So we’re certainly not going to answer every question in this survey article. What we can do, however, is present the most complete listing ever assembled of suppliers of exterior molded ornament. This will give you an idea of the range of options open to you — and where you can gather the detailed information on which to base a final decision.

Some makers of molded ornament avoid the exterior market altogether because of the thicket of restrictions that can engulf a project in urban areas. Satisfying all the fire codes, seismic codes, historic district approvals, and other building regulations can make one a premature candidate for Monoxidil. And if the building involved is government-owned, there is always the spectre of waiting months — if not years — for final payment.

continued on page 9
Contents

All editorial and advertising material in Traditional Building is organized according to the Industry-standard MASTERFORMAT divisions published by the Construction Specifications Institute (CSI).

Special Features
Profile:
Texas-Style Restoration
Exterior Molded Ornament
Bathroom Fixtures
Exterior Lighting
Book Reviews
Project Profile:
Sandstone Repair
Product Literature
Siegel’s Scratchboard

Division 2
SITEWORK

Garden Houses & Follies

Related product advertising
Bow House

Division 4
MASONRY

Handmade Bricks

Related product advertising
Ahrens Chimney Technique
Brickyard
Lymarame International
National Sapulpa Systems
Protec Systems

Division 5
METALS

In the News
Tree Grate Bonanza

Related product advertising
Iron Shop
Salt & Chestnut Weathervanes
Steph & Wife
Thermo Materials Corp.

Division 6
WOOD & PLASTICS

Special Report:
Molded Ornament

In the News
Molded Ornament Review
Molded Ornament Source List
Molded Ornament Portfolio

Related product advertising
Abatron
American Heritage/Weathermills
Anthony Wood Products
Architectural Conservation
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Cameron Noriega
Cathedral Stone Institute
Cementex Lates Corp.
Chadsworth, Inc.
Chemcreeft
Cheesman Specialties
Conservation Services
Creative Sculpture Design 

Division 7
MOISTURE PROTECTION

In the News
Quartersawn Clapboards

Related product advertising
Donnell’s Clapboard Mill
Granville Manufacturing Co.
Liberty Cedar
Richmond Precast Concrete Co.
Sky Lodge Farm
South Coast Shingle Co.
Ward Clapboard Mill

Division 8
DOORS & WINDOWS

Related product advertising
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Architectural Components
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Drum’s Sash & Door Co.
Hope’s Landmark Windows
Kemore Industries
Midwest Architectural Wood Products
Thermo-Press Corp. Of NY
Vivian Hill Shutters
Woodstone Co.

Division 6, continued
Mad River Woodworks
Maple Grove Restorations
MJJ Studios
Molly & Associates
New England Garden Ornaments
Nicholson & Gallaway
Palom Sculpture Studios
Partelow Wood Turnings
Polytek Development Corp.
Preservation Institute for the Building Crafts
PRC, Inc.
Roca Noto Sculpture Studio
Schwed Manufacturing
Shutterscraft
Stairways, Inc.
Superior Clay Corp.
Tesseo Studio

Division 7, continued

Division 8, continued

CONTENTS
Division 9 FINISHES

IN THE NEWS
CLASSIC ORNAMENT .............................................. 27

RELATED PRODUCT ADVERTISING
Above View, Inc. .................................................. 28
Artsiscot Originals ................................................. 29
Brady/Brady .......................................................... 29
BRE Lumber .......................................................... 28
Chelsea Decorative Metal Co. ..................................... 28
Color People ......................................................... 27
Composition Group .................................................. 27
Crafter Lumber ....................................................... 28
Designs InTile ......................................................... 29
DiamonD Chemicals / Peel-Away ............................... 27
Fe Pi Faux .............................................................. 27
Goodwin Lumber Co. ................................................ 28
J. R. Burrows & Co. ................................................. 27
John Canning & Co. .................................................. 28
Northfield Restorations ............................................. 28
Richard E. Thibault, Inc. ........................................... 29
Tresias ................................................................. 27
Vintage Valances ..................................................... 27
W.F. Norman Metal Ceilings ....................................... 29

Division 10 SPECIALTIES

IN THE NEWS
CAST-IRON MANTELS .............................................. 30
STEEPLE REPAIR .................................................... 30
CUSTOM SIGNAGE ................................................ 30

RELATED PRODUCT ADVERTISING
Country Iron Foundry ............................................. 30
Nicolette ............................................................... 30
Smith-Cornell ........................................................ 30

Division 11 CONVEYING SYSTEMS

IN THE NEWS
RELATED PRODUCT ADVERTISING
Whitco / Vincent Whitney Co. .................................... 30

Division 12 MECHANICAL

IN THE NEWS
SPECIAL REPORT: BATHROOM FIXTURES

VINTAGE FIXTURES REVIEW .................................. 31
PLUMBING FIXTURE SOURCE LIST ............................ 32-34
PLUMBING PORTFOLIO ........................................... 36

RELATED PRODUCT ADVERTISING
Antique Baths & Kitchens ....................................... 35
Bathroom Machineries .......................................... 35
Hardware Plus ...................................................... 33
Mac The Antique Plumber ....................................... 25
Midget Louver Co. .................................................. 35
Miracle Method of Central Conn. ............................... 33
Monarch .............................................................. 33
Omaha Salvage ...................................................... 33
Ole Fashion Things .................................................. 33
Reggio Register ....................................................... 35
Roy Electric Co. ...................................................... 35
Salvage One .......................................................... 33
Sink Factory .......................................................... 35
Sunrise Specialty Co. .............................................. 35
Trusco Inc. ............................................................ 35
Vai's Antique Baths & Antiques ................................ 31
Watercolors, Inc. .................................................... 31

Division 13 ELECTRICAL

IN THE NEWS
SPECIAL REPORT: EXTERIOR LIGHTING

STREETSCAPE LIGHTING .................................... 38

RELATED PRODUCT ADVERTISING
Authentic Designs ................................................ 37
Brandon Industries ................................................. 37
Bruce Post Co. ...................................................... 37
E.S. Forgeries ....................................................... 37
Great Lakes Concrete Products ................................. 37
Lighting by Hammerworks ..................................... 39
MacQuarrie & Niccum ............................................ 37
Menstamp Lighting ............................................... 39
Spring City Electrical ............................................. 39
Sunfeather Reproductions ...................................... 39
Urban Archaeology ............................................... 39
Victorian Lighting Works ........................................ 39

Division 14 BOOK REVIEWS

ADAPTIVE RE-USE ................................................. 42
SECRET LIBRARY .................................................... 42

ON THE COVER: The Schenectady, N.Y., City Hall bell tower restored with FRP ornament. The replacement columns, capitals, fluted pilasters and ribbons, wreaths, eagles, swags and drapes, clock faces, vases, and moldings were supplied by AR-CHITECTURAL CONSERVATION, Scotia, N.Y. For more information on this firm, see p. 10.

