

This Old House

An Artful Renovation

Preview the new season's first TV project

Repaint
a firebox

Tour
our Idea
House

Curb
your
gutters

23 easy
fixes

Rakes
we love

6
prize-
winning
remodels

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Heating Classic Homes the Modern Way

Gas and oil heat can be expensive, noisy and unsightly. Plus, installing central air in old houses often requires carving up closets and walls at great expense and disruption. Now, there's an easier, more efficient way to keep your family warm this season.

Fujitsu Halcyon mini-split systems are ductless heating and cooling systems that allow you to control the temperatures in individual rooms by connecting up to eight indoor units to one outdoor unit.

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A comfortable home is a happy home. That's why thousands of families choose Fujitsu for whisper-quiet, energy-efficient cooling & heating systems. These sleek wall-mounted units require no ductwork and allow for flexible, room-by-room temperature control. And, with invisible utility rebates, the savings start on day one. Fujitsu, quietly revolutionizing home comfort.



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WINDOWS AND DOORS

"Look a little past"

Contents OCTOBER 2016



features

70 patience pays off

The new series of TOOT TV backlit mirrors and Crafts boxes that had inspired the series

76 grand-prize winners

Spotting potential where others see no promise, a Utah couple take top honors in our Reader's Choice Contest

84 one-room wonders

The ultimate hybrid live-work-walk-swing modern workspace

92 23 things you didn't know you could fix yourself
Expand your DIY repertoire and save money at the same time

70

PATIENCE PAYS OFF

PHOTO BY GUY LAWRENCE

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2016 idea house

30 stylish and sustainable
 Discover the newest home tours with a nod to energy efficiency. TH's newest idea houses offer inspiration in every room.

departments

15 home solutions

From tool help for people who aren't handy to the best apps for finding the right landscaping trends, and more.

30 before + after: bath

As we go back to a new home project, complements of a bathroom addition.

34 fix it

Straightforward steps and wisdom to make repairs—like fixing a leaky faucet.

36 photoshop redo

Lighten up your color palette and see what landscaping brightens a bathroom facade.

39 shopping

Articles with award picks can add interest to your list.

32 budget redo

With savvy use of strategies, a big renovation can stay both small and fun for just \$200.

34 do it right

Everything you need to know to clean your next toilet.

35 paint ideas

Painting a wall and work gives a concrete floor a polished tile look.

41 ask this old house

Class of character: How, what to get the best of old-fashioned woods in maple trees, and more.

in every issue

- 7 **TCW** tour
- 11 **reader mail**
- 98 **directory**
- 106 **see this old house**



on the cover



Cover Photography: GUY/ISTOCK/ALAMY



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PHOTOS: (TOP) GUY/ISTOCK/ALAMY; (BOTTOM) SHUTTERSTOCK/STEFAN



3 All-Drive Self-Cleaning Toilet



You may not be ready for unexpected visitors. But your toilet will be.

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Letter FROM TOH



New season,
new beginnings

As far back as I can remember, autumn seemed like the time for a new beginning. Maybe it had something to do with the start of the school year—new pencils, new books, a whole slew of Crayolas that the 6-ft coast box with the stapler that I owned.

Or maybe it had to do with where I grew up—the city of Detroit, where almost 20 percent of the time it rained on the Tigers' opening day in April. You couldn't trust spring to be the start of anything in Detroit.

Ah, but October. The air was crisp, the sky an impossible blue, the moon hung full and high. October always felt like the start of something big.

So it seems particularly fitting that October is the start of a lot of new things here at The Old House. The first is our completely redesigned website (theoldhouse.com), which will make finding the answers you want from so much easier and more intuitive—whether it's an article you're looking up, a video you've watched, or a quick solution to an at-home problem. Since so many of you access the site on mobile devices, it has been optimized for that. The video at the heart of this brand has been moved front and center. And overall, it will be a better, faster, and, I hope, vastly improved experience however you come to it.

The second new thing is a new home—our 2016 Idea House in Devon, Massachusetts. Talk about a smart house! At 1,500 square feet, this one will cost, on average, approximately one-third of the energy of a typical house of its size. It's made of low-carbon concrete masonry blocks, has smart solar roof, and is in a walkable neighborhood that offers lots of opportunities for exercising with the neighborhood.

Finally, there is a new thing that is actually a return to an old one. And that's our story on the first house in TOH TV's new season, an Arts and Crafts home in Arlington, Massachusetts. It's been many years since a week in progress like this was featured so prominently in our magazine, but it's where we started and what we're still all about. Hope that as you turn these pages and visit our site, you enjoy it all—the new, the old, and everything in between.



New and
improved

Our website (theoldhouse.com), has been redesigned, re-optimized and optimized

for mobile users. Dig deeper to see it all with Brian McLean, Guillermo Eschbacher, Bill Mazza, Elizabeth Lilly, Vanessa Vitale, Robert Herlin, design agency Latibart, and our catalog/web developers, Mahad Tarek and Abu Zakaria. Bravo!


SUSAN WETLAND,
EDITOR IN CHIEF
susan@theoldhouse.com

→ hvac and plumbing

On the job with Mercedes-Benz Metris

HVAC and plumbing contractor Joe Bolinsky, president of Advanced Mechanical Systems in Stow, Massachusetts, on what it takes to build a thriving business



My specialty: Full service plumbing, heating, and air conditioning—installation, maintenance, and service

What I love about my work: I never have the same day twice!

The secret to running a successful business:

Efficiency. And for me, that means providing great customer service in a timely fashion while still maintaining profitability.

My most important tool: My Mercedes-Benz Metris. It's low to the ground, the doors open more than 100 degrees, and it has more than 8 feet of depth, so I can easily load in a large air conditioner or water heater unit. Just one sliding door means additional storage space along the length of the vehicle. Metris has eliminated a lot of the blind spots common to other vans. It's quiet inside, the heated seats are wonderful in the winter, and the Bluetooth turns my van into a rolling office. The GPS is user-friendly and simple to use—like all the Metris controls. Having a van that gets great mileage with lots of storage makes me more efficient and my day easier. I love driving my Metris. I was so impressed with the van, I've already bought a second van for my company.



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Please see Brief Summary of Prescribing Information on the next page.

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When diet and the highest tolerated dose of a statin are not enough, adding PRALUENT could make it PLUNGE.

PRALUENT is different than a statin, and is for adults with uncontrolled LDL (bad) cholesterol who have heart problems due to plaque build-up in the arteries, or who have HFpEF.

- In clinical studies of patients with heart problems due to plaque in the arteries or with HFpEF who were not at their LDL cholesterol goal despite being on the highest tolerated dose of a statin, adding PRALUENT to a statin reduced high LDL cholesterol an additional **44%-58%**, on average.
- So if diet, exercise, and statins haven't been enough to get your LDL cholesterol to where it needs to be, talk to your doctor about adding PRALUENT.

PRALUENT is covered by most health insurance and Medicare plans!

What is PRALUENT (allrocumab)?

PRALUENT is an injectable prescription medicine called a PCSK9 inhibitor. PRALUENT is used along with diet and maximally tolerated statin therapy in adults with heterozygous familial hypercholesterolemia (an inherited condition that causes high levels of LDL) or atherosclerotic heart problems, who need additional lowering of LDL cholesterol.

The effect of PRALUENT on heart problems such as heart attacks, strokes, or death is not known.

Safety and efficacy in children is unknown.

Important Safety Information for PRALUENT
Do not use PRALUENT if you are allergic to allrocumab or to any of the ingredients in PRALUENT.

Before starting PRALUENT, tell your healthcare provider about all your medical conditions, including allergies, and if you are pregnant or plan to become pregnant or if you are breastfeeding or plan to breastfeed.

Tell your healthcare provider or pharmacist about any prescription and over-the-counter medicines you are taking or plan to take, including natural or herbal remedies.

PRALUENT can cause serious side effects, including allergic reactions that can be severe and require treatment in a hospital. Call your healthcare provider or go to the nearest emergency room right away if

you have any symptoms of an allergic reaction, including a severe rash, redness, severe itching, a swollen face, or trouble breathing.

The most common side effects of PRALUENT include redness, itching, swelling, or pain/tenderness at the injection site, symptoms of the common cold, and flu or flu-like symptoms. Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

Talk to your healthcare provider about the right way to prepare and give yourself a PRALUENT injection and follow the "Instructions for Use" that comes with PRALUENT.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.


Praluent®
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*Heterozygous familial hypercholesterolemia
†Primary data are provided by Research Markets Insight & Technology, LLC (RMI) and are current as of February 2016. Because formulas for all-cause and major health costs after more than one primary prevention therapy directly with the health plan to confirm coverage.

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Summary of information about PRALUENT® (atorvastatin) (PRALUENT) injection for subcutaneous injection	Rx Only
<p>What is PRALUENT? PRALUENT is an injectable prescription medicine called a PCSK9 inhibitor. PRALUENT is used along with diet and extremely low-dose statin therapy in adults with heterozygous familial hypercholesterolemia (an inherited condition that causes high levels of LDL) or atherosclerotic heart problems, who need additional lowering of LDL cholesterol. The effect of PRALUENT on heart problems such as heart attacks, stroke, or death is not known. It is not known if PRALUENT is safe and effective in children.</p>	
<p>Who should not use PRALUENT? Do not use PRALUENT if you are allergic to atorvastatin or to any of the ingredients in PRALUENT. See the end of this Summary of Information for a complete list of ingredients in PRALUENT.</p>	
<p>What should I tell my healthcare provider before using PRALUENT? Before you start using PRALUENT, tell your healthcare provider about all your medical conditions, including allergies, and if you • are pregnant or plan to become pregnant. It is not known if PRALUENT will harm your unborn baby. Tell your healthcare provider if you become pregnant while taking PRALUENT. • are breastfeeding or plan to breastfeed. You and your healthcare provider should decide if you will take PRALUENT or breastfeed. You should not do both without talking to your healthcare provider first. Tell your healthcare provider or pharmacist about any prescription and over-the-counter medicines you are taking or plan to take, including natural or herbal remedies.</p>	
<p>How should I use PRALUENT? • See the detailed "Instructions for Use" that comes with Praluent about the right way to prepare and give your PRALUENT injections. • Use PRALUENT exactly as your healthcare provider tells you to use it. • PRALUENT comes as a single-dose (1 time) pre-filled pen (autoinjector), or as a single-dose pre-filled syringe. Your healthcare provider will prescribe the type and dose that is best for you. • If your healthcare provider decides that you or a caregiver can give the injections of PRALUENT, you or your caregiver should receive training on the right way to prepare and administer PRALUENT. Do not try to inject PRALUENT until you have been shown the right way by your healthcare provider or nurse. • PRALUENT is given as an injection under the skin (subcutaneous) 1 time every 2 weeks. • Do not inject PRALUENT together with other injectable medicines at the same injection site. • Always check the label of your pen or syringe to make sure you have the correct medicine and the correct dose of PRALUENT before each injection. • If you forget to use PRALUENT or are not able to take the dose at your regular time, inject your missed dose as soon as you remember, within 7 days of your missed dose. Then, take your next dose 2 weeks from the day you missed your dose. This will put you back on your original schedule. If the missed dose is not given within 7 days, wait until your next scheduled dose to re-start PRALUENT. This will keep you on your original schedule. If you are not sure when to re-start PRALUENT, ask your healthcare provider or pharmacist. • If you stop using PRALUENT then you should talk to your healthcare provider or pharmacist. • Do not stop using PRALUENT without talking with your healthcare provider. If you stop using PRALUENT, your cholesterol levels can increase.</p>	
<p>What are the possible side effects of PRALUENT? PRALUENT can cause serious side effects, including: • allergic reactions. PRALUENT may cause allergic reactions that can be severe and require treatment in a hospital. Call your healthcare provider or go to the nearest hospital emergency room right away if you have any symptoms of an allergic reaction including a severe rash, redness, swelling, itching, a swollen face, or trouble breathing. The most common side effects of PRALUENT include: redness, itching, swelling, or pain/tenderness at the injection site; symptoms of the common cold; and flu- or fever-like symptoms. Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all of the possible side effects of PRALUENT. Ask your healthcare provider or pharmacist for more information. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.</p>	
<p>General information about the safe and effective use of PRALUENT. Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use PRALUENT for a condition for which it was not prescribed. Do not give PRALUENT to other people, even if they have the same symptoms that you have. It may harm them. This is a summary of the most important information about PRALUENT. If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for information about PRALUENT that is written for health professionals. For more information about PRALUENT, go to www.PRALUENT.com or call 1-844-PRALUENT (1-844-772-5636).</p>	
<p>What are the ingredients in PRALUENT? • Active ingredient: atorvastatin • Inactive ingredients: lactide, polybutyrate 20, sucrose, and water for injection</p>	
<p>Manufactured by: Bristol-Myers Squibb U.S. LLC (Bristol-Myers Squibb), 400 Montgomery Avenue, Kenilworth, NJ 07033 U.S. LLC (Bristol-Myers Squibb) and Regeneron Pharmaceuticals, Inc. (Regeneron), 401 Route 9W, Wallingford, CT 06495 Regeneron Pharmaceuticals, Inc. / Bristol-Myers Squibb U.S. LLC</p>	

