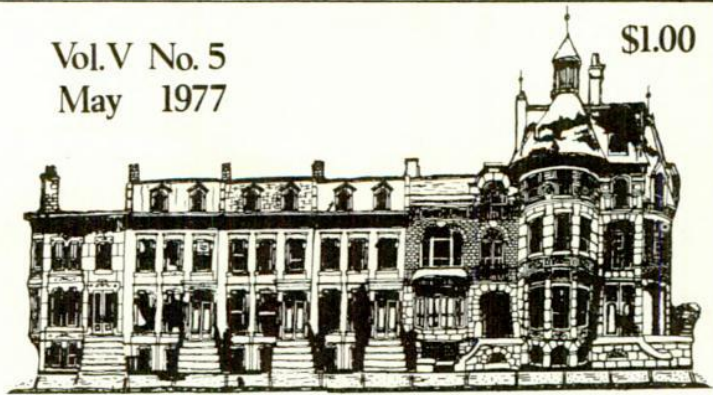


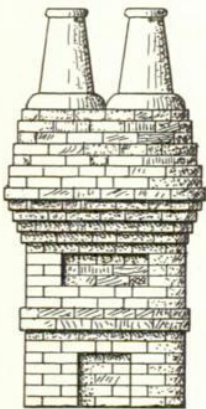
THE OLD-HOUSE JOURNAL

Vol. V No. 5
May 1977

\$1.00



Renovation And Maintenance Ideas For The Antique House



Repairing Old Chimneys

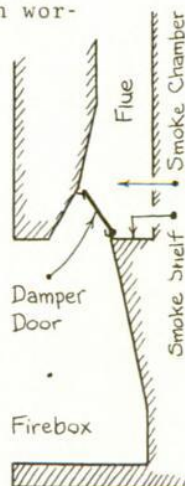
By Matt Huff, The Clean Sweep

Restoring old chimneys to working order is usually a job for a professional. But competent pros are hard to find. In this article, an expert lays out the ABC's...so you'll know what you can do yourself—and when it's time to call for help.--Ed.

IN FIREPLACE WORK—as in washing windows—the sensible approach is to start at the top. There's not much sense in worrying about renovating the firebox if the flue is plugged and the chimney toppling. First step in checking out a chimney is to see if the flue is clear. One simple way to do this is to light a fire; open the damper (if it has one) and light a crumpled sheet of newspaper in the firebox. Add other sheets of newspaper slowly so that you won't have too much smoke in the room should the flue be plugged.

IF THE FIRE BURNS satisfactorily, smother the fire with a folded newspaper to see if the flue can accommodate all the smoke produced.

IN SOME FIREPLACES, you can hold a hand mirror above the damper and see the sky reflected in it. This only works in



flues that are straight or nearly straight—but it does offer convincing proof that the flue is clear.

OR, IF YOU CAN REACH the top of your chimney, you can lower a weighted rope down to the fireplace, and then pull a burlap bag stuffed with papers up through the flue to check for obstructions.

ALL THREE OF THESE METHODS presume that you can open the damper. But in many old houses, especially those in which the fireplace has seen little use, the damper will be stuck shut. Many years' accumulation of debris may be piled atop the damper to a depth of several feet. Flues in old houses were lined with mortar, not tile, and the weathered mortar deposits a lot of sand and lime on top of the damper.

IF YOUR DAMPER has a sliding plate on it (as is common with many 19th century fireplaces), tap the sliding plate back and forth to loosen the debris behind it. It will probably move very little at first because of the weight of the debris, but continued tapping will eventually loosen it. The falling dirt will produce a lot of dust. To protect the room, tape a sheet of

(Cont'd on page 50)

In This Issue

- [Removing Stains From Masonry.....58](#)
- [Inn In Marshall, Michigan.....53](#)
- [Pre-Cut Stencils.....60](#)
- [Restoring Picture Frames.....56](#)
- [Heat Gun For Paint Stripping.....60](#)

Coming Next Month

DECORATING WITH URNS AND FOUNTAINS



plastic over the fireplace opening and work through holes in the plastic. Or, if the fireplace is large enough, don goggles and filter and work inside the fireplace.

USE ANY LONG TOOL to dig through the slots in the damper. As you dig the dirt out, more and more debris will cascade down. When you finally dig out enough debris to open the damper, the digging goes

a lot faster. As soon as you poke through the deposits and establish a draft, the dust will begin to go up the flue instead of out into the room—making your task easier. When all the debris has been dug out, apply one of the tests described earlier to see if the rest of the flue is clear.

IF THE FLUE is still plugged, you must locate the blockage. Look at the top first, because a previous owner may have capped the flue to keep cold drafts out. If the flue isn't capped, pinpoint the obstruction by lowering a weight on a rope. When you feel the weight go slack, you have reached the plug and can measure the length of rope you've played out. Try breaking the plug free by hauling the weight (a window weight is ideal) up a few feet and dropping it on the plug. This may free an obstruction that is only composed of a few bricks.

MOST OBSTRUCTIONS are formed when the brick divider that separates flues tumble down. The resulting plug can be several feet thick and quite resistant to pounding with the weight. If your plug is of this stubborn variety, it can only be removed by surgery. Knock the plaster off the inside wall where the plug is located, then break into the flue by removing several wall bricks with a hammer. (A rented electric hammer may save time.) And beware—the operation is very dusty!

DIG OUT THE RUBBLE plugging the flue and test again for a draft. When it is working, brick up the hole and replaster.

