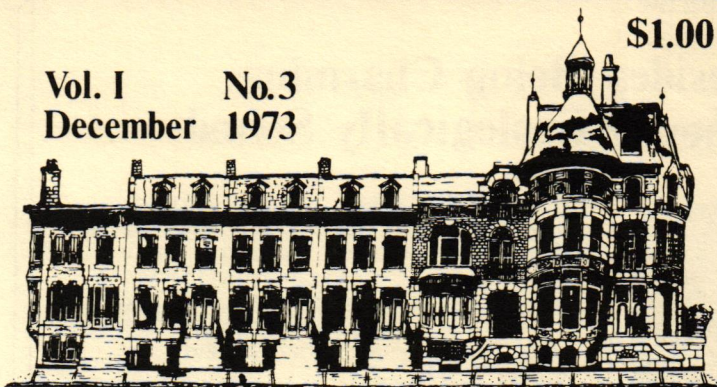


# THE OLD-HOUSE JOURNAL

Vol. I No. 3  
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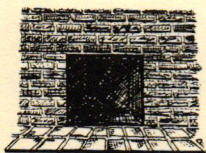
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Renovation And Maintenance Ideas For The Antique House

## Teaching A Fireplace Not To Smoke

By James R. McGrath



A working fireplace can be a comfort and a joy on a cold winter evening. But a fireplace that doesn't work properly can literally bring tears to your eyes.

I RECENTLY MOVED into a renovated 1888 house in which one of the selling points was the working fireplaces. Flues were newly relined, new firebrick in the fireplaces...everything looked really great.

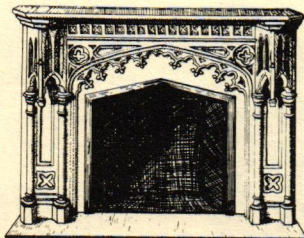
THE FIREPLACES LOOKED GREAT until we tried to light a fire in them. Then...SMOKE. Lots of smoke in the room as well as a minimal amount going up those beautifully lined flues.

I TRIED USING different types of fuels. Still lots of smoke. Opening the windows did improve the draft and reduce smoke, but the wind blowing through the house rather defeated the whole idea of having a fireplace.

I THEN WENT DOWN THE STANDARD checklist for a smoky fireplace:

- The damper was checked to make sure it was functioning properly. It stayed open after the fire was started and didn't flop closed. Next...
- I shoved a piece of newspaper up into the damper opening and lit it. Flames and smoke all went up the chimney. This indicated that the flue was clear.

RELUCTANTLY I CONCLUDED that the fault lay in the structure of the fireplace itself. The masons who had relined the flues and rebuilt the fireboxes may have been wizards



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## Coming Next Month

MAJOR PLASTER REPAIRS

with bricks and mortar. But they didn't know beans about the theory of fireplace design.

A LITTLE RESEARCH revealed there are several critical elements in fireplace construction that can cause it to smoke:

- No smoke chamber or smoke shelf in the chimney;
- Chimney improperly located on the roof or lacking a chimney cap leading to insufficient draft;
- Damper improperly located;
- Incorrect dimensions in the firebox.

I DECIDED TO INVESTIGATE the possibility of improper firebox dimensions since this is the easiest problem to correct.

THERE ARE SEVERAL CRITICAL dimensions in a fireplace, all of which are interdependent:

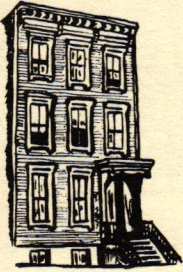
Size of flue  
Throat dimensions  
Height of firebox opening  
Width of firebox opening  
Depth of firebox



(Continued on p. 8)

Perspective...

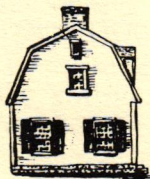
## Besides Being Charming, They're Ecologically Sound



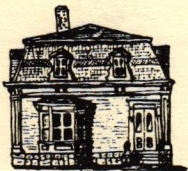
**O**LD HOUSES are taking on new dimensions that move them from from the "quaint" category into the realm of social significance. While few people buy an old house to make a social statement, its nice to know you can do good by doing well.

PEOPLE WHO LOVE old houses have long been tolerated as amiable enough folk—but hopelessly impractical. Who would willingly choose to live in an outmoded dwelling when they could buy a new house with modern conveniences? To opt for an old house, a person would have to be an incurable romantic—and just a little crazy.

**T**HE ENERGY CRISIS is showing that the old-house people may be the practical ones after all. Ecologists have been telling us for some time that the earth is not a boundless pantry full of goodies. Rather earth is a finite globe whose resources must be used in a prudent way. The Energy Crisis merely underscores one aspect of the ecological facts of life: Petroleum and natural gas are just the first of the earth's resources that are starting to run out.



**A**N OLD HOUSE is constructed from physical resources that are just as vital as gallons of gasoline. The bricks and boards and construction energy encapsulated in an old house are physical resources that have already been stripped from the earth by a previous generation. By renovating and maintaining an old house, the owner is extending the useful life of these physical assets through this generation—and hopefully through the next.



**T**HE OLD HOUSE that's allowed to crumble into dust—or the one that falls to the wrecker's ball—has to be replaced by another housing unit. And that requires new materials and energy to be extracted from the earth, further depleting the storehouse for future generations.

**T**O RENOVATE AN OLD HOUSE doesn't require huge amounts of material; just lots of labor. And properly maintained, the house will last forever. Its useful life is limited only by the energy and dedication of its occupants.

**S**O THE NEXT TIME you have to plug a leak that you've patched four times already, take heart! You're doing a good turn for mother nature as well.

—R. A. Labine



## THE OLD-HOUSE JOURNAL

Published Monthly For People Who Love Old Houses

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## Antique Wallpaper Preservation

**S**HOULD YOU COME ACROSS A PIECE OF WALLPAPER, whether a remnant or a wall full, in the process of restoration, you should be aware of proper removal techniques for historical value.

**I**N NINETEENTH CENTURY HOUSES various types of wallpapers and borders were used in combination within the same room. Border papers are found around doors, windows and mantels and at chair-rail, base-board, and frieze levels. On ceilings, there may be ornamental centers as well as wallpaper corners and borders.