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Etch a demon—with a drill

Carving pumpkins used to mean win'ning looks like Jack the Ripper. Today, many pumpkin artists use a tool that gently caresses away the tough outer layer, leaving intact a translucent orange "skin." The cordless DeWalt shown here (Pumpkin Carving Kit, \$21 [homedepot.com]) comes with its own etcher, making it apt for novices and first-timers. You provide the batteries—unless you've got a marker and the knife, your own scary backlit scene.

Use a power drill to power the art of etching to a surface depth.

Curb gunky gutters

Take action to keep downspouts running freely before those shade trees start shedding in earnest. One of these guards won't totally free you of ladder duty, but it could buy you time between checkups.

Mesh-screen caps

▶ HOW THEY WORK

A vinyl, plastic, or metal grate atop the gutter keeps water in while keeping leaves out.

▶ **YOUR JOB:** Brushing aside any accumulated debris from time to time to prevent runoff from cascading over the face of the gutter.

▶ **THE COST:** Seamless, pre-installed systems start near \$5 per linear foot, while snap-on DIY options, which are more visible, start at about 33 cents per foot.

Foam inserts

▶ HOW THEY WORK

A porous foam that fits half round or K-style gutters blocks leaves while letting water through. These DIY guards often come in 4-foot sections that are easily inserted into bare corners or fit around brackets. Because they nest inside the gutter, they're hidden from view.

▶ **YOUR JOB:** Regular debris removal.

▶ **THE COST:** Prices \$1.75 to \$3.50 per linear foot.

Surface-tension boots

▶ HOW THEY WORK

An adhesive, a hood (shown at right) sits on top, water follows its rounded edge and flows into the gutter, though heavy rain can overflow it. Some boots have clips that make it easy to remove them to check gutters.

▶ **YOUR JOB:** Occasional cleaning of small debris.

▶ **THE COST:** From \$15 per linear foot when a pro installs them, and from \$12 for DIY.

—SIL VAGLIA



Down-Gutter Topper

Number 1: No leaning

Extension ladder safety has been something of a running theme in these pages—and that's a good thing. Every year, according to some estimates, some 184,000 people land in the ER because they scrambled up without heeding the accident-avoidance rules.

Avoid the shakes.

Stabilize your ladder on dry, level ground. If you are working at the roofline, extend it several feet above the point of contact. Secure the licks.

Angle carefully.

Measure one-fourth of the ladder's length. That's how far the ladder should be from the wall.

Wear good shoes.

They should have non-slip soles that are fairly legal.

Stop at the top.

No matter how tempting, don't step on the top three rungs.

Don't overreach.

Keep your hips centered between the side rails. Leaning sideways is easy, dangerous.



Grime fighter

If you're about to give those windows one last wipe-down before it gets too cold, consider picking up this handy tool. It's called the Grime Fighter (Grime Fighter: WYGO, \$40, www.wygo.com). It's a genius and cracks up dirty solution faster than you can say "paper towel."

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It's (so) hard to sell your definitely-not-cookin'-cutler home. Try some of these Realtor®-tested phrases to market its swoon-worthy assets.

PERIOD STYLE

"High ceilings" (2), "sovereign" (1), and "an opportunity to own an extraordinary piece of local history" will not, says Ms. Realtor® Melissa Matthews in Hall Springs, Ark.

SUBWAY TILE

Homebuyers with subway tile sold 68 days faster and for \$16 more than homes without it, according to Zillow. The real estate company Historic paint colors, farmhouse sinks, and exposed brick retain their luster, too.

EXTRA DETAIL

"Classic Craftsman workmanship" is worth gold, says Cole Dekkers, a Realtor® in the Minneapolis area. Also "built-in" and "10- to 12-inch high baseboards" (2), great details like archedways (1) and crown moldings. No nibbles? Try "cove ceilings."



Snappy decor apps

Shopping for finishes? Tap your iPhone to streamline the process.

WALLPAPER Save anyone like that but don't know the answer or color? This app allows you to upload a photo and find a good match, or search by color or keyword. Free seven-day trial, then \$2.99 per month, paperapp.com

FURNISHINGS Use this app to view options decorated in a particular style, price range, or color, along with great ideas you'll see sources for some of your finds. Free, www.mylife.com

PALETTE This app pulls out the hues in selected photos and suggests compatible paint colors from a range of companies. Free, www.paintpalette.com



Put a gloss on it

Polyurethane is a durable and water resistant, it has long-lasting sheen and even washes as a wood finish. Originally had to be brushed on, but different formulations mean it can now be applied as a spray or by wiping it on with a rag. Here's how to prep which approach is best for your project.

► **Brush-on** Great for broad, flat horizontal surfaces—floors, table-tops, chair seats. Forms a thicker coat, so the finish builds up faster. Polyurethane coatings brushed on vertical or contoured surfaces are more likely to drip and run. Brushes can also introduce bubbles, but a tapping off will get rid of them. Unless the brush is sloping it against the side of the can, then hold the brush nearly vertical and gently drag it over the wet coating.

► **Wipe-on** This less-viscous poly is best for rounded, vertical or contoured surfaces—crown molding, wainscoting, stair balusters—where brushing might create dips. Each wipe on coats is thicker than one brushed on, so four coats are needed for good protection.

► **Spray** Handy when coating hard to reach surfaces, such as cabinet drawers and chair spindles, or encapsulating faking paint on fire-damaged beds. Or use it to touch up scratched or damaged finish. Sprays require careful application and some practice to avoid drips.

—DIANNA BARCE

The home improvement experts at ^{This Old}House trust flooring from Lumber Liquidators...



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FLOOR TRENDS
FALL 2016

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Do ceilings have to be white?



We asked Amy Lau, an interior designer in New York City, to weigh in. Lau is fan of color, and offers tips on how to stretch that \$10 wall.

- ▶ **DO THE CEILING LAST.** Like to choose a color for the ceiling only after I know the wall color. Colorful ceilings often work best with neutral walls.
- ▶ **GO SOFT.** Pastel hues work best on ceiling bedrooms and living spaces—save brightly colored ceilings for kids' rooms. Have a very pale blue, especially if the rug is also blue, or a pale green if the wall color is medium neutral, like some grays and beiges. Fill in to cut the wall color in half and add 50% white for the ceiling—it's enveloping and draws the eye up.
- ▶ **CONSIDER HIGH GLOSS.** A lacquer like finish, such as the oil-based high gloss I used in the room shown above (Benjamin Moore's White Glaze) has a high quality that reflects light and adds a sense of spaciousness. But the surface has to be perfect. A glossy finish shows every flaw. That's one reason ceilings are so often made white.

Cool rakes that stack up

Whether you're gathering leaves into a pile or leveling soil to prep for grass seed, a rake is an important part of fall yard maintenance. While they all require that trademark push-pull motion, many are task-specific. Here are three worth storing year-round.



The Dual Tines II rake wide edge on rear pulls under shrubs when the longer offset tines lift.



Multitasker

This one is designed to do a little bit of everything, from raking leaves to clearing rocks and spreading mulch. It's made with flexible, tapered metal tines, a variety of color-coded areas of soft plastic.

For more information visit www.fiskitools.com or call 1-800-541-7273.



Classic heavyweight

This design, often called a bow rake, hasn't changed much over the years. The latest version has two sets of tines in two rows: a front set set to pull and level soil, and a rear of rubber ones to help with grading.

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TELEMUNDO

Open and Inviting

A master-suite addition offers the opportunity for a wet-room shower space **BY NICOLE BLUNN • PHOTOGRAPHS BY CARY DANN**

EVEN A LUXURIOUS shower stall can really chop up a bath layout. When Hans and Wendy Foster bought their 1965 bungalow in Austin, Texas, they knew they wanted a spacious, open master bath inspired by the wet-room-style hotel baths that Wendy encountered while traveling through Europe. But first, the home's sole existing bath, located off what is now the family's living room, had to go.

Enter architect Richard Hughes, who bumped out the back of the house 5 feet to create a proper master suite. Now a dramatic soaking tub and rain shower serve as focal points for a wet room at the far end of the space, where the floor slopes toward the central drain and a platform provides a level spot for the tub. Our step-down, fix-and-lets pedestal sinks on opposite walls sit just inside the pocket entry door. Peppy round tile and nickel finishes unify the new area. Says Hans, "We love how open it is, and there's a hidden benefit—with no shower doors or curtains, it's really easy to clean!"



BEFORE The wet bath in the house was shoehorned into a corner of a former bedroom and had been updated in 40 years.

AFTER A cast-in-place concrete slab and sheetrocking to below are the only pieces of the wet-room-style bathing area. Tub, fixtures, showerhead, toilet.



White gray paint for the slabs above the toilet in the custom cabinet under one of the windows and provides a subtle contrast to the sage green walls. Paint: Sherwin-Williams (left cabinet) rock/iron (walls)

White-iron pedestal sinks, made-to-order vanity and two light sconces establish a pleasing symmetry. The sliding five-panel pocket door and decorative casing echo original features of the house. Sinks: Kohler



after

In total, in an addition, the new bath has an open wet-room area and unobstructed flow throughout.

before

The existing four-room bath had a sink, toilet, and bathtub but little room to move.



1. Raised the floor to center the wet room in its
2. Built a lead shower bench and sloped the wet-room floor for drainage.
3. Custom-built trough cabinets for the fixtures.



4. Installed platform as a level surface for the tub and to conceal plumbing.
5. Put showerhead in the wet room using and a handheld on the wall.
6. Placed fix-and-lets pedestal sinks, opposing walls just inside a space-saving pocket door.

PHOTOGRAPHS BY CARY DANN



BEFORE

Repoint a firebox

Unightly cracked and crumbling mortar inside a fireplace can be fixed in minutes with a few simple tools

BY THOMAS BAKER • PHOTOGRAPHS BY WENDELL T. WEBER

JOB #136
TIME: 30 minutes
DIFFICULTY: Easy



Mark Schaub of Chateau Events shows how to refresh damaged fireplace mortar. He appears regularly on TV episodes of *The DIY Show*.

