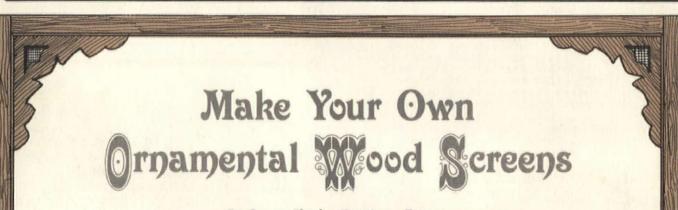


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Restoration and Maintenance Techniques For The Antique House



By Susan Clark, Houston, Texas

UR 50-YEAR-OLD HOUSE, virtually antiquated by Houston standards, needed repainting. As we biked through the older areas near Rice University, looking for ideas for color combinations, we decided that we would also replace our aluminum screens with ornamental wood screens appropriate to the period during which our house was built.

OUR HOUSE HAS 18 double-hung divided-light windows. We discovered that replacing our aluminum screens with simple ready-made wood screens was going to run well over \$700. And these ready-made screens would lack the ornamental design characteristic of the house's historical period. So we decided to build the screens ourselves.

E KNEW THAT at one time our house sported wood screens because their hardware was still hanging on the outer frames--albeit covered by several coats of paint. The previous owners had "modernized," replacing the wood screens with "nomaintenance" aluminum screens that were very tacky looking. Those screens also routinely



lost the fasteners that held them to the sills, so one of our first tasks upon moving in was to secure the screens from the outside--in order to keep our window-sitting cats from plunging out into the bushes!

YET DESPITE OUR PROBLEMS, we were more fortunate than many of our neighbors. Some had installed all-aluminum windows in their old houses, while others simply removed the original wood screens, painted their windows shut, and ran their air conditioners constantly. (Houston reveals a penchant both for excessive energy con-

penchant both for excessive energy consumption and for "updating" old houses by such steps as replacing original windows with fixed sheet glass.)

> O FIND MODELS for our ornamental screens, we had to search for houses where owners had preserved the original screens that dated from pre-air-conditioning days. We found many of these screens in conservative "old money" areas near Rice University, as

> > (continued on p. 164)

Perspective ....

### All About Money & Self-Reliance



AT THE OHJ, we continually get phone calls that run something like this: "I just bought an old house. Now, who will give me the grant to fix it up?"

THE ANSWER, of course, is that there is very little public money available for private restoration. And what little there is is shrinking every day.

THE NEW REAGAN BUDGET has cut out virtually all federal funding for preservation--including the funding for the state historic preservation offices. Among other things, this federal cutback--if it passes Congress in its current form --puts the entire National Register program in the deep freeze. Only a \$5-million appropriation for The National Trust for Historic Preservation escaped the budget-cutter's axe.

#### Where's The Money Coming From?

THE REAGAN ADMINISTRATION is essentially saying to the preservation community: "If what you're doing is so worthwhile, you should be able to find ways to make it pay for itself!" This is a bold challenge to the private sector.

IT'S EASY TO BE AGAINST BIG GOVERNMENT and big spending. It's a lot tougher when the cutbacks affect programs in which we have a personal interest. When citizens ask that government spending be reduced, there's an implied commitment on the part of the citizenry that they are willing to shoulder some of the burden that government formerly carried.

IN THE PRESERVATION FIELD, much of that burden comes down to MONEY. A lot of popular programs are disappearing. It's going to take everyone a while to adjust to the new reality.

AS A SMALL PART of the required adjustment, The Old-House Journal has already begun to look for ways to provide additional funds for preservation groups. In previous issues, we announced our Revenue-Sharing Program. And in this issue (page 165C) we're announcing our new Grant Program.

#### A Habit Of Self-Reliance

THE HARSH new economic reality of the 1980's won't come as a big shock to most old-house owners. We tend to be a pretty self-reliant bunch. After you discover that the plumber never comes when he promises...and the contractor is always behind schedule...and the job al-

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ways costs twice as much as you budgeted, you come to realize that the more self-reliant you are, the less you are at the mercy of forces you can't control.

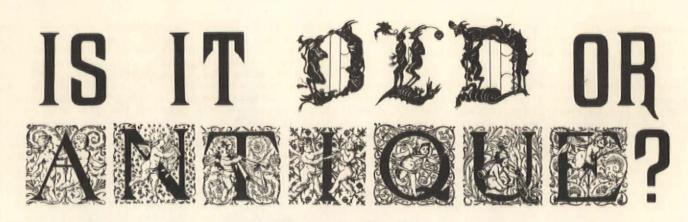
SO THE CUTBACK on government funding will mean less "free money" in the short run. But it also means fewer restrictions, less bureaucratic red tape...and more opportunity for individual initiative and creativity.

**C**VERYWHERE AROUND US is evidence that people are beginning to realize the truth of what we've been saying for years: Preservation pays. In fact, we're in some danger of being overrun by the forces we've helped unleash. It sometimes seems that there isn't a factory or loft building left that some developer isn't recycling for co-ops.

SO ALTHOUGH the new economic realities of the 1980's are going to create new demands on all of us, we at The Old-House Journal welcome the challenge. We happen to believe that the economic and aesthetic reasons for living in old houses...and recycling old buildings...will attract sufficient private capital and imagination. One major challenge is for those of us who know what sensitive rehabilitation is all about to educate the newcomers so that they don't ruin good old buildings in their rush to make money.

THROUGH OUR GRANT PROGRAM--which we expect will get even bigger next year--The Old-House Journal will be helping those organizations that are spreading the word about sensitive rehabilitation.

--The OHJ Staff



- By Allen Charles Hill -

A BASIC QUESTION CONFRONTING YOU, the new owner of an elderly house, is how best to rehabilitate or restore it within the limits of your time and money. An analogy with furniture can be useful: Some pieces of furniture are "old," while others are "antique." These two words, "old" and "antique," denote two opposite ways of regarding and dealing with the same object, and can apply to houses as well as to furniture.

"OLD" IS PEJORATIVE. "Old" is outmoded, rundown, dilapidated, unfashionable, dirty, shabby, and ugly. "Old" is a disease to be cured by repair, modernization, clean-up-paint-upfix-up, and reNEWal.

"ANTIQUE," ON THE OTHER HAND, carries more positive connotations. "Antique" objects have patina; they are heirlooms, charming, precious, rare, beautiful, unique, and full of character. They are appreciated, cherished, conserved, invested in, and, occasionally, restored. A CURIOUS BUT SIGNIFICANT RESULT of dealing with our chest as though it were merely old is that doing so will severely compromise its chances of ever being seen as an antique: When an object receives new hardware or a new finish--to say nothing of when it is rendered into firewood--its antique value is drastically reduced, and it is frequently left useless as well.

SIMILAR THINGS HAPPEN TO HOUSES. Few old houses can safely lay claim to being antiques in the same exact sense as a fine old chest of drawers which has been used and cared for lovingly over generations. Most houses have all too often been subjected to the questionable values of modernization: the deliberate destruction of one character in favor of another, more recent one. Yet some buildings have survived almost unmodified or with the modifications made long ago and with great care, and so can justifiably claim to be real antiques.

#### It's Up To You

PRESSING THIS ANALOGY FURTHER, we can say that a few wellpreserved masterpieces (be they silverware, chests of draw-ers, quilts, carpenters' tools, or houses) are unequivocally antiques. Most other objects of "a certain age," however, become either antiques or else merely old depending on how their owners treat them. When viewed one way, a scarred and worn painted chest becomes a candidate for stripping, refinishing, receiving new hardware, and all the other indignities that can be visited upon an object in the name of "fixing it up"; in another context, it can be the object of admiring attention at an antique show as an outstanding example of its type; when viewed from yet another perspective, it ends up being knocked into firewood to take the chill off the parlor.

#### **About This Article**

WHEN WE BEGAN Restoration Basics in January of this year, the first article was called 'All You Need Is Sensitivity.' As a reader of THE OLD-HOUSE JOURNAL, you're well aware of the importance of the attitude with which an old house is approached. This subtle predisposition determines how the house is treated. One of the best sensitivity articles that we've come across is this piece by Allen Charles Hill, architect and preservationist. We've decided, therefore, to turn things over to Mr. Hill this month.

WHY HAVE WE returned our attention to this subject? Here's one reason: It's been predicted that in 1985, Americans will spend upwards of \$80 billion remodeling their homes. No one has ventured to guess what percentage of that figure will be wasted in remuddling, but it's safe to assume that the amount will not be small. If more people could be made aware of the attitude that is so clearly stated in Mr. Hill's essay, then we all would see more work that neighborhoods could be proud of.

- The Editors

#### **Fairy Tales**

ONE OF THE MOST SATISFYING old-house stories is the tale of the lucky soul who finds a wonderful and fearsomely neglected house, buys it for a pittance, carefully and knowledgeably restores it to its former glory, and lives there happily ever after. As a working outline for most of us, however, that's pretty inadequate.

TO BEGIN WITH, unspoiled antique houses are a scarce commodity. If you do succeed in finding an old house, as likely as not someone else got there first and made some disastrous changes that have harmed or even destroyed its character. (On rare occasions, these changes can have the opposite effect, but that's a subject for another article.) Even if you do find such a house, the owner frequently has an inflated idea of its value--and with today's crazy real estate market, he or she may well have an exorbitant selling price.

ASSUMING YOU CAN OVERCOME THESE OBSTACLES, your house will still need rehabilitation. Be careful: A sudden, massive infusion of money into an elderly house can be as devastating as a hurricane. There is a great tendency to roll ahead at top speed to make the house sparkle once again, and if in that process the nature of the building is violated, along with its past, that's too bad, but, "Gee, you should have seen what a wreck it was before I started!"

#### **Taking Time**

MENTIONED EARLIER THAT THE QUESTION OF whether or not objects of less than first-order quality and importance are antiques depends above all on how they are treated. Too often, by substituting momentum for thought, we manage to treat potentially antique houses as merely old. Taking the trouble to determine what is important about a house before charging ahead with rehabilitation work is the critically important first step in treating it as an antique.

A HOUSE WHICH HAS PASSED through many years carries a message about the past. In order to read and preserve that message, a house requires treatment which is different from what would be afforded something merely "old." Research, contemplation, and possibly some expert help will be needed to ascertain what the house represents, how it is significant, and how best to deal with it; and all this information will be needed before beginning work. Taking time to think and probe is undoubtedly the most difficult part of working on an old house, because every instinct--to say nothing of a double-digit mortgage--urges getting the job done as fast as possible.