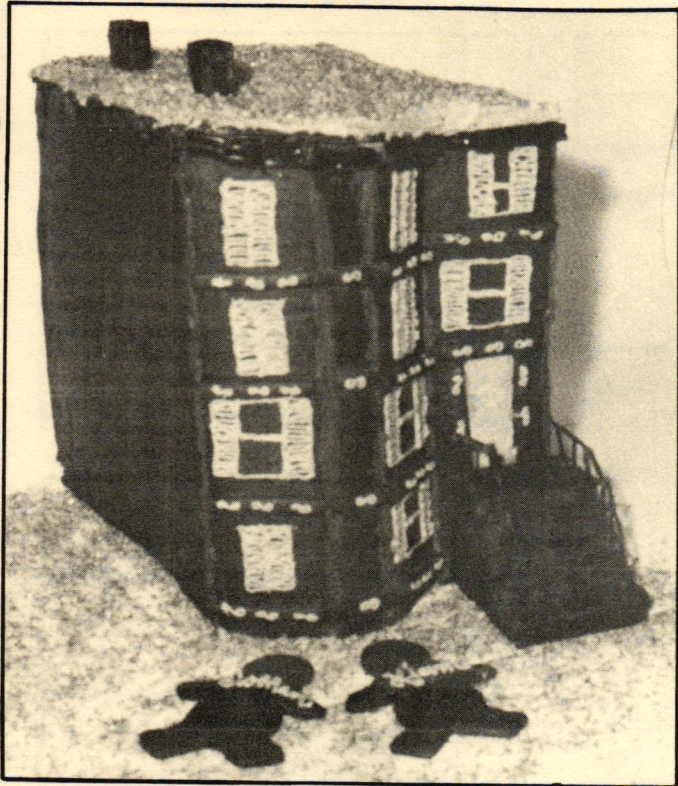
**I**F YOU PLAN TO HAVE REPRODUCTIONS MADE, record what you find. Fragments in color should be photographed before you try to remove them because they might fade somewhat in the process of removal.

**A**S CAN BE IMAGINED, removal can vary from the pleasantly simple to the tediously onerous. (The latter may account for the fragment being covered over in the first place 100 years ago.)

**N**OT TOO INFREQUENTLY, old paper will come off with a little gentle sliding of a spatula because the old glue will have dried out and lost its adhesive qualities.

**A**T THE OTHER EXTREME are those papers which are glued tight on unfinished boards. Attempts to pry the papers loose will destroy them, so one obvious solution is to remove the board and save the whole thing.

**A**N ALTERNATE SOLUTION for those less impossible situations is moisture. A small hand-held  
(Continued on p. 11)



# VICTORIAN GINGERBREAD

By Claire Wood

GINGERBREAD is a natural medium for the old-house owner. It suggests all the traditional values of the holidays and also provides an opportunity for compulsive attention to detail. If you'll put down your spackle and paint brush, and get out the cookie sheets, you can have a gingerbread old house for a holiday centerpiece, and after January 1st, the kids can play urban renewal.

THE JOURNAL HERewith PROVIDES direction on how to make a gingerbread brownstone, but you are exhorted to use your own imagination. We chose a brownstone rowhouse because its rectilinear design is less intimidating to the beginner, which is what we were when we began this article. However, we have discovered that gingerbread is addictive, and since small sections stuck together with icing are easier than making large sheets, I have plans for an 1840 octagonal house by Christmas.

YOU TOO, CAN CONSTRUCT YOUR FANTASY old house. Do not feel in the least restricted by the accompanying design; it is offered only in the spirit of encouragement.

## YOU WILL NEED:

One large recipe gingerbread (see box)	Licorice strings
One can chocolate icing	A cake decorating set
One can orange icing	Large sheet of heavy cardboard
One bag colored sugar	8½ x 11" paper for pattern
Licorice nubs	

Make the gingerbread and chill well, preferably overnight. Make pattern as per diagram. Flour board or counter and roll portion of dough to thickness of about 1/8". Refrigerate remainder of dough till ready to use. Cut smaller pieces of house first and arrange on well-buttered cookie sheet. At this point, it's advisable to check the shape of each piece against its pattern, as transference from counter to pan tends to stretch the unbaked dough. Pat and poke into proper proportions. Bake 8-10 minutes at 375 degrees.

NOTE: I broke two of the long narrow bow front pieces and about six treads and risers in the course of assembly, so it is highly recommended that you cut and bake extra treads and risers and a couple of extra bow fronts to begin with.

THE LONG SIDE SECTIONS OF THE HOUSE are most difficult to handle. I finally gave up on transferring raw dough to pan in one piece, sliced each side piece down the middle, moved it to pan in two sections. Overlap cut edges about 1/4" and press together well. The seam is almost indistinguishable after baking.

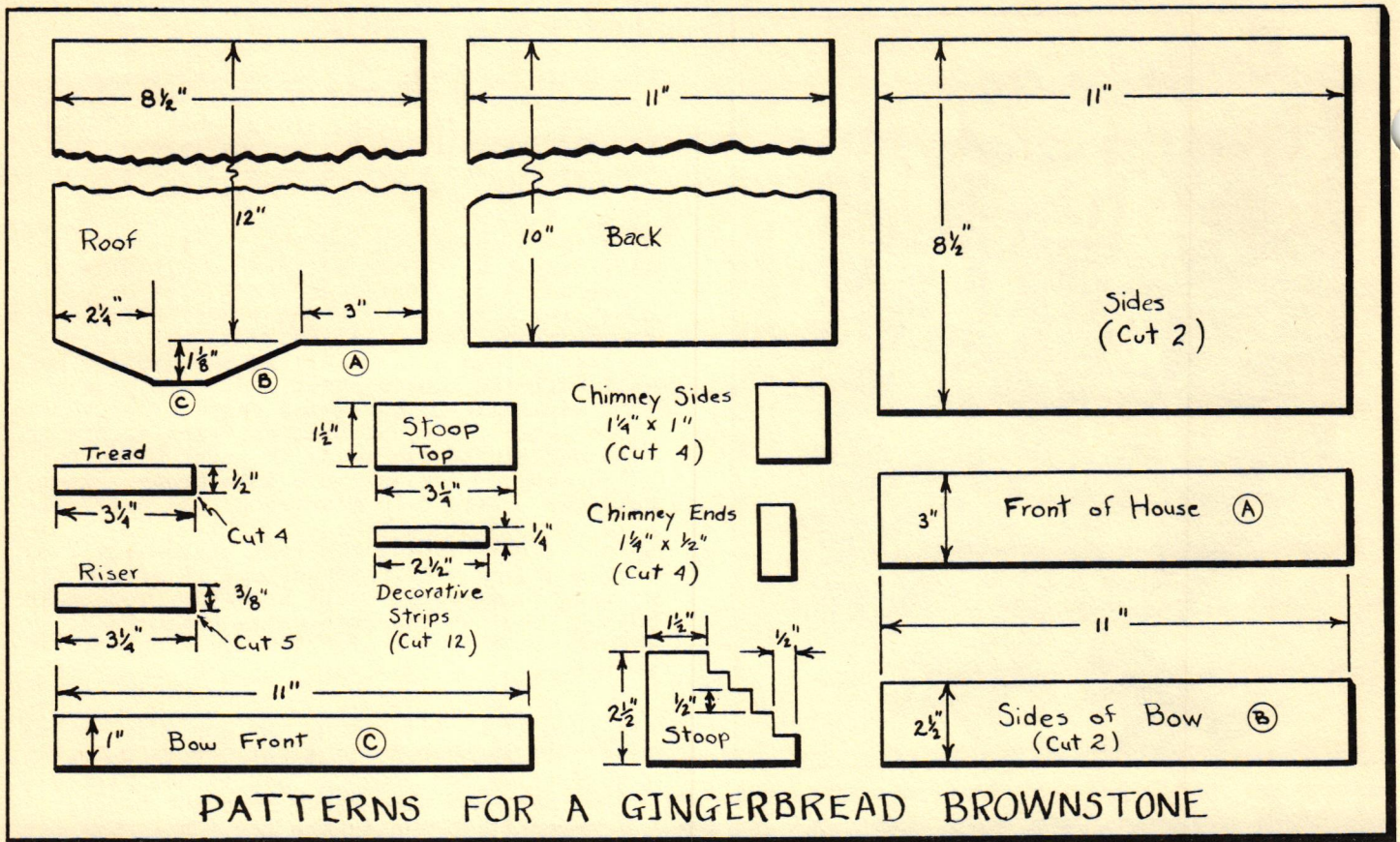
DECORATE FRONT PIECES of house with orange icing, drawing windows and shutters and East-lake designs and whatever pleases you. I added 1/4" decorative gingerbread strips beneath the windows and as door frame, sticking them in place with chocolate canned icing.