INSPECT THE CHIMNEY TOP next. If it leans, it should be torn down and rebuilt. You may want to raze the chimney to roof level because it is nearly impossible to match new bricks to existing bricks. If sections of the chimney are covered with white powdery efflorescence (often in attics, just below the roof), it means the bricks have been saturated with water for a long time. If the water leak can be stopped and the bricks given a chance to dry out, the bricks may be saved. But if water has deteriorated the bricks too badly, the chimney should be rebuilt.

IF A LOT OF MORTAR has weathered out of the joints, tuckpoint with fresh mortar. If your chimney needs extensive tuckpointing, it may



be worth your while to tuckpoint every joint because it is so difficult to match the color of the new mortar to the old. (See The Journal, March 1975, for discussion of "hard" and "soft" mortars in old brickwork.)

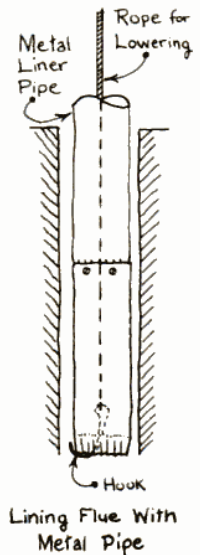
Lining The Flues

YOUR OLD CHIMNEY probably has more than one flue. The flues are separated by brick dividing walls—usually only one brick thick. These dividers are typically in worse shape than any other part of the chimney. The top few feet of these dividers may be missing altogether. You can line the flue with metal pipe to prevent the dividers from tumbling down the flue as they continue to erode.

METAL PIPE for lining flues is available in sizes from 6 in. to 12 in. diameters. Local heating suppliers may have only small sizes, but large sheet metal shops should have a complete range.

STAINLESS STEEL PIPE must be used in furnace flues because furnace exhaust gases corrode ordinary metals very quickly. In a fireplace flue, you may use the much cheaper (but shorter-lived) galvanized steel pipe. Choose the largest diameter that will fit down your flue without binding. Three-foot sections are the most convenient to install.

INSERT THE PIPE, crimped end first, from the top of the chimney—one section at a time.



THE OLD-HOUSE JOURNAL®

Published Monthly For People Who Love Old Houses

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Published by The Old-House Journal Corporation, 199 Berkeley Pl., Brooklyn, N.Y. 11217. Tel. (212) 636-4514. Subscriptions \$12/yr. in U.S. and Canada; \$20/yr. elsewhere. Printed at Royal Offset Co., 34 W. 15th St., NYC 10011. Contents of the Old-House Journal® are fully protected by copyright and must not be reproduced in any manner whatsoever without specific permission in writing from The Editor.

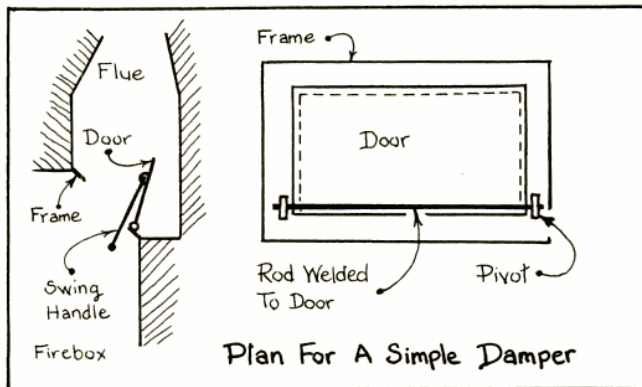
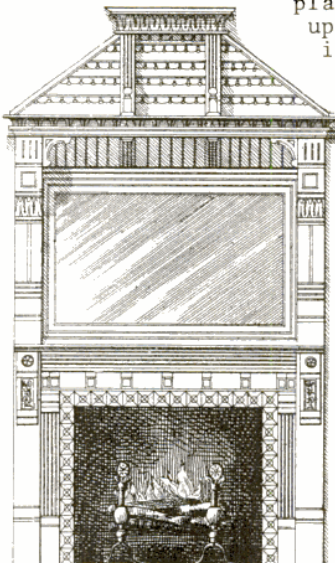
TIE A ROPE to a hook and hook the first section of pipe so that you can keep the liner from getting away from you as you lower it. Just before each section enters the flue, secure it to the previous section with metal screws.

IF THE BRICK DIVIDERS between flues are decrepit, put one section of pipe part way down the other flues so that you won't knock any loose bricks down into the other flues while you work.

LOWER THE LINER down the flue until the bottom end reaches the top of the fireplace throat. Seal the bottom end by forcing screen around the liner and dumping mortar down from the top. Seal around the liner at the top, too, to keep water out.

INSTALLING A METAL LINER is simple in a smooth straight flue. But in a flue that bends too much, or whose inside surface is rough with mortar and broken brick, you may be unable to slide one down. In this case, you will probably have to break into the chimney to install flue tiles. Also, if your fireplace has a weak draft, do not install a metal pipe liner because it will reduce the cross-section of the flue and thus reduce draft.

INSTALLING TILE FLUE LINERS requires breaking into the chimney as described earlier for the removal of major obstructions. But in this case, you have to open up ALL of the chimney. When the chimney brickwork is exposed on the outside of the house, the work can be done from the exterior—but it requires scaffolding. If the chimney is inside the house, the work has to be done from the interior. The process is quite messy—and also expensive. It could run \$700-800 or more to have a professional tile-line a flue that runs from a ground floor fireplace to the top of a three-storey house. This is definitely not the normal do-it-yourself kind of job.