TREATING AN OLD HOUSE LIKE AN ANTIQUE, however, requires more than just waiting until the necessary research is complete before starting rehabilitation: If you are serious about treating it this way, then you should be prepared to consider altering your lifestyle to accommodate the house. This idea should not sound shocking: Removing the partition that separates two principal rooms of an antique house in order to fit your apparent need for larger rooms is no less destructive than cutting off the feet of a Queen Anne chest-onchest in order to fit it under a low ceiling. In both cases the objects are being treated as though merely "old," rather than as antiques whose forms are intrinsically valuable.

#### What Should Change

THERE ARE OBVIOUSLY LIMITS to how little change one can make and still have a habitable house. Modern kitchens and bathrooms are essential, for instance, as are measures to reduce fuel consumption. Careful thought can usually lead to good solutions:



This Italianate house is clearly an outstanding structure, one far too beautiful for anyone to deny it antique status.

incorporating the "moderns" into secondary space or newly built additions, inconspicuous heat-saving means that will not damage the building now or in the future, and so on. If you intend to treat an antique house with respectful regard for its age and what it represents, then you must take care that the very qualities that give it its value are not needlessly damaged or destroyed.

JUST AS OUR ANTIQUE PAINTED CHEST showed its age and wear, so will an antique house. Floors may not be flat, doorways may sag, walls may be out of plumb, plaster may not be smooth, and woodwork may be worn. If the house is thought to be merely old, then all of these characteristics become blemishes that must be corrected. If, on the other hand, the house is treated as an antique, then they are the stuff of which its character is made -- its wrinkles, if you will. Rehabilitation should then proceed with a light touch, avoiding the special grotesqueness common to wrinkle-free old ladies and "shiny new" antique houses. A practical consideration is involved as well. Levelling sagging floors and truing out-of-plumb walls may damage finishes and introduce new stresses and instabilities into the house, thereby hastening its deterioration.

#### What Should Stay The Same

A NTIQUE HOUSES ARE NOT FOR EVERYONE, any more than antique furniture is. It is irresponsible to risk damaging an eighteenth-century chair by tipping it onto its back legs while sitting in it; if you want Chippendale chairs and insist on tipping them back, then you probably should acquire modern reproductions. They are products of our own time and will not represent as great a loss if damaged. Similarly, if you want a house with eighteenth-century trim plus flat floors, plumb walls, smooth plaster, crisp woodwork, and a floor plan perfectly suited to your way of life, then you would be wise to have a "reproduction" newly built for you.

ANTIQUES TAKE RESPECT AND CARE. They have been around long before you and I appeared on the scene, and if we aren't too hard on them, they will be around long after we've gone. And that's the way it ought to be, it seems to me, with chairs, with painted chests, and with houses.

ALLEN CHARLES HILL, AIA, a licensed architect, specializes in historic preservation. He is a member of numerous professional and preservation organizations and the founder of a firm providing comprehensive professional assistance to individuals and organizations concerned with the "care and feeding" of old buildings:

> Allen Charles Hill, AIA Historic Preservation and Architecture 25 Englewood Road Winchester, MA 01890 (617) 729-0748



This post-Victorian house, if not regarded with the necessary sensitivity, could eventually suffer the harshest of renewals.

Restorer's Notebook

FISHER WAS PARTICULARLY INTERESTED in the way Pepper's wooden gates and palings were finished. They were all "washed with coal tar, which is dead black and makes them look as if made of iron." He considered this "far handsomer than white or any other color," and remarked that it "preserves the wood." Fisher also added that he hoped to treat his own fences in this manner in the spring.

> Arthur Channing Downs, Jr. Newtown Square, PA

#### Save Your Skin

e

HEN I WORK WITH FIBERGLASS INSULATION, I apply liquid fabric softener to all the exposed areas of my skin. This keeps the insulation from itching. It washes off with the next shower, and leaves you smelling nice at the same time!

IF YOU'RE AFRAID that you might have an allergic response to it, then just rub a small amount of it on the inside of your elbow and leave it there for twenty-four hours--if your skin has no adverse reaction to it, then you shouldn't have to worry about using it in this way.

> Jean Baker Wellfleet, MA

#### **Pulling Nails**

VE SPLINTERED MY SHARE OF NICE WOOD by pounding out the nails in the traditional manner, so I was excited when I read about a better way. The recommended method was to pull the nails out of the back side of the board, thereby not ruining the good side. It sounded great--couldn't figure out why I hadn't thought of it before.

IN DOING SOME WOODEN MOULDINGS I took a pair of pliers and tried to pull the nails out of the back. It was nearly impossible to get them out. Not being into isometrics, I decided upon another method. I clamped a pair of vise grips on the nail about 1/4 inch from the wood. Then I slipped the claw portion of my hammer between the vise grips and the wood. By grabbing the vise grips and the hammer together and prying down, the nails were easily removed without any negative effect on either the face of the moulding or my muscles.

> Dan Miller Elgin, IL

#### **Tarred** Gates

**S** IDNEY GEORGE FISHER'S nineteenth-century diary was reprinted in 1967 as <u>A Philadelphia</u> Perspective (edited by Nicholas Wainwright). In his entry for January 29, 1839, Fisher described a trip he took along "ridge-road" (now Ridge Avenue) in what was then the suburbs of Philadelphia. He noted his admiration for one George Pepper's estate, "Fairy Hill," which was "kept up in beautiful style."

#### Hot Water

ANY TIMES OLD HOUSES suffer from an apparent lack of domestic hot water. Although the house is equipped with an adequate hot water tank/boiler, it is not uncommon for the homeowners to take a shower and wind up rinsing their hair with cold water. Turning up the temperature regulator on the hot water tank may solve the problem only slightly--and it will certainly use more energy and create water that is dangerously hot for small children's unsupervised use.

FREQUENTLY, THE SOURCE OF THE PROBLEM is within the hot water tank. In most hot water tanks there is an extension of the cold water supply line into the bottom of the tank. This extension is usually called a 'dip tube.' Hot water is lighter in density than cold water, and so the hottest water is in the top of the tank. When the dip tube is installed and functioning properly, cold water entering the tank is directed to the bottom. If the dip tube should deteriorate or fall off, then the entering cold water mixes with the hot water at the top of the tank, thus lessening the supply of hot water.

REPLACING THE DIP TUBE is a relatively easy procedure. (They're available from most plumbing supply houses for a few dollars.) Shut off the power source to the tank first. Then disconnect the cold water supply line to the hot water tank. Next insert the new dip tube into the tank through the cold water supply opening. You may have to alter the larger funnel end to fit, and you may want to turn the tube over to make sure that it is not small enough to drop into the tank. Once it is in place, reconnect the supply line, start the hot water tank once more, and enjoy.

> J. Cheydleur College, AK

#### **Got Any Tips?**

Do you have any hints or short cuts that might help other oldhouse owners? We'll pay \$15 for any short how-to items that are used in this "Restorer's Notebook" column. Send your hints to: Notebook Editor, The Old-House Journal, 69A Seventh Avenue, Brooklyn, N.Y. 11217.



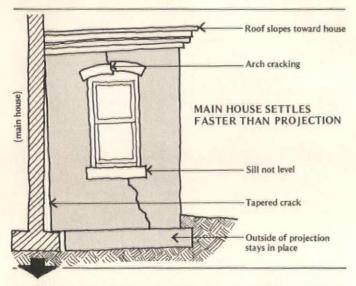
HAT CAUSED THE CRACKS? Cracks are the visible evidence that something moved or is still moving. All buildings move, so cracking isn't always a sign of

trouble. But until you uncover the cul-prit that caused the cracks, you don't know how serious the condition is, and you can't proceed with corrective action. Here is a lineup of major offenders:

- Settlement or Foundation Erosion
- Decay of Materials
- "Vandalism" by Renovators
  Structural Failure
- Change in Materials or Geometry
- · Moisture and Temperature Changes

GROUND SETTLEMENT is probably most often indicted...but not as often convicted. We often say that parts of a house which have moved from their original position have "settled." However, individual parts of the house moving downward isn't the same as the whole house sinking into the ground.

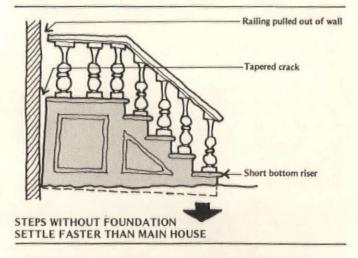
IF THE ENTIRE HOUSE sank into the ground at the same rate after it was built, there was little stress and little or no cracking. In fact, it may be hard to tell that the house even settled. You have a clue that your house has settled if the bottom step of the front stairs has a shorter riser than the rest.



ON THE OTHER HAND, cracks almost always result when parts of the house settle at different rates. This is known as differential settle-ment. The very shape of the house is a frequent cause of differential settlement

cracks. Many an old house is like a rectangular box with all sorts of projections: steps, porches, bays, wings, etc. It's as if the heavy central box sinks into the soil faster than the projections. The projections are "ripped" off the main box. Naturally, cracks tend to develop at the places where projections are joined. These cracks are usually tapered -open at the bottom and closed at the top.

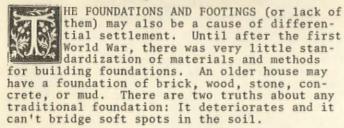
EXACTLY THE OPPOSITE MOVEMENT sometimes occurs. A heavy set of stone steps that has no foundation may settle faster than the main building, causing cracks where the steps join the wall. (These cracks would be open at the top and closed at the bottom.) A similar cracking pattern can develop when the house is added to many years after it was built. The main house will have settled a bit for\*a few years after its construction. A new addition is built at the same level as the original, settled house. As the <u>addition</u> settles, cracks will develop between the two parts of the structure. These cracks should be decelerating or stationary a year or so later.



DIFFERENTIAL SETTLEMENT happens if the house sits on two different kinds of earth. A dramatic example will illustrate this: Imagine one end of a house built directly on solid rock while the other end floats on swampy mush. The end on the rock will stay in its original posi-tion while the other end rapidly looks for the bottom of the swamp. A brick house would liter-ally be torn in two by this kind of differential settlement. A crack in the exterior wall from bottom to top would develop above the point where earth changes from harder to softer.

IN A WOOD FRAME HOUSE, crack evidence isn't as obvious. Wood framing and clapboards tend to bend rather than crack. Nevertheless, you can trace a general pattern of cracks from the foundation to the roof in such a case. (Techniques for discovering cracking patterns were described in Part I, May 1981 OHJ.) Whether the house is brick or wood, these cracks will tend to be wider at the top of the building than at bottom.

