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Old: House

March/April 2006 Volume 34/ Number 2 Established 1973

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By Gordon Bock

Understanding how kitchen lighting has evolved can offer ideas about styles and placements that are period appropriate.

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Specialty parts that hold old houses together can still be found if you know where to look for them.

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The list of historically appropriate materials for kitchen countertops is longer than you might imagine.

Laying Timeless Tiles

By Steve Jordan

Linoleum flooring is making a comeback; we'll show you how to install this durable, colorful, low-maintenance flooring like a pro.

Decisions to Build On

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Insulation from the Top

By Noelle Lord Adding insulation to an unfinished attic improves a house's thermal efficiency, if you know how to do it right.

Old-House Living: At the Hearth of the Matter

By Lynn Elliott A new kitchen

arrangement leaves one old-house owner with a conundrum: Can she live with the fireplace or not?

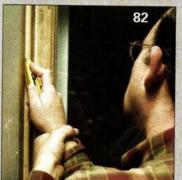
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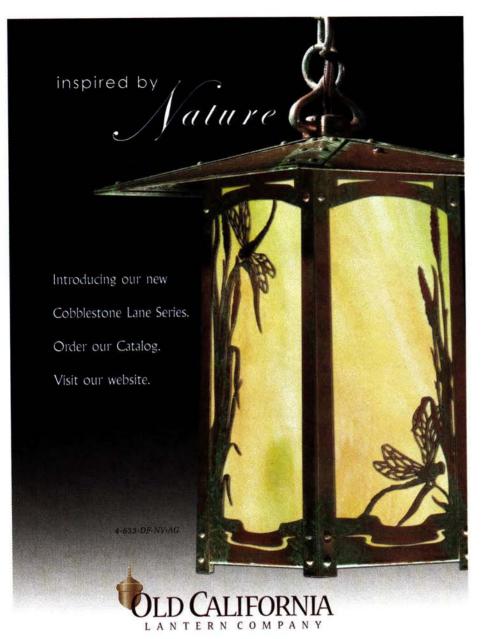






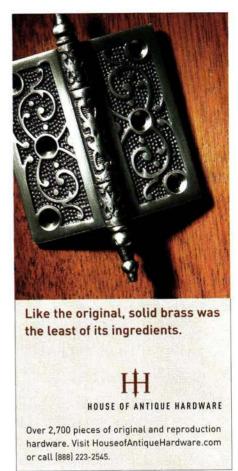
warmth and authenticity to a period kitchen.



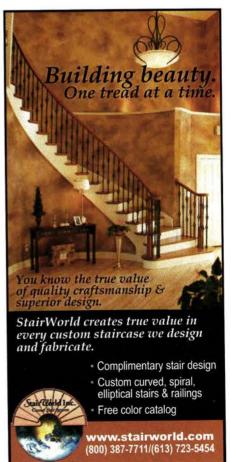


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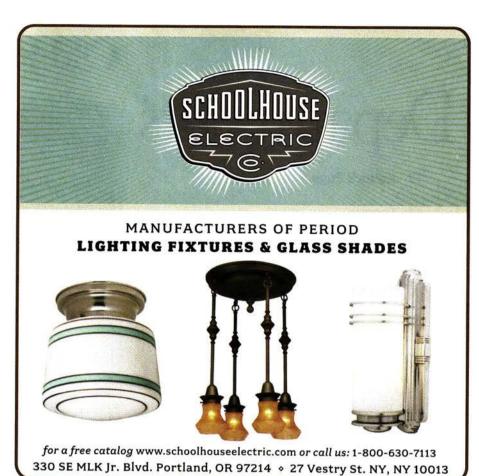
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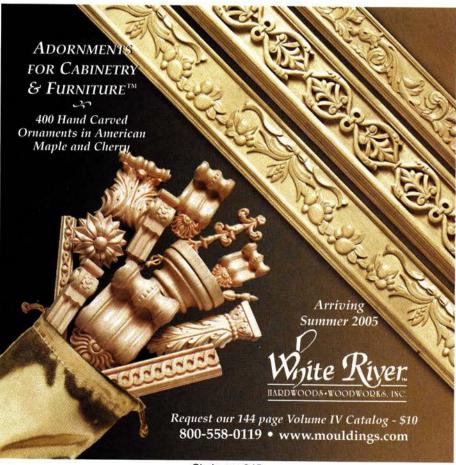




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Old:House

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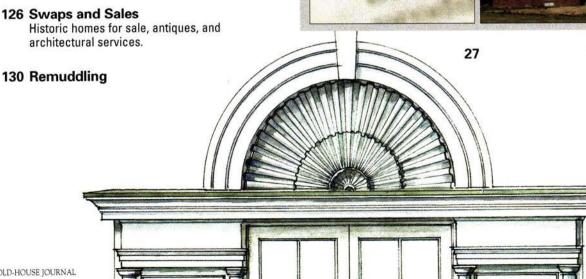
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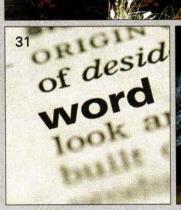
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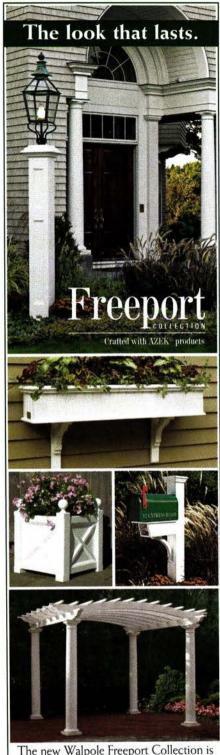
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Go to the list of old-house websites, and click on historic properties.com. You'll find a stunning portfolio of old homes for sale around the country.

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Editor's Page

Web Sightings

Some people assume that folks bitten by the old-house bug are stuck in the past, that they're Luddites who would do all repairs with a hammer and chisel if possible. Nothing could be further from the truth. In fact, old-house owners are just the opposite: A group that the marketing world calls early adopters because they are among the first



to embrace new ideas and technologies to serve their ultimate goals. Should any proof be needed, just take a look at the way in which old-house owners turned the Internet into another tool for preserving historic buildings. Two prime examples hit my screen recently.

Among recent words to enter the construction lexicon, teardown may be charged with the most emotion, not only because of the money involved but also by virtue of its totality and irreversible nature. While no one would deny that not every old house is worth saving, in some areas the razing of perfectly good dwellings, vintage and otherwise, to put up bigger houses is rampant and rapidly changing entire communities. The town of Westport, Connecticut, for example, issued some 112 demolition permits in 2004 alone, becoming "a source of fascination and fury," according to The New York Times. But rather than just report the numbers, www.WestportNow.com, the community's online news site, has come up with a brilliant alternative for raising awareness: "teardown of the day," an interactive map of the town that pinpoints pending demo sites. Move the cursor over any site, and "teardowns" pops up details and photos of the property-sometimes in its last moments. Says publisher Gordon Joseloff, "I'm not about to tell people what to do with their property, but nobody likes to see the loss of character and culture in a town."

On a more positive note comes www.lustronsatquantico.com, with news of a remarkable cache of buildings up for adoption. Flash back to 1946, when the legendary Lustron Company of industrialist Carl Strandlund was mass-producing prefabricated, enameled-steel houses to ease the postwar housing crunch. Strandlund's enterprise only survived a few years, but before it succumbed, the Marine Corps had ordered dozens of the one-storey buildings for its Quantico, Virginia, base. Now the base is deaccessioning 58 of the Lustrons, the largest single assemblage of these now collectible dwellings. "We'll give them away to parties who can cover the cost of dismantling and relocating the buildings," says Beneket Selassie, Development Executive for Clark Realty Capital, LLC, the lead developer for the Quantico Family Housing project. The deadline for proposals is April 12, 2006, and they will be evaluated according to use, with preserving the buildings among the top priorities. What better way to get the word out to a far-flung but dedicated network of Lustron devotees than to broadcast it through the ubiquity of the www? It sure beats carving a sign with a hammer and a chisel.

GOLDON ROCK

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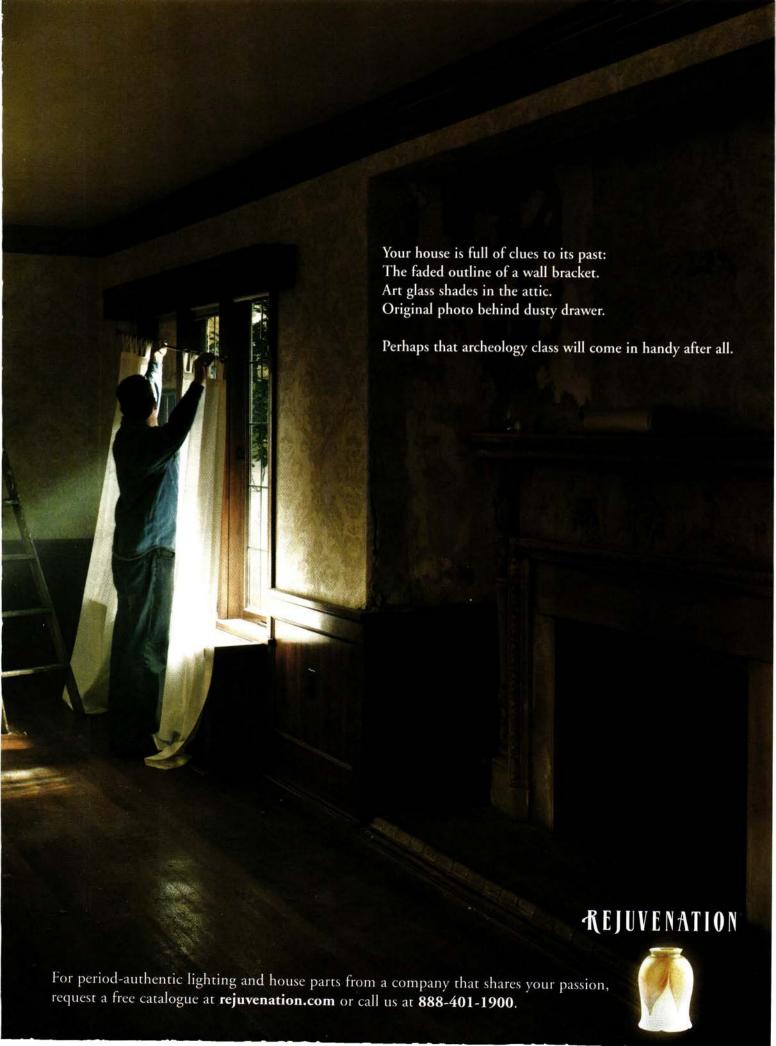
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Letters



Woodpeckers, It's a Wrap

In reference to your January/February 2006 issue, I was interested in your article, "Dealing with Woodpeckers." Once you have repaired the damage caused by a woodpecker, attach a 3" to 4" square of bright red tape or a section of Christmas bow within 6" of the damaged site. This technique guarantees that the woodpecker will not return; it has worked successfully for me on two homes that I have owned in Massachusetts.

Scott Stearns Longmeadow and Nantucket, Massachusetts

Restoring Radiators

The January/February 2006 article, "Color Me Beautiful," by Demetra Aposporos, couldn't have been more well timed! I am currently rehabbing an eight-bedroom Victorian in Radford, Virginia, which was designed in 1891 by Frank Miles Day of Philadelphia.

It has 12 ornate radiators like the one pictured on the first page of your article, and all need restoration. Thanks to Old-House Journal, I now know what they should look like and how to refinish them. What a treat it would be to see a copy of the 1905 American Radiator Co. souvenir book! Can anyone help me? A.C. Wilson

Martinsville, Virginia

We searched high and low for a copy of the 1905 souvenir book, to no avail. The archivist at American Standard, which merged with American Radiator Co. decades ago, didn't have a copy but said they had received many requests for the book through the years. If any readers have this book or know where to view a copy, we would love to hear from you. -Eds.

A Really Gentle Clean

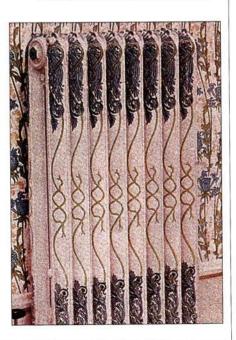
Regarding your article, "Cleaners Lost and Found," in the January/February 2006 issue, Bon Ami's claim (under its just-hatched chick) that it "hasn't scratched yet" is proved by an interesting fact circa 1952. When my brother was given an orthodontic retainer, made of approximately the same plastic and metal as the ones today, he was told by his dentist that the best way to clean the device was to scrub it with Bon Ami. Daniel Reiff

Country Commentary

Kenmore, New York

In the January/February 2006 issue, the essay by McCabe Coolidge, "The One-Dollar Log Home," contained one of my all-time pet peeves in its mention of the spring solstice. There is no such thing.

The solstice is one of two times dur-





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Letters

ing the year when the sun is at its greatest distance from the equator. This event occurs on the shortest day of the year in December to mark the beginning of winter and on the longest day of the year in June, marking the beginning of summer. Hence, the terms are winter and summer solstice. I suspect that the author was referring to the fall or spring vernal equinox, when the sun is closest to the equator and the day and night are of equal lengths.

Renee Wilde Jerusalem, Ohio

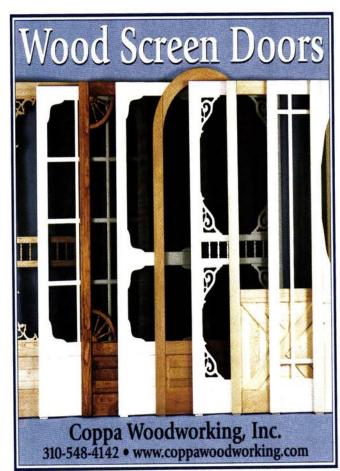
Pondering Prefab Houses

I saw your article about prefabricated houses, "Some Assembly Required," in the January/February 2006 issue and thought you might find the attached image interesting.

The photograph is of what I suspect may be a prefabricated house in Helena, Montana. The building has unusually spaced studs slotted to take regular sections of siding that are then sealed with a standard molded batten. The windows are stamped with Roman numerals. Most interesting are the decorative brackets that terminate each batten. It's a nice little place that may have variants, by scale and some features, in the city.

Paul M. Putz Helena/Lewis & Clark County Historic Preservation Officer Helena, Montana









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Annunciator

A Steel House Needs a Home

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PASADENA, CA April 18 **Arts & Crafts Gardens** Lecture

tion."

As part of a series of talks offered through the Gamble House, lecturer David Streatfield will discuss Charles Greene's Arts & Crafts gardens, including the spectacular 1926 landscape that Greene designed for a site on the San Francisco Peninsula. For more information, visit www.gamblehouse.org or call (626) 793-3334, ext. 52.

If you've always wanted to own an authentic steel house designed by a leading Modernist architect, here's vour chance. Built just after World War II in Charlestown, Pennsylvania, this steel house designed by Oskar Stonorov has already been carefully dismantled so that it can be reassembled in a new location. The Preservation Alliance for Greater Philadelphia is selling the house, the only one to survive of two prototypes that Stonorov built, so that the property it sits on can be developed.

Stonorov designed the houses as a way to mass produce inexpensive homes for a new generation of postwar families, but although some of



The only one of two prototypes to survive, this steel house has been disassembled and is waiting for a buyer.

the houses sold, his business soon folded. The new owner of the Stonorov steel house must commit to rebuilding the house using the dismantled and labeled steel components of the original structure. All of the pieces are currently stored in a protected space. The

Preservation Alliance is open to negotiating all other conditions of ownership. For more information, contact Randy Cotton at the Preservation Alliance at (215) 546-1146, ext. 2, or email him at randy@preservation alliance.com.

A Building Show Not to Be Missed

Whether it's the 150 or more exhibitors for historic-house parts and services or the 85 seminars and workshops that teach oldhouse restoration skills, the Traditional Building Exhibition and Conference, from April 5-8 at Chicago's Navy Pier, is all about historic structures. Even nearby attractions, such as the 1920 carousel, fit that theme.

The workshops draw from many of the topics addressed in Old-House Journal, such as preserving and repairing plaster, selecting appropriate colors for historic houses, and restoring kitchens and baths of the late-19th and early 20th centuries so that they meet today's functional standards. In addition to the wealth of historic-building experts, Old-House Journal staff members will be on hand to offer suggestions and tips.

Nearby attractions, such as this 1920 carousel, fit the show's historic theme.

The entertainment is also noteworthy. New tours of restoration in action will feature two historic company towns, Pullman and Marktown. As for another historic town, a fundraiser for



New Orleans will be held in true Roaring '20s style. Dubbed "A Chicago Speakeasy for the Big Easy," it will benefit the city's Preservation Resource Center. For details, visit www.traditionalbuildingshow.com, call (800) 982-6247, or email info@restoremedia.com.

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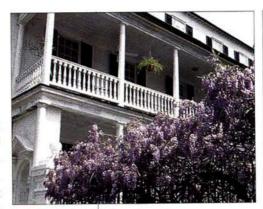


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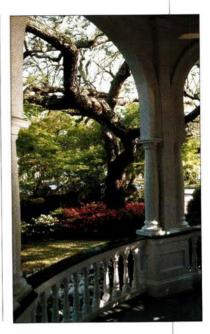
Glimpse inside Charleston's Finest Houses

Celebrating its 59th year, the Annual Festival of Houses and Gardens from March 16-April 15 in historic Charleston, South Carolina, is renowned for offering the public a rare glimpse of the interiors and gardens of the city's finest historic houses. More than 150 private residences open their doors to visitors, showcasing architecture that spans nearly two centuries, from colonial times through the antebellum and Victorian years to the early 20th century. An antiques show, featuring more than 30 dealers, kicks off the festivities on March 17, with proceeds from both programs supporting the Historic Charleston Foundation. Tickets cost \$45, and

reservations for the house tours are strongly encouraged. For more information, contact the foundation at (843) 722-3405 or visit www.historic charleston.org.



One of Charleston's oldest wisteria vines (above) is across the street from the Nathaniel Russel House. The veranda of a house on the tour (right) overlooks White-Point Gardens.



Books in Brief



Only a Southerner, or in this case two of them, would think to compile a photobook that captures the grandeur and grittiness of the Old South through images of its houses. Even more remarkable, all except five of the book's 180 or so photographs come from the Historic American Buildings Survey (HABS) catalog housed in the Library of Congress. The photographs in Mantelpieces of the Old South, Lost Architecture and Southern Culture, by William Baldwin and V. Elizabeth Turk,

span almost 70 years, from 1934 when the survey first began (putting to work dozens of unemployed photographers) to nearly the present day. The survey is ongoing, as Baldwin notes in his introduction, so that the collection of photographs, now at more than 350,000 images, continues to grow. What Baldwin and Turk have done is winnow down the collection and give the photographs they chose an order and context that has meaning. So as not to influence a viewer's impression of the photos, captions are at the end of the book.

With its balance of interior and exterior shots, the book showcases architectural features that include but are by no means dominated by mantelpieces, as the book title might imply. Turk chose the title because "the mantel truly is the domestic altar...the central focus point of the home." While the book has photos of mantelpieces, some of them looking as plump and crisp as meringues, other images invite you to gaze down into a vortex of winding stairs or to contemplate long, curving banisters unspooling like yarn. Still others capture a decaying South, of weatherbeaten doors or crumbling mortar, artfully shot and sometimes haunting, like that of a nursery, with peeling wallpaper and dusty floors, empty but for a child's rocking horse.

All the images are black and white because that was and still is the HABS archival format. They are made all the more poignant, not merely by the passage of time, but by the knowledge that far too many of these houses no longer exist, having long since kept a date with a wrecking ball.