COMING NEXT ISSUE:

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TRADITIONAL BUILDING is indexed in CONSTRUCTION INDEX.

CONTENTS
Division 2

SITEWORK

Belvedere

A GARDEN HOUSE FIT FOR EDEN

Last year, Stickney’s Garden Houses and Follies expanded its line to include 14 different garden houses, follies, and tents. Follies are mini-houses; they are completely enclosed, and include doors, windows that open and close, and floors. Garden houses have no floors, the windows are merely openings, and they are enclosed on at least three sides. Tents have a curved wooden roof set on side walls. All of the structures have unfinished rofts that need some kind of roofing material installed.

The structures are fabricated of solid mahogany. Depending on the style, they may have continuous moldings, repeated pediments, paneled walls, chair rails, recessed ceilings, latticework, and barrel vaults sheathed with narrow-matched ship-lap paneling. Optional hand-carvings for pediments include a basket of fruit, swag festoon, or wreath.

The structures are shipped broken down with two coats of white primer. Prices for garden houses start at $5,000; follies are $25,000. Shown is the Full Triangular Pediment With Seat. Also available are Benchs and garden seats. For more information, contact STICKNEY'S GARDEN HOUSES AND FOLLIES, 1 Thompson St., PO Box 34, Dept. 1B, Boston, MA 02129 (617) 242-1711. CS# 0280 — JL

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WRITE IN NO. 396
A Cache Of Colonial Products

Bow House (also known as Bow Bends), usually associated with gazebos and bridges, actually does most of its business in Cape Cod House Kits. But owner John Rogers has connections with a wide variety of specialty suppliers and will sell parts and pieces separately.

For example, Rogers has three companies who manufacture authentic hand-made brick for him. "In the old days, molds were made of pine, but the bricks got smaller as the molds wore down. So the process was improved: Cherry molds were faced with steel, then the clay was packed by hand, and 'hand-made' bricks were turned out." There are different types of brick available: Molded fireplace corner bricks and matching common bricks in restoration size; 8 in. sq. hearth bricks, which were popular in Colonial times; and 1-in.-thick bricks for interior floors. "Because," insists Rogers, "when someone wants a true Colonial restoration, he doesn't want to use 20th-century brick."

Some of the other products available through Bow House: Hand-made exterior doors with bull's-eye glass, hand-wrought hardware, true divided-light windows with blown glass, hand-dressed interior doors, beech molding, etc.

For more information, contact: BOW HOUSE, PO Box 900, Dept. TB, Bolton, MA 01740 (508) 779-6464. CS# 04200 - JL

Division 5
METALS

SAVE THE TREES

Neenah Foundry tree grates are ubiquitous. While researching this story, I inadvertently came across two tree grates, one in Park Slope, Brooklyn, and one in downtown Manhattan. Both bore the insignia, "Neenah Foundry."

Both tree and pavement benefit from tree grates as they allow a tree to grow and expand without damaging the concrete surrounding it.

Neenah offers over 100 styles of tree grate: Round, square, rectangular, multi-sided, round-square combinations, and many more. The grey cast-iron grates are also available in radial, sunburst, slotted, and regular geometric patterns. As the trees grow, some of the grates can even be expanded by removing an inner band with an abrasive cutting wheel, hack saw, or cold chisel.

Grates are installed in a cast-iron frame and can be bolted if necessary. Many of them are equipped with surface openings or removable iron grids so sub-grade lighting units can be installed.

Neenah opened its doors over 100 years ago as a fabricator of plumbing. Now, one of the largest foundries in the country, it manufactures municipal castings. Manhole covers, sewer and gutter inlet grates, bridge, subway, deck, and building drains, and more (their catalog is about 275 pages). In a separate tree grate catalog, you'll also find tree guards, footway medallions, and customized grates.

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WRITE IN NO. 464

January/February 1992
Restoration, Texas Style

BY EVE M. KAHN

Six-foot-five, sporting a broad handlebar mustache, architect Killis Almond cuts a striking figure in the world of Texas historic preservation. In the past 17 years he has restored just about every type of building the state has to offer; from adobe forts and missions to turn-of-the-century Mission Revival mansions to Art Deco office towers. He serves as construction manager for most of his own projects, and he describes his supervisory style as "Attila the Hun," or perhaps "mutual respect with a huge streak of stubbornness." And yet he is widely admired for his charm.

"He's quite a character," says Stanley Graves, Texas's State Historic Preservation Officer. "He's very jovial, he's always got some good stories to tell, and he can deal with clients — he can explain what he does, which many architects can't. He can handle projects where the political considerations are as important as the architectural ones." He can also be humble. "When I've done my best," Almond says, "you can't tell I've been there. It's the 'E' word — ego — that spoils old buildings."

As befits a rather theatrical man, Almond's specialty is theatres. He's written dozens of preservation plans for them, from Louisiana to Kansas to Florida, and he's president of the League of Historic American Theatres. Of the half-dozen his office has rebuilt, his favorite is the circa-1894 Grand Opera House in Galveston. He tackled it in 1981, three years after establishing his San Antonio office. "After all these years," he says, "I still walk into that auditorium and I feel amazed." Tiers of ornately stencilled half-round balconies flank the stage, and the curtain blazes with trompe-l’oeil red gilt-trim curtains. Armed with a $7 million budget, he replicated the decorative painting brushstroke for brushstroke, and recreated the carpets and upholstery thread for thread. He also tucked concession areas under staircases and found space for restrooms by usurping guest rooms from an adjacent hotel.