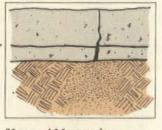
#### Underground Crimes



IN SWAMPY PARTS of the country, wood piles or rafts were often used as the foundation for both wood and masonry houses. As long as the wood foundation stayed completely below water level, it didn't rot. (It is said that there are several stone buildings in New Orleans which are "floating" on cotton bales.) With modern improvements in drainage, unfortunately, the water table often drops below the top of the wood foundation. This causes rapid decay. In such a case, the entire building drops down somewhat unevenly, and is evidenced by cracks appearing almost everywhere.

A FOUNDATION is designed to spread the weight of the walls over a larger area to support the house. It was not designed to act as a beam to bridge over holes which might develop from either heavy water flow or soft spots in the soil.

**Eroded Foundation** 



A HEAVY UNDERGROUND water flow will produce a cracking pattern similar to the failure of a window lintel. Above the point where the support for the foundation has washed away, there will be a stepped pyramid cracking pattern. As the erosion of the soil continues, the pyramid will get larger and larger. Cracking from this cause should be given serious attention.

# Image: Constraint of the second se

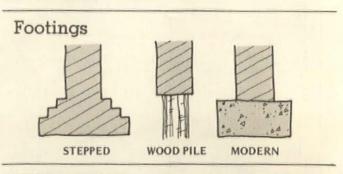
WATER SHOULD BE SUSPECTED in the deterioration of other kinds of foundations too. For instance, the soft lime mortars in older houses can be washed away over the years by water seepage. If the foundation is exposed to running water from an underground spring, this could result in actual collapse of the wall above. But more often, the foundation settles gently as small particles of sand are washed away. There may be no cracking in the foundation wall...but there will be cracks in the plaster walls above.

ETTLEMENT CRACKING can also be caused by the nature of the soil underneath. During construction, a trench is often dug deeper than the bottom of the foundation. Even though the hole is filled later, that soil is not as compacted as the stuff which was undisturbed for centuries. The weight of the foundation compresses the disturbed soil after the house has been built, causing settlement cracks above. Since this type of settlement has usually stopped within five years of construction, it is usually not a problem for the old-house owner.

CLAY SOIL can also cause problems. Many clays expand in size when wet. Since the ground directly under the house is usually much dryer than the earth at the outside walls, the edge of the house will rise in damp weather and fall in dry weather. This movement will cause cyclical cracks which will open and close in different seasons.

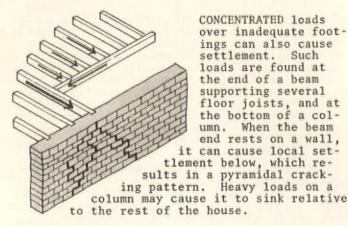
ANOTHER SUSPECT: Foundations and footings that are too small for the loads on them. The job of the foundation is to spread the load over a large enough area to prevent localized soil compression. Sometimes the builder made a bad guess on foundation size, and sometimes he just cheated to save money.

EXPANSIVE CLAYS will also cause cracks when a permanent change is made in the water table. Improvements in drainage, or a new well, can lower the underground water level. This drys out the clay soil--causing short-term settlement of the house above.



CHECKING FOUNDATION SIZE may involve pick and shovel work to find out what's below ground. Typically, the bottom of walls and the footings below columns will be six to twelve inches wider than the load-bearing structure above them. However, there is tremendous variation in the footings required on different types of soil. On hard clay, walls have been built without any footings at all without any noticeable settlement in 100 years. But in general, undersized or missing footings below settlement cracks should be considered a prime suspect.

**July 1981** 



FOUNDATIONS CAN BE too shallow. In northern and mountainous parts of the country, the ground freezes several feet below the surface. This will cause the foundation to move unless its bottom is below frozen soil--below the frost line. The effect of frost heaving is uneven settlement of the foundation. Foundations of dry-laid (mortarless) stone may actually take on a wavy appearance over the years. This problem is most common in pre-Victorian and rural houses where the builders were not able to benefit from a local craft tradition.

#### Case of the Bowed Wall

N INADEQUATE foundation is also the culprit in the case of the bowed wall. The weight of the wall causes the footing to settle unevenly, which allows the bottom of the wall to tilt outward. If the wall is tied in to the top of the build-ing it will bow outward in the middle. At the corners, vertical tapered cracks will appear which are widest in the middle of the house and closed at top and bottom. (See the illustration on page 159.)

ON THE OTHER HAND, the wall may not be attached at the top. This is the case when the front wall of a townhouse was built after the party walls were constructed. The entire front wall can tilt outward; this results in cracks at the corner of the house which are wide at the top and closed at the bottom.

TO SUM IT UP, the crack detective suspects that settlement is the culprit when the structural parts of the house are basically sound, but the cracking pattern indicates that parts of the house have dropped from their original level.

#### **Decay of Materials**



OTHING LASTS FOREVER, and material decay is another common suspect. Decay may cause both local cracking of finish materials and major failure of structural materials. All old houses are made of wood. Even those referred to as brick and adobe have wood to hold up the roof or floors. The decay of walls, beams, and columns causes loss of strength and/or size which results in minor and major cracking patterns.

ROT FUNGI should be suspected when cracking patterns indicate failure of the wood structure. Look for deep cracks (especially across the

rate of movement	MOISTURE	THERMAL	SETTLEMENT	ROT	STRUCTURAL FAILURE
(opens and closes)	1	1			
CONSTANT (steadily getting larger)		1	1	1	~
ACCELERATING (opening faster & faster)				1	$\checkmark$
DECELERATING (opening slower & slower)			~		

grain), musty smells, a dead sound when the wood is tapped, and fuzzy white fungus. Common rot fungi prefer dark areas for initial growth, so plaster or other finish materials may need to be removed to definitely identify it. Suspect wood rot wherever hidden moisture may be present. This includes the top of foundation walls, below bathrooms, in basement and crawlspaces, below built-in gutters, and below roof joints. Keep in mind that the cracking may be a long way from the rot which is causing it. Decay fungi are vicious consumers of wood and creators of cracks -- kill on sight.

INSECTS WHICH EAT THE WOOD are another cause of wood decay. In most parts of the U.S., these include termites and carpenter ants; both types of insects cause cracks by eliminating so much wood that the strength of the beam or column becomes negligible. (See Basics 4 & 5, May and June 1981, for more on rot and wooddestroying insects.)

HEMICAL ATTACK, freezing weather, and erosion are all accessories to masonry decay. Although we think of stone and brick as permanent materials, they decay too. Wood is eaten by its attackers, while masonry decays because of its physical properties. Chemical attack includes such common phenomena as decay from salt deposits and acid rain.

UNLESS THERE IS extensive visible damage to the masonry or mortar in a foundation wall, it's unlikely that relatively slow-acting chemical attack is the cause of cracking.

THE FREEZE-THAW CYCLE found in northern climates is easier to convict. As water freezes in masonry crevices, it expands and creates cracks. This type of damage is most often found where poor quality materials were used in the original construction and where there are many freezethaw cycles during the winter. A notorious example is the brownstone of Victorian-era townhouses in the New York area. New York has numerous freeze-thaw cycles during a long win-

direction of crack	THERMAL	MOISTURE	SETTLE- MENT	ROT	BEAM FAILURE	JOIST FAILURE	COLUMN	BOWED	ARCH FAILURE
HORIZONTAL	1	1		~		~	1	1	
VERTICAL	1	1			~			1	
DIAGONAL		_	1	1	~	1	1		1

ter...spaces between the blocks of brownstone veneer provide the perfect place for water to collect...and the brownstone (sandstone) was laid up with its natural grain running the wrong way.

THE APPEARANCE of masonry damaged by salt decay and freeze-thaw decay is quite similar. In tracing down the suspect, look to see how the cracks are distributed. The salt decay will be limited to those areas where there is a flow of moisture in the masonry. These areas would include the base of walls, below windows, and around leaking downspouts. Freeze-thaw cracking would be found everywhere a particular material is used.

RUST IS ALSO associated with masonry decay. As iron corrodes it expands in volume, creating pressure where it is embedded in stone or brickwork. In some cases this is easily detected,

such as where an iron railing was placed in a hole in a stone step. Shear cracks will radiate from the base of the post toward the edge of the step.

A MORE DIFFICULT situation to detect is where hidden iron fasteners--called cramps--were used to hold masonry work. (I once came across the case of a limestone-faced house in St. Louis which exhibited a

peculiar pattern of halfmoon-shaped cracks in the stone blocks along every joint. It turned out that the stone facing was attached with iron cramps to a brick bearing wall. The moisture in the wall had caused the cramps to rust and expand, thereby cracking--and spalling-the limestone at nearly every cramp.)

#### **Victims or Perpetrators ?**

USPECTS WHO OFTEN commit their crimes undetected are the renovators themselves. With great energy and good intentions, they vandalize the fine old houses they're trying to improve. THE PLUMBER DID IT! If there are cracks anywhere around a bathroom, immediately suspect the plumber. The average plumber has absolutely no respect for the structure of a house. He will drill down and through...saw notches... and leave beams hanging in mid-air. Brick walls will be bashed out to make the largest possible hole for the smallest pipe. Anything in the way of his pipes will be removed, no matter what the consequences for house or owner.

THE PLUMBER often has accessories to his crimes. The electrician, the heating-duct installer, the mason, and the do-it-yourselfer are all guilty of house vandalism on occasion.

THE EASIEST VANDALISM to detect is where parts of the original structure have been removed. Even seemingly small changes can create large cracks. Notches and holes in beams can seriously weaken them. Holes which are drilled in the center one-third of the depth of the beam will generally not cause a problem. However, holes or notches near the top or bottom of the beam, or vertical notches, will definitely weaken the structure. Notches and holes at the center of the beam length are worse than ones near the ends. A weakened beam will deflect or fail, creating cracking patterns in the house above. [See "Sagging Floors," January 1981 OHJ, for more about weak joists and beams.]



WALLS, TOO, can be seriously weakened by holes. Studs are often notched so deeply that less than a quarter of their original thickness is left in place. A house can often accommodate the notching of one stud, but when several studs have been notched in a bearing wall, cracks are bound to result.

> LIKEWISE, masonry walls may be damaged by holes. A small hole in a solid brick or stone wall is not likely to have much impact. However, when the hole is located in a relatively thin wall or near an opening, the effect can be much greater. (In one case, a renovator had knocked out a few bricks at the end of an arch to install a four-inch dryer vent. Unfortunately, those few

bricks were helping to hold the weight of the wall above, and a good part of the brickwork cracked. For the time being, the wall is still being held in place by the wood window frame, but I peer anxiously each time I walk by.)