AT THIS POINT, an amazed word in praise of Betty Crocker canned frosting as mortar. This whole project would be impossible without its hardening properties, which are akin to concrete. In fact, the chocolate is a perfect

### NORMA'S GINGERBREAD FOR MEN AND HOUSES

1-1/3 cup butter	3 tsp salt
1 cup packed brown sugar	2 eggs
4 tsp ginger	1-1/2 cups molasses
2 tsp cinnamon	6 cups sifted all-purpose flour
1/2 tsp cloves or allspice	2 tsp baking soda
	1 tsp baking powder

Cream shortening, sugar; add eggs and mix thoroughly. Blend in molasses. Sift flour, spices, salt and rising agents; add to molasses mixture. Mix well. Chill at least 3-4 hours, preferably overnight.



## PATTERNS FOR A GINGERBREAD BROWNSTONE

match for the facade of a brownstone. There's a place outside my front door that's defied patching with concrete mix, and I think Betty Crocker may have the answer. Anyway, trust the icing and forge ahead.

**ASSEMBLE STOOP:** Apply frosting liberally to top  $1/4$ " edges of side sections. Frost underside edges of stoop top and press gently into place. Ask someone to steady it while you butter underside and top edges of bottom riser and position it gently but firmly. This should be enough to hold sides upright while you continue stoop construction. If not, have your help stay put till all risers are in place. Frost undersides of treads and stick them on. Let stoop harden while you assemble house.

**CUT PIECE OF HEAVY CARDBOARD** to 10" x 14" and use as foundation. To begin, see how well edges of left wall and rear wall match. If edges are drastically uneven, take a very sharp knife and lightly scrape bumps, which, with luck, will disappear into a fine powder without fracturing the whole piece of gingerbread. Liberally frost edges and join. Take fingerfuls of icing and run them up the inside of the joint until it's strongly reinforced. Join other side to rear wall in same manner.

**BUILD BOW FRONT** the same way, making sure bow corresponds to bow in roof front. Don't stint on the icing on the joints. If sides don't match in various places, don't panic; brazenly fill holes with icing.

**CUT PIECE OF CARDBOARD** to roof pattern and place it on top of house. There should be about a half-inch overhang in front. Butter top of gingerbread roof with orange icing "tar" and sprinkle liberally with colored sugar "gravel." Make chimneys. Place gingerbread roof on cardboard roof and arrange chimneys. Cover any obvious cardboard and fill in cracks between walls and roof with icing.

**LIBERALLY FROST** flat side of licorice nubs and stick in place under roof overhang to make cornice.

**PUT STOOP IN PLACE.** If it doesn't quite fit at top, use leftover tread or riser as door-sill to bridge the gap.

**NOW IF YOU'RE REALLY INSANE,** cut licorice whip to approximately 1" lengths, dip into frosting, and stick into place as stoop balusters. Make hand rail in lengths to span from one baluster to the next. It occurred to me later that peppermint straws would look prettier, if less authentic, and be easier to handle.

**ALLOW TO SET OVERNIGHT.** House should be sufficiently firm to move by morning.

CLAIRE WOOD is a contributing editor to The Journal. She is also a successful television writer, wife, mother of three and co-owner of a Victorian brownstone.

# The Art Of Getting Plastered

## Part I Minor Repairs

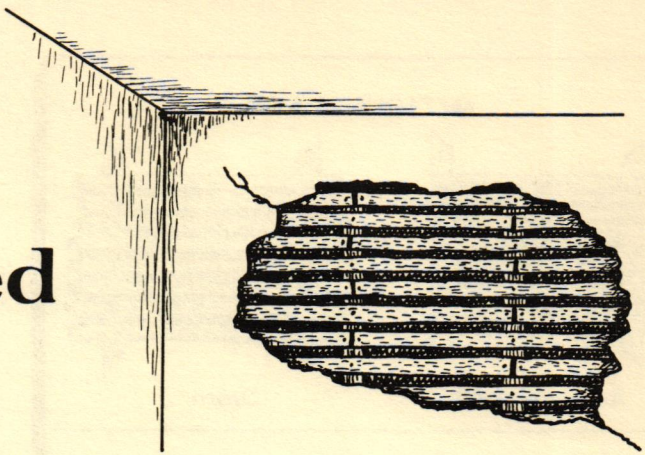
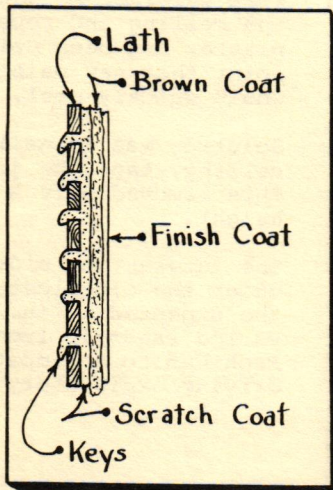
**R**ARE IS THE OLD HOUSE that doesn't have some problem plaster. If it's not a section of old plaster bulging from loose lath, then it's a bunch of holes made by zealous electricians or plumbers.