-Catherine Siskos



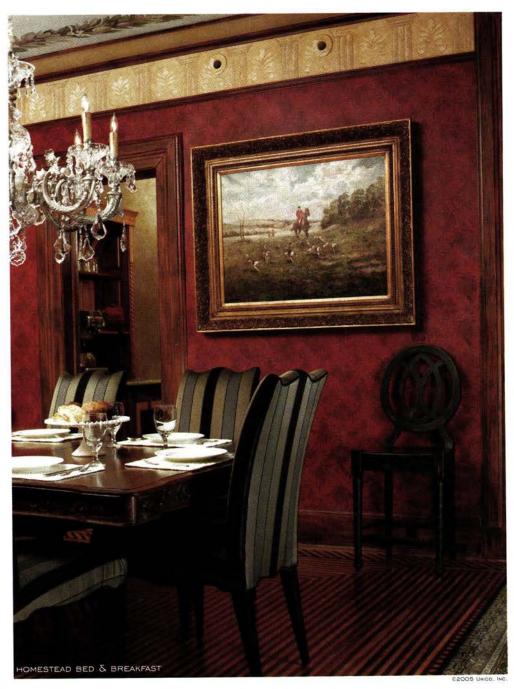
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Ask OH7

Bigger Than a Bungalow?

Our old house, built in upstate New York in 1900, is what we believe to be an Arts & Crafts bungalow, but as it's nearly three storeys high, it is much larger than most. What would you call it?

John Norvell

Canandaigua, New York

ood question. Since the turn of the 20th century when the term first gained wide currency, the definition of a bungalow has always been very elastic and, as a result, applied to a remarkable range of buildings during its heyday. Advertisements in the 1920s promoted everything from "Colonial bungalows" that bore a close affinity to Cape Cod houses to "rooftop bungalows" that we would call apartment building penthouses. Today, architectural historians still wrestle with pinning down a description that embraces all the permutations of this remarkable dwelling. Most agree that a bungalow 1) is not a style, but a basic house type that can be detailed to a particular style, 2) has a simple, low-pitch roof (typically gabled or pyramidal), 3) is low to the ground at a storey or a storeyand-a-half, and 4) has a bedroom on the ground floor. Beyond these characteris-



Though this New York house is clad in horizontal siding and does not show the fanciful, exposed rafter tails or pseudo-structural eave bracket associated with California, its basic form and detailing qualify it as a bungalow.

tics, there are many popular features—fullwidth porches, for example, or dormers and deep eaves—but none that can be said to be always a part of "bungalowness."

Which brings us to your house. Clearly, the low-pitch, sweeping gable roof fits the bungalow model, as does the ground-hugging feel of the building. The prominent front dormer is also common on these buildings and so is the front porch incorpo-

rated under the roof. Although no brackets appear to be holding up the deep eaves, the Arts & Crafts influence remains evident in features such as the band of four windows in the dormer and the battered piers supporting the porch roof. What then to make of the size? Faced with all of these typically bungalow features and a height that is still short of monumental, we'd call your house a bungalow.

Disappearing Stair Care

I'm looking for parts for a disappearing staircase. Can you help? Suzann Mitten Owen Bloomington, Indiana

n old houses, disappearing stairs take their biggest beating from poor maintenance and rough handling, not age. If attic stuff is stored on the floor space reserved for the stair section of a sliding stairway, the door will not close properly. Forcing the door

then splits a stringer (one of the two long rails) along the guide channel. Slamming the door will also cause the stringers to split, cables to unwind, and the door to fail over time. If a cable turns loose, the spring that counterbalances the device will become backwound and break the spring. There are no generic parts for disappearing stairways, so they generally cannot be repaired if factory parts are unavailable. Fortunately, one of the original manu-



Disappearing stairs use springloaded drums to counterbalance a door and single-piece stairway. facturers of disappearing stairs, the Bessler Stairway Co. in Memphis, Tennessee, is still going strong after nearly a century in business and can rebuild springs or supply parts for their most popular models. Visit them at www. Bessler.com or call (901) 360-1900.

The Lowdown on Dow

The plans for our house indicate a connection to the architect Joy Wheeler Dow. What do you know about this woman? *Michelle Sullivan Kennebunk, Maine*

oday, the name Joy Wheeler Dow is all but forgotten—as well as the fact that he was a man—but a century ago he was something of an

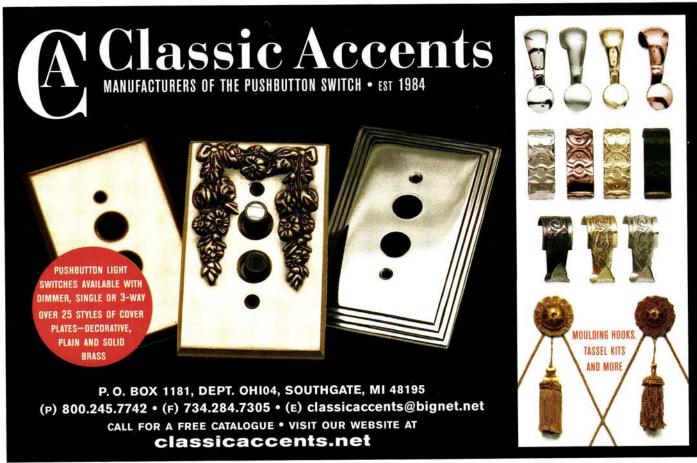
architectural iconoclast. Born around 1861 as John Augustus Dow, he changed his name at age 21 to something he found more elegant. A decade later, after abandoning a financial career, he designed a house in Millburn, New Jersey, which set the path for the rest of his life.

Though not trained as an architect or engineer, Dow went on to design houses in Connecticut, Michigan, and New Jersey, where his most ambitious project was the Unitarian-Universalist church in Summit. According to his son John, the elder Dow would design and build a house for his own use and to his own tastes, then sell it, and start another. By 1906 or so, his distinctive designs had caught the eye of the public and the architectural press; three of his houses were featured in One Hundred Country Houses (1909) alongside architects the caliber of Wilson Eyre and Greene & Greene. Dow's reputation as an author rests on his

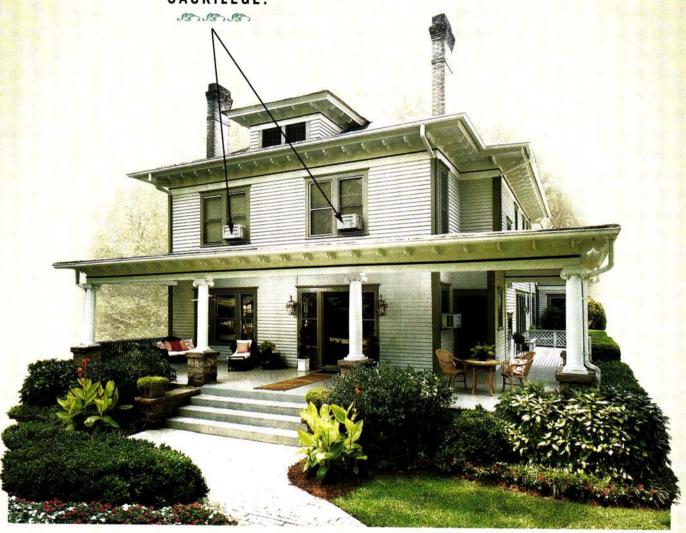


Many of Joy Wheeler Dow's New Jersey houses, such as "Eastover" in Wyoming, are still extant.

book, American Renaissance: A Review of Domestic Architecture, which called for houses modelled on the symmetry, harmony, and proportion of the Renaissance. Before he died in 1937, Dow moved to New England, and this may be where your plans come in.



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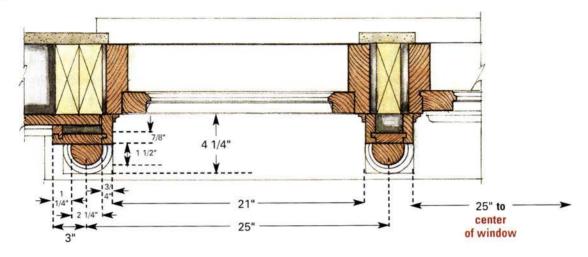
Plots & Plans

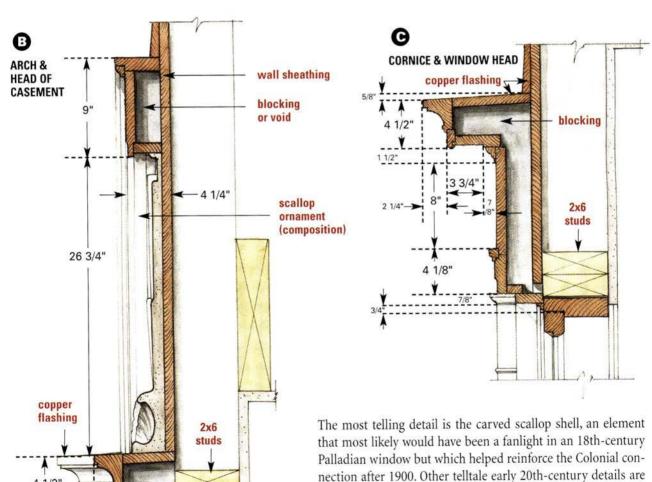
Palladian Window



ometimes called a Venetian window, the three-part motif with the middle opening larger than the rest was already popular (often as an open archway) when it became a favorite device of Andrea Palladio, the Renaissance architect to whom it became forever connected through his widely studied villas and books. Fast-forward to architects of 17th- and 18th-century England who made the Palladian window a hallmark of the Georgian style, featuring it above the doorway as the jewel point of symmetrical, center-hall houses. When English Georgian ideas took off in the New World—first as the style for British colonies in New England and Virginia, then as a revival after 1870—the Palladian window evolved with it, ever in step with subtle changes in use and taste. This example dates to the 1920s and shows the features typical of that era's interpretation.

A PARTIAL PLAN OF CASEMENT WINDOW





the fixed casement windows—regular offerings then, as now, from millwork suppliers—and the stock patterns of the mouldings. The dimensions shown here reflect the proportions possible with 1920s millwork and can be adapted readily to the con-

struction or design needs of the builder. 🍮

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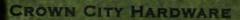


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Preservation Perspectives

What's in a Word?

By Allen Charles Hill ernard Shaw once allowed that the French didn't care what they did, so long as they pronounced it correctly. In a multilayered field such as historic preservation, though, it does help to know what you're doing and how to describe it. In the possibility that the enlightenment gained may justify the struggle, here are some definitions, based on those used by the National Park Service:

Preservation has two meanings. Broadly, it is the preferred umbrella word for the process of retaining an existing building, rather than demolishing it and using the space for something else. Beyond that, though, preservation has a specific meaning under the umbrella: to keep an existing building as it was at a particular time without restoration to an earlier period. In the case of a museum, the time in question is usually when the prop-

erty ceased to be used as, say, a private residence.

Several commonly used old-building terms seem to have different meanings depending on who's using them, making for confusion and worse.

The most successfully preserved buildings are time machines, with layers of use that are preserved to be seen, studied, and appreciated. They give visitors a sense of time, evolution, and change. The tradeoff, of course, is the loss of the sense of any particular period, as later work, which may alter or contradict the earlier time, is kept in place.

Restoration is so often used interchangeably as an umbrella word for preservation that it's tempting to let the two be synonyms. They aren't, though. Restoration is defined as the process of returning a building (or part of it) to its known former appearance by

removing later accretions, reconstructing missing elements, and conserving what remains.

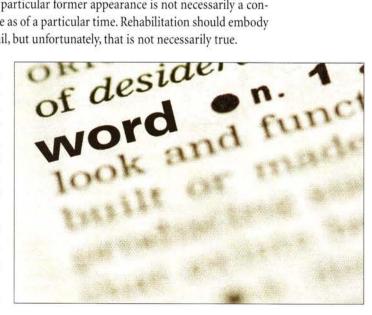
The key word is *known*. If you do not know what was there in the first place, you can't restore the building. When the intent is to restore but the necessary knowledge about former appearance is absent, one has a conjectural restoration, a hybrid that lies somewhere between an informed hypothesis and a flight of fancy. Most restorations, even those founded upon exhaustive research, require some conjecture. As a general rule, the more conjecture there is, the less restoration.

Rehabilitation is the proper term for what is often loosely called restoraton. In rehabilitation, the emphasis is on returning a building to use through restoration, repair, and new construction. Recovering a particular former appearance is not necessarily a concern, nor is preserving its appearance as of a particular time. Rehabilitation should embody respect for the structure and its detail, but unfortunately, that is not necessarily true.

Reconstruction

refers to replacing missing elements that range from small bits of moulding to entire buildings. That restoration phrase, *known former appearance*, pops up again, because properly executed reconstruction exactly replaces something that had been present at a particular time in the past but subsequently was lost.

Conservation is specialized repair that is undertaken when the fabric of the object to be repaired is intrinsically valuable. Conservation goals include retain-



Preservation Perspectives

ing as much of the original object as possible (patching a broken window sash, for instance, rather than replacing it) and ideally making repairs in such a way that a later conservator can modify them with minimal damage to the object.

Stabilization is a temporary measure intended to reestablish sufficient structural and weather integrity in a deteriorated building to allow it to survive in its present form until more comprehensive and permanent preservation work can be undertaken. Examples include shoring, temporary roofs, and other weather enclosures. The problem with stabilization is that it is often called on to last many years longer than originally intended, as anyone familiar with history museum organizations can testify.

It's useful to understand the distinctions between the basic three: historical societies, historical commissions, and historic district commissions.

Historical Who?

What's in a name? A rose by another name may smell as sweet but the similar-sounding names of the local historical agencies with which we come in contact can be confusing.

Historical societies are private organizations, formed to collect and preserve local history and artifacts. Many historical societies also maintain museums that typically represent a view of how the community once lived. Historical societies can be fun to work with and are valuable resources. They are not, however, associated in any way with government and have little say about policy. Most historical societies depend on memberships and donations to support their budgets.

Historical commissions, on the other hand, are local government bodies. Their membership is usually appointed by the municipal executive board, and they are charged with identifying and working to preserve the community's historical resources. Historical commissions work with the State Historic Preservation Office and report to the municipal executive board. Basic funding comes from the municipal budget.

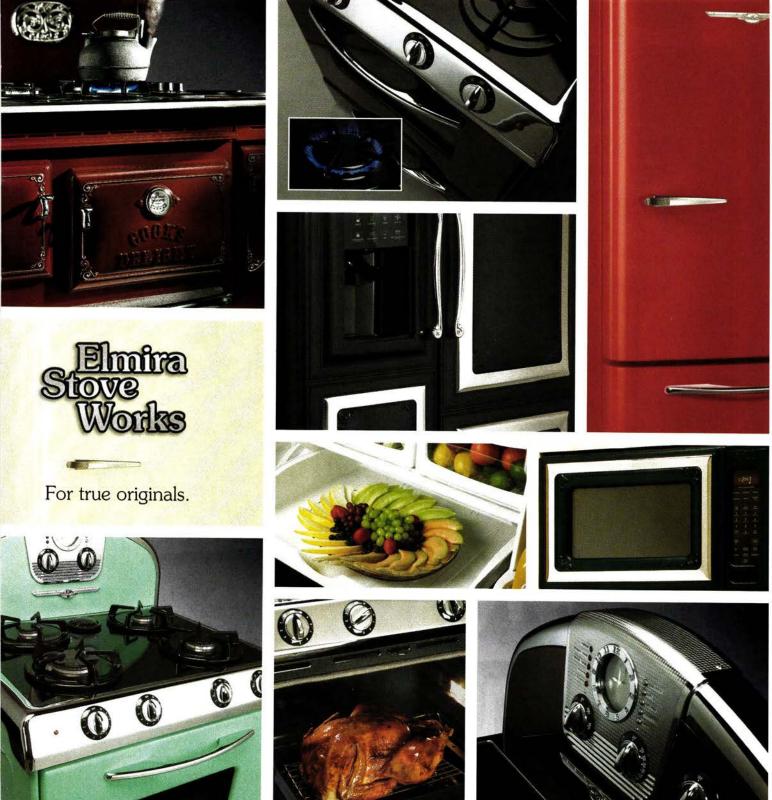
As government bodies, historical commissions conduct inventories of local historical assets, propose local historic districts, and initiate nominations to the National Register of Historic Places. When a historic property is threatened, the local historical commission, as a political body, may be able to bring modest pressure to bear, either in its own right or through its connections to the State Preservation Office. Historical commissions, however, normally do not have any power or control over what people can do with their properties.

Historic district commissions are also local government bodies, but where the historical commission's primary purpose is to advocate for preservation locally, the historic district commission is charged specifically with administering the terms of the district's ordinance. It does this by determining if proposed changes to structures are appropriate before a building permit is issued. Examples of such changes are new construction, alterations (including restoration), or demolition of existing structures.

The local historic district commission is supposed to determine the general appropriateness of a proposal, yet not get involved with specific details—for instance, whether a column is plain or has flutes. Typically, a proposed change is evaluated as either appropriate, inappropriate, or having no adverse effect.

Appropriate proposals are just that; the commission approves granting a building permit. Similarly, a proposal found inappropriate would be denied a permit unless it were determined that failure to grant the permit would be a hardship. "No adverse effect" is a finding used for proposed work that will not affect the building's exterior appearance.

Allen Charles Hill, AIA, writes from Woburn, Massachusetts (http://home.att.net/~allen.hill.historic.preservation/).



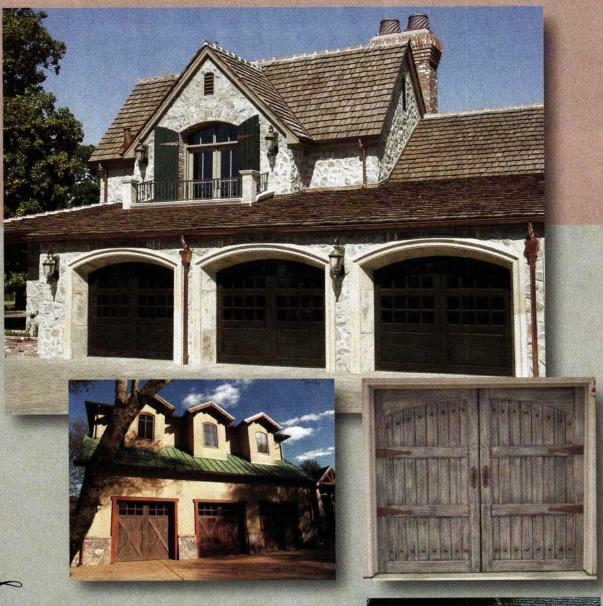
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Light on the Past

The graceful Papillon chandelier from designer Tracy Porter boasts a hand-painted porcelain column and pendant of pale cream Scavo glass. Porter's creations feature layer upon layer of vintage elements, and she often draws inspiration from her French grandmother's antiques, which may be why Papillon seems so well-suited to a French Eclectic house. The light sports an antique brass finish and retails for \$472.50. Order it online at www. tracyporter.com. Circle 11 on the resource card.



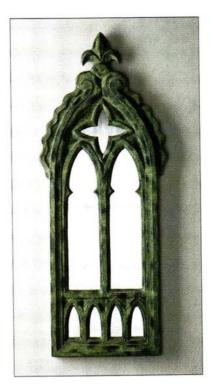
Copper, Front and Center

Long appreciated for its durability as well as its beauty, copper is well-known as a roofing material. Now it's becoming increasingly popular for inside an old house, too. One example is this kitchen sink hand-crafted of 16-gauge, double-walled copper from Stone Forest. The Copper Farmhouse sink, shown in an antique copper finish, costs \$2,050. See www.stoneforest.com or call (888) 682-2987 to locate a dealer near you. Circle 12 on the resource card.

Brilliant Brolly Holder

From Italy's Amalfi Coast, home to exquisite pottery since Roman times, comes this ceramic umbrella stand with its hand-painted pattern of doves and leaves. Adapted to hold umbrellas, the simple classic shape doffs its cap in tribute to ancient urns. The Fondo Rosso Umbrella Stand measures 20" high and retails for \$700 at Molto Bella Ceramica. To order visit www.mbceramica.com or call (412) 682-1277. Circle 13 on the resource card.