Fireplace Repairs

IF YOUR HOUSE is over 120 years old, its fireplaces were probably designed to burn wood. If newer than that, the fireplaces may be designed for coal grates or gas logs. Most coal fire dampers were made of two slotted plates—one behind the other. To open these dampers, slide the back plate left or right until the slots line up. Total area opened by these slots is small—probably too small to handle the smoke from a wood fire.

IF YOU PLAN to burn wood and need a larger damper opening, sometimes the slotted coal dampers can be pushed back together to provide the larger area. If the plates are fixed, you will have to remove the old one and replace it with a fabricated flat damper.

THE OLD DAMPER is probably made of cast iron and can be broken and removed with a hammer. Flat dampers must be custom-made because you will not be able to buy any damper to fit the small opening of a late 19th century fireplace. My favorite damper design is shown in the diagram above. A welder should be able to make one for about \$20.

DANGER: Wood Fires & Unlined Flues

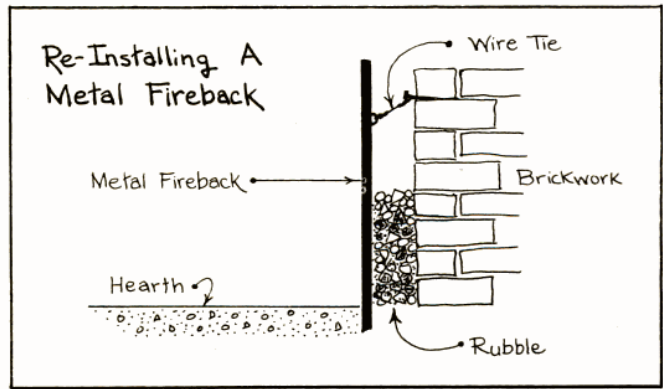
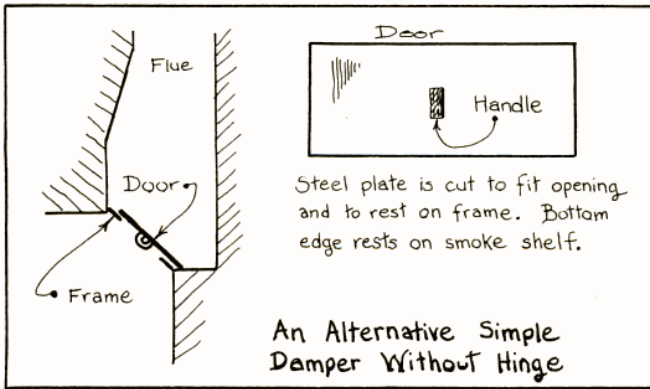
BUILDING A WOOD FIRE in a fireplace that has an old unlined flue is an invitation to a house fire. Often, the mortar in the old flues has eroded, providing many side exits for the combustion products. To make matters worse, sometimes old house builders rested wooden beams right in the chimney wall. These beams can be ignited by a stray spark.

WOOD FIRES are particularly hazardous because, in addition to sparks, the fire gives off soot and tar that can build up as deposits inside the flue—and which can suddenly ignite as a spectacular chimney fire. In a well-lined flue, a chimney fire can be harmless. But in an

unlined flue, a chimney fire can easily spread to the rest of the house.

THE CHIMNEYS in many late 19th century houses were not lined—because they were meant only for gas logs or coal fires. These burn more cleanly than wood—and don't create the extensive deposits that a wood fire does. You could still use a gas log safely in an unlined flue. And a coal fire burning anthracite (hard coal) produces a clean flame. Cannel coal, however, tends to produce a lot of sparks.

THE PROPER LINING for old flues may be governed by your building code. Some localities insist upon tile linings for flues used with wood fires. Cost of a tile lining can run around \$20-30 per ft. installed.



WHEN INSTALLING THE DAMPER of your choice, wrap the edges with fiberglass insulation. This fiberglass buffer will allow the steel damper to expand and contract without breaking the adjacent mortar. If you have to re-mortar areas around the damper, mix some fireclay with the mortar to increase its resistance to heat.

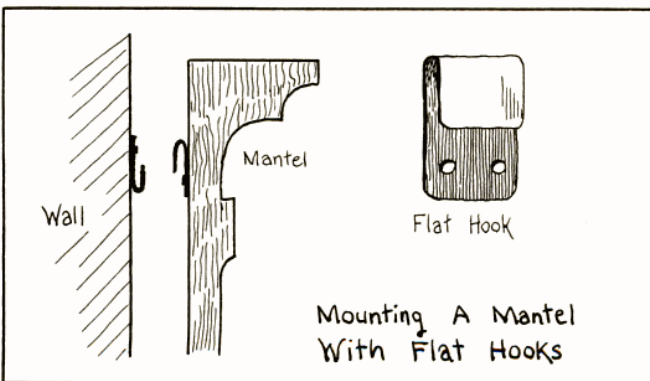
IF YOUR FIREBOX is still in good condition, you will probably need to do little more than tuckpoint the joints. Again, use fireclay.

IF YOUR FIREBOX has crumbled or is completely gone, begin the rebuilding by laying a level hearth. You can remove the existing hearth and lay a brick hearth, or pour a fresh slab of cement with a high sand and fireclay content over the existing rubble. A level hearth is the most important factor in building a neat, even firebox. (See The Journal, June 1976.)