"We take a holistic approach to theatres," he says. "In some areas we restore, and in others we rehabilitate. We balance the two, so that the theatre can be preserved and operate efficiently — or else you end up with a beautiful thing that no one will use." He is currently poised to begin work on the Fox Theatre in Hutchinson, Kansas, and the Meridian Opera House in Meridian, Mississippi; the latter, he says gleefully, "has six original dressing rooms with graffiti on the walls, signatures of the people who played there, and the original gas valves for the footlights. We're going to be able to preserve all that."

With so many projects requiring his attention, and only five employees assisting him in both his Galveston and San Antonio offices, why does Almond

continued on page 42

Killis Almond poses in front of the Moody Mansion in Galveston, one of his most challenging restoration projects to date. (Photo: Robert W. Rizzo)

Left:
Inside the mansion's brick-with-limestone walls are 42 rooms, totalling 42,000 sq. ft.; the building will open as a museum this spring.

Right:
Original light fixtures, elaborate carving, and figurative stained glass ornament the mansion's Pottier-Stephens decor.
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WRITE IN NO. 426

TRADITIONAL BUILDING
Once the regulations governing a project have been pinned down, you still usually have time to drive CSI MASTERFORMAT System dramas the choices open to you. Depending on the material chosen, the spec for the exterior molded ornament might appear in Div. 3 (for precast concrete), Div. 4 (for cast stone), Div. 5 (for cast and sheet metal), Div. 6 (for polymers and FRP), or Div. 9 (for plaster). The table at the right gives you a sense of the advantages and limitations of the basic materials.

The Challenge Of Thin-Shell Composites
There are potential benefits to making exterior moldings from thin-shell fiber-reinforced composites, such as FRP and GFRC. (Cross sections are usually ⅛" to 1/4" for FRP, 1/2" to 3/4" for GFRC.) These composites all share a fibrous material (usually fiberglass) that reinforces the basic matrix. The moldable component may be cement, gypsum, polyester or other polymer — and frequently combinations thereof. Other fillers and aggregates are often added for strength, to provide color and/or texture, or simply as extenders.

And with the right mix you can achieve an essentially part handling, installation, attachments — and minimize seismic problems. And on projects like terra cotta replacement, panels can be made up that incorporate multiple of the original stone in a single element which speeds installation. Thin-shell composites normally are quite economical, too.

Several factors can offset the potential benefits. Many composites present complex engineering challenges due to the variable formulations and data on what the gel coat alone or a combination of resin, aggregate, etc., is comprised of. As indicated above, the Fiberglass Fabrication Assn. is preparing industry-wide guide specs for designers and specifiers.

The lack of accepted standards for architectural FRP has led to some unfortunate experiences (especially with "mom and pop" shops), which in turn has led to FRP getting a damaged reputation in some preservation circles. For example, Preservation Brief No. 7 from the National Park Service refers to FRP as having "poor weathering and aging properties."

However, there are numerous instances of properly formulated architectural FRP lasting 15-20 years without deterioration. (After all, fiberglass boats have a 40-year track record in sunny, corrosive saltwater environments.) To make sure you get a reliable FRP fabricator, (1) Carefully examine previous jobs they've done; (2) Ask for samples of the kind of layups they'll be preparing for your job; (3) Get written specifications from the fabricator detailing resins and ratios they'll be using.

With any composite material, it's more important to get an experienced, interested fabricator than it is to get the lowest possible price. As Charles Wittman of Architectural Fiberglass Corp. points out: "There's a big difference between making an FRP shower stall and making an exterior cornice."

One aspect of FRP weathering: In polluted environments, deposits can build up which fade or discolor the material. However, even if FRP does seem badly discolored, the original color can usually be restored with a rubbing compound — and then it will be an automobile finish. FRP weathering is also affected by whether the gel coat has a gloss or matte finish. (A matte finish is often specified to replicate historic materials.) It is possible to achieve a long-lasting integral matte finish in the mold. However, some fabricators create a matte finish after molding via abrasive methods. Abrasives can damage the gel coat and lead to premature weathering.

You'll also hear arguments about the necessity of painting. Some fabricators insist that painted surfaces form a durable finish. (However, as with paints, some dark colors are more subject to fading than...)

Materials For Molded Ornament
Advantages And Limitations
Cast Concrete
ADVANTAGES: Low-cost substitute for cast stone. (As a cast stone, it is specified in CSI section 03450.) Sturdy and durable; can be colored to approximate natural stone.

CAST METALS
ADVANTAGES: Aluminum: Lightweight: tough and durable; easy to install. Bronze: Traditional material that acquires a handsome green patina. Tough and durable. Cast Iron: Traditional material, often the most suitable for replacement pieces that have to be intermingled with original cast-iron elements.

CAST STONE
ADVANTAGES: High refined precast concrete: classified as a masonry product (CSI 04430 or 04470). By control of cement and sands, can be made to resemble brownstone, limestone, bluestone, granite, slate, marble, sandstone, etc. Free from air bubbles: weathers like natural stone. Uniform color and quality. Sturdy and durable. Can be used in anyplace natural stone would be. Fire-resist.

Exterior Plaster (polymer-modified exterior gypsum, e.g., Jesmonite, usually glass-fiber reinforced)
ADVANTAGES: Economical; sets up quickly, allowing rapid mold cycling. Can be colored integrally. Not UV sensitive; fire resistant; casts sharp detail. Smooth surface; can replicate fine-grained limestone.

FRG (Fiberglass-Reinforced Gypsum)

FRP (Fiberglass-Reinforced Polyester)
ADVANTAGES: Light weight allows easy installation without special trade; corrosion resistant; wide range of fade-resistant integral colors. After FRP cures, 15-20 years; may require painting thereafter. Light weight makes FRP ideal for seismic zones. High strength-to-weight ratio makes structural laminates possible; fire retardancy available. Rugged, tough, graffiti-resistant.

GFRC (Glass-Fiber Reinforced Concrete)
ADVANTAGES: Resistant to weathering, pollutants, and windblown abrasion. Can be cast with white or gray cement and a wide range of integral colors. Various aggregates and surface treatments can replicate a wide range of stones. Light weight permits long panels of ornament, simplifying installation. Original ornament can be used for mold. Noncombustible.