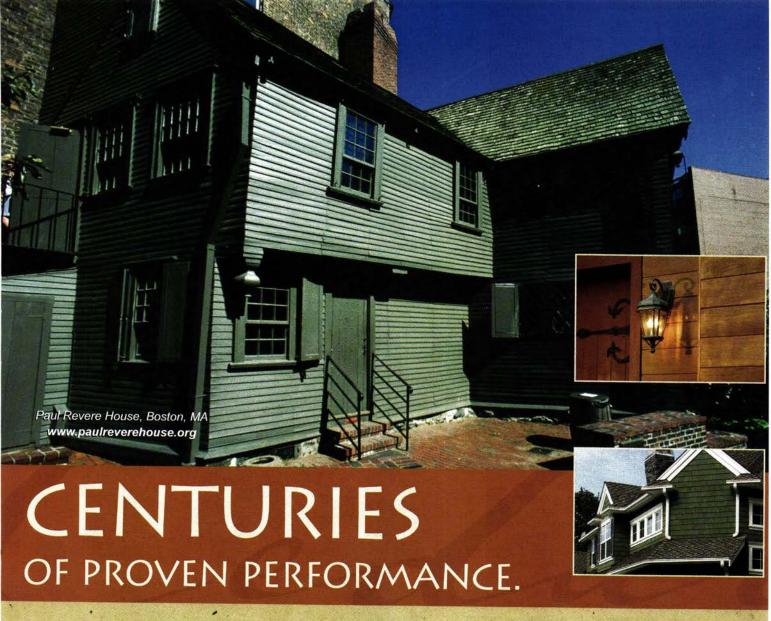


Medieval Mirror on the Wall

In the mid-1800s, interest in the Middle Ages sparked a Gothic revival, which is why so many Gothic objects from the 18th and 19th century are found in the Winterthur museum. This unusual mirror boasts pointed arches to rival those in medieval European churches, and is topped with a hand-painted finish and a fleur-de-lis. The mirror-handmade of paper, gypsum, and sandstone-costs \$56.95 and measures 15" x 38". To order, see www.winterthur gifts.com or call (800) 767-0500. Circle 14 on the resource card.

A Stitch in Time

Old-house owners who want period-authentic kitchens right down to their accessories will take comfort in the Stella apron from Bella Pamella. Based on a 1946 pattern, the apron has roomy, oversized pockets and easily adiusts to flatter a range of sizes while continuing to look tailored, an improvement over the precise sizing of the originals. The Stella apron comes in a range of colors and costs \$40. To order, visit www. bellapamella.com. Circle 15 on the resource



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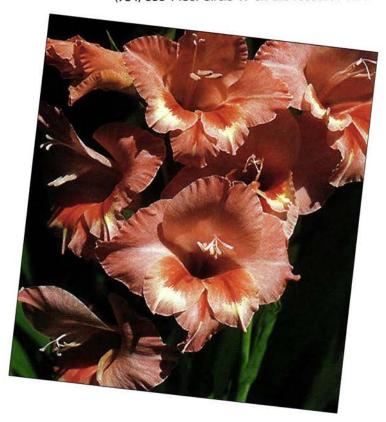


A Latch above the Rest

The old ball and chain is most historically appropriate when securing a gate, an idea borrowed from colonial times. One end of the 5'-long chain hitches to the gate and the other to a post beside the gate's hinge. As the chain slackens and is weighed down by the suspended fivepound iron ball in the middle, the gate shuts. Made from hot-dipped galvanized iron and coated in a black polyester powder finish to retard rust, the Cannonball Gate Closer retails for \$68 at Snug Cottage Imports. To order, call (800) 637-5427 or visit www.snug cottageimports.com. Circle 16 on the resource card.

Heirblooms

Hybrid gladiolas first appeared in 1837 and have been a favorite of gardeners ever since, even gracing the flowerbeds of Monet and Gertrude Jekyll. Melodie-a smallflowered hybrid gladiola from Old House Gardens-first emerged in 1955, but its ruffled, ornate petals are reminiscent of the rococo glads that were hugely popular in the late 1800s. Sold singly or in groups (\$4.25 for one bulb; \$34 for 10 bulbs), Melodie is one of many varieties of antique bulbs suitable for spring planting and available at Old House Gardens. To order, visit www.oldhousegardens.com or call (734) 995-1486. Circle 17 on the resource card.



Fit for Fine Feathers

The swirling pattern of petals decorating the tray portion of this birdbath was fashioned after a charger-like pewter dish used in Colonial Williamsburg. Constructed from cast aluminum, the Williamsburg English Garden Birdbath, pictured in a verdigris finish, also comes in weathered iron and retails for \$99.50. Measuring 16" in diameter, the birdbath mounts on any Virginia Metalcrafters stand. For a store locator, visit www. virginiametalcrafters.com or call (800) 369-1002. Circle 18 on the resource card.

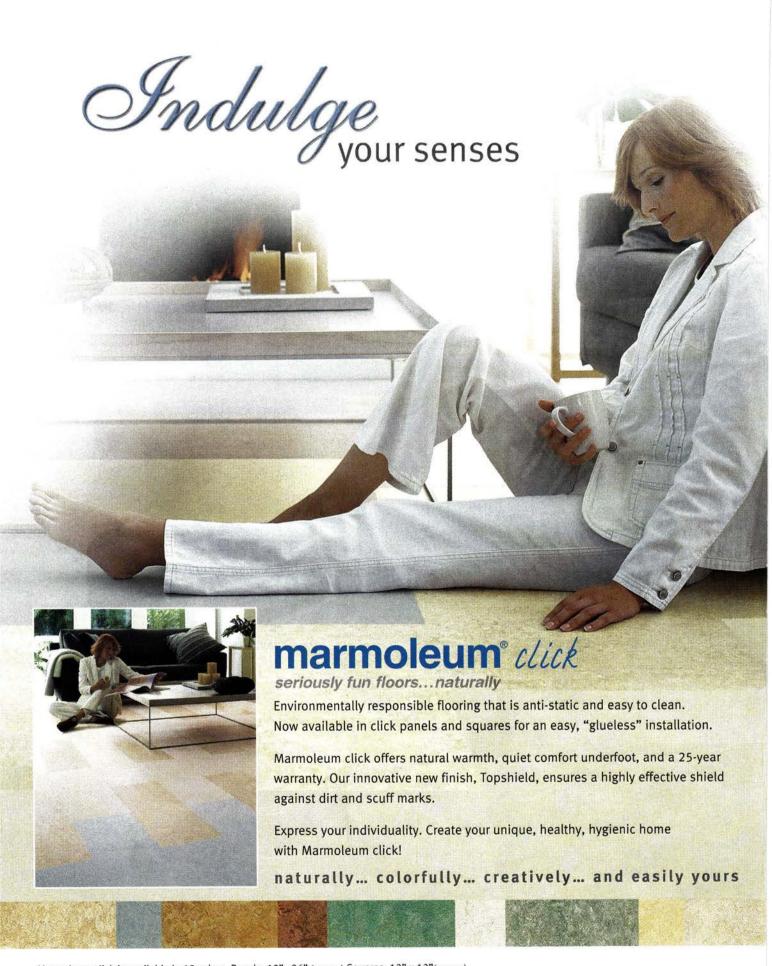
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Essay

Queen of the Special Order

o anyone who's ever waited in line behind me at the hardware store: I'm very sorry. You see, that was me holding up the line for 45 minutes while you stood there clutching duct tape and light bulbs, looking at your watch and tapping your foot impatiently. And me, again, asking the clerk to please call a manager while you banged your cart and muttered nasty words.

I can't help it. I am the owner of an old house, which means I am, by default, queen of the special order, mistress of the involved sales process, and countess of the four million questions. I honestly don't mean to make life miserable for the poor soul stuck behind me in line. Which is why I apologize, and why I'll keep on apologizing—because I'm not about to change.

You know how it is: The day you buy an old house is the day you surrender any hope of quick, smooth, easy transactions for home improvement projects. The phrase one size fits all was not conceived by or for an old-house owner. Once you sign that mortgage and take possession of those keys, approximately half your life will be consumed by debating with salespeople and contractors over the types of materials you want to use (as close to the original as possible) and the way you want things done (authentically). The other half will be spent defending those choices to people who question your sanity.

Take doors. My husband spent all last summer sanding down and staining our gorgeous front door, a massive piece of Victorian oak, 92" x 36", which the former homeowners, for some reason, painted white. After restoring the oak door to pristine beauty, we decided we needed a new screen-to-storm door to complement it. (The current one is a flimsy piece of metal from the 1950s and far from weathertight, which is tough on both the door's finish and our heating bills).

There was, course, a problem. The former owners, a lovely older couple, had jerryrigged a standard 84" door to fit the 92" frame by nailing a piece of wood across the top. The result was like a pickle on a hot fudge sundae-it just didn't look right. We wanted the right size to replace the screen door, so we trudged resignedly into our local hardware store, where we asked a teenage salesperson to help us find Victorian-

style screen doors that could convert to storm doors in the winter.

Here's the conversation that ensued: "What size do you want?" Regular width, but on the height that'll be (insert deep breath here) 92". "Ninety what? I don't know, man."

In 92" models, our options for readymade doors were exactly zero. Anything in that size would have to be—you guessed it—special-ordered. It would also cost a small mountain of money. Plus, for a custom size, even special-order options are limited in color and style. Those big-box home improvement stores assume—correctly, I'm sure—that there won't be much demand for doors 92" high.

I remember a time when our shopping excursions were different. When we rented a 1940s Cape Cod, home improvements (over which we had free rein) were blessedly easy. We chose the paint and wallpaper for the entire first floor in one afternoon. When something broke, we found the most economical alternative and replaced it. No fuss, no muss.

Now we live in our own home, a



three-storey Victorian built in 1898. We love this house like a person. We respect it, coddle it, even. So every change we make creates weeks or months of work: research on the Internet, discussions with old-house owners, arguments with contractors and hapless salespeople. You get the picture.

In the screen door aisle of the hardware store, the sales clerk tried to convince us not to do things the hard way. "Most people," he said, clearly trying to be tactful, "go the other way toward the standardsize door. Makes things a lot easier."

I'm sure it does, but that's not what we want. If we have to lead a special-order life, then so be it. We are the few, the brave, the unashamed. We are the hardy souls spending Saturday afternoons online, combing for vintage door hinges or reconditioned wall sconces. We know it's harder this way, I said to the clerk. Humor us.

Our new screen door arrives next month. It's taking a long time to get here, but it's a door 92" tall. Generic and standard? No way. It's special order or bust, and that's fine with us.



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Outside the Old House

The Practical Beauty of Espaliers

Use an age-old technique to grow living sculptures

BY LEE REICH

ention plants that grow on a wall and you probably think of vines, but in northern Europe there has been a long tradition of training trees to grow flat in orderly, ornamental, architectural shapes known as espaliers. Perfected hundreds of years ago as a way to grow trees in limited space, espaliers (pronounced es-pal-YAYz) work with many different types of ornamental trees, but the technique classically has been used on apple and pear trees. The intricate shapes that espaliers take can add plenty of well-dressed charm to an old-house garden.

All espaliers need some form of structural support, which can be a fence, trellis,

or the wall of a house or garage. By spreading branches out over a wide, flat area, espaliers optimize exposure to sunlight. To foster air circulation around espaliers grown on a wall, train their branches onto wires and stakes held a foot or so away from the support surface. Using walls as structural support has other benefits, too. It helps shelter plants from wind and allows them to absorb some of the structure's heat, nurturing growth and increasing the variety of plants that can prosper in cold climates.



Well-shaped espaliers, such as this pyracantha bursting with berries, make a splash wherever they appear. Cultivated in Europe as a way to grow fruit trees in small spaces, espaliers today are often used

for decoration.

The disciplined branches on this tree have been trained into one of the oldest and most traditional configurations for espaliers, the horizontal palmette.

A Low-Maintenance Approach

Despite their orderly appearance, espaliers are charming because they show that someone is keeping an eye on them, visiting often to care for their well-pruned branches. When those branches bear fruit, you have a plant offering superb flavor as well as beauty. That

flavor results from an espalier's leaves bathing freely in the sun and air, as well as the favorable balance of fruit and leaves. Because photosynthesis happens in the leaves, this balance ensures that each fruit gets plenty of sugars.

In the spring, apple or pear espaliers in Europe are thoroughly laden with flowers that later become fruit. Except for northern, coastal regions, much of North America's climate and daylengths don't favor extravagant fruit production. The lavish attention that espaliers require may be an additional drawback in today's fast-paced world, because apple and pear espaliers need frequent pruning—once in winter and four or more times throughout the summer, usually accompanied by carefully considered decisions about what and how much to prune.

One fruit plant, however, offers a less labor-intensive



EN DRUSE

Outside the Old House

approach to espaliers and grows just about everywhere: the red currant. Ornamental, tasty, and popular in this country a century ago, red currants have been grown across northern Europe for 600 years, but their primary advantage is that they require straightforward pruning only twice a year. The crowning touch is their bright red fruit, which dangle from branches like translucent jewels. Equally easy to grow are gooseberries, which are close relatives of red currants and have many of the same growing and fruiting habits.

Red currant espaliers decorate the fence around my vegetable garden. Each plant is trained to grow in the shape of a simple T with a single, upright, bare trunk capped by two fruiting arms

splayed out in opposite directions. If your taste runs to more complex designs, red currant

espaliers acquiesce just as readily to form the ornate U's, double U's, fans, and candelabras that were traditionally applied to apple or pear trees.



A red currant plant formed to a simple T shape shows off its ruby-red berries. Pruning espaliers opens leaves to liberal doses of sunshine, which makes for intensely flavored, sugarsweet fruit.

RED CURRANT **AMNESIA**

If you're not familiar with red currant fruit or plants, it's because they were banned by the federal government in the 1920s, along with other members of the Ribes genus. The ban was put into place to prevent the spread of blister rust disease among white pine, which was and remains an important timber crop. The disease needs white pine in addition to a susceptible Ribes in order to complete its life cycle. Cultivated red currants, however, turned out to be poor hosts for the disease, so the ban was lifted in 1966 and put under state mandate. By then, though, two generations of Americans had forgotten the pleasures of red currants. Over the past 20 years, interest in red currant plants has seen a revival among commercial growers and backyard gardeners alike for the tasty, appealing, and vitamin-laden fruit.

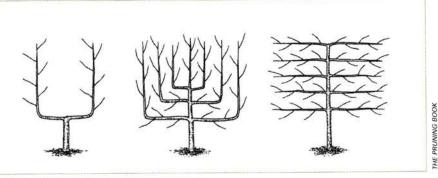
Putting Plant Biology to Work

Knowing a little about plant biology also helps with cultivating espaliers. A plant's uppermost shoots tend to grow the strongest, a phenomenon known as apical dominance, which is the result of plant hormones produced in the growing tips of upright stems and at the high points of arching stems. Those hormones suppress the growth of lower shoots. As a result, changing a stem's orientation can influence how strongly various parts of that stem will grow.

Another concept worth keeping in mind is the inverse relationship between stem fruitfulness and stem vigor. The more vertically oriented the stem is, the stronger it grows and the less fruitful it will be, especially in the upper portions. Horizontal stems tend to be weaker and more fruitful, with more branches along their length.

Both of these plant behaviors can be put to use when training and maintaining an espalier. For example, to develop a healthy trunk on my red currant, I identified the strongest shoot on the plant, tied it to the fence to keep it upright and vigorous, and removed all other shoots. Anytime that you need side branches on

Many traditional shapes have been used to grow espaliers for centuries: some of the oldest and most popular are (left to right) U-palmette, candelabra, and horizontal palmette.

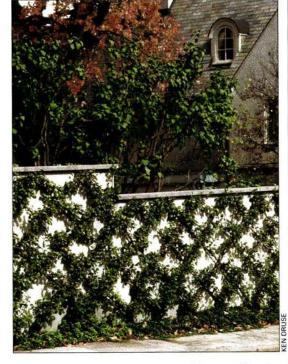




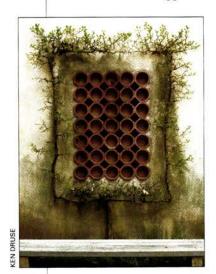
Outside the Old House

a stem, you can put apical dominance to work by merely pinching off or cutting back the tip of the main stem. Once the trunk-to-be of my red currant grew just above the top of the 3'-high fence, it was time to develop its permanent side arms, so I cut the stem back to the fence's height. This cut removed apical dominance along the stem. I then selected two shoots on the upper portion of the trunk to become permanent arms, training them to grow along the fence in opposite directions, and removing all other stems that appeared.

To keep these developing arms thriving, I again put apical dominance to work, leaving their ends free as I tied the portions closest to the trunk down in a horizontal position. The free ends did what they were naturally inclined to do—that is, turn upwards—and that upward orientation maintained strong growth from their ends. As the shoots lengthened, I kept tying the older portions down horizontally.



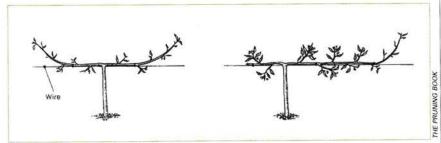
The crosshatch pattern on this espaliered pear tree is formed by overlapping plants grown in the traditional oblique palmette shape, which splays branches out in a wide-open V.



In a new twist on an old shape, the form of a U-palmette is encouraged to close upon itself, forming a rectangle, proof that with espaliers, the possibilities are endless. I began pruning for maintenance and fruiting even as the arms were still developing. Because of their horizontal orientation, the arms exhibit little apical dominance, and side shoots grow freely along them. This growth is good, because it's from the arms that the fruit hangs. I couldn't let those side shoots grow too long, however, or they would obscure the espalier's crisp T shape.

You need just two simple pruning cuts to keep the form neat while encouraging abundant fruit production. Make the first cut in summer as the first berries show the slightest hint of a change in color. This cut entails nothing more than shortening every side shoot growing off the arms to about 5" in length. The second set of annual cuts takes place while the plant is dormant and leafless, preferably sometime between midwinter and when

growth begins in the spring. In this cut, I shorten all those 5"-long side shoots once again, this time cutting them back to about 1". Occasionally, the plant will sprout new shoots



either at ground level or along the trunk. I remove these sprouts whenever I notice them.

That's all the pruning maintenance a red currant espalier requires. I spend less than five minutes per plant at each session. The result is an espalier that is as attractive as it is fruitful, a plant that is civilized, homey, and well trained. My espaliers hang on to their berried treasures for weeks. The only problem I have is picking the fruit—I hate to do so and ruin their lovely appearance.

Lee Reich writes about espaliers and other aspects of pruning in The Pruning Book (Taunton Press, 1997).

Shaping branches involves tying down portions closest to the stem on a horizontal support but leaving the ends free to encourage strong upward growth.



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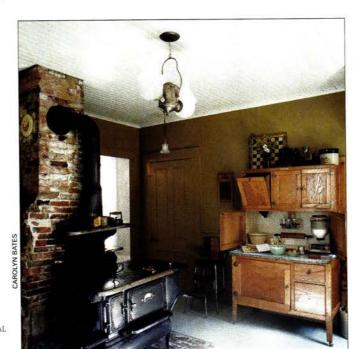
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Kitchen ighting in Context

Looking at the evolution of kitchen illumination can offer bright ideas for picking period fixtures today. By GORDON BOCK

The Angle lamp, a kerosene lamp with the burner on the side of the tank to better project light, was typical of the oil-burning work lights that were still sold well into the 1910s.



ome say that the force behind the evolution of modern design is aesthetic-specifically, the drive to eliminate ornament and historical referenceswhile others make the case that it's all a matter of science: New materials and new technologies inspire novel designs. Though such a debate may sound chickenand-egg, it does help make sense of the regular shifts in lighting kitchens over the past century or so and the apparent seesaw between looks and utility. More important for old-house owners, a backward glance at these shifts can also offer ideas about lighting placement and





appearance that are compatible with an old-house kitchen today, as well as guidance for choosing from the many historically accurate light fixtures on the market.

Oil and Gas (1880 - 1915)

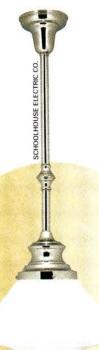
Artificial light was little more than an afterthought for kitchens until the latter part of the 19th century. For generations, the kitchens of houses large and small were workspaces inhabited by a handful of fixtures-a hearth or cookstove, a worktable or two, and maybe a sink and small cabinet-and typically the domain of servants. Food preparation took place during



Along with the hand force pump for running water, the task-specific placement of the gaslight bracket indicates that this sink, at Billings Farm in Vermont, is in a state-of-the-art kitchen for the 1890s.

Combination fixtures that ran on both gas (on top) and electricity (on the bottom) were common by the 1890s.