THE MORE that's removed, of course, the more likely cracking is to occur. In an effort to "brighten things up," door and window openings are often enlarged. Sometimes these enlargements cause problems because no thought is given to what is going to hold up the wall above. For example, a new window may be placed in a wood-frame house without provision of a header over the window. In other cases, the enlargement means that the wall between openings becomes so small that it can no longer hold up the weight of the house above.

MOVING OR REMOVING WALLS can also create cracking problems. Just because the house doesn't fall down immediately when a wall is removed doesn't mean that the wall wasn't part of the support of the house. When walls that hold up floors (bearing walls) are removed, there will always be deflection of the joists. In addition, removing walls that don't appear to be supporting floor joists can cause cracking. These walls may have served two different functions: stiffening the structure and holding up other walls. The stiffening function reduces "bounce" even when it is not necessary to carry the load of the building and furnishings. Interior walls weigh a lot -- a plastered wall weighs about fifteen pounds per square foot. Old houses were frequently designed so that this weight was carried to the ground by "nonbearing" partitions, rather than by the floor joists and walls they bear on directly.

COMING NEXT MONTH ....

...more suspects. We'll present a clear descrip-

tion of the structural failures that cause cracks

- and two red herrings for the detective to be-

ware. Then, Part IV will be all about what to

do when corrections are needed.

MOVING A BEARING WALL even a few inches should be regarded as a suspicious action if you see new cracking patterns. The house is still structurally sound, but it will deflect a little bit differently than before the wall was moved. Cracking will generally stop after a new breaking-in period.

DISASTROUS THINGS can result from removing apparently unimportant parts of a building. Beam ends may be supported by chimneys and walls in ways that are not immediately obvious. (A church group in Washington, D.C., was removing some "unnecessary" brick flues and didn't notice that the brick was supporting a small beam. That small beam was holding up the end of a large beam, which in turn was supporting a brick wall at the fourth floor level. The entire wing of the house collapsed. They declared that God was testing them.)

SIMILAR CHANGES in deflection can result from just making repairs to the house. Replacing plaster on lath with drywall reduces the weight of the house considerably. This may cause the floors to deflect upwards (!), causing ceiling and wall-finish cracking.



PARTICULARLY SERIOUS--and common--form of renovation vandalism involves the removal of the foundation footings. There are many rea-

sons for this move, including wanting to lower the basement floor to put in an apartment, making a basement window into a door, or running a new sewer or water line. Since the footing is only cut off on one side, the weight of the wall begins to tilt the foundation.

The results are the same as can be expected with ground settlement: tilted or bowing walls, arch failure, floor and wall settlement.

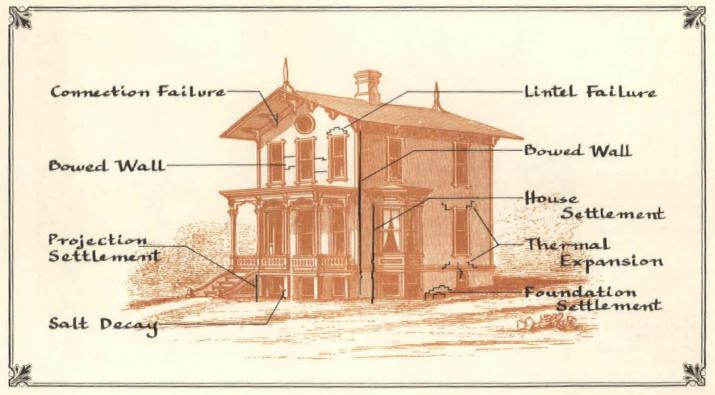
#### The Detective

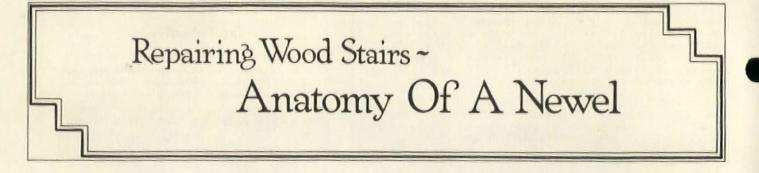
WARD BUCHER is the principal in the firm Wm. Ward Bucher & Associates, Architects. His office specializes in architectural and interior design for restorations and renovations of houses and commercial buildings. In addition, the firm is expert in structural inspections and economic feasibility studies. Bucher's address is 1638 R Street NW, Washington, DC 20009. Phone 202-387-0061.

AN UNEXPECTED CAUSE OF CRACKS can be the strengthening of parts of a house. A stiffer beam or wall may actually carry more weight than before it was strengthened. This may reroute the stresses in the house, resulting in a new cracking pattern.

NEW CRACKS can also appear when more weight is added to part of the house. This weight is sometimes obvious, as when another storey is added to the top. More commonly, the extra weight comes from small improvements. These include putting on a new type of roof, adding a fire escape, or tiling the kitchen floor. A common weight increase comes with the installation of a new bathroom. In addition to the weight of the plumbing fixtures, the eight hundred pounds of water in a full tub is likely to bend the floor joists below.

A MINOR and perhaps unavoidable kind of renovation "vandalism" creates cracked plaster. The vibration of pounding hammers and buzzing saws can break the bond of plaster to the lath quite a distance from the actual construction work. This eventually creates an alligator-hide cracking pattern. But enough on the unforeseen pitfalls of well-meaning renovation...next month we'll get back to the mistakes of the original builders.

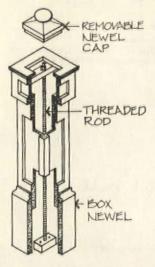




By Jonathan Poore & Patricia Poore

THE NEWEL CONNECTION to the bottom step is a vulnerable joint. Because of its height, the newel acts as a lever when something bumps against the top of it. This weakens the connections of the newel to the bottom step and to the floor.

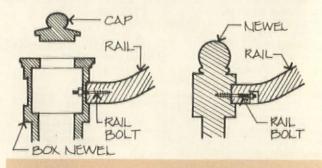
NEWELS come in many sizes and styles, but there are really only two main construction types: solid and hollow. The newels shown in the photographs are solid; such a newel can be made from a single piece of wood, or glued up. This type is often turned on a lathe. In most cases the wood joint at the base of the newel is housed, or cut to let in the step. The newel is fastened through its face to the string and/or riser and to the floor. Alternately, it might be bored through the bottom step, as in the stair shown on page 162.



THE OTHER major type of construction is the box newel. Built up from several to many pieces of wood, it can be anything from a simple four-sided hollow post, to a grand 19th century newel with recessed panels and mouldings. Again, the newel is housed to receive the bottom step. The newel is probably toe-nailed to the step and the floor, but its stability most often comes from a threaded center rod that is tied in to the top of the newel, and then attached to the floor.

THE NEWEL may be the most decorative element in the stair; its function, however, is to support the handrail. So you'll find a newel at the bottom and top of open-string stairs, as well as wherever the handrail abruptly changes pitch or direction along the run.

ONNECTION of the newel to the handrail isn't often a problem, but you may have to disconnect the rail if the newel has to be removed for major repair. You have easy access to the rail bolt with a box newel: Just take the top off the newel. (The cap is usually nailed to the box construction.) The wood-thread end of the rail bolt will be screwed into the rail with the nut inside the hollow newel. (See drawing.) IN A SOLID NEWEL with an easement in the rail just above the newel, the nut is in the rail and the wood-screw threads are in the newel. (The rail is also mortised into the newel on expert jobs.) With a straight rail, as shown in the photos, the rail is just butted and toe-





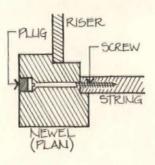
This is a stair type that was popular in early America, in Colonial Revival houses at the turn of the century, and even in tract houses through 1950's.

nailed to the newel. When the rail ends in a volute, the newel is bored into the rail's underside, glued, and toe-nailed. (An example of this is shown on the next page.) If you have a loose rail bolt connection, it'll have to be tightened, or the bolt re-located. (See June 1981 OHJ, "Repairing Handrails.")

#### A Few Nails...

I F A GLUED-AND-BORED or a nailed joint loosens up, a few well-placed nails may do the trick. Take the time to understand the construction of the joint, because lots of random nails can actually weaken or split the joint. No need to worry about splitting a solid newel, but as always, drill a pilot hole or nip off the end of the nail if you're going into a thin piece of hardwood.

WITHOUT DISASSEMBLY of the stair, you won't know for sure if the riser and tread were cut away to let in the housed newel. If nails won't hold, screw through the newel base into the front of the riser or the open string. Counter-bore any screws and plug the holes. Screwing into

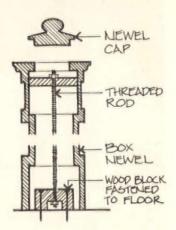


the string will always strengthen the newel connection; its disadvantage, of course, is the plugged hole left in the face of the newel.

IF A NEWEL is very loose, you might as well remove it to examine the actual connections, rather than taking pot-luck with random nails. First, disconnect the handrail. Pull the newel loose from the floor...it's probably toenailed, but if the newel was loose to begin with, removal should be easy. Take out all the old nails, and start over on the assembly. Don't use glue except on a bored connection into the rail or tread. Drive nails at an

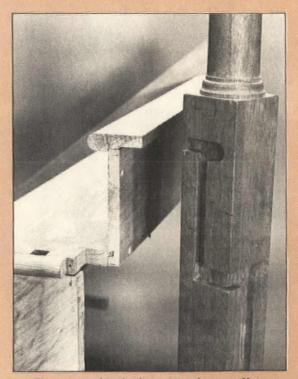
angle to the grain; nailing directly into end grain gives a weak connection.

TO TIGHTEN the connection of a box newel to the floor, take off the cap and see if there's a center rod. If there is, tighten the nut to pull the newel against the floor. If the rod is no longer connected to the floor, remove the newel and secure the rod to the floor. If there is no rod, install a threaded rod the height of the newel.





This shows a connection detail for the main (bottom) newel. The base of the solid newel has been housed to receive the tread, riser, and string.



The top newel is also housed for the step. Note that the tread and riser have been cut too for this connection.

#### Swell Steps

LEAST SOPHISTICATED in swell-step construction is a newel which is merely bored into the bottom tread. In somewhat better construction, the bottom "pin" of the newel continues through the rib underneath the swell step. In fine custom work, the "pin" is carried through the rib, and also wedged just under the tread. (There's a photo of this connection below.)

