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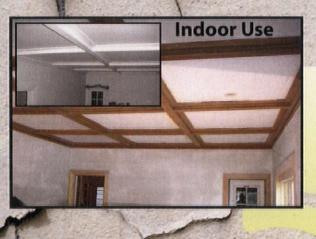
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Old-House JOURNAL

APRIL/MAY 2012 VOLUME 40/NUMBER 2 ESTABLISHED 1973

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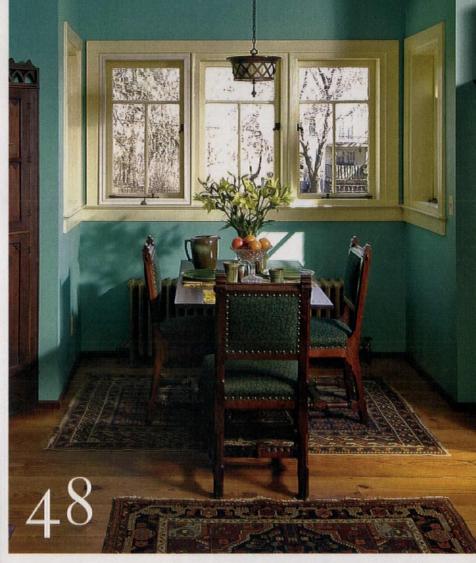
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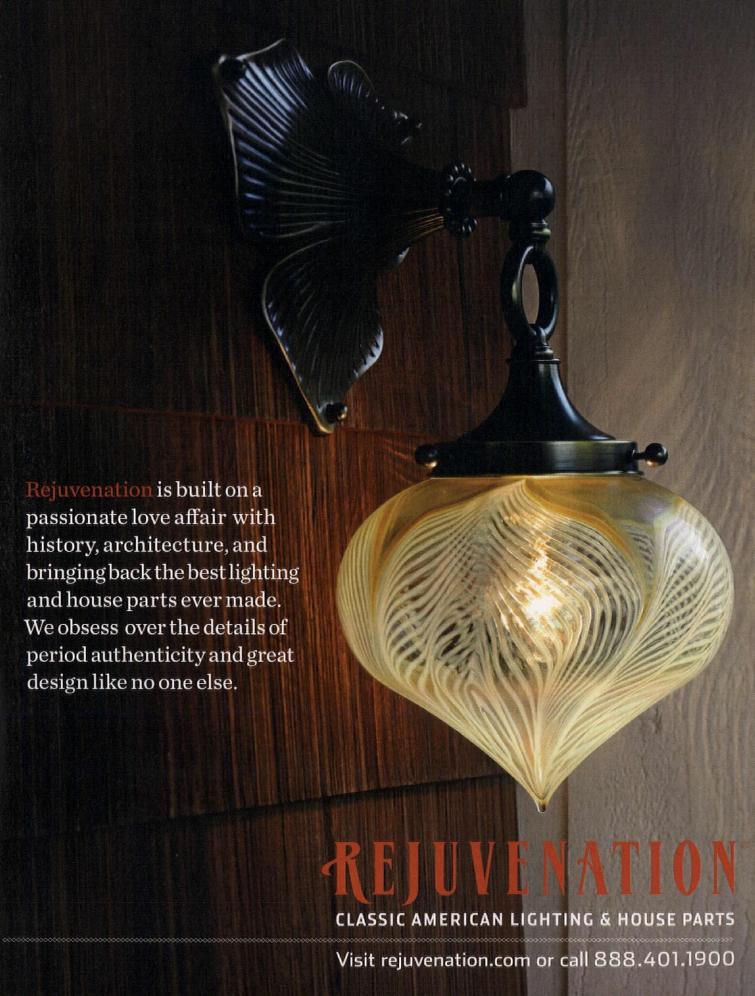
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Old-House JOURNAL



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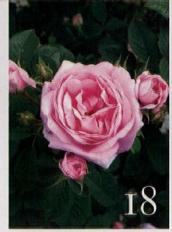
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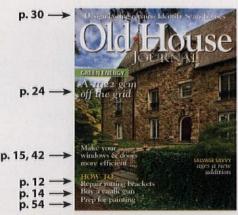
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Whether you have a passion for old-houses, or love custom wood homes, we've got you e-covered.







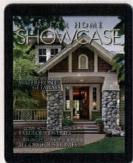


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Water, Be Gone

If you've read Ray Tschoepe's design advice on page 30, you know that diverting water away from your house is key to preventing deterioration of exterior elements like the porch above. Log on to get even more tips for keeping water away, courtesy of restoration pro Duffy Hoffman, who will be discussing this subject at our Philly-area Historic Home Show on March 10-11.

Going Geothermal?

With their solar-powered geothermal retrofit of a 1922 house (see page 24), homeowners Susanne and David Neiblum proved that even vintage houses can be taken off the grid. But a huge project like this requires plenty of research—and professional help. If you're considering a similar retrofit, get started by consulting our list of resources and suppliers.

When a Home Isn't a House

When most of us picture living in a vintage building, we think of...well, an old house. But once you've read the stories on page 44, you'll see that living space can be carved out of all sorts of down-on-their-luck old buildings. If you live in a converted commercial structure (or just want to connect with people who do), join our special group on MyOldHouseOnline.com to share your story and photos!

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editor's note

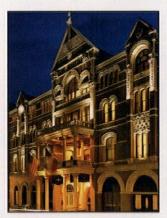
Modern Vision

WE LIVE IN AN AGE of amazing science. With medical advancements, we now have incredible life-saving techniques and devices that can drastically change human bodies, yet leave them appearing untouched. The same is true for a host of new green technologies being used in old houses: Systems like geothermal heat pumps and solar panels can significantly change the way a house operates and interacts with its environment, occupants, and neighborhood infrastructure, and can now be installed in minimally obtrusive ways. Our cover house, for example—a fine French Norman outside of Philadelphia was thoughtfully taken off the grid by homeowners David and Susanne Neiblum, but inside, its walls, floors, and



1922 character remain virtually the same (see "Grounds for Change," page 24).

Of course, there are other ways to go green with old houses. A classic strategy is to use salvaged materials. Our Insider homeowner, Joan Lawrence, took this to a new level by creating an addition to her Gothic Victorian designed almost entirely of materials she had carefully salvaged and stockpiled over the course of several years (see "Something Borrowed," page 48). Other tried and true ways to make old houses greener include simple, sensible repairs to original windows and doors, which can greatly up their energy efficiency, keeping them on their houses and out of a landfill—something OHI has always advocated. (As an added

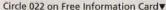


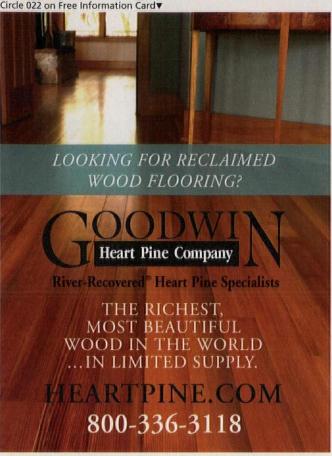
bonus, these fixes usually are the most costeffective solution, too!) Check out "Energy-Efficient Doors" (page 42) and Preservation Perspectives (page 15) to learn more.

In addition to these green-minded stories, we take you through two breathtaking Victorian-era buildings: the Eitzen Mansion in California, Missouri, which was lovingly restored to its original grandeur by its current owners, and now once again plays an important role in its community (see Old-House Living, page 34), and the Driskill Hotel (left), an Austin, Texas, landmark and sumptuous

Richardsonian Romanesque building (see Historic Retreats, page 20). I don't know about you, but those exterior arches make me want jump on the next plane to the Lone Star State.

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More Than Meets the Eye

The Byrne-Reed House ["A Remarkable Transformation," December/January] is breathtaking...truly an unbelievable restoration story. What an incredible legacy to leave to the people of Austin. Thank you, Humanities Texas!

> Colleen Theriot Via OldHouseOnline.com

It is so wonderful that there are others out there who appreciate history and are willing bring history back. This is an extreme example of a wonderful house that had been modified so that all the charm and beauty was unrecognizable. There are plenty others out there with more subtle changes like replacement siding, windows, and front doors. Many of these hidden gems would be relatively easy to bring back.

Joe Metzler Via OldHouseOnline.com

Reader Tip of the Month

Great article by Dan Holohan on painting radiators [Ask OHJ, February/March]. I had ours sandblasted 15 years ago, and the radiators still look great. It is definitely worth the labor required to take them out. Near our house in Maryland, there's a guy who carries sandblasting equipment in a truck and can do it on-site. Because of the dust, you still need to remove the radiators from the house, but the sandblasting can be done in your yard.

> Wayne Mitzner Via email

Got a great tip to share with other old-house lovers? Let us know at OHJEditorial@homebuyerpubs.com.

Illuminating Thought

In the article "Lights Out for Incandescents" [About the House, February/March], you missed a very important point in your discussion on CFLs. Although they are more energy efficient than incandescents, they must be recycled because they contain mercury. Mercury is a very toxic substance that, if



not properly recycled, can lead to contamination of ground water. I think you will do your readers a service by letting them know about the hazards of these bulbs and their responsibility to recycle them.

I.J. Karwick Brighton, Michigan

Good point! Some big-box retailers (like Lowe's, Home Depot, and IKEA) offer take-back programs to recycle bulbs purchased at their stores. Your local government may also have a drop-off site for hazardous household waste. To find the recycling center nearest to you, visit earth911.com. We should also note that the spending bill passed in Congress at the end of December included legislation barring the incandescent phase-out from taking effect until after the end of the current fiscal year in September...so if you were planning to stockpile incandescent bulbs, you still have time. —Eds.

Straight from the Hearth

"Hearth of the Matter" [February/March] was a great article. Jane Powell knows a lot about the masonry industry, as well as about Arts & Crafts fireplaces.

Jim Buckley Via OldHouseOnline.com

Clarifications: In last month's "Letters," our response to a reader indicated that lime-based mortar should be mixed ahead of time to improve workability. In fact, the lime should be slaked (mixed with water) one to two days ahead to increase plasticity.

Eagle-eyed readers may have noticed a similarity in our last two issues—due to a last-minute mix-up in files sent to the printer, the February/March issue was printed with the old December/January text on the spine, inadvertently creating a "collector's edition."

Send your letters to OHJEditorial@homebuyerpubs.com, or Old-House Journal, 4125 Lafayette Center Drive, Suite 100, Chantilly, VA 20151. We reserve the right to edit letters for content and clarity.



about the house

By CLARE MARTIN

CALENDAR

MARCH 24 & APRIL 14 KALAMAZOO, MI

Old House Expo

This annual event expands to two dates this year, each featuring vendor exhibits, speakers, walking tours, and hands-on workshops at a new workshop house. (269) 349-2022; oldhousenetwork.org

APRIL 14 SEATTLE, WA

Building Renovation Fair

Historic Seattle returns to the 1908 Washington Hall for its second-annual fair, showcasing regional providers of old-house products and services. (206) 622-6952; historicseattle.org

APRIL 21-28 VARIOUS LOCATIONS, VA

Virginia Garden Week

More than 250 gardens, historic homes, and landmarks will be open to the public; this year's highlights include Poplar Forest, Thomas Jefferson's getaway near Lynchburg. (804) 644-7776; yagardenweek.org

MAY 10-12 FLINT, MI

Preservation Conference

The Michigan Historic Preservation Network's weekend-long conference will feature seminars and workshops on topics such as urban regeneration and preservation myths, plus walking tours of local historic sites. (517) 371-8080; mhpn.org

NEW DATES!

If you're planning to head to the annual **Historic Home**Show in Philadelphia in March, update your calendar—the show has moved to the weekend of March 9-11. Remember to set your GPS for the new location, too: the Greater Philadelphia Expo Center in Oaks, Pennsylvania. For the latest information on speakers and events, visit historichomeshow.com.

ON THE RADAR

Green Building Looks to the Past

For years, preservationists have touted the inherent benefits of greening existing structures rather than constructing green buildings from scratch—and it looks like that case is starting to gain some big-time traction. In December, the U.S. Green Building Council announced that the total square footage of LEED-certified existing commercial buildings surpassed new construction by 15 million square feet.

The continuing economic slump could be part of the reason why green attention has refocused on existing buildings, says green building consultant Jerry Yudelson, author of the book *Greening Existing Buildings*. "New construction has slowed down because of the recession," he points out. "And existing construction wants to take advantage of greening for a couple of reasons: one, to reduce operating costs, and two, to take an existing property and create a green brand out of it."

Some recent high-profile projects point to the success of doing just that. In September, New York City's Empire State Building unveiled a \$550-million LEED Gold retrofit that will reduce the 1931 building's energy consumption by 38 percent, for an estimated annual savings of \$4.4 million. The following month, San Francisco's iconic Transamerica Pyramid attained LEED Platinum status, which puts it in the top 2 percent of energy-efficient buildings in the country.

As for whether this trend will trickle down to



New York's most famous skyscraper is now a green building.

residential buildings, signs point to yes. Several preservation standards (including the National Alliance of Preservation Commissions and the Secretary of the Interior) now have guidelines that specify proper installation of green technology on historic buildings. And with tax credits for items like geothermal heat pumps, wind turbines, and solar panels good until 2016, Yudelson says he expects homeowners to keep taking advantage of the opportunity to install green upgrades.

It's long been clear that green building is here to stay—but now it looks like older structures are starting to benefit, rather than suffer, from its popularity.

OLD-HOUSE RESOURCE

Calculate Solar Savings

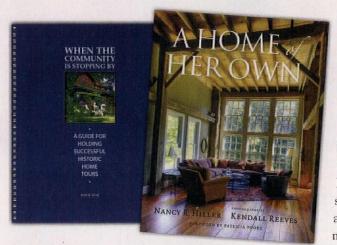
With energy prices ever rising, the temptation to go off the grid by generating your own solar or wind power can be heady—but is a major retrofit really a good investment? The payback calculator at SolarEstimate.org can help you decide. Plug in your ZIP code, choose your utility provider, and insert some data about previous electric bills, and the calculator will generate a detailed report based on the type of service you're interested

in. For example, if you're looking to install solar panels, you can see the average solar rating in your area, how many square feet of panels you'd need to generate enough energy to power your house, and an idea of when you might start to see a return on your investment. You can perform the same calculations for other technology, too, such as wind turbines or solar-powered hot water heaters.

BOOKS IN BRIEF

R estoring an old house can be a transformative process—not just for the house itself, but also for its owner. This intersection of restoration and life is the subject of cabinetmaker (and regular OHJ contributor) Nancy Hiller's latest book, A Home of Her Own. Hiller charts the stories of 18 women for whom a house is more than just a roof over their heads. The tales of how these women

managed to create distinctive spaces in the face of (and often spurred by) life's challenges are as relatable as they are inspiring. Although the accompanying photos exude an almost effortless grace, Hiller's text drives home an important



restoration lesson: It won't be quick or easy, but it will be worth it.

Once the hard work is out of the way, of course, the next step is to show off your efforts. If your town doesn't

offer a historic home tour, let Lori A. Graf's When the Community Is Stopping By: A Guide for Holding Successful Historic Home Tours be your guide to getting one going. The no-nonsense workbook, published by Fort Wayne, Indiana's Architecture & Community Heritage foundation, offers step-by-step instruction for every aspect of the process, from promoting the tour in local media outlets to managing volunteers.