1

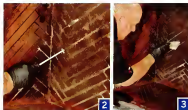
TOOLBOX

- wire brush
- 5-gallon bucket
- sparge with stainless-steel triangular carbide blade
- stiff bristle brush
- wet/dry vac
- nylon bristle scrub
- refractory mortar
- caulk gun
- back-painting bowl



COOL MORTAR FOR A HOT FIRE

The mortar around brick joints consists of sand, lime, and portland cement. But in a fireplace, that mortar crumbles away when subjected to roaring wood fires. For this application, masons recommend a refractory mortar for most of the pressure, which can withstand heat up to 2,000 degrees. Yet even refractory mortar can fail as the backwash expands and contracts with repeated fires. Fortunately, being there's a backup mortar is using. Thanks to high-temp fireproof mortar packaged as caulk tubes, like the ones above. The old masonry art of repointing—making mortar in a bucket and kneading it in—is being lost just



2

3



4



5

6

STEP-BY-STEP

1) Wash the brick. Schaub demulsifies grooves. Then thoroughly scrub each side of the bricks with an abrasive pad on a wet sponge. Soft dissolves, but really abrades. The washing also disperses the brick and mortar—a necessary step before repointing.

2) Dig out the loose mortar. Using a grove removal tool fitted with a triangular carbide blade like the one made by Goldblatt (goldblatttools.com), Schaub scrapes out cracked, loose, and crumbling mortar. His blade follows the sides of the bricks, leaving the edges of the brick. The blade's triangular shape prevents it from going too deep (more than 1/2 the width of the joint). He then cleans the joints with a wire scrubber to scrub away and sweeps up the debris crumbs with a wet/dry vac.

3) Wet the joints. Schaub goes over all the scraped joints with a nylon paintbrush, which he dips repeatedly into a bucket of clean water. Refractory mortar beads back to a damp surface, and the brick and lime ensure that all the old brick and mortar are eradicated.

4) Caulk the joints. After slipping a tube of refractory mortar into a caulk gun, Schaub digs the tube's nozzle over all the scraped mortar joints, leaving behind a flat bead of caulk. He also makes sure to fill any gaps between the hearth and the brick face.

5) Pack the mortar. Schaub uses a 1/2-inch-wide back-painting bowl to knead and press the soft mortar firmly into half of the joints. Then he repeats the process with the bowl's edge. In corners, a grooved filler performs the packing and smoothing functions.

6) Wipe away the residue. Multiple sweeps with a damp sponge remove most of the mortar residue. Schaub will wipe the brick again in 24 hours after the remaining residue dries to a haze. The mortar's heat-resistant qualities kick in when it reaches 500 degrees. Either a heat gun or a small broil fire will serve that purpose. ■

Landscaping a stone cottage

Trees, shrubs, and flowering bulbs planted now, in fall's cooler weather, will give a unique vintage house colorful curb appeal come spring

BY MICHELLE ERDMAN • ILLUSTRATION BY DEWEGATE INC.



BEFORE



"WE CUT DOWN a lot of damaged trees around our one-of-a-kind 1930 house and don't know what to plant, but it needs to be deer resistant," says Christine Lang, who shares this Catsville, Maryland, cottage with her husband, Rick Swanson. So we turned to landscape designer Susan Schlegler for ideas.

Since the house is set high, with a lot of bare space in front, Schlegler suggested a layered approach, with boxwoods along the porch skirt, then progressively taller plants including lilacs, liriodendron, and tulips. A magnolia and a Japanese maple underplanted with daffodils frame the house. Pausing the letter scape and spreading the walk to dry-laid limestone complement the stone facade, a birch on the left and pines on the right mark the garden's entry. Says Christine, "We love how the items soften the house, and leaving the plants in bloom. Rick says, 'Let's do it!'"

WHAT TO SEE YOUR HOME HERE?
Submit your landscape to
redo@thisoldhouse.com

finishing touches

Upgrading the front-yard landscaping and tweaking the color palette give the facade a welcoming new look.



daffodils
Tall and deer resistant, with strong stems, this early-blooming variety has white petals with a citron-colored center. "Living Fossil Daffodil" \$25 for five rubber-tyre bricks



neutral paint
Earthy shades cut off the facade's Maryland Southside exterior. Behr's Windsor Tan, Fossil White, Foggy, and Stone Gate. \$20 per gallon at The Home Depot



stone pavers
Natural-colored, veined Pennsylvania blue stone offers a hands-on approach to finishing that's more fitting than poured concrete. About \$8.50 per square foot, at stone yards



Japanese maple
Brilliant burgundy to long-spring, it's tough but bears bright red in winter. "Bloodgood" Japanese maple, \$50 for a 2- to 3-foot tree. bitztreehouses.com

PHOTOS: JEFFREY HARRIS FOR THIS OLD HOUSE; ILLUSTRATION: DEWEGATE INC.

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Dogs of yore

MOLANI TILEWORKS
Size: 3 7/8" x 3 7/8"
One of the first pieces produced by the famed Ann Arbor, Michigan pottery, this Old English design is reminiscent of a solid leather dog. \$20, molanitile.com



Limp on a limb

ACTUAL TILEWORKS
Size: 6 7/8" x 6 7/8"
Adapted from a print by Charles Hayspey (1822-2007), this contemporary ceramic features the whimsical, a-fro'is "mid-wal road" style. \$75, actual.com



Cat fancy

PENNINE POTTERY
Size: 4 1/2" x 4 1/2"
Dramatic as it is in the glass, this results with this high relief design by one of the Detroit studio's in-house artists. \$20, penninepottery.org



Forest friends

ONE TILE
Size: 2 1/2" x 2 1/2" each
The white tile is a 3 1/2" x 3 1/2" square with a white border for eye-catching interest. \$4 each, onetile.com



Rustic look

NOBILIA POTTERY & TILE WORKS
Size: 4" W x 4" H
This square is a perfectly imperious glass tile. Its rustic, earthy appeal. \$18, nobilia.com

Climbing kookas

MOLANI TILEWORKS
Size: 4 1/2" x 4 1/2"
This raised polychrome design showcases the work of the illustrator Charles Harper. \$38, molanitile.com



Oh, deer!

CARRERA SQUARE
Size: 5 1/2" W x 5 1/2" H
The earthy sage-green glaze gives it a velvety sheen to its elegant outline of a deer in a forest. \$42, carrerasquare.com



Best western

ONE TILE
Size: 4" W x 4" H
Bring home the range with this handsome raised depiction of a bison, handcrafted in Kent, Ohio. \$18, onetile.com

All curled up

CORRELL DO HOME
Size: 5 1/2" W x 5 1/2" H
The Arts and Crafts-inspired design is ideal for the looks storage, but its whimsical hand-drawn style is used in 2005. \$42, correll.com



Trunk show

TERMINATE TILE
Size: 4" W x 4" H
This high relief elephant is a classic from Colorado where it was produced. \$18 by hand. \$18, terminate.com

Craft room for \$397

Craigslist cabinets, recycled countertops, and a wall of DIY storage turn a spare room into a well-organized workspace. BY WENDY HILL



BEFORE The spare-room plan I have a comfortable setup for crafting and art supplies stored away in bins that help to improve visibility.

AFTER The homeowner opted for a ready-to-label palette to hold supplies, which she wanted to display around the room. The finished look is clean and organized.

• A CRAFT ROOM CALLS FOR creative remodeling ideas. Rachel Beach may have had a spare room to work on DIY projects in her home in Calapep, Virginia, but she didn't have a real workspace, so she often spread everything out on the floor. To upgrade the makeshift setup, she started by giving the walls a coat of light sage paint. Then she and her husband, Brent, arranged oak cabinets bought on Craigslist along one wall and painted them white, carving out a space for their 7-year-old son, Blake, to do homework and art projects. Lustrate custom served from their kitchen remodel were reused on top. To display and organize art supplies, Rachel hung pegboard framed with scrap molding, used file pockets to make a wall-mounted mail station, and built storage cubbies out of pine blocks. Above Blake's station, she installed popper bins lined with wire and metal clips where his artwork could rest in and out. A few new storage accessories, plus chairs and curtains already on hand, finished off the room. Now Rachel, who blogs at craftingpastanatomy.com, and her son have their own space where they can work on art projects, homework, and blogging. "It feels great to add color and without being overwhelming," says Rachel. "It's my dream room!" ■

THE PROJECT TALLY

- Painted the walls with leftover paint ... **\$0**
- Bought used kitchen cabinets on Craigslist, painted them white and frosted them with a clear coat ... **\$158**
- Installed laminate countertops saved from their kitchen remodel ... **\$0**
- Hung pegboard framed out with window molding for extra storage ... **\$30**
- Built a wall-mounted craft supply organizer out of pine blocks and wire then painted it white ... **\$29**
- Made a chalkboard-style artwork display using popular Lela, steel wire, and metal clips ... **\$42**
- Created a mail station with wire file pockets, binder board and cork panel ... **\$36**
- Finished the space with some new storage accessories, plus chairs and curtains already on hand ... **\$72**

TOTAL \$397

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READ THIS BEFORE YOU

Buy a toilet

Whether you're outfitting a grand master bath or a cozy powder room, make sure the fixture you choose looks good and performs flawlessly with every flush. BY THOMAS BRANER

BASED ON APPEARANCE, it's easy to think that all toilets are pretty much the same. But a peek under their lids reveals important differences, and recent innovations, that make shopping for this fixture something of a daunting exercise.

The drive to conserve started in 1994, when the 1.6-gallons-per-flush (gpf) mandate went into effect, replacing the 3½ to 5 gpf that had been the norm. The pressure to save water hasn't let up. Now there are high-efficiency (HET) and ultra-high-efficiency (UHET) toilets that use as little as 1.28 and 0.9 gpf, respectively. Yet, contrary to what you might expect, flushing efficacy has also gotten better, independent tests show that some UHETs can evacuate up to 100 grams (1.75 pounds) of solids with every flush.

To learn more about the latest toilet technology, options, and upgrades, read on. It will make the hunt for your next bathroom fixture much easier.



WATER USAGE STATS

The average American flushes about five times a day, which adds up fast

74%

Reduction in average water use by toilets in U.S. since the 1980s

5,840

Gallons saved annually, per household, when you replace a standard 3½ gpf toilet with a 0.9 gpf UHET

\$ ANNUAL COST TO FLUSH \$



The basics

• One piece or two? A two-piece toilet has a separate tank and bowl, so it's easier to install than a heavier one-piece with an integral tank and bowl. One-piece toilets have lower profiles—good for smaller bathrooms—and no tank protrusion to leak.

• Round bowl or elongated? Round-toilet projects 25 to 28 inches, saving an open floor space but elongated bowls, which can project 32 inches, are more comfortable for many.

• Siphonic or washdown? As a siphonic toilet (siphonic) has a larger water spout, but its long, narrow trapway can clog. Washdown toilets usually back up, their short trapways are 4 inches in diameter, nearly twice the size of siphonic's. That said, washdowns have smaller water spouts so "slosh marks" are more of an issue.



• Gravity-fed or pressure-assist? Most toilets rely on gravity to flush, but if clogging is a problem, a toilet with a pressure-assist unit may be the solution. It can employ a 1½-gallon tank with the force of a 2½-gallon flush. These units use no electricity, but they're noisy and work only in toilets designed for them.

• High seat or low? The typical height is 36 inches, but the Americans with Disabilities Act (ADA) mandates 17 to 19 inches in certain low-rise or less-able-toilets.

GALLERY OF THRONES

An appealing profile is important, as is the toilet's flushing technology



TWO-PIECE The elongated bowl on this gravity-fed toilet has no siphon jet. All water exits the tank through the rim for thorough cleaning. Shown: Swain starting at \$239; Swain/plumbing.com



ONE-PIECE Vacuum-assist technology sucks air up the trapway for the flushing performance of a pressure-assist toilet that's so quiet it's gravity fed. Shown: Swain's \$392; swainplumbing.com



HIGH TANK Mounting a tank in or the ceiling in the toilet tank increases the force of the flush. Shown: High Tank Full Clean Water Closet starting at \$962; cymurtoilet.com



WASHDOWN This round-front model is virtually impossible to clog. Thanks to a trapping that's a full 4 inches in diameter. Shown: Sydney Smart BackOutlet, \$489; carmax.com

The latest must-haves

• **Fully glazed trapway**
A sleek new invention: the chance of a clog.