IF YOU HAVE ACCESS from under the stairs, you can see if the connection was wedged. When it does eventually loosen up



it does eventually loosen up, the wedge can be driven tight again from beneath. Of course, you can always create such a connection if the bottom of the newel is long enough to be mortised out and wedged. If the newel wasn't extended down far enough to be wedged, or if you don't have access from below, you'll have to work from above. Reglue and toe-nail the newel connection into the tread.

HARRY WALDEMAR is our consultant for this series. A retired stairbuilder, he also made the models shown here. (1/2

scale: 6 inches = 1 foot) You'd have to pull your stairs out of the wall and lay them sideways to see details like these! More models will be featured in upcoming Journal articles; they were recently purchased by the New York State Museum in Albany.



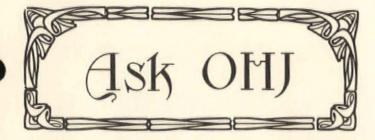
Here is a construction detail of the newel at an intermediate platform of the open-string L-shaped stair above. The bottom of this newel has a "drop" – the decorative part below the string.



A swell step is shown here. The handrail ends in a volute, which corresponds in plan to the step below. Newel is bored, glued, & nailed into volute.



The wedge through the bottom of the newel provides maximum stiffness for the newel-to-step connection. Such joinery is found only on custom jobs. Note kerfing in the curved riser.



Working With Asbestos

E WILL SOON BEGIN WORK on the thirty-yearold asbestos shingles that compose the most recent layer of siding on our house. Since the OHJ often expresses concern about health and safety hazards, I'd like to know if there is any risk to breaking, sawing, or handling asbestos shingles.

--Dorothy Kern Lafayette, LA

THE BIGGEST HAZARD TO YOUR HEALTH occurs when you saw asbestos. It is a fibrous material; the fibers embed themselves in lung tissue and create a condition that has been linked to lung cancer. It is advisable, therefore, to wear a filter mask when you work on these shingles.

**Finishing A Porch** 

AN YOU HELP ME WITH MY SCREENED PORCH? It has a wooden floor that extends over a downhill slope; at its closest, it is one foot above the ground. I have removed the paint from the porch floor and want to sand and refinish it. I would like to use polyurethane but am worried about moisture coming up from the soil beneath the porch and ruining the job. Also, wind-driven rain may penetrate the screens and lie on the floor. What do you recommend for a finish?

--John Q. Adams Roslyn Harbor, NY

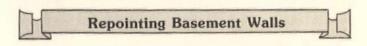
OLYURETHANE DISPLAYS UNPREDICTABLE bonding characteristics when applied to a refinished floor, and so we really can't recommend it for use on a previously painted, outdoor surface. You'd do best to apply an exterior deck enamel to it. A compromise you might want to consider, however, is an exterior, mildew-resistant opaque stain. It's not as tough as paint and will'require reapplication about once a year, but it isn't a film-forming surface like paint, and therefore will not peel.

MOISTURE FROM THE SOIL shouldn't pose any serious problem for you. If you haven't found any signs of rot so far, then the porch is probably far enough from the ground to be safe. If your porch hides the ground beneath it, then you can lay a 6 mil thick plastic vapor barrier on the ground, just to be on the safe side. **Rescuing A Frieze** 

ROUND 1916, A LOCAL ARTIST painted a vine with clusters of purple grapes below the moulding in our dining room. The room was painted white in the 1940s and papered in the '50s. Is there any way to remove the paper and paint and find the design?

--Sherry Harmond Columbus, MS

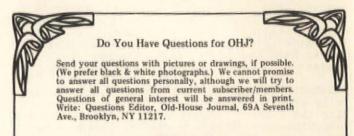
TEP NUMBER ONE would be to rent a steamer and remove the wallpaper with it. How you proceed from there depends on the artist's work itself. If the painting was protected with a coat of varnish or shellac, then you should carefully remove the white paint with any standard paint remover, attempting to stop the stripping process at that intermediary surface. If there is no such boundary layer, however, it's almost impossible to selectively remove paint without damage to the decorative painting underneath. It is sometimes possible to remove the paint layers with a scalpel, but this requires more patience than most of us possess. By conducting carefully timed experiments with paint remover (start in the most inconspicuous place), you should be able to un-cover enough of the original pattern and colors to allow touch-up and restoration.



Y HUSBAND IS TRYING TO REPLACE mortar between the stones in our basement walls. We would then like to vacuum the wall surfaces and put on a clear sealer to prevent further crumbling of the surface stone and mortar. We have been unable to find a clear sealer that will do the job. Can you recommend one?

--Jean David Marshall, MI

UR RECOMMENDATION IS NOT TO USE a sealer at all. Repointing should limit the crumbling you've been experiencing; whatever persists should be minor, unless a more serious underlying problem exists. A clear sealer can trap moisture in your basement walls, and the results could be very bad for the foundation walls. If you must put a finish coating on the walls, then your safest bet is to go with a latex masonry paint, which will allow the passage of water vapor.





Original decorative wood screens, such as on this gracious old Houston home, provided models for the project.

(ORNAMENTAL SCREENS, cont'd from p. 149)

well as in transitional neighborhoods where lower incomes precluded both excessive air conditioning and the aggressive modernization that spelled doom for so many wood screens.

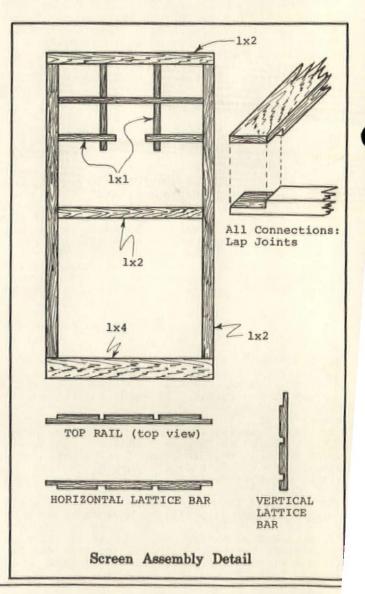
#### **Finding The Patterns**

E SKETCHED AND PHOTOGRAPHED the different types of ornamental screens that we found on homes of our house's age. While I worked out the proportions for the design we chose, my husband, Olin Joynton, detailed specifications for lumber and joints. We used 1 x 2 fir for the screen frame and 1 x 1 fir for the ornamental crosspieces. From our subsequent experience in mounting the screens, I would suggest using a 1 x 4 board for the bottom rail of the screen frame.

THE FRAME HAS LAP JOINTS AT EACH CORNER, and Olin made these with successive passes on his table saw. We examined one screen whose joints were joined with dowels, but rejected that approach because of the tools then available to us. The notches in the crosspieces were also formed by making successive passes on the table saw until the correct width was obtained. (Woodworkers who own dado blades could accomplish the same effect with less effort.) The screens were assembled with Elmer's Water-Resistant Carpenter's Glue, clamped at all the joints, and left to dry overnight. Ideally, a waterproof glue would offer the best results, but we have had no problems with our water-resistant glue in Houston's tropical weather.

I CANNOT OVER-EMPHASIZE the importance of carefully measuring the window frames before cutting the lumber. Houses as old as ours often have windows that only appear to be the same-but are actually quite different because they were framed in a less than systematic fashion. Unfortunately, we underwent the frustration of discovering that a screen that fit snugly in one window was too large for the next window, even though they appeared to be a matched pair. Accurately measuring the windows in advance, as well as labelling the screens, will pay off in the long run and save much last-minute fiddling and adjustment--such as shaving a quarter of an inch off a completed screen and then having to repaint the bare edge with primer and finish coat (for us, a two-day delay in hanging the screen, due to Houston's humid weather).

ONCE THE MEASUREMENTS WERE TAKEN, many screen pieces were cut to length in a mass-produced fashion, and the joints then put in, almost like on an assembly line. After components for several screens had been cut, it was a relatively easy matter to assemble, glue, and clamp the screens. When the clamps were removed from the screens, Olin cut the bottom rail at a slight angle that conformed to the slope of the outer sill, thus ensuring a close fit. I sanded, primed, and painted each screen--a four-day task because only one side could be painted at a time (paint dries slowly in Gulf

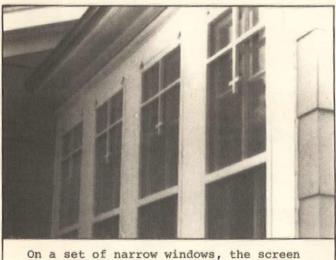




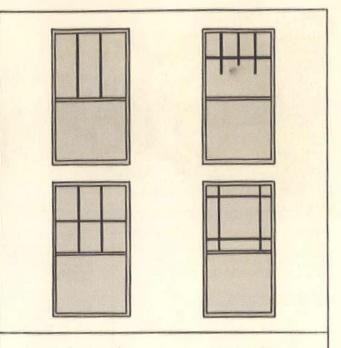
The author's husband, Olin Joynton, is shown gluing and clamping the joints in the framework for the screening.



In place, the decorative pattern in the screen latticework echoes the pattern of the muntins in the window behind.



lattice was changed to reflect a different muntin arrangement in the windows.



Other decorative screen patterns found by the author in Houston neighborhoods were also based on the arrangement of the muntins in the window behind.

Coast weather). Like Olin, I tried to do as much of the work as possible in assembly-line fashion.

SCREENING WAS THEN ATTACHED to the painted frames. Using a staple gun I first tacked one vertical side, then the other, then the top, and last the bottom of the screen. I had primed and painted screen tack strips when I painted the frames, and these were cut to length, placed over the edge of the screen to hide the staples, and then tacked into place with brads. I butted the edges of the tack strips (a more resourceful woodworker would probably mitre the corners).

I ALSO LEARNED that the placement of the tack strips is essential if one is to correctly fit the screen in the window: They should be positioned so that they fit smoothly into the opening, lest they project and not allow the screen to lie flush. We then attached screen hardware (Stanley sells sets for less than one dollar per window) to both the exterior window frames and the screens themselves, so the screens would lift neatly on and off. Finally, we screwed hooks and eyes to the sill and bottom rail, providing a much more secure closure than our old aluminum screens offered.

UR SCREENS ARE NOW an improvement over their aluminum predecessors in terms of both function and aesthetics. This restoration is especially pleasing to us because thoughtless, trendy renovation has so damaged the appearance of many of Houston's old homes. Admittedly, a Houston summer is not the most pleasant time for making wood screens, but the benefits of the screens are lasting and the labor is well-rewarded.