Sample timelines, homeowner contracts, and volunteer handbooks take all the guesswork out of organization, ensuring smooth sailing for first-time events.

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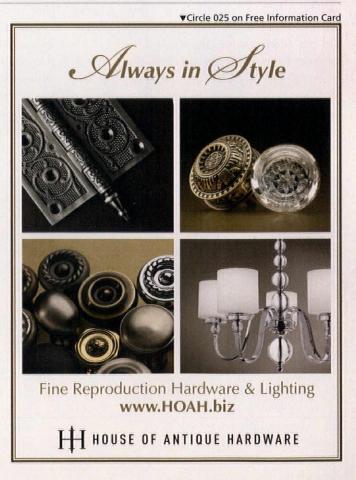
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ask ohi

I've noticed a gradual deterioration of the decorative beams under the gables of our 1912 Craftsman. Some of the end caps are loose, and the wood cases are beginning to rot. What suggestions do you have for repairing or replacing them?

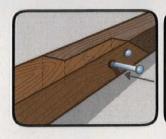
Ray Tschoepe: It looks like the horizontal componentof the knee braces is made up of boxed or built-up beams. In this design, rougher, smaller-dimension lumber projecting from the wall is wrapped with planed 1x lumber to give it a proportionally larger, finished appearance. A separate end cap is commonly used to conceal the multiple pieces of wood that make up the beam. This technique often ends up trapping water, which enters through fissures or rusted fasteners near the top and consequently encourages fungal growth and decay. In your case, it looks like this deterioration is causing the top portion of the "box" to separate from the wood below.

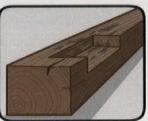
Start by removing the surface pieces to reveal the inner wooden member, and evaluate this element by testing the soundness of the material. First, press the tip of an awl into the surface of a similar healthy piece of wood to determine a baseline average penetration with a certain amount of pressure. Using a similar amount of force, press the tip into the surface of the rotting wood, scattering the penetrations every 2". Although not 100-percent accurate, this will provide you with an approximate map of the deterioration and a tactile glimpse into the interior.

If the beams seem to have only surface rot, evidenced by awl penetrations of less than 3/8", then you can remove the surface paint and apply several coats of an epoxy consolidant. Use a paste epoxy (such as Abatron WoodEpox) to fill any fissures or small voids. When the epoxy has cured, sand and prime with an alkyd primer, followed by two finish coats of alkyd or latex paint.



LEFT: The design of some decorative beam assemblies can become a water trap. BELOW: Solutions include (from left) replacing the beam entirely, splicing in a Dutchman patch, or filling the rotted beam with epoxy consolidant.







If you have substantial penetration (greater than 3/4") over 50 percent of the beam, the deterioration is pretty thorough, and replacement is probably the most cost-effective solution. Your replacement strategy will depend on whether the beam is a continuation of an interior structural member (purlin), or simply affixed to the wall with no interior counterpart. If it is part of an internal support, mill a new piece of lumber to match, and join it to the existing material using a simple lap joint on the interior. If it is fastened only to the exterior of the building, carefully seal the end grain with paint or an epoxy consolidant before attaching the milled lumber with stainless steel screws. In each case, be sure to carefully reattach any flashing under the wooden shingles before you replace them.

If the deterioration is limited to pockets and the beam is basically sound, you might consider a Dutchman repair and/ or an epoxy fill. The former involves exchanging a portion of the rotted wood for an easily shaped replacement piece of similar stock. Before attaching the Dutchman with epoxy, all of the soft areas should be liberally coated with epoxy consolidant, and an epoxy filler should be used to fill small voids.

If your woodworking skills are rusty, you can perform a similar repair using only the epoxy consolidant and filler. Start by removing any loose or deteriorated wood. Drill a series of 3/16" holes through the top of the beam around the decayed area, along with some angled holes on the sides of the wood to allow the epoxy to reach interior decay that would otherwise be inaccessible without major surgery. Carefully wrap the beam in plastic sheeting, leaving the top open. Mix epoxy consolidant, and slowly pour the consolidant (or inject it with a glue syringe) into all of the holes and larger voids, adding more as it soaks in. Next, mix a thin epoxy filler (such as Conserv 200) and slowly pour it into the same holes and voids. The pourable filler will find its way into fissures and voids that epoxy pastes can't penetrate. Allow the epoxy to cure overnight and remove the plastic. Sand away any excess, and prime the beam with a high-quality alkyd primer. When that has thoroughly dried, finish it with two coats of latex or alkyd paint.

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MORE QUESTIONS ANSWERED



A neighbor of mine has an extremely wide and narrow closet. If you try to place clothes hangers in it in the traditional fashion, you can't get the door shut! I need some insight on how we could make use of this space. – Jeff

A: I grew up in a house with long, skinny closets. My mother made shelves about a foot deep across the width to store sweaters, party shoes, boxes of 'treasures,' and an extra blanket. —Jane

A: I use smaller hangers. I spent several years buying antique wooden hangers at thrift stores for 25 cents each; I also hang pants there using trouser hangers,

which are always very short. Kids' hangers or home-shortened wire hangers also would have worked. *-Phil*

A: Do you have a small bedroom that you can convert into a walk-in closet? I had the same situation in my 1912 Foursquare, so we converted our small bedroom/sewing room into a walk-in closet. –Chris



produce a slight crown.

Ray Tschoepe, one of OHJ's contributing editors, is the director of conservation at the Fairmount Park Historic Preservation Trust in Philadelphia.

Once the interior member has been stabilized, you can replace the surface

pieces with newly milled material, either made of decay-resistant wood (redwood,

cypress, cedar, or thermally treated woods)

or liberally coated with a fungicide such

as borate or copper napthenate. To drain ponding water from the large, flat surface,

consider planing or sanding the top to

Have questions about your old house? We'd love to answer them in future issues. Please send your questions to **Ask OHJ, 4125 Lafayette Center Dr., Suite 100, Chantilly, VA 20151** or by e-mail to **OHJEditorial@homebuyerpubs.com.**

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old-house toolbox

Caulk Gun

A good-quality caulk gun will help you make a perfect bead every time.

By MARK CLEMENT

here's an old adage that goes, "Caulk and paint makes a carpenter what he ain't." While this saving diminishes carpenters and DIYers who work hard to create accurate cuts and tight joints without the need for caulk, I personally find caulk-along with sealants and adhesives-to be an essential element on almost every project I tackle.

No matter what the goop or where it goes, it all gets applied the same way: with a caulk gun. That makes it a very important tool in your arsenal.

Where To Use It

A caulk gun (also called a "frame") comes in handy when applying adhesives, sealants, and fillers to dozens of different old-house projects-like gluing cleats to the backs of crown moldings to even out scarf joints or caulking gaps around bathtubs for a watertight seal. I also use plenty of polyurethane sealant for detailing flashing assemblies for a chimney, porch roof, or deck ledger board.

What To Look For

I'm baffled when I visit a job site or workshop and see cheap, throwaway caulk guns hanging on the wall. These may be fine for one-time use, but for people with a whole house restoration in front of them, I recommend buying a higherquality tool.

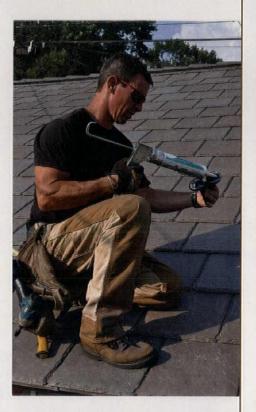
There are two types of caulk gun: a smooth-shank plunger and a ratcheting plunger. They are easy to tell apartthe ratcheting type's plunger has little teeth, while the smooth-shank plunger is smooth. In general, a frame with enough mass to resist the force of lots of squeezing is key. These well-constructed frames also will give you a nice, consistent bead of caulk or adhesive. Other features that set good-quality guns apart include:

Tube cutter. While a utility knife is perfectly fine for cutting the tops off caulk tubes, I don't always have one on me. A tube cutter allows you to cut the nozzle of the tube by squeezing the handle of the gun.

Poker. I don't even bother buying a caulk gun that doesn't have a poker, which pierces the foil covering of the caulk tube down inside the spout. This saves me from fishing around for a nail to open new caulk tubes.

Hook handle. Because of the nature of my work—climbing ladders, sitting on roof peaks, working on windows-I need a place to put my caulk gun when it's not in use, whether that's hanging from my tool belt or hooked over the chimney. The best caulk guns have a C- or L-shaped handle so you can easily hang them anywhere.

Trigger. Also consider how wide you'll have to spread your hand to get a firm grip on both the handle and trigger. A nice caulk bead is an art in itself and must be applied as steadily and as



It's easy to go for the cheapest option when buying a caulk gun—but a quality model will see you through many projects.

evenly as possible. If you have to crank on the handle to get the caulk to flow. that's not very smooth at all.

The Bottom Line

While not a panacea for the sins of bad carpentry, caulk, sealant, and adhesive are nevertheless essential restoration materials. Investing now in a good-quality caulk gun will save you from mess, fatigue, and wasted time down the road.



Carpenter Mark Clement is working on his century-old American Foursquare in Ambler, Pennsylvania, and is the author of The Carpenter's Notebook.



Winning Windows



A window case study in Astoria, Oregon, shows why repairs are more cost-effective than replacement. We spoke with Joy Sears, restoration specialist at the Oregon State Historic Preservation Office (SHPO), to learn more. By Demetra Aposporos

DEMETRA APOSPOROS: What was this project, and how did you get involved?

JOY SEARS: The Owens-Adair senior housing facility, built in 1931 and historically known as St. Mary's Hospital, wanted to replace their windows after a resident was opening her window and the sash cord broke, causing the window to fall on and injure her arm. The facility's project manager contacted Rosemary Johnson, planner and historic preservation officer for the city of Astoria, to discuss their options, and she brought me in to consult.

DA: How bad were the windows?

JS: They hadn't been well-maintained for decades—they were loose and leaked air, and many had broken sash cords—but they were readily fixable.

DA: They thought replacements were the only solution?

JS: They thought vinyl windows were the

only reasonable option in terms of cost and energy efficiency, so I gave them a lot of information on the energy efficiency of restored windows. Once they got those numbers, they were shocked.

Preserving the existing windows met everyone's expectations.

DA: What happened next?

J5: I suggested some companies that could do the repair work. We also discussed how the repairs could be done—the tenants were pretty protective of their spaces and had concerns about boarded-up windows or interior containment areas during the project. In the end, the project manager agreed to take this new information and do more research into his options. Ultimately, they decided to have the windows restored by Chosen Wood Window Maintenance.

DA: How involved were the repairs?

cost-effective option. ABOVE: Pre-work, the windows were showing significant damage.

J5: Because the existing historic window frames were thick enough, they were able to route the sash to accommodate double-paned glass with new glazing. They also replaced the sash cord with a spring balance system with fixed upper sashes, which was less invasive than having to disassemble the original pulleys. And the old storm windows were kept in place during the repairs—so no boarded-up windows.

DA: What was the final cost?

J5: They paid \$259,000, or \$1,036 per window. New replacement windows would have cost them \$680,000, or \$2,720 per window.

DA: What kind of energy savings have they seen from this investment?

JS: They saved \$1,000 off their first month's energy bills.

DA: Sounds like a success all around.

J5: I was happy that in the end, preserving the existing windows met everyone's expectations.

For more information, visit oregon.gov/oprd/hcd/shpo.

period products

By CLARE MARTIN

Comfortable and user-friendly new finds that don't skimp on style.



Sconce Simplicity

Sconces are a great way to light old houses, but because they require behind-the-wall wiring, they can be a pain to install. Rejuvenation's new Wallace sconce takes the hassle out of the process—simply hang it up, plug it in, and turn it on. With its industrial-style double-knuckle, swing-arm design, it's perfect for hanging over a desk or a bedside table for targeted task lighting.

The fixture comes in 13 different finishes, with

dozens of shade options.

\$250, not including shade. Call (888) 401-1900, or visit rejuvenation.com.



There's no denying that recliners are a comfortable option for living-room seating. But period-appropriate? That's a harder sell. Leave it to furniture designer David Moser to come up with a recliner that's as gorgeous as it is comfortable. The Drift chair's sculptural curvilinear



silhouette recalls a mid-century aesthetic; comfort comes in the form of memory foam cushions and an innovative dovetail that allows the chair to slide into a reclining position. Available in either a walnut or cherry frame with a matching ottoman. From \$3,200. Call (800) 862-1973, or visit thosmoser.com.



Chalk It Up

It can sometimes be difficult to find finishes that are both ecofriendly and historic, but chalk paint delivers on both counts. Created by British painting guru Annie Sloan (and newly available in the U.S.), the low-VOC paint is formulated to adhere to almost any surface without the need for priming, and dries to a matte, plasterlike finish. It can be easily manipulated to create distressed, layered, or limewashed finishes for furniture, cabinets, or walls. From \$34.95 per gallon. Call (504) 247-3788, or visit anniesloanunfolded.com



Get Schooled

Known for their spot-on reproductions of early to mid-20th-century light fixtures, the newly renamed Schoolhouse Electric & Supply Co. has branched out to offer a wide variety of home décor keyed to the same timeframe. The offerings include everything from furniture and rugs to bed linens and dishware. Much of the furniture skews toward a mid-century modern bent, but there are several traditionally styled items, too (such as the tufted velvet Adler sofa, above)—many of which boast green touches like FSC-certified wood and soy-based foam cushions. Adler sofa, \$3,298 (as shown). Call (800) 630-7113, or visit schoolhouseelectric.com.

tools & materials

Our editors pick the best green products to make your old-house projects easier.

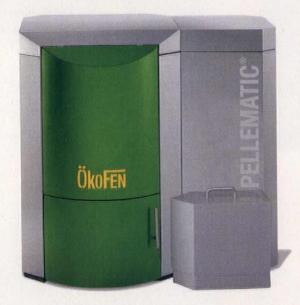


Recycled Rain

Take your rain barrel an eco-step further with the RainPerfect pump, which provides pressurized water directly from a rain barrel to a sprinkler or garden hose. Its easy top-mount installation adapts to most rain barrel styles and standard



garden fixtures, and it's powered by a rechargeable solar battery, capable of pumping up to 100 gallons on a single charge. Around \$200. Visit rainperfectpump.com.



Clean Heat

Made of compressed sawdust and wood shavings without chemical binders, wood pellets are one of the greenest heating fuels around. European company Okofen has been making pellet-heating products since the late 1990s, and its innovative Pellematic boilers are now available in the U.S. Not only is the boiler powered by a completely carbon-neutral, renewable energy source, but the resulting ash also can be used as a garden fertilizer. Prices start at \$13,000. Call (207) 824-6749, or visit okofen-usa.com.

Runoff Reducers

Storm water runoff can mix with a host of contaminants (like motor oil and fertilizer) to pollute rivers, lakes, and groundwater. Permeable pavers can vastly reduce runoff, keeping pollutants in check and the environment cleaner. The SubTerra pavers from Belgard Hardscapes resemble natural chiseled stone, with modular shapes that make them easy to install. They can be laid in two traditional patterns (stock bond or 90-degree herringbone, shown below) and perform well in harsh climates. From about \$2 per square foot. Call (877) 235-4273, or visit belgard.biz.



outside the old house



Antique Roses

Old-fashioned and low-maintenance, these vintage varieties will add a hint of the past to your old-house garden.