• **WaterSense certified**
Like the Energy Star program for appliances, the EPA's WaterSense certification makes it easy to find fixtures that use at least 20 percent less water than the U.S. gallons currently installed.

• **High-MaP test score**
Maximum performance (MaP) testing, conducted by independent agencies, determines how much solid waste a toilet can handle. A rating of 350 to 600 grams for a 1.6-gallon flush is good. All high-score toilets can handle up to 1,000 grams (2 1/2 pounds), using only 1.28 gal. To find a toilet's MaP score, go to map-testing.com.

• **Anti-microbial glaze**
More effectively than leaved with antimicrobials (typically silver), recently 40 percent of the glazes that hydrogel over them. The toilet basically cleans itself.

• **Dual flush**
Flashes less water to get rid of liquid waste than toilets. That's why some toilets let you select the appropriate flush, typically 0.8 gal. for liquids and 1.6 gal. for solids. Simple. The hard part is remembering to use it.

THE PROPER FIT

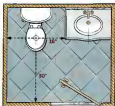
Don't forget to give a toilet the space it needs so that you're comfortable now and remain so as you grow older.

Side-to-side clearance from center of toilet to nearest wall, vanity, or fixture:

15" Code minimum	18" Recommended minimum (shown)	36"-18" ADA minimum
---------------------	------------------------------------	------------------------

Floor space in front to the nearest wall, vanity, or fixture:

21" Code minimum	30" Recommended minimum (shown)
---------------------	------------------------------------



*Always use with Disabilities Act

WHERE'S THE TANK?

Well, most toilets save space and ease cleanup.

These Euro-style models hang from a sturdy steel or wood frame hidden in the wall, leaving an unobstructed, easy-to-clean floor underneath. The tank is also hidden: the only sign of its location is a small panel that activates the flush and provides access for tank maintenance. The downside? They prices start around \$400, existing floor drains have to be resealed, and fewer plumbers are familiar with their installation.



PRO TIP: BASEMENT BATHROOMS

"If you want a bathroom in the basement, get a waterless toilet. Use the ones made by SaniFlo (saniFlo.com). After each flush, an electric-powered grinder processes and pumps waste up and out to the drain. Here's the best part: There's no digging. The unit sits right on the slab, either under the toilet or behind it."

—Richard Trifunowy
30A plumbing expert

PHOTOS: (LEFT) SANI-FLO; (MIDDLE) SANI-FLO; (RIGHT) SANI-FLO

TOILET TECH

At the high end, look for these new bells and whistles.



No toilet paper
The wizard felt automatically rises as you approach. When you're done, a toilet head emerges and sprays you clean, a fan or dries you, and another deodorizer beam. (Solid shuts.) Toilets start at \$1,900 or \$200 for just the seat. toiletco.com



No holes in the rim
Are you tired of keeping clean and prone to clogging? Toilets without them, like the Veritas, avoid water in the trap hole. Instead, the toilet uses a completely clean bowl to attract and drain debris before it enters its trap. Starting at \$299. americasveritas.com



No flopper
When a wiper opens, it gets in the way of water ending the tank. Caravan-style flush valves like the AquaProlet lift the seat straight up, allowing water to flush at maximum force. Starting at \$309. us.kanber.com



No cleaning
Scrubbing a toilet isn't anybody's favorite activity, but with the ActiClean it is as simple as pouring, abating or the tank lid when the reservoir will do the cleaning solution sits out of sight. Starting at \$299. americasactiClean.com

RETROFIT THE ONE YOU'VE GOT

Enjoy the latest, cool technology without replacing your old toilet. Just make sure your model is compatible with any add-on.



HANDS-FREE FLUSH
Who knows what time you look on the flush lever? They tried to avoid it your toilet is equipped with the Touchless Flush. And now you're hand over the in tank sensor. \$60. Lacktoilet.com

FLAPPERLESS DUAL FLUSH
Improve the performance of even high efficiency toilets by swapping out the flapper for a scum-free style flush valve like the Duo Flush. It has a 1.1-gallon flush for liquids and a full flush for solids. \$30. FlushMaster.com

OVERFLOW PROTECTION
Before a clogged or broken toilet dumps a river of water, a floatStop automatically shuts off the water supply when it detects a leak. \$34. proProducts.com

HAVE A SEAT

These days, the choices go well beyond cushioning or cradling priority.

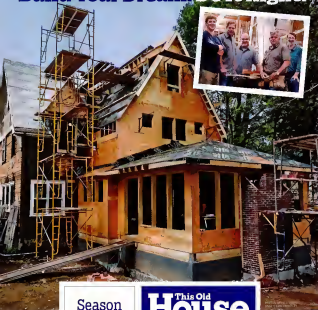
VIBRATED Cushionate foam adds and rebases general floor source. One system, the Jon-E-Vac, has a flat that is able to move under the seat. (Runs off through a cord and charged from two 8-bay cells in the room.) \$200. jonvac.com

LIGHTED A custom-revised LED light like the Illuminal (below) gently guides the way. This battery-powered device, which sticks to the side of the bowl, lets you select 15, or cycle through eight different colors. \$40. Illuminal.com



HEATED Hueser is a warm seat on cold nights. The UL-1640 LumoWare has three temperature settings along with a soft blue LED night light. \$225. brandit.com

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tips, tricks, and
answers to
your home-
improvement
questions

Q Can you tell me about these old auger bits I inherited?

—THOMAS COONEY LAYTON, OK

A What you have are twist or brace augers, which have been used since the 1700s to bore large—and often long—holes in wood and to hog out mortises. Yours would have been chucked into a tool called a bit brace and turned by hand. The bit in the foreground and the one behind it follow the Jennings pattern invented by Russell Jennings in 1855. It has a double twist, a screw point to anchor it, and spurs to cut a clean hole. The other augers, with a single fin spiraling around a thick central shaft, are inset pattern bits, patented by Charles Inman in 1884. They can withstand much higher torque than the more delicate Jennings bits.

—ROBBIAM
TOP/MICHAEL ARCTER

PHOTOGRAPH
BY VICTOR SCHRAGER

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Our cast
of veteran
expertsTOM SILVA
General ContractorNORM ABSHIRE
Master CarpenterRICHARD TRETHEWEY
Plumbing and Heating
ExpertROGER COOK
Landscape ContractorKEVIN O'CONNOR
Host

Q We'd like to add a flat-panel radiator to supplement the hot-water floor heat in our bathroom. What's the best kind to get?

—LARRY COLE, WILLIAMSON, NY



Richard Trethewey gets ready to install his flat-panel radiator that doubles as a towel warmer. Its low profile will allow it to fit unobtrusively behind the bathroom door.

RICHARD TRETHEWEY REPLIES

Low-profile flat-panel radiators are a great solution in bathrooms, where space is generally tight and aesthetics are a high priority. They come in a variety of styles and colors, and even in different materials. Some, like the one I'm installing here, are designed to do double duty as towel warmers for what matters most: how much heat they can produce.

As a rule of thumb for this style of radiator, I generally look for about 35 btus per square foot of floor space. That number could be higher if your bathroom is drafty, poorly insulated, or has lots of windows, but it will give you a ballpark idea of what size your new radiator should be. Contact a local plumber—perhaps the one who installed your in-floor radiant heat—to get a more exact Btu figure for your situation.

As you shop, you'll see that these radiators are available in either aluminum or steel. Always opt for aluminum and bear up: more costly than steel, but I only install steel radiators, because they're more durable and retain their warmth longer.

A flat-panel radiator needs much hotter water than your floors do—typically 180 degrees F. That

means your plumber will have to connect it to a separate zone on your boiler. For greater heat control, opt for a thermostat valve that automatically keeps the radiator at your desired temperature setting.

Is my wiring faulty?
I'm told that house fires are often caused by faulty wiring. Is there any practical way to check the entire wiring system of a house for potential problems?

—MARK PHELPS, FARMINGTON, CT

SCOTT GARDIN REPLIES There is no magic tool or technology that can determine whether the wiring in the walls is safe. But in my experience, 99 percent of electrical problems occur where the wires connect to a fixture, an outlet, or a switch. Those junctions are easy for electricians to inspect, and fix, if necessary.

Your best insurance against electrical fires is to equip each branch circuit with an arc-fault circuit interrupter (AFCI). AFCIs, which are now required by code for most rooms in the house, can detect electrical arcing anywhere along a circuit—including the wires in the walls—and will swiftly shut off the power to that circuit when arcing occurs. Because these devices prevent hot sparks from being thrown off by faulty circuits, they make a house far less vulnerable to one of the chief causes of residential fires in the country.

There's one other caveat that's also useful for detecting electrical

Scott Gardin, a licensed master electrician and the owner of Gardin Electric in Lenox, MA, advises regularly on TV episodes of Ask This Old House.

What
is it?Picture
hanger

Meter gauge

Tape-
measure
hook

Wire clip

SEE THE
LIST OF
TOOLS ON
PAGE 68

problem: your nose. If you smell something melting or burning, don't hesitate to shut off the main breaker and the problem is located and corrected.

Felt or house wrap behind shingles?

I'm planning to install wood shingles on my house. Should I use a house wrap like Tyvek over the sheathing or a certain weight of builder's felt? By the way, the walls I'm shingling aren't insulated. Does that matter?

—PETER GIUFFRÀ, HANOVER, MA

TOM SILVA REPLIES Well, standard walls certainly do merit, so your pocketbook and your comfort during this coating winter. Since your sheathing is

already exposed, this is a perfect time to tighten things up by blowing in cellulose or spraying in foam. Do it right and you'll save money, and be a lot warmer in the winter and cooler in the summer.

When I talk with a builder, I prefer to protect the sheathing with 15-pound builder's felt. It's an inexpensive and effective weather barrier of 1/8-inch-thick concrete. Working from the bottom up, I overlap all joints by 6 inches, to ensure that water sheds away from the wall. Then I tack 12-inch-wide strips of felt behind the corner boards and door and window casings, and seal the joints between the trim and felt with a thick bead of caulk.

Next, I staple a membrane mat, such as Home Slicker (berganumberbyke.com), over the felt. It creates a continuous 1/2-inch air space between the shingles and the felt, allowing any rain that gets behind the siding to drain away and giving wet shingles a chance to dry out. The drier they stay, the longer they'll last.

Finally, before you start shingling, wrap a 6-inch strip of



When shingles are installed over a membrane, they dry out quickly and evenly, including the creases of their overlap.

wood screens over the edges of the runovers, top and bottom. That detail will allow an air seal/water seal, while keeping bugs at bay.

Splitting maple bark

All the young maples I planted have unsightly vertical cracks in the bark running about a foot up their trunks. The ugly splits, which occurred three years ago, are about 1/4 inches wide and all face-east. The bark appears to be trying to heal around the edges. I saw you on TV pointing out splitting and peeling bark on trees that had been overmulched. Could that be my problem?

—HONDI PARIS, INDIAN TR

What is it?



1 Tape-measure hook

It's impossible to hook a tape measure on a tree when a smaller force is available: a single, unless you have the Mitax Hook. Two pins anchor the hook into the end of the folding. Fair-weather magnets hold the tape securely in place. \$9.95, lowelley.com

HOODIE COON REPLIES: If you are piling so much mulch around the trees that they look like the visitors you saw on the show,

then remove the mulch down to the root flare, where the trunk lies out into the soil. Cut out any girdling or vertical roots you find, and

spread mulch in a wide, 3-inch-thick layer around the trees, making sure to keep it a few inches away from the trunks.

Based on your description, however, it doesn't sound like the damage was caused by overmulching. Bark-buried outer mulch would be peeling all around the trunk, and the trees would be girdled. Instead, I suspect your maples are felled from frost cracks, a condition caused by extreme temperature fluctuations during the late winter and early spring, as the trunks freeze at night, then are heated up by the sun at the morning. This is a common occurrence among thin-barked species, like cherries and Japanese maples, and young specimens.