# The Old-House EMPORIUM

#### FREE ADS FOR SUBSCRIBER/MEMBERS

Classified ads are FREE for current member/subscribers. The ads are subject to editorial selection and space availability. They are limited to one-of-a-kind opportunities and small-lot sales. Standard commercial products are NOT eligible.

Photos of items for sale are also printed free-space permitting. Just submit a clear black & white photograph along with your ad copy.

Examples of types of ads eligible for free insertion: 1) Interesting old houses for sale; 2) Architectural salvage & old house parts for sale; 3) Restoration positions wanted and vacant; 4) Hard-to-find items that you are looking for; 5) Trades and swaps; 6) Restoration and old house services; 7) Meetings and events.

Free ads are limited to a maximum of 50 words. The only payment is your current OHJ mailing label to verify your member/ subscriber status.

Deadline will be on the 5th, 2 months before the issue. For example, ads for the December issue are due by October 5th.

Write: Emporium Editor, Old-House Journal, 69A Seventh Ave., Brooklyn, NY 11217.

#### FOR SALE

ARCHITECTURAL TREASURES-from unique to standard re-usable parts. Brass doorknobs, marble mantels, stained glass windows, and more. Historic Albany Foundation's Parts Warehouse, 206 N. Pearl St., Albany, NY 12210. (518) 463-0622.

ANTIQUE IRON: Box locks, press lever-locks, rare padlocks, cast iron bake oven doors, peals, old fireplace tools, small early cast iron key lock safe, etc. Send for my descriptive catalogue of old-house iron items, §2. J.A. Johnson, 9 Candlewood Dr., East Hampton, CT 06424.

PR. WROUGHT IRON DRIVEWAY GATES, circa 1880. Each leaf 3 ft. 11 in. wide by 5 ft. 3 in. high. Total width 7 ft. 10 in. Also hall rack, stairrailing, and other items. Call C.P. Irwin after 4 PM: (201) 438-8280.

FLORENCE HOT BLAST NO. 155. Completely rebuilt and refinished, nothing missing. Plus a copy of original firing instructions. Will burn wood, hard or soft coal. AI Ebeling, Sr. 1716 N. Apperson Way, Kokomo, IN 46901.

OAK RIMMED BATHTUB. \$500. Phone David at (613) 526-1818.

LIGHTING FIXTURES CIRCA 1875. 2 tiered fixtures, total height 36 in.; asking \$800 each. 2 gold plated over white metal fixtures; \$175 each. 1 globe etched glass with light fixture; \$95. Debbie Gioello, 237 Van Cortland Park Ave., Yonkers, NY 10705. NATURAL GAS STOVE FROM THE 1920S. 42 in. wide. 4 burners and work area with bi-fold enameled covers. Oven, broiler plus 2 storage drawers. Very good condition. \$100 plus freight charges. David Goodlander, 8739 N. St. Louis Ave., Skokie, IL 60076. (312) 674-1130.

AGED CHERRY WOOD-Approx. 1,000 running board ft., random cuts (up to 10 ft.) and thicknesses, not milled. Aged 60 years. Available at Columbia Co. store house. Appraised market value plus handling. Geof Eldridge, 281 Garth Rd., Scarsdale, NY 10583. (914) SC3-3094.

VICTORIAN ARCHITECTURAL ITEMS from an 1883 Queen Anne house. Paneled doors, window frames, doorways; paneled wainscoting; 4 fireplaces; ornate carriage porch. For sale as one lot. Brochure sent on request; full set of photos available to serious inquiries. Berlin Auction Gallery, Kensington, CT 06037. (203) 828-6743.

AUTHENTIC BARNWOOD for sale in rural upstate New York county. For further information, call (716) 343-6708.

100 POST OFFICE BOXES, approx. 5 ft. long, 4 ft. high, 14 in. deep. Doors are solid brass with twin combination locks and U.S. eagle on face. 60 of one size (3¼ by 4¼ in.) and 40 of another (5 by 5 7/8 in.). Minimum offer \$650 plus freight, J.W. Hyde, PO Box 367, Elberton, GA 30635. (404) 283-2526.

HARDWOODS, ANY GRADE. Oak (red or white), aspen, ash, birch, basswood, tamarack. Rough or planed. Moulding also available. Terry Schmitz, 5684 Shurbert Rd., Omro, WI 54963. (414) 685-5707.

COMPLETE APOTHECARY INTERIOR from downeast Maine. Walnut wall cabinets in fine condition; 4 ft. sections joined horizontally and vertically by superb pilasters and mouldings. All wall cabinets are 8% ft. high. Approximately 100 running ft. of counters, cabinets, soda fountain back bar. For additional information and inventory contact Virginia Dewing, Franklin, ME 04634. (207) 565-3883.

VINTAGE VICTORIAN HOUSE PARTS-mantels, wood and cast iron, exterior doors, chimney pots, stair railing and balusters, tin pediments and ceilings, house hardware. For inquiries, contact Paul Schoenharl, 2393 Kemper Ln., Apt. 9, Cincinnati, OH 45206 (513) 961-8383.

3-STOREY 1864 STAIRCASE with walnut newel post, handrail, 148 balusters, and poplar stair paneling, \$400. Pr. of large brass 6-arm chandeliers from 1903 Colonial Revival mansion, \$500 pr. or \$300 each. Poplar mantel with iron crane, \$150. 10 gas sconces, \$50 for all. Danny Lockard, 250 N. Edgehill, Youngstown, OH 44460. (216) 793-8774.

VICTORIAN SPIKE & HAIRPIN IRON FENCE. 4 ft. high, 8 ft. sections; 1,000 ft., \$60 per section. Will sell all or part. W.G. Walters, 306 Lawndale PL, Michigan City, MI 46360.

BUTCHER'S SHOWCASE, circa 1890s. Oak and porcelain, approx. 8 ft. long, with paw-type feet; \$350you pick up. Also 2 oak sliding doors, 2¼ in. thick: 5 by 7 ft., \$125; 4½ by 7 ft., \$100. R.R. Walsh, 806 Greenwood, Jackson, MI 49203. (517) 783-1768.

HOUSE PARTS-Victorian mantels, double front doors, newel posts. Federal and Greek Revival mantels and parlor window sections. Some hardware. Buy and sell. The Hickory Tree 1823. (216) 876-3175. BEVELED GLASS-about 100 pieces, 14 by 36 in., uniformly shaped. Sell all or part, \$15 each. Thomas Cox, 2625 Wayside Dr., Richmond, VA 23235.

NEWEL POSTS-150 years old, solid black walnut; \$75 each. A. Gaal, 41 Washington Ave., Irvington, NJ 07111. (201) 399-3760.

RESTORED ANTIQUE VICTORIAN LIGHTING FIXTURES-gas lights, chandeliers, and sconces. Rewired, polished, and lacquered. Also available in original condition. The Brass Attic, Brookfield Center, Brookfield, OH 44403. (216) 448-6548.

#### **BOOKS & PUBLICATIONS**

GUIDE FOR DOWNTOWN MERCHANTS-Provides property owners with information concerning storefront design, business signs, window displays, paint selection, plantings, infill construction, and other topics concerning the general improvement of a historic downtown commercial district. Contains architectural renderings and photos that show how lowcost improvements can vastly improve appearance of various buildings. "A Guide for Downtown Improvements" is \$3.00. Write to: Dept. of Community Development, 315 W. Second St., Frankfort, KY 40601.

#### **INNS & HISTORIC HOUSES**

THE TAMWORTH INN, Tamworth, N.H.—Charming restored village inn (ca. 1830) with first-class restaurant and pub. Summer theatre in July and August. New Hampshire's best trout stream abuts property. We pamper our guests. Double with private bath: \$40. Double with shared bath: \$30. For reservations call: (603) 323-7721.

SALT LAKE CITY's first bed and breakfast has been established in a lovely old state historical home, by the Eller family. Our rates are reasonable and our location is convenient. For reservations, write: 164 South 900 East, Salt Lake City, UT 84102. Or call: (g01) 533-8184.

MINNEAPOLIS, MN-Bed & breakfast. Enjoy the comfort, privacy and convenience of staying in a late 19th century period home located in the city's historic Lake District. Close to downtown, restaurants, theaters. Call for details: (612) 377-7032, 377-2290 or 377-7540.

#### **MEETINGS & EVENTS**

HISTORIC RICHMOND FOUNDATION-3rd annual symposium, Saturday, Sept. 19, 10 a.m. to 4:30 p.m. Virginia Museum, Grove Ave. at the Boulevard, Richmond, VA. Subject: "From Rooms to Bealms-The Ins and Outs of Preservation." Talks include: Saving Britain's Heritage-The Role of the Private Pressure Group; The Refurbishing of Three Rooms From Oak Hill; The Richmond Room Reborn; and The Architecture of Downtown Richmond. Advance registration only, before Sept. 11. Contact: Historic Richmond Foundation, 2407 East Grace Street, Richmond, VA 23223. (804) 643-7407.

VAN VORST PARK ASSN. of Jersey City, N.J., holds monthly meetings regarding this designated historic district. On the third Tuesday of each month in the Barrow Mansion, 83 Wayne St., 4 blocks from PATH Grove St. Station. Come find out what's happening just across the river. For information: (201) 434-3535. FRIENDS OF TERRA COTTA-A new group has just been formed to raise the awareness of the general public—and architects and building owners—to the beauty of, and preservation requirements of, terra cotta buildings. Group will sponsor lectures and slide presentations, walking tours, pamphlets and catalog reprints, and will campaign to save threatened terra cotta buildings. First chapter was formed in California, but new chapters are expected soon in urban areas such as Chicago and New York. Anyone sending dues before Sept. 1, 1981 will be considered a charter member. Dues are \$5 for individuals; \$10 for institutions. Send to: Friends of Terra Cotta, attn. Beverly Bubar, c/o California Historical Society, 2090 Jackson St., San Francisco, CA 94109.

8TH ANNUAL GRANT PARK Tour of Homes, will be held Saturday, Sept. 19 from 12 to 6 p.m. and Sunday, Sept. 20 from 1 to 6 p.m. In addition to the tour, there will be a festival, food and entertainment in the Park. Tickets \$4; \$3.50 in advance. For additional information call (404) 622-6366 or write: Grant Park Tour Tickets, 512 Park Ave., Atlanta, GA 30312.

#### POSITIONS WANTED

SOMEWHAT OLDER house guy seeks work and potential investment with SF Bay Area rehab crew. Have tools, truck, tenacity, and unrehabbed sense of humor. Call Mr. Carlson in Oakland; 655-2229.