Right: A view of the Billings Farm kitchen shows a gas drop fixture in the center of the ceiling as the only other artificial light source, a typical setup. Below: The incandescent lamp made inverted lights practical, bringing with it hanging lamps totally enclosed in globes by the 1910s.



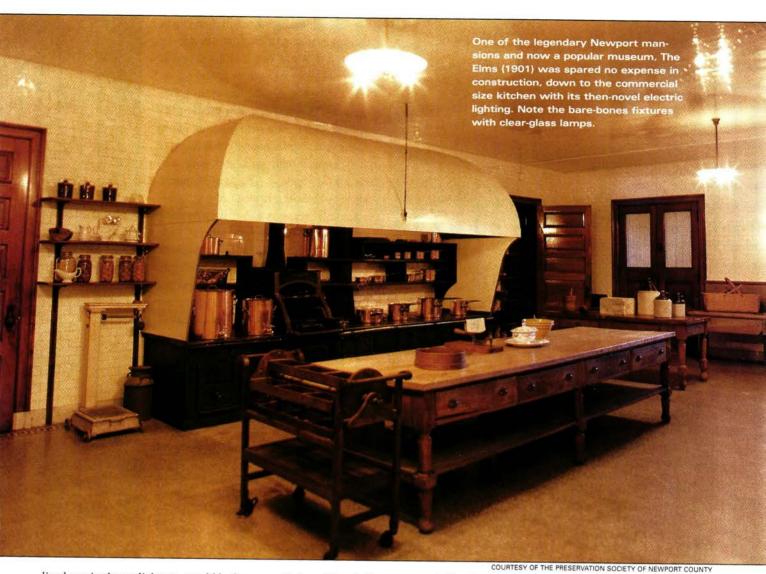


hours so the kitchen space was designed (if that could be the word) to take full advantage of natural light through windows. Artificial light, if needed, could come from a movable source, such as the kerosene lamps available to most of the country after the first oil well in 1859.

daylight

For kitchens, dedicated lighting in the modern sense was not really possible until centralized gas lighting systems became widespread in the 1880s. The mechanics of piping a house for gas service meant that a typical installation was a single fixture suspended from the center of a room or hall ceiling. If blessed with ample space or budget, walls might be lavished with one or two bracket fixtures—and that was it. Kitchens, which were typically never pubRight: Par for the 1930s, this sink relies primarily on natural light from a window, with a single incandescent fixture in a white glass shade for backup. The sink incorporates an early dishwasher.





lic places in the gaslight era, would be low on the pecking order for gas lighting, and if they did get service it would be in the form of a double drop-pendant, essentially a pipe in the shape of an inverted T fitted with burners and little or no shades. As late as 1912, gas alone was still a viable lighting option, and one tastemaker recommended that "for the kitchen ceiling an inverted gas light is very practical, finished in dull black." Though many kitchens of the era were the last spaces to get lighting upgrades, forward-thinking owners invested in gas-electric fixtures that were equipped with the up-and-coming power source, electricity.

Early Electric (1900 - 1915)

When it came to kitchen lighting, the breakthroughs that were brought by the incandescent electric lamp, colloquially

called a light bulb, were twofold. Although the light output of the first generation of lamps perfected by Edison in 1879 was indeed a great improvement over candle and oil light, it was not by orders of magnitude. When all was said and done, the pioneering carbon filament lamp was roughly equivalent in service to the new, brighter Welsbach mantle lights that were breathing new life into gas lighting in 1885, as they were no less expensive or reliable than the old standby, gas. What electricity could offer over gas was a world of flexibility. Released from the fixed energy sources of rigid pipes and the need to vent combustion byproducts a safe distance from walls and ceilings, electric lights could be placed wherever they were most convenient or most needed-the dawn of the concept of task lighting.

Ambient electric light fixtures of the 1910s often aped the T form of the gaslights they replaced. Prismatic glass shades both focused and softened the output of early lamps.

The Title 24 Challenge

Quietly and with little fanfare, the country's strictest statute for energy-efficient lighting slipped into effect in California last October. Known as Title 24, the statute, which requires 50 percent of the wattage in kitchens to come from compact fluorescent light bulbs, can be triggered when a kitchen, even one in an old house, is remodeled. To thwart potential cheaters who might later substitute incandescent bulbs, light fixtures must be hardwired for compact fluorescents, and no fixture can be retrofitted to comply with the code. Because what starts in California often has a way of spreading to the rest of the nation, no one is writing off the possibility just yet that other states could follow suit.

As their name implies, compact fluorescents are small fluorescent tubes that use only a quarter of the electricity of an incandescent light bulb while still emitting the same warm, yellow-orange glow. They don't hum, flicker, or cast harsh light in the way that standard fluorescents and earlier versions of compact fluorescents once did.

The challenge for old-house owners is finding period-appropriate lighting that complies with the regulation. Although manufacturers are adapting period designs, some styles just aren't a good fit with the statute. Especially challenging is finding a place in the spare models of early 20th-century kitchen lighting in which to hide the ballast that hardwired compact-fluorescent fixtures need. Depending on the wattage, that ballast can be a box up to 5" wide.

"Old-style gas fixtures and anything with an open shade are the hardest to work with just because of the look of the bulb," says Jeff Shay, engineering manager at Rejuvenation Lighting, which manufactures reproductions of period lighting. "Between the technical and the aesthetic issues, we may have fixtures that will not be available as compact fluorescents." So far, Rejuvenation has adapted three dozen of its fixtures to sell in California and nationwide to homeowners interested in slashing their electricity bills by more than half.

For Californians with old-house kitchens to remodel, there is a way to have period lighting and meet the regulation, too. The 50-percent-wattage rule can be met using compact fluorescents in under-cabinet lighting, freeing up the remaining wattage for an incandescent period light fixture overhead.

Carbon filament lamps (left) are the century-old ancestors of compact fluores-

This subtle improvement shows up in the progressive kitchens from the decade just before World War I. Historic photos and original kitchens show spaces set up very similar to gaslit kitchens of the previous era-that is, with one or two no-frills pendant lights suspended from the center of the ceiling to augment a room that was still designed with sinks and work surfaces near windows. The most advanced kitchens of the era, however, also incorporated wall fixtures in a few key spots along walls, not an uncommon concept with gaslights of course, but much more practical with electric light around say, the flame of cooking ranges. The fixtures themselves were invariably as functional as pots and pans: pipes or cords suspending naked carbon lamps, often in clusters of twos or threes and sometimes shielded by green glass or prismatic shades to help direct and soften the light cast through clearglass envelopes.

The Model T Age (1915-1930)

Though light fixtures in general continued to evolve through the 1910s and early 1920s, as manufacturers worked to wring ever increasing bits of light out of a succession of new and improved lamps, it was the advent of the tungsten filament lamp in 1909 (unfrosted until about 1924) that sparked a new era in light fixture design. With an output that was twice as bright as any previous lamp and stunningly whiter than the orangey glow of a carbon lamp, the tungsten lamp kicked lighting to new levels and with it new ways of use.

By the 1920s, engineers and designers devoted to the new specialty of lighting could now pronounce that this wealth of lumen opportunity might be separated into three functions: direct lighting (light directed or reflected in one direction, typically downward), indirect lighting (light reflected into the room from a hidden light source in a specialized fixture, such as an inverted bowl), and semi-indirect lighting (combinations of the two). Though direct lighting was ideal for "comfort rooms," such as living rooms, dining rooms, and dens, it was deemed inappropriate for work areas because of the potential for



Above: While the postwar period brought a sleek, industrial look to kitchens and an influx of appliances and continuous-steel cabinets, it also embraced anachronisms such as overhead lights looking much like oil lamps.

Right: The 1930s kitchen at the 1843 Knott House in Tallahassee, Florida, shows the average impact of electrification: a central white-shaded light with another over the sink, plus a plug-in refrigerator.

cents.





ANDREW COTELLIS



Inverted bowls that provided both direct and indirect light were deemed ideal for kitchens by the 1920s.

shadows. Architects and fixture manufacturers alike immediately seized upon the possibilities of indirect and semi-indirect lighting, designing applications and fixtures to take advantage of them in ways that are commonplace today but were excitingly scientific then and widely promoted.

Depression Era (1930 - 1945)

Nonetheless, at the beginning of the Depression the average residential kitchen still clung closely to the notion of a central light source. "The best kitchen light is an all-enclosing white glass 'kitchen lighting unit' mounted close to the ceiling," announced one pair of author-architects in 1932. The white glass, as well as the single 100-watt or 150-watt 'daylight' lamp it housed, was intended to approximate as closely as possible natural light to keep food looking appealing and the kitchen itself cool and clean. The only other fixtures recommended were a lone "50-watt, insidefrosted bracket" at the sink and, at most, a pendant of similar size near the stove.

In 1933, an article about household kitchen planning, published by the American Architect magazine in collaboration with the Good Housekeeping Institute, cited that for work in kitchens, "a central fixture alone will seldom suffice as it casts the shadow of the operator upon

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Though white glass globes were the way to simulate natural light, by the Depression manufacturers were brightening them up with colored bands.

the work before her." The solution then, according to the authors, was to add a coved ceiling at the cabinet line that would reflect light down to the counter or table level. Other more specific work areas could take the same tack, such as lighting the range with a fixture under or inside its own cove or a ventilating hood. Soffit lights, an idea well ahead

of their time, were endorsed for broadcasting light directly over a counter and could be placed either under upper cabinets or in a box strip where the upper cabinets met the ceiling.

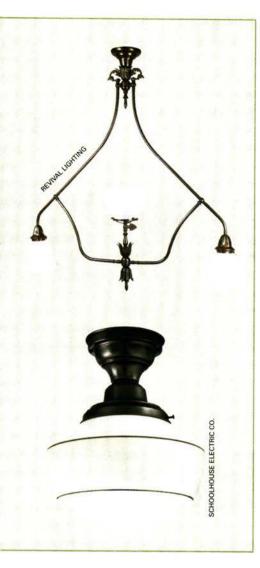
Whatever the practice, the imperative was to avoid using any exposed fixtures within normal view unless they were shielded by shades or glass. By the end of the decade, many sages of domestic planning had changed their stripes, recommending that "adequate lighting for the

kitchen should include, in addition to a semi-indirect, central ceiling fixture, a shaded light over each working area," as well as "soffit lights on the underside of cupboards."

Postwar (1945-1955)

As happened earlier in the 20th century, the post-World War II period brought with it the futuristic opportunities made possible by new materials and technologies, as well as a swell of nostalgia for earlier, less advanced times, at least as far as aesthetics were concerned. Both left their mark on the kitchen lighting of the era.

While the abstract, freeform, and "atomic" fixture shapes that began to light avant-garde living and dining rooms in the late 1940s and early '50s (see "Lights, Camera, Blastoff: 1950s Lighting," September/October 2005) influenced kitchens somewhat, the real impact was



from a new light source: the fluorescent lamp. Like plastics and other new technologies that matured quickly in service of the war effort, fluorescents really came into their own for residential use after World War II, especially for kitchens. First attempted in the early 1930s, the fluorescent lamp was touted as being as much a lighting revolution as the carbon filament incandescent lamp and the light source of the future, given that it was "an electronic device, at one with radio, television, x-ray, and the electronic eye," according to literature of the day. Indeed, industrial tube and ring shapes were quick to find a home in the postwar kitchen, with its laboratory look of manmade counter and cabinet materials. "Fluorescent lighting is especially well adapted to the kitchen," suggested a 1947 guide, "avoiding the heat of incandescent lamps," and "easily placed under wall cabinets." Though tastemakers lamented the fluorescent's limited adaptability in shapes and sizes for decorative rooms, in a kitchen empty of ornament, that was a minor trade-off compared to the advantages of copious amounts of cool, soft, economical light that intensified blues, greens, and yellows, some of the favorite colors of the day.



Fluorescent fixtures flourished in kitchens after 1945, where the advantages of cool, copious light overcame fluorescent's lack of stylistic panache.



Automotive styling was quick to migrate to 1940s and '50s lighting, especially in the form of fluted surfaces and chrome finishes.

At the same time that many kitchens embraced the clean, continuous machine appearance of America's industrial image, others, in direct contrast, turned the clock back to the innocence of an earlier handmade age. The unprecedented housing boom of the postwar period reignited America's long-running love affair with all things Colonial but in new forms adapted to the social needs of the era, such as the developments full of identical Cape Cod houses. By this logic, kitchens could naturally be fitted with wrought-iron chandeliers or sconces that shed the light from electrified candles on cabinets of knotty pine and resilient tile floors of faux brick. Or, in some permutations, the light over the kitchen table, where the family was now more likely to eat, could be a wagon wheel emblematic of that other lost American Eden: the Old West. It was a can-do time, and no matter what stylistic message you wanted to send in a kitchen, lighting manufacturers were ready to help make it happen. 🍮

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talking about cut nails, not the round-shank wire nails of today but a four-sided type that tapers to a blunt point. Machine-made rather than hand-forged, cut nails were one of the innovations that revolutionized construction by the 1830s, and they remained ubiquitous into the 20th century because of their superior gripping ability. Cut nails still hold their place for specialty applications and restoration work. You can find them in more than 20 traditional patterns at Tremont Nail (www.tremontnail.com), a manufacturer for more than 185 years. Circle 36 on the resource card.



Fasteners ost & Fou

Places to find the prosaic hardware that holds old houses together,

By GORDON BOCK

hough the category known as building hardware is based, more or less, on items made of metal, it has always embraced an incredibly wide range of products. Hardware ads of the past offered everything from screws and bolts to horseshoes and ice skates; from saws, locks, and hinges to lamp parts and plumbing supplies. An important part of the business was the strictly functional fasteners and fittings that connect the parts of a building, from simple cabinet catches to the lowly nail. Although today you may have better luck finding these products in the pages of a 1909 Sears catalog than on the shelves of a big-box store, fortunately there are still savvy suppliers ready to fill your needs.



Small things mean a lot when you're trying to finish the working parts of an old house. For instance, many locks and hinges cast in Olde English or Arts & Crafts designs won't look right unless they're attached with pyramid-head screws or spikes, and some bathroom towel bars and rings are useless without V-shaped clips to hold them to the wall. Then there's those pantry doors that won't stay shut unless you give a spin to a cupboard turn button. Not to worry. These fittings and many more are in ample supply at Crown City Hardware (www.crowncity hardware.com). Circle 37 on the resource card.

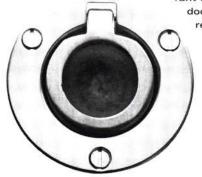


such as icebox latches were once stock items in hardware stores a century ago. A generation later, you could probably buy cabinet pulls in Bakelite colors. Today, one of your best bets for a source is VanDyke's Restorers (www.vandykes. com), with hundreds of parts as unique as bed connectors. Circle 38 on the resource card.



Often found across windows, drawers, and even trap doors, flush ring pulls provide a grasp that doesn't get in the way, and venerable manufacturer Baldwin (www.baldwinhard ware.com) carries a nice assortment. Baldwin is also well stocked with decorative hinge tips, such as the steeple design so common in the late-

19th century, and even quadrant catches for Dutch doors. Circle 39 on the resource card.





For a related story online, see "In Search of Arts & Crafts Hardware." Just click to "The Magazine" section, and go to the alphabetical list of recent features.

Counter

The workhorse of kitchens from any era, countertops have come in a wide range of materials over the past 150 years, presenting a wealth of historical options for today.

Wood in the form of wide boards is the earliest and most common material for islands (below) and continuous countertops but was also joined into blocks.



These counters (right) in a butler's pantry in Berkeley, California, are original to the house and endured a coat of pink paint during the 1950s.



hese days, the only kitchen element used more often than the microwave is your countertop; you can never have enough of it. It's where you follow recipes, chop, stir and mix, but also where you pay bills, take messages, and help with homework. Counters must be attractive and resilient, unfazed by heat, knife jabs, and countless spills. Modern countertops, such as those made of solid acrylic resin, are popular because they hold up so well, but if you live in a historic house, they can look odd and out of place. Thankfully, traditional countertop materials are still widely available and can help you create a warm and historically appropriate work surface that can

weather modern demands. The problem is that there are so many traditional materials available today that choosing an appropriate countertop for your kitchen can be the most challenging design decision you make. Stone, wood, steel, tile, and plastic laminates are all viable options, but each has strengths and weaknesses that must be carefully considered.

Wood

The universal building material in North America has always been the most common natural countertop material and is appropriate in almost every era of house. The earliest wood counters were wide boards, usually softwood but also hardwood. By the early 20th century, wood was also popular as butcher block (strips joined mechanically or with adhesive to make a solid surface). A butcher-block counter is highly practical because it can be used as a cutting surface.

Because wood is porous, counters must be kept clean and properly maintained. Wood can be particularly problematic around the sink and stove, where it is exposed to water, grease, and heat. As butcher block and other wood counters wear, often they can be easily refurbished with sanding and planing, and an application of lemon juice or diluted chlorine bleach can lighten stains. If they are not used as a cutting surface, wide-board

www.oldhousejournal.com

By Kim A. O'CONNELL Marble's cool, smooth surface was long considered the ideal place for making pastry, which explains the positioning of this marble slab atop the built-in sugar and flour bins.

counters can be clear finished; food-service-safe coatings, such as salad bowl finish, are an excellent choice.

Tile

Beginning in the late-19th century, ceramic tile was often used as a backsplash and sometimes as a countertop material valued for its durability, artful beauty, and affordability. Today's choices include glazed tiles with a high-gloss surface and unglazed tiles, such as quarry tiles.

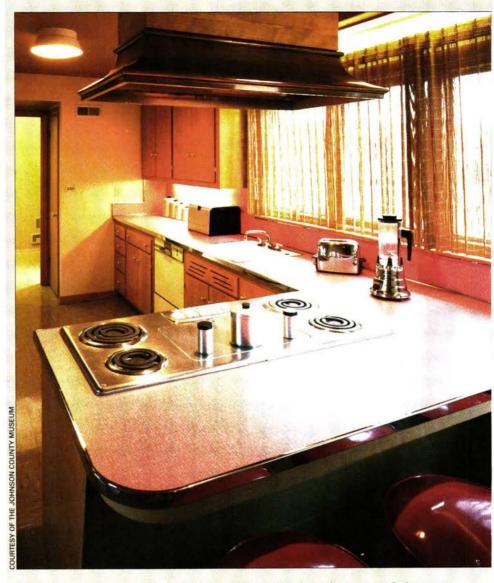
The downside of tile was and is that it can crack, and the grout can get dirty or spall out. If glass or ceramic dishes fall on tile, it will often break. Some tiles are more vulnerable than others: Glazed tile scratches easily; quarry tile can soak up spills and moisture; and decorative tile may be too delicate to use for anything other than a backsplash. Most of the problems related to tile countertops are a result of improper bedding, so of all the traditional countertop materials, the installation of tile surfaces may be the trickiest. On the plus side, damaged tiles can be replaced individually instead of the entire counter needing to be redone.

Stone

Historically, stone was a sturdy and beautiful counter material but somewhat rare. Still, it wasn't unusual for large kitchens to have a marble counter area because marble's smooth, cool surface was ideal for making bread, pastry, and sweets. Today, marble, soapstone, slate, and granite are all widely used in period kitchens.

Soapstone, first marketed for kitchens in the mid-19th century, is smooth and yet rugged, impervious to nearly all substances and chemicals. Slate is widely available in a range of thicknesses and in two general finishes: polished like soapstone and natural. Finally, granite—the most expensive type of stone used for counters—is heralded for its strength and elegance.

The drawback to stone is that it is more porous than one might expect—marble, for instance, is prone to stains and etching from acidic foods such as tomatoes—and must be sealed to prevent cracks and stains from setting in. Because of their weight, stone counters must be



Laminates were a breakthrough in durability and stain resistance, and also came in great colors, such as this red linen Formica pattern from the 1950s All-Electric House, a model home built by the Kansas City Power and Lighting Co.