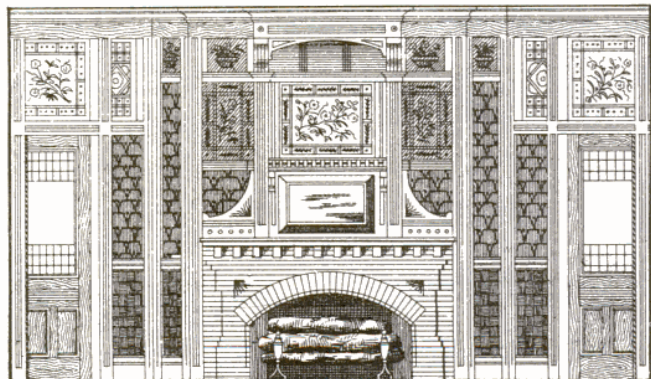
USE FIREBRICK throughout the firebox. The joints should be as thin as you can make them—about 1/8 to 1/4 in. Allow the mortar to set at least three days before lighting any fires.

Installing A Mantel

SHOULD THE MANTEL and the facing on the front of your fireplace be missing, you'll have to locate an appropriate mantel from an architectural antiques shop. After any refinishing, the mantel can be hung above the fireplace by securing two or three flat hooks to the wall and to the



Matt Huff owns and operates his own fireplace business—The Clean Sweep—in Wheaton, Ill. A man of many parts, Matt has a degree in economics and enjoys writing as well as wrestling with ornery flues.





Restoration Is

“Inn” In Marshall, Michigan

A DRAMATIC CONTRIBUTION to the city of Marshall, Michigan has been made by the restoration of the National House Inn. Marshall is a restoration-conscious area known for its many beautiful 19th century homes. The inn, built in 1835, only served as an inn for 44 years. It then became a factory—and was later converted to flats. It was in sad shape in January of 1976 when it became the property Mr. & Mrs. Harold Minick and Mr. & Mrs. Norman D. Kinny.

OVER THE YEARS, many of the building's original Greek Revival features had been obliterated. The exterior had an additional doorway cut into the wall. Four windows had been bricked up, but fortunately the stone lintels and sills

had been left so re-opening them was not a major problem. All exterior surfaces had been sprayed with red barn paint including lintels, sills, and trim.

TO RESTORE THE EXTERIOR appearance, a chemical pressure spray was used to remove the paint. The chemical stripper didn't remove 100%—but the little paint that remains will be allowed to weather away. Three original six-over-six windows were found in the building, so it was decided to replace all of the large one-over-ones with new sash that duplicated the original fenestration of the inn.

EXTENSIVE RESEARCH yielded nothing that could give an idea of the interior structure as it was in 1835. During its factory period it was thoroughly gutted and so practically nothing remained of the original woodwork, partitions, or other details. The ten foot ceilings had been lowered to eight feet by the installation of suspended acoustical tile ceilings. All floors were covered with asphalt tile. Many partitions and partial partitions had been erected to create rooms, hallways, and storage areas.

AFTER MUCH RESEARCH, study, and many visits to inns in various parts of the country, the two couples collaborated to recreate a 19th century inn. Hal Minick, an industrial designer, sat down at the drawing board and came forth with an 1835 inn, complete with a keeping room fireplace in the lobby. It's a fine example of "interpretive restoration"—work that has to be done without an exact model to follow.

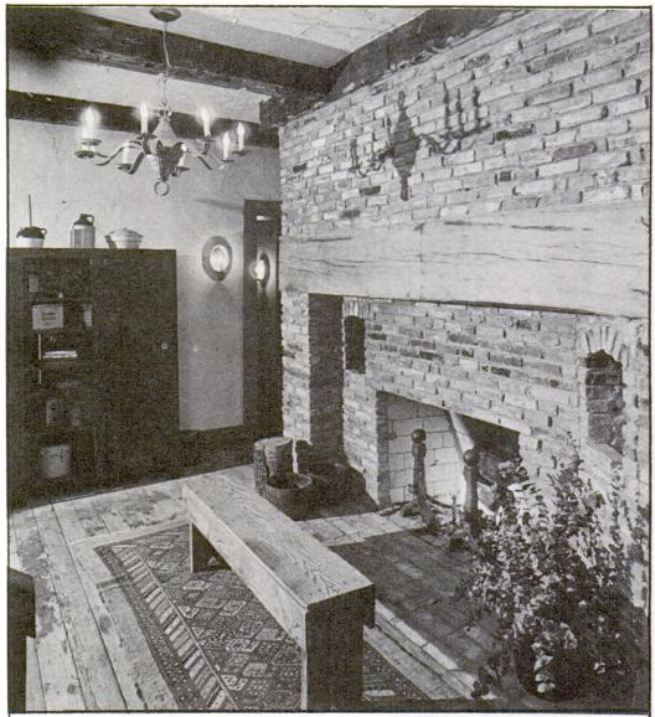
THE FOUR THEN SET ABOUT TO CARRY OUT the plan. Ceilings were removed as well as the heating



The National House Inn as it looked at the time of purchase in January, 1976.



The lobby and entrance to the dining room in its former condition.



Beams and fireplace have been added to the lobby for early 19th century effect.

and wiring that was discovered above the false ceilings, walls were torn down, tile scraped from the floors, wallpaper stripped from the walls, holes filled, doorways eliminated, doorways cut, etc.

AFTER THE TEARING DOWN process was completed the rebuilding process was begun. The wiring, heating, and plumbing were contracted. With the help of a carpenter and a mason who were expert craftsmen the long process of creating the National House Inn was underway. Walls went up, forming skeletons of new bedrooms and bathrooms. The huge fireplace in the lobby began to take form--with the bricks removed from the windows and several interior openings. New interior walls and all ceilings were plastered. Old walls were retained where possible or patched and sanded where necessary.