Molded Polyurethane

Sheet Metal
ADVANTAGES: Stamped metal ornament in zinc or copper can be economical if stock patterns can be used. Light weight makes sheet metal ornament fairly simple to install.

Terra Cotta
ADVANTAGES: Traditional material that captures detail with extreme crispness. Durable and weatherable; cast stone, usually made with proper clays). On restorations, it has some expansion/contraction rate as original units — an advantage when replacements are intermingled with originals. Wide range of colors and glazes available.

LIMITATIONS: Less refined control of texture, aggregates, and air bubbles than cast stone. Weathers somewhat differently than individual stone. Has to be installed by masons.

CAST STONE
LIMITATIONS: Its weight and other physical characteristics require massive foundation detail. Somewhat more expensive than ordinary precast architectural concrete.

CAST METAL
LIMITATIONS: Heavier than FRP, but not nearly as strong as cast stone. Fairly new; doesn't have a long track record under natural weathering.

FRG (Fiberglass-Reinforced Gypsum)
LIMITATIONS: Depends upon coatings for weather resistance. Will break down in harsh climates if coating is not kept intact.

FRP (Fiberglass-Reinforced Polyester)
LIMITATIONS: Some local fire codes may restrict use of FRP. Fire retardants added to gel coat may adversely affect loadings. Due to a coefficient of expansion about the same as aluminum, which may dictate attachments that can accommodate movement.

Molded Polyurethane
LIMITATIONS: Made from a steel substrate to support bearing loads. Has coefficient of expansion about the same as aluminum, which may dictate attachments that can accommodate movement.

Sheet Metal
LIMITATIONS: If the aged metal finish isn't satisfactory, then a painted finish has to be applied. Subject to denting in high-traffic areas.

Terra Cotta
LIMITATIONS: Can be expensive to make duplicates of historic originals; clay shrinkage means you usually can't use original units as a mold. Much labor involved in terra cotta production to get galvanized coating, so lead times can be protracted.
TRADITIONAL BUILDING SOURCELIST
MOLDED EXTERIOR ORNAMENT
CSI# 06200

By Clem Labine

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>SPECIALTY</th>
<th>LITERATURE</th>
<th>MATERIALS</th>
<th>STOCK/CUSTOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ace Concrete Products</td>
<td>Works in architectural precast concrete and cast stone. Specializes in custom fabrications, classic reproductions, and historical restorations.</td>
<td>Free</td>
<td>Precast concrete</td>
<td>C</td>
</tr>
<tr>
<td>Archicast</td>
<td>Custom casting studio. Can restore and replicate old pieces of architectural ornament or create new patterns from photos or drawings. Will also make molds for those who prefer to do their own casting.</td>
<td>No literature; will respond to specific inquiries</td>
<td>Plaster</td>
<td>C</td>
</tr>
<tr>
<td>Architectural Conservation</td>
<td>Custom studio deals in all phases of architectural sculpture and ornament: Pattern making, mold making, and casting. Will duplicate historic molded ornament and/or restore original material that's still in place.</td>
<td>Free</td>
<td>Write in No. 641</td>
<td>FRP, GFRP, Custom cast stone, Plaster, Cast metals</td>
</tr>
<tr>
<td>Architectural Fiberglass Corp.</td>
<td>Specializes in molded fiberglass replicas of exterior ornament originally made in materials such as terra cotta, sheet metal, cast iron, stone, and wood. Typical installations include cornices, balconies, balustrades, and planters. Standard shapes available as well as custom reproductions.</td>
<td>Free</td>
<td>Write in No. 640</td>
<td>FRP, GFRP</td>
</tr>
<tr>
<td>Architectural Reproductions</td>
<td>Custom producer of a wide variety of architectural elements and historic ornament. Experienced in using a wide variety of casting materials — depending on nature of the job. Limited number of stock patterns.</td>
<td>Free</td>
<td>Write in No. 613</td>
<td>Cast stone, Custom cast FRP, GFRP, Cast metal</td>
</tr>
<tr>
<td>Architectural Sculpture</td>
<td>In addition to design and creating fine custom artwork, the firm does custom work for architects, interior designers, and industrial designers. Typical projects include custom doors, walls, and limited-edition fixtures.</td>
<td>No literature</td>
<td>Bronze</td>
<td>FRP</td>
</tr>
<tr>
<td>Architerra Austin</td>
<td>Creates handcrafted terra cotta modules that can be combined to form a wide variety of architectural details. Designs range from neoclassic to contemporary. Endless architectural forms such as columns, pedestals, moldings, and surrounds are created by simply rearranging modules. Standard and custom pieces.</td>
<td>Free</td>
<td>Terra cotta</td>
<td>S/C</td>
</tr>
<tr>
<td>Art Home Studios Co.</td>
<td>Custom studio provides exterior fiberglass cornices, architectural cast stone, and sculpture — both design and fabrication. Also: Domes, niches, architectural and ornamental plaster restoration and preservation.</td>
<td>Free</td>
<td>Write in No. 643</td>
<td>FRP, FRG, GFRP, Custom cast stone, Cast metal, Cast marble, Plaster</td>
</tr>
<tr>
<td>Art In Action</td>
<td>Artist Barry Rose supplies original sculptures as well as historic reproductions. Experienced in terra cotta. Offers full design, production and installation services, including sculpted originals, rubber &amp; plaster molds, and stone work.</td>
<td>Free</td>
<td>Terra cotta</td>
<td>C</td>
</tr>
<tr>
<td>Bauer Casting Design</td>
<td>Recreates architectural ornament, both exterior and interior, in plaster, cast stone, terra cotta, and porcelain. Also designs original work. In addition to custom work, firm produces cast stone Victorian garden curbs for edging gardens and pathways.</td>
<td>Free</td>
<td>Cast stone</td>
<td>Porcelain</td>
</tr>
<tr>
<td>Beaver Creek Cast Stone</td>
<td>Manufactures precast building products, such as fascia panels, coping, sills, structural columns and spandrels, and replicas of architectural ornament. Uses pigments and/or special aggregates to achieve integrated color units. Can make something from a small date stone to a 70-ft. column.</td>
<td>Free</td>
<td>Precast concrete</td>
<td>C</td>
</tr>
<tr>
<td>Boston Valley Terra Cotta</td>
<td>Manufacturer of custom-made architectural terra cotta and roof tile for restoration projects and contemporary installations. On restoration, craftsmen can match color, texture, and detail of original elements.</td>
<td>Free</td>
<td>Terra cotta</td>
<td>C</td>
</tr>
<tr>
<td>Cameron Noriega</td>
<td>Complete architectural ornament service from design and pattern-making to finished product. Can duplicate existing ornament or create new molds from drawings. Experienced in restoration projects; works in a wide variety of materials.</td>
<td>Free</td>
<td>Write in No. 413</td>
<td>Cast concrete</td>
</tr>
<tr>
<td>Cathedral Stone Products</td>
<td>Supplies Jahn Restoration Mortars — cementitious materials that are specially formulated to be physically compatible with sandstone or limestone, terra cotta, concrete, and several injection-grout mortars. Jahn can be cast or used for plastic patching. (See Project Report on p. 44 for case history of Jahn in sandstone repair.)</td>
<td>Free</td>
<td>Write in No. 380</td>
<td>Jahn Restoration Mortars</td>
</tr>
<tr>
<td>Cementex Latex Corp.</td>
<td>Supplies mold-making materials for a wide range of needs in restoration and architectural reproductions. Among their molder compound products are a brush-on natural latex (#80), pourable polysulfide rubber (SP-16), and pourable silicone rubber (RTV-585).</td>
<td>Free</td>
<td>Write in No. 645</td>
<td>Mold-making compounds</td>
</tr>
<tr>
<td>Chemcroft Corp.</td>
<td>Architectural moldings in structural polyurethane, including windows in many shapes: Round, octagon, oval, arched, and half-round. Also: Door surrounds, running moldings, brackets, arches, blocks, and columns.</td>
<td>Free</td>
<td>Write in No. 633</td>
<td>Structural polyurethane</td>
</tr>
<tr>
<td>Creative Sculpture Design &amp; Restoration</td>
<td>Specialist in the conservation and restoration of historic buildings, monuments, and sculpture. Offers meticulous cleaning, repair, and restoration services. Can recreate damaged or missing areas of metal or stone and apply protective sealants when appropriate. Will also execute site-specific sculptural commissions.</td>
<td>Free</td>
<td>Write in No. 638</td>
<td>Various</td>
</tr>
<tr>
<td>Custom Castings</td>
<td>Custom cast architectural elements in fiberglass reinforced-gypsum (FRG) or fiberglass-reinforced concrete (GFRC). GFRC can be cast in any color or tone using non-fading pigments, ranging from subdued pastels and earth tones to vivid hues. Elements such as cofers, copings, capitals, niches, decorative moldings are available as either standard or custom items.</td>
<td>Free</td>
<td>FRG, GFRC</td>
<td>S/C</td>
</tr>
</tbody>
</table>
EDITED BUILDING MATERIALS

