-foot interior for Dana to display her collectibles.

"Everyone said we'd have to take the top off and build back," says Doug, of the extensive (and expensive) work that would be required to fit more living space on the narrow, 50-by-150-foot lot. They also didn't want to lose the character of an old house, especially the way that the exterior blended into their mature neighborhood of traditional style homes, mostly built in the 1930s and 1940s.

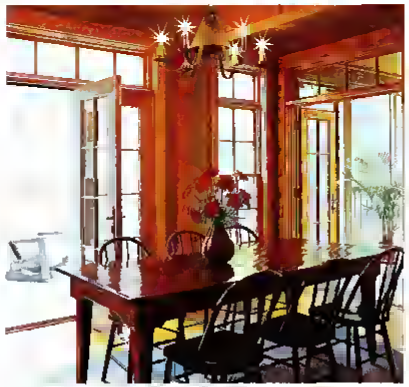
FIRST STEPS

AFTER A COUPLE OF YEARS IN THE HOUSE, Doug and Dana started spending evenings poring over remodeling books at Borders, and Doug ordered dozens of narrow-lot house plans online to see how they might configure an addition. Things started looking up when they stumbled upon *The Not So Big House*, by architect Sarah Susanka, the landmark architecture book that celebrates the smaller, well-crafted house over gargantuan McMansions. It wasn't long before they were on the phone with the architectural firm that the author cofounded, SALA Architects in Minneapolis.

When architect Paul Hannan arrived in Chicago, the couple were talking redo, by the time he left the next day, they were committed to building a new home. "There were fewer compromises if they started over," says Hannan, who said the cost of their transformation would approach that of a new house.

To begin, he gave the couple a 30-page questionnaire that would help him understand their wants, needs, and lifestyle, asking everything from "Where are you on a Saturday morning?" to "Where do you put the Christmas tree?" Hannan quickly learned that his clients wanted a

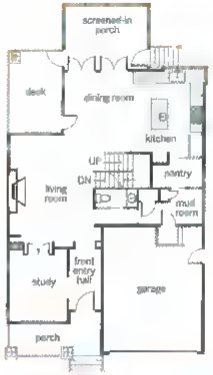
The family's answers to a 30-page lifestyle questionnaire helped the architect design a perfect plan to meet their needs.



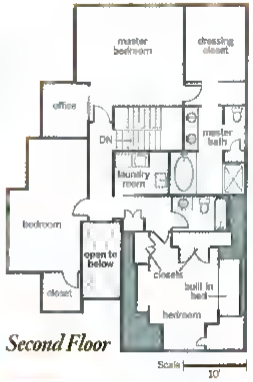
TOP: The architect designed built-ins throughout the house to corral clutter—including these mudroom lockers, which the budget-conscious homeowner built. ABOVE: Transoms above the dining room's French doors and windows bring in more light and add height to the 10-foot ceilings.

A Plan From Scratch

The narrow, 50-by-150-foot lot dictated the basic shape of the house. An open plan on the first floor creates easy traffic flow from the kitchen to the dining and living rooms, and, in summer, out to the screened porch and the deck. On the second floor three bedrooms are built into the roof, with playrooms, a tiny office, and storage cubbies tucked into odd spaces. Baths and a laundry room are clustered in the center.

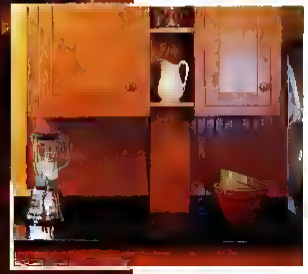


First Floor



Second Floor

LEFT: Timber framing subtly separates the open-plan kitchen from the dining area. The architect didn't want to bury any of the post-and-beam structure behind drywall, so the homeowners filled the niches between the Ramar cherry cabinets with display shelves. INSET: Cottage-appropriate beadboard skirts the Ikea butcher-block island and covers the backsplash. It's painted Brethern Shop Red from Shaker Workshop—a nice contrast with the gray walls, covered in Old Fewter by Old Century milk paints.



Most of the second floor is tucked up under the roof—one way to keep the overall scale of the house small and neighborly.

casual home with an open floor plan. Dana, a stay-at-home mom and a passionate cook, needed a kitchen suited to cooking and entertaining, since the family also socializes regularly with the neighbors. And they were in desperate need of an alternative to beach chairs set up in the driveway as a way to accommodate guests.

In a town where 20 percent of the houses have become teardowns, the couple also emphasized that their new home should fit in. "We didn't want people to be able to drive by and say, 'That's the new house!'" says Doug.

"I had a hard time with the knockdown," says Dana, remembering how she dreaded that day. "But it came down so easily—there was no insulation in the walls—and, in the process, we found out that the electrical was bad. It was almost a relief when it went because we knew we were going to build and live in something high quality." Luckily, the family was able to rent a house located just behind their own for the duration of the nine-month construction period.

ABOVE: Though the original design called for a masonry fireplace and an exterior stone chimney, the homeowners saved $10,000 by using a soapstone surround and a drop-in firebox that vents through the roof.

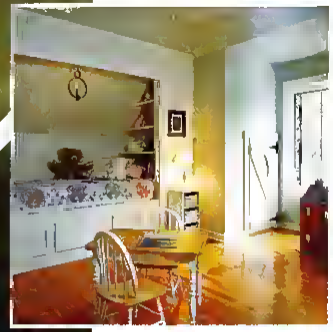
APPEARANCES COUNT

TO FORMULATE A PLAN FOR THE EXTERIOR, Hannan cruised around Glen Ellyn taking snapshots of other houses in the neighborhood, noting their overall scale, exterior color choices, and architectural details such as dormers, columns, and rooflines. Then he went to work, designing a two-story cottagelike home. To the facade he added a small porch, where the Reeses could hang out with friends. He shifted the one-car garage, which originally sat on the sloping space under the porch, to the other side of the house and expanded it to hold two cars—the best-case scenario on a narrow lot with a lopsided topography. Now, when Dana is loaded down with groceries, she has a direct path from inside the garage to her new mudroom, pantry, and kitchen. On the back of the house, Hannan re-created the screened porch that the couple had enjoyed from the original home and added a deck.

For the look and feel of the interior of their new home, the couple channeled the lakeside cottages where they summered while growing up—one in Lake Tahoe, the other in northern Wisconsin. "We wanted to replicate the exposed wood, the beams, and the light from the outdoors," says Doug.

Their other mission was to use the 2,532 square feet of living space efficiently. Hannan made rooms feel larger by using lots of glass to maximize the views in the front and the back. "The windows were the single biggest budget item in the entire house," says Doug of their Pella Architect Series double-hung and casement windows, some with transoms and retractable screens.

The investment proved to be worth it. Natural light infuses the living space, designed with an open floor plan that flows out from the kitchen into the dining and living rooms. Timber framing with reclaimed 1940s Douglas fir beams from the Duluth Timber Company subtly defines the rooms while supporting the second floor. Warm natural wood finishes are used everywhere in the house, from the southern heart-pine floors on the first floor to the red oak floors upstairs to the flat-panel cherry kitchen cabinets to the simple stained pine trim. "We took the lake house look and added some of the simplicity of Shaker design," says Dana.



LEFT: In the son's room, windows follow the shape of the headboard, and a skylight brightens the low-ceilinged play space. ABOVE: An alcove bed provides built-in storage in the daughter's room where a low door leads to a playroom in the dormer.

DETAILS, DETAILS

WHEN IT WAS TIME TO TALK KITCHEN COUNTERTOPS, Dana reached a hurdle—she'd always wanted soapstone. "I first learned about it on *This Old House*," she says, confessing that she's seen every TV episode. "Tommy [Silva] used soapstone in his house and says it's great." Her problem was that while the material is popular in the Northeast, it isn't in the Midwest. "The granite guys here said it would stain, and the contractors didn't know where to find it."

Dana persevered, even finding a nearby Mexican restaurant that had a soapstone bar. "The bartender said they serve hundreds of people there a night. All they need to do is oil it when it gets gray." It wasn't long before the soapstone for Dana's countertops and fireplace surround was being delivered.

One of the most important aspects of Hannan's home design was the custom built-in cabinetry, desks, and shelving. The "cubbies," as Doug calls them, were a necessity for the couple, who admit that they disagreed frequently over Dana's Americana collections covering every horizontal surface. "I call it C.O.D.—crap on display," says Doug. "I got tired of moving three things to make a sandwich." Architect Hannan played mediator, creating plenty of open shelves and deep window ledges to hold Dana's treasures.

While the blueprints reflect built-ins throughout the house, the couple knew they wouldn't be able to afford to put them in all at once. So Hannan suggested that he design them all anyway, and that Doug and Dana install them as their budget allows. Still on the wish list are built-in dressers in the master bedroom, the desk in Doug's upstairs office, and desks in the children's bedrooms.