By Io Ann Gardner

oved for their sumptuous blooms, heady fragrance, and nostalgic association with the past, antique roses are natural companions for the old house. These centuries-old varieties originated in Europe and were brought to the New World with the earliest settlers. They are characterized by a single but abundant flowering each season (though there are exceptions) and extraordinary cold hardiness. Their graceful forms vary in color from blush white to cerise pink.

LEFT: Less finicky than modern roses, antique varieties offer a carefree, informal look that perfectly complements the charm of old houses.

The variety of antique roses is staggering-from upright to wide-spreading to those low enough to grow in small spaces, even in containers. They can be integrated into a shrub border, grown as single accents, or as hedges to highlight any landscape design. Climbers enhance porches, fences, and trellises at the side of the house or outbuilding. By choosing wisely among those that flower in early and mid-season or repeat bloom, you can have roses in bloom nearly all season. Fall foliage and attractive hips (fruit) extend the ornamental possibilities.

Roses from the past are low-maintenance, too. They don't require lots of fertilizer or spraying or pruning to keep them looking their best. Plant in well-drained soil at a site with at least six hours of direct sun a day; some will take less. Go easy on pruning: For single bloomers, prune after flowering by removing dead, damaged, or crossed canes, as well as any slimmer than a pencil. For the most vigorous growth, be sure to keep the center of the rose open to the sun by cutting back extra growth. For repeat bloomers, follow the same routine, but prune when the rose is dormant in early spring. To shorten the height of both types, cut back no more than a third of the plant. Beware: Most old roses have thorns of some size, so wear suitable clothes and gloves when working around them.

Antique roses give us a glimpse into the past and allow us to share in a world where each bloom is treasured for its unique, individual traits. The following varieties are favorites for their extended flowering or repeat bloom, their floating aromas, fall interest, landscape uses, and hardiness. Above all, they possess beautifully formed, character-filled blossomswhich is what antique roses are all about.



Alfred de Dalmas*

Date of introduction: 1855

Characteristics: Derived from the moss rose (1696), 'Alfred de Dalmas' is one of the most reliable old roses in terms of repeat blooming, "Moss" refers to the fuzziness around the plant's sepals, calyx, and stem, the source of the flower's resiny scent. Clusters of blush-pink buds open to cupped pink flowers that fade to white. Dainty by antique rose standards, the plants grow to a height of only 2' or 3' and are suitable for a container or low hedge.

Blanc Double de Coubert

Date of introduction: 1892

Characteristics: This early rugosa hybrid is still considered the best white rose. Rugosas, first brought over to the U.S. in 1845 from Japan, are resistant to adversity: They can withstand salt spray, wind, drought, and poor soil. Long, pointed flower buds open to semi-double white flowers with an intense, floating aroma, Typical dark green rugosa foliage creates a handsome ensemble. Growing to 6' x 5', 'Blanc Double de Coubert' roses make a fine distant accent. Repeats flowering until the fall, when foliage turns a burnished gold.

Celsiana

Date of introduction: Before 1750

Characteristics: 'Celsiana' is a classic damask rose, a type with complicated ancient ancestry that's noted for its fragrance, hardiness, and fall fruits. Clusters of shellpink, semi-double flowers with crinkly petals grow in delicate sprays, blooming from late spring to early summer. Foliage is gray-green on a 4' x 4' plant.



Oueen of Denmark

Date of introduction: 1826

Characteristics: The 'Queen of Denmark' rose (Königin von Dänemarck) belongs to the Albas family, which dates back to the Middle Ages or earlier. Opulent, wellscented 3"- to 4"-wide flowers bloom in light- to rose-pink clusters in mid-summer. The flowers are so full of petals that they create a "quartered" effect, typical of many old roses. Foliage is bluish-green, and fall hips are large and scarlet. The plants will tolerate partial shade as long as they have at least four to five hours of direct sun, and typically grow 4' to 5' with a graceful, open form.

Apothecary's Rose

Date of introduction: The early colonial period, but it belongs to the Gallicas family, which has been cultivated for thousands of years.

Characteristics: Despite its antiquity, the Apothecary's Rose (Rosa gallica officinalis) has a neat, modern look: two layers of nearly hot-pink petals loosely arranged around showy golden stamens. It was used by early settlers as a medicinal to soothe sore throats, heal mouth sores, and ease headaches. Plants grow 3' x 4' and make a good medium-tall informal hedge. Mow on both sides, since these roses sucker freely. Large red hips appear in the fall.

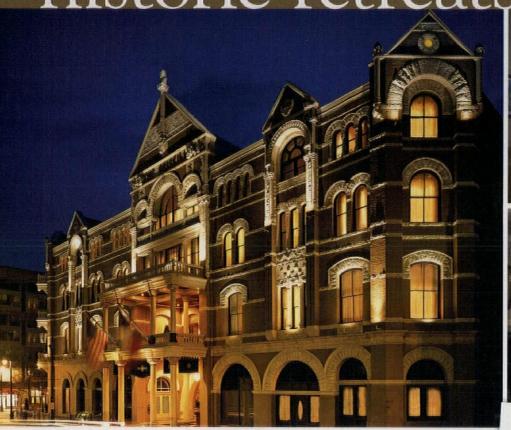
Zephirine Drouhin

Date of introduction: 1826

Characteristics: This Bourbon type resulted from a chance cross between an Old World and a China rose, discovered by 1817. Its offspring are characterized by intense fragrance, sumptuous blooms, extended flowering, and a degree of hardiness. 'Zephirine Drouhin' is an alltime favorite, unsurpassed for the mass of showy cerise-pink semi-double flowers that bloom on thornless canes from spring to fall. Plants grow from 5' to 20' and will bloom even on a north-facing wall. Hardy from Zones 6 to 9.

*Unless noted, the roses described here are hardy from Zones 4 to 9 or 10.

historic retreats







ABOVE: The LBJ Suite features stained glass adorned with bluebonnets and other wildflowers; the Maxmilian Room's famous mirrors; the hotel in the early 20th century and today (left).

The Driskill Hotel

The legendary Romanesque landmark brings a Lone Star brand of grandeur to Texas' state capital.

By Beth Goulart

hey say everything's bigger in Texas. Once you step inside the Driskill Hotel, Austin's opulent historic landmark, you know it's true; the grandeur just might take your breath away. Certainly, the flavor of Texas permeates every corridor.

"I think the draw really is that the hotel is so Texas," says Kyra Coots, the Driskill's director of public relations. The hotel's Lone Star roots extend far beyond the longhorn head mounted above the fireplace in the bar and the five-pointed Texas stars outlined in lead on the lobby's giant stained-glass dome.

Jesse Lincoln Driskill, a prosperous rancher who supplied beef to the Con-

federate Army during the Civil War, began construction on the hotel in 1885, around the same time that the Texas Capitol and first building of the University of Texas were built. Driskill's Richardsonian Romanesque hotel, designed by Jasper N. Preston & Son, would open before Christmas in 1886, boasting 60 steam-heated guest rooms and four elaborate suites.

Less than two weeks after its grand

opening, the Driskill hosted what would be the first in a storied line of inaugural balls, this one for Texas Governor Sul Ross. It hosted more than 30 years of homecoming balls for the University of Texas. And in 1934, Lyndon B. Johnson invited Lady Bird to breakfast here and proposed marriage to her later that same day. In 1964, LBJ was here again when he learned he had won the U.S. presidency.

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ment woes. Within months of opening, it closed due to financial troubles, reopening in October 1887 under new management. The next year, a devastating drought killed off the Driskill family's cattle and forced them to sell the hotel. Thus began a dizzving history of closures, reopenings, and ownership and management changes that would continue for more than a century. In 1969, the wrecking ball was outside literally-before the Heritage Society of Austin gathered sufficient private funds to save and open the hotel to guests once more. (The latest sale of the hotel, to Colorado-based Destination Hotels & Resorts, took place in 2005.)

Despite the glamorous events, the hotel has long been plagued by manage-

"We like to say there's a little mystery in our history at our hotel," says Coots. That might be a way of putting a positive spin on a timeline littered with changes of hands, several renovations, and additions, but it's true. There's plenty of intrigue at the Driskill, especially for the history buff.

Take Texas' own hall of mirrors, the Maximilian Room. Its standout feature is a set of eight mirrors framed in ornate gold plate, each topped with a likeness of Empress Carlota, wife of the 19th-century monarch Maximilian of Mexico. The mirrors are said to have been a gift from Maximilian to Carlota, which once hung in their own home. How they landed in a San Antonio antiques shop is unknown, but the Driskill purchased them in 1930 and made them the centerpiece of the hotel's most fantastic ballroom. The ballroom also boasts a set of beaded chandeliers, thought to date to 1930, that were restored in the 1990s as part of a historyminded renovation.

Other striking interior features speak to the many changes the hotel has seen over the years. The vault near the reception desk is a remnant of the bank that opened in the hotel as part of an 1895 effort to diversify the business. And the lobby's magnificent 18' x 18' stained-glass

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historic ret<u>reats</u>



ceiling is centered around an inverted dome that was added in the 1990s to evoke the original open atrium, which was enclosed in 1950 when management installed air conditioning. Outside, the original busts of Driskill and his two sons—carved from limestone by Italian artisans—overlook each street-facing, pressed-brick façade.

The mystery that intrigues guests the most, however, is whether the hotel is haunted. Stories abound of several ghosts. Driskill, known around the building by his military title, "The Colonel," is the most obvious candidate. He died in 1890, just two years after selling the hotel, and is said to smoke cigars in guests' rooms in his quest to enjoy his namesake creation. Others have reported hearing a little girl bouncing a ball and giggling near the hotel's grand staircase, where a four-yearold fell tragically to her death in 1887. More tragedy ensued about three decades ago, when a groom called off his wedding the night before it was to take place at the hotel. The bride-to-be, who was staying in a room on the fourth floor, hanged herself. It is said that her ghost walks the halls in her wedding gown.

When he built the hotel 125 years ago, Jesse Driskill probably didn't envision hauntings or the other mysteries that ABOVE: The highlight of the lobby is an inverted stained-glass dome, designed to evoke the spirit of the original atrium (inset).

have come to the building with old age. He did envision the grandest hotel in the region-and there's reason to believe he met that goal. Austin's Daily Statesman touted it as "one of the finest hotels in the whole country" when it opened in 1886. Thanks to Driskill's vision and the efforts of preservation activists, we can still enjoy his masterpiece today. 🏙

The Driskill Hotel

604 Brazos Street Austin, TX 78701 (800) 252-9367 driskillhotel.com

Rates start at around \$229 per night, based on double occupancy; discounts are available for advance bookings and multiple-night stays. The hotel offers a variety of packages such as "Paint the Town Red," which includes a horse-drawn carriage ride around downtown Austin.

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Ioin Patricia Poore.

editor of Old-House

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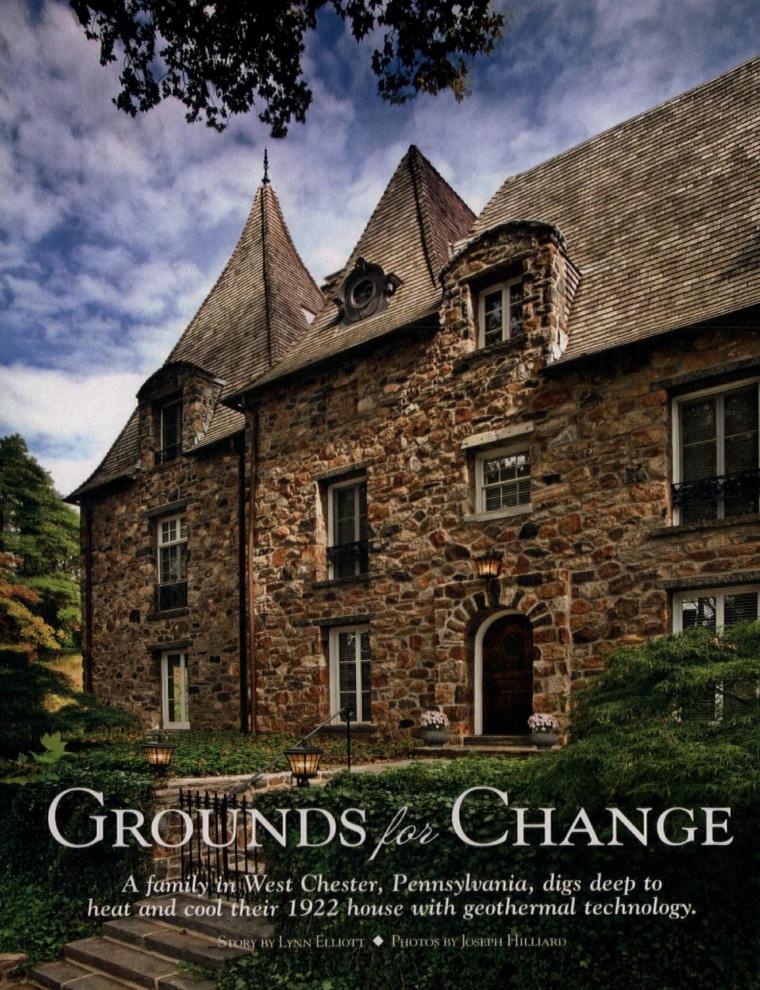


MAGAZINES BROUGHT TO LIFE









In August 2011, David and Susanne Neiblum opened their electricity bill to find a pleasant surprise: It was for \$7—the total cost for one month of the electric company's service charges for their 6,700-square-foot home in West Chester, Pennsylvania. The energy payday was the result of the three and a half months the Neiblums spent sensitively converting their 1922 house from oil heat to a geothermal heating and cooling system that runs on electricity from a solar array.

OPPOSITE & BELOW:
Homeowners David and
Susanne Neiblum were
able to maintain the
historic character of their
1922 French Norman
house by locating the system's solar technology on
an otherwise unusable hill
in their back yard.

When David Neiblum first spotted the French Norman style house for sale, he thought, "It's too big, too much, but how can I walk away from this house?" Clad in local fieldstone, with a central staircase and fireplaces imported from France, the impressive house was perfect for this family of five, but it was expensive to heat and had no air conditioning.

The family looked into installing central air ductwork and a standard compressor, which, for such a large house, would've cost approximately \$100,000—but for a bit more money, they realized they could opt for geothermal energy instead. "We had looked into geothermal for a house we had planned to build," says David, so they were familiar with the costs. "But we weren't sure it was possible for this house."

Geothermal systems can reduce heating and cooling bills by 70 percent in comparison to oil, but the upfront costs are expensive. For this house, the entire geothermal installation, including the ductwork but excluding the solar array, was approximately \$160,000. (The cost varies with the size of the house.) A federal tax credit for green technology—30 percent of the entire project, including ductwork—helped to offset the expense.

With the energy savings of geothermal, David estimates they'll earn back the upfront expenses in five to seven years. "The price for ductwork and regular A/C with oil-heat radiators was the same as



geothermal with the tax credit," David points out. "It made sense in the long run."