Introducing custom-molded fiberglass cornices, balustrades and columns for commercial historic renovation:

- Adaptable to any period or style to retain original architectural features and historic value.
- Lightweight, easy-to-install pieces with stiffness and ribs for added strength.
- No painting—pigments and UV inhibitors in gelcoat give long-lasting, custom color matches.

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PO Box 8, Pendleton, SC 29670

WRITE IN NO. 461

EXTERIOR MOLDED ORNAMENT continued from page 5

others.) Modern gel coats can be formulated with premium-grade UV-resistant resins, which should be specified at the outset to make sure bids are comparable. Other firms view paint as the sacrificial surface—and apply it from day one. Catalyzed urethane paints can last 15 years, and 100% acrylic emulsion paints nearly as long.

Who's Listed
To assemble the SourceList on pages 10-14, we sent a questionnaire to 97 firms involved with molded ornament. We received replies from 64 firms interested in bringing their capabilities to the attention of historical architects and contractors. After screening out companies who weren't, in the opinion of the editors, appropriate for this Report, we wound up with the 53 companies you'll find in the SourceList.

Some Helpful Technical Manuals
For anyone designing or specifying molded ornament in cast stone, the Cast Stone Institute provides an indispensable tool. Their Technical Manual gives engineering data, anchoring details, designs for metal stud walls, sample specifications, and some typical projects showing design details and specs. The Technical Manual is available for $35 ppd. from: CAST STONE INSTITUTE, Pavilions at GreenTree, Suite 408, Dept. TB, Marlton, NJ 08053 (609) 658-0271.

For glass-fiber reinforced concrete (GFRC), there's also a helpful manual that provides information on planning, preparing specifications, design, manufacture, and installation of thin-wall GFRC architectural panels. Recommended Practice For Glass Fiber Reinforced Concrete Panels (MNL 128-87) costs $16 ppd. from: PRESTRESSED CONCRETE INSTITUTE, 175 West Jackson Blvd., Chicago, IL 60604 (312) 786-0300.


For architectural fiberglass, the Fiberglass Fabrication Assn. is preparing a Technical Manual containing sample specs and typical details. FIBerglass FABRICATION ASSN., 3299 K Street, NW, Suite 700, Washington, D.C. 20007 (202) 337-3322.

Special Thanks To...
The editors wish to thank the following people for technical assistance with this Report: David Talbott, Architectural Reproductions, Inc.; Ed Axel, Edax, Inc.; David Jones, GFRC, Inc.; Lorrie Anderson, Roca Noto Studios; and Charles Wittman, Architectural Fiberglass Corp.

West Jackson Blvd., Chicago, IL 60604 (312) 786-0300.