The good news is that the cracks aren't fatal. Your trees seem to be healing nicely, just the way they should. But to prevent future frost cracks, take time this fall to shade their southeast sides from the sun. A 3- to 4-foot-long board, propped against and tied to each trunk, should do the trick.

Removing cedar stains

An old roof leak left stains on the ceiling in my western red cedar home. Both the rough-sawn beams and the V-groove ceiling. I've had the leak fixed. Now is there a way to get rid of the stains?

—COREYUS RUTLAND VT

KEVIN D'OGANHO REPLIES: I've seen those levels of stains on tongue-and-groove ceilings, and I assumed that removing them would be a lost cause. But according to Paul Mackie, technical field representative with the Western Red Cedar Lumber Association, it's

possible to make those stains go away and it doesn't involve taking them under a coat of paint. Here's what he had to say.

"The stains you see are extractives, the natural preservatives that are responsible for the cedar's rich color and resistance to decay and insect attack. These extractives are water-soluble, so when the wood gets wet, some of them dissolve, bleed to the surface, and leave a dark stain after the water dries, kind of like the ring around a bathtub. Not to worry, that roof leak hasn't damaged your wood of its desirable properties. There's still plenty of good wall left.

"If the bleeding had occurred recently, you might have been able to wipe it all with a damp sponge

or cloth. Your cedar probably requires more aggressive action.

"Let's start with the cedar surface to fix the stain: sand down V-groove ceiling boards. All you need to do is sand down lightly with a fine-grit paper. Then a range of fine grits to see which one gives you the best match with the texture of the surrounding boards. Sanding lightens the color of the wood somewhat, so sand each stained board entirely to avoid random light spots on your ceiling.

"Your rough-sawn beams will be a little more of a challenge. Sanding isn't an option with them, because that would change their texture. Instead, you'll need to wash off the stains. Start with a mild citric acid-based cleaner—I've even used discolored patches of untreated

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The water stains
on these windows
and window sills
can be easily
removed with a
damp sponge or a
light scrubbing.

Koual Aid is made safe—which will be easy to clean off with a wet sponge. Spray the cleaner on the stain, let it sit for several minutes, then rinse.

"If the stain is still evident after the wood dries, try a cleaner that contains oxalic acid. It's very effective on extractive stains, but because it's much stronger than citric acid, it has to be used with care—even when it's diluted. Be sure to protect your eyes and skin and the surrounding area from drips. Once you've scrubbed the surface and allowed the cleaner to work for a few minutes, it's important to thoroughly rinse it off using a spray bottle, a sponge, and perhaps a wet/dry vac to suck up the drips.

"Whichever cleaner you use, test it first in an out-of-the-way area, then let it dry. That will give you a chance to evaluate its effectiveness before you commit to the job."

ASK THIS OLD HOUSE

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Include a complete address and daytime phone number. Published questions will be asked for clarity and space and may be used in other media. We might share because of the educational and research value available to reply to unanswered questions.

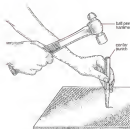


Norm's tricks of the trade

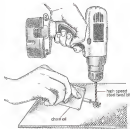
Whenever I try drilling into steel, the bit skates around on the surface before it bites in. What can I do to keep that from happening?

—GILL FULLER, LARCHMONT, NY

A Steel certainly is not as obliging as wood, but with the right technique, you can drill through it fairly easily using ordinary high-speed-steel bits. Here are the basics, which will work no matter what kind of metal you're drilling into.



1) Punch. First put on safety glasses, then give a center punch a sharp tap with an engineer's or ball-peen hammer (shown). The punch creates a small dimple in the surface of the metal that will keep the tip of the bit from wandering so it can chew its way in. By the way, there's a good reason to use those specialized hammers: Center punches are made of hardened steel, which can shatter regular mallet hammers.



2) Drill. Before you start, put on safety glasses—bits can break or fling razor-sharp shavings. As you drill, use a slow speed and apply light to moderate pressure. Too much muscle or too high a speed will cause the bit to overheat, melt its temper, and stop cutting. Adding a drop or two of cutting oil will help keep the bit cool. As it progresses a few slow, drill a smaller hole. First then stop up to the size you want. ■

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Stop House Fires Before They Start

How a simple, inexpensive upgrade can help protect your house and family



Electrical malfunctions are responsible for starting nearly 48,000 house fires each year.¹ According to the Consumer Product Safety Commission, more than half of these fires can be prevented with arc-fault circuit interrupter (AFCI) technology. The temperature of arc-faults, which often occur behind walls, can exceed 10,000 degrees Fahrenheit and ignite surrounding materials before a smoke alarm can detect them.

The risk is even greater for owners of older homes with aging electrical systems and for remodelers who may inadvertently drive nails, screws, or staples into wiring. Thankfully, today there is an innovative technology that's proven so effective at mitigating arc faults that the National Electrical Code® (NEC)[®] mandates its use for most rooms in new construction and major remodels.

AFCI Outlets and How They Work

Arc-fault circuit interrupter (AFCI) outlets help protect your home from electrical fires by interrupting power when a potentially dangerous arc fault is detected. The internal circuitry of an AFCI continuously monitors current flow in an attempt to distinguish between normal arcing (for example, the arcing

that occurs when a mechanical switch is opened or closed) and unwanted, potentially fire-inducing arcing. Once an unwanted arcing condition is detected, the central circuitry trips the AFCI outlet—de-energizing the circuit to avoid a potential fire.



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Just a few years ago, you would have had to hire an electrician to install AFCI protection at the circuit breaker panel. But Leviton has introduced the SmartlockPro® Outlet Branch Circuit (BIC) AFCI Outlet, the first commercially available AFCI outlet that is as easy to install as a regular outlet.

You may not need more than one per room, placed in the first outlet on a branch circuit. SmartlockPro AFCI Outlets will help protect all wires and every device downstream from that location. If the AFCI outlet trips, an arc may have occurred somewhere in the circuit. If that happens, unplug all appliances and cords within the AFCI-protected circuit—*one at a time*—to identify the potential culprit. If after

resetting, the LED power indicator remains on, the circuit's safety should be restored. If not, the problem is probably behind the walls, and you should call an electrician for diagnosis and repair.

Additional Preventive Measures

More ways to minimize your risk:

- Inspect all exposed wires and fixtures plugged into outlets, looking for loose electrical connections and cracked cords.
- Use extension cords only temporarily.
- Be careful not to pinch cords against walls or furniture or run them under carpets or across doorways where they can become split or damaged.
- Plug in only one heat-producing appliance per outlet.

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Call an electrician immediately if you experience any of the following signs:

- Discolored or warm wall outlets
- Problems with fuses or circuit breakers that blow frequently
- Sparks from an outlet
- Tingling feeling when you touch an appliance
- Burning or rubbery smell coming from an appliance
- Flickering or dimming lights

The High Price of Inaction

The National Fire Protection Agency (NFPA) reported that in 2011, electrical fires resulted in:



466 DEATHS



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\$5.4 BILLION IN PROPERTY DAMAGE

To learn more about how Leviton DIY-friendly AFCIs can protect you and your family, visit Leviton.com/AFCI



1. National Fire Protection Agency



STYLISH and SUSTAINABLE



State-of-the-art energy efficiency, modern convenience, and a timeless look give TOH's Farmhouse at Emerson Green lasting appeal

BY JILL CONNORS • PHOTOGRAPHS BY WILLIAM GEDDES • STYLING BY DENISE ENRIGHT



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A *greenhouse* doesn't have to be a cold-looking ultramodern box. It can carry the virtues of traditional architecture with modern systems that save and produce energy. That philosophy is at the core of TOH's 2016 Idea House, an updated farmhouse with a greenhouse front porch. The house will use less than a third of the energy of a typical new house of similar size thanks to its tight building envelope, efficient systems, and solar-panel array. In fact, with an expanded array, the house could produce all the energy it needs, making "net-zero" living possible.

But Don Powers, a developer and lead architect of the project, is proud of the fact that the look and feel of the house are just as compelling as the green technology. "You don't have to sacrifice only about sustainability to like the house," says Powers. "It isn't a one-trick pony about energy efficiency. It's simply a great place on a great street."

The house is located in Emerson Green, an innovative development in Devens, Massachusetts, with a focus on sustainable design and community building. Homes there feature front porches, and the streets include sidewalks to support walkability and neighborhood interaction.

Proof that this approach is a winner: The farmhouse will soon be home to Paula and Brian Husack and their daughters, Mia, 2, and Eliza, 6 months (shown at left). "We are excited to raise our girls in an environmentally aware, community-minded neighborhood," says Paula. "We'd love to see it be the only life they know."

To take a tour inside—and outside—the house, visit the page.



Low-maintenance building materials

16. The garage features a variety of long-lasting, easy-care materials that resist moisture, rot, and termites: six swings, including four stainless-steel aluminum made of 80 percent recycled plastic and outdoor floor, cement siding, and copper gutters. The composite over steel garage door carries a high R value, thanks to a layer of foam insulation at its core.

17. The south-facing slope of the gabled roof hosts 35 high-efficiency black photovoltaic panels, which should provide a third of the house's energy. The 4.5-kilowatt system includes solar inverter technology that enables monitoring of each module for maximum capacity.

18. Inside, there's ample work-up space, with wall-panel systems that neatly store tools at the ready.



17



18

GREEN UPGRADE

Like the house's gray cedar shingles, the garage's white vertical siding is made of long-care fiber cement, which resists moisture, rot, and buckling. Brackets inside the exterior studs are another molecular-grade wood, finished on factory color finish coats with a 15-year warranty against peeling, cracking, or chipping—saying why does an upgrade?

DESIGNER: Tom James Hardie Building Group
CONTRACTOR: Tom Hardie Building Systems
ARTIST: JAMES HARDIE
PHOTOGRAPHER: Royal Creative
STYLING: JAMES HARDIE BUILDING GROUP
PAINTS: Benjamin Moore
ROOFING: James Hardie
INSULATION: James Hardie
EXTERIOR FINISHES: James Hardie

FLOOR PLANS

The 1,900-square-foot house lives large with open-plan living, cooking, and dining areas, a separate study, and plenty of built-ins for storage and display on the first floor. Kitchens, a master suite, two more bedrooms, partially a back and all-back, and a built-in dogyard comfortably sleep six. A front porch, back deck, and pergola-topped patio offer a variety of options for outdoor living.



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MORE IDEAS

See all the rooms—indoor and out—of the TOH 2016 Idea House featured here about the products & features. For visual inspiration and to see how to get the look, visit theideahouse.com/ideahouse2016.



19



20



21

Outdoor rooms

19. Easy access to backyard living is a must for family. The small back porch is the everyday only for the family and leads down to both a deck and a patio. It also showcases how the exterior's white trim pops against the black windows and doors, charcoal siding, and light gray decking for a modern high-contrast exterior, accented here by a copper pendant.

20. The patio, made of white textured concrete pavers, holds a fire pit for when there is a chill in the air. A pergola with a retractable awning tops the part of the patio that functions as a breezeway from garage to house. Container plants augment newly placed tree shrubs, and permeate throughout the property.

21. A weather-resistant vinyl potting bench on the deck tucked under the kitchen window doubles as a cart to hold drinks and snacks for open-air get-togethers.

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Building team

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Devers Village Green, LLC
NCH Construction, LLC

DON POWERS
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Devers Village Green, LLC
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& Community Design

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Copper roof, snow guards
Copper Development
Associated Inc.
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THE
House



OCTOBER

The days are getting shorter, but the trees are still wearing their summer greens. Take a spin around the yard and pause to enjoy it, before the whole world bursts out in flames.