**COPING WITH THESE PLASTER PROBLEMS** ranges from simple to difficult. But hard or easy, problem plaster should be viewed as a challenge to restoration craftsmanship. Ripping plaster out wholesale should be a last resort. Since one of the reasons for living in an old house is the charm and sense of history it provides, it doesn't make sense to alter the architectural design of the house by covering old plaster with Masonite panels, or tearing plaster off to expose the bricks below.

**THIS JOURNAL SERIES** on plastering will range from simple patching jobs to replastering entire walls and ceilings. Depending on your own level of craftsmanship, you can decide how many of these tasks you wish to undertake yourself and when you want to call in the plasterers.

**BEFORE PLUNGING INTO PLASTER REPAIR**, make sure you understand the design concept behind the particular wall you are working on. Construction of plaster walls has changed considerably as building methods evolved in the United States.

**NORMALLY, PLASTER** is held to the wall by a mechanical bond between the base coat (scratch coat) and the lath. Lath can be any of a number of materials that provide a lot of holes in the surface. The plasterer, in applying the scratch coat, forces plaster into the holes with his trowel. Plaster squishes through the holes, then starts drooping down the back of the lath. When this drooping plaster hardens, it forms "keys" behind the lath.

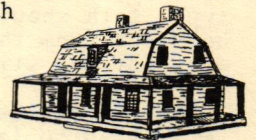


**PLASTER** is an integral part of the skeleton of an old house. And it's something you can't escape looking at every day. In this issue, The Journal begins a 4-part series telling how to restore damaged plaster—and how to replace that which is beyond hope. Coming in future issues:

- Part II Major Repairs
- Part III Plaster Moldings
- Part IV Running Plaster Cornices

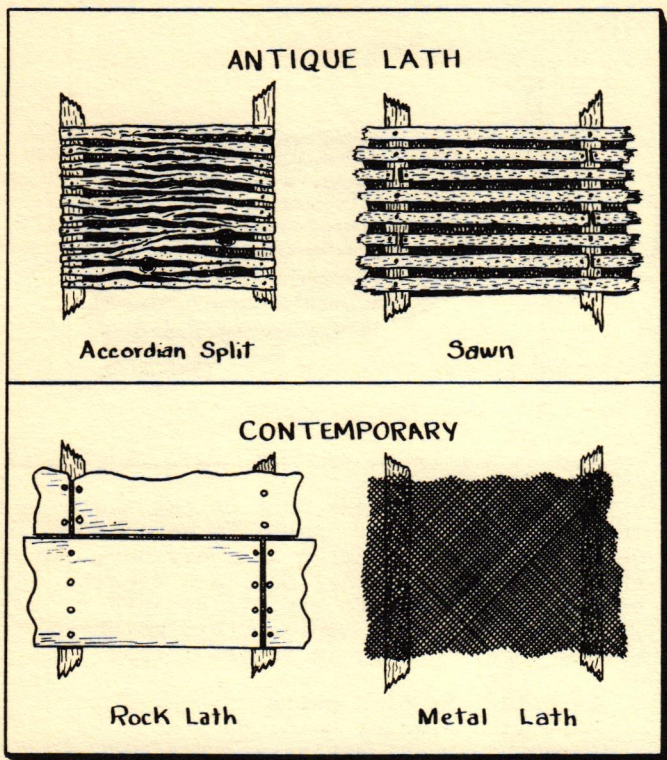
**M**ODERN ROCK LATH doesn't have holes in it, but rather forms a bond between the plaster and the specially treated paper fibers on the surface. Plaster will also adhere to the paper surface of ordinary sheetrock. Adhesion of plaster to non-porous surfaces such as painted plaster can be increased with a bonding agent, such as Aqua-Weld, which is brushed on the surface before plaster is applied.

**IN EARLY AMERICAN HOUSES**, lathing was hand-split from thin hemlock or oak boards. Splits were made alternately on opposite sides of the board, and then the board was stretched like an accordion. Cracks thus formed provided space for the plaster keys. Hand-split lathing was uneven, which imparted a wavy appearance to the plaster that is characteristic of early American houses. In these buildings, plaster walls frequently were coated with whitewash—partially as a sanitary measure—and as the lime layers built up, the wall took on a scaly look of age that was added to its wavy look.



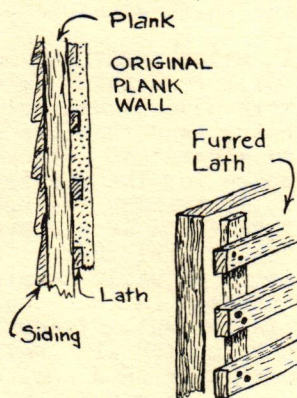
**SAWN PINE LATH** began to replace hand-split lath early in the 19th century, and as a result plaster walls became much flatter—and lost some of their "character."

**SO IF YOU'RE ATTEMPTING** to restore an old plaster wall, check to see if it has hand-split lath behind it. If you use new lath in a wall that has hand-split lath in other sections, your patch will likely be quite noticeable because it will be flatter. Obviously you can't buy hand-split lathing, but it's possible to fashion it from ¼-in. hemlock, split along



the grain. If hemlock can't be obtained, next best thing is to install sawn lath, bowing it outward slightly as you nail it in place. As the water from the wet plaster expands the lath differentially, it will simulate the wavy effect of hand-split lath.

SOME VERY OLD AMERICAN HOUSES have plank walls, with siding applied to one side of the planks and plaster directly to the other side. Since the lath was applied directly to the planks, there's little room for the plaster to form good keys. If you are restoring a wall of this type, lath should be held out from the planks with furring strips.

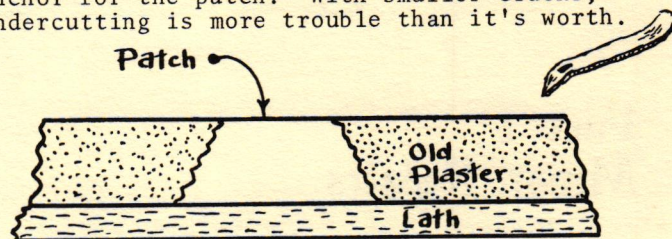


PLASTER was usually applied to lathing in three stages. First was the scratch coat, rich in lime and containing animal hair for additional strength, which was forced into the lath to form keys. The surface was "scratched" with the trowel or other tool to roughen the surface so next coat would adhere firmly. Second coat, the "brown coat" contained a high percentage of sand and additional animal hair. The third coat, "finish coat," had a high lime content, but no animal hair, and was troweled on thinly to avoid cracking on setting.