Hannan also saved valuable space by building the second-floor rooms right into the roof, giving them that old-house attic feeling with lots of slopes and angles in the ceilings. "It's a way of recovering otherwise dead space," he says, noting that the children's playrooms and Doug's office are tucked into dormers.

Nine months after tearing down their old house, the family moved into their new home. Having settled in for a while now, they wonder how they ever lived without a mudroom, a pantry, all the shelving, and the open kitchen. In fact, they're currently making plans to bring in their contractor to complete Hannan's design for a finished basement, which will include a family room, a kitchenette, a craft room, and a guest suite—for another 1,000 square feet of living space. "We're using every bit of this house," says Doug.

And the neighbors? "The feedback has been nothing but positive," he says. "They approve." And they're very happy not to have to sit on folding chairs in the driveway anymore. ■

How to hire an architect or builder: thisoldhouse.com/shortcuts

FOR MORE INFORMATION SEE DIRECTORY PAGE 92

TOH general contractor Tom Silva welds two steel frame pieces together in the entryway at the TV project house. By [illegible] the strong metal [illegible] Tom was able to narrow the framework around the glass by 3½ inches, making room for larger windows.

BY MAX ALEXANDER
PHOTOGRAPHS BY RUSSELL KAYE

what's HOLDING up your HOUSE?

Framing today uses both traditional and modern materials—from sawn lumber to laminated woods to sheets of steel. Here's how one building makes use of them all

Back in the 1950s, butterfly roofs and vertical siding made a conspicuous statement about the home of the future. But even as the Modernist movement was radically changing the outward appearance of houses, underneath, many of them were still framed the conventional way, with old-fashioned sawn lumber. That's the way it was with this season's *TOH* TV Cambridge project house.

Today, even in traditional looking homes, the "futuristic" stuff is often the framing itself. And there's a new language to go with it. Besides understanding the true sizes of dimensional lumber—that a 2x4 is really about 1½ by 3½—carpenters now need to know a host of abbreviations: LVL, OSB, I-joist. They also need to understand more about load and force as strong, efficient engineered woods and steel replace milled stock. Then there are the countless metal ties and brackets—more than 1,700 hangers alone—they'll encounter. A house isn't just wood and nails anymore.

A look at the framing done at the Cambridge house by *TOH* general contractor Tom Silva and his crew gives you a good idea of what some of these newer materials can do: allow for higher ceilings, larger open spaces, and even cantilevered rooms. And while this skeleton of studs and beams will soon be hidden inside new walls and floors, for now it's clear that the beauty of this house is more than skin deep.

A 2x4 partition wall is the perfect place to run systems such as plumbing pipes and electrical cables.

The stuff that gives your house its basic shape

Dimensional lumber

Advances in building technology haven't eliminated the need for good old sawn lumber—2x4s, 2x6s, 1x strapping, and the like. It's still the dominant material in a house's skeleton. Dimensional lumber (as distinct from lumber made from fibers or veneers) has good compressive strength—it stands up well to force pressing down on it when it's vertical—so it makes excellent studs. But it's the least expensive framing material, so it's also used for the horizontal parts of a wall frame, such as the sole plates at the bottom, the top plates, and the blocking between studs. Interior walls are predominantly made from 2x4s, which are deep enough to fit plumbing and wiring between the studs, while 2x6s make better exterior walls because they leave more space for insulation.

Most dimensional lumber is milled from softwoods like spruce, fir, and pine, then kiln dried for stability. There are stronger versions, such as straight grain fir. When combined with metal ties it can be turned on the flat, with its broad face parallel to the wall, whenever there's limited space for a stud. Tom used fir in this manner to frame a cavity for a pocket door. "It costs twice as much, but it won't ever bend or warp," he says. "That's important, because over time, if the stud curves, the door will scrape."

Modern I-joists replace traditional 2x10s. Holes made through them wouldn't affect their strength. But for expediency Tom puts up 1x strapping to hold wires.

A beefy 20-foot-long 1¾-by-16-inch LVL allows a room at the Cambridge project house to cantilever out 6 feet over the side yard without any posts for support.

Strong beams that allow for open spaces with no posts

Engineered lumber

Engineered lumber is made from wood veneers and particles, glues, and resins to create large structural elements that virtually never fail if used correctly. Manufactured in a controlled environment, the load factors for these materials are precisely calculated for every size. Engineered lumber also saves trees by using more of the whole tree—typically 30 percent more than sawn lumber—so fewer need to be cut down.

The two most common engineered wood products used in modern framing are LVL beams and I-joists. Laminated veneer lumber (LVL) is just what it sounds like: wood veneers (typically poplar, pine, or fir) laminated together under heat and pressure with a moisture-resistant resin. Because the grains all run in the same direction, LVLs are extremely stiff and stable. They come in thicknesses up to 3½ inches, depths from 3½ to 24 inches, and lengths as much as 60 feet.

Because of their tensile strength—meaning they can hold up a lot of weight along their length without sagging—LVLs make great door and window headers, stair stringers, ridge beams, cantilevered roof supports, and other carrying beams. And as they have the ability to span long, open spaces, LVLs can eliminate the need for posts in basements and garages.

I-joists are engineered beams made in an I shape. They are made up of a vertical web of dense oriented strand board (OSB) in the middle, with a horizontal flange of dimensional lumber or LVL above and below. They're used for joists and rafters, because they're lighter than sawn lumber and able to span greater distances. And unlike lumber, they can take large holes for plumbing and ductwork without compromising strength. All these factors add up to higher ceilings, because a smaller I-joist will carry the load of a deeper one made from dimensional lumber, and systems don't need to run under the ceilings in added framed channels, or soffits.

The flanges in I-joists are also wide—up to 3½ inches—providing more room to glue and nail subflooring. "Any time you get more fastening surface, your floor will be stronger," says Tom, who makes sure to use stiff I-joists under floors with rigid finish materials like tile or stone.

The benefit of engineered lumber is its stability and strength. But Mike O'Day, manager of engineered lumber for Georgia-Pacific, one of the largest manufacturers of building products, says you can't generalize about the strength of engineered wood versus dimensional lumber—in part because the latter is so varied in quality. "The real advantage," says O'Day, "is not so much that engineered wood is stronger, although in many cases it is, but that it is more consistent and predictable."

It's worth noting that engineered lumber is generally more costly than dimensional lumber. And there have been environmental concerns about the phenol formaldehyde binders used in most engineered wood products, which can off-gas. Though these pieces are usually encapsulated behind wallboard, manufacturers have begun using a greener, formaldehyde-free binder called PMDI in a few products.

Plywood sheathing ties together all the vertical framing pieces and helps stiffen the house against lateral movement.

The skin that tightens up a frame and keeps it stable

Sheet goods

While dimensional lumber handles downward pressure, and engineered lumber braces against push/pull forces, sheets of plywood or oriented strand board (OSB) fight side-to-side movement by spanning and connecting framing members.

Less-expensive OSB is wood shavings glued together with resins. Plywood is thin sheets of veneer or "plys" glued together in layers (typically five), with the grains perpendicular to each other. This maximizes strength and minimizes shrinking and swelling, and makes plywood the stronger of the two. But both are used for exterior sheathing, subflooring, and sometimes even interior wallboard.

Tom uses plywood sheathing—minimum ⅝ inch and more often ¾ inch—on the houses he works on. For extra strength he glues down corner sheets and roof sheathing, as well as all floor sheets (he may use OSB here), which are tongue-and-groove for added strength. "I pay a lot of attention to lateral movement," he says. "On a windy day, I don't want a house to even creak once."

Two pieces of ½-inch steel sandwiched between three LVLs makes a double flitch beam, which can handle the load from the floor above without taking away headroom.

Metal that adds strength without bulk

Steel bars and connectors

Steel might seem unlikely in residential framing, but it's being used more and more to add strength where wood meets wood—especially when the job calls for major support in a tight space.

Steel has tensile strength, which makes it an excellent material for joists or carrying beams when paired with lumber in a "flitch" beam. A mere ½-inch thick plate of steel bolted between two planks of wood can carry much bigger loads than wood alone, and thus the whole beam can be sized smaller. "Sometimes every inch counts," says Tom, who may use a flitch beam to eke out more headroom in a low-ceilinged space. In addition to flitches, steel is also used to make support posts and I-shaped beams (I-beams).

On a smaller scale, steel ties—joist hangers, rafter ties, and flat connectors—make for tight, strong joints between two framing members. In fact, many local codes now mandate using hurricane-rated ties to provide security against high winds or earthquakes. But even outside of the areas threatened by such disasters, high-tech ties—combined with the best framing materials for any given application—make for a solid house, built to last for generations.