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Phone: 614/922-4122 - 800/848-6166

WRITE IN NO. 549

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a brush on natural latex

SP-16 MOLDING COMPOUND
a pourable polysulfide rubber

RTV-585 MOLDING COMPOUND
e a pourable silicone rubber

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480 Canal Street, New York, New York 10013
Phone:(212) 226-5832 Fax: (212) 534-8549

WRITE IN NO. 465
**Molded Exterior Ornament**

**COMPANY**
- Cut Art Stone Co. 109 Victory Drive W., Dept. TB Savannah, GA 31405 (912) 235-4680
- Dallas Cast Stone Co. 4107 Hazelwood Dr., Dept. TB Dallas, TX 75210 (214) 428-6269
- Decorators Supply Corp. 3610-12 S. Morgan St., Dept. TB Chicago, IL 60609 (312) 847-8300
- Duro Fiber Co. 11 Park Ave., Dept. TB Hudson, NH 03051 (603) 881-4200
- Edon Corp. 1140 Easton Rd., Dept. TB Horsham, PA 19044 (215) 672-8050
- Felber Studios 110 Ambrose Ave., Dept. TB Ardmore, PA 19003 (215) 642-4710
- Fibertech Corp. P.O. Box 8, Dept. TB Pendleton, SC 29670 (803) 646-9990
- Fischer & Jirouch Co. 4827 Inverno Ave, NE, Dept. TB Cleveland, OH 44103 (216) 361-3640
- David Flaharty, Sculptor 402 Magazine Rd., RD 2, Dept. TB Green Lane, PA 18054 (215) 234-8424
- Foam Factory 2381 N.W. 33 Court #5, Dept. TB Pompano Beach, FL 33069 (305) 978-1700
- Focal Point Polyfoam 923 Cate St., Dept. TB Lincoln, NE 68507 (402) 466-3300
- H.F. Freedman Studios 368 Congress St., Dept. TB Boston, MA 02210 (617) 426-8887
- GFRC, Inc. 6001 N. 60th St., Dept. TB Lincoln, NE 68507 (402) 466-3300
- Historic Reproductions, Ltd. 2166 Rover Ne., Dept. TB Hartville, OH 44632 (216) 455-7363
- Historical Arts & Casting 4130 W. 1939 South Unit F, Dept. TB Salt Lake City, UT 84104 (801) 974-0242
- William Kreyser & Associates P.O. Box 873, Dept. TB Penngrove, CA 94951 (707) 765-1102
- Lafayette Mfg., Inc. 3440 Enterprise Ave., Dept. TB Hayward, CA 94545 (415) 795-5200

**SPECIALTY**
- Custom cast stone that simulates building stones such as brownstone, limestone, granite, Keystone, tennessee, and others. Finishes available include form finish, exposed aggregate, smooth finish, sand blasted, acid-washed, and other special finishes. Can produce everything from large fascia panels to cast balusters and newel balls.
- Custom cast stone manufacturer of major architectural elements and decorative detail, including belt courses, water tables, cornices, window surrounds, heads, impost, keystones, columns, quoins, and copings. Names, logos, dates, and relief motifs can be cast into custom entrances.
- Although better known for their interior ornament, this firm has a wide selection of exterior ornamental details, such as capitals, cast in weather-resistant plaster.
- Custom molded building components in fiberglass-reinforced polymer, including arches, dormers, ornamental panels, finials, balustrades, cornices, spandrel panels, columns & capitals, medallions, entablatures, pediments, and eave entries.
- Major supplier of fiberglass-reinforced molded ornament. Among their specialties are architectural columns — both stock and custom — in both straight and entasis versions. Has in-house capabilities from designers through sculptors and pattern-makers to make custom large scale assemblies, including cornices, domes, columns, and signage. Extensive experience in historical replication.
- Better known for their interior molded ornament in plaster and other materials. Felber has also executed numerous exterior restoration projects in which they duplicated molded brick, terra cotta, etc.
- Produces traditional architectural detail in lightweight FRP assemblies. Among the elements available — in either stock or custom designs — are cornices, columns & capitals, pediments, lintels, archways, belt courses, balustrades, panels, brackets, etc.
- This firm is best known for its vast array of fibrous plaster interior moldings. Supreme firm also does custom casting of exterior architectural ornament in various materials. Can duplicate from historic originals, or make new patterns and molds from drawings.
- This sculpture studio specializes in high-quality replicas of historic interior plaster ornament, some of which can be seen at New York's Metropolitan Museum and the State Department rooms in Washington, D.C. Studio also has the capability to produce custom exterior ornament in a variety of materials.
- Builder’s trim in low-cost lightweight foam; Columns, capitals, straight moldings, etc. Can be covered with stucco and painted.
- Better known for its interior molded polymer ornament, this firm has just introduced a line of load-bearing molded columns. Made of polymers, fiberglass, and marble chips, the “Marblinex” columns are said to have the look and feel of marble. Diameters range from 6 in. to 12 in., heights from 8 ft. to 18 ft.
- Small studio specializing in preservation, conservation and restoration of architectural elements, sculpture, and fine art. Services include modeling, making molds from existing elements, recreation of lost detail from photographs or blueprints. Castings are made in the material most appropriate for the project at hand.
- Produces a wide range of glass-fiber-reinforced concrete products, ranging from exterior wall claddings to replications of historical architectural elements, replacements for terracotta etc. Serves customers nationwide. They can make molds from in-place elements on a building, from pieces sent to their shop, or from drawings. Spray process accurately reproduces intricate shapes.
- Produces a FRP cupola with glazing, or with ventilating louvers. Units are 3 ft. 6 in. x 3 ft. 6 in. x 8 ft. to 3 in. high. Among the options: custom colored gel coat for roof and/or body; laminated copper roof.
- Specialized foundry casts all types of traditional forms in metal, both replicas of historic ornament and original designs. Some of their projects include cast iron facades, cresting, finials, domes, lanterns, bridge elements, etc.
- Molded architectural products; extensive experience in commercial facades, church cupolas, restoration, terracotta replacement, etc. Has developed a composite of polymer-concrete over FRP laminate to provide waterproof replicas of natural stone in thin-section panels.
- Specializes in architectural precast concrete and precast glass-fiber-reinforced concrete. Products run the gamut from building panels to replicas of historic ornament.