CRACKS IN PLASTER are endemic to old houses. Most common are cracks in walls and ceilings caused by settling and shrinkage of the structural timbers. These cracks extend through the plaster right down to the lath.

SOME OF THESE CRACKS you will come to regard as old friends since they will show up again and again no matter how often you patch them. These you will have to consider part of the charm of the house. Other cracks, once you patch them, will docilely disappear forever.

Larger cracks should be undercut with a beer-can opener or putty knife to make the bottom wider than the top. This provides a solid anchor for the patch. With smaller cracks, undercutting is more trouble than it's worth.



SPACKLE IS EASIER TO WORK WITH than plaster of paris for patching cracks since it does not set up as rapidly. However, there is no single "best" plaster patching material. As you proceed, you'll find there's a wide variety of materials available to you, each of which has advantages for certain kinds of jobs.

CANNED SPACKLE IS EXTREMELY HANDY to make a quick patch of a small crack or dent. This pre-mixed material saves the trouble and mess of mixing a batch of spackle powder and water. It can also be used successfully instead of wood filler to patch nail- and screw-holes in woodwork. Canned spackle shrinks on drying, however, so it can't be used for big patches. It's also expensive to use in large quantities.

SPACKLE POWDER is more economical than canned spackle, and can be mixed in various consis-

### Tricks An Old Farmhouse Plays

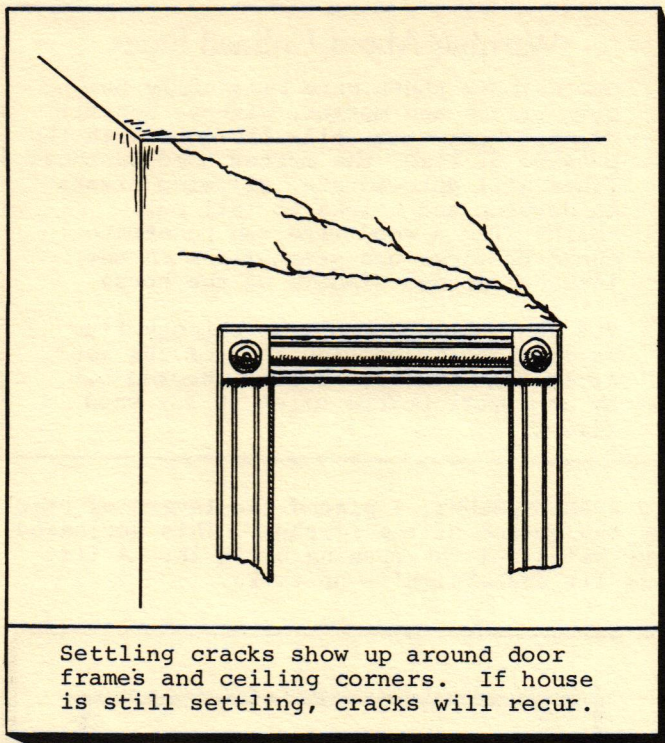
I've made a couple of interesting discoveries since moving into this civil-war vintage farmhouse.

The ceiling of one room was severely damaged by moisture, causing the paint to hang in festoons from the plaster. A plasterer I had called in to do other work informed me that my plan to scrape the ceiling and repaint was doomed. The plaster had been moisture-damaged to the point that new paint wouldn't adhere and would quickly peel.

Solution was to nail sheetrock to the ceiling, tape the joints and paint. This removed only  $\frac{1}{2}$  inch from the room height.

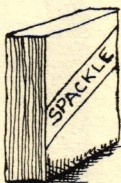
One interesting sidelight: The beams under the old plaster ceiling were not the expected 16 in. on centers. Spacing varied randomly from 12 $\frac{1}{2}$  in. to 20 in. Each had to be located individually by driving exploratory nails.

R. Christian  
Katonah, N. Y.



Settling cracks show up around door frames and ceiling corners. If house is still settling, cracks will recur.

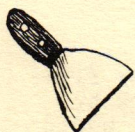
tendencies to match the job at hand. It's the workhorse for most crack filling jobs. For hairline cracks, a thinner mixture—the consistency of heavy cream—will work best. For bigger cracks and holes you'll want a stiffer mixture—the consistency of bread dough. When there's a lot of patching to be done, some renovators mix up a thin and thick batch at the same time and have both on hand as they work their way around a room.



**NOTE:** Cutting the tops off plastic Chlorox bottles and using the bottoms for mixing containers is a convenient—and ecologically sound—way to get a big supply of spackle pots. Then it's not big catastrophe when a batch goes hard on you in the bowl.

**SPACKLE POWDER** doesn't shrink on drying as much as canned spackle. But it sets rock-hard and is difficult to sand, so you should smooth the surface as cleanly as you can with your putty knife while the spackle is soft and workable.

**SHEETROCK JOINT CEMENT** is handy if you have a lot of hairline cracks to fill, or shallow depressions where paint has chipped out.



Joint cement is sold pre-mixed in cans for taping sheetrock seams. (One brand name is "Perf-Tape" compound.) Joint cement is applied with a wide tape joint knife. It adheres well to painted surfaces, feathers beautifully to a thin edge and sands easily after

it has dried. However, joint cement shrinks a lot on drying, so it can't be used for filling large cracks.

IN ADDITION to these standard materials, there are many "secret formulas" for patching com-

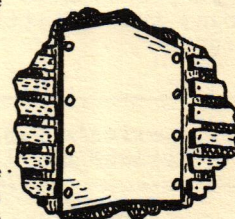
pounds. Some painters use plaster of paris powder mixed with paint to fill cracks before painting. Others swear by a mixture of plaster of paris powder mixed into joint cement.

**YOU'LL WANT TO EXPERIMENT** with varying materials and tools until you find the ones that fit your workstyle best. Making a modest investment in a big selection of putty knives, scraping knives and joint knives with blades of various stiffness will allow you to select the one that's right for a particular job. (Also, it's impossible to lose all these knives simultaneously, so you'll always be able to find one to work with.)

**FOR PATCHING MOST CRACKS**, you'll probably find that a wide-bladed knife (about 3 in.) with a flexible blade will give the neatest results. Once you have the crack stuffed with spackle, finish the patch off with long, smooth strokes, dragging the blade across at a flat angle to the patch. For hard-to-reach corners, you may find that your fingers are the best tool yet invented.