The Neiblums hired Bill Sinton of Sinton Air Conditioning and Heating to do the work. "The geothermal installer you choose is crucial because it's a major job for the house," says David. Geothermal installation was only 7 to 10 percent of Bill's business as recently as 2003, but it now encompasses 95 percent of his company's work. The increase in oil prices has

spurred homeowners' interest in geothermal energy, which is a renewable resource.

Geothermal systems tap into the constant temperature under the earth, which is found as shallow as 11' to 12' below the surface. Ground temperatures vary from region to region. "Florida, for example, may be 61 degrees," Bill explains. "The ground is slightly colder at a higher latitude; slightly warmer at a lower latitude." In Pennsylvania, where the Neiblums live, it is 53 degrees. This





ABOVE: Air-return grilles are incorporated into the home's décor. TOP: The kitchen and dining room were in such poor shape that they had to be completely redone, allowing the Neiblums to run ductwork under the floors.

heat is then transferred from the ground to the home through a series of underground pipes that are filled with an antifreeze solution and then sealed. Unless a house has no accessibility to the grounds around it, neither the size of the house nor the plot are limitations to tapping into that heat source.

What Lies Beneath

The Neiblums' house sits on an acre of land that includes a hill, which became the site of the bore field for the geothermal system, as well as for the solar array that would provide electricity to run the system and power the entire house (see "Solar Spotlight," page 28).

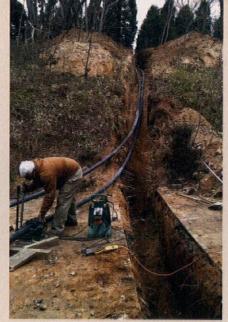
For this project, six 6"-diameter vertical boreholes, called geothermal exchangers, were drilled at a depth of approximately 350' to 400'. (Although constant ground temperatures can be found at the shallower depth noted above, to find the most stable and consistent temperature, it's best to go deeper.) The number of boreholes and depth varies, depending on the size of the house. Because bedrock runs below the earth in Pennsylvania, Bill created the boreholes with a rock hammer drill, whose bit hammers as it spins. Not only is rock a much better conductor of heat-a benefit to the geothermal exchangers—but boreholes drilled in rock also won't shift or fill in, which can happen in coastal areas with soil composed of sand, shale, and loose rubble. For these sandy areas, a mud rotary drill is used, which is labor-intensive and costly.

A loop, made of 11/4" high-density polyethylene (HDPE) pipe, a long-lasting thermoplastic that won't corrode, is inserted into the boreholes. Each loop bends in a U shape at the bottom of the borehole, so each hole contains two pipes but one circuit.

The pipes are filled with an antifreeze fluid that conducts heat. There are three antifreeze options for residential installations: propylene glycol, methanol, and ethylene glycol. The Neiblums chose methanol, the densest of the three, because of its enhanced energy-carrying properties. (The denser the fluid, the better its heat-carrying ability.)

After the loops are installed, the area around them is filled with bentonite grout,







FROM LEFT: Installing the geothermal system first involved drilling six boreholes into the earth to access consistently warm temperatures. A trench between the bore field and the house holds both the refrigerant lines for the geothermal system and the electric wires for the solar array. Refrigerant lines in the attic run to the two separate units used to heat and cool the second and third floors.

which remains pliable so it can expand and contract seasonally. The function of the grout is threefold: First, it maintains uninterrupted heat conductivity between the pipes and the earth. Second, it serves as a seal to bring the ground back into balance. Third, it prevents any aquifers from getting contaminated.

Once the grout is in place, a pipe ties the loops from each borehole together. The pipe is connected to a 3" manifold, which attaches the ground loops to the heat pumps in the house. A trench running down the hillside from the bore field to the foundation of the house holds the manifold.

Supply and Demand

Three heat pump units, located in the basement, service the entire house. The first one, a package geothermal unit that contains all the heating and cooling components, completely heats and cools the first floor. Ductwork and the ground loops are tied to it directly. The other two units—split systems with geothermal heat pumps in the basement and air-handling units in two separate attics—heat and

cool the second and third floors of the house. Each unit handles two floors, but they service different wings of the house.

Supply and return ducts run from the heat pump units to every room in the house so that all areas maintain an even, comfortable temperature. Each room has two termination points: the supply register, which can be adjusted for airflow, and an air-return grille that always remains open.

Running ductwork in an old house is a tricky prospect. The airflow in each room has to be carefully balanced and measured so the temperature remains constant. Any home considering a geothermal system should have a full heat-loss and structural analysis. For the Neiblums' home, Bill performed his own proprietary analysis in addition to the standard analysis known as a Manual J, which determines how much energy a home needs to stay cool in the summer and warm in the winter. "If someone only does a Manual I, there's a lot that will be left out," says Bill. "The challenge is finding the proper volume of air to each room on each floor."

Placing the termination points and

the ductwork in an old house has to be done "more like a surgeon than a bullfighter," says Bill, so the home's character isn't affected. "You can't just be an engineer; you have to be an artist as well," he says. "You have to be artistically creative but scientifically sound."

"Every place we had the opportunity, we put the ductwork inside the envelope of the house," he continues. Where ducts couldn't be run behind walls, they were tucked into unusual places. "In the great room, there was a hidden wet bar in the wall that was probably from Prohibition, which we took out to hide the ductwork," David says. "You can't tell anything is there."

Ted Trethewey, a contractor who specializes in restoring old houses, custom-built the soffits to hide the ducts. "Ted was essential to not making it look like a new house," David says. Soffits were created in all of the bedrooms on the third floor; painted to match the décor, they blend in with the architecture of the house. "We've taken people through the house, and they don't notice the soffits until we point them out," says David.







LEFT TO RIGHT: In one of the children's rooms, a false wall was built to disguise the ductwork. The far left photo shows the ducts attached to the wall; the center photos show the wall in various stages of completion. At far right, the new wall assembly is highlighted with a cheerful, contrasting paint scheme.

Solar Spotlight

To power the Neiblums' geothermal system, a photovoltaic solar array was placed over the bore field. "We had an unusable hill facing south," David explains. "Geothermal runs by electricity, so we thought it made sense." However, ground installations are a more involved process than solar panels placed on the roof. The Neiblums hired Astrum Solar to build a frame for the panels and dig a trench to run the electrical wires from the ground mount to the home's electrical panel.

Although roof installations may take only a couple of days, the extra steps involved with ground installations means they can take longer. Permits are another factor to consider. "The longest part is all the zoning/permitting, utility interconnection, and incentive paperwork, which can take months," says Michelle Waldgeir, vice president of marketing at Astrum Solar. In this case, the historic status of the Neiblums' house didn't affect the permitting process, since the panels were placed 100' away from the house and screened by landscaping.

Solar panels, which are made up of crystalline silicon, convert light into electricity. The electricity travels from the panels through wires to an inverter. "The inverter converts the type of electricity

produced by the panels [direct current, or DCl into the type of power your house uses [alternating current, or AC]," explains Michelle. "Once the electricity goes through the inverter, it travels through wire into your home's electrical panel."

Instead of having all the panels wired in a series to one central inverter, compact inverters (in this case, Enphase Energy micro-inverters) are installed under each solar panel to maximize efficiency. This approach allows each panel to function independently, avoiding the pitfall of having one panel drag down the system. The micro-inverters can be linked to an online performance monitoring system, where the Neiblums can track their energy usage from the panels.

Roof- and ground-mount installations that are situated identically can generate similar amounts of solar energy. But because ground mounts can be sited anywhere and aren't constrained in size by a roof, they often produce more power. The region can play a role in the system's power potential, too. "The Northeast is a great place to install solar," says Michelle. "[The Neiblums] get almost 95 percent as much sunlight as Florida."

The Neiblums' 10.36-kW solar energy system is capable of generating 11,740 kW hours per year. In comparison, the average American home uses approximately 9,000 kW hours per year. "It takes care of any electrical needs for the house," says David, not just the geothermal system.

The Neiblums purchased their system for approximately \$60,000 and received a 30-percent federal rebate off the installation price. For state rebates, "solar is more complicated," notes David. "Every state is different. In Pennsylvania, there is a rebate, but there is only a certain amount of money, and it keeps reducing."

A solar energy system also can be leased for a monthly rate with no down payment. (Many companies offer rental agreements for solar systems.) "Total costs are based on size," explains Michelle. "If a customer is interested in leasing, the quality of their location (ability to generate energy), their utility rates, and the amount they would like to spend (upfront or monthly) will determine their rate."

The Neiblums are pleased with the efficiency of the solar array and have noticed a tremendous savings in their electricity bills since setting it up in combination with their geothermal heating and cooling system. "Going solar is one of the best things you can do for yourself, your home, your wallet, and the planet," says Michelle.



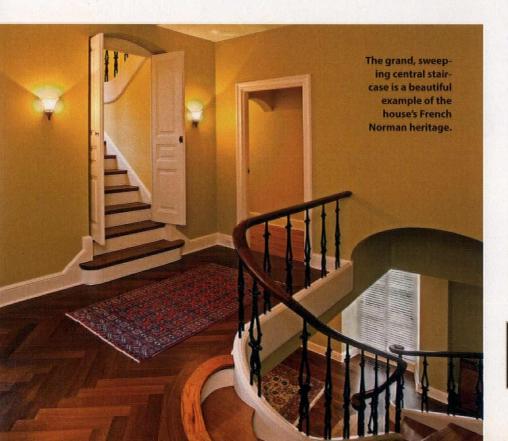


Keeping It Going

Geothermal systems are appealing in terms of longevity and maintenance compared to conventional systems because they have very few moving parts. Unlike conventional systems, geothermal heat pumps operate in steady conditions without internal combustion, and boast a 20to 30-year lifespan. "The amount of heat inside a furnace is a lot for metal surfaces to withstand—that's why furnaces die," says Bill. "Same with outdoor units—they have an 8- to 12-year lifespan," says Bill. "Everything that affects a machine outside destroys it." When a heat pump does need to be replaced, it's easy to swap out the unit. The ground loops will not have to be changed.

The system also needs very little maintenance to keep running smoothly. The air coils should be cleaned twice a year, the filters get changed yearly, and the temperature and pressure get checked annually. There is no outdoor unit to clean.

The Neiblums find the geothermal temperature controls very responsive. "You can change the temperature by one degree, and within fifteen minutes, you can feel the temperature in the room change," says David. They also consider the geothermal system to be in keeping with how the house and outbuildings were originally built. "We think a lot of the stones were salvaged from old buildings," notes David. "That ties in with the green theme."



Get a list of links to geothermal resources and suppliers.

OLDHOUSE online

Designed to Last

Follow these three basic design principles to ensure that your repair projects will stand the test of time.

STORY, PHOTOS, AND ILLUSTRATIONS BY RAY TSCHOEPE

When I drive along rural roads, I sometimes come upon old farm buildings that have been abandoned long ago.

I'm often surprised to find that although the wood is weathered and gray, the siding, trim, window sash, and sills are still remarkably sound. Why is this, when I've seen just as many 10to 15-year-old buildings already in need of replacement sash and jambs?

The survival of traditional materials in an outdoor environ-

ment usually depends upon four interdependent factors: design, material, craftsmanship, and maintenance. In the case of these old buildings, I can't speak for the craftsmanship, and I know that maintenance has been absent for quite some time, so I attribute their stubborn survival to quality, old-growth wood and the attention paid to design details. These details were often second nature to builders until the early part of the 20th century, when man-made materials (aluminum, composites, synthetics) freed the builder from the mundane and time-consuming chores of detailing every joint and attending to the pitch of every surface.

However, for the restorer who still works in the everyday realm of old houses, and does not have the advantage offered by old-growth timbers or the choice to install syn-



thetics, then attention to detail can mean the difference between a project that lasts 5 years and one that lasts 10 times that. Modern plantation-grown lumber is notoriously poor at resisting decay, so protection through thoughtful design should be the number-one concern.

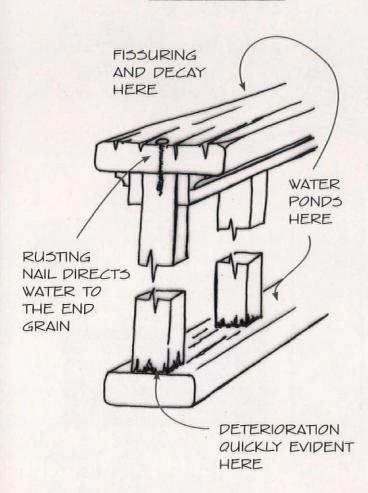
The simple key to all good design is the ability to shed water. The study of older structures reveals this on many levels. Sometimes the aesthetic style of a building is even shaped by

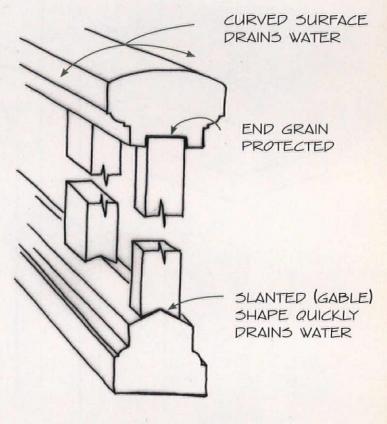
this basic requirement. Craftsmen who are not familiar with traditional building practices are inclined to reproduce the overall appearance of an element without a full appreciation of the original construction detailing that incorporated this simple rule of thumb.

If we mentally follow water that flows across the roof, we can trace its path all the way to the ground as it encounters many surface textures and pitches, various joint orientations and path changes before it soaks into the soil. New, old, or treated lumber, as well as stone and metal, can benefit by employing three basic principles of design that will keep water away from the portions of the structure that are most vulnerable to fungal decay, freeze/thaw cycles, and ponding.

INCORRECT

CORRECT





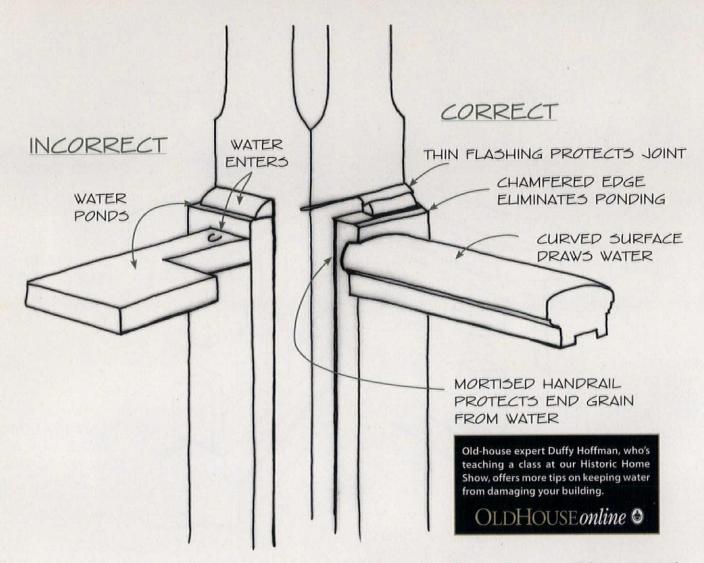
BELOW: Even small surfaces such as panel molding need a slight slope to keep them from trapping water.