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This Old House: The Arlington Project

Patience pays off

The new season of TOH TV features an Arts and Crafts sleeper that will get both heightened period charm and a bumpout in back with all the modern amenities

BY JOSH GARSKOF

Before they found the home that would become this season's *This Old House* television project, Emily and Nick DeFina were stuck in a vicious loop: fruitless house hunting followed by furious renovating. "We would look and look, and when we didn't find anything that we could truly call home, we would come back and fix up another part of our house," says Emily. That went on for 10 years.

They loved living in their native Arlington, Massachusetts, and being near extended family, but so much of renovation could give that house a yard where their daughter—age 10



RIGHT: This Old House general contractor Tom Silva and host Kevin O'Connor frame the back for the Arlington house's new entry porch. The DeFina family ABOVE marked new design work, so the crew can install from the outside and preserve vintage plaster and paneling on the interior.





renew their 120-year Newfoundland—could play. New could it move the house farther from the busy thoroughfare at least. So the DeLords stopped walking for houses to come on the market and started walking older neighborhoods to identify places they would buy if they ever became available. “Everything sells right away in Arlington,” says Nick. “We wanted to be ready.”

On a bright spring morning in 2013, as a Renkor led the DeLords up the house’s spacy porch steps, they already knew its square footage (2,433), its lot size (see half acre), and its construction date (1909)—and had more than once admired its out-of-the-way location, as well as its period look, even though they couldn’t quite name it. In fact, the home had so many of their search criteria—quiet road, architectural charm, its size and of reasonable—that it was No. 2 on their wish list.

“In stop roof and dome! how the whitewash, storybook feel,” says Emily. “And I could picture it with new shutters, shutters, and window boxes.” But as they toured the stunner that morning—just hours after the house hit the MLS—she self-limed a pang of doubt. It had lovely and spacious floor plans, says Emily, “but when we got to the back,

above. A rendering of the Arlington house as it will look when work is completed. The tiny existing porch (circled) will be replaced with a new structure that is both the Arts and Crafts design of the house. Floor slabs include a hand-drawn column supporting a Renkor copper-roofed



we were like, ‘Where’s the rest of the house?’” With only a pantry-sized galley kitchen, the three-story building is very nearly just one room deep. That meant to get what they wanted would require a significant auxiliary addition.

Still, as aerial renovations fall of one house, the DeLords tossed their shaly to transform the place. Before the first was even, as their daughter ginked away on the yellow “craigslist” page, Emily and Nick sat eye and ail spread—without a word—that they’d found the home they had been craving.

It would be another three years, however, before construction began. The DeLords—read several local



PALE LEFT: The same inside renovation on the top floor. The Old House master carpenter Marc Abrams fits out joists for ample more Renkor help support a new second floor.

LEFT: Master Mark Middleburgh validates the existing chimney and extends its height, preparing the top for a gambrel cap. In keeping with the Arts and Crafts style of the house, there will be prominent shingles on both the main house and the single-story family room addition.

floor plans

Renovations to the existing 2,433-square-foot house will include rebuilding the entry porch and creating an 800-square-foot auxiliary addition in back, allowing for a big open-plan kitchen and family room on the first floor, a master bath upstairs, and a craft room on the third floor (not shown), as well as a finished basement (not shown). A laundry and powder room will also be added on the first floor; the host rooms will stay as is, as will the second-floor bedrooms.



PHOTOS: GARY FORTNEY; ARCHITECTURAL RENDERING: TONY CARON/ARND BRONKHORST



design-build firms—were strapped by how to expand the narrow, steep-roofed house. “The contractors go drawing different versions of houses tacked on to the back,” says Nick.

No less challenging was determining what architectural style to pursue. The building is a seeming hodgepodge. The steeply pitched roof and the arched and half-mooning in the gables look Tudor; the heavy quoins on the front door and simple, black interior moldings say Craftsman; and the arch-topporch and curved steel balustrade only add to the house’s eclecticism. It wasn’t until Brady searched randomly Googled the name of a neighborhood street and discovered a town in England with the same name that she solved the riddle of the house style. “I started looking at photos of the area, and the houses looked a lot like ours,” she says. “Suddenly everything became clear.” It’s an Arts and Crafts house. Although home buyers for 20th-century American interpretations, such as the Craftsman and Prairie styles, the Arts and Crafts movement began in the mid-19th century in England. In 1809, when this house was built, designers in New England were taking their cues from across the pond (see sidebar, opposite).

That cross-border architectural pedigree, the design challenges posed by expanding the slender and steeply roofed structure, and the project’s widely appealing scope of work all made it an ideal fit for *The Old House* TV. “What we look for is a great before-



ABOVE LEFT: The craftsman job refers for the small front porch’s finishing roof

ABOVE RIGHT: A big roof over the family room addition left the three-story back addition, with the addition on the ground floor under both above and a craft room above. The addition’s three-gable roof matches the existing on the rest of the house.

and-after story,” says TDM senior producer John Boehle. “This house hasn’t been paid attention to for a long time, but there’s a lot of interesting features and the homeowners have a lot of interesting plans.”

Tom Silva is already at work on a three-story back addition, with a new kitchen, powder room, laundry, and family room on the first level, a master bath on the smaller second, and a craft room on the still-smaller third. Most of the new space will be tucked under a steep gabled roofline that will echo the house’s 1912 porch, says Tom. The family room and entry porch will be capped with steeply sloped bay roofs. New shingle siding and roof brackets will enhance the Arts and Crafts feel, and the back addition’s insulating-concrete-form foundation will get a “splash of color” finish that picks up the stucco in the original half-mooned gables. “You throw it up with a brush to get that dappled look,” Tom says.

In keeping with the Arts and Crafts ethos, the DeLinos plan to use natural materials throughout the new spaces, including marble kitchen counters, exposed-wood beams, and a wood-clad ceiling in the family room. They aren’t seeking 100 percent architectural purity, however. For example, to keep the interior bright, they are leaving the new kitchen cabinetry and the wall paneling in the living room painted white. “Dark wood is traditional for these houses,” Brady says, “but we’ll bring that in with our furniture.”

In another nod to contemporary design, the new



PHOTOS COURTESY OF TDM; DESIGN: JAMES W. DELORENZO ARCHITECTURE; PHOTOGRAPHY: JAMES W. DELORENZO ARCHITECTURE

kitchen and family room will be open plan, thanks to a network of hidden beams, the larger of which will be a 28-foot-long, 18-inch-high, three-and-a-half-inch-dia beam replacing the original one wall but none of those grand frame rooms—the living room, dining room, and foyer—will suffer any diminution. That’s possible because all of the house’s “wet rooms”—its kitchen, laundry, and bedrooms—will live in the addition, so TDM plumbing and heating expert Richard Truhewy can run the rough plumbing through the newly constructed space.

That janky front porch, on the other hand, is unchangeable. “It has been drastically shrunken over the years anyway,” says Norris, “and makes the whole house look a bit off.” The TDM team will build a shoe-corer replacement featuring a hip roof and shingled columns. Says Norris, “The porch needs to tie the house’s architecture together and make it welcoming.” It promises to be much more so than when the DeLinos first climbed those steps.

ABOVE: A hefty network of engineered beams, tied to a wood-shaft beam where the house’s steeple will find ground, makes possible the expansion of the back-floor kitchen and family room. It will also support the steel framing for the family room’s 41-gip roof.



ABOVE: Like the Arlington project, this circa 1880 Arts and Crafts house in New Haven, Connecticut, incorporates half-timbering, steep gables, and other Tudor and Gothic architectural motifs.

What is Arts and Crafts, anyway?

Think Arts and Crafts, and you probably picture a 1920s California bungalow loaded with Shaker furniture. But Arts and Crafts isn’t just always style.

“It was a movement—in art, architecture, furniture, politics—that began in England in the mid-19th century, and pushed back against the brutal working conditions in factories at that time,” says architectural historian Matthew Mileski, author of *Arts and Crafts Architecture: History and Heritage in New England*. “Arts and Crafts leaders rejected mass production and celebrated handcraftsmanship.”

For home designers, that meant rebelling against the excessive ornamentation of the Victorian era, which they viewed as factory-made junk. They looked back to the romanticized period of the Middle Ages and Renaissance for their design inspiration. And that’s why Arts and Crafts houses in America often resemble those in England, with elements of what we consider Tudor and Gothic architecture—and why the Arlington house falls within the Arts and Crafts style. ■



READER REMODEL CONTEST
 2016

GRAND-PRIZE WINNERS

Meet Jim and Shannon—the homeowners who won us over with their DIY skills and pioneer spirit and landed our \$10,000 top prize from Delta Faucet

BY SHANNON MILLER • PHOTOGRAPHY BY MARK LOHMEYER
 PRODUCED BY CHARLOTTE GARNARD
 STYLING BY NATALIE WARDY



ABOVE: Jim and Shannon Miller, history buffs and serial renovators, staged up an abandoned firehouse (367-096) in Longmont, Colo., thinking they'd have it up and sold in one year. Now they say they'd never leave. LEFT: The exterior of the house comes via Shavlin, from the firehouse at the far left that was quarried with limestone in the 1800s to make steam-rail boiler casework added in the 1930s. Some addition that went up with locally made brick around 2000.



BEFORE



Our love affair with this house, and the cover it's on, began years ago, when I was traveling around southern Utah for work and got word of staying in hotels. I used to come through Matt's lot, and I told Jan, who works a couple of hours every day, about acquiring a better home. No sooner had we filed up our first house than I spotted an even better one. It had everything, but we did it, and only it's on the National Register of Historic Places.

"We were living there with every intention of staying just when a friend of ours, Steve Anderson, whose grandparents had lived in Matt's, called to say, 'Guess what, they're going to tear down Grandma's house and put in trailer lots.' And I said, 'Not on my watch!'"

Matt was settled in 1849 by pioneers, people who didn't mind hard work and cleared the town from scratch. Some of those pioneers built Scott's grandparent's house—ours now—with nothing but

hand tools. They used rubble masonry from a local quarry; it was the material at hand. The house was added onto in the late 1880s and again around 1910, when Matt's was growing so fast it had its own brick factory. Between the rubble stone, ashlar masonry, and yellow brick, you can see how they changed their technique.

Matt's is a gorgeous little place that's gotten itself isolated through no fault of its own. It used to be on a rail line, but it was cut off when the tracks flooded out in 1983. It's in one of the few Moabite temples ever built, a fabulous stone structure that goes way back but is still not as old as one section of our house. Living here is like owning a bit of history.

By the time we first saw it, the house had been empty for years. It was just trashed—nothing but rats, bats, and mouse trails. The people who lived here before us took out the beautiful L-shaped staircase and punched in entry windows in a brick wall

BEFORE, the rooey new Matt's took over a former back room that was built in the 1910s, making way for a pre-Style Louisiana-style and a family-size table, which homeowner Jan Miller helped make with vintage legs.

OPPOSITE New-style plank pine flooring reinforces the dining room's rustic style.





but it could barely stand. They cut into beams when they lowered the living room's 12-foot ceiling and put a bedroom over it. To reach the bedroom, they added a catwalk with no railing—it was just beams.

The entrance between rooms was also closed as we go that didn't make sense to us. We found a wood backing over sitting on one bench and a water heater on another. Beams were dark and smeary with lacquer and piles of paper. A lot of the original fixtures and woodwork were gone—after the book boarded up the windows, we always felt free to help them out.

Jim and I both believe historic homes should be respected and saved. At first we thought we'd sublease the one and find a new owner. But it had a bedroom on the first floor, and that was beginning to look good to us. And a bar we cleaned out the debris, we could almost imagine how it was meant to be.

First we had to deal with structural damage. Thirty single spans would have to be caulked, replaced, or repaired. The outbuildings and yard were littered

with abandoned trucks and trailers and hundreds of tires, all that would require some TLC, too.

The next surprise: how long that undertaking would take.