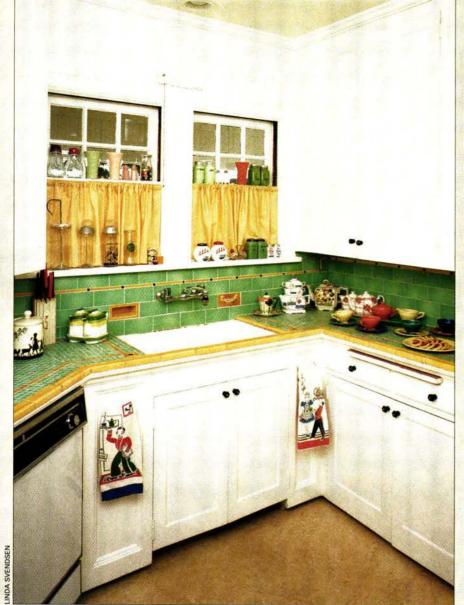
carefully supported, and base cabinets require the structural capacity to hold them. Stone is also pretty expensive to install, so some traditional homeowners might elect to use marble or granite slabs in just one section of the kitchen. Another option is to use stone tiles, which combine the look of a stone countertop with the cost-effectiveness and ease of replacement of ceramic tiles.

Metal

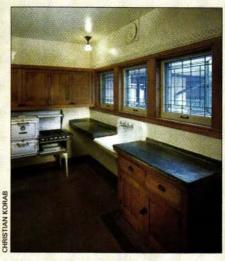
Sheet metal was a fixture in many kitchens in the late-19th century, when homeowners pumped water into wet and dry sinks lined with copper or nickel silver (an alloy of copper, nickel, and zinc). Metal soon

made the progression from sinks to countertops of zinc, tin, nickel, or galvanized iron. By the 1920s and '30s, a copper and nickel alloy called Monel became popular for counters and cabinets alike, thanks to a popular advertising campaign. Another early century option was enameled metal, which had an opaque coating fused to iron or steel that allowed homeowners to experiment with a range of colors while enjoying the strength of metal.

By the 1950s, however, Monel and other metals had been replaced by stainless steel as a popular counter alternative. Proponents of stainless-steel kitchens laud the material's near indestructibility and its ease of use and maintenance. Although



A less common countertop material, tile allowed for great expression and color combinations, such as the decor in this kitchen circa 1940, and was appreciated for its practicality because damaged tiles could be replaced individually.



Durable and beautiful, stone also has a continuous color that hides chips, as in these counters from 1913.



Metal was often used around wet areas, such as this sink of German silver—an alloy of copper, zinc, and nickel.

most people now associate stainless steel with high-tech professional kitchens, it is perfectly appropriate for a mid-20th-century house. While stainless steel can show cuts and spots over time, buffing often can reduce those imperfections.

Laminates

Plastic laminates, such as Formica, have been around for more than 50 years and can be a delightful option for a mid-century home. Laminates are widely known for their easy cleaning, decorative beauty, and resistance to water and stains, and now are easy to find in a host of period patterns. Formica, for example, was recently reissued in its iconic Boomerang pattern, and

Wilsonart can custom-replicate any pattern. Laminates suit older houses, too, especially if the material is detailed to resemble more traditional choices such as wood or stone.

Installation makes a difference in how traditional synthetics appear. Most modern installations use a self-edge treatment in which a strip of material is affixed to the front edge of the countertop. Counters from the 1940s and '50s, though, often used metal edging, which can be used today for a period look.

Since the development of the modern kitchen, counters have been an important unifying element, visually and physically tying kitchens together. Weighing your decorative needs against a material's strengths and history will help you avoid making a counterproductive kitchen installation. Fortunately, there's an array of traditional materials to choose from for today's countertops.

Kim A. O'Connell is a freelance writer based in Arlington, Virginia. Her work has been published in Preservation, Traditional Building, Eco-structure, and ArchitectureWeek, among others.





Today's linoleum is affordable, environmentally friendly, available in a rainbow of hues (left and on facing page), and also happens to be a perfect fit for anyone seeking a historic floor covering.

Laying MELESS MELESS

As linoleum returns in popularity for the eco set, creative installation steps make it the ideal flooring, once again, for period kitchens.

BY STEVE JORDAN

When my wife, Lisa, and I shopped for a floor covering to complement the newly remodeled kitchen in our 75-year-old house, we discovered that linoleum was the perfect fit. While some people might dismiss this old-fashioned material as quaint, I knew that history had proven its durability. Because the color in linoleum goes all the way through the material, the design won't wear off. Also, linoleum is neither brutally hard like the commercial vinyl tiles in our last kitchen nor soft enough to be cut by falling utensils (like our parents' padded vinyl floors, which ruptured into wounds at the drop of a knife). Linoleum has other pluses, too. It didn't remind us of

the cheesy sheet flooring we had grown up with, it isn't prohibitively expensive, and it provided the historic appearance we were looking for. Maybe best of all, linoleum is a green product, both hypoallergenic and biodegradable. It even smells good, like the linseed oil from which it is made. While manufacturers suggest that linoleum be installed professionally, we decided to tackle the job ourselves. It proved to be a manageable undertaking, without any major snafus. Here's how we did it.

Getting Started

We knew that we wanted our floor to look historically accurate, with tiles as close as possible to 9" square, the size that prevailed the first half of the last century and

STEVE J



A few tools are all you need to

squares, we had to start with a special order, asking the company to cut each 20" square to yield four 10" tiles.

Our next task was to prepare the floor. For any resilient flooring installation, the substrate must be as secure, seamless, and smooth as possible to avoid joints or moving boards that will show up as blemishes in the finished floor over time, and this rule is doubly true for a material as soft and conforming as linoleum. The standard practice is to lay smooth-faced 1/4" Lauan plywood over the subfloor, fastening the sheets every 6" or so with ring-shank nails with all joints staggered. Because our sub-



floor was new tongue-and-groove plywood that had been carefully glued and screwed to our old floor, I decided this surface would be smooth enough if we went over any imperfections with polyester filler and a good sanding.

Experience had taught me a few preparation tricks to help with edges later. I knew to leave the kick boards off the cabinets so that we could extend the linoleum slightly beneath them for a seamless finish. I also undercut the door casings at the floor, so that we could slip the tiles under the trim for a perfect fit. At the walls, my 1/2" shoe moulding gave me 3/8" or so of wiggle room for any less-than-perfect measurements.

Choosing a Pattern

Linoleum tiles offer many patterns to choose from to create a floor design. For example, you can lay tiles in even rows that are square to the walls, set them diagonally to create a diamond design, alternate the grain—that slight marbling characteristic of linoleum-from tile to tile for a basket weave effect, or alternate it in rows of tiles to mix things up a bit. You can zigzag tiles in different colors or form a solid field bordered by a contrasting shade. It's even possible to inlay a hand-cut design for an infinite variety of original floors (see "Inlay Terms," January/February 2004).

We chose to lay our tiles in two contrasting colors, blue and green, alternating them in a diagonal pattern across the kitchen. Though a diagonal plan is a bit more demanding for laying out and for cutting materials, it tends to be more interesting and makes the room appear larger, at least to our eyes.

Before committing to the pattern, we mocked it up first by cutting construction paper to the approximate size and color of the tiles and laying it across about a quarter of the floor. This exercise helped us 1) judge whether our color choices were too bold or just right, 2) compare the diagonal plan to laying tiles square to the walls, and 3) see how the tiles could be laid most efficiently, especially where they met walls and cabinets. Making the best use of every tile was important because we did not want to have



The subfloor should be as smooth as possible. Wearing a protective mask, Lisa (above) sands blemishes that were plugged with a polyester filler. The technique formed an almost perfect subfloor, but a few small seams eventually telegraphed through, which Lisa points out to Steve.





STEVE JORDAN

Popping a car-

penter's chalk

to center the

the floor and

keep tiles in

Carefully wig-

gling floor tiles

them (left) helps

seat them in the

as you place

adhesive.

alignment.

pattern across

line (above) helps

to order another \$250 worth of materials simply to gain a few more tiles in each color.

Setting to Work

With the floor as clean as possible and our supplies-adhesive, notched trowels, straight edges, razor knives, rubber hammer, duster brush, and rags-right at hand, we got to work. First we laid out the installation by popping a few carpenter's chalk lines to guide us. We began the layout by calculating the center point of the pattern in the room, which was important for two reasons. In our case, we wanted to bisect the door opening from the dining room to create a pleasing appearance with the tiles, and evenly proportioning the pattern in the room would allow us to employ the tile cut-offs (half pieces) on the opposite side of the room, or in every other row on the same side.

Once we were satisfied with our lay-

Linoleum was patented in England in 1863 by Frederick Walton, a rubber manufacturer, as an inexpensive alternative to tile or

NOW!

A RESILIENT HISTORY

masonry floors. The original formula included linseed oil, wood powder, ground cork, and pine resin that were adhered to jute backing. Because the flooring was based on flax seed oil, Walton named his invention for its Latin roots: linum for flax and oleum for oil. The product was improved over the years, and because the color and pattern extended all the way through the material, it was durable, popular, and sold for more than 100 years. Simulating mosaic and encaustic tile or even area rugs, linoleum was used as a wall-to-wall floor covering and also as an area covering in kitchens, dining rooms, living rooms, bedrooms, and closets.

Linoleum was always a highquality product, and during its heyday from about 1900 to 1950, the color combinations lay the tile that's worth your while...

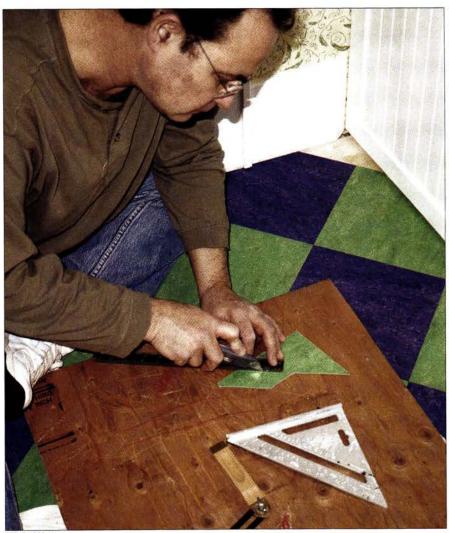
genuine INLAID LINOLEUM

Assert

Linoleum peaked between 1900 and 1950, when advertisements touted its easy maintenance, durability, and fun colors (above). Initially, tiles were produced in three patterns: granite, marble, and jaspé. Possible floor combinations (below) were endless.

were endless. Installers attended schools to master the numerous techniques required to design, install, and inlay the materials to meet exacting customer expectations shaped by highend examples seen in popular magazines. Unfortunately, linoleum became so popular that it spawned many cheap imitations, usually surface-printed products that required frequent waxing or varnish to protect their fragile finishes. Thus, like Kleenex, the name linoleum became used ubiquitously, and its identity was cheapened by inferior imitators. By the 1970s, various petrochemical-based flooring products were perceived as more modern and lower maintenance, and had surpassed linoleum in sales, which put an end to U.S.-based production. Since the 1990s, however, linoleum has gained a new market for its environment-friendly qualities, leading to increased availability of products from Europe, where it has never

for its environment-friendly qualities, leading to including ability of products from Europe, where gone out of production.



STEVE JORDAN

Careful cuts (above) and some basic knowledge of geometry are all that's required to fit edges seamlessly. Handy tools are a framing square and a carpenter's profile gauge for measuring unusual angles.



out lines, we began setting tiles. First we spread about two square feet of special linoleum adhesive with a notched trowel, then carefully placed about four tiles, lining them up as straight as possible while trying to keep the mastic off their surface. If we did get adhesive on a tile, we quickly wiped it off with a cloth and a little water. (You can remove mastic after it's dry with mineral spirits.) When we had four tiles laid to our liking, we pounded them down soundly with our rubber hammer to set them and moved on. Occasionally, we turned a pattern in the wrong directionit's easy to do this after staring at tiles for awhile-but they were easy to pull up and reset. If, however, you have to remove tiles the next day, insert a stiff putty knife under the tile and slowly work it loose.

Our biggest challenge was keeping the lines straight. Because our specially cut tiles didn't come from the factory, they had slight variations in their dimensions. Consequently, we sometimes had to fudge the alignment of individual tiles in order to keep the row looking straight. Overall, laying the field tiles was simple and fast, which is a good thing because you want to work expediently once you apply the adhesive, or it will begin to set up.

> Removing the cabinet kickboards before installation allows the placement of tiles beneath them (left), making for a perfectly finished floor edge after the job has been finished and kickboards are back in place.

We took extra care cutting the edge tiles because we had ordered only enough linoleum to finish the floor. If we made too many mistakes, we'd have to buy two more boxes of materials, one in each color.

We had only one out-of-square wall in our kitchen, and here we used a carpenter's bevel gauge to copy the angles. A bevel gauge is useful for all cuts if the room is slightly or significantly out-of-square.

As for pipes, we measured, cut the hole, and then made another cut to the edge of the tile so it could be carefully maneuvered around the pipe. We cut the tiles with a sharp razor knife while they were placed on a board, using a carpenter's speed square or framing square as a straightedge. You could use a carpenter's profile gauge to measure weird or unusually shaped (not straight) areas. A sharp rasp was fine for cleaning up minor imperfections on tile edges and for making minor adjustments. Knee pads are handy to have too, but we used a gardener's foam knee pad.

In the end, we ran out of tiles as the project neared completion and had to use various scraps under our refrigerator. Manufacturers recommend not walking on the floor for about three days to allow it to set completely, but you can lay plywood over the floor and walk carefully.

Our floor has held up great. After five years of extreme wear with two young children, two sloppy adults, and an 80-pound dog, we're still pleased with linoleum's durability and patina. Whether it is dull with wear or shiny from a fresh cleaning, our floor is always beautiful and a delight to walk on. Sometimes, it's the tried-and-true, low-tech solutions that are the best fit for old houses, and sometimes, the answers are right under our feet.

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For related stories online, see "A Clearer View of Floor Finishes," "From Roofing to Flooring," "Inlay Terms," "Old and Underfoot," "Removing Linoleum Glue," "Soft Shoe'n," and "Wood Flooring Q&A." Just click to "The Magazine" section, and go to the alphabetical list of recent features.

WHERE TO FIND IT

Currently, there are three companies manufacturing linoleum: Forbo, based in Europe; Armstrong, which operates in the United States; and Tarkett in Canada.

The color palette is extensive—Armstrong's Marmorette and Granette lines alone come in 58 shades.

While linoleum in its first wave of popularity was a residential product, today it is predominantly put to commercial use in places such as schools, hospitals, and showrooms. For this reason, most linoleum is sold in large sheets that require cutting and installation by specialists. That's why it can be hard to find someone knowledgeable or enthusiastic about linoleum at your big-box home improvement store. However, it is becoming more user-friendly for do-it-your-selfers. For example, Forbo now offers precut squares, and in 2005 the company introduced a product called Click, linoleum squares on an HDF board with a cork backing that fit together tongue-and-groove style. It's also possible to find accommodating suppliers who will take sheets or large squares and cut them down to size for you.





Before becoming a house museum, Tudor Place was home to one family between 1805 and 1983. Multiple renovations, including a full-scale modernization of the house in 1914, made it difficult to pinpoint an appropriate period for restoring the kitchen.

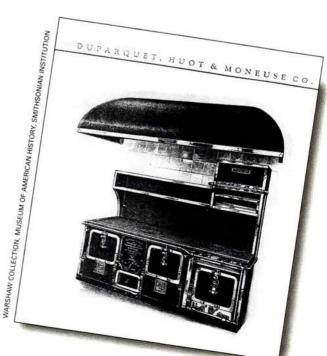


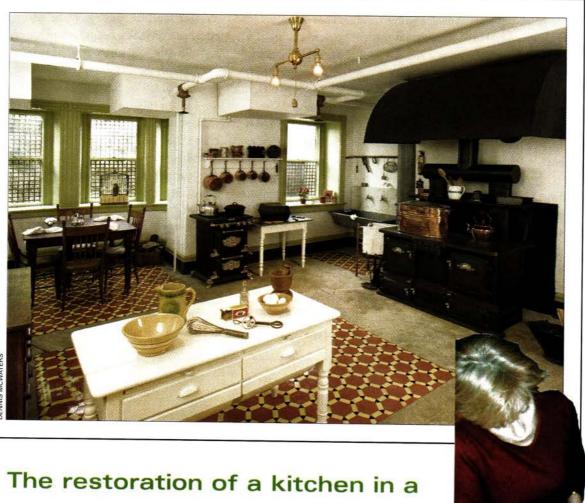
Ecisions

By CATHERINE SISKOS

Tudor Place's 1914 kitchen had a Duparquet gasand coal-fired range that was replaced in the 1960s. Blackburn Restoration will recreate the stove using original parts and materials.

ike patients in critical condition, old houses under renovation have a way of raising tough questions. The situation was no different at Tudor Place, where efforts to restore the kitchen first began a year ago. Built by Martha Washington's granddaughter and completed in 1816, Tudor Place sits so high on a Washington, DC, hillside that the house's original inhabitants could watch the Capitol building burn more than two miles away at the hands of the British in 1814. Aside from the illustrious family connections and grand Federal-period architecture, what made the house especially significant was





The 1910-1925 kitchen at Maymont in Richmond, Virginia (left), helped Ann Steuart and Leslie Buhler (below, from left to right) envision how Tudor Place's kitchen might have looked. Studying architectural plans from the 1914 renovation supplied details about the room's fixtures.

house museum raises questions and solutions that will resonate with many old-house owners.

that it had been owned and occupied by one family, the Peters, for nearly 180 years before becoming a house museum in 1983. "The house is a window onto 200 years of American history, not through the eyes of famous people but ordinary people," says Tudor Place's executive director, Leslie Buhler. "You can talk about domestic life and national events in the same breath."

No room at Tudor Place was more ordinary than the kitchen. Tacked onto the house's west wing in 1876 and then remodeled in 1914, the kitchen had the stark simplicity typical of its day. With windows on two sides, the room formed a square that contained a built-in china cup-

board from the original 1876 kitchen, two sinks (one at each end of a single L-shaped counter), and centered against the west wall, a massive gas- and coal-fired Duparquet stove. Except for the china cupboard, all of the 1914 fixtures were replaced with gleaming stainless steel counters, new appliances, and an elaborate range hood, built to vent through the roof, when the kitchen was remodeled a second time in 1960. Over the years, however, water leaked from outside, where the range hood penetrated the roof, to damage the walls and ceiling, but that was just the beginning of the problems that were uncovered as the restoration was under-

way. More disturbing, the leaks had led to the scourge of homeowners everywhere termites—and the damage extended from the floor to the rafters. "You could literally pull out sections of the roof joists. They were like tobacco leaves, old brown strips that the termites had completely chewed away," says Ted Eayrs, a partner at Blackburn Restoration, the company brought in to restore the kitchen.

In an instant, the project had gone from remaking a kitchen so that it was historically appropriate to saving the structure altogether without putting the rest of the house at risk. In an effort to strike the right balance between preservation and renovation, Buhler and curator Ann Steuart found themselves grappling with many of the same dilemmas that sooner or later confound all old-house owners. Although the kitchen is still far from restored, the decisions that Buhler and Steuart were forced to make can provide old-house owners everywhere with insight about how to handle their own trouble-some restoration questions.

Which Historic Period?

Long before the termite damage was discovered, Buhler and Steuart ran into a more basic dilemma: Which historic period should the kitchen represent? Tudor Place spanned nearly two centuries of family life, and for much of that time the kitchen was housed in a portion of the house that later became a servant's dining hall and butler's pantry. Nothing remained from that pre-1876 kitchen.

Turning the clock back to 1876, when the kitchen addition was built, seemed logical except for two glaring concerns: There was little documentation to support how the kitchen looked then, and the entire house's infrastructure, including the kitchen, had been completely modernized in 1914, with new electrical wiring, plumbing, and fixtures. Buhler and Steuart had a treasure trove of architectural drawings, family papers, even receipts for the fixtures, all from the 1914 renovation. They could identify the kitchen sinks down to the dimensions, year, style, and

The 1914 floor plan indicates that the china cupboard, the only remnant of the 1876 kitchen, shifted position so that it was centered against a wall. The square in front of the Lshaped workspace marks the cistern's location in the floor.

manufacturer (Motts Pierrepont, nickel plated with roll rims). They knew that the hearth was red-painted cement and laid on a concrete base, and that the chimney had terra cotta flue linings. They could even identify the overhead light fixture, an E.F. Brooks gas and electric chandelier.