Design Principle #1: Avoid Flat, Horizontal Surfaces Where Possible

Everything from porch floors to windowsills and head casings should be constructed to promote the flow of water away from the building. Slopes of 5, 10, or even 20 degrees are reasonable. Although this seems intuitively obvious, it's remarkable how often I see new porch railings installed with a flat handrail and bottom rail.

Many times, small pieces of molding, such as the lower panel molding on a door or shutter, are often discounted as having an insignificant amount of flat surface to make any difference. Yet, these are places where water can pond for prolonged periods of time, so make sure that every horizontal surface, no matter how small, is inclined away from the building.





Design Principle #2: Avoid Joints That Face Skyward

This may well be the chief source of water infiltration and subsequent deterioration in modern construction. This joint orientation tends to show up where broad handrails meet columns or when square column bases are wrapped in wood.

No matter how carefully the joints of newly restored wooden elements are caulked, the caulk will eventually fail and admit water. If you do need to caulk existing vertical seams, avoid caulking the earth-facing lower edge of an element. When water enters, it's much better to let it flow through unimpeded, rather than to trap it by blocking its path with a bead of caulk.

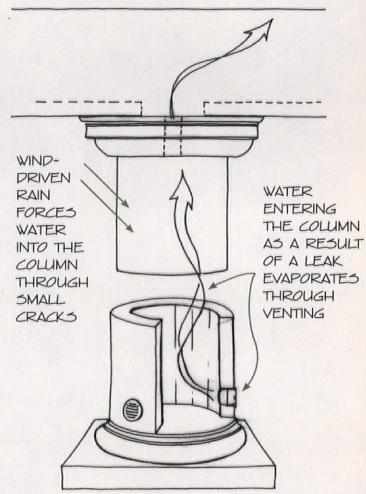
In practice, this may be the most time-consuming joint to make watertight, but the dividends are worth the effort. To get the design right, think like a roofer, and install pieces from the ground up. For example, install the lower panel molding first and cope the side moldings to it. Use flashing on seams that can't be easily eliminated or redesigned. Where horizontal and vertical members meet (such as handrails and columns), mortise the vertical member to accept the horizontal.



ABOVE: When joints at the base of square columns point downward and are protected by flashing, rainwater naturally slides off the wooden element, preventing infiltration that can lead to rot.



LEFT: Water seeping into hollow, unvented columns can create a breeding ground for mold; simple vents at the top and bottom of the column will allow water to evaporate.



Design Principle #3: Avoid Unvented Spaces

Box beams, hollow columns, soffits, and even weight pockets on sash windows can trap water or water vapor. Moisture typically enters through open seams in the upper portion of an element and puddles in a watertight lower space—for example, water entering a column through a leaky porch roof. Unvented shafts will then fill with water until it ever so slowly seeps under the edge of the shaft. In the darkness of an enclosed space, moist air laden with fungal spores spells peril for wooden surfaces.

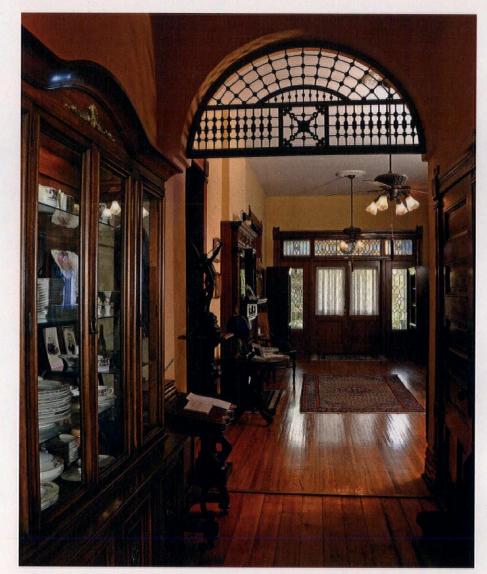
Although I've seen unvented, old-growth hollow columns that have survived for more than 100 years, it's unlikely that unvented columns constructed from modern lumber will survive that long. Columns can be vented through the plinth or through vents directly installed in the column shaft. Make sure that any

vents installed in this way are screened to limit the potential for the open space to become living quarters for insects or other pests. The top can be vented into the roof space or simply at the perimeter joist. Venting both extremities of an enclosed space will promote airflow and the consequent movement of water vapor.

Although it's tempting to give in to the immediate pleasure brought on by fresh caulk and paint, as old-house stewards, we must take a longer-term view of repair projects. The first step in doing so is to hold fast to the principles of good design.

Ray Tschoepe, one of OHJ's contributing editors, is the director of conservation at the Fairmount Park Historic Preservation Trust in Philadelphia.





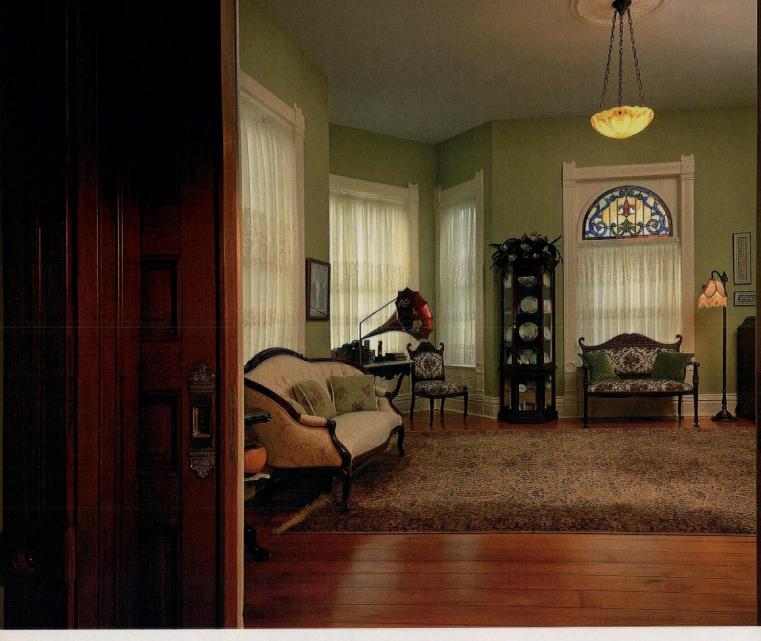
LEFT: The front door is highlighted by a wide stained-glass transom restored by homeowner Rich Green. The spandrel crowning the archway is an example of the home's fine woodwork, OPPOSITE: With heavy Colonial Revival influences, the 8,000-squarefoot Queen Anne house is a landmark in the small community.

Lasting Legacy

A Dallas couple gets back to their Midwestern roots by saving and refurbishing a small-town Victorian gem.

STORY BY SHELLEY GABERT ◆ PHOTOS BY LLOYD GROTJAN

Sometimes, a picture is worth a thousand words. That was definitely the case the first time Rich and Pam Green saw photos of the historic Eitzen Mansion in California, Missouri. Their initial excitement only intensified when they stepped inside the three-story Queen Anne home.



ABOVE: Intact original features like pocket doors drew the couple to the house, which they furnished with a collection of period-appropriate antiques. "We wanted a place where we could entertain and take some furniture out of the hallway to make a dance floor," says Pam. "We used inexpensive rugs that fit the period so that if red wine gets spilled on them, it's OK."

"I knew this was definitely the home of our dreams," Rich says. "The beautiful craftsmanship, the original pocket doors, and the ornate fireplaces were pristine as if the house had been sealed in a time capsule. We couldn't believe our good fortune."

The local landmark was built in 1898 by Charles A. Eitzen, the eldest son of Charles D. Eitzen, a Civil War hero, wealthy merchant, and prominent citizen of Hermann, Missouri, a German community established in 1837 along the banks of the Missouri River. At just under 8,000 square feet, the house contained 21 rooms, nine fireplaces, and a full basement, as well as a carriage house, all sitting on 1.5 acres surrounded by a stone and wrought iron fence. It was also the first house in Moniteau County to have running water.

Charles died only four years after the home was completed, but his wife, Bertha, and their children would reside there until 1952. After the Eitzen family sold the home, it served as the Tilton Nursing Home for four decades. In recent years, various owners have tried to turn the house into a bed and breakfast and a restaurant, but were unsuccessful. Eventually it went into foreclosure; in the summer of 2002, it was again for sale.

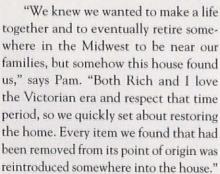
Lost & Found

When Pam's daughter, who lives in the area, sent them photos of the home for sale, the Greens lived in Dallas and had been dating for a couple of years. Rich, a petroleum geologist and reservoir engineer who grew up in Hays, Kansas, crossed paths with Pam, who hailed from a Kansas City suburb, when the two worked together at the Dallas Geological Society.





ABOVE: An original radiator is no longer functional, but Pam uses its warming cabinet for linen storage. BELOW: The Greens on the home's ornate main staircase.



Most of their finds came while sifting through items stored in the hayloft of the 2,000-square-foot carriage house, where the Eitzens' caretaker had lived, along with their horse, Old Jack.

"When it rained, we could still smell the hay that had been kept in the hayloft and had once insulated the walls," recalls

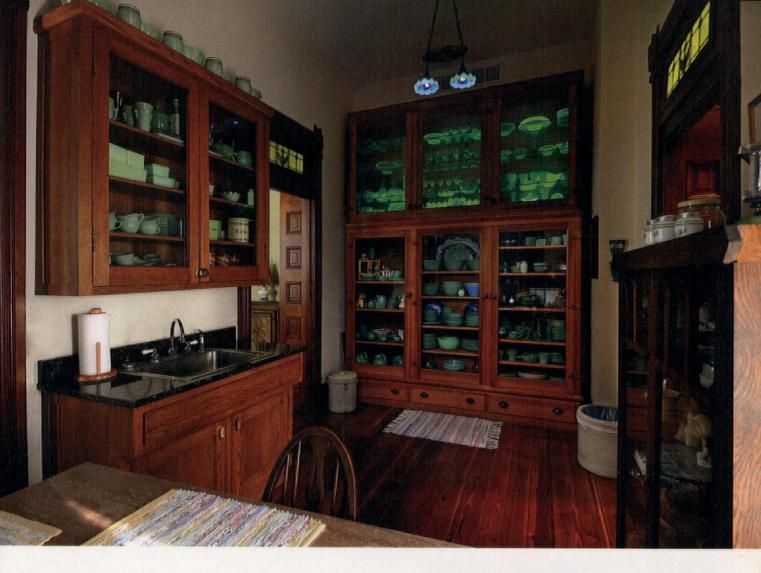






CLOCKWISE FROM LEFT: An original fireplace highlights a corner of the formal dining room. In the kitchen, seven layers of linoleum were peeled back to reveal original ash flooring. Preparing for guests, Rich and Pam set the dining-room table; the antique silver is from an 1875 tea set they purchased from the Eitzen family. OPPOSITE: The display cabinet doors in the butler's pantry were rescued from the hayloft of the carriage house; the cabinets now house Pam's extensive collection of jadeite dishware. The table in this room was created from a marble slab discovered underneath the stove in the kitchen.





Rich. "We weeded through a lot of trash, but we found many treasures, too."

They unearthed oak cabinet doors that had been removed from the butler's pantry and kitchen, and returned them to the revamped butler's pantry. Tucked in a corner were two original marble and porcelain sinks that were restored and returned to bathrooms on the first and third floors. They found a pile of woodwork and corner guards, along with a basket of metal ornamentation and dentil molding from the outside of the house. A small white clawfoot bathtub was sitting outside the carriage house, so they restored it for a third-floor bathroom. One morning, they found a swinging door, long since removed, leaning against the carriage house, returned in the night by a mysterious visitor.

While the Greens made weeklong trips to the house every couple of months, they turned over the bulk of the workload to contractor Johnny Roush, who had built Pam's parents house and had often visited his mother at the house when it was the Tilton Nursing Home. "We decided to go local as much as possible for the work," Pam says.

Roush's team power-washed and painted the exterior, and cleaned and revarnished all of the interior woodwork. They also removed tons of iron pipe from a fire alarm sprinkler system left over from the nursing-home days; the resulting holes in the ceiling were covered with a fresh layer of drywall. The walls were re-plastered and repainted, a difficult task because the plaster had originally been applied to brick, rather than lathe. Linoleum flooring in the kitchen and butler's pantry, in some cases seven layers thick, was removed to reveal original ash, oak, and yellow pine

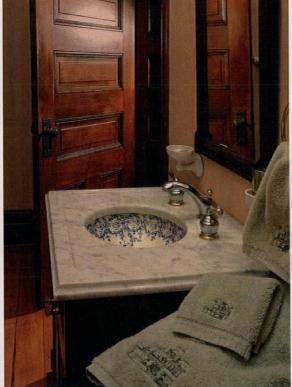
flooring that was sanded and restored. Rich scrubbed, sanded, and sealed the wood on the front door and also carefully scraped old, dark paint off of the original stained glass.

Although the Greens installed a zoned central heating and air-conditioning system to help control energy costs, they did keep two of the original radiators. The ornate one in the dining room sits on a marble slab and contains a food warmer; Pam now uses it to store table linens. The other, in the first-floor hallway, was once a mitten warmer and now serves as a receiving area for calling cards.

Family Ties

By March 2004, "there were curtains and furniture in every room," Pam says. The décor is a mix of furnishings they secured at antique sales throughout the region,





ABOVE: A small third-floor bedroom features an original stained-glass window. LEFT: A restored sink in a first-floor bathroom.

artifacts from their travels, and items purchased from the Eitzen relatives. The family's 1875 silver-plated tea set is displayed in the dining room, and a circa 1860 photo of the family hangs at the south portico entrance.

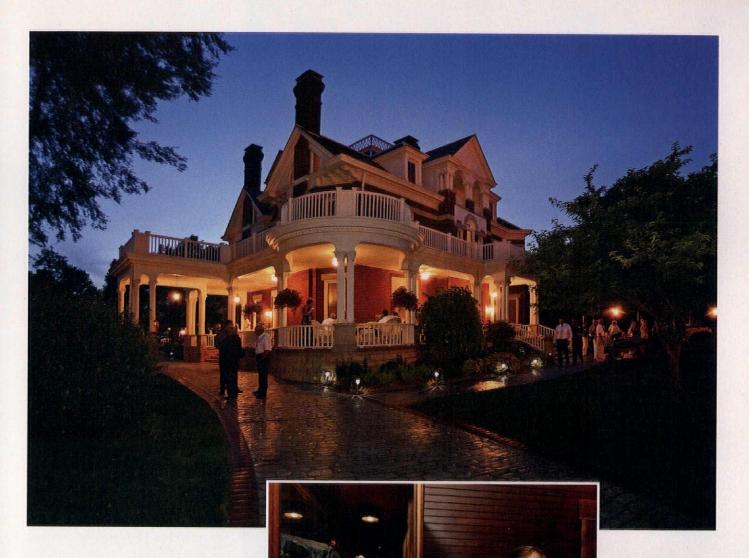
Throughout the restoration process, Pam and Rich pieced together a history of the family through research collected from the Moniteau County Historical Society and information gathered from Charles B. (Chuck) Eitzen, the grandson of the house's original owner. Rich and Pam met Chuck, then 89, at his home in San Antonio in the summer of 2004.