More on framing a house: thisoldhouse.com/shortcuts

FOR MORE INFORMATION SEE DIRECTORY PAGE 92

OPPOSITE: Combine one cleanup sink, an arm's length of working countertop, and a handful of storage cabinets above and below and you have the recipe for an efficient drinks center at home.

bars straight up

These built-ins are popping up in more and more homeowners' remodels, whether as a fully equipped kitchen in miniature or just a niche carved out for bottles and glassware. Read on for the best design ideas and planning info, bar none

BY SALLIE BRADY

f

or many homeowners, it's an answer to the old, 'Every time I have a party, everyone ends up in the kitchen,'" says Jay Haverson, a Greenwich, Connecticut, architect who has designed half-a-dozen built-in bars in the last year. But that mental image of a paneled basement rec room, foosball tables and Uncle Herman's beer mug collection? Forget it. Today's bars sit in high-visibility areas off the kitchen or great room and often feature custom cabinets and top-of-the-line fixtures and fittings. Some are plumbed butler's pantries that stand ready to serve up snacks and hors d'oeuvres, while others are nothing more than doorless closets with access to a waterline. And there's still a call for sit-down bars—whether connected to the kitchen or a home theater.

Wet or dry, large or small, built-in bars suit time-pressed homeowners who want an inviting and accessible entertaining zone for friends and family—and who appreciate dedicated storage for all the accoutrements. Because behind those cabinet doors aren't just shot glasses and single malts, but also wine coolers, keggeries, icemakers, dishwashers, plasma televisions, and other accessories that transform an ordinary space into the life of the party.

The Butler's Pantry Bar

Floor-to-ceiling storage, with appliances down below.

Constructed as built-ins or to resemble oversized furniture pieces, these wall-spanning wet bars (sometimes called buffets) transform a transitional space near the kitchen or dining room into an efficient entertaining area. While it's obvious that upper cabinets hold wine glasses and beer steins, guests might not know that icemakers and bottle-cooling drawers are often concealed behind the fine cabinetry. And that's the idea: great-room polish with kitchen function. A long countertop with the sink positioned at one end makes party food prep more convenient. Handsome stone countertops provide a durable, stain resistant work surface that's easy to wipe clean. Often, materials are slightly upgraded from what's in the kitchen, since here they're on public view.

HOW'S THE WIRING? Electrical capacity is an important reality check when designing a wet bar that's going to include appliances. Just as your plumber will work out waterline and drain access, an electrician will determine whether your circuit will be overloaded if you put in another fridge, microwave, or other energy-eaters. You might need to add a new circuit, and if your bar's going to include an oven, don't forget the 220-volt line. Also, plan as many electrical outlets as you'll need for small appliances such as a blender.

LOADED WITH HIDDEN EXTRAS
First came the rustic home's massive pine support columns. Then came the wet bar by kitchen designer Larry Frasier of Rhinelander, Wisconsin, that fit snugly in between them. The homeowners, a three-generation family that likes to get together at their lake cabin on weekends, wanted an atmospheric, highly functional bar area across from the kitchen. So Frasier took the 6-foot-4-inch space and, using Wood-Mode cabinetry, designed a fully stocked bar with a built-in wine cooler (1), refrigerated drawers for pop and beer (2), pull-out bins for standing liquor bottles under the sink (3), and a Sub-Zero icemaker (4). The slate countertop and backsplash repeat materials used in the kitchen.

RED OR WHITE?
The idea here: Build a 7-foot-wide wine bar that opens to the great room and looks like a polished piece of furniture. One Sub-Zero wine cooler is regulated for red (1), while the other is strictly for white (2). Greenwich, Connecticut, architect Jay Haverson ran glossy cherry cabinetry the length of the wall (3), but didn't go up to the ceiling (4). "Leaving space for the exposed beams gives it that furniture effect," he says.

Learn how to install a sink.
thisoldhouse.com/shortcuts

BRIDGING THREE SEPARATE ROOMS
The challenge was to make this 8-foot-wide built-in bar blend with the millwork of adjoining rooms in the Carlisle, Massachusetts, house that *This Old House* renovated for its 25th-anniversary season. So kitchen designer Kathy Marshall imported ivory cabinets (1) from the kitchen and maize beadboard (2) from the butler's pantry, and echoed the great room's soapstone fireplace surround with black granite (3). While the American Standard faucet (4) is on display, the dishwasher (5), fridge (6), and liquor drawer (7) are all hidden behind panels.

FOR MORE INFORMATION, SEE DIRECTORY PAGE 32

the old-fashioned

For purists who want the look and feel of an old pub in their home, a reclaimed bar is the way to go. Finding one might not be as difficult as you think. Some dealers specialize in bars, receiving stock from dismantled saloons and apothecaries in the U.S., Britain, and Ireland. They'll even work with you to figure out how to retrofit them with a bar sink, fridge, or flat-screen TV.

Some owners buy just a back bar to add atmosphere, says Mark Cherry, owner of Philadelphia's Architectural Antiques Exchange. Others go all out with a canopied bar (like the one shown above) for a saloon room. Carved of oak, cherry, walnut, or mahogany, these bars may even bear the original brass plaque with the maker's name.

...and the sidecar

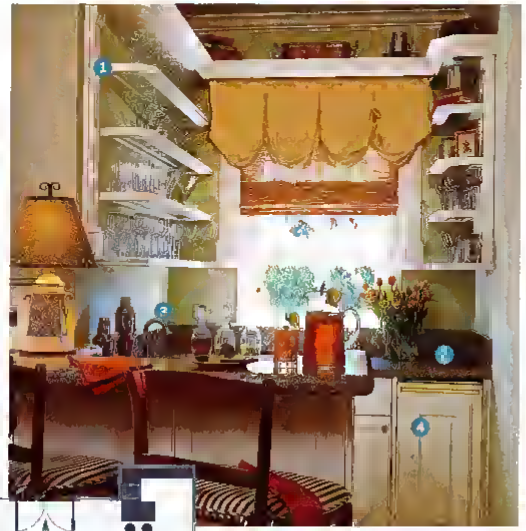
For those with space (and budgetary) constraints, manufacturers are busily turning out stylish, storage-intensive bar cabinets. Neatly containing glassware and bar accessories, these furniture pieces start at about $300 and range from a tabletop model, such as Bernhardt's Georgian Bar Cabinet ($1,000, shown below), to a 7-foot painted-wood hutch by Pottery Barn ($1,549) that could sit in the dining room. Among their extras, pull-out serving trays, grooves for hanging stemware, and concealed casters.

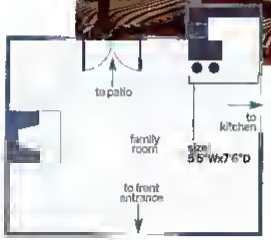
The Pull-Up-a-Chair Bar

Classic tavern-style seating with lots on display.

The seated bar is still a favorite, especially where it can double as a spot for morning coffee or after-school smoothies. Sit-down bars can range from a freestanding front bar that accommodates eight in an entertainment room to a peninsula with two tuck-under stools off the kitchen. Since the inner workings of these bars are hidden behind a counter, their fixtures and materials tend to be more casual with basic countertops and simple bar sinks and faucets that favor function over decoration. What is seen is the base of the seating area, which may be covered with wainscoting, barn siding, stone, or brick—stuff that stands up to shoe scuffs. Open shelves or glass-front cabinets show off stemware and serving pieces.

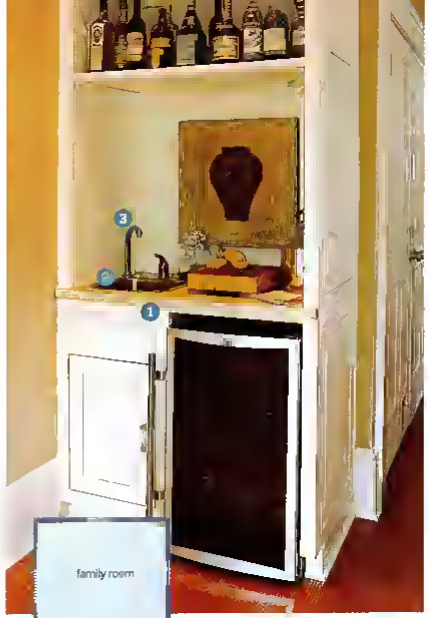
SPACE REQUIREMENTS Clearance follows an easy rule of thumb, says cabinetmaker Bill Nickerson of Tilton, New Hampshire, who's built bars for 30 years: "You need two feet per stool. So an eight-foot bar will seat four." Most bars sit 42 inches high with a 12-inch overhang for stools.





SOCIAL SERVICE
Tucked into a corner of the family room, this bar might only seat two, but it serves dozens when the Pacific Palisades, California, homeowners throw a party. Stemware sit at the ready on wood shelves that have glass insets (1) to reflect natural light coming through the window. Down below are granite countertops (2), a sink faucet by Price Pfister (3), and white raised-panel cabinets (4).