The house, with entries on all sides, sits on a one-acre corner lot. When the former owners replaced the garage-entrance stairs with a straight run, they created a jumble around the front door. Scott, an architectural designer, remembered the original layout, and his grandparents putting in a picture window (Jim found the original window's frame buried outside.) Scott became our advisor as we navigated the role of GC and tried to make his time.

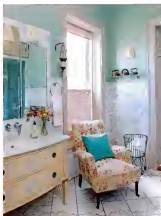
Not that we wanted to live like peasants—though we do joke about moving off the grid. One of the things Jim did was create a geothermal system. We laid 6,000 feet of plastic pipes 9 feet deep. They bring the water up to 51 degrees before it reaches our regular water heater, which supplies our radiant floor heating.

We also added insulation. It's a myth that stone

KEBBI: Previously missing a dropped ceiling and a wood-burning stove, the living room and its fireplace have been restored to their original charm.

CAPTIVE, TOP LEFT: The new marble-lined master bath on the first floor includes a pointed door-style vanity.

BOTTOM LEFT: The staircase features new that had been torn out by previous owners. The granite columns include a custom support post.



FLOOR PLAN

Remodeling the house required taking the interior down to the studs. The homeowners rebuilt the staircase, which had been put into the previous owners, to match the original, and added built-ins. They also reorganized the layout to merge rooms more logically and bumped out the back wall to accommodate a new kitchen, sunroom, powder room, and mudroom. The house now 2,250 square feet. Also has a second floor (not shown) with two bedrooms and a full bath.



FIRST FLOOR



OPPOSITE: During demolition, homeowners Jim and Sherron tore out a dropped ceiling, white-painted basement, existing crown molding and other items. *(See West Elm Bedding, Opus by Ottoboni bed above 'The Gallery')*

ABOVE: Jim loved a shabby-chic feel, so he had his old cars in a garage workshop with white-painted floors and roof beams, and he kept his car parts. Other refreshings (not shown) include a new garage and new gutters.

houses are warmer in winter and cooler in summer—it's just the opposite.

Once we knew we had to take down that 30-foot back wall, we decided to extend the rest part of the house 10 feet so we could have a bigger kitchen, plus a sunroom, mudroom, and half bath. Now we're glad we did it. We have two grown kids, and one of them and her three children are living with us. It's great having a kitchen where we can all gather.

The back wall wasn't the only problem. The whole house was "fall-apart." To keep two of the walls from coming in while we added beams and piers, we had to chain them together—for two and a half years. We repaired the exterior and replaced the windows (including the picture window, which went back to a pair). That dropped ceiling is no more. Our wonderful carpenter rebuilt the gutter-hang system, another friend sealed the new joints.

We took our time learning about each phase so we could figure out what made the most sense, and we priced everything carefully so we could decide

whether to splash or make do. From the beginning, Jim was on every crew and watched every single thing. He was right there with the subcontractors on the roof and under the house; I scraped wallpaper and unrooted four plants alongside them. We have gotten some wonderful friendships out of this deal.

We painted our house—our kitchen cabinets came out so we'd have fresh marks—the painter's estimate would not have been perfect. Our drywallers loved it because I told them I wanted the walls a little rough, so give them the flavor of plaster.

At the beginning no one recognized the jewel that lay beneath the old-covered-up. It was a great day nine years in when a neighbor finally said, "I can see what you saw—it is looking beautiful."

Yes, it has taken 10 years! But every minute has been worth it. Now we have older families following right after us. It's a wonderful feeling to see a historic house, and it enriches the community, too. As we liked to say about our house, right after we bought it, "This place matters." ■

READER REMODEL CONTEST
2016

ONE-ROOM WONDERS

From thousands of entries that bear witness to our readers' blood (sometimes), sweat (always), and grit (truly), the homeowners behind these five makeovers emerged as this year's winners. Each received a \$1,000 Delta prize package—and our admiration.



KEY: The island's original built-in kitchen and converted an "island" shelf inside a box," says Angie. She built extra-inch rollers that can be pulled out, so it's easier to access items. The top is a base in blue quartz to be the island to the white cabinets. See photos from the contest.



PHOTOS COURTESY OF ANGIE CASARE

BEST BIDD KITCHEN

Angie Casare
Cary, North Carolina

What she did: Remodeled a nondescript 80s builder grade kitchen replacing existing materials to save money and get a custom look.

Her story: We bought the house in North Carolina in December 2003 while we were still living in D.C., and two months later Vinny and I got married. This was our first home, and the potential was really exciting. I love being able to make a place our own with DIY projects. We realized we needed to fix it up right away because it's basic, so during our honeymoon we set to work. First tearing down the wall between the living room and the kitchen. Vinny had a job here but I needed to keep my job in D.C. to help pay for the mortgage, so I came with my work bag and spent three days on the kitchen. I talked to contractors, but cornered Vinny that if I did all the work, we could afford nicer appliances and so on. This was my first project. I started by measuring my dad, who built our deck. He left me all the tools. After helping him and watching some DIY videos, it all came together.

I put a lot of thought into the design. I wanted a bright, open kitchen where people could gather. I moved the fridge from the wall opposite the sink to the corner by the stove so it can now open its door without hitting the island. This was an exciting part of the cabinets, which I measured, built, and then painted. I received as much as I could from the original kitchen. My sister and I painted the backs on the wall over and over.

After about eight months of diving back and forth, I left my job to devote myself to the kitchen full time. During the day, I worked on stuff I could do alone, like the cabinets, and saved jobs like the island which needed at least a pair of hands for the carving, when Vinny came home.

Recounting the kitchen's progress was the fun thing. We can do anything. When my girlfriends hear what I accomplished they say, "I wish I could do that," and I say, "You can!" Vinny shows pictures, and people always assume he did it, and he says, "No, Angie did it!" And we both get a kick out of that.

DIY and ADVICE: Angie's contractor found the original cabinets for \$200. When painted down white. The floor is Lantana that she bought to install home after finding halfway through the job that the subfloor was uneven and needed to be made level.

LEFT: Angie kept her original existing base cabinets, but gave them space on a tier side of the new sink, so she put cabbies there to keep dish towels handy.

OPPOSITE: In the dining room, she built a base in a brownish tan over her counter project. Angie replaced the glass with metal screening on the forced air register behind island bar stools. She built the seat with a green painting station to match the trim.

DIY BATH
 Bryan Brockus Jr.
 Michael Jensen

What he did: Took a dreary and inadequate newly-built-down-for-the-kids-to-renovate-it-is-a-perfect-Cottage-style-with-bargain-prices-and-eclectic-flair.

His story: When my wife, Ashley, and I bought our 1987 Stick style house in 2012 we knew the bath would have to go. It had been redone in the 1970s and it contained blue tub and toilet, along with the peeling linoleum floor. (Like with the rest of the house. For repairs we looked to two permit-revision firms, a fine-foot tub we found on Craigslist and a vintage vanity that we bought. Thinking it would make a cool one-of-a-kind vanity for my wife.)

As a firefighter, I typically work one day, then have two days off. I figured redoing the bath on my days off would take about a month. Did I underestimate? I took about three and a half months to complete. I did all the work myself, working 8- to 12-hour days. First, I gutted the bath down to the studs and leveled the floor joists. Next, I had to get the shower installed and working since it's the only one in the house for my wife and three kids. I put in the subway tile walls and tub, and tiled around floor heating and laid the floor, and then brought in a new claw-foot tub. By then I'd got to the vanity. I realized it wasn't tall enough, so I welded some brackets left over from another project to the console legs to add an extra 6 inches. I found the 100-year-old marble top at a salvage shop. For the medicine cabinets I used old growth pine boards I got from the dumpster outside a nearby house that was being gutted. As a finishing touch, we moved the chandelier from our dining room to the bath—it's a more dignified touch, we think above the tub anyway!

Seeing my wife show off the bath to friends and neighbors makes it worth every minute of labor. Personally, if I don't get a grabber, a quick shower at the fire station, but my wife loves her Victorian bath and if she's happy, I'm happy.



LEFT: The centerpiece of the new bath, the custom vanity, a ceramic basin made in a vintage iron-works foundry features a unique grille detail at each end. White subway tile on the walls gives the space a bright, classic look.

OPPOSITE: The Carrera-marble vanity top was a salvage-shop score, but the backsplash tiles, which help anchor the room, are actually faux marble porcelain, which is easy to care for since it doesn't require sealing.

BELOW: A slender iron rack over the claw-foot tub, adding a touch of glamor to the family bath. A mirror helps reflect the light and makes the room feel bigger. Though the footprint remains the same, the tub occupies the former location of the old wood vanity.



ABOVE: With its dated features from the 1970s (BEFORE), the bath was out of place with the house's Victorian-era architecture.



PHOTOS BY MICHAEL JENSEN FOR ENR.COM



HOPEKNO CURB APPEAL

Revised Neil Rubin, Stinson-Rubin

What they did: Added architectural detail to a ranch house in a neighborhood losing its historic character to teardowns.

The story: The house suffered from an identity crisis. Built in 1936—the worst year of the Depression for Sarasota—its construction used few precedents or plans for people in a time of little hope. At some point it had been divided into a duplex, and we returned it to a single-family dwelling. Structurally, the house had to be rebuilt from the inside out. Once that was done, we tackled the facade, adding a new foyer with windows, arched porch and steps with railings. We removed the stucco and stucco and replaced the 1960s concrete driveway.

Every detail was researched with attention to proportion and any appropriate construction techniques to create a home that looks like it has been here for 100 years. We replaced all the windows and

added seven Craftsman-style columns, two at the corners of the foyer addition, two supporting the arched porch, and three supporting the front porch roof. We first modeled them in 3-D on the computer, then cut a mock-up out of plywood to check the proportions. The backed stone in the fireplace from a quarry we love while driving the mountains of North Carolina during a vacation. We ordered three tons to be shipped south without a second thought! Our girls, Cyrus and Nora, were incredibly helpful and have learned invaluable skills as well as life lessons about perseverance. And they both own their own corset guns now.

I love when people allow us to stay for four years, stop to say thank you for doing such a detailed job saving the house. Sometimes someone shares a story it used to be owned by someone lovely who listed her part in the backstory!



OPPOSITE PAGE

ADVICE: Hittin' on every town's aesthetic, the fireplace was only slightly altered by yellow siding and arched doorway (BEFORE), with no visible path to the door, the front porch's new railing.

TIP: Thanks to a clearly defined entry, the house always presents a gracious face to the street. The new foyer and porch give the exterior dimension, while details such as a custom-made front, tapered columns, and a clean green-paint job provide Craftsman-inspired character. Low-shrub and lawn care's concrete paths complement the house without overwhelming it.

BEYOND LIVING SPACE

Rita Louise
Marshall Teast

What she did: Pitched skin-coated and gamed water-damaged walls and ceiling to restore the room's graceful appearance.

The story: Three years ago, when I moved into my 1930 brick house, assembly roofing had been done to eliminate more a major renovation in 2014, inspired by the family I bought it from. At that time, they ripped out the original plaster and lath, then covered the ceiling and interior walls with sheets of drywall and wallpaper. Yes, they even wallpapered the ceiling!



BEFORE

LEFT and ABOVE (BEFORE): Before the living room. After stripping the wallpaper (BEFORE), she proceeded to skim coat the walls.

RIGHT: Fresh paint on the walls and ceiling sets off the refurbished woodwork and elegant proportions of the fireplace room.



OPPOSITE PAGE: COURTESY OF RITA LOUISE MARSHALL TEAST; THIS PAGE: JAMES HARRIS FOR ENCLAVE

A roof leak had damaged the living-room wallpaper, and so soon as the leak was fixed I went after it with a putty knife and a wet sponge. I determined to remove everything bit by bit. Sometimes the wallpaper peeled off easily; other times, thick chunks of water-damaged cement plaster from the exterior wall came away with it. Filling these holes was no picnic: each one took six or seven coats of ready-mix joint compound. Then I sanded everything smooth and skim-coated the walls and ceiling with micro-fine. Thanks to my months of part-time work just in this room, I developed some real iron muscles.