"We brought along before-and-after photos, and Chuck shared many stories and photos of his family and the house," Pam says. "He recognized the two oak chairs [from the carriage house] that we restored for the front hallway as being part of the family's breakfast-room table set."

"We also found out that the reason most of the fireplaces looked almost brand new is because the family never used them," adds Rich.

New Era

After an 18-month labor of love, work on the main house was complete. In April 2005, the couple married on the house's front steps, with new porch rail-



ings, lighting, and fans serving as the altar and backdrop.

"We figured if we could get through this renovation without any major disagreements, we could make it through anything," Rich says.

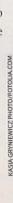
Because of work obligations in Dallas, the couple didn't take up full-time residence in the home until 2010. Two years prior, they had converted the carriage house into living space. The original unfinished paneling was cleaned and varnished, and a kitchen was added in the former horse stall. Upstairs, the hayloft is Rich's "man cave," where he displays arrowheads, fossils, and antique toys; the hay drop was converted into a bar. The caretaker's room is now a work-space for Pam.

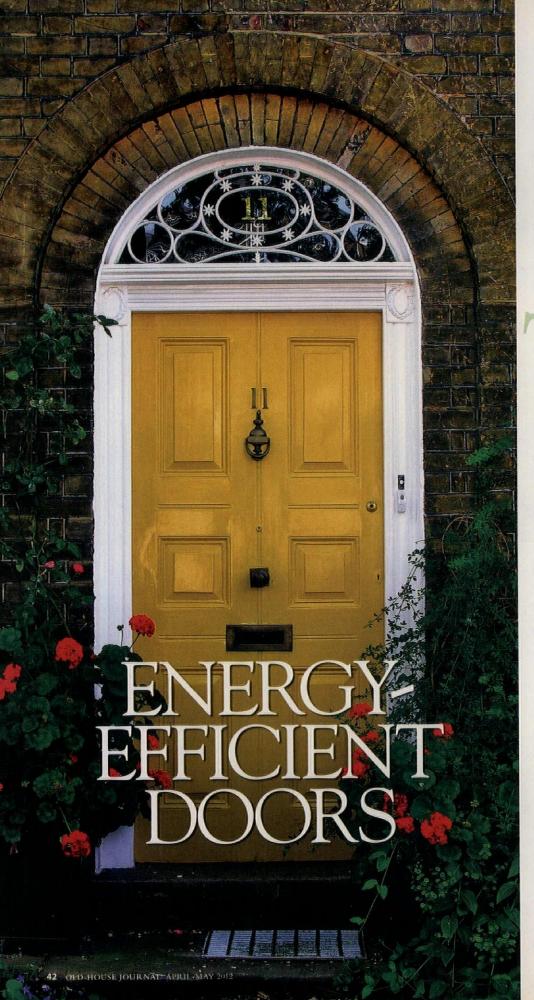
Since becoming full-time residents, the Greens have hosted annual fundraising galas to benefit the restoration of the

1885 Finke Theater and the Wood Place Public Library. Their efforts on behalf of California Progress, Inc., have also raised money for the Moniteau County Historical Society, museum, information center, gift shop, and genealogy library, which is housed in an old post-office building that Charles A. had built in 1902 and still bears the Eitzen name.

ABOVE: The Greens host an annual gala to raise funds for local charities. "Some of my favorite times are standing in the kitchen and listening to the hubbub of this house," says Pam. LEFT: The carriage house boasts original paneling, and incorporates display space for Rich's geological specimens.

"Our house is never going to be the Green Mansion, so it's very important to honor the Eitzens' history and legacy by sharing this treasure with the community," says Rich. "We know we're caretakers, just passing through, and that this house will outlive us. We hope whoever gets the house next will care about it as much as we do."





FOLLOW THESE 4 STEPS TO KEEP A LOCK ON ENERGY SAVINGS.

BY THE OHJ EDITORIAL STAFF

The world comes in and out of your house's doors: friends, family, pets, neighbors—and energy, too. As one of the largest permeable barriers between your home and outside, entry doors can account for a large chunk of a home's energy loss—as much as 11 percent, by some estimates.

Though plenty of folks tout the energy value of modern foam-core steel or fiberglass doors, a thick, well-constructed wood door can offer just as much protection from the elements—wood has excellent natural insulation properties, and it's historically accurate to boot. A few simple tune-ups will help ensure that your original wood doors continue to let the world in while keeping the weather out.

OPPOSITE, CLOCKWISE FROM TOP LEFT: Energy-saving steps include caulking and weatherstripping, making sure glazing is in good condition, and adding a storm door. CLOSE THE GAPS. Assuming your door is in good shape, most energy loss likely occurs in the spaces around the door, rather than through the door itself. First, make sure the door is hanging securely on its hinges—any looseness can cause gaps between the door and the doorframe. Next, you can use silicone caulk to fill in any gaps around the doorframe. (Remember, only use caulk on fixed—not moving—parts. Also, if the gap is larger than 1/4", fill it with a foam backer rod before applying caulk.)

WEATHERSTRIP IT. While ∠ caulking helps seal gaps between the doorframe and the wall, weatherstripping will tighten up spaces between the doorframe and the door. Compressible foam or rubber weatherstripping is a good choice for doors, as it will compress to offer the tightest seal possible when the door is closed. (If you don't like the look of compressible weatherstripping, brass strips are another, more historic option, but are more difficult to install.) Don't forget the bottom of the door: Rubber or bristled door sweeps installed on the interior of the door, or a threshold with a flexible center bulb, can help to prevent air leakage between the door and threshold.

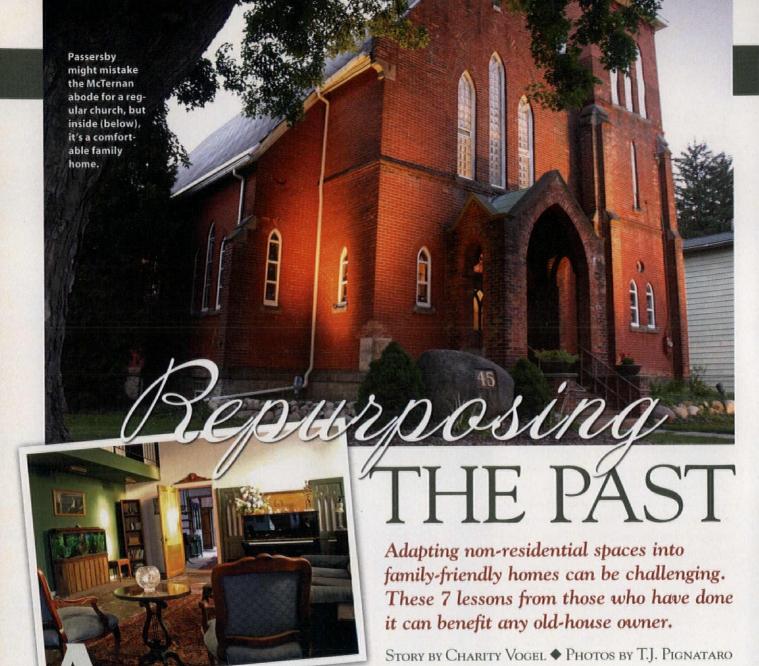
CONSIDER STORMS. Like storm windows, storm doors can help mitigate energy loss by providing an extra barrier for air to travel through. However, because thick wooden doors are typically well-insulated, storm doors aren't always necessary or cost-effective—the National Park Service's Technical Preservation Services recommends storm-door installation only in cold climates or with doors that have glass panels. If you do decide to install a storm door, select one that complements the architecture of your house.



DON'T FORGET THE GLASS.

Doors that incorporate glazing in some form (whether sidelights, a transom, or inset glass panels) can be more susceptible to energy loss than their solid-wood counterparts. Make sure that any glass in and around your door is properly secured

and in good condition. For particularly cold climates, you can add a simple, unobtrusive storm. Wood-framed glass or even a plain old sheet of plexiglass secured around sidelights adds another layer to both buffer the weather and protect historic panes from damage.



After moving into a new home, you've likely never had to ask yourself which end of the hayloft should hold the pool table, or whether a choir balcony will fit two twin beds or one. You've probably never shopped for kitchen fixtures in a railroad yard, either. But others have.

Lured by the frisson of experiencing something unique or maybe just enticed by the idea of challenge on a really big scale—some old-house lovers forsake the world of the predictable to follow a different path to architectural bliss: by buying, living in, or restoring old buildings—barns, churches, schoolhouses, fire stations—that were never meant to be homes.

"The first thing we said was, 'It's a castle!" jokes Jennifer McTernan, recalling the moment when she and her family laid

eyes on the 1897 brick building they now live in, which began life as a Roman Catholic church. "It just seemed so perfect."

The idea of adaptive reuse—taking over a public, religious, or commercial structure and turning it into a livable home—is not new, and it's not always the best answer: Many preservation standards maintain that structures are better served by remaining true to their original purposes. But when buildings have outlived their intended purpose—and as the world grows more aware of the environmental impact of new construction—the idea of transforming structures from underused curiosities into beloved residential spaces strikes some as practical, if not downright trendy. Those who have done it say it's not easy—but that it's a process so rich in its own rewards that it amply pays back the time, money, and effort involved.

ADAPTIVE REUSE LESSONS

Before taking the plunge, get expert advice.

When Donna and Joseph Callahan were looking to move from the city to the country with their expanding family, they took a drive and spotted a hulking 4,000-square-foot barn. The massive size of the unfussy clapboard building-which was no longer needed for livestock, and thus a potential target for teardown or vandals—caught their eye, as did its prime position on two acres of rolling farmland. The Callahans weren't deterred by the fact that the late 19th-century building had

recently been a working stable, filled with cows and horses.

After tentatively agreeing to buy the well-worn barn for \$7,000, the couple decided to check their instincts with objective advice. Not knowing any renovation experts, Donna called an architect and described their plan.

"He said, 'Stay away from barns; they are very unstable, they warp,' and on and on," remembers Donna. "I was thinking, 'Oh no.' Then he asked me where the barn was, and it turned out that he lived nearby. He said, 'The Schmidt barn! I love that barn!" With that, the matter was settled, and the Callahans signed on the property.

The moral of the story is twofold: There are exceptions to every rule, but it's best to check your gut against some expert views. "You can have a vision," says Donna, who still lives in the barn today, "but check it out with somebody first."

Take a chance on a dream.

When the McTernan family first toured the spire-topped, Gothic-style Catholic church, they were impressed with the enormous, 75'-long hand-dug basement and stained-glass win-

dows, which glow in mellow tones of amber, violet, and pink. They also loved the unfinished choir loft—picturing twin beds for their two daughters there—as well as the tile roof and time-softened red brick exterior.

For Jennifer, who had grown up near the church in Angola, New York, the historic appeal of the building—at once imposing and intimate-sealed the deal. She had loved the church as a child; returning to the area as an adult, she jumped at the chance to own it, following in the footsteps of previous owners, who took over the empty building decades ago when its congregation moved on to larger digs.

"To me, it's history," says Jennifer. When given the chance, in other words, you actbecause some buildings only come around once in a lifetime.



stained-glass Gothic windows and the original altar rail. A cornerstone (above right) proclaims the building's age.

Do you live in a repurposed building? Share your story in our special discussion group.

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ABOVE: Penelope Creeley's family transformed this fire station into their home; the tower at the rear of the building, once used to drain fire hoses, became her kids' favorite hangout.



Prepare for plenty of work.

Moving into a non-residential structure means signing on for all sorts of repair and conversion projects to make the place workable as a house. Plumbing and lighting can be issues that take time, thought, and money to solve; so can drainage and dampness in basement and garage areas. "Keeping that slate roof in order was a pretty major investment," says Penelope Creeley, who, with her late husband, converted a 1912 brick fire station in Buffalo.

The Creeleys divided the fire-truck garage and horse-stabling space on the bottom floor of the building into a study, a mudroom, a bedroom and bathroom, and a two-car garage for their own vehicles; the upper floors became the kitchen, bedrooms, and more living space. A tower once used to drain fire hoses was repurposed as a hangout for their children.

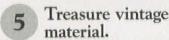
For their barn project, the Callahans had to add several bathrooms, as well as fashion interior doors and walls to divide the large first floor—adding barn doors to divide a living area from a parlor, for instance. They also realized, in carving out a kitchen, that a second set of stairs to the upper-level bedrooms would be handy; because the first floor of the barn did not lend itself to a traditional staircase, they instead cut a hole into the ceiling above the kitchen and installed an iron spiral staircase salvaged from an old Purina mill.



Embrace the imperfections.

Living in an old building means learning to accept, and even appreciate, the scars left by time. Because it began life as a carriage house for a grand Lake Erie estate, the Callahans' barn was constructed out of better-than-typical materials, but by the time the family bought it, the original heart-pine floors had been pitted and gouged by countless hooves and heavy equipment.

Still, Donna never seriously considered replacing the floors, or even repairing the holes. The boards that had completely deteriorated were replaced with patches, but the only other treatment they got was a good scrubbing. "Our barn is old, but it's very sound," she says. "People built them to last."



When one of the two towering steeples on their church had to be taken down after being damaged by weather, the McTernans saved most of the old roof tiles from the spire. It was a tough job collecting and storing them, says Jennifer, and they still haven't been used. But the next time roof work is needed on the building, the McTernans won't have to hunt fruitlessly for the perfect replacement tiles.

Even material you don't immediately see a purpose for can come in handy. Before she ever laid eyes on her barn, Donna Callahan had started stockpiling bricks. Her husband would bring home piles of them from demolition sites-a row house once owned by Mark Twain; a Catholic church that had stood across the street from where Donna grew up-and she would clean them and store them in her basement. When the couple moved into their repurposed barn, they used the





ABOVE: Solid construction made the Callahans' barn ideal for transformation into a house. LEFT: The family filled the space with salvaged finds, including industrial signage, a spiral staircase from a grain mill, and a hearth made out of bricks they'd saved for years before moving in.

iron pot rack in their kitchen was a massive piece thrown out of the railroad depot at Buffalo's Central Terminal.

"We could always buy the larger things," says Donna. Indeed, with an unusually sized or shaped home, you just might put yourself in the market for décor that is truly unique.

their new kitchen.

Adjust your scale.

When you live in a space that was created to hold items like hay bales or fire trucks, you need to recalibrate your sense of scale. In many cases, this means thinking bigger.

stash of bricks-all 4,000 of them-to

build a custom fireplace and hearth for

In the cavernous barn repurposed by the Callahans, the sheer scale of the interior spaces—including a hayloft that can hold beds, an antique oak bar, and a pool table, as well as a tack room that became an open-plan kitchen and breakfast room—lent itself to a decorating scheme that incorporates commercial and industrial signage and equipment. The

Consider the logistics.