PHOTOS (CLOCKWISE FROM TOP LEFT): PETE THIBAUDEAU; MARK LOHMAN



IT STARTED AS A CLOSET
And it became a 4-foot-wide cocktail spot open to the back porch—after homeowner Cromwell Schupp's grandmother queried, "Where's the bar?" The Atlanta carpenter accessed water and drain lines through the wall that backs up to the laundry closet. Using the same marble countertop and cabinetry (1) as in the kitchen, Schupp dropped in a Franke bar sink (2) and a Delta faucet (3) for a grand total of $1,000 spent—and Grandma's approval gained.

BUILT TIGHT AS A SHIP—UNDER THE STAIRS
For a couple who wanted a discreet bar between the study and the living room, Quogue, New York, architect Stuart Disston designed a small-scale bar that's hidden behind push-latch doors under the stairs and takes advantage of plumbing in an adjacent powder room. Light reflective surfaces, including a framed mirror (1), highly polished mahogany cabinetry (2), and a nickel sink and faucet by Harrington (3), make the 4½-foot-wide space seem larger. A bar fridge (4) sits in the 2-foot-wide cubby next door.

PHOTOS (TOP) BEBRAKA; TIM LLEWELLYN; STYLING BRIAN CARTER; (BOTTOM) ALEX MATTHEWS; DISSTON

The Anywhere-It-Fits Bar

Once-forgotten nooks and niches with the plus of plumbing access.

Follow your waterline and you just might discover a closet or convertible space that has wet-bar potential. Of course, not every bar needs a sink, but smart architects and homeowners have discovered that closets and unused areas adjacent to powder rooms, kitchens, even laundry rooms, can be converted into drinks centers by tying into the existing plumbing. Quick and casual, these bars typically have just enough work surface to slice a lemon, just enough of a fridge or wine cooler to keep the after-work chaser chilled, and just enough storage to handle the liquor cabinet and some basic barware.

FIND THE EXISTING DRAIN This goes hand-in-hand with tapping into a water source when it comes to an easily installed wet bar. You'll want to run a waste line into the wall, tying into the one already in the powder or laundry room. Of course, if access is a problem, you can install a new drain, but hooking it up to the existing sewer or septic line might be more complicated. And since wet bars often involve water and electricity, make certain that your electrical circuits have ground faults for protection in the event of a short.

A Cocktail From This Old House

We figure every house should have a signature drink—ours, too. So here's one to christen your new bar with. Mix it up to toast the start—or finish—of your latest remodeling project. Cheers.

The Renovator

INGREDIENTS
- 1 ounce Absolut Citron vodka
- 1 ounce Southern Comfort
- 1 ounce ginger beer (or substitute ginger ale)
- Amaretto
- ½ lime

PREPARATION
Drizzle a spoonful of Amaretto into a cocktail glass filled with ice. Add Citron and Southern Comfort. Squeeze in the juice from half a fresh lime and top it with ginger beer. Stir. Garnish with a wedge of lime and enjoy. But operate no power tools.

Want to submit your own TOH cocktail? thisoldhouse.com/shortcuts

A DOGHOUSE LIKE *her* HOUSE

Inspired by our story, one Florida homeowner builds a pad for her best pal. And she's not the only one: Turn the page for more canine creations from TOH readers

HISTORY IS FILLED WITH MISUNDERSTODD visionaries, from Noah and his ark ro Wilbur and Orville and their airplane to, most recently, Cheryl Morgan and the dog house she built out of birch plywood, all-purpose putty, and shutter hardware

We all know what happened Despite the naysayers, their efforts paid off The flood came, the plane flew, and Morgan, of Lutz, Florida, is the winner of *This Old House*'s first-ever "Doghouse Like Your House" contest, a building competition inspired by a feature in our July/August 2005 issne.

Snre, Morgan's family questioned her sanity as she obsessively sawed, glued, nailed, and painted the perfect canine-sized replica of her brick, stucco, and shingle-sided house. Especially since Morgan, who had hardly any carpentry experience, did it with hitle more rhan a hammer, a bent jigsaw blade, and a level. "Most of the time, I used my fingernail to mark on the wood where to cut," she says

Morgan framed the walls and roof with birch, used lattice strips and mortar-patching mix for the brick, all purpose putty for the stucco, and safety skid tape for the shingles. The porch railings are made from poplar, and the windows are fitted with clear acrylic squares for a dog's-eye view Summoning up the best of her creative skills, she used wall hooks and beads ro re-creare porch lights and smacked on some automotive pin striping for the window panes.

Morgan's handiwork was put to the test in October when Hurricane Wilma sent tropical storm–force winds tearing through Lutz. Aside from a few shifted shingles, the house fared remarkably well "The roof and windows didn't even leak," Morgan boasts. Noah would be proud.

1 Morgan in front of the Lutz Florida, home that she re-created in canine scale for her chocolate Labrador Sadie. INSET: the July/August 2005 *TOH* story that got her started.

PHOTOGRAPH BY PRESTON MACK

THE RUNNERS UP

2

The detail on this flat-roofed contemporary is so accurate that in some views we couldn't tell it apart from the real house. What's even more impressive is the fact that its builder, Mark Kasche, put this little puppy together in just 32 hours. The box is plywood, the windows are glazed with polycarbonate plastic, and the chimney is covered in textured paper that makes it look astonishingly similar to the main house's volcanic-stone version. Kasche, a contractor, says the materials ran him around $300. But if he were charging his regular hourly wage at $125, he says, "we're looking at a four-thousand-dollar doghouse!" At that rate, beagle Pogo should be the envy of every other hound in the neighborhood.

3

A doghouse isn't merely a luxury in the unpredictable climes of central Maine. It's practically a necessity. So when Jasper finishes patrolling his mountain terrain, he retires to the rugged A-frame built for him by graphic artist Scott Stowe. Jasper's shelter has a pressure-treated foundation stained red to match the one on the main house, and 3 inches of fiberglass insulation packed into the walls, floor and ceiling. The roof shingles and clapboards are the same as on Stowe's house, and he even put stone-look linoleum on Jasper's floor to match his own stone entryway. "I've never done construction of any kind before," says first-time homeowner Stowe. We applaud his debut.

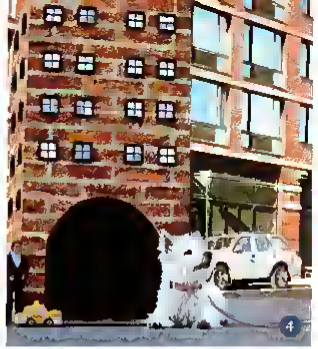
THE HONORABLE MENTIONS

Our "Doghouse Like Your House" contest really hit home with readers. These are just a few of our favorites among the dozens of doggie domiciles entered. To see them all, go to thisoldhouse.com/shortcuts

1 Steve and Sheila Jones
ROCK SPRING, GEORGIA
A broad, shaded front porch offers the occupant of this doghouse a cool place to rest on hot Southern evenings.

2 Belinda Palmater
DAVISBURG, MICHIGAN
A veritable mini mansion with a wraparound porch and a two-bay garage that links to make a doggie door.

3 The Fox Family
ESCONDIDO, CALIFORNIA
All the comforts of home, including shutters, clapboard siding, and a working gutter made from a length of copper tubing ripped in half.



4 Staci Parrish
NEW YORK, NEW YORK
Just like the real thing, Frowny's luxury rail-brick high-rise includes a doorman, taxi stand, and rooftop garden.

5 Lauren and Michael Jackson
ERIAL, NEW JERSEY
It's hard not to be charmed by a cozy cape Colonial with window boxes and a bone-shaped cutout on the gable.

6 Kelly Hermann
GLEN GARDNER, NEW JERSEY
A dog—or is it a dog—cabin, made out of spindles and shingles left over from the construction of a porch on the main house.

7 J.C. Davis
RAYMORE, MISSOURI
This doghouse built for two is made with scrap siding and cedar trim ripped to size.

8 The Warren Family
WEST RICHLAND, WASHINGTON
A faithful Queen Anne copy, from the witch's-cap turret down to the covered corner porch.

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Reverse page.
Built-in china cupboard and cook top cabinetry in Vanilla Bean with piped Chocolate mist over Maple with a Kent door style. Mahogany topped island finished in custom Aerial Blue, echoes the Kent door style

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WORKSHOP

TECHNIQUES, TIPS, AND YOUR QUESTIONS ANSWERED

These wheels of cotton, silk and brass wire bring out the luster in metal doorknobs and other hardware. When mounted on a polishing lathe and spun at high speed, some wheels generate enough heat to melt the surface of those knobs, filling in any blemishes left by the casting process.

PHOTOGRAPH BY KEATE

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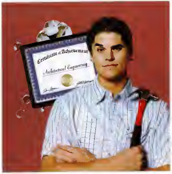

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Ask This Old House

> NEED AN EXPERT? WE'VE GOT FIVE, READY TO ANSWER YOUR HOME QUESTIONS

Testing the efficiency of a furnace is a routine part of its recommended annual maintenance. But fuel efficiency is just one of the factors to consider when replacing a heating unit.