#### REAL ESTATE

NEWTONVILLE, MA-1896 French Victorian, 11 spacious rooms, large lot edged by brook. Fieldstone front and back porches, 4 fireplaces, 6 bedrooms, 4 curved rooms, oak pocket doors to music room. Victorian bath with hip shower. Unfinished turret room. Modern kitchen, diswasher & disposal. 553 Walnut St. \$175,000. Call (617) 969-4566.

1805 HISTORIC CENTRAL CHIMNEY CAPE with 5 fireplaces (1 with bake oven), wide board floors, 4 bedrooms, living room, family room, dining room, Woodmode kitchen, 2 full bathrooms, 2-car garage, set on scenic 2/3 acre (more land available) in upstate N.Y., 1 mile from village of Morrisville. \$57,900. (315) 655-8333.



TOLLAND, CT-Antique Colonial, originally the "Olde Babcock Tavern," ca. 1700's. Nominated for the National Register. Restored in the 1960's. 8 rooms, 1 bath, wood-burning stove, well insulated with fiberglass, all modern heating, plumbing, electricity, all on pretty country setting with privacy, stone walls, herb gardens and Plymouth styled small barn. Owner re-locating. Offered by owner at \$155,000. 15 mi. from Hartford. (203) 875-1239.

CHAPEL HILL, N.C.-3-storey colonial home on 3+ acres. Exterior designed after the Dwight-Bernard House in Historic Deerfield, MA. Features colonial lighting, wide mouldings, raised panel woodwork, and pine flooring. Fireplaces in huge greatroom and master bedroom. \$151,000. Carol Underwood, 168 Trenton Rd., Chapel Hill, N.C. 27514. (919) 493-2756.

MAGNIFICENT TURN-OF-CENTURY home 1 hour north of Dallas. 2-storey, 4 bedrooms, 2½ baths with dual central heat, finished attic, basement. Gorgeous original woodwork, full-width stained glass on stair landing, rare prism bevelled bow window, patterned parquet, 6 fireplaces-magnificently maintained. Don Davis Realtors, Sherman, TX (214) 892-8177.

SPOKANE, WA, on historic Summit Blvd. A beautiful turn-of-century country English styled home. Close to downtown with 9/10 acre, stone carriage house with apartment above. For pictures and more information, call or write: Susan Daly, W. 2719 Summit Blvd., Spokane, WA 99201. (509) 328-9225.



HISTORIC GREEN SPRINGS, VA-"Glenburnie", an 1830-1840's plantation house with 18th century wing. 5 bedrooms, 3½ baths, formal music room, 5,000 sq. ft. living space. 45 open acres with pond, barn, river frontage, mountain view. \$265,000. Royer & McGavock, Ltd., Realtors, 3 Boar's Head Ln., Charlottesville, VA 22901. (804) 293-6131. Eves./ weekends (804) 293-7481 or (804) 589-3083.

1811 BRICK COLONIAL of historical interest in the process of restoration. Situated on 13 acres with beautiful view of the mountains. 8 rooms, 5 fireplaces, slate roof. 40 mi. south of Roanoke, VA. Owner financing. \$57,500. E. Stinnette, 40 Old Orchard Dr., Greeneville, TN 37743. (615) 638-6271.

GREENE COUNTY, N.Y.-Lovingly restored brick & stone Colonial (ca. 1740); move-in condition. 7 rooms, 5 working fireplaces, period furnishings, new kitchen with appliances, underground wiring, guest house, garage. 4 acres located on widest part of Catskill Creek, offering many water sports. Low taxes. \$185,000. (518) 943-3303.

CRAGSMOOR, N.Y. (Ulster County)-90 mi. to NYC. 16-m. dilapidated tum-of-century cottage. 2 fireplaces, 4 bathrooms, 2 large porches, 5 chimneys. 1.1 acres; zoned nature preserve, historic stone entrance (100 ft.); located 4 mi. from Ellenville, N.Y. Call (914) 876-6315 or write M. Hester, P.O. Box 365, Rhinebeck, NY 12572.

SOUTHAMPTON CITY, VA (near Boynton)-E.B. Prince House and 3½ acres. Center Hall plan Federal plus addition. 16 rooms including 5-room apt. with private entrance. 3 baths, 5 fireplaces, original wainscotting, mouldings and mantels. Outbuildings. \$65,000. Les Riley Real Estate, Box 218, Hamilton, NC 27840. (919) 798-7460.

COLONIAL HOMESTEAD built in 1842. Authentic restoration of over 4,000 sq. ft. boasts rich history; provided studio for artist George Caleb Bingham. Located in Boonville, MO, and nominated for National Register. Call Quinlan Agency (816) 882-6543.

CALIFORNIA CENTRAL COAST Victorian, 3 bedrooms, nursery & bath, parlor, drawing room, fireplaces, dining room, den, kitchen, breakfast nook. Summer kitchen or maid's quarters & office attached. Restored. Woodburning pot bellies in kitchen & office. Immaculate yards. Main St., Templeton. A Bentley automobile included. \$225,000. Devendorf -Agent. (805) 239-1139 or 434-1831.

FEDERAL-GREEK REVIVAL frame house, 2 storeys with cottage and 3 outbuildings on 2+ acres. Located near Charlottesville, VA, and Shenandoah National Park. Main house has 4 bedrooms, 2 baths, 2 kitchens. Hot-water heat, working fireplace; new fumace, roof and insulation. Trout stream, state road frontage. \$58,000. Paul Chattey (703) 591-1699.

TURN-OF-CENTURY CHARM in Historic District. Built 1909. Wide front porch with hanging baskets, old azaleas, camellias, dogwood and pecan trees. Ornamental plaster mouldings and bay windows in living and dining rooms. Country kitchen, wide plank floors. 2,800 sq. ft.; \$55,000. Rockingham, NC, 30 min. to Southern Pines, NC. Gloria Woodall, Real Estate Broker. (919) 876-2569.

#### RESTORATION SERVICES

CABINETS & FINE CARPENTRY; restorations and period reproductions. Tom Schweder, 218 St. Johns Place, Brooklyn, N.Y. (212) 622-0727.

R. L. TRIGGS WOODWORK-Interior and exterior repairs; refinishing and restoration. References available upon request. Westchester County area. (914) 698-8342.

ANTIQUE MOULDING REPRODUCTIONS-Reproducing antique mouldings in hardwoods. Designs taken from your sample or specifications. Reasonably priced & prudent service. Turnbull's Custom Mouldings, Box 602, Sumner, MI 48889. (517) 833-7089. ARCHITECTURAL CONSERVATORS and Preservation consultants can interpret, restore, rehabilitate, or decorate your historic building. Our projects include some of the nation's foremost house museums, institutions, large estates and public buildings. Feasibility studies, sympathetic adaptive re-use and additions are specialties. Free literature. The Preservation Partnership, 7 Irving St., New Bedford, MA 02740. (617) 996-3383.

PLASTER RESTORATION of walls, ceiling, mouldings, etc. Custom new work and faithful repairs on existing areas. Historical restorations in original materials. Russell Restoration of Suffolk, Dean M. Russell, Rte. 1, Box 243A, Mattituck, N.Y. 11952. (516) 765-2481 or (516) 298-4982.

STONE MASONRY-Architectural restoration, repointing, rebuilding of stone buildings, steps and fireplaces. Consulting. N.Y.S. Historical Assn. references. Have trowel, will travel. William H. Parsons, Jr. and Associates, 19 Eagle St., Cooperstown, N.Y. 13326. (607) 547-9639 or (212) 724-2742.

ANTIQUE HOUSE CONSULTANTS who have worked on National Register properties and historic house museums now offer their technical expertise to the private homeowner. Our services include: Restoration planning, research and documentation, paint analysis, selection of appropriate wallpapers and mouldings, help in finding craftsmen and architects. Brochure available. Call or write: Antique House Consultants, 242 Dalmeny Rd., Briarcliff Manor, N. Y. 10510. (914) 763-4858.

PLASTER ORNAMENTS-Restoration of mouldings and other plaster detail. Will design styles to meet individual needs. Geoffrey Kaslof, 1715 President St., Brooklyn, N.Y. 11213. (212) 774-2695.

DOES YOUR OLD HOUSE baffle you? Our professional preservation and architectural services will lighten your darkness: Historical research, project planning, adaptive and restoration design, technical consulting and advice, pre-purchase inspection, and more. Allen Charles Hill, AIA, Historic Projervation and Architecture, 25 Englewood Road, Winchester, MA 01890. (617) 729-0748.

GENERAL CONTRACTOR—Highly experienced and specialized in change-of-use conversions and all types of historical restoration, both residential and commercial. Also active in inspecting all types of structures. Write for free brochure. William J. Warren & Son, 202 W. Magnolia St., Ft. Collins, CO 80521. (303) 482-1976.

#### WANTED

SEEKING INFORMATION and/or wholesale distributors about how to open and stock a "Do-It-Yourself" store for the restoration of houses, antique furniture, stained & bevelled glass, etc. Barton Lucas, 107 Washington, Grand Haven, MI 49417.

BRONZE PLATING-Need name and address of someone who does bronze plating. L. Hollmann, 723 Church, Eudora, KS 66025. (913) 542-3637.

CRANK MECHANISM for opening exterior shutters from inside of window. Popular on 1900 period houses: A small gear mechanism acting as bottom hinge with a rod extending from it through the window frame for the crank. Want 3 pair. Theodore A. Gantz, 1604-8 Sycamore St., Cincinnati, OH 45210.

SALVAGE WOODEN STORM WINDOWS, size 36 x 66 in. Also need old window sash-12 light, each light 8 in. x 10 in. Mary Lou Charles, R.D. 1, Aurora, N.Y. 13026. (315) 364-7391.

UMBRELLA FOR WICKER CARRIAGE, ca. 1890, with or without fabric covering. Please send price & description to: A. Levine, 1600 Lafayette N.E., Albuquerque, N.M. 87106.

PRESSED METAL CEILING PANELS to cover room 16 x 16 ft, or more. Must be reasonable. Also wanted: Fretwork, gingerbreading, stair balusters & newel posts (wood). Also: Old photos of general store interiors. Darlene Sluss, P.O. Box 628, Cave Creek, AZ 85331.

VICTORIAN ARCHITECTURAL DETAILS: Marble mantels; staircases and staircase parts; lighting fixtures; doors; hardware; etc. Call (203) 443-1864 or write P.O. Box 26, New London, CT 06320.