The roof was easy to reroof and painted the walls and ceiling, and sanded and re-stained the woodwork. A topcoat of Howard Fiedt N Wax gave it the old-time nice soft sheen.

I feel very proud of how the room turned out, and happy that I am now working closer to my goal of bringing the old home back to life. I knew when I purchased the house that there was something special about it, but I never suspected how much I would enjoy seeing the results of my hard work.



ABOVE: An antique wood-burning fireplace insert retains the focal point of Lily's rejuvenated living room. When it, gas flames heat up the burner's ceramic plate and decorative metalwork, taking the edge off Texas's winter chill.



PHOTOS: CARRIE BIRD



BEFORE

TOP AND ABOVE: Five clipboards for the second-year cottage were not for sale when the Andersons' land. They came from a well-upholstered pile of their salvaged bits found in a stack of sawed timbers (B&O/002).

LEFT: Lynn made the farmhouse-style table with western larch legs before with larch and white paint.

OPPOSITE: Lynn, Harry, and their two golden retrievers in front of the cottage.

BEST HOME YARD

Lynn and Harry Anderson
Webster, Maine

What they did: Built a 13-by-20-foot screened-in cottage, tucked within an apple orchard, with lumber milled from the trees on their property.

Their story: Harry and I are seasonal residents and have never lived in a home that wasn't at least 100 years old. After we finished an eight-year DIY renovation of our current home, a 1790s Colonial, we needed a new project, and a screened-in cottage was the perfect solution—it allows us to enjoy spring and summer in the lush Maine woods, and was a nice change since Harry wasn't eager to let us build a new house.

Naturally, as DIYers who're thrifty, and when we started buying the lumber would be less expensive, we decided to mill our own—about 40 tons in all. We hired a portable hand-saw operator to slice the cherry, ash, spruce, and eastern larch trees we harvested from our yard into boards and posts, then let them air-dry for a year. While the boards were drying, we looked for a spot to mill under the canopy of our heirloom apple orchard, and once we figured out the cottage's size, we dug and poured a clean concrete pier to support the deck boards that make up the cottage floor.

I learned a lot from my father, who was a carpenter, and Harry grew up on a small family farm, so we're both comfortable working with our hands and tools. It took about three months to finish the structure, and Harry will refresh every detail of the way. We both have a lot for work, and he surprised me after one lap by designing and building all the details. We used most of the cherry exterior for details you can see, and after I was quoted \$500 to build a screen door, I made three, too, with skills I learned making our kitchen cabinets, fused as inexpensive doweling for the posts, and built the doors from 1½ pine so they'd have a nice "knack" when they slam shut.

The cottage is about 100 feet from the house, so we can see it from the kitchen. In the winter, it's especially pretty when snow swirls through the coves of the metal roof. Mostly it's a bean great for entertaining family and friends, without worrying about bugs! ■



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WASHER



FAUCET



WASHING MACHINE



SINK

23 things you didn't know you could **fix** yourself

There is an inherent frugality that comes with being a do-it-yourselfer. You paint walls, tile bathrooms, and install deck boards in part because hiring a pro isn't in the budget. But when you're faced with certain niggling things—specifically, broken things—that DIY drive seems to fide, ice-maker busted? Get by with ice cube trays. Vent hood stopped drawing up? Open the kitchen window. Slow drill/driver? Buy a new one. Yet most of these repairs are within reach of the average homeowner—and rolling up your sleeves pays off. Fixing a washing machine could cost you less than \$30 in parts, plus an hour's time, while an appliance service call could run \$75—just for the repairman to show up. Here are more than 20 common household repairs you could be making yourself.

by
Sal Vaglica

photography by
Andrew McCaul

bathroom

1 Leaky faucet

A faucet that can waste more than 8 gallons of water daily. If the faucet has two handles and is 4 to 10 years old, you can often buy a replacement cartridge—abrasive or plastic valve that controls all the parts that control water flow. Shut off the water under the sink first. Then pull the left handle of the sink first, then pull the right handle of the sink after loosening the trimmer. Swap in the new part with a pair of pliers. \$9. Home Depot.com

2 Puddling toilet

Pudding on the floor around the base could be condensation, but if you don't see water bubbling on the outside of the tank, chances are the wax ring that seals the fixture to the waste pipe has failed. Disconnect the water supply line and drain the tank and bowl. Use a wrench to remove the two nuts holding it tight to the floor. Then lift up and out of the way. Pry the wax ring up with a putty knife and replace it with a flexible polyurethane flooring that is water- and chemical-resistant. \$12. Home Depot.com

4 Toilet bowl scratches

What's not logical is clear or hazed toilet with a driver guide. The metal oxide can leave swirls inside the bowl. Remove the bowl by draining the bowl, then scrubbing the marks with Bar Keepers Friend and a green steel-wool scouring pad. When you've finished, get a closet auger, which has a protective rubber sleeve to prevent future scratches. \$9. Home Depot.com

kitchen

5 Cracked glass cooktop

While igniting cooktop isn't very risky, a cracked one is an electrical hazard if the burners are replaced. The glass should bake less than an hour. Pull the range away from the wall and unplug it. (For cooking in a counter, shut off the power at the breaker.) Remove any fasteners securing the top. Prep the top and unplug the wires connected to the burners. Place the damaged cooktop with burners glass side down on a towel next to the new one. Transfer the burners over by plugging

6 Sluggish vent-hood suction

Every five years or so, vent filters and ducts are clogged, the motor probably needs replacing. Shut the power to the hood and remove any wires. Pull out the fan blades and find the motor's wiring harness. Locate that, then unscrew the motor from its bracket. Adjust the replacement motor. Then reassemble the harness wires and install the fan blades. Free by popping the filter back in. \$54. Home Depot.com

then wiring into the new cooktop. Now reinstall the top. About \$200. repairclinic.com

7 Drippy dishwasher

The best fix for a leaky dishwasher is to check the door. The door's gasket along the edge of the dishwasher tub can become brittle over time, letting water leak out and ruin wood floors. Examine the gasket; if it's not damaged, gently pull it out and reseat it into the tub. Then run the dishwasher. Still leaking? Get a replacement gasket. Soak it in warm water until it's pliable. Then install it the same way. Clamp the door closed for a few hours to let the gasket conform to the door. About \$30. repairclinic.com

8 Unreliable gas oven

When fluctuating temperatures ruin a burner, a faulty igniter is often to blame. This carbide element sits alongside the tubular burners and ignites gas not starting the flames. To check yours, remove the oven floor, exposing the igniter. Turn the oven on if the igniter doesn't change color or if it takes longer than 60 seconds for flames to light, replace it. Shut off the oven's electricity and unplug the igniter's wiring.

PHOTOS COURTESY OF: (1) HOME DEPOT; (2) HOME DEPOT; (3) HOME DEPOT; (4) HOME DEPOT; (5) HOME DEPOT; (6) HOME DEPOT; (7) HOME DEPOT; (8) HOME DEPOT; (9) HOME DEPOT; (10) HOME DEPOT

3 Uneven shower stream

Behind a shower's handle is a valve responsible for correctly mixing hot and cold water and keeping the pressure constant. If your shower struggles with hot or cold water and isn't a replacement on-site, shut off the water to the shower, remove the screws holding the handle and the plate on. Then the valve holding up the valve. Use pliers to pull out the old cartridge, slide the new one in and install the handle.



enough from the wall that you can gain access to the back. First, shut off the refrigerator's water supply and usually comes from the sink's cold-water valve. Unplug the appliance and remove the rear panel. Disconnect the water supply line to the refrigerator and connect it to the cold valve. Take the valve out by unscrewing its fasteners. Now unplug the electrical connections from the old valve and plug them into the same spots on the new one. Replace the water lines, then reattach the valve to the refrigerator body, reconnect the supply line, and tighten the panel back. Wait until the seal has made a batch of ice before you push the refrigerator back into place—it will reduce wear and tear on your kitchen floor. From \$20. repairclinic.com

laundry room

11 Slow dryer

Every 5 to 7 years, dryer rollers have to be replaced. They're the wheels that support the drum. If they're worn, the drum won't spin properly, and clothes won't dry. To check the rollers, unplug the dryer and remove the front panel. The rollers are located behind the drum. Remove the rollers and inspect them. If they're worn, replace them. From \$15. repairclinic.com



with adding clothes to a wet dryer. Once the new rollers are in place, that's that. It's a pretty easy job. From \$15. repairclinic.com

13 Stalled vacuum brush

Even a vacuum that can suck up everything is useless if the rotating carpet brush isn't turning. To check the brush, unplug the vacuum, remove the motor, and inspect the brush. If it's worn, replace it. From \$15. repairclinic.com

Where to find parts

To order replacement parts for an appliance, you'll need its serial and model numbers. Sites for exact details and numbers: for washers, appliances.com; for refrigerators, applianceparts.com; for dryers, applianceparts.com; for stoves, applianceparts.com; for vacuum cleaners, vacuumcleanerparts.com. And before making any fix, shut off the electricity, gas, or water to the unit.

10 Leaky sink plug

Usually, a sink's body has a plug that seals the drain and prevents water from overflowing. If the plug is worn, it can leak. To check the plug, unplug the sink and inspect the plug. If it's worn, replace it. From \$15. repairclinic.com



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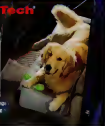
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THE HISTORY In the late 1800s, much of the South was still reeling from the lasting effects of the Civil War. In 1865, a visionary South Carolina businessman named Duncan Donald McGill invested in the construction of a railroad station in Beaufortville, which bolstered the local economy. Isaac Hugh, a prominent banker, built the stately home there around 1903, and shared it with his wife, Gabrielle. Some 45 years later, it was sold to the First Presbyterian Church and served as a parsonage for decades. The current owners purchased the house in 2008 and rebuilt it as a bed-and-breakfast, they're now looking to sell it to a loving owner who will complete the remaining renovations.

WHY SAVE IT? The striking exterior blends elements of late Queen Anne and Colonial Revival styles with multiple gables, bay windows, and a sprawling porch supported by graceful columns. The interior features extensive oak millwork, including staircase panels, kitchen and bathroom wainscoting, and some hand-hewn wood shiplap ceilings.

WHAT IT NEEDS The 2,100-square-foot home is structurally sound with working systems, but will need further updates to the bedrooms and baths, as well as fresh exterior paint and some siding repairs. The historically located just south of the North Carolina border, can't wait to open it to a new owner poised to put toward renovations that will really allow the house to shine.

—PAUL HOFF



1. The four bedrooms in this house is carefully configured without owner's suite and three guest rooms each with its own bath.
2. Portions of the exterior will need newly laid and installed.
3. The home has a laborious oak mantle in nearly every room. Though they have been painted white, stripping and refinishing them would help restore the interior's original look.
4. The handsome custom stair features hand-hewn oak wainscoting, kneeled balusters, and one window that could be replaced with more salvaged shiplap glass.

GOT A HOUSE?
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PHOTOS: SCOTT HARRIS



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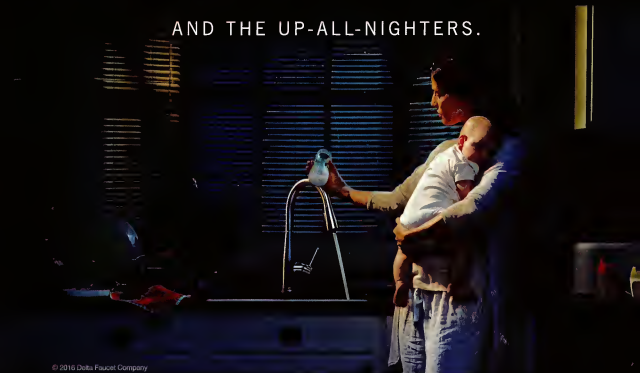


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