MANY LATE EVENING HOURS were spent going over decorating ideas and furniture selection and arrangements under the expert direction of Jacque Minick who is an interior decorator. The Kinneys and Minicks, along with several college students and local teachers on summer vacation, totally involved themselves in scraping, painting, papering, hauling, etc.

ALL PROCESSES seemed to overlap and intertwine during those several months from February to November. The first guests were welcomed the day before Thanksgiving with four guest rooms yet to be completed. The last one was finished exactly one year from the starting date of February 3, 1976.

THE INN WAS WELL RECEIVED by Marshall residents, many of whom donated their time and talents during the restoration process. The news of the National House spread rapidly throughout Michigan and the neighboring states.

GUESTS ARE GREETED in the winter by a roaring fireplace in the lobby with its old rough plank floor and hand-hewn beam ceiling. The check-in desk is the drygoods counter from Marshall's first general store owned by Chauncey Brewer whose lovely Italianate house is now the Minick home.

THE DINING ROOM where guests are served a complimentary continental breakfast is furnished with old tables of varying sizes and woods. Chairs are a mixture of pressed backs, arrow backs, and bentwoods. The walls are lined with pegboard shelves which hold an interesting collection of antique tin ware. The carpet is a copy of an early 19th century hooked rug. The chandeliers in this room and the lobby, along with the wall scones which line the hallways, are replicas of early tin candle lights.

ALL FOURTEEN GUEST ROOMS, including the Victorian suite, are furnished in antiques covering the period of the first National House Inn. They range from country primitive to Victorian and are coordinated with reproduction wallpapers, paint colors, and lighting fixtures which were authentic to the period. Each room boasts a bath complete with a new "antique" marble sink. The way the sinks came into being is an especially interesting aspect of the restoration. Facing the almost impossible



Ketchum Room, named after Marshall's founder, is furnished with Victorian antiques.



Documentary wallpapers and painted woodwork give each bedroom a distinct personality.

task of finding 17 antique sinks in good condition, the intrepid restorers located three old sinks that could be used as models. They then had molds made and had new sinks cast in cultured marble along the old lines. Sinks made from these same molds are now being sold (see The Journal, Nov. 1976, p. 12).

KATHRYN KINNEY ADDS, "As we moved through our restoration, the four of us made constant references to The Old-House Journal. In many ways it guided us through our project. When friends come to us with restoration quandries, we can usually produce an issue of OHJ to satisfy their needs."

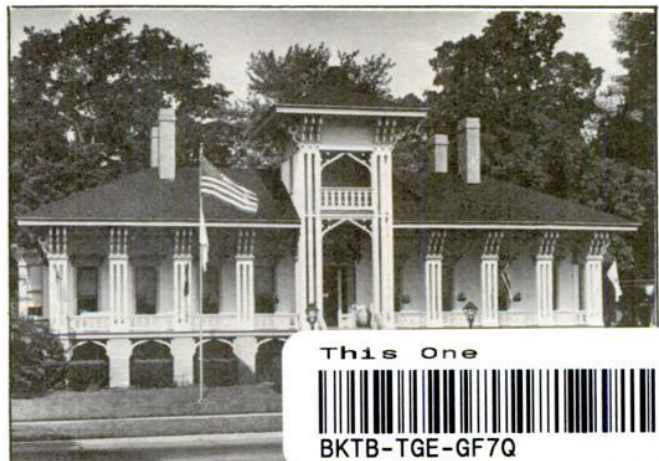
THE MARSHALL HISTORICAL SOCIETY'S president, John J. Collins, is quite pleased with the restoration. "The Minicks and the Kinneys have made a truly dramatic contribution to

our little city. The structure before the restoration was the one weak point on our Fountain Circle area. Less than a year later, it has not only ceased to be a weak link, it has become a social center for the community." Mr. Collins is so pleased with the Inn that he and Miss Susan Jones are having their wedding reception there on April 30.

MARSHALL, MICHIGAN is located very near Battle Creek and not too far from Kalamazoo and Ann Arbor. If you are planning to be in the area and would like to stay at the National House Inn, call or write Norm Kinney, Innkeeper, for details. The address is National House Inn, 102 South Parkview, Marshall, MI 49068. Telephone: (616) 781-7374.



One of the lovely 19th century homes in Marshall is this lovely Gothic Revival. Owned by the Macheks, they began its restoration by removing 30 yr. old shingles.



This One



BKTB-TGE-GF7Q

Built by Judge Pratt to remind him of his former residence in Honolulu, this unique building is now headquarters for the Marshall Historical Society.

Restoring Victorian Picture Frames

By Shirley Denison, Fairfax Station, Va.

VICTORIAN PICTURE FRAMES add a touch of elegance and grace to any room in the 19th century house. Flea markets and antique shops are experiencing an upsurge in searchers of "instant" ancestors. In many dusty attics are old, cracked, ornamental frames with corners chipped and ornamentation missing. Professional repairing and restoration is expensive. So, too often, the frames are either recommitted to the attic dust or the pictures removed and the frames discarded.

BUT RESTORATION of Victorian frames can be done relatively easily and inexpensively. It takes some patience and some hit and miss effort, but the materials are cheap. A few practice attempts can soon develop one's competence in repairing missing parts and restoring frames to their original color and brilliance.

ORNATE FRAMES WERE AN IMPORTANT part of the Victorian home. Whole walls were often covered with photographs, watercolors, oils, drawings--and the styles of the frames were as varied as the subject matter. But to duplicate in number the Victorian home hangings would be very expensive if mint-condition antique frames were purchased.