Is It Time to Replace the Furnace?

I recently purchased a 1,146-square-foot home with a seven-year-old gas furnace rated at 80 percent efficiency. The rise in gas heating costs has me wondering if I should upgrade the furnace, or maybe even convert to a different type of fuel. Can you help me decide?

SUSAN CAIRNS HILLIARD OHIO

Richard Trethewey replies: To make your decision, you need to weigh three factors: your furnace efficiency, the cost of fuel, and the "heating load" of your house—that's the amount of energy required to maintain a steady 65-degree temperature indoors.

Fuel costs are a real wild card these days, thanks in part to Hurricane Katrina. Generally, though, gas is competitively priced, so I don't think it makes much sense to switch to oil or electricity. Also, your furnace is already pretty efficient, though not as good as the best condensing-type gas furnaces, which capture up to 97 percent of the fuel's energy. If your furnace were old and worn out, your decision would be easy—buy a more efficient model—but the average life of a well-maintained furnace is 25 years, so yours still has plenty of life in it.

If you did replace your furnace with a 97 percent-efficient system, you'd cut your heating bills around 20 percent. To see if it's worth spending the money, add up the fuel bills for last winter—your gas utility will have records—then multiply that sum by 20 percent. Divide that figure into the cost of buying and installing the new system, about $3,000 or so, and you'll see how many years it will take to recoup your investment.

Given the size of your house, I doubt you'll see a payoff anytime soon, even if you add 50 percent to last year's bills to account for this winter's projected increase in natural gas costs. Of course, every dollar that gas prices go up will shorten the payback time, but prices could also fall and lengthen the payback.

If it were my house, I'd first look for ways to reduce the heating load. Ask your utility company to perform an energy audit. That will probably uncover some relatively inexpensive upgrades, such as new weatherstripping or added insulation. Also, ask the company that maintains your furnace about ways to improve its performance. For instance, you might be able to replace a standard pilot light with electronic ignition or seal the joints in your ductwork. These minor improvements will help reduce heating costs and make you more comfortable without draining your bank account.

To Vent or Not to Vent

We have turbine ventilators on the back side of our house roof to keep the attic cool in

RICHARD TRETHEWEY
PLUMBING & HEATING EXPERT

TOM SILVA
GENERAL CONTRACTOR

NORM ABRAM
MASTER CARPENTER

ROGER COOK
LANDSCAPE CONTRACTOR

KEVIN O'CONNOR
HOST

the summer But what should I do with the ventilators in the winter? Some people tell me to close them up while others say to let them spin.

RICK BAKIES, SEYMOUR CONN

Tom Silva replies: Let them spin. An attic needs to exhaust moisture just as much in the winter as it does in the summer. But attic ventilation serves another important purpose in cold weather: It removes heat that escapes from the house. A cold attic means a cold roof, and a cold roof doesn't suffer from ice-damming problems.

Straightening a Warped Timber

We recently purchased a house that has solid maple mantels over each of three fireplaces. Unfortunately, they have all twisted noticeably. Is there any way to correct this problem?

PHILIP HATFIELD, OTTAWA, KANS.

Norm Abram replies. Once timber twists, that's it, you can't untwist it. But you can resize it—make it smaller—by planing it square. This is probably too big a job for a hand plane, but you could turn the mantels over to someone—a local woodworking shop, perhaps—that has a thickness planer and a jointer. Otherwise, talk to a timber framer or a contractor that specializes in barn construction; they work with large timbers all the time and can probably tell you whether yours are worth the trouble or whether it makes more sense to build new.

Landscaping as a Career

My teenage son started his own yardwork business last summer and really put a lot of effort into it. I think he might consider landscaping as a career but how should he go about it? And if he does become a landscaper, what would he do during the winter?

JOLYNN TRUDEAU, LOWELL, MASS.

Roger Cook replies: Most people enter the landscaping business by apprenticing to a landscape contractor or by going to college. If your son decides to apprentice, he should go with a company that does a lot of different projects so he can develop a variety of skills. If he chooses college, he can look into the two- or four-year schools that have landscape-contracting programs. They typically include some hands-on experience and business courses.

In the meantime, he should attend every seminar he can on this subject. These events are often sponsored by local arboretums or by professional landscape associations. He'll learn a lot, and he'll meet people who might even be able to act as mentors for his career.

As for the winter, there's plenty of work for someone with a truck and some ambition. Snowplowing jobs, for instance, which sometimes turn into landscaping accounts. Hardscaping—installing walls, patios, and the like—tree pruning and felling, even selling firewood can also keep him busy and making money in the off season. In those early years, it also pays to work for a plumber or mason in the winter because a good landscaper often needs both those skills.

Finally, please emphasize to your son that he also needs to learn business management and accounting skills. They'll help him grow his business and avoid the financial pitfalls that landscapers—and many other tradesmen—stumble into.

There's no downtime in winter for landscaping contractors like Roger Cook, who stays busy laying patios, selling firewood, and plowing snow.

Garage Door Opens by Itself

One morning after a thunderstorm, I noticed that our garage door was open. I know I'd closed it the night before. Now the door periodically opens all by itself. What can I do to prevent this from happening?

ABERDEEN LEPLEY, SELINSGROVE, PA

Kevin O'Connor replies. I talked to some garage door manufacturers about this problem, which they call "phantom operation," and they tell me that a power surge can damage the electronics inside the transmitter. So maybe lightning really did open your door. But there could be other causes, as well.

If you live near a military base, openers can be triggered by equipment operating on the same frequency. Also, it's fairly common for a remote opener to be accidentally activated when left in a kitchen "junk drawer." The chances are low that a neighbor with a similar opener could operate yours. I'm told that older transmitters, with their nine manual "dip" switches, have more than 14,000 possible code combinations for each opener. The "rolling code" security on newer doors makes it virtually impossible for a remote to activate any opener it doesn't belong to. They can have 100 million or more combinations.

Unfortunately, if lightning did scramble your opener, you'll have to get someone in to service or replace it. Your best bet would be to call a company that installs the brand of opener you have.

Door Closes Too Fast

What can I do to cushion the impact of a storm door that closes too hard? No matter what I do to adjust the closing mechanism, the door closes slowly until the last 4 inches then slams against the frame.

JEFF EDGAR, LOCKPORT, ILL.

Tom Silva replies: Actually, that's what closing mechanisms, or closers, are designed to do. Moving the door quickly over those last 4 inches or so ensures that it will latch itself properly. But if you think the door is slamming too hard, maybe it's time to replace the mechanism. ■

To send a question to Ask This Old House go to thisoldhouse.com/asktoh or write to:

Ask This Old House
This Old House magazine
1185 Avenue of the Americas, 27th Floor
New York, NY 10036

Include a complete address and daytime phone number. Published questions will be edited for clarity and length and may be used in other media. We regret that, due to the volume of mail received, we're not able to reply to unpublished questions.

PHOTO: DAVID CARMACK

ADVERTISEMENT

handrails

Massachusetts homeowner Leverett Flint needed handrails in his stairways but was puzzled by how to put them in. He emailed *Ask This Old House* and Tom Silva showed up to lend an expert hand.

irrigation

Outside of Los Angeles, Roger Cook and specialist Bob Galbreath help homeowner Sherry Steele restore water to her slice of the high desert.

sinks

Minnesota homeowner Anne McCandless tried to fix her rusty bathroom sink stopper with a popsicle stick. Richard Trethewey provided a more professional solution.

closets

California couple Brendon and Marlane Gauthier's sliding closet doors were stuck. They emailed *Ask This Old House* and before long Tom Silva put them back on track.

what's your problem?

Tune in this fall and watch *The This Old House Hour* on PBS to see if we have the answer you're looking for.

Ask This Old House

Visit www.thisoldhouse.com/tvschedule to find out when shows are on in your area.

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Skill Building

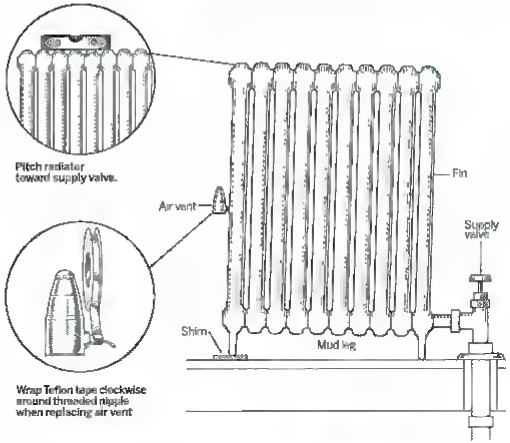
SHARPEN YOUR KNOW-HOW WITH THESE TIPS FOR DOING ANYTHING BETTER AROUND THE HOUSE

Troubleshooting Old Radiators

How to silence the hissing, clunking, and spitting

RELATED STORY, P. 36 "CAST TO LAST"

When a steam radiator gurgles or bangs loudly, won't heat properly, or hisses and spits, it needs help. But you don't necessarily need to hire a plumber to fix these common problems. Heating expert Dan Holohan, author of "The Lost Art of Steam Heating," offers some homeowner-friendly ways to make your radiators behave.