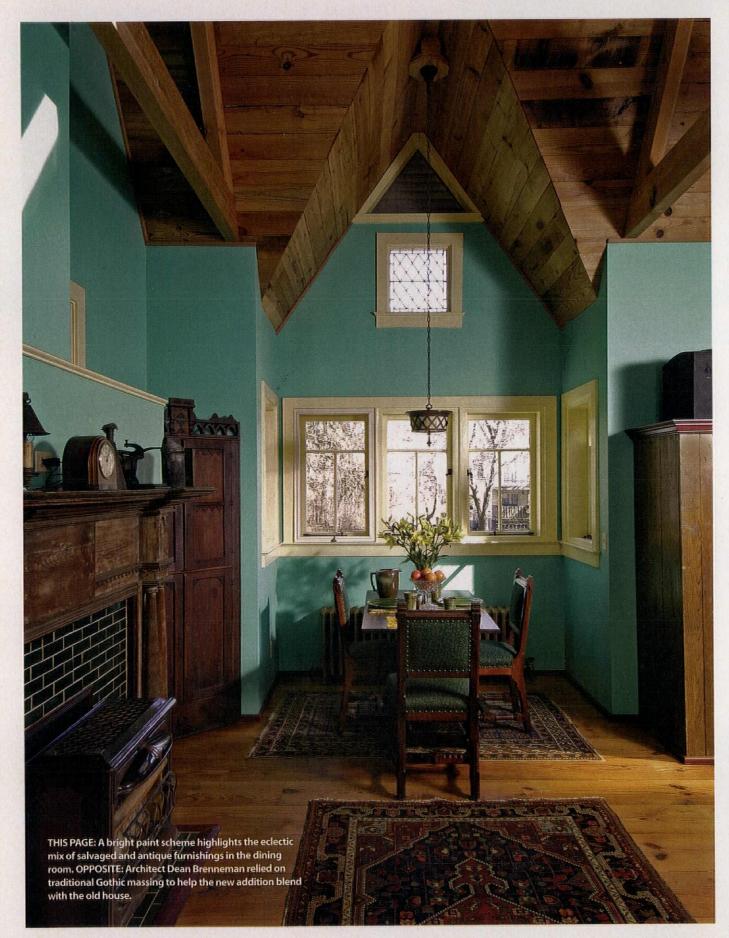
There are downsides to living in an adaptive home, often where simple logistics are concerned. Inside the McTernans' church, chandeliers hang 17' off the floor, making lightbulb-changing a challenge. Ladders are a good investment, they've found, as are extension poles and mini-scaffolds.

In the Creeleys' firehouse, Penelope hired an architect to help her create an office and a master bedroom suite. Work on the firehouse was done with as much sensitivity to its history—and its place in the surrounding Black Rock neighborhood in Buffalo—as possible. Because the inside of the brick structure was dark, Penelope wanted an expert to help bring light into the space. "It wasn't much of a consideration in the original firehouse, that light get into where they stored the trucks," Penelope says. "But light considerations in these building adaptations are very important."

Along the way, homeowners who have adapted nontraditional buildings into homes have learned an important secret to making such logistics flow smoothly: Choose carefully when hiring contractors. "Just about everything you did to it was a big deal," Penelope says of the firehouse. "Tradesmen would get nightmares looking at it."

Jennifer McTernan soon learned this helpful trick: Start every conversation with a potential contractor by talking about the home's uniqueness. Tell them right away, she says, that "this is not a house."

Charity Vogel lives with her family outside of Buffalo, New York, in a rural Folk Victorian home that during World War II had its own adaptive reuse—as a maternity hospital.



OLD-HOUSE INSIDER

Something Borrowed

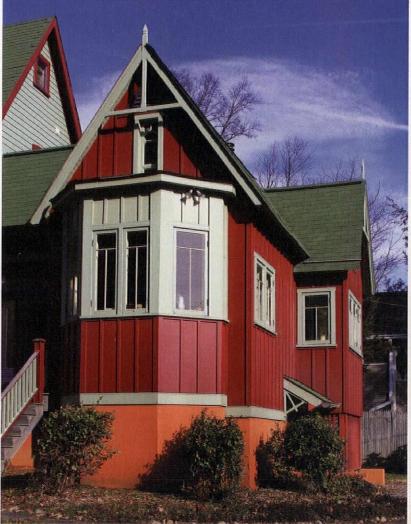
Using salvaged architectural elements creates patina in an old-house kitchen addition while keeping high-quality materials out of the landfill.

STORY BY NANCY E. BERRY PHOTOS BY GREG HADLEY

Blending old and new is often the most difficult part of adding onto a vintage house—but for architectural historian Joan Lawrence, adding a sense of history to a new kitchen and dining room for her 1882 Carpenter Gothic house was easy, thanks to her passion for architectural salvage.

"The house was built as a modest summer cottage, and many of its original elements and furnishings would have been castoffs from a primary residence," Joan points out. "So building an addition from secondhand items fit with the house's beginnings." For five years, she had collected locally salvaged materials—most dating from the 1880s through the 1920s—and carefully stored them in her basement until she had enough architectural components for the addition.

It was her love of salvage, in fact, that connected her with architect Dean Brenneman, who designed the addition—the two met while volunteering at Old House Parts, a now-defunct nonprofit salvage shop near Joan's Maryland house. They began talking and realized they were kindred spirits when it came to reusing old materials. "She had collected radiators, doors, windows, a sink, a stove, light fixtures, hardware—she even had pieces left over from an old row house on Capitol Hill that she had restored years ago," says Dean. At the time



ELISSA NEWMAN PHOT



ABOVE: The ceiling features salvaged lumber from Dean's grandparents' carriage house.

they met, Dean was deconstructing his grandparents' carriage house in Rockville, Maryland, which had floorboards and timbers that would lend themselves nicely to Joan's kitchen project. "My job was to find poetry within the pieces," he says.

By the Book

Dean designed the new addition within the footprint of an existing two-story 1950s addition, which looked woefully out of place on the old house. "Knowing that houses evolve over time, I have a more eclectic view of restoration," he notes. "Rather than restore to a particular period, I mix and match elements in a project such as this one. It's like working on a jigsaw puzzle—how will the new part fit with the old? It's a challenge to create a cohesive whole—to make logic of several different pieces."

To join the new addition to the old





OPPOSITE: In the kitchen, a reproduction retro refrigerator mingles with a refurbished 1920s stove and a freestanding pantry fashioned from reclaimed boards, LEFT: The distictive gable window came from a Russian Orthodox church. **BELOW: Carpenter Ed** Mroczka designed a bank of fitted cabinets to house the salvaged farmhouse sink.



house, he followed the Secretary of the Interior's Standards for additions, which state that while the addition will differentiate from the old, it should be compatible in massing, size, scale, and architectural features to protect the house's historic integrity. In this case, that meant an addition that is subordinate to the original house, mimicking its roof pitch and gable ends, but on a smaller scale. Joan chose a brickred color for its exterior to distinguish it

from the original structure's German board siding, which is painted green.

The addition is filled with a treasure trove of well-crafted materials. The connection between the two wings of the house features an early 1900s tin ceiling Joan discovered while volunteering at Old House Parts. The onion-domed window in the gable came from a Russian Orthodox church, and the space is lit by Art Decopendant fixtures from Australia.

PRODUCTS: Exterior: Builders, Miller and McIntyre Custom Builders; Casement windows, The Brass Knob. Kitchen/Dining Room: Zinc countertop, Van Dyke's Restorers; Northstar refrigerator, Elmira Stove Works; Farmhouse sink, The Brass Knob; Custom cabinets, Ed Mroczka, The Uncommon Carpenter; Radiators and plumbing, Stang Plumbing; Lighting, Kensington Antique Row.



LEFT: A screened porch, accessible from the rear entry door, runs across the back of the addition. BOTTOM: A fireplace is the focal point of the dining area; Joan found the mantel in an antiques shop. OPPOSITE: To highlight its different timeline, the addition is stepped down slightly from the original house and painted in a contrasting color scheme.



FOR MORE INFORMATION:

The Brass Knob: thebrassknob.com

Elmira Stove Works: elmirastove works.com

Kensington Antique Row: kensington antiquerow.com

Miller and McIntyre Custom Builders: (301) 695-6338

Stang Plumbing: stangplumbing.com

The Uncommon Carpenter: (301) 990-3771

Van Dyke's Restorers: vandykes.com

Unfitted Kitchen

To bring an old-house feel to the kitchen's design, Joan took inspiration from British kitchen guru Johnny Grey and his book The Art of Kitchen Design. In the book, Grey advocates for kitchens with an unfitted design-a concept based on historical models before cabinets were built into walls, when kitchens were composed of freestanding pieces of furniture like hutches, cupboards, iceboxes, and worktables. "You have much more flexibility when designing an unfitted kitchen," Dean points out.

For her kitchen, Joan found the freestanding pantry that sits next to her Northstar reproduction fridge—made of milk-painted boards reclaimed from an early 18th-century house—at a second-



hand store. She found the marble-topped baker's cabinet cases—now used as a foodprep area—at an antiques shop; the 1920s Detroit Jewel gas stove she bought from a friend and had refurbished. The only fitted cabinets are found under the bay window—craftsman Ed Mroczka of The Uncommon Carpenter replicated them based on ones Joan had seen in a book on bungalow kitchens.

Green Savings

Not only did using salvaged materials give Joan's kitchen the old-house aesthetic she sought, but it also kept the project green. The U.S. Environmental Protection Agency (EPA) estimates that residential demolition accounts for 5 million tons of debris per year nationally; EPA figures

suggest that only 52 percent of this is recycled. That's the equivalent to tearing down two Empire State Buildings each month and throwing the debris away. "When you use salvaged materials, you're not fabricating anything new, so there is no ecological expense," says Dean.

Not to mention, it's friendlier on the budget. Dean estimates that this project netted a 60-percent reduction in materials costs by relying so heavily on salvage. Take the windows-Joan scored 11 casement windows reclaimed from a 1920s house at The Brass Knob in Washington, D.C. "If we had bought new windows, they could have cost \$20,000, but by using recycled, we only spent about \$2,000," says Dean. "Those windows are in great shape—they even came with their original frames."

Thanks to its thoughtful design and quality materials, the handsome, efficient kitchen is an appropriate companion for the old Carpenter Gothic—and good for the planet at the same time. "It's tragic how much beautiful building material is thrown into landfills each year," Dean says. "If we can use existing material in our projects, we can reduce the waste stream."

Nancy E. Berry is the editor of New Old House magazine. She lives in an 1870s Queen Anne on Cape Cod.

Log on to see our state-by-state directory of salvage stores.

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RESTORE IT RIGHT

Paint Priming

BY THE OHJ EDITORIAL STAFF • PHOTOS BY ANDY OLENICK

he difference between a paint job that lasts and one that starts to fail after a couple of years can be found in one key factor: preparation. This pre-paint ritual is especially important for older wood that may have been subjected to countless finish layers over the years. When painting wooden elements in your house (such as window sash, doors, or trim), follow these steps first to ensure a beautiful, long-lasting finish.

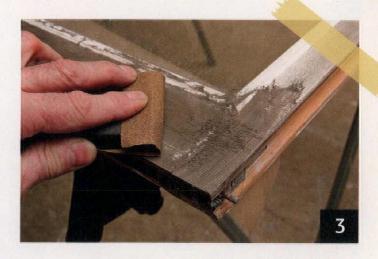


◆ 1. Start by cleaning the surface. If it's merely dirty, a simple solution of soap (such as TSP or Spic & Span) and water, applied with a spon ge or soft brush, should work. However, if there's evidence of mold, scrub the surface with a brush and 1/3 cup household laundry bleach diluted in 2 to 3 quarts of warm water.

2. If there are nails, use a nail set to drive them slightly below the surface of the wood. Then brush a bit of primer over the holes (plus any other holes or checks in the wood), and fill them with a paintable putty or epoxy filler. >



3. Sand the surface of the wood with a medium-grit sandpaper, removing any flaking paint or weathered wood until you reach bright, sound wood. If you suspect you may encounter lead paint (common in houses built before the 1970s), wear a respirator and mitigate dust by misting the area with water before you sand. (For other lead-safe work practices, see epa.gov/ lead.) ▶

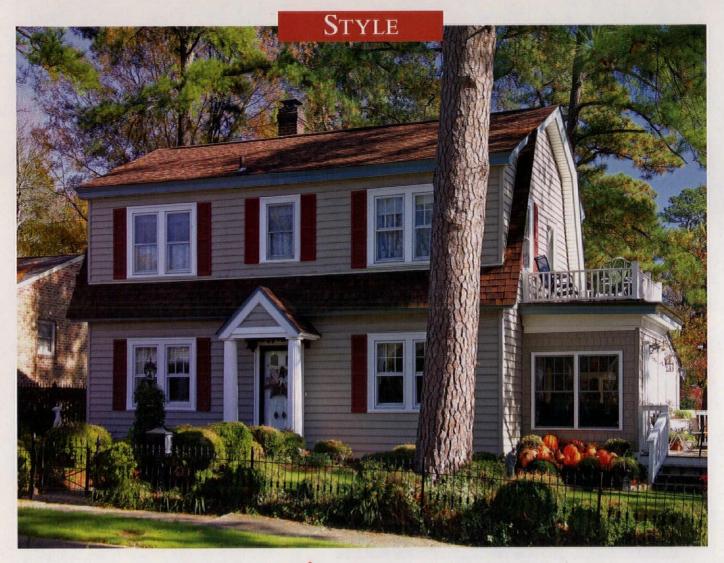




◆ 4. Brush on a 50/50 mixture of boiled linseed oil and turpentine. This will help strengthen the wood by hardening its cellular structure. If you notice that the wood is absorbing the mixture rapidly, you can slightly increase the amount of linseed oil and keep applying coats until the mixture starts to puddle on the surface. Let the final coat dry for 24 hours before applying oil-based primer.

5. Apply an oil-based primer to provide better adhesion for the finish coat. Choose a primer that's compatible with your topcoat (the easiest way to do this is to buy both from the same manufacturer); if your topcoat is a dark color, choose a tinted primer rather than white. Once the primer has dried according to the manufacturer's instructions, you can apply the topcoat. Don't wait longer than two weeks; otherwise, you'll have to clean and lightly sand the surface again to ensure proper adhesion. >





Sears' Surprise

HOW HOPEWELL, VIRGINIA, CAME TO BE STOCKED WITH HOUSES FROM THE PAGES OF THE MAIL-ORDER GIANT'S CATALOG.

STORY AND PHOTOS BY JAMES C. MASSEY AND SHIRLEY MAXWELL

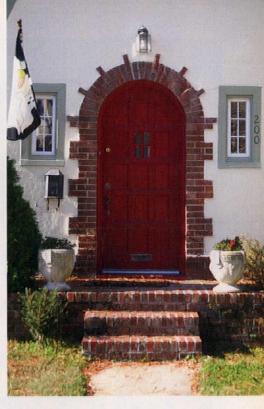
One of the Old Dominion's leastcelebrated architectural gems is Crescent Hills, in Hopewell, Virginia. It boasts an enviable collection of stylishly eclectic houses-many of which came right out of the pages of a Sears, Roebuck catalog.

The small industrial city of Hopewell was born in 1911, at the confluence of the James and Appomattox Rivers, halfway between Petersburg and the state capital at Richmond. A project of E.I. Du Pont de Nemours and Company (now better known as the chemical giant DuPont), the town was initially an unimposing gaggle of dynamite-factory buildings and low-wage workers' bunkhouses. When the onset of World War I brought a demand for smokeless gunpowder, however, DuPont's business literally boomed, and Hopewell became the world's largest producer of the guncotton and chemicals needed to make it.