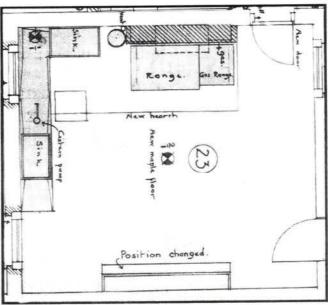
While fixtures could always be changed to represent Steuart's best guess for how the 1876 kitchen looked, the infrastructure could not be undone. "We could not go back to 1876 without doing major deconstruction," says Buhler, who decided to restore the kitchen to 1914 instead.

What Goes and What Stays?

When it came to saving the termite-damaged structure, however, determining an appropriate historic period was the least of Buhler's worries. After Eayrs and his colleagues from Blackburn Restoration removed the 1960 range hood, he discovered that everything behind it had rotted, and the roof joists weren't even making contact with the west wall; using a probe, Eavrs could tap the metal roof from inside the kitchen. Meanwhile, the range hood that protruded through the roof had created angles that trapped water. Compounding the problem, the roof had been constructed of copper and iron, and where these metals met, galvanic action had occurred, accelerating the roof's corrosion so that moisture had a way in. It was a subtle problem that had created an ideal environment for termites to thrive.

The situation wasn't much better when Eayrs picked up the 1960s tile floor, which was laid over Masonite and had replaced the original 1914 maple flooring.





This photograph of the back of **Tudor Place** was taken shortly after the 1876 addition of the onestorey kitchen, part of which is visible at the far right. The two-storey, hipped-roof structure adjacent to the kitchen housed the butler's pantry and a servants' dining hall.

Although the floor was built over a crawl space, no subfloor existed beneath the Masonite, and at one end, a cistern had been used to store water before the kitchen had indoor plumbing. Here, too, the moist environment contributed to termites, and the joists, like those in the ceiling, had rotted. Eayrs believed that the problem predated the 1960 renovation, when the termite-damaged floor beams were supported rather than replaced. "The floor was profoundly unsafe, and certainly I couldn't have recommended that they continue to retain the beams," says Eayrs.

Not everyone agreed. Buhler had consulted a slew of experts, from historic conservationists to restoration architects, along with directors at other house museums and Tudor Place's own advisory committee, which had to approve any changes Buhler made. You question "how much should you destroy, and you want it to be a consensus," says Buhler. At least one of the directors from another house museum thought Buhler was making a terrible mistake by electing to replace all the joists in the roof and floor as recommended by Eayrs and Jeff Baker, a restoration architect with Mesick, Cohen, Wilson, and Baker.

But safety and limited finances concerned Buhler. "We knew people would be walking through here on house tours," she says, and Buhler didn't want to spend money shoring up the beams when the odds were high that the issue would need to be revisited at a later date. In any case, the beams would be hidden behind a new floor and a plaster ceiling, giving her more freedom to change structural elements that would never be visible anyway. Also, keeping the structure dry was paramount, because where there was damp, there would surely be termites. In the end, it was okay to sacrifice individual historic components if it ensured that the overall structure remained viable.

Modern or Authentic Materials?

One consolation for sacrificing the beams was that their construction was nothing exceptional. "The building technology in 1876 was not that far off from the technology used today," says Baker, who recom-

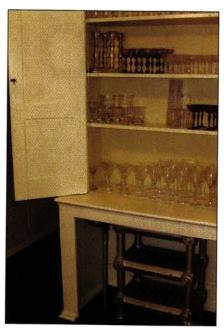


Built-in china cupboards (left and below), similar to those in the kitchen, line a wall in the butler's pantry. Historically, most cabinetry was found in the butler's pantry rather than in the kitchen.

mended using a combination of old and new materials as replacements. In the floor, the cistern will be drained, the area left to dry out before being filled with gravel, and the roof drain lines redirected so that water won't continue to flow into the cistern. The contractors will build a subfloor of pressure-treated plywood and lay a new maple floor on top. While the new floor beams will be yellow pine and treated with borate (an eco-friendly termite repellant), the roof joists, which were originally oak, will use hard pine salvaged from old mills-wood that is denser than modern material and more resistant to rot.

Compared to the rest of the structure, the interior walls, including the china cupboard, were in good condition. The walls, which consist of plaster and then a canvas covering material (possibly used to create a more uniform surface that was easier to clean), will be stripped of the fabric and then repainted an off-white color identified from paint analysis.

As for the roof, the cause of so many of the room's structural problems, Buhler is taking no chances. It will be replaced with one metal, copper, and even the joists will be capped in copper to keep moisture out. That may be inconsistent with the original construction, but ultimately, says Baker, "We want to perpetuate the structure, not its failures."



The metal contraption lurking beneath the china cupboard may look like a radiator but, in fact, it's a plate warmer.



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Improving
a house's
thermal
efficiency
starts with
using the right
materials
and methods
in an unfin-

Insulation from the Top

riends tease us a lot about what it must cost to heat our 225-year-old, Federal-style home, not because their teeth chatter while they sit in our parlor, but because old houses are notorious for drafts and escaping heat. While it's true that our house has plenty of air circulation, my husband Peter and I are comfortable throughout our Maine winters (and our fuel bills are not that bad), because we have taken steps to address energy drains while protecting the historic elements that give our house the character we love so much. One way we did it was by adding insulation in our attic.

Ideally, all areas in a house that are susceptible to heat transfer should be insulated for maximum energy efficiency, but that's a luxury when you're working on a finished building, especially an old house with many idiosyncrasies. Though adding insulation to an unfinished attic is one of



By Noelle Lord

The dimensions of the bays (voids) between joists usually determine the amount of attic insulation, but it's possible to add more by raising the floor on furring.



Left: Insulating an unfinished attic floor is a low-tech and relatively simple process, but for best results it's critical to understand the principles, materials, and your house before you dive in.





Top: Never bury lights or old wiring under insulation. Above: We saved the hand-wrought nails from our attic floor for reuse.

the most popular home improvements, installing it incorrectly or using inappropriate materials can have adverse consequences because insulation changes the way heat and moisture behave in a house. Before jumping on the attic insulation bandwagon, take the time to select the right products and install them under the right conditions so that you get the results you want without unexpected consequences.

The Right Stuffing

Before buying any attic insulation, assess your needs. First, measure the depth of the floor joist space. That depth determines not only the thickness of the insulation you can accommodate but, more importantly, its R-value—that is, the material's thermal resistance or insulating ability. Different insulating products with the same thicknesses can have different R-val-

ues and be different to work with. You want insulation that fits the joist space snuggly and has the highest possible thermal resistance. Experts recommend using insulation that ranges from R-38 to R-60 for attic floors, but that may not be possible in an old house. In our case, the joist space measured about 9" deep, which only allowed us an R-value of 30 for an 8"-thick fiberglass blanket roll, unless we wanted to raise the floor.

When we installed insulation in our attic recently, our first task was to pull up the 200-year-old, ship-lapped, wide pine floorboards so that we could access the joist bays underneath and evaluate the project. We began by carefully removing the nails using various hand tools, such as a flat bar, cat's paw, hammer, and nail puller. Lift the nail a little bit at a time so that you don't damage the wood. Sometimes, a particularly stubborn nail

requires that you pry the board through the nail, but try to avoid that. When the nails are out, lift up the floorboards and begin planning your installation.

While you can add to existing attic floor insulation, it pays to carefully inspect what's there first because it may make more sense to clean out entire cavities and install new insulation. To block heat flow, insulation must capture air, so any matted material is probably ineffective. Previous work on wiring or other mechanical systems also can leave the insulation coverage inconsistent, and nesting pests can ruin entire areas.

All thermal insulating products operate on the same principle: They resist the transfer of heat as it moves from warmer to colder areas either by circulating air or by conduction through solid materials. In unfinished attics, fiberglass blanket rolls work well because they are flexible, easily

molded, and sized to accommodate standard rafter, floor joist, and stud wall spacings, which is why we chose it for our project. To be effective however, fiberglass must keep its pillowy loft and not be exposed to high-moisture conditions such as a damp basement where the material will become compacted if it gets wet, negating its insulating value.

Other insulation types suitable for attics are more purpose-specific. Rigid board foam insulation is designed for use where space is at a premium and you need the greatest possible R-value per inch. Though relatively expensive, this material is popular for insulating below grade or in moist conditions. We added rigid foam insulation to new plaster walls and ceilings when there was not enough depth (or ceiling height) for fiberglass, and to an attic trap door to prevent heat from escaping.

Small or drafty areas may be candidates for spray foam insulation, which is primarily intended for use around utility service holes or plumbing, and for closing any gaps where boards or foundation materials meet. There is a commercial spray foam insulation that can be applied to large areas—for instance, replacing fiberglass in stud-wall cavities. Spray foam is fairly permanent, so don't spray it on unless you're sure of the location.

In the past, blown-in insulation was the type most associated with old houses for the simple reason that it could be installed without opening up walls beyond a few strategic holes, but it is not without shortcomings. The problem is that blownin insulation was designed for modern buildings with predictable, 16" on-center 2x4 framing, whereas old houses often have unpredictable and odd-sized spaces in wall framing, making it difficult to direct the insulation where it needs to go. For example, the large, open cavities and cross-members of timber-frame construction or even early "stick built" framing, along with the haphazard placement of fire stops (blocking) and the potential for back plastering (a second coat of rough plaster inside walls), produce too many potential impediments for a good installation. These building-specific construction methods also don't facilitate consistent coverage,

which means an installation with unpredictable R-values. As a result, you may not be getting what you paid for.

Even in the best of installations, blown-in insulation eventually settles into the larger cavities, leaving no insulation higher up in the walls where heat tends to escape most. The bulk of the insulation then becomes compressed on lower portions of the wall, changing the dew point of the moist air as it leaves the building (see illustration below). The condensation that results from this change in dew point further compresses the insulation, trapping moisture, which can lead to rotting wood. If you think you need blown-in insulation, discuss your house's structural design with an installer experienced in working on old houses.

Keeping Moisture in Mind

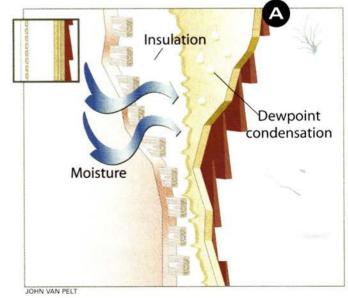
Whether you're insulating an unfinished attic or an entire house, insulation and ventilation go hand in hand. Daily activities, such as showers, laundry, cooking, and even watering plants, pump moisture into indoor air, and wherever you insulate you are at risk of trapping that moisture, which can lead to rotting wood and peeling paint. Two ways to deal with these potential problems are 1) limiting as much as possible the amount of moisture that



PETER LORD

The Value of Vapor Retarders

Adding only insulation to a wall (A) keeps the exterior sheathing colder than the living space. As it migrates through the wall, moist air reaches its dew point-the point at which vapor turns to water-and condenses on the sheathing. Including a vapor retarder (B) limits moisture migration, while a vented void exhausts any moist air that sneaks through.





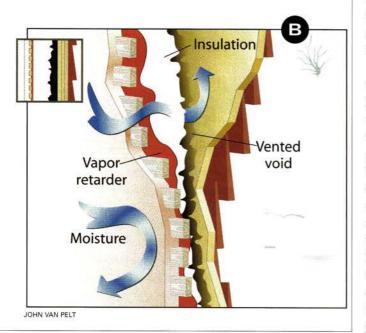
Below: Spray foam insulation from cans worked well for sealing gaps in the building, as well as around pipes, thereby blocking both air flow and heat transfer.



ETER LORD



PETER LORD



can enter insulation from the living-space side and 2) ventilating the non-livingspace side of the insulation so that moisture has a path out of the building.

Unfinished attics are key areas for ventilation. Of course, you want to prevent heat from escaping into your attic-that's why you're insulating it-but you also want to provide the warm air and the moisture it carries with a way to get out. These days, this goal is accomplished by creating a path with a combination of eave/soffit vents at the lowest edges of the roof and a continuous ridge vent along the top of the roof (see illustration on page 77). Gable vents installed in the peaks of the gable ends will also work if sized properly. As you insulate an unfinished attic, it is critical to never block this path by clogging the tight spots where rafters meet the

Above: Cut fiberglass batts with a razor knife and a straight edge by working from the vapor retarder side if there is one (we used unfaced insulation).

A Guide to Insulation Terminology

Insulation has its own vocabulary, particularly for the different types of materials available. Here's a brief description of each one.



Fiberglass blanket rolls, the most common type of insulation, are fine strands of glass layered in fluffy batts that trap air. With an average R-value of R-3 per inch, fiberglass blankets come in various thicknesses as well as

widths that accommodate spacings for rafters, floor joists, and stud walls.



Rigid foam insulation is airentrained plastic formed into sheets, with values ranging from R-3 to R-7.2 per inch. Because of its density and hardness, the insulation has a higher R-value per inch, making it more resistant to air and water vapor, but it also costs more than fiberglass.



ANDY OLENICK

Spray foam insulation comes in a can with a straw applicator so that you can reach into crevices. Easy to work with (although it expands quickly), the foam cures once it is sprayed in place to become a closed-cell system that air can't penetrate. Spray foam has an average R-value of R-

5 per inch, higher than fiberglass or cellulose products.

Blown-in insulation is loose material installed with professional air blowers through injection holes, usually from a building's exterior. At one time, insulation consisted of loose vermiculite, a naturally occurring mineral that frequently contains a form of asbestos. Today's installers



use fiberglass or cellulose particles with R-values of R-2.5 to R-3 per inch, which are comparable to fiberglass rolls.

Vapor retarders are treated papers, plastic sheets, and metallic foils that inhibit the passage of water vapor and are used to keep moisture from migrating into insulation and associated parts of the building. walls with insulation. One way to avoid this problem is to add rafter vents, foam or plastic air spacers shaped like a W that fit between insulation and roof decking to ensure a ventilation path away from your soffit vents. In our house, we used foam.

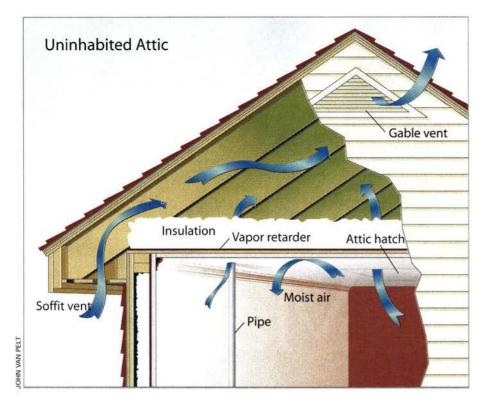
The way to limit moisture migration in the first place is to incorporate some sort of vapor retarder (see illustration on page 74). Fiberglass batts and rolls, as well as rigid foam insulation, can be purchased with a vapor barrier on one side, or you can buy it separately. Vapor barriers must be installed facing the heated part of the house and never sandwiched between insulation layers or they will trap moisture. Barriers should be continuous, with no holes or open seams, to work properly.

When insulating an unfinished attic floor, you won't have the option of using a vapor retarder if you are covering an existing fiberglass blanket or layer of loose-fill



The finished installation shows how we had to cut batts neatly to fit the odd joist spacing of our timber-frame attic in order to avoid creating gaps.

insulation, but you can use a vapor retarder if you are removing the old insulation or none exists. The good news is that the most continuous vapor retarder in any old house is usually the multiple layers of paint covering the walls and ceilings. Low-permeability paints, such as oilbased primers, and wallpaper that has a plastic layer work best. In our attic, we chose not to include a vapor barrier



The key points for insulating an attic floor are 1) maintaining a ventilation path in from the eaves and out through the roof ridge or gable, making sure not to block the tight spot atop the wall, and 2) blocking all moisture paths into the attic.



because the timbers and gaps made it impossible to achieve a continuous seal. Instead, we are depending on our painted ceilings to retard vapor movement.

As a general rule, when installing a vapor retarder experts recommend one square foot of free vent area per 300 square feet above the floor area. When no vapor barrier is present, the recommendation is one square foot of free vent area for every 150 square feet of attic floor.

As you install new fiberglass insulation, don't crush or cram it into a space because that reduces its effectiveness. The insulation we worked with was precut to fit nicely into standard 16" on-center modern framing joists. Of course, that didn't apply to our old house, which is timber-framed, so we cut pieces to fit with a utility knife. Use a guide against the joists as you custom-fit pieces.

Because an unfinished attic ready for insulation will have everything open and visible, it's a good opportunity to update any wiring; you should never insulate over wiring that is frayed or has worn-out coverings. If the wiring runs through joists perpendicularly, cut the insulation to fit around it. In our case, the wiring in our house was installed so that the insulation could go over and up against the ceiling light fixture with no problem.

There should be a metal fire stop around the chimney at its entrance to the attic. If none exists, have a mason install one. Building codes and insurance companies require wood to be 2" away from masonry. Fire stops are usually L-shaped, and the fiberglass should be laid up to the vertical part of the L.

Once the installation is complete, fasten your floorboards back into place. If the boards are tongue-and-groove or shiplapped, you can lay them down un-nailed for easy access in the future or secure them with power screws. Our final step was to install rafter vents from the soffits up 5' or so, with rigid foam over them to minimize the problems we'd had with ice damming. We are also building an insulated trap door that will seal off the top of the full stairway that leads to the attic. Even though we couldn't attain ideal R-value standards, we are thrilled that the ice damming on the roofline is gone and our house is noticeably warmer. 13

Noelle Lord operates Old House C.P.R., Inc. (www.oldhousecpr.com) with her husband, Peter, and specializes in restoring historic surfaces. She writes from her own old house in Limington, Maine.

Plug It Up

Persistent drafts only undermine efforts to insulate a house. You can plug up the leaks in several ways by 1) installing storm doors and windows and then weather-stripping around them, 2) sealing gaps in structural and foundation materials with caulking or spray foam, and 3) limiting draw from chimneys and attic access. Windy days are the best time to evaluate leaks. One easy method for detecting them is to light an incense stick and hold it in front of various areas and openings. Drifting smoke indicates that there's a draft.



For related stories online, see "All Wrapped Up" and "The Ins and Outs of Insulated Windows." Just click to "The Magazine" section, and go to the alphabetical list of recent features.

At the **ea** of the Matter

s my husband Todd and I walked through the circa 1900 two-family home in Staten Island, New York, we were bowled over by its many classic old-house features. We loved the pocket doors and plaster medallions, and we'd been longing for beautiful woodwork and a welcoming front porch. Of course, the house came with some less charming details, too: crumbling plaster, sagging floors, and a general air of neglect, all owing to its long history as a duplex rental. There was also an odd feature: a kitchen stove housed inside a fireplace. While the stove arrangement gave us pause (twice in fact, because the setup was the same in both kitchens), at 3,700 square feet, the house offered the space we had been looking for. Undaunted by the challenges it presented, we decided to buy it but might have reconsidered if we knew then how vexing and inconvenient that stove arrangement would prove to be.

As Todd and I started fixing up the first-floor rental in preparation for a tenant, we labored over how best to update the kitchen to maximize the storage and counter space. As with many old houses, there were many entryways to the kitchen (three doorways, to be exact), which cut down on usable space. There was also just one cupboard beneath a pair of windows Renovating an old kitchen around a fireplace results in a radical solution.

and one built-in china cabinet. We both where to put them.

agreed we wanted to add as many storage cabinets as possible. The question was doors, and maintain a passage through the room. In the end, we kept the stove where it was, in the fireplace, and worked in as many cabinets as we could—by the sink, on the walls, and one deep, pantry-like model beside the fireplace. We weren't really happy with the result: an improved kitchen with less space, a poor floor plan, and a stove where someone could bang an elbow while removing a hot pan.

the fireplace or built cabinets around it, we

were going to lose a lot of square footage in a small kitchen because of the clearance

needed to open and close stove and cabinet

We were determined to do a better job renovating our own kitchen. We had learned a lot from our experiment in

the rental, which



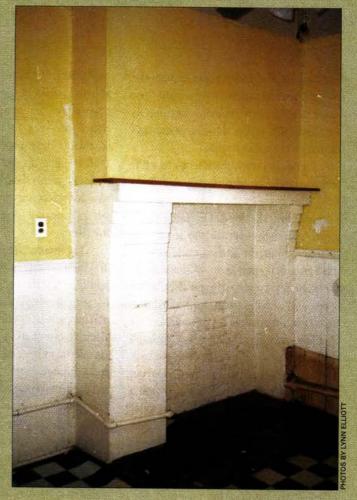




Lynn Elliott's duplex house in Staten Island, New York, harbored plenty of historic charm, but its unusual kitchen setup-a stove positioned inside a fireplace in both kitchenscreated restoration challenges.