PROBLEM: Radiator doesn't heat

SOLUTION 1: Open the supply valve. In a one-pipe system, steam travels up a main pipe, and water (condensed steam) travels down the same pipe back to the boiler. Because condensate and steam share the same narrow supply valve, it has to be opened fully for the radiator to work. Turn the valve counterclockwise until it stops. Close a valve only when you want to shut a radiator off completely.

SOLUTION 2: Correct the pitch. When the radiator pitches away from its supply valve, water can pool in one end and rob the steam of heat before the radiator has a chance to warm up. Check the pitch by placing a level across the top of the fins. If the unit is level or pitched away from the valve, shim up the legs opposite the valve just a bit, the recommended pitch is ½ inch for every 5 feet. Don't make the pitch too steep, or sediment inside the radiator may slosh out of the hollow "mud leg" and clog the valve.

SOLUTION 3: Clean or replace the air vent. As steam fills a radiator, it pushes the cooler air out through an air vent, which is supposed to remain open until the steam's heat closes it automatically. But if rust or mineral deposits seal the vent shut, the trapped air blocks the steam from getting in. To clean an air vent, shut off the supply valve and let the radiator cool. Then unscrew the old vent and boil it in vinegar for an hour to dissolve the mineral buildup. Let the vent cool, dry it, and wrap Teflon tape clockwise around its threaded nipple. Screw it back in until it's seated tightly, with the vent's opening pointing up. If the vent is still clogged, remove it and screw in a new replacement, using the Teflon tape as before.

PROBLEM: Spitting vent

SOLUTION 1: Correct the pitch. Water pooling in the bottom of the radiator is being blown up through the vent when steam enters. Follow the pitch-correction steps at left so that water drains out.

SOLUTION 2: Clean or replace the air vent. Air vents should close automatically when steam reaches them, but if a vent is stuck in the open position due to rust or mineral buildup, it will hiss steam and spit water. Follow the vent cleaning and replacement steps at left.

PROBLEM: Gurgling or banging

SOLUTION 1: Open the supply valve. A partly closed valve creates a choke point where water and steam meet, causing gurgling at best, explosive banging at worst. Crank the valve handle counterclockwise until it stops. Crank it the other way only when you want to shut the radiator off completely.

SOLUTION 2: Correct the pitch. Just as a head of steam can push pooled water up through a vent, it can splash that same water into the supply valve. The resulting collision of hot steam and cool water is a recipe for all sorts of noisemaking. Follow the pitch-correction steps above so that water drains out.

—HARRY SAWYERS

In Hot Water
Old radiators that circulate hot water won't bang and hiss the way unhappy steam radiators will, but they can develop a different problem: a trapped bubble of air that keeps the radiator from filling completely and radiating maximum warmth. To restore a hot-water radiator to full function, simply open the little bleed valve on one of the end fins and let the air escape. As you open each valve, hold a container beneath it to catch the stream of water that will flow out after the trapped air is purged.

PHOTO: JOHN BRUNI. ILLUSTRATIONS: HARRY BATES

Installing a Recessed Medicine Cabinet

Fitting one of these into a wall is easy once you find the studs.

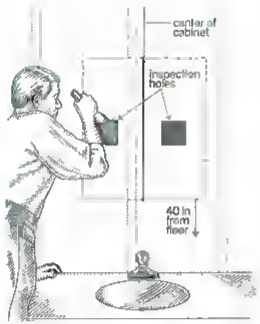
RELATED STORY, P. 31 "MEDICINE SHOW"

A recessed medicine cabinet looks good and makes efficient use of the empty space between wall studs. Installing one yourself is not difficult, if it's going in an interior, non-bearing wall, as shown here. A recessed cabinet on an exterior wall will displace insulation (and keep your cold cream really cold in the winter). A cabinet located in a bearing wall will need a header to transfer the load if a stud has to be cut. Check local codes for header sizing. If the cabinet is less than 14½ inches wide, it will fit between the studs.

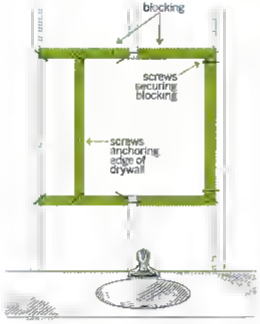
Plan the cuts. The bottom of a medicine cabinet is usually about 40 inches above the floor. Draw a level line at that height, then a vertical line where you want the cabinet to be centered, typically above the sink. Use these references to lay out the perimeter of the hole based on the rough-in dimensions on the template or installation instructions. If there's no template, add ¼ inch to the cabinet's width and ⅛ inch to its height so it will be easy to insert. Before beginning the installation, protect the vanity with cardboard and your lungs with a dust mask.

Locate studs and other obstructions. Find the studs within the area to be cut out by using an electronic stud finder or by drilling a series of probe holes. Next, shut off the power to nearby outlets and fixtures and cut a 5-inch square inspection hole on each side of the stud and within the layout lines. Use a utility knife or rotary cut-out tool and make shallow cuts so you don't accidentally damage whatever wiring, plumbing, or duct work that might be inside the wall. Look inside the wall cavity with a flashlight. Wiring is not usually a problem; it can often be pushed to one side. But vent pipes, water pipes, drain lines, or ducts will be difficult to move; so if they're in the way, your best option is to patch the holes and install a surface-mounted cabinet instead.

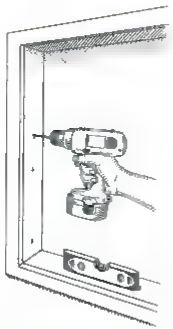
Cut the hole. Once you've determined that there are no obstructions, cut along the layout lines with a drywall saw (for drywall) or a jigsaw with a metal-cutting blade (for plaster). Cut through and remove the obstructing stud. Start with a circular saw and finish with a handsaw to avoid cutting through the drywall or plaster on the other side of the wall. (Note: If your cabinet has lights or a receptacle, this is a good time for an electrician to rough in the wiring.)



Locate studs and check for obstructions.



Install blocking and secure edge of drywall.



Level cabinet and fasten to blocking

Install blocking. Fasten horizontal 2x4 blocking between the studs above and below the opening and vertical blocking to each side as needed to support the sides of the cabinet. Screws or gun-driven nails will work to secure the blocking. Anchor the loose drywall or plaster edges by screwing them to the blocking.

Mount the cabinet. Slip the cabinet into the recess. Have a helper hold it flat against the wall, then drive a trim screw through one side and into the blocking. (If there are no existing pilot holes in the side of the cabinet, drill them before screwing.) Shim the cabinet level and install the remaining screws. A typical cabinet requires at least two screws on each side for support. Finish by filling the gap between the wall and the cabinet with a bead of caulk. —MARK FEIRER

{ TIP }

To take out an exposed stud without damaging the other side of the wall, wrap duct tape around one end of a detached hacksaw blade. Voila! You've got a quick-and-dirty flush-cutting saw that's not going to vibrate as much as a reciprocating saw and risk cracking plaster or wallboard. Put the tape on the end of the blade that the teeth point toward, so that the saw cuts only on the pull stroke.

ILLUSTRATIONS: MARY BATES

Norm's Notebook

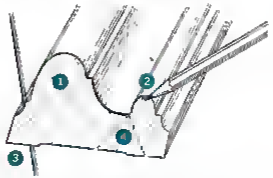
> MASTER CARPENTER NORM ABRAM'S TECHNIQUES FOR THE SAW FEATURED IN TOOLBOX, PAGE 41

> COPING SAW

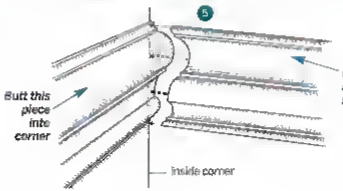
A cope joint is the best way to join pieces of molding that meet at an inside corner. The ends of the molding don't butt on 45-degree angles but overlap, if the wood shrinks, there's never a gap. And no other tool cuts copes as handily as this simple, lightweight, go-anywhere saw.

How to Cut a Cope

There are three keys to successful coping: a sharp blade mounted so its teeth point toward the handle, light pressure to keep the blade from twisting, and patience.



1. Cut a 45-degree miter for an inside corner in the piece to be coped. Cut the adjacent piece of molding square, and butt it into the corner.
2. Darken the edge of the profile with a pencil to highlight where you want to cut. Clamp the molding down to a worktable or sawhorse.
3. Cut with short pull strokes along the darkened profile edge. Angle the blade about 5 degrees toward the back side of the molding. This "backcut" makes it easier to fine-tune the fit in the last step.
4. If the blade binds or your hand position becomes awkward, back out the blade and make relief cuts to remove excess wood between the back of the molding and the pencil line.
5. Fine-tune the fit with a rasp, sandpaper, utility knife, or round file. Test the fit, remove a bit of wood, and check again until the joint is perfect. Now cut the molding's other end square to fit into the next corner, where you'll repeat the process.