THE SECRET is to tread where most of us turn away. That is, take those broken or damaged frames from the attic and in only a few evenings restore them to the same quality of frames that hang in mansions. It's really not hard. If your attic is barren of frames, try flea markets, antique shops and second hand stores. Most shops have damaged frames that can be bought for a few dollars--far less than if in near-perfect condition.

MOST VICTORIAN picture frames are wooden, covered by a composition known as "gesso," which has been molded into a variety of ornamental patterns. In the passing of the decades, this "gesso" ornamentation dries out, shrinks and deteriorates from rough treatment. It's a rare frame that is unscathed.

SO, THE FIRST STEP is not to be deterred by the damaged appearance of the ornamentation. If the basic wooden frame is in good condition and not splintered or cracked, the foundation is secure for your rebuilding job. First re-nail any joints that have separated and brace where necessary so that the basic frame is structurally sound. Second, the frame should be vacuumed front and back, preferably outdoors. Lysol spray can be used if desired. A good dusting of the frame is preferable. Soap and water may be used, but scrubbing sometimes causes more ornamental pieces to come loose.

FOR YOUR FIRST EFFORT select a frame with only a few pieces of ornamentation missing. Frames repeat again and again the ornamental pattern,

so find an area on the frame that duplicates that which is missing. For example, if the corner ornamentation is missing (which is often the case), one of the remaining three corners usually is intact.

TO DUPLICATE THAT CORNER--and all other areas--you must (1) make a mold, (2) pour a plaster compound into the mold and (3) place the casting into the broken area. The steps are relatively simple.



1. Using florist's clay (available at variety stores) knead in your hands sufficient clay to form a thin pancake-like amount that will cover the area to be molded. (Plastilene is too sticky for mold use.) Press your thin pancake of clay into the selected area, being sure the clay is forced into all crevices. Take a second piece of clay and knead into a much thicker pancake and place on top of first clay to give the mold rigidity and strength. Pull mold away carefully so as not to distort the pattern. If mold sticks and tears apart, dust the area with corn starch and try again.



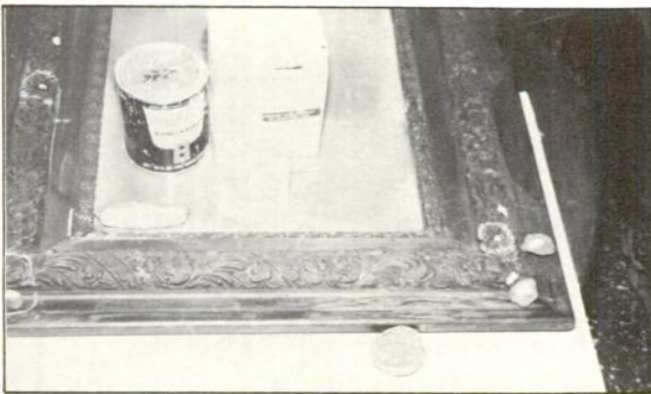
2. When you have achieved a satisfactory mold, set aside and check other areas of frame, making molds for each area that needs replacement of ornamentation.

3. Use Hydrocal plaster (available at art supply stores) to make your castings. It has a strength and hardness that ordinary plaster does not have. Mix by putting water in bowl (small plastic margarine bowls are ideal) first and then adding plaster until small islands form and the water is absorbed. Stir well, tapping out air bubbles. Pour plaster into molds, using a small brush to insure that all crevices are filled. Plaster will harden in about 15 min. but it is best to wait until all moisture has dried--small castings take an hour or two, larger ones should sit overnight. Once dry, work very slowly to roll the florist's clay away from the casting's edges. The florist's clay can be used over and over again.



4. Place the casting over the area to be repaired. Draw a pencil line on the casting where you want it to be trimmed to fit. Using an X-acto knife, serrated knife saw or coping saw, depending on the size of casting, make cut to fit. Sandpaper off the rough edges. Check height and trim bottom if necessary. Casting should not sit higher than surrounding area.

5. Before final seating of the casting, spread a coat of Elmer's Glue on a brush and coat the frame area and the back of the casting. This is very important. Unglued castings often come loose. Second, spread a coat of vinyl spackle into the repair area (vinyl spackle can be bought ready-mixed in hardware stores.) Once the spackle has been spread, set the casting in place, pushing down firmly so that the spackle beneath will rise up and around, filling the cracks and the adjoining areas. Wipe away the excess spackle and allow the repaired area to dry for a day.



6. Once dry, use an X-acto knife to trim away any ridges or imperfections. Follow with fine sandpaper on rough areas and joints. There may be other areas of the frame that need touching up with plaster. Gouges in flat areas, nicks and dents can be filled in with the spackle and sanded smooth when dry. With all the damaged areas now restored, the frame is ready for finishing.

DO NOT USE a bright gold spray paint for the finish--it gives a harsh and unnatural look. An antique finish can be achieved by using a furniture antiquing kit or by the following method.

FIRST, lay down a paint base of acrylic kitchen floor wax mixed with any water-based paint of black or brown color. 1/2 cup of half wax, half paint is sufficient for a large frame. Let this base coat dry. Then dip the tip of an artist's paint brush into clear acrylic floor wax and then into gold powder. Using dry brush technique, brush this combination lightly over the high spots of the area covered by the base paint.