**LITERATURE**
- Free
- Cast stone
- C
- Free
- Cast stone
- C
- Sand $3 for catalog
- Exterior plaster
- S
- Free
- FRP
- C
- Free
- Write in No. 189
- FRP
- FRG
- S/C
- Free
- Write in No. 289
- FRP
- GFRC
- Exterior plaster
- (Eisenmone)
- Free
- Write in No. 651
- FRP
- GFRC
- S/C
- Free
- Write in No. 196
- Various
- S/C
- Free
- Write in No. 639
- Wide variety of materials — depending on job
- C
- Free
- Write in No. 663
- GFRC
- C
- Free
- Write in No. 637
- Cast Iron
- Bronze
- Aluminum
- FRP cupolas
- C
- Free
- GFRC
- C
- Free
- GFRC
- Precast concrete
- Polystyrene foam
- S
- No literature
- FRP
- FRG
- GFRC
- Terra cotta
- Exterior plaster
- S

**MATERIALS**
- Cast stone
- FRP
- GFRC
- Polystyrene foam
- No literature
- Various
- FRP cupolas
- Cast Iron
- Bronze
- Aluminum
- FRP
- GFRC
- Precast concrete
- Polystyrene foam
- Free
- Cast stone
- C
- Cast stone
- C
- Sand $3 for catalog
- Exterior plaster
- S
- FRP
- FRG
- GFRC
- Exterior plaster
- (Eisenmone)
- FRP
- GFRC
- S/C
- Various
- S/C
- FRP cupolas
- C
- GFRC
- C
- GFRC
- Precast concrete
- Polystyrene foam
- S
- No literature
- FRP
- FRG
- GFRC
- Terra cotta
- Exterior plaster
- S
- FRP
- GFRC
- C
- FRP
- GFRC
- C
- Free
- GFRC
- Precast concrete
- C

**Stock/Custom**
- C
- C
- S
- C
- S/C
- C
- S/C
- S
- S/C
- C
- S
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MJM Studios
(201) 465-5220

WRITE IN NO. 635
<table>
<thead>
<tr>
<th>COMPANY</th>
<th>SPECIALTY</th>
<th>LITERATURE</th>
<th>MATERIALS</th>
<th>Stock/Custom</th>
</tr>
</thead>
<tbody>
<tr>
<td>MJM Studios</td>
<td>Architectural sculpture studio that employs classically trained technicians to create, restore, and replicate architectural ornament. All sculpture, modeling, casting, and finishing is done in-house. Typical projects: Sculpture, cartouches, columns, balusters, coping, cornices, friezes, lintels, moldings, and pilasters. Studio can cast in a wide variety of materials—depending on the job.</td>
<td>Free Write in No. 635</td>
<td>GFRC FRP</td>
<td>C</td>
</tr>
<tr>
<td>Molloy and Associates</td>
<td>High-strength architectural or ornamental panels are produced in glass-fiber-reinforced concrete with cross-sections as thin as one-half inch. Can reproduce precise replicas of historic ornament, or execute new designs to your drawings and specifications.</td>
<td>Free Write in No. 646</td>
<td>GFRG</td>
<td>C</td>
</tr>
<tr>
<td>New England Garden Ornaments</td>
<td>Importer of cast architectural ornament from two English companies: Chilstone Architectural and Yorkstone. Line includes steps and quoins, columns and plinths, pier caps and coping, porches, temples and pavilions, cornices and balustrades, balls and bases, door and window surrounds.</td>
<td>Free Write in No. 656</td>
<td>Cast stone</td>
<td>S</td>
</tr>
<tr>
<td>Nicholson &amp; Galloway</td>
<td>Exterior restoration contractor experienced in, among other things, resetting loose architectural ornament. Also does cleaning, caulking, pointing. Will cast ornament to replace missing moldings.</td>
<td>Free Write in No. 607</td>
<td>Cast stone</td>
<td>C</td>
</tr>
<tr>
<td>W.F. Norman Corp.</td>
<td>The leading supplier of pressed metal exterior architectural ornament. Among the hundreds of items available: Cornices, leader boxes, window lintels, sashes &amp; garlands, balls &amp; bases, sculptural figures, brackets &amp; modillions, scrolls &amp; corner ornaments, shells, medallions, moldings, freeze elements, cresting, panel ornaments, capitals, and finials.</td>
<td>Free Write in No. 52</td>
<td>Sheet zinc Copper Aluminum Bronze Lead-coated copper Other alloys</td>
<td>C</td>
</tr>
<tr>
<td>Manuel Palos Sculpture</td>
<td>Sculpture studio with extensive experience in projects ranging from contemporary designs to historical replications. Architectural work includes moldings, doorways, arches, ceilings, medallions, columns, cornices, capitals, fountains, mantels, and ornamental flourishes. Skilled in working in a wide variety of materials.</td>
<td>Free Write in No. 642</td>
<td>FRP FRG Bronze Terra cotta Plaster Marble Stone</td>
<td>S</td>
</tr>
<tr>
<td>Polytek Development Corp.</td>
<td>Major supplier of mold-making materials; their polyurethane and silicone rubbers are fast and durable for taking molds off buildings and making production molds of recarved pieces. Poly RTV rubbers make molds for plaster, cements, and resins. New Polygel 50 mold rubber is an easy-to-use self-thickening rubber for taking molds on vertical surfaces.</td>
<td>Free Write in No. 636</td>
<td>Molding resin Mold-making materials</td>
<td>S</td>
</tr>
<tr>
<td>Robinson Iron Corp.</td>
<td>Cast architectural elements, fountains, and garden ornament from original 19th-century molds. Has also recreated entire cast iron facades.</td>
<td>Free</td>
<td>Cast iron Aluminum Bronze</td>
<td>S/C</td>
</tr>
<tr>
<td>Rocca Noto Studios</td>
<td>Over 20 years of experience in fabricating architectural ornament and fire art in fiberglass-reinforced resin. Virtually any material can be replicated: Stone, bronze, terra cotta, marble, or other metal. Among the typical architectural elements they have made: Cornices, friezes, moldings, entablatures, columns &amp; capitals, brackets, balustrades, lintels, etc.</td>
<td>Free Write in No. 422</td>
<td>FRP</td>
<td>C</td>
</tr>
<tr>
<td>W.N. Russell &amp; Co.</td>
<td>Replications of many natural stones: Brownstone, granite, slate, bluestone, sandstone, slate, etc. Can be cast into date blocks, logos, lintels, quoins, entryways, belt courses, ashlar panels, balustrades, capitals &amp; railings, etc.</td>
<td>Free</td>
<td>Cast stone</td>
<td>C</td>
</tr>
<tr>
<td>Stucco Stone Products</td>
<td>Major producer of manufactured stone, using a formulation of Portland cement, lightweight aggregates, and iron oxide colors. Stone is cast from hundreds of individual molds.</td>
<td>Free</td>
<td>Cultured stone</td>
<td>S</td>
</tr>
<tr>
<td>Superior Clay Corp.</td>
<td>Can produce architectural terra cotta and ceramic products in any quantities for commercial and residential applications. Offers technical assistance in glaze development and shop drawings during design phase. Can design and produce original terra cotta pieces as well as replicate historic terra cotta. Produces terra cotta chimney pots in a wide range of styles.</td>
<td>Free Write in No. 549</td>
<td>Terra cotta</td>
<td>S</td>
</tr>
<tr>
<td>Techerete Architectural Precast</td>
<td>Specializes in cast stone elements that simulate quarried Florida coral rock, Indiana limestone, and smooth and exposed rock that complement project colors. All architectural shapes such as columns, wall caps, veneer cladding, window sills, moldings and pavers.</td>
<td>Free</td>
<td>Cast stone</td>
<td>S/C</td>
</tr>
<tr>
<td>Terra Cotta &amp; Cast Stone</td>
<td>Cast stone made from white and/or gray clays, manufactured or natural sands, and selected aggregates to replicate limestone, sandstone, bluestone, granite and other natural stones. Can be cast into facings, ornament, masonry units, and other architectural trim.</td>
<td>Free</td>
<td>Cast stone</td>
<td>S</td>
</tr>
<tr>
<td>Tessera Studio</td>
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Carved in Naples in the 16th century, this stone belfry tower was struck by lightning and one of its 4 identical finials shattered. W.N. RUSSELL & CO. took impressions 140 ft. in the air and produced perfect replicas in cast stone.