Housing Surge

With a potential workforce of 20,000





CLOCKWISE FROM LEFT: There are several Sears Old English-style designs, including this Cambridge, which was produced only in 1930 and '31. Round-arch doors were a common feature in Old English and Spanish Revival styles. This Lexington features an impressive Tuscan entry porch, enriched from the catalog design. OPPOSITE: The Van Jean model of Sears' Honor Bilt homes is in the popular Dutch Colonial style, common in the 1920s and '30s.

people, the question for DuPont became: How to house this staggering population surge? The company acted quickly to establish two adjacent villages for laborers, using Aladdin Readi-Cut houses for laborers, factory managers, and their families. In 1918, though, when the war came to an end, the bottom suddenly fell out of the guncotton business, and the town seemed doomed. But DuPont managed to sell its admirably located holdings to several other manufacturing companies, the most important of which was the Tubize Artificial Silk Corporation, a pioneer in rayon production.

Hopewell prospered mightily through the 1920s, spawning several attractive subdivisions that remain intact and wellcared-for today. One of the most impressive, Crescent Hills, was the brainchild of





ABOVE: This typical circa-1930 design is probably a Sears Fair Oaks, modified by the builder—but only documentation would prove it. BELOW: Sears also provided garages similar to this one in a variety of designs.



an enterprising developer, M.T. Broyhill, who appears to have set about his work with a Sears Modern Homes catalog in hand. Crescent Hills was a model late-1920s subdivision, six city blocks in area, with large, well-graded lots set within an appealing gridiron pattern of concretecurbed streets, planted median strips, and sidewalks. The houses lining the streets are sturdy, commodious, and engaging representatives of the favorite styles of the eclectic, between-the-wars decades of the 1920s and '30s. Not surprisingly, most look very much like the popular models featured in the mail-order, ready-cut house catalogs that proliferated during the era-prominently including such titans of the pre-cut housing industry as Aladdin, Montgomery Ward, Gordon Van Tine, and, best-known and most successful of all, Sears' Honor Bilt Modern Homes.

All-In-One Orders

All these companies provided not just house plans, but also the makings of the house itself-from lumber, flooring, and wallboard to kitchen sinks and bathtubs, cabinets, doorknobs, and drawer handles, right down to nails and paint. Anything that could be shipped with reasonable

economy by rail showed up at the building site, complete with plans and instructions, ready for construction. Masonry-brick, stone, and stucco-was the exception to this rule, because it was more economical and practical to procure those weighty materials locally. Lumber was precision-cut at the mill, to the exact dimensions and in the exact amounts required. It was an economical approach with a reliable assurance of quality and durability. The ready-cut house manufacturers boasted, justly, that their buyers got great houses at the most reasonable prices. Local builders, or even the homeowner himself, could erect the building without fear of failure, although it was also possible to secure the services of a Sears contractor to guide the construction. Some alterations to the buildings were common. The materials themselves were of such impeccable quality that, even today, the designation "Sears house" is enough to bring significant added value





ABOVE: Sears designs sometimes varied from year to year; this Lexington is from the 1928-33 period.

How Do You Know It's a Sears?



Without a crystal-clear paper trail (mortgage documents, shipping labels, deeds, building permits, etc.), it can be daunting to verify a Sears. Catalogs were directed at a large audience that often shared similar tastes and needs; nearly identical façades and floor plans were produced by competing companies, whether by intent or coincidence. For that

matter, with one set of plans in hand, there was little to stop a local builder or developer from reproducing copycat designs for his own market.

Keeping in mind that Sears also sold house parts (lumber, kitchen and bath fixtures, hardware, etc.) separately from their house kits, you may want to go house-detecting using these hints from author-researcher Rose Thornton (*The Houses That Sears Built; Sears Homes of Illinois*):

◆ Blueprints, bills of sale, shipping labels, and mortgage papers have shown up in attics and basements, behind baseboards, and under the bottom shelves of built-ins. Courthouses and city halls may yield mortgage information or building permits.

- ◆ Sears lumber bore stamped numbers, sometimes clearly visible.
- ◆ The backsides of door and cabinet hardware may be marked with SR or an R within a circle.
- ◆ The lower edge of bathtubs and the underside of sinks are stamped with SR or a circled R.

 If you're planning a visit to Crescent Hills, get a copy of the Crescent Hills Driving Tour brochure, available by mail or at the Hopewell Visitor Center West (Colonial Corner Shopping Center, 4100 Oaklawn Blvd.).

"The Barrington"

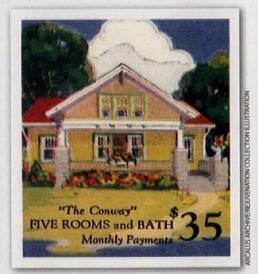
Monthly Payments

SIX ROOMS and BATH





CLOCKWISE FROM ABOVE: The Walton is similar to numerous bungalow designs of its era. In-house financing offered low monthly rates. The Belmont was sold only in 1932 and '33.



to a real-estate listing.

Architects in strategically located Sears field offices were prepared to assist clients in customizing stock plans to suit the building lot or meet special needs of the homeowner, often reversing the plan or altering window and door placement. Some changes were harder to achieve, however-the location of chimneys, for instance, was rarely moved, and the exact exterior dimensions of the building remained constant. (Consequently, both of these features sometimes have been used to bolster the Sears attribution of particular houses.)

Best of all from the home buyer's vantage point, Sears stood alone among the ready-cut house manufacturers in one important aspect—only Sears provided financing. Sears' mortgages were an irresistible lure to thousands of buyers before the Great Depression's flood of foreclosures drove the company out of the mortgagelending field.

Sears' Eclectic Offerings

Most catalog house companies offered tried-and-true designs that were generally a decade or so behind the stylistic curve, relying heavily on early 20th-century



standards like bungalows and Foursquares well into the 1930s. Sears kept up with the times, giving customers a wide range of currently fashionable houses to select from, with considerable architectural sophistication for the price. In the late '20s, that meant the Eclectic Revival styles: Georgian, Dutch Colonial, Cape Cod, Old English (Tudor), and Spanish Revivals. Most of these revival styles are represented in Crescent Hills, alongside the perennial bungalows for which Sears was famous. Because Crescent Hills was a middle-class neighborhood meant for management-level employees of Hopewell's various companies, its houses, while not grand, were substantial and eminently comfortable-often even elegant. In keeping with Virginia's tradition of masonry construction, many of the homes are red brick or stucco, a variation from the more usual frame construction that was easily accommodated by Sears designs.

Crescent Hills' formal, symmetrical, two-story Georgian Revival houses, for instance, are most often brick, enriched by prominent columned entry porticos that may boast small balustraded decks atop their flat roofs. Side porches often elongate the front façade, lending it increased importance. Crescent Hills has at least one Dutch Colonial, distinguished by its large double-slope gambrel roof on which a full-width, continuous dormer lights the second story. The most picturesque of Sears' contributions to the small district are the Tudor Revival, or Old English, houses. Quaintly asymmetrical, with steeply sloping catslide roofs, constructed in frame, stucco, or brick, often with some halftimbering, these may be found in one- or two- story versions. Low-slung bungalows with multi-gabled fronts and prominent, square-pillared porches display Craftsman details that reflect the earlier years of the 20th century.

ABOVE: A popular Colonial Revival design, this Lexington model was sold from 1921-26, then replaced by the enhanced Lexington of 1928-33 shown on the page 59.

Not every Crescent Hills house is a Sears creation, though many have been reliably identified as such. Some others may have been the work of talented local builders who imitated Sears examples; others still may have come from other catalog sources. But does that really matter? What's more important is the ineffable grace of a neighborhood so steeped in its own time that, after all these years have passed, it is truly timeless.

Further Reading

Houses by Mail: A Guide to Houses from Sears, Roebuck and Company, by Katherine Cole Stevenson and H. Ward Jandl (John Wiley & Sons, 1986)

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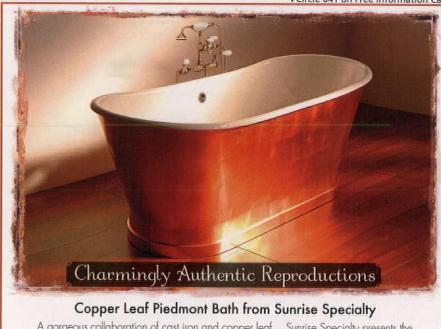
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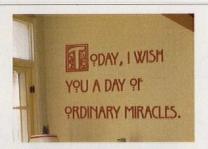
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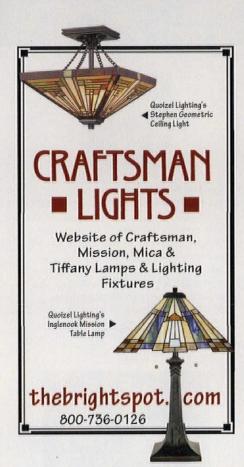


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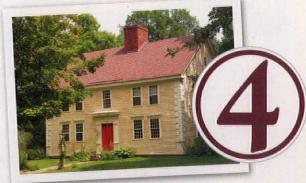
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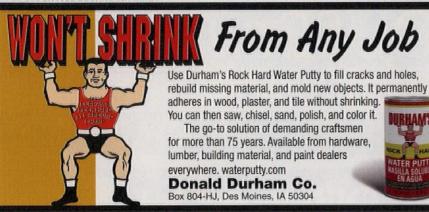
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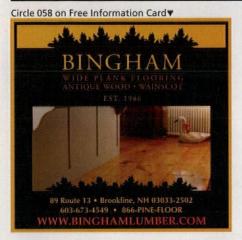
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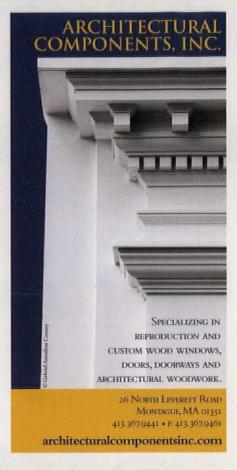


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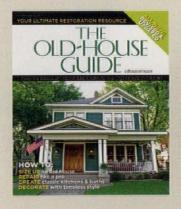
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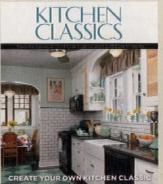
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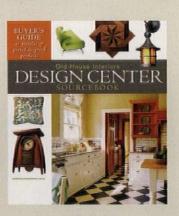
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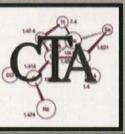
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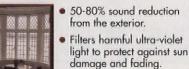


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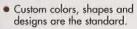




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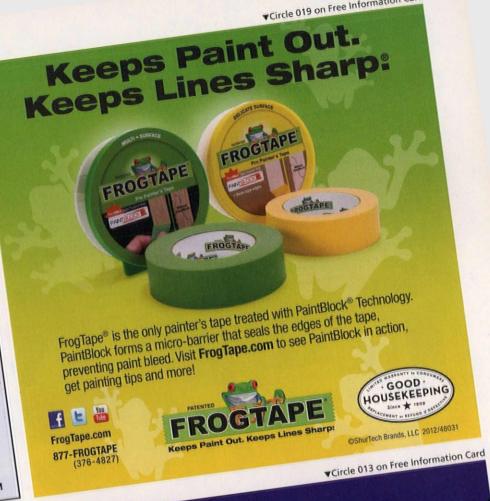
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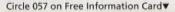
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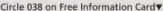
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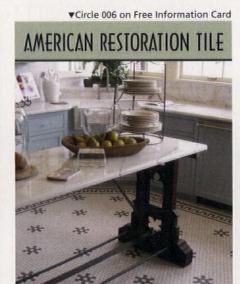




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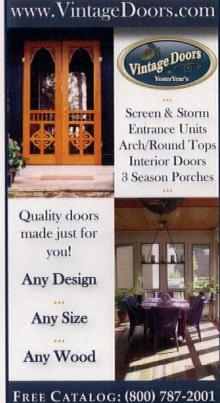
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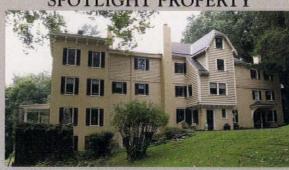


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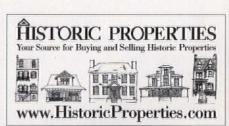
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from history

Where Olson Rugs Are Madel, Olson Rug Co., Chicago, Illinois, 1952



Green Weaver

f socially responsible business practices and green products are the hottest trends of the new millennium, then the Olson Rug Company of Chicago, Illinois, was way ahead of the cultural curve. Founded in 1874, Olson performed its famous "Rug Magic" by selling broadlooms woven from recycled wool carpets and clothing sent in by customers (at Olson's expense) along with their orders. Cotton, jute, and rayon were even accepted to create inner weaves and backing.

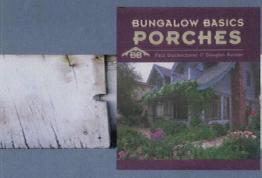
The company's environmentally enlightened efforts didn't end on the factory floor. In 1935, owner Walter E. Olson spent \$10,000 to re-create a bit of his favorite Wisconsin wilderness on a site adjacent to his factory. Known as Olson Park, the community landmark soon grew to 22 acres and consisted of spacious lawns, tiered rock gardens,

flower beds, teepees, a totem pole, a duck pond, and the Olson Wild Bird Refuge—all surrounding the park's 35' cascading centerpiece, Olson Waterfalls. Dedicated on the 100th anniversary of the expulsion of the state's Native American tribes across the Mississippi, the park was symbolically deeded back to the tribes as a gesture of goodwill. How's that for "socially responsible"?

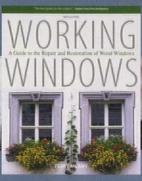
Unfortunately for Olson Rugs, sustainability proved easier aimed for than achieved. The postwar onslaught of manmade fibers pulled the rug out from under the massive company, forcing it to downsize. The urban paradise of Olson Park was closed in the 1970s, razed, and turned into—you guessed it—a parking lot.

Bo Sullivan is the historian for Rejuvenation and the owner of Arcalus Period Design in Portland, Oregon. He is an avid collector and researcher of original trade catalogs.

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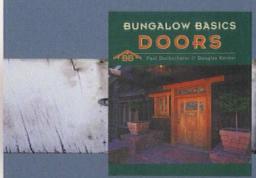
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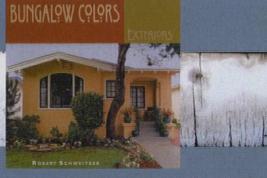
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remuddling





Secret Identity

The architecture of old houses—especially of the more modest, mid-century split-level variety—can often take on surprising forms when they try to fight against the forces of monotony. Take these two examples sitting side by side. The house on the left remains unassumingly in character, with one-over-one windows, a simple side-gabled roof, and a single-story garage. Meanwhile, its alter ego (at right) has donned a costume of six-over-six windows, double cross gables, and a garage to nowhere sitting beneath a towering two-story addition. The only clue to its true identity is a prominent divided-light picture window.

"The house seems to think it's a McMansion," notes our contributor. We think that when modest houses put on modern disguises, the results tend to be less than super.

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