Lynn and Todd (at left) were carefree homeowners before the kitchen work began. They decided to leave the stove it in its quirky setting for the tenant kitchen (above), but worried about its functionality.



After much debate. Lynn and Todd realized the only way to create a better floor plan in their kitchen would be to remove the fireplace. Emptied of its ill-fitting appliance, the fireplace awaits demolition.



was a mirror image of our own kitchen, and realized the renovation of the second-floor space would have to be more extensive. So we went back to the drawing board and examined our options again.

Could we switch the kitchen to a different room? The idea was doable. Todd thought it might be the best way to go, but I couldn't bear the thought of losing a bedroom, especially because the space that housed the current kitchen could only be used as a den (thanks to all those doorways). Because our apartment already had a den and a living room, we needed that bedroom, not another common area.

We considered expanding through one of the doorways into the enclosed back deck and stairway. I favored this idea, but Todd pointed out that we wouldn't gain a huge amount of space and that because we'd have to hire a contractor to do a portion of the work, the whole thing would be a budget buster.

Desperate Measures

In desperation, I started thinking the unthinkable: Remove the fireplace. I reasoned it would solve all our problems in the kitchen. Without the fireplace, we'd be able to install cabinets in an L shape and have room for an island. When I mentioned the idea to Todd, he thought it would be even more work and expense than opening up the kitchen to the back deck. I quickly backed off. As someone who considers herself preservation-minded, pulling out a historic feature was unsettling.

The thought, however, began to play in Todd's mind, too, so we looked at the pros and cons of leaving the fireplace intact. The biggest advantage, of course, was that it was a fireplace. Who doesn't like a fireplace, particularly one that's original to the house? Our desire to keep the fireplace was rooted in all those romantic notions everyone has about them: visions of sitting in front of a crackling fire, warming ourselves on a cold night, and using the hearth as a dramatic focal point in our kitchen.

Then we acknowledged a sobering reality: None of those reassuring scenarios could ever be true of our fireplace. It had not been used in ages, some 70 years or more, and the brick pointing and flues were in terrible shape. Thanks to the

strangely sited stove and the cabinets we needed to place around it, there could never be a crackling fire for us. So what was the point of preserving the fireplace when, no matter what we did, it was destined to be obscured or hidden?

We realized the fireplace was the pink elephant in the room, preventing the house from being the best it could be in the here and now. Moreover, the house would always be lacking, despite its spaciousness and charm, without a properly functioning kitchen. So we made the difficult decision to tear the fireplace out from the second floor up.

A group of friends helped us dismantle the fireplace on the second floor and the chimney on the third. The mortar was so old and crumbly we barely needed tools. The only job we had to hire a professional for was removing the chimney and then roofing over the hole.

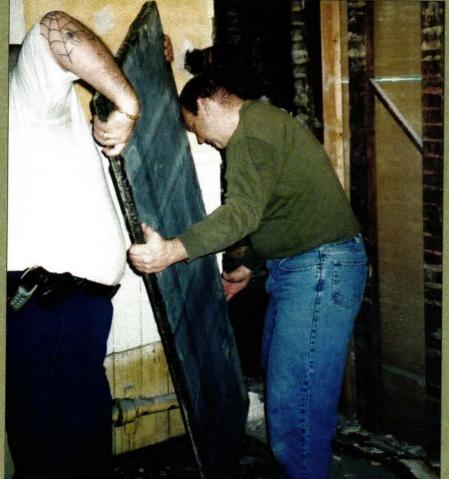
The worst part of the fireplace removal was carrying buckets of bricks to the backyard. We saved every single brick as well as the mantel—a solid piece of stone weighing probably half a ton—and the hearth, created from two beautiful pieces of bluestone painted so many times that they weren't identifiable until they were removed. We take consolation in the fact that we will use all of these components to create a backyard patio and barbecue someday (that's a project for the future).

When I told people we were tearing out a fireplace, they reacted as though we were abusing a kitten and tried to dissuade us. I understand the emotional response; it's not so long ago I would have felt the same way. Even I was concerned we might later regret it, but ever since we started the task, all I've felt is relief—the fireplace obstacle is now out of our way. Todd and I realize it was absolutely the right choice for us, and most importantly, it was the right choice for our old house.

Lynn Elliot is a former associate editor of Old-House Journal. When she's not hauling buckets of bricks, she works as a copy editor for Random House Children's Books.







A team of friends (above, left) helped Lynn and Todd dismantle the fireplace; they barely needed tools to do the job. "During the process, we discovered an impressive ant infestation," says Lynn. "So we ended up removing bricks with one hand and spraying pesticide with the other!"

Todd looks up between floors (above) while checking the joists. Removing the fireplace exposed joists that lacked structural support, which was causing the floor to shake, a problem that Todd and Lynn were able to cor-

The bluestone hearth (left) had been painted so many times that at first no one knew it was stone. Lynn and Todd saved the hearthstone, along with the mantel and every brick, to use for a future project: building a patio and barbecue in the backyard.

By The Old-House Journal Technical Staff TECHNICAL STAFF

We share insider tips on unsticking and reglazing double-hung windows.

ash windows-the average old house has at least 40 of them, and after decades of weather and use, most are bound to need work. Careless painting on the exterior of the upper sash will make it so hard to move that it never gets opened, and then another round of paint seals the sash in place for good. Indoors, sash cords become brittle when they are mistakenly coated with paint or simply reach the end of their life, allowing them to break and release the weights into the netherworld of

the wall. At this point, the mechanical operation of the window skids to a halt, and it becomes entombed in more paint.

Contrary to what many homeowners believe, the traditional double-hung window is designed to be disassembled for changing cords and glass, ideally with some simple steps. Though many oldhouse owners may be familiar with this process, they may not know that over the past 30 years or so their fellow restorers have refined and added to these methods in order to deal with the geriatric issues of sash window revival—chief among them, dissembling a window that is immobilized under layers of paint. While low-tech and often ad-hoc, a quick education in these restorer secrets, as well as a review of the basic maintenance process, makes it possible to free up even the most painted-in sashes so they can be removed to a bench for re-puttying and repainting if needed.

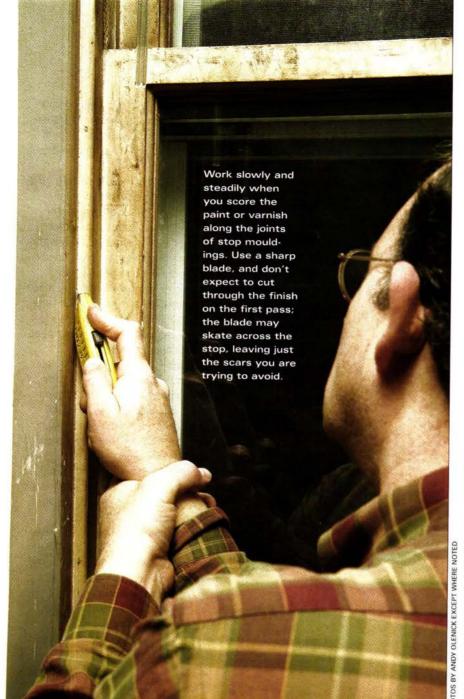
Prepare to Do It All

Even if you only want to unstick one painted-shut sash, it often pays to plan on going

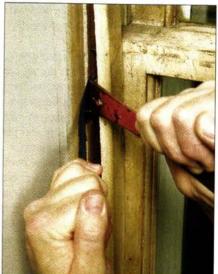




Far left: To remove stop mouldings, work from the middle. When the stop is loose after carefully prying out nails and removing other fasteners, begin to widen the gap at the midpoint of the stop. Then, working by hand, bow the moulding so the ends come free of the window frame. Left: Working the delicate parting bead out of the notch in the weather stop of the upper sash is tricky and not guaranteed of success. Use locking pliers firmly but gently, and widen the notch slightly with a chisel if necessary.







all the way in removing one or both sashes. The reason is that chances are slim you'll be able to break enough paint seal by simply leaving the sash in place, and once you have the window apart, it is only a little more effort to perform a complete overhaul and regain fingertip ease of operation. Start by assembling a kit of tools and preparing the area in front of the indoor side of the window with a drop cloth and vacuum cleaner.

Removing a sash begins with removing the stops, the vertical mouldings that hold the bottom sash in its channel. These mouldings are designed to be removable

Working at nailed spots, loosen stop mouldings with small prybars from the channel side (top) and from the finish side (middle), protecting the wood with putty knives. To free paint-stuck sash, cut the paint from the inside using tools made for this purpose (bottom) or hacksaw blades.



Glazing Pointers

Sash windows that are difficult to remove can be glazed in place, but if you can pull the sash, it's much easier to glaze a window on a table or saw horses. Before reglazing or glazing a new piece of glass, make sure that the rebate, the recess that holds the glass, is clear of all dust and debris; a duster brush does the job fine. Also, remove all old paint on the glass with a singleedged razor blade. The clean rebate must be conditioned to make the glazing compound last longer and the task easier. I prefer a coat of boiled linseed oil or Penetrol (manufactured by Flood), but oil-based primer is acceptable. The oil or primer should dry before glazing, but if all work is to be done at one time, thin the oil or primer about 50 percent, apply it sparingly, and accelerate the drying by setting the sash in the sun or near a mild heat source. Finally, clean the glass where the glazing compound will lay; a quick swipe with a clean rag is sufficient.

Glazing compound—historically called putty-should be the proper consistency to expedite the work, neither too stiff nor too sticky. It should be pliable like bread dough but not gooey so that it sticks between your fingers. If your putty is too stiff, heat it on a paper plate for about 30 seconds in a microwave oven;

my local hardware store keeps a microwave oven on their glazing table just for this purpose. Sometimes, when I'm onsite on a cold day, I heat the putty with a propane torch.

If the putty is too sticky, dust it with whiting (powdered chalk), plaster powder, or talcum powder, and work the pow-





der in with your palm and fingers until the putty reaches the proper consistency. However, if you have an old can of putty that has rock hard chunks in it, just throw it away.

Once the glass is set in a bed of putty and points are in place, professional glaziers and painters usually apply the putty firmly to the rebate in one of two ways: either by pushing it in with a putty knife or with their fingers. I use a shortened 11/2" putty knife for this purpose. Although some homeowners prefer to roll out little snakes of putty, I've never seen any professional do this, and it takes too long. Once one side of the sash has been loaded with putty, it must be tooled smoothly into a bevel. To do this, always use a11/2" to 2" flexible blade putty knife. This knife should be very clean without any rust or pits to allow it to be pulled smoothly across the material. Beginning at the corner, hold the knife at an angle so that, as you pull it along, you are simultaneously pushing the putty tightly into the rebate and cutting the leading edge. If the putty pulls back out, it's usually because the rebate was not conditioned or because the putty is not the right consistency. If I draw my clean line of putty from left to right, I always run my finger lightly back over it from right to left for a final smoothing and to ensure it abuts the glass

appropriately. Remember that the putty line should fall just below the sight line of the interior wood in order to allow a small space to seal the putty to the glass with paint. Clean up corners using the corner of the knife.

-Steve Jordan

but are typically covered in several layers of finish paint. If you simply remove the stops, the paint inevitably will crack and chip into an unsightly mess, so a good practice is to first carefully score the paint with a razor knife where the stops meet the adjacent mouldings. Be sure to keep this line straight by making several light passes instead of pressing heavily with one pass, which can veer off and mar the wood or finish. The idea is to have the paint break cleanly along the score mark so that the stop will go back without the need to repaint when the job is done.

Next, remove all visible screws and attachment hardware. Stops are typically held in place with small finishing nails, but wood screws are also common, especially for adjustable stops on high-quality windows. Then, carefully pry the stop out, working from the middle and any attachment points. Once again, you don't want to mar the mouldings with pry marks, so after you have a gap started, it's a good idea to protect the moulding edges with a pair of wide-blade putty knives used as shields for a flat prybar. Another trick that helps avoid the issue altogether is to pry from the backside of the stop using a mini-prybar or similar tool with a lip no longer than 1" that will fit into the sash channel.

Once you have a stop loose, with

hands and tools bow it ever so slightly to release it from the window. Don't force the stop out but do watch to make sure that it's not held captive at the ends, either by a miter at the top or an accumulation of paint at the stool (the interior sill). At this point, you should be able to remove the bottom sash; sometimes you can angle it out after removing only one stop. However, before you do, secure any intact weights by pulling on the cord or chain until the weight reaches the pulley, then hold it in place by knotting the cord with a slip knot, clamping it off (say, with small locking pliers), or slipping a nail in a link of the chain.

The Upper Sash Approach

To remove the upper sash, you must first remove the parting beads, which are the slim, vertical sticks separating the two sashes. In a new window, this would be a simple matter of pushing the top sash down to the bottom of the window and then prying each bead out from the top, but old houses are seldom this obliging. Because the upper sash is most likely frozen by paint, you have to take a different tack. Grab the parting bead near the bottom with pliers (the parallel jaws of locking pliers are a help here), and gently start to wiggle the bead out of its channel. As the bead loosens, move the pliers up the bead, and do your best to guide it carefully around the weather check on the meeting rail, the bottom part of the upper sash.

With luck, you might get the rail around this protrusion, but if you can't, try cutting a slight bevel in the check with a chisel or sharp knife to gain enough clearance. Once the bead is nearly free of the channel, be careful to slide the notched top (if there is one) out of the upper frame. Be aware that the bead may break, or already be broken, from trying to negotiate this tight spot. Beads can be either repaired with glue or replaced with new stock, such as those sold at good lumberyards.

With the stops out of the way, you now have a clear path for removing the upper sash. First, make sure it is not fixed in place with nails or hardware. Then, gently wiggle the bottom of the sash to assess the strength of the paint holding it in place. If the paint starts to crack easily and the sash moves more readily with each wiggle, you can continue until it pops free. However, if the sash shows no movement, resist the temptation to apply more pressure, which will only damage the sash and break the glass. Instead, look for ways to break the paint seal on the exterior. A good method is to do so from the interior by inserting a thin piece of metal, such as a hacksaw blade or a serrated tool made for this purpose. Once you have cut the exterior paint on both sides, the sash will wiggle free, and you'll be able to remove it to a bench to restore it to a like-new condition. 🍮





Accessing the weights that counterbalance the sash is not obvious, but neither is it a mystery. All traditional windows incorporate doors to the weight pockets on each side of the frame, usually in the lower third of the window. Once you have the lower sash out, look for a single wood screw under paint (top), then gently pry the door out from the top to reveal the pocket (above).

For a list of SUPPLIERS, see page 100



For related stories online, see "Pane Relief," "Picture This," "Shutter Do's and Don'ts," "Spring **Balances Bounce** Back," "Strips and Storms," "The Ins and Outs of Insulated Windows," "Windows in Detail," and "Window Shopping." Just click to "The Magazine" section, and go to the alphabetical list of recent features.

American By James C. Massey and Shirley Maxwell

ALL PHOTOS BY JAMES C. MASSEY

Practical, adaptable, and livable to a fault, the Foursquare house is finally being recognized as a home-grown original a century after it slipped into every community across the continent.

he American Foursquare might be the architectural equivalent of the ubiquitous little black dress: an alloccasion favorite that's appropriate in almost any setting. Like the classic Chanel creation, it's easy to dress up or down, and no matter how often it appears, it still manages to look mighty stylish. Plus, it comes in several sizes but of course, only one shape. That would be square, more or less.

The Foursquare seems to have crept unheralded and unnamed into the American architectural landscape sometime around the turn of the 20th century, and it was extensively built until about 1930, becoming a staple of town and country. It wasn't always called a Foursquare. That name, which seems so natural now, was a late-20th-century invention coined to serve the growing interest in this modest yet extremely flexible house type that, if anything, was

This unusually fine stuccoed Foursquare in Madison, New Jersey, features wide eaves, a pair of rectangular bay windows on the second floor, and four wide posts on the Arts & Crafts-inspired front porch.



Above: The handsome projecting pedimented bay and four rounded columns put a Colonial Revival spin on this frame house in Lexington, Virginia. The center entry probably opens to a hall, but it is a Foursquare nonetheless.





simply called a square house in its day.

The concept of the Foursquare was so impressively sensible that it immediately suited the modern lifestyle of the new century. With four rooms up and four down (there's half the modern moniker), the average Foursquare was a generously sized residence but not pretentious. As a building it had a nice, solid, blocky shape (hence the square part of the name) with lots of windows and a capacious porch.

Some scholars see the Foursquare house type—for it is a type, not a style—as a middle- or working-class version of the Georgian center-hall house of the 18th century, via the Italianate or Classical cube of the mid-19th century. Whatever its



This typical
Foursquare in
Madison, New
Jersey, has many
of the most popular characteristics: dormers,
wide eaves,
paired windows,
a three-bay porch
with piers, and
the entrance at
the corner bay.

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ancestry, the Foursquare's simplicity was certainly an about-face from the fussy, asymmetrical late-Victorian house, decked out with bays, turrets, towers, and multiple porches.

The Most House for the Money

The Foursquare's rapid rise in popular favor came from a happy intersection of technological forces during the house-building boom of the 1910s and 1920s. Innovations in transportation, printing, mailing, and mass-manufacturing all helped make it possible to distribute to eager consumers plan books and ready-cut-house catalogs that offered, among other designs, a great many attractive Foursquares—as well as to deliver the lumber and other materials needed to build millions of homes almost anywhere in the country.

A creative varia-

Norfolk, Virginia,

recessed arcaded

porch in lieu of

the normal pro-

sash bay window.

Built in brick up

to the middle of

the second-floor

windows, this

jecting front

porch, and a handsome five-

tion on a

Foursquare

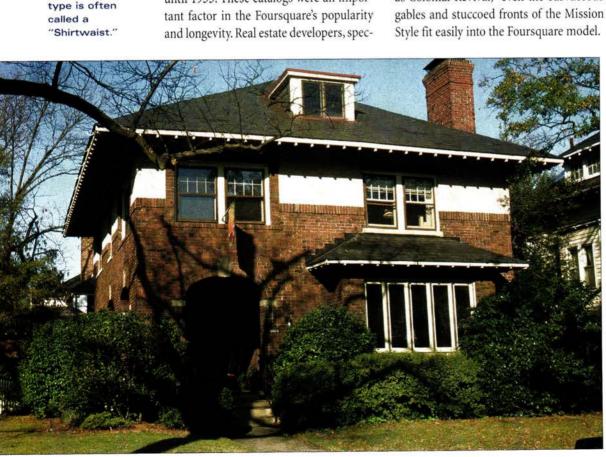
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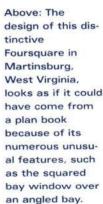
house has a

The mail-order house and houseplan catalogs of the era—Aladdin, Sears' Modern Homes, Montgomery Ward's Wardway, Bennett, and dozens of others featured Foursquare designs from 1907 until 1935. These catalogs were an important factor in the Foursquare's popularity and longevity. Real estate developers, speculators, and corporations all found the Foursquare a useful addition to their building repertoire for suburbs and towns. Many a small-town street is lined with stretches of solid, eminently respectable Foursquares, a testament to the good sense and prosperity of their builders.

From outside, the Foursquare's characteristics are easy to spot: two stories, a pyramidal or hipped roof usually with one or more dormers (often on all four roof slopes), a prominent front porch and steps, and a boxy, nearly cubical shape. The basic Foursquare was relatively easy and economical to construct and provided a great deal of usable space for the money.

Beyond the basics, stylistic features could be added at will. The unornamented, flat-walled Foursquare design adapted easily to changing architectural tastes with little effort and expense. Building deep, bracketed eaves and large, multi-paned windows aligned a Foursquare with the Arts & Crafts movement; adding horizontal masonry bands and ribbon windows made it Prairie Style; sedate columned porches and a modillioned eave line cast it as Colonial Revival; even the curvaceous gables and stuccoed fronts of the Mission Style fit easily into the Foursquare model.