How I Hold the Saw

Some carpenters hold the saw handle below the workpiece, but that doesn't work for me. I get better results when I cut from above. Sure, there's a risk of splintering the good face, but the blades I like are so fine—15 teeth per inch—and the strokes so light that it's rarely a problem for me. Also, I grip the the frame where it meets the handle—it improves control when turning the saw to cut curves.

{ TIP }

In the curves, use shorter, faster strokes than when cutting along a straight line. This way, you won't twist the blade, which would make it harder to control and easier to break.

Decorative Cutouts

A coping saw also lets you cut out small decorative designs in the middle of a piece of wood. Just remember to keep the design within the blade's reach—no farther from the edge than the depth of the saw's throat.

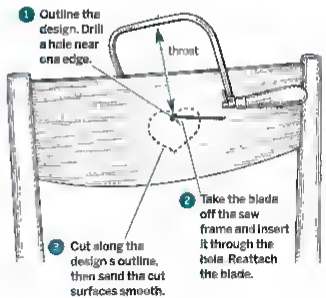


PHOTO: CARL TREMBLAY; ILLUSTRATIONS: MARY BATES

Directory

> SOURCES AND MORE INFORMATION ABOUT PRODUCTS FEATURED IN THIS ISSUE

AROUND THE HOUSE
pp. 17–24

"TOH Destinations" *Special thanks to*— J. Todd Scott, City of Astoria, OR. **"Origins"** *Special thanks to*— Russ Moore, Springfield Town Library, Springfield, VT, and John Alexander, American Precision Museum, Windsor, VT. americanprecision.org. **"The Perfect Storm"** SpencarWorks Inc., Lincoln, NE. 402-499-7848. spencerworks.com.

KITCHEN DESIGN: Small Wonder
pp. 27–28

Contractor: John Grady, Beacon, NY. 914-474-3612. **Contractor:** Carlos Guajardo, Wappinger Falls, NY. 914-447-2905. **Tile:** Crossville Ceramics, Crossville, TN. 931-484-2110. crossvilleinc.com. **Stainless steel countertops:** Dutchess Metal Supply Corp., Poughkeepsie, NY. 845-454-9330. **Faucet:** Newport Brass, a division of Brasstech Inc., Santa Ana, CA. 866-417-5207. newportbrass.com. **Sink:** Elkay, Oak Brook, IL. 630-574-8484. elkayusa.com. **Lighting:** IKEA. 800-434-4532. IKEA.com. **Hutch hardware:** Simon's Hardware, New York, NY. 888-274-6667. simonshardwareandbath.com. **Cabinet pulls and locks:** Design Source, New York, NY. 212-274-0022. **Refrigerator:** LG Appliances, Englewood Cliffs, NJ. 800-243-0000. lgusa.com. **Range:** FiveStar, a division of Brown Stove Works Inc., Cleveland, TN. 800-553-7704. fivestarrange.com.

SALVAGE: Cast to Last
pp. 36–37

Radiator resources: New England Demolition and Salvage, East Wareham, MA. 508-291-7258. Bauer Brothers Salvage Inc., Minneapolis, MN. 612-521-9492. bauersalvage.com.

LUXURIES: Medicine Show
pp. 31–35

Special thanks to— Jill Wilson, LooLoo Design, Portsmouth, RI. 800-508-0022. looloodesign.com.

TOOLBOX: Coping Mechanisms
pp. 41–42

Profiler: Frame 301, Bahco, Throop, PA. 800-446-7404. bahco.com. **Wood-cutting and metal-cutting blades** (wood) CP304 (metal) CP307, Olson, Bethel, CT. 203-792-8622. olsonsaw.com. **Tile-cutting blade:** 216-150 R, Bahco. **Plastic cutting blade:** 360 degree, Weeks Distributors, Taylors, SC. 800-380-3752. durafix.com. **"What to Look For":** (left) SF63510 Olson; (right) SKU# 28, Great Neck, Mineola, NY. 516-746-5352. greatnecksaw.com.

HOW IT WORKS: Gas Cop
pp. 44–45

Meter manufacturers: American Meter Co., Horsham, PA. 215-830-1800. americanmeter.com. Actaris U.S. Gas Inc., Owenton, KY. 502-484-6261. actarisusgas.com. American Gas Association, Washington, DC. 202-824-7204. aga.org. **ERT technology:** Itron, Spokane, WA. 800-374-8766. itron.com. **Gas utility:** CenterPoint Energy, Minnegasco. CenterPoint Energy Inc., Houston TX. centerpointenergy.com. *Special thanks to*— Clem Sebastopoli, senior engineer, Keyspan Energy Delivery, Brooklyn, NY. keyspanenergy.com.

HOMEOWNER'S HANDBOOK
Installing Glass Fireplace Doors
pp. 47–52

Featured doors: GlassFyre II, Insight, Portland, Willamette, Portland, OR. 503-288-8655. portwill.com. **Sales and installation:** Five Sons Chimney Service, Brookfield, CT. 914-774-9486. **Fireplace doors:** Diamond W Products, Albany, NY. 518-459-6775. diamond-w.com. Stoll Fireplace Equipment Inc., Abbeville, SC. 800-421-0771. **Fireplace door distributor:** Fire Glow Distributors Inc., Jefferson Valley, NY. 914-248-7775. fire-glow.com.

NOW WHAT DO I DO?
pp. 54–61

Move a refrigerator: The Fridge Doctor. fridgedoctor.com. Magic Sliders. magicsliders.com. **Dig a hole:** Dig Safely Common Ground Alliance. 888-258-0808. digsafely.com. **Deal with a seized lock:** WD-40. wd40.com. Tri-Flow Lubricants, Cleveland, OH. 877-487-4356. triflowlubricants.com. Schlage. schlage.com. **Termites:** National Pest Management Association, Fairfax, VA. 703-352-6762. pestworld.org. **Emergency plumbing:** Metropolitan Plumbing, Minneapolis, MN. 952-906-0193. **Clean stained grout:** Debby Parker, The Tile Lady Co., Citrus Heights, CA. 916-721-4703. tilelady.com. **Flooded basement:** Federal Emergency Management Agency. 800-621-3362. fema.gov. **Toggle bolt:** Snaptoggle toggle bolt, Toggler Anchor System, Elmsford, NY. 914-347-2727. toggler.com. **Identify lead:** U.S. Environmental Protection Agency Lead Awareness Program, National Lead Information Center, Rochester, NY. 800-424-5323. epa.gov/lead/nlic.htm. **Use a fire extinguisher:** National Fire Protection Association, Quincy, MA. 617-770-3000. nfpa.org. **Household hazardous waste programs:** Earth 911, Scottsdale, AZ. 480-889-2650. earth911.org. **Find a certified arborist:** Tree Care Industry Association, Manchester, NH. 603-314-5380. tcia.org. **Asbestos info:** EPA. epa.gov/asbestos. *Special thanks to*— John Olson, Home Hardware, Waldwick, NJ. 201-652-5666. homehardwaresupply.com.

A CHIP OFF THE OLD BLOCK
pp. 62–67

Architect: Paul Hannan AIA and Betsy Barnard, Sala Architects, Minneapolis, MN. 612-379-3037. salaarc.com. **Builder:** Steve Biron, Biron Homes & Design, St. Charles, IL. 630-443-7393. bironhomes.com. **Garage doors:** J & D Door Sales, Big Rock, IL. 630-393-2282. jdgaragedoor.com. **Refrigerator:** Sub-Zero, Madison, WI. 800-222-7820. subzero.com. **Dishwasher:** Bosch, Huntington Beach, CA. 800-921-9622. boschappliances.com. **Cooktop and double oven:** Thermador, Huntington Beach, CA. 800-656-9226. thermador.com. **Exhaust hood:** Best by Broan, Hartford, WI. 800-558-1711. bestbybroan.com. **Butcher block island:** John Boos & Co., Effingham, IL. 217-347-7701. johnboos.com. **Cabinets:** Romar Cabinets, Channahon, IL. 815-467-9900. romarcabinet.com. **Kitchen sink and faucet:** Franke, Hatfield, PA. 800-626-5771. frankeksd.com. **Tin light fixtures:** Robert Horwood Tinsmith, Plymouth-MI. 734-453-8659. **Windows:** Pella Architectural Series, Pella, IA. 800-374-4758. pella.com.