**BEFORE PAINTING OVER PATCHWORK**, the patch should be lightly sanded, then primed either with shellac or a primer paint. This will prevent the final coats of paint from drying unevenly.

**AFTER FILLING CRACKS**, next most common plaster repair is patching holes made by electricians and plumbers. One particularly vexing type of repair is the "bottomless hole"—made when a workman pokes a hole through both plaster and lath, and there's nothing at the bottom of the hole for the plaster to adhere to. One way to cope with this situation is to rip out enough additional plaster so that the two adjacent studs or beams are exposed. New lath or sheetrock can then be nailed to the studs and plaster applied in the conventional manner. (More on this later.)

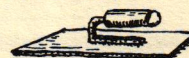


**A SIMPLER AND LESS MESSY SOLUTION** is to stuff wadded newspaper into the hole until it catches firmly on the sides and back of partition space. Then after the old plaster thin coating paris to the edge of the hole set for 20 minutes and apply a couple of thin coats of plaster. After repeating times, you'll build up a firm plaster base and need to patch in all manner. Build within 1/8 inch of the wall surface. (Leave rough to give the top coat.) Use trowel finish on the final layer.



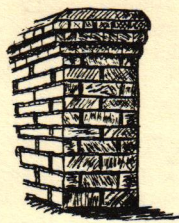
Wadded Newspaper Fills "Bottomless" Hole

**NEXT MONTH:** Major Plaster Repairs



(Continued from Page 1)

VERY OFTEN, THE VOLUME of the firebox is too great for the capacity of the flue (especially if the flue has been narrowed by the later addition of a flue lining). When this occurs, the flue simply can't carry off all of the hot gases generated in the firebox.

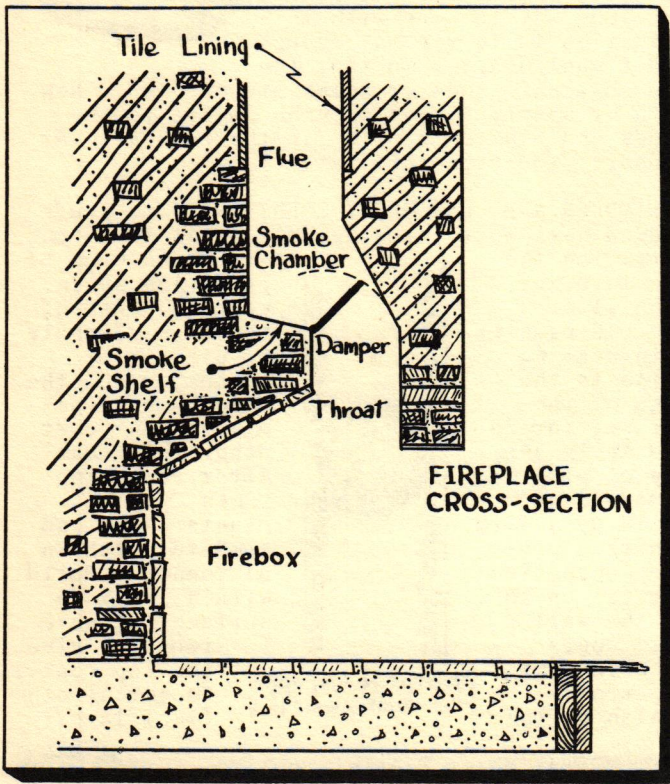


THERE ARE TABLES that indicate proper dimensions for fireplaces of various proportions.\* The tables indicated the proper volume for a fireplace with my particular throat and flue dimensions was 12,544 cu. in. (You measure throat dimensions inside the fireplace; to get flue dimension you have to go up to the roof and measure at the chimney top.)

THE ACTUAL VOLUME of my fireplace was about 15,660 cu. in. To arrive at this, I did a simplified calculation merely using the width and height of the opening times the depth; I didn't attempt to take into account the slope of the back wall. This exercise confirmed my suspicion, however, that the opening was too big. The fireplace as I inherited it had an opening that 30 in. high, 29 in. wide and 18 in. deep. To reduce the volume to the indicated 12,544 cu. in. would require a reduction of 6 in. in one of the dimensions.

SINCE THE PROPORTION of height to width to depth is also important, I decided at this point that a little experimenting was in order.

\* America's Handyman Book. Scribners. Revised Ed. 1970, page 160.



### Warning About Unlined Flues

OLD CHIMNEY FLUES were originally built from bricks and mortar, without benefit of any terra cotta tile lining. With the passage of time, the mortar used in these flues will deteriorate, allowing cracks to develop and bricks to fall out. Sparks from a wood fire can penetrate these crevices and start fires in the internal wooden timbers of the house.

YOU CAN TELL whether your chimney flue is lined by inspecting it from the roof. If it isn't lined, have it checked out by an expert before using it for wood fires.

TO REDUCE VOLUME, I placed two layers of brick in the bottom of the firebox. This decreased the height of the opening by 4½ in. A fire was lit and—Voila!!—no smoke.

1. Add Metal Hood or Lower Brickwork
2. Add Layer of Firebrick to Sides and/or Back
3. Build Up Hearth With Brick or Firebrick

Three ways to reduce fireplace opening, depending on the surrounding decoration.

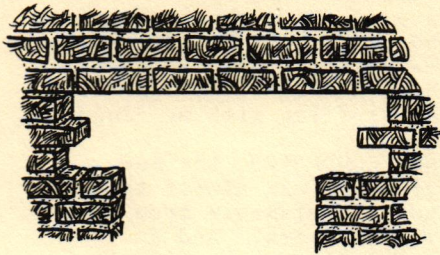
THE QUESTION NOW was how to make a permanent modification. Since I had a nice firebrick base in the firebox, I didn't want to mortar the common brick on top of them. So I decided to see if lowering the opening from the top would have the same effect. I cut a piece of sheetrock about 12" wide and long enough to cover the width of the fireplace opening. I lit a fire in the fireplace and then experimented holding the sheetrock hood at various levels across the top of the opening. I found that decreasing the opening by about 5 in. from the top had the same effect of stopping the smoke.

BECAUSE I HAD A PLAIN BRICK FRONT on my fireplace, I decided to lower the brickwork by two courses. I had brick on hand that would closely match the bricks around the fireplace.