SOMETIMES, as a change, you can use Treasure Gold, which is available in hardware and art supply stores. Take a small amount on the end of your finger and rub the compound over the areas to be highlighted. This is particularly useful if your repairs are few and the original finish of the "gesso" is still satisfactory.

IF PART OF THE FRAME is in natural wood--and many Victorian-era frames were alternately natural wood and ornamentation--the wood area usually needs only to be cleaned with turpentine or denatured alcohol and finished as furniture (two coats of a sealer such as Deft--rub with fine steel wool. Finish with two coats of paste wax.) The natural wood is to be left unpainted in all cases.

SOME FRAMES have very thin ornamentation. To develop eggshell-like molds and make castings for these requires different materials. Stay away from this sort of frustration. For easy restoration jobs, choose frames that have large ornamentation. For starters, don't attempt to restore frames where the wood underneath the "gesso" is broken. The major reconstruction needed is usually not worth the effort. If a key ornament is missing--at the frame apex for example--and there is nothing to duplicate it on the frame at hand, look around your home for an ornament that is of similar size and style. Ornamentation on tables, chairs, and other frames can be duplicated and transferred.

FINALLY, the hanging of the frame itself. The Victorian style was to set the eyelets halfway down the back of the frame. When strung and hung, the frames tilted away from the wall and looked down on the room, usually from high-ceilinged vantage. Today's style is to hang flush with the wall, so if you wish to hang them this way, put the eyelets only one-fourth down the back of the frames and string the wire with only slight slack.

Removing Stains From Masonry



By Theodore Prudon

STANDARD MASONRY CLEANERS generally remove only surface dirt and not stains. Most stain removal is done with the aid of a poultice. Poultices are also used when large amounts of water are undesirable as in interiors. A poultice is made by adding a solvent or chemical cleaning agent (or both) to water, into which an inert filler is stirred until the consistency of thick paste is achieved. The paste is then applied to the area to be cleaned.

THE INERT FILLER as an absorbent powder controls the rate of evaporation or reaction thereby giving the solvent or chemical cleaning agent the time to dissolve the stain. Upon evaporation or completion the solvent or cleaning agent is drawn out of the masonry into the absorbent powder together with the material that caused the stain. When the poultice is completely dried out, the powder with the stain material can be brushed off.

THE SELECTION OF THE CLEANING AGENT or solvent depends upon the type of stain to be removed. A variety of chemically inert fillers can be used as filler materials for the poultices. Essential is that they are finely divided, have a high absorbency value and do not react with the chemical cleaning agent selected. Used are, for instance, talc, whiting, Fuller's Earth, bentonite, powdered silica, etc.

PRIOR TO APPLICATION, excess staining material, such as tar, should be scraped off. Sometimes stains are pre-wetted with water to prevent too deep a penetration of the chemical cleaning agent. Apply the paste in layers not much thicker than one quarter inch. To prevent too quick an evaporation, the poultice can be covered with sheets of polyvinyl, taped against the wall. Poultice can be re-wetted. Once dried out, the powder or dry paste can be scraped or brushed off with bristle brushes and wooden paddles or other non-metallic implements. If not effective, the application can be repeated. The area cleaned should be rinsed thoroughly with clean water to remove any chemical residue.

THE PROBLEM WITH removing stains from masonry is similar to that of fabric. The area cleaned with a poultice will appear as a "clean spot" because not only the stain but also all other dirt will be removed, while the remaining area is still soiled. Exposure over a period of time reduces this quite quickly but the best solution is to remove the stains at the same time that the remainder of the masonry is to be cleaned.

Iron And Corrosion

MASONRY IS FREQUENTLY stained by the run-off of corrosion or rust from adjacent or embedded iron or steel. The removal of these stains is generally quite easy if the stain is not too deeply embedded. For light staining a solution of oxalic acid and water can be brushed or sprayed on. Solution is 1 lb. oxalic acid in one gallon of water or 1 to 10 parts by weight. A small amount of ammonium bifluoride is added to increase the effectiveness and speed of the removal. However, great care is necessary because the ammonium fluoride gives hydrofluoric acid, which etches acid-sensitive materials including brick or glazed terra cotta. A second application might be necessary if the stain is too deeply embedded. Upon completion the area is to be rinsed carefully with clean water to remove all chemical residue.

A second method, used for deeply embedded stains, involves the use of a poultice. Sodium or ammonium citrate, glycerine and warm water are mixed in the proportions 1:7:6. An inert filler such as whiting or kieselguhr (which is not easily available) is added to form a thick paste. The mixture is applied to the stained area and left to dry for several days till the poultice can be brushed or scraped off.

Lichens And Mosses

LICHENS AND MOSSES do grow on damp masonry, usually in shady locations or areas that are only sunlit for very short periods. Dampness of masonry can indicate problems in the masonry wall itself, although lack of moisture evaporation because of location is hard to remedy. Nevertheless these areas need watching. Lichens and mosses can be killed with a solution of zinc or magnesium silico fluoride (by weight, one part to forty parts of water.) A commercial weed killer can also be used with care. Household detergents or bleaches might also prove successful. If growth is a result of location and exposure, the problem is likely to recur. Green stains that do not respond are probably vanadium stains.

Copper And Iron Stains

STAINS FROM BRONZE AND COPPER are generally found as a result of the run-off from flashing, gutters, statuary and fasteners. Its removal is not too complicated. A mixture of one part ammonium chloride (sal ammoniac) and some 4 parts of talc or diatomite plus ammonium hydroxide or household ammonia is prepared till a thick paste is obtained. Placed upon the stain, this poultice is left to dry. The dried poultice can be scraped or brushed off with wooden or non-metallic tools. More than one application might be necessary before stain is removed. Upon completion the area is to be washed thoroughly with clean water.