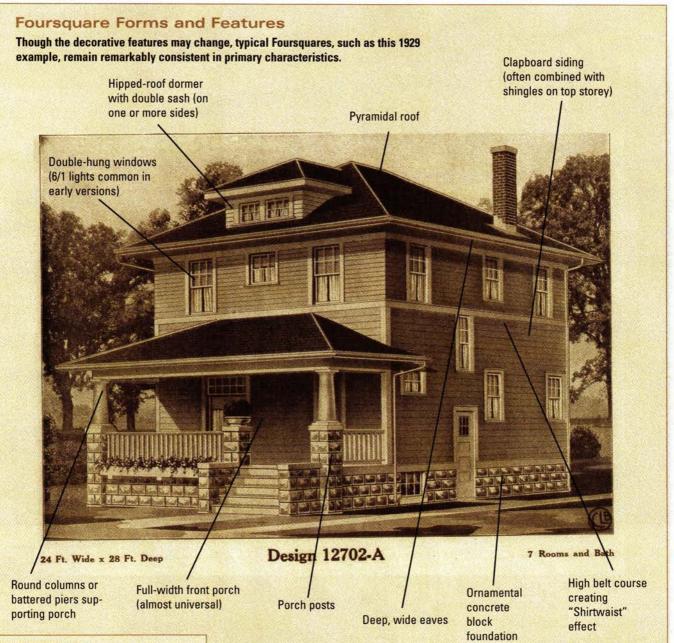
Despite its straightforward lines, the Foursquare is not rigidly symmetrical but comfortably flexible. Inside are four roughly equal-size rooms on each floor. While some large Foursquares have a center hall, the classic Foursquare almost always has a first-floor entry located in one front corner room; that corner entrance (aside from any stylistic furbelows) is what distinguishes the Foursquare floor plan from that of the center-hall, double-pile Georgian or Georgian Revival house. On a practical level, the corner hall and the four-rooms-per-floor layout prevent the creation of perpetually dark spaces like those often found in the middle of center-hall houses.

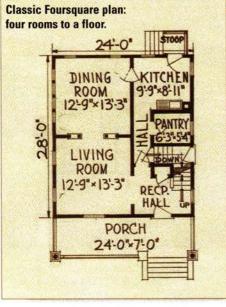
A Pliable Medium for Novel Materials

Foursquare construction included anything from wood to brick to poured concrete or concrete blocks, the latter often



Although most Foursquares are frame, some were built of ribbed structural clay tile blocks. In this Strasburg, Virginia, house the tiles were left unfinished instead of stuccoed. Similar houses used a finished glazed tile.





cast with a decorative surface. Ornamental concrete blocks—the darling of building materials in the 1910s-could be made on site using a hand-operated block-making machine. (Sears, among others, pushed both machines and plans for block houses through its catalogs.) Concrete, a fairly new material when the Foursquare frenzy started, gained in reputation as the lasting quality of the product improved. Cement stucco was a popular finish for the exterior walls. Quite often, a combination of materials showed up on the same house, with shingles covering the top storey and clapboards or brick below. Stone was rarely used. One charming and distinctive Foursquare incarnation, the "Shirtwaist" house, wears a contrasting material on the second storey, beginning just a bit above the building's "waist" at the first-floor ceiling line. As the years passed, the range of wall-sheathing materials expanded to include asphalt or even, to the consternation of today's owners, asbestos shingles.

The roof was covered in the new "wonder" materials of the period—asphalt or asbestos shingles—or one of the old reliable options, such as wood shingles or standing-seam metal. Roof dormers may be one to four lights wide, with their own shed, hipped, gabled, or pedimented roofs.



Left: This frame Harrisonburg, Virginia, house exhibits Prairie School influence in its broad eaves and the projecting corner windows. The double-window dormer and the front porch, with a projecting entry that includes a transom and sidelights, are typical of Foursquares.

The porch, which invariably is rather high, requires access via substantial steps built of wood, brick, or concrete. Porches are usually one to three bays wide. Prairie-or Arts & Crafts-inspired Foursquares often have squat, square posts edging the steps, convenient for placing flowerpots (or, perhaps too often nowadays, cement swans). Like the bungalow, the Foursquare occasionally has just one of these posts.

This 1915 Jacksonville, Florida, house, designed by architect Ransom Buffalon, shows Prairie School influence in its broad eaves, porch, horizontal massing, and low terrace wall.





Corner supports are often in multiples of two or three angular piers, posts or round columns. On Colonial Revival examples, the porch columns may be round and usually rather simple of line. Porches themselves can be full-length, even occasionally wraparound verandas, or sometimes just sizable entry porches. While porch floors are often wood, they and the steps approaching them are sometimes made of poured concrete, a more water- and rotresistant material. As in Victorian times, the porch provided a pleasant place to take the evening air, greet passing neighbors,

shelter casual visitors and tradesmen, and keep children occupied on rainy days.

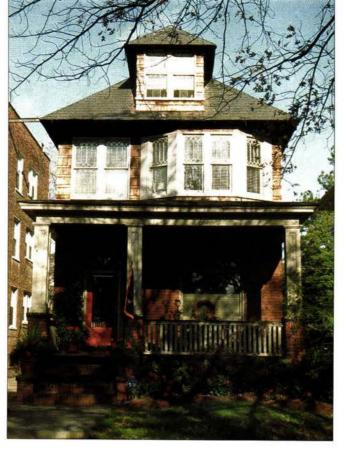
Fenestration patterns—the \$20 term for window placement—are an amusing and almost intuitive way to read the floor plan of the Foursquare without going inside. Sets of double, or sometimes triple, windows on the front façade usually point the way to the living room on the first floor and the master bedroom on the second. Earlier Foursquares may have one or more bay windows opening onto the porch from the living room or located on a side wall, possibly in a dining room. A small window

between floors usually lights a flight of stairs, while a small window between larger windows on the second floor most likely signals the presence of a bathroom.

Although the entrance is customarily through a corner entry or stair hall, it sometimes opens directly into a large living room. Other rooms on the first floor are the dining room, (predictably located directly behind the living room) and the kitchen (at the rear off the hall). There are usually three bedrooms and a bathroom on the second floor.

Sometimes there was a rear sleeping





Left: The Foursquare was also easy to squeeze onto a tight lot. This example, in the turn-of-the-20thcentury historic district of Ghent in Norfolk. Virginia, is designed with ample windows. Note the large pair of dormer windows and a citified small front porch.

S

H

Facing page: This straightforward design in Kensington, Maryland, is enlivened by a distinctive bay window on the second floor that rises through the roof eaves as a decorative slate wall, with a bull'seve window at the top replacing a normal dormer.



porch on the second floor and a rear service porch off the kitchen, with an iceman's door that allowed him to deliver blocks of ice from outside the house in pre-electric refrigerator days. While most Foursquares had only one second-floor bathroom, an additional half bath or powder room appeared on the first floor by the 1930s, or there was just a toilet in the basement for the convenience of servants or workmen. Because it was part of the automobile age, the Foursquare often had a one-car garage, which may have come from the same ready-cut-house company

or plan catalog as the house itself.

Although the Foursquare was definitely a modern house—open, airy, lightfilled, free-flowing, and much more flexible than a center-hall house—its plan was still rigid enough to make additions difficult. Beloved as it was—and indeed still is—its popularity probably would not have lasted quite as long as it did without the boost it received from the ready-cuthouse industry. To the nation's great good fortune, however, the Foursquare is still the solid backbone of hundreds of our favorite historic neighborhoods.

Textured or patterned cement blocks were a new material when Foursquares became popular. The blocks are often used for foundations, walls, porches, and sometimes castcement columns and balusters.



Cabinet-Level

Accenting a kitchen cabinet delivers a customcrafted look

The rules of kitchen design tend to favor cabinets all in a row, but the beauty

> of rules is that they can sometimes be bent for the sake of style, without compromising function,

and that's exactly what happened in this kitchen. The long row of oak cupboards was nice enough to look at, but in a pre-

dictable sort of way. All it took was some small changes to have them stand out. literally.

In the middle of

the cabinet row, a nicely designed cupboard was easily removed so



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and further enhance the traditional style. The result of this bit of rule-bending gave the

kitchen a new contour and a beautiful focal point.





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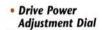
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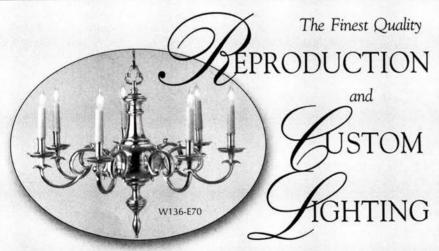
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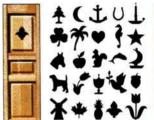
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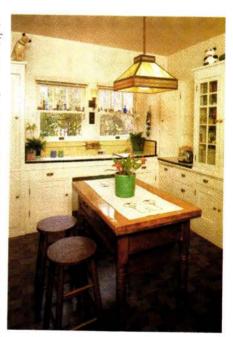
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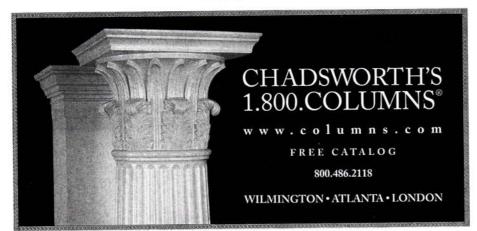
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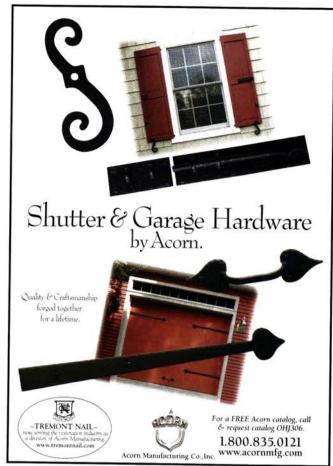
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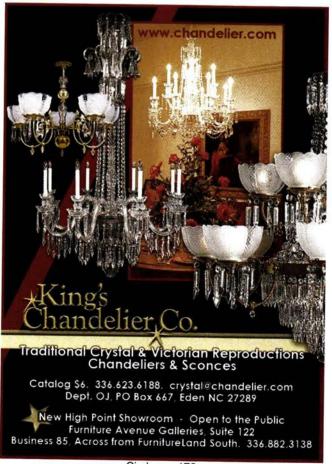
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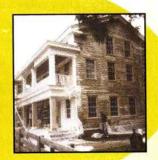
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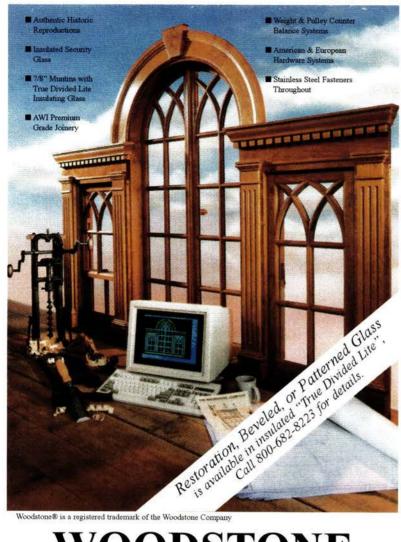
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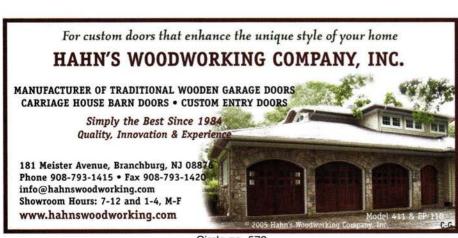
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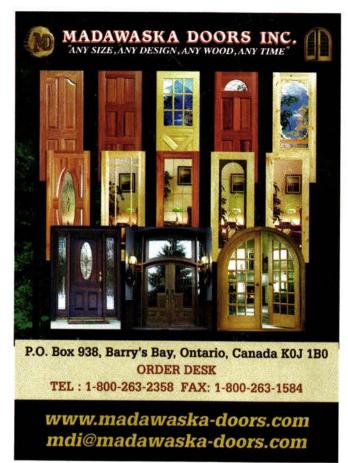
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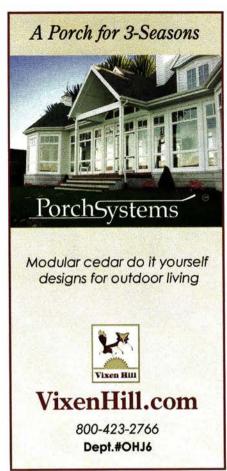
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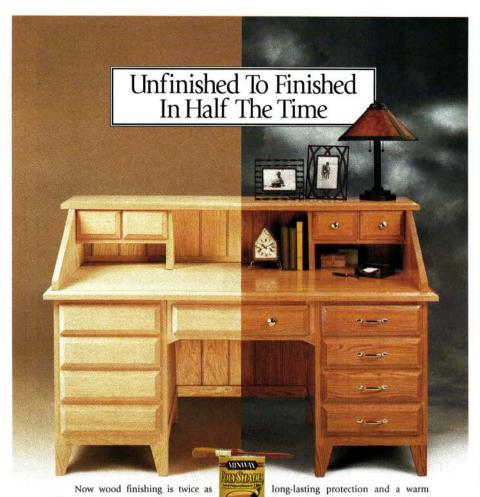
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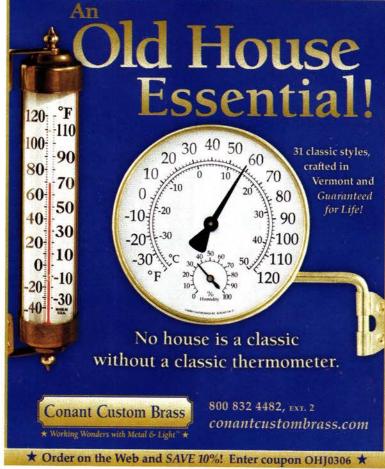
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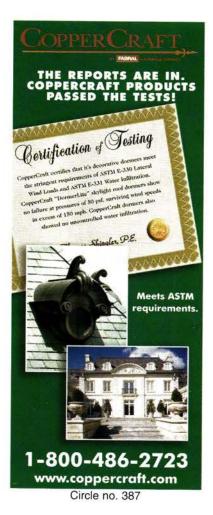
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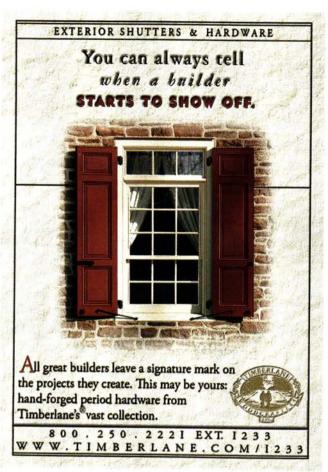
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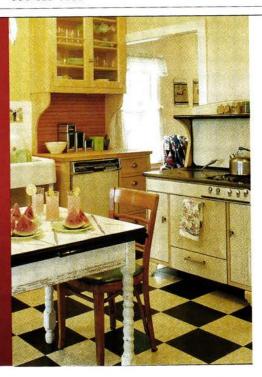
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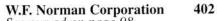
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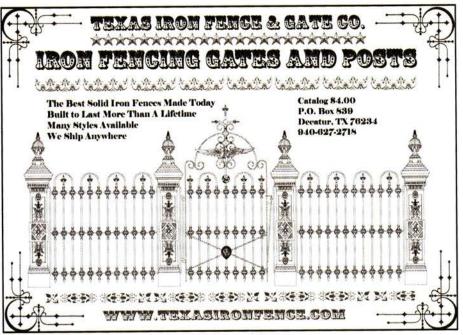


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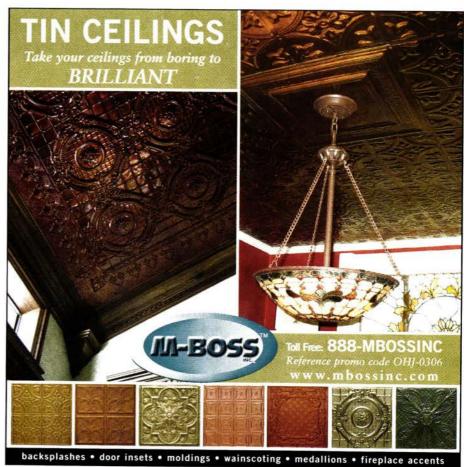




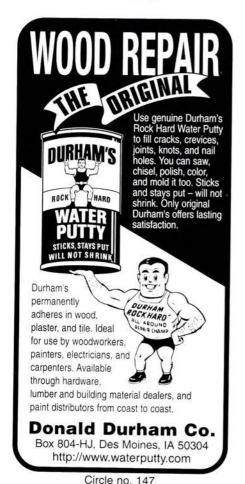


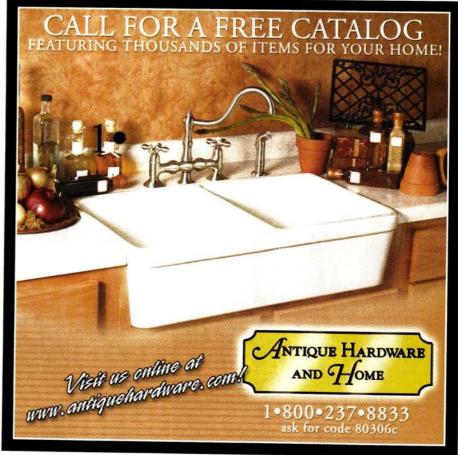


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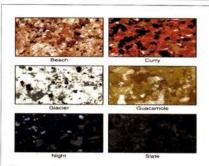
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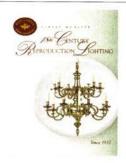
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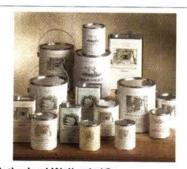
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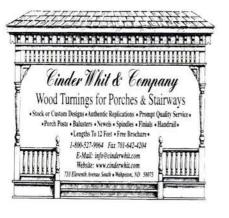
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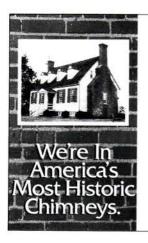
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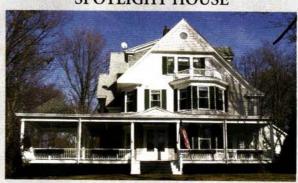


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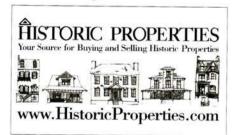
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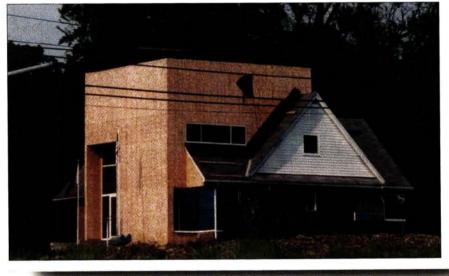
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Odd Coupling

In television, whether it's Felix and Oscar or Rocky and Bullwinkle, the pairing of opposites makes for great comedy. The results of such a partnership aren't so clear in architecture. Here, for example, we have a short, gable-roofed cottage joined at the hip with a tall, minimalist, flat-roofed addition. Not only do the new windows differ in design and orientation, but the addition has a windowless third storey that towers over the original house. The pair can't even agree about which direction to grow. We don't expect viewers to ask for more episodes like this one in syndication.

Win \$100 If you spot a classic example of remuddling, send us clear color prints. We'll award you \$100 if your photos are selected. The message is more dramatic if you send along a picture of a similar unremuddled building. (Original photography only, please; no clippings. Also, we reserve the right to republish the photos online and in other publications we own.) Remuddling Editor, OLD-HOUSE JOURNAL, 1000 Potomac Street, NW, Suite 102, Washington, DC 20007.

OLD-HOUSE JOURNAL (ISSN 0094-0178) is published bimonthly for \$27 per year by Restore Media, LLC, 1000 Potomac St., NW, Suite 102, Washington, DC 20007. Telephone (202) 339-0744. Subscriptions in Canada \$35 per year, payable in U.S. funds. Periodicals postage paid at Washington, D.C., and additional entries. Postmaster: Send address changes to OLD-HOUSE JOURNAL, P.O. Box 420235, Palm Coast, FL 32142-0235.