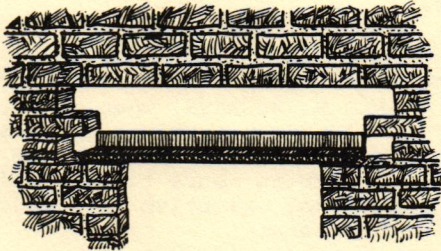
IF YOU HAVE A FANCY MANTEL with tile or other facing around the front of the fireplace, however, my solution wouldn't work for you. You would have to reduce the firebox opening by



**1.**  
Remove Bricks  
Using Masonry  
Drill Bit &  
Cold Chisel



**2.**  
Lay Steel  
Angle In  
Thin Bed Of  
Mortar



To install additional courses of brick,  
a new steel brace must be inserted.

## Tools and Materials Needed

### Tools:

½-in. carbide-tipped masonry bit  
Variable-speed drill  
Cold chisel  
Hammer  
Pointing trowel  
Joint Tool  
Mixing bucket

### Materials:

Steel angle with a 3 in. flange  
Mortar mix

**T**O BRING THE BRICKWORK DOWN, I used a carbide-tipped masonry bit to drill out the mortar holding the two bricks at the level where new brickwork would come. After the mortar was drilled out, a cold chisel loosened the bricks so they could be pulled out. Half bricks at the corners were also removed to provide keys for the new brickwork.

A STEEL ANGLE was inserted into the holes left by the removal of the bricks. The angle was about 8 in. longer than the width of the opening. (Steel angle can be purchased at many large hardware stores, or at building supply dealers.)

(Continued on following page)

adding brick to the bottom or sides of the firebox, or by adding a metal hood to the top of the opening. To build up hearth, you can use common brick set in standard mortar. To add a layer of brick to the sides, you should use firebrick—and point the mortar joints with fireclay since they are exposed to the hot gases generated by combustion.

## Matching Bricks & Mortar

**T**HERE ARE THREE THINGS TO watch out for if you want to create new brickwork that is indistinguishable from the original:

- New bricks must be selected to match the originals with regard to size, color and texture;
- New mortar must match the old, both in color and texture;
- New mortar joints must be shaped the same as the old.

MANY OLD HOUSES were built with sand-lime mortars. This can be closely matched with a mortar consisting of one part Portland cement, two parts lime and nine parts sand.

IF YOU'RE DOUBTFUL about matching the mortar color, safest thing to do is to mix up a small test batch, apply it to a brick and see what it looks like after it dries. In general, increasing the amount of Portland cement will make the mortar darker; adding lime makes it whiter. For added color flexibility, you can also get white

Portland cement; silica or flint sands can be obtained in shades ranging from off-white to a light brown.

### SHAPES OF MORTAR JOINTS



Flush



V-Joint



Concave



Raked



Weathered



Stroked

THE SHAPE OF MORTAR JOINTS have a surprising effect on the appearance of a wall because they determine depth of the shadow line between bricks. You may have to experiment with your pointing trowel, tuck pointer or joint tool to find the right combination of tool and technique to achieve the same shape joint that the old-time masons created.

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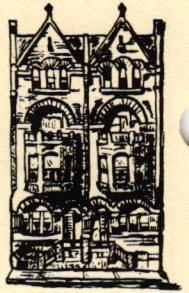
TO INSTALL THE ANGLE, you must make sure that all loose mortar has been cleaned out of the brickwork. Thoroughly soak bricks with water so they won't suck all the water out of the new mortar. (This applies to the new bricks as well as the old.)

WHEN CORRECT POSITION OF THE STEEL ANGLE has been determined, lay a thin bed of mortar on both end bricks, put angle in place, and true up with a mason's level by adding or removing mortar from one end. Don't make too thick a mortar bed, however, or you won't be able to fit all the bricks on top.

LAY A THIN MORTAR BED on the angle and proceed to lay in the new brick. The only trick is in laying the top course of brick; you

have to force the mortar into the crack between the old and new bricks. At this point I abandoned my trowel and did the stuffing with my fingers.

WHEN COMPLETED, the new brickwork was almost totally indistinguishable from the original work. And a perfectly working fireplace awaited Santa on Christmas Eve.



JAMES R. McGRATH, when not consulting on old-house problems as part of The Journal's staff, devotes the rest of his working hours to his position as personnel executive in a major restaurant chain.



Photo: Courtesy of PPG Industries, Inc.

## How To Paint A Cathedral

YOU THINK YOU'VE GOT A BIG JOB on your hands? Consider repainting a cathedral. Especially one that has not been painted for 95 years.

FIRST, collect \$800,000. Take three months to erect 4 miles of steel piping and 32,000 sq. ft. of wooden planking (how big is your living room?). Hire 10 painters and make sure they are available for six months. Set up a closed

circuit television system with monitors mounted on the pillars so that religious services can proceed with minimal disruption. Nine months later, your cathedral (in this case New York's St. Patrick's) glistens.

TO MAKE IT GLISTEN; here's what the painting contractors had to do. Scrubbers first wire-brushed the ceiling and walls, then vacuumed loosened grime accumulated in the last century. Plasterers repaired cracks and painters followed with 2,200 gallons of paint.

A SAMPLE OF CEILING DIRT was analyzed and found to be made up of about equal parts of lampblack and lint. The lampblack came from the millions of candles lighted by generations of worshippers, and the lint was from their clothing.

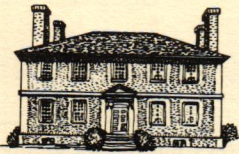
EARLY INSPECTIONS of the surface failed to show specifically what type of paint was last applied. Since the most common coating for this use was a simple linseed oil, white lead and flattening oil mixture, it seemed highly unlikely that a water-mixed material (such as casein) had been used. Wash tests did not indicate a water solubility of the coating that remained.

THE ARCHDIOCESE CHOSE THREE SHADES of white—an off white for the three-dimensional ribs and vaulting, soft white for the ceiling and pure white to outline stone courses and block lines.

THE POROSITY OF THE SUBSTRATE called for a slow curing, good wetting type primer. Pittsburgh "Speedhide" Alkyd Primer, thinned with "Solvasol #5" to insure maximum wetting and penetration, was selected. One coat of "Speedhide" Alkyd Flat (6-50) was used for the finish because it dries by oxidation and cures slowly, providing good adhesion. It better. It may have to last a century.



(Continued from page 2)



steamer, preferably one that emits a single jet of steam, can be advantageously employed to loosen the paste. Gently lift a corner and work your way underneath so as to keep wetting of the paper to a minimum. As you steam, have a piece of screening ready to catch and support the paper as it peels from the wall. A blotter may work as a substitute. Two people may do better than one.