Oil Stains

THE REMOVAL OF PETROLEUM and lubricating oil stains is not unlike the removal of asphalt stains. After the excess on the surface is removed by scrubbing with soap, scouring powder and trisodium phosphate, a poultice with a solvent can be used. Solvents generally recommended are carbon tetrachloride, trichlorethylene, benzol and others. Care is necessary and good ventilation is required indoors because solvents are highly volatile. A poultice with 5% sodium hydroxide (caustic soda) followed by scrubbing is also effective. However, use of these alkaline solutions can cause efflorescence after completion.

Asphalt And Tar

TAR AND ASPHALT stains, usually caused by sloppy or temporary roof repairs, are more difficult to remove and cannot always be totally cleaned. After the excess material is scraped off (taking care that the surface is not damaged) a poultice made of inert filler and solvent can be used. Solvents are one of the following hydrocarbons: Xylene, toluene, trichloroethylene or mineral spirits. The solvent strength varies as does the evaporation rate; when solvent strength is high so is the rate of evaporation. A too rapid evaporation might reduce the effectiveness. Trichloroethylene has high solvency, while mineral spirits have less dissolving power and slow evaporation rate but are quite readily available. Benzene has similar characteristics but extremely toxic requiring special precautions. Because most of these solvents are highly volatile, flammable and sometimes toxic, extreme care is necessary, especially when used inside. If an emulsified asphalt stain is encountered, repeated treatments with a poultice of diatomaceous earth and toluene or benzol might be necessary.

ASPHALT STAINS might not be able to be removed completely. The success will not only depend upon the depth to which it is penetrated, but also upon the surface texture. If the surface is textured, rough or has many small crevices, residual fragments do occur. However, the

visual impact of the stain will be substantially less. Washing and scrubbing after the poultice application with a detergent or scouring powder is desirable.

Manganese And Vanadium

SOMETIMES BRICK CAN STAIN in a particular manner as a result of its composition. Manganese grey or brown brick sometimes stains as a result of the manganese used to color the brick. Generally it will occur on the mortar joints but also sometimes on the brick itself as brownish stains. It is difficult to remove and not soluble in hydrochloric acid, while sulfuric acid is much too strong. After the wall is wetted, a solution of acetic hydrogen peroxide solution can be brushed or sprayed on. The solution is composed of one part acetic acid (by volume of 80% or stronger), one part hydrogen peroxide (30-35%) and 6 parts of water. When all the stains have been removed, they can possibly recur after a few days. Again they can be removed in the same manner.

VANADIUM STAINS on brick work are green, brownish-green or brown. They are frequently mistaken for organic growth of some sort. Its origins are not quite clear, but is usually attributed to impurities within the masonry itself or as a result of metal anchoring or support systems, which can contain vanadium alloys. The stains might sometimes occur after chemical cleaning. Washing with hydrochloric acid (muriatic acid) is detrimental because it fixes the stains rather than removing them and turns them brown. These stains can be removed with strong caustic soda solution which has to be left on the surface for some two or three days. It can be harmful to the brick masonry. Another possibility for removal is washing down with a solution of ethylene diamine tetra acid (EDTA) in one part to ten parts of water.

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THE FOLLOWING ITEM is offered without comment or endorsement. It is taken from the 1870 edition of "Dick's Encyclopedia of Practical Receipts & Processes."--Ed.

Red Wash for Bricks. To remove the green that gathers on bricks, pour over the bricks boiling water in which any vegetables (not greasy) have been boiled. Do this for a few days successively, and the green will disappear. For the red wash melt 1 ounce of glue in a gallon of water; while hot, put in a piece of alum the size of an egg, 1/2 pound Venetian red, and 1 pound Spanish brown. Try a little on the bricks, let it dry, and if too light add more red and brown; if too dark, put in more water.

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Heat Gun For Stripping Paint



THE JOURNAL's readers who have tried all types of paint strippers seem almost unanimous in their opinion: When there is a lot of woodwork to strip, the easiest and most economical method is the electric heat gun. (See The Journal April 1976, p. 2.)

THE HEAT GUN, which resembles a large hair dryer, is used like a propane torch. The gun supplies an even heat, which softens the old paint. Paint can be removed in long

sweeps with a scraping knife. Some cleanup with chemical remover is required—but it is far less messy and far less chemical is used than if chemical removers had been used to do the whole job.

COMPARED WITH a propane torch, the heat gun offers two basic advantages: (1) Heat is evenly distributed, so you don't get scorching that a torch can cause; (2) Because operating temperature is lower (500-700 F.) than a torch, there isn't the danger of lead poisoning from vaporized lead paint (see The Journal, May 1976 for full discussion of hazards).

THE MAJOR PROBLEM has just been finding heat guns. They are an industrial tool—and many readers report difficulty in finding a local source.

BECAUSE of this difficulty, The Journal's editors decided that we would make heat guns available directly to our readers. We found the heat gun that had the best record in paint-stripping applications, and made special arrangements with the manufacturer—Master Appliance Corp.

THE MASTER Heavy-Duty Heat Gun draws 14 amps at 120 v. It sells for \$56.90—about as much as 6 gal. of paint remover. Price includes shipping via United Parcel Service. (Please give street address for UPS rather than P.O. Box number.) N.Y. State residents add applicable tax. Order from: The Old-House Journal, 199 Berkeley Place, Brooklyn, NY 11217.

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