FROM THE TOH TV JOB SITE
What's Holding Up Your House?
pp. 68–71

Architect: Will Ruhl AIA, Boston, MA. 617-268-5479. ruhlwalker.com. **Engineered lumber:** Georgia-Pacific Corp., Atlanta, CA. 800-284-5347. gp.com. **Metal connectors:** Simpson Strong-Tie. Simpson Manufacturing Co. Inc., Dublin, CA. 800-999-5099.

BARS, STRAIGHT UP
pp. 72–77

BAR IN TABLE OF CONTENTS: Architect: Haverson Architecture and Design, Greenwich, CT. 203-629-8300. haversonarchitecture.com. **Custom cabinetry:** Hibernian Millwork, Hopewell Junction, NY. 845-227-1939. **Mirror:** All Glass, Cos Cob, CT. 203-629-2446. **OPENER: Designer:** Dan McFadden, Past Basket, Geneva, IL. 630-208-1011. pastbasket.com. **Construction manager:** John G. Harty Ltd., Highland Park, IL. 847-266-1845. **Cabinetry:** Quality Custom Cabinetry, New Holland, PA. 800-909-6006. qcc.com. **Sink:** Franke, Hatfield, PA. 800-626-5771. frankeksd.com. **Faucet:** Rohl, Costa Mesa, CA. 800-777-9762. rohlhome.com. **Wine cooler:** Sub-Zero Freezer Co., Madison, WI. 800-222-7820. subzero.com. **Backsplash tile:** Chadwicks, Libertyville, IL. 847-680-3222. chadwickssurfaces.net. **RED OR WHITE Architect:** Haverson Architecture and Design, Greenwich, CT. 203-629-8300. haversonarchitecture.com. **Cabinetry:** Hibernian Millwork, Hopewell Junction, NY. 845-227-1939. **HIDDEN EXTRAS Designer:** Larry Frasier, Frasier's Kitchen Showplace, Rhinelander, WI. 715-365-3333. frasierkitchens.com. **Cabinetry:** Pine by Wood-Mode, Fine Custom Cabinetry, Kreamer, PA. 877-635-7500. wood-mode.com. **Cabinet hardware:** Classic Brass, Jamestown, NY. 716-763-1400. classic-brass.com. **Wine cooler and icemaker:** Sub-Zero Freezer Co., Madison, WI. 800-222-7820. subzero.com. **Sink:** Oregon Copper Bowl Company, Eugene, OR. 541-485-9845. oregoncopperbowl.com. **Tumbled slate backsplash:** Ann Sacks, Portland, OR. 800-278-8453. annsacks.com. **BRIDGING THREE ROOMS Designer:** Kathy Marshall, CKD, K Marshall Design Inc., S. Hamilton, MA. 978-465-7199. kmarshalldesign.com. **Backsplash beadboard and hardware:** Plain & Fancy Custom Cabinetry, Schaefferstown, PA. 800-447-9006. plainfancycabinetry.com. **Sink and faucet:** American Standard, Piscataway, NJ. 800-442-1902. americanstandard-us.com. **Honed black-granite countertop:** Gerrity Stone, Woburn, MA. 781-938-1820. gerritystone.com. **THE OLD FASHIONED Architectural Antiques Exchange**, Philadelphia, PA. 215-922-3669. architecturalantiques.com. **THE SIDE CAR:** Pottery Barn. 888-779-5176. potterybarn.com (not shown). Bernhardt. 877-205-5793. bernhardt.com. **SOCIAL SERVICE Contractor:** Clark Remington, Clark Remington Design and Planning, Pacific Palisades, CA. 805-496-3630. **Base cabinetry:** PWN Carpenters, Duarte CA. 626-303-2016. **Faucet:** Price Pfister, Foothill Ranch, CA. 800-732-8238. pricepfister.com. *Special thanks to*— Bill Nickerson, Northern Millwork Corp., Tilton NH. 603-286-4235. northernmillwork.com. **STARTED AS A CLOSET Cabinetry:** Cow House Designs, Atlanta, GA. 404-452-5154. cowhousedesigns.com. **Glass-front wine cooler:** The Home Depot. 800-553-3199. homedepot.com. **Faucet:** Delta Faucet Co., Indianapolis, IN. 800-345-3358. deltafaucet.com. **Sink:** Franke, Hatfield, PA. 800-626-5771. frankeksd.com. *Special thanks to*— Jeff Conefry of Incurvature Furniture. **UNDER THE STAIRS Architect:** Stuart L. Disston AIA, Austin Patterson Disston, Quogue, NY. 631-653-6605. apdarchitects.com. **Cabinetmaker:** Joshua Friedman & Co., New London, CT. 860-439-1637. **Sink:** Bates and Bates, Paramount, CA. 800-726-7680. batesandbates.com. **Faucet:** Harrington Brass Works Ltd., Allendale, NJ. 201-818-1300. harringtonbrassworks.com.

WORKSHOP
Opener
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Al Bar, Wilmette Platers, Wilmette, IL. 800-300-6762. albarwilmette.com.

Ask This Old House
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"Time to Replace a Furnace?" The American Council for an Energy-Efficient Economy. aceee.org. **"Landscaping as a Career":** American Nursery & Landscape Association. anla.org. Professional Landcare Network. landcarenetwork.org. American Society of Landscape Architects. asla.org. Professional Grounds Management Society. pgms.org. **"Garage Door Opens by Itself":** Liftmaster Doors, The Chamberlain Group, Elmhurst, IL. 800-528-5880. liftmaster.com. Prime-Line Slide Co., San Bernardino, CA. 800-475-4332. slide-co.com.

Skill Building
pp. 89–90

Electrician: Peter Eng Electrical Enterprises Inc., New Milford, CT. 860-350-1551. **Replacement air vents for steam radiators:** State Supply Company Inc., St. Paul, MN. 800-772-2099. statesupply.com. *Special thanks to*— Dan Holohan. **For more information:** heatinghelp.com.

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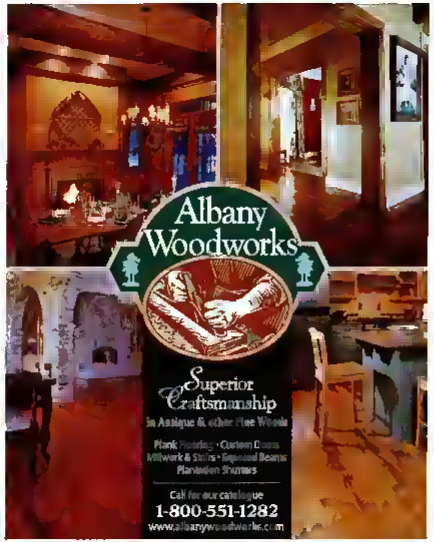
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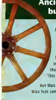

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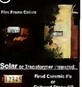

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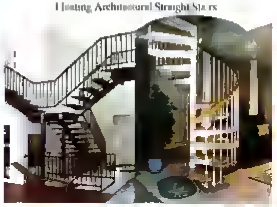

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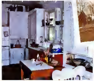
A BAPTIST MINISTER with strong allegiances to the Confederacy, George Cypert Talley was not the most popular guy in Union-loving South English, Iowa, back in 1863. So it probably wasn't such a great idea when he and his supporters stopped in at a local tavern, popular among Union Army vets, on their way back from a rally against the Northern aggression. Still nursing their battlefield wounds—with no doubt more than a couple pints of ale—the tavern's patrons started a gunfight. Once the musket powder had cleared, Talley lay mortally wounded with a bullet to the head.

About 10 years later, a Civil War widow built a three-bedroom brick house on the property where Talley met his Maker. Distinguished by four mastlike oak pillars constructed by a well-known regional shipbuilder, the house also features elegant front and rear veranda railings that echo ones seen on Mississippi riverboats.

By the early 1980s, when J. E. Allison bought the house, it had long been vacant and was filled with empty beer cans and old mattresses. But Allison was attracted to its solid walls, made with five layers of brick and thick enough to enclose the house's chimney. It had (and still has) its original pine floors on the second floor and 1920s oak floors downstairs.

Having updated the plumbing and electrical systems, Allison made the house into a home that's a frequent meeting place for gourmet dinners and raucous get-togethers. About five years ago, she replaced the flat roof, which had been damaged during a storm, with a pitched asphalt roof that provides better drainage.

After 20 years, Allison is ready to move into smaller digs and is looking for a buyer to continue the "restoration in progress." That person will have the benefit of living in a small, rural town nearly 40 miles from Iowa City in a house where one can sit on the veranda, glass in hand, and gaze out over a peaceful parcel that witnessed its own Civil War struggle more than a century ago. —KEITH PANDOLFI



LEFT: Built in 1872, the house is still adorned by its original columns and veranda railings. It rests on a foundation of solid limestone. **MIDDLE:** A photo of the place, circa 1900. **BOTTOM LEFT:** With the systems updated, the home is in livable condition, though the plaster walls and ceilings need some cosmetic work. **BOTTOM RIGHT:** The original brick dentil molding can still be seen below the new roof.

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