IF YOU HAVE THE GOOD FORTUNE TO HAVE a multi-layered swatch, it is unpredictable how it will come off. It may be easiest to remove the whole "sandwich" of layered papers and steam them apart afterwards. You may leave them to soak in a large flat pan of lukewarm water, but only for as long as is required to loosen the glue. As most wallpaper pigments are water soluble, some color fading will result from steaming or soaking.

YOUR SAMPLE, all the more dear now, is best preserved by matting it in stiff 4-ply mat boards. Many wallpaper firms will make a reproduction for you. If you want one made, a minimum of a full width (usually under 22") and a complete repeat (usually under 36") is

required. One of the organizations collecting old wallpaper for their archives, and would appreciate receiving a sample, is the The Victorian Society in America: The Athenaeum, East Washington Square, Philadelphia, Pa. 19106.

THE INFORMATION ABOVE was condensed from the Newsletter of the Association for Preservation Technology (APT). For more information on APT, see below.



### Facts About APT

The Association for Preservation Technology is a Canadian-American association of professional preservationists, restoration architects, furnishing consultants, museum curators, craftsmen and other persons involved in preservation activities. Dues are \$15/yr. which includes a subscription to their Newsletter and other publications. For more information, contact:

Ms. Meredith Sykes  
APT Secretary-Treasurer  
Box 2682  
Ottawa 4, Ontario, Canada



## Helpful Publications You Can Send For



### Carved Brass Fixtures

ELEGANT PLUMBING FIXTURES are the finishing touch that makes all of the previous aggravation of renovation worthwhile. This 24-page catalog contains a dazzling assortment of richly carved brass fixtures for the bath. No prices are given, but the company includes a list of dealers in your area. Price: Free. Write: Artistic Brass, 3136-48 East 11th Street, Los Angeles, Calif. 90023.

### Parquet Floors

THERE'S NOTHING QUITE LIKE A REAL WOOD FLOOR. If you're thinking of putting down a new hardwood floor, your local lumberyard isn't likely to have a very wide range of flooring to choose from. This 8-page brochure has a mouth-watering display of flooring woods and patterns. It's a must to look at before deciding on any new floor. Free from Wood-Mosaic Corp., Box 21159, Louisville, Kentucky 40221.

### Wood Moldings

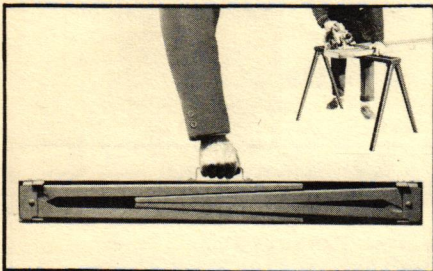
IDEAS FOR APPLYING WOOD MOLDINGS on chests, doors, walls and dividers are contained in this 8-page folder. Shows 25 different molding shapes you can obtain at your dealer and imaginative ways to combine them for striking effects. Has plans for 9 projects you can adopt...or adapt to your own needs. Also gives tips on mitering and assembling. Price: 10¢ in coin. Ask for "Moulding" from Western Wood Products Assn., Dept. 518, Yeon Building, Portland, Ore. 97204.

### Antique Hardware Catalog

TRULY FINE HARDWARE is a revelation to anyone who has spent most of his time picking fixtures from the stock of the local hardware store. This 104-page catalog has an outstanding collection of authentic reproduction lighting fixtures, furniture hardware, switchplates, door hardware, fireplace implements, weathervanes and decorative brass. Styles are primarily Early American and Georgian. Price: \$2.00. From Period Furniture Hardware Co., 123 Charles St., Boston, Mass. 02114.

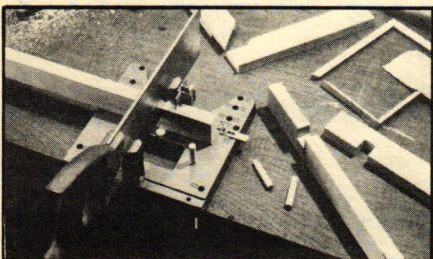
# Architectural Book Bargains

## Products For The Old House



### Portable Sawhorse

Here's a useful device for jobs outside the workshop. Called Porta-Horse, it's made of solid steel, weighs 16 lbs. per horse. Sets up like a card table; folds away for easy storage. Holes in top for attachments. \$34.95 per pair, postpaid. Order from Porta-Horse, Inc., P. O. Box 2028-P23, Riverview, Mich. 48192.



### Precision Sawing Jig

Jointmaster is a precision sawing jig that cuts a wide variety of wood joints, including dovetails, mortise and tennon, mitres and half-mitres. By using nylon pins and depth stop, device controls not only angle of cut, but depth as well. Joint cutting can be repeated with production-line accuracy. Unlike ordinary mitre box, you always work saw from same direction. Available at most hardware dealers. Or order from manufacturer. \$29.95 plus \$1.00 for shipping from Spear & Jackson, 4767 Clark Howell Highway, College Park, Georgia 30349.

If you are an old-house lover (and you had better be if you own one) is there a more pleasurable way to spend an evening than finding out more about them? If you also love books and are a catalog browser too, you can look forward to a veritable orgy of filling up with facts about architecture, periods, furniture and antiques.

We have discovered a periodic catalog offering books at sale and remainder prices which will enable you to order a smorgasbord of titles: Architecture - The Great Art of Building", "Old American Houses - 1700 - 1850" or "The Living Past of America" by Cornelius Vanderbilt, Jr.

The catalog's architectural strong point is their selection of books on houses of various regions, such as "Alexandria Houses", "New Orleans", "Georgetown Houses", or "Open House in New England."

Or you can zero in on your current fancy with books on the same subject: "Field Guide to Early American Furniture", "A Short Dictionary of Furniture", "Antique Furniture Explained and Illustrated".



Although it is a general catalog including fiction, non-fiction, art, records, and current popular vices and virtues, it is seasoned with more titles that will satisfy the sensual needs of the old-house lover than other book sources. And the prices range generally from \$1.98 to \$3.98.

Imagine an evening spent indulging yourself with the beautiful photographs and rare reproductions of line drawings and engravings contained in "The Gingerbread Age - A View of Victorian America" by John Maass. A feast of gingerbread and whipped cream without calories!

To help you with Saturday's line-up of major or odd jobs, or to assuage the guilt when you're avoiding them, you can pore through helpful how-to-do-its like "The Fix-It Book."

Their service on mail orders from the Journal has been prompt and accurate.

To get on their mailing list, write to Robert Gordon, Publishers Central Bureau, Dept. 353, 33-20 Hunters Point Avenue, Long Island City, New York 11101.

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