The restoration of the facade on the Spalding Building in Portland, Ore., illustrates how various parts of the same job can call for different materials. The 1911 structure, designed by Cass Gilbert, had undergone a 1950's modernization that obliterated the original limestone pilasters, cornices, and cast-iron window systems.

To replicate the 20 ft. tall limestone pilasters, Architectural Reproductions, Portland, Ore., used GFRC. The cornice and frieze profiles were matched with sheet metal formings, to which FRP and cast-aluminum detailing was added. Original cast-iron spandrels and grillwork that was found under the 1950's cladding was restored and reused. New extruded-aluminum window systems were combined with cast-aluminum fluting, caps, and plinths designed from historical photos.

Architectural Reproductions provided the design detailing and functioned as general contractor, in addition to fabricating the ornament. Company president David Talbott observes: "The limited size of the local Pacific Northwest market didn't allow us to specialize in a single material or process. So out of necessity we became proficient in a wide range of materials. That background lets us look at projects with an eye towards what seems best for each configuration and budget."

For a terra cotta restoration project, LAFAYETTE MANUFACTURING combined several of the original elements into a single GFRC panel for ease of installation.

This medallion was created in architectural precast concrete by VAL-CAST CORP. for restoration of a Merritt Parkway bridge.
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These pressed-metal elements (and thousands more) are available from W.F. NORMAN CORP. in zinc, copper, and other metals for fabrication of architectural sheetmetal ornament.

Brackets (with styrofoam cores) were precast in architectural concrete by ARCHICAST as part of the reconstruction of an Italianate cornice.

To replace a corroded sheet copper cornice, ARCHITECTURAL FIBERGLASS CORP. produced this FRP replica — complete with an integral patinated copper color.

Above: GFRC, INC., created these GFRC panels that replicate an original terra cotta frieze. Below: This cast-aluminum acroterion, over 10 ft. high, was produced by HISTORICAL ARTS & CASTING for the Field Museum in Chicago.

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Above: The entablature and parapet of this building was replaced using cast stone custom-fabricated by MJM STUDIOS. Below: FRP moldings from ART HOME STUDIO were used to restore this hotel portico.

EDON CORP. created the crisp detail in this dramatic Art Deco panel using fiberglass-reinforced polyester.
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The Quartersawn-Clapboard Revival

Quartersawn clapboards (also called radial-sawn, rift-sawn, or vertical-grain) were the standard siding material of the 19th century. But the invention of sawmill technology in the 20th century made it more economically feasible to produce flat-sawn (resawn) clapboards. So the more expensive flat-sawn siding was all but driven from the market.

But in the past 5 years, quartersawn clapboard has reasserted itself. There are now at least 4 mills cutting this high-quality siding. The quartersawn-clapboard revival was originally driven by a need in early American restorations. But now a substantial quantity is also going into higher-custom-built homes.

The major advantage of radial sawing (see diagram) is that it puts the annual rings parallel to the length — making the clapboard less subject to warping, cupping, and cracking as it expands and contracts with humidity changes. Unpainted radial-sawn clapboards have lasted over 150 years in the harsh New England climate. Vertical grain alignment also means quartersawn clapboards hold paint and stain better than conventional flat-sawn boards. And they last longer.

Prices for radially sawn clapboards vary considerably, depending on wood species, clearness of wood, degree of finish, thickness of butt, and whether you need a standard or custom-cut size. For comparable wood species and board size, quartersawn clapboards are roughly twice as expensive as resawn siding.

Of the 4 mills producing radially sawn clapboards, 2 are production-oriented, and 2 are smaller semi-custom shops. One of the first mills to target the historical market was the one run by Bill and Mayra Donnell. They were inspired to open their sawmill 8 years ago when they needed to replace siding on their old house — and couldn’t find anyone to match the original quartersawn clapboards. So they purchased some antique equipment, refurbished it...and Donnell’s Clapboard Mill was in business.

Their machinery turns out 8-ft. boards — mainly Eastern White Pine with a high degree of finish and careful grading — aimed primarily at the restoration market. “Air-dried radial-sawn Eastern White Pine will last longer on the side of a house than any other species,” says Bill Donnell.

Also at the semi-custom end of the quartersawn business is Rick