CAST IRON FENCE: 300 ft. or more; would prefer with posts and gates. Fred Graeber, 214 S. Bush, Ukiah, CA 95482. (707) 462-0082. GET IN ON THE OHJ'S REVENUE-SHARING PROGRAM

#### Your Group Can Be Eligible For A \$1,000 Grant

THE OLD-HOUSE JOURNAL is giving away money... \$5,000 to be exact. We'll be awarding five unrestricted \$1,000 grants in December to five separate preservation groups in the U.S. And your group could be eligible.

THE OLD-HOUSE JOURNAL isn't being totally altruistic. Rather, we're trying to help those groups that are helping us. Here's our reasoning: The soaring cost of paper and postage is making it ever more expensive to sell subscriptions through the mail. At the same time, with government budgets being slashed everywhere, funds for preservation are dwindling.

SO IT ALL SEEMS QUITE LOGICAL: Rather than pour money into direct mail, why shouldn't we give that money instead to organizations that help us sell subscriptions?

WE'VE DEVELOPED a two-part plan to generate funds for preservation groups:

(1) THE REVENUE-SHARING PROGRAM: All preservation groups are eligible to sell OHJ subscriptions (new or renewals)—at a discount—to their members. Then, you get to keep 50% of all funds you collect. For every 10 subscriptions (the minimum) you send in, you get to keep \$60.

(2) THE GRANT PROGRAM: The OHJ will award an unrestricted \$1,000 grant to each of five groups participating in the Revenue-Sharing Plan. Winners of the five grants will be determined by a drawing to be held in December. Winning organizations will be drawn by Henry McCartney, Coordinator of the Neighborhood Conservation Program for the National Trust. Names of the five winners will be published in the February issue of The Old-House Journal.

JUST ABOUT ANY GROUP fostering restoration or preservation is eligible to participate in this Revenue-Sharing and Grant Program: Block association, neighborhood group, historical society, or city or state preservation society.

FOR THE NECESSARY FORMS to make your group eligible for a \$1,000 grant and revenue-sharing, call or write:

Sally Goodman Grant Program Coordinator The Old-House Journal 69A Seventh Avenue Brooklyn, N.Y. 11217 (212) 636-4514



# **HEAT GUN...THE EASIEST, CLEANEST WAY TO REMOVE PAINT**

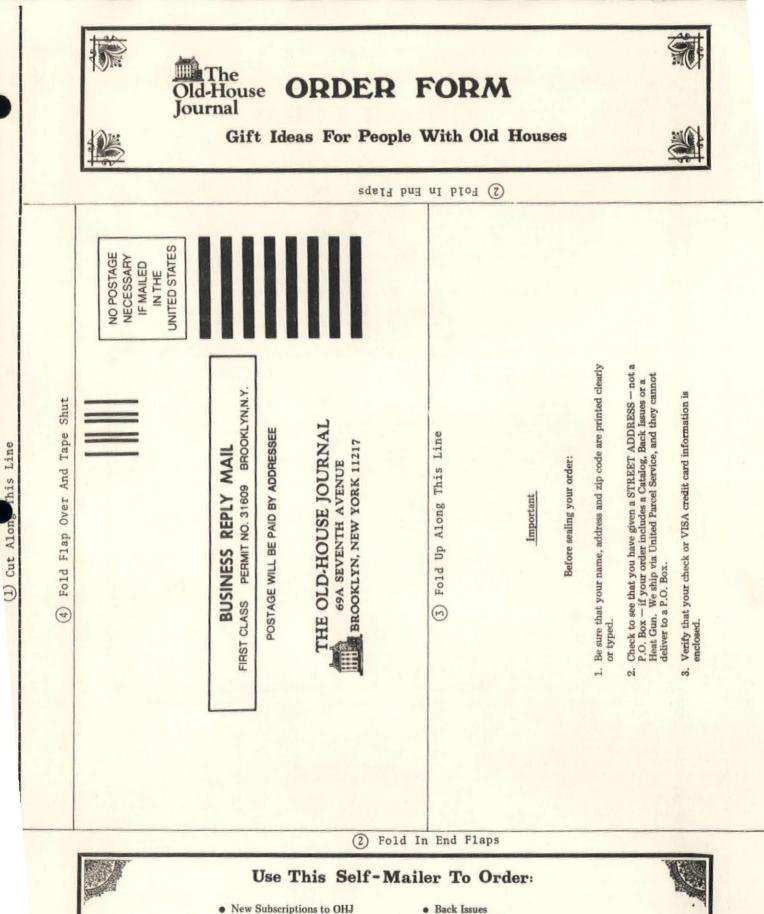
way so that it ca Some clean-up required, but th —and the mess- Heat Gun hazards of meth	c heat gun softens paint in a uniform in be scraped off with a knife. with chemical remover is he volume needed -is vastly reduced. is safer: It avoids the hylene chloride vapors tremovers. Operating temperature is		
Heavy Dut NOTE: • N.Y. S • Please	s \$64.95. Please send one Master y HG-501 Heat Gun. Allow 4 weeks for delivery. tate residents must include applicable sales tax; give STREET ADDRESS—not a P.O. Box—for Parcel Service.	er.	()) ()) ()
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lower than a propane torch, avoiding danger vaporizing lead. See article in November 1979 OHJ for operating details.

The Master HG-501 Heat Gun is #1 in paint removing. More than 6,000 are in use by OHJ subscribers...and the testimonials to its effectiveness come in every day. It is a heavy-duty industrial tool operating at 500-700 F. and draws 14 amps at 120 volts. Rugged all-metal construction; no plastics!

There's a two-month replacement guarantee: If the unit should fail for any reason within 60 days of purchase, return it to The Old-House Journal and we'll provide a free replacement.

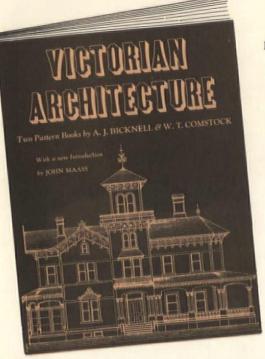
Price of \$64.95 includes: (1) Pedestal stand worth \$6.75; (2) Shipping via United Parcel Service; (3) The Old-House Journal replacement guarantee. Telephone orders also accepted on VISA or via COD (there's a \$2 charge for COD).



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- · The Paint-Stripping Heat Gun
- New 1981 Old-House Journal Catalog
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# VICTORIAN ARCHITECTURE

This "combination volume" is a great source of design ideas!

Two invaluable books of Victorian architectural details & designs are now available again through The Old-House Bookshop in a single softbound edition entitled *Victorian Architecture*.

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- \* Gable ornaments

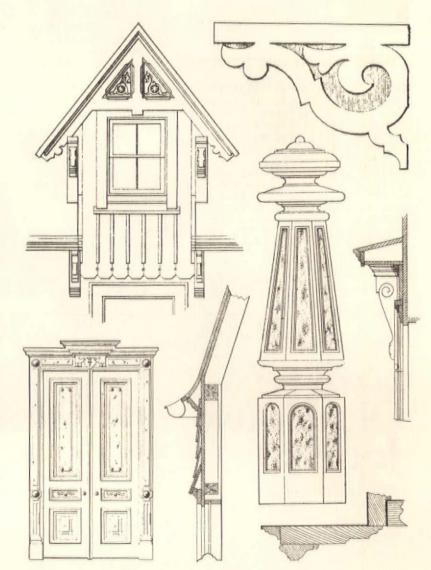
Details can be used as a source for building interior and exterior woodwork, re-creating exterior gingerbread, wall stencil patterns, restoring porches, building additions... or just for pure visual enjoyment of fine design.

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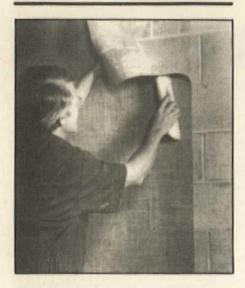
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## Products For The Old House



#### **Plaster Resurfacing System**

**T**F YOU HAVE plaster walls that are badly cracked, bumpy, or covered with alligatored paint, you may want to take a look at the Flexi-Wall system. The system is based on a fabric impregnated with gypsum. When applied with its special adhesive (it goes up like wallpaper) the system essentially creates a thin plaster veneer on top of the old wall. And the slight texture in the fabric helps hide irregularities in the surface below.

ONE ATTRACTION of the system is its fire resistance. Unlike

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FLEXI-WALL comes in rolls 48 in. wide and 90 ft. long. Installed cost for a homeowner would be about 90¢/sq. ft. On a do-it-yourself project, the material cost would be about 60¢/sq. ft. (Cost would be lower on large commercial projects.)

THE FABRIC comes in 45 colors, so it is not necessary to paint. It can be painted if desired-although paint does change the reflectance of the fabric and may make underlying bumps more noticeable. Some renovators have also used the material as a liner under wallpaper on walls that were too rough to take paper directly.

FLEXI-WALL is sold through major paint distributors. It can also be ordered directly from the manufacturer. For free brochure and ordering information, write: Henry Levy, Flexi-Wall Systems, Dept. OHJ, P.O. Box 88, Liberty, S.C. 29657. Tel. (803) 855-0500.

#### Penetrating Oil Floor Finish

IN THE MAY ISSUE the editors recommended penetrating oil finishes as the best compromise finish for many old-house floors. Penetrating oil is easy to apply and easy to touch up: You just wipe on more finish in any high-traffic areas where the previous finish is wearing thin. Any wax residue on the floor won't prevent the oil from drying--the way it will with varnish.

THE MAJOR PROBLEM with penetrating oil floor finishes: Finding them! Many stores don't stock them, preferring instead to tout polyurethane as the answer for every problem.

ONE MAIL-ORDER SOURCE for penetrating oil floor finish is Daly's Wood Finishing Products. Daly's "Floor Fin" sells for \$24.95/gal. + shipping and handling. For free brochure and ordering information, write: Jim Daly, Daly's Wood Finishing Products, Dept. OHJ, 1121 N. 36th, Seattle, WA 98103. Tel. (206) 633-4204.



#### **Brass Hardware**

THIS SOLID BRASS door lever is one of the new offerings from Renovator's Supply. It's 4-3/8 in. long, with a projection of 2-3/4 in. It comes with 1-3/4-in. spooled roses and spindle. Cost is \$36 ppd. for a pair of levers and accompanying roses. For catalog of door hardware, plumbing & lighting fixtures, and other oldfashioned accessories, send \$2 to: Renovator's Supply, Dept. OHJ, 71A Northfield Rd., Millers Falls. MA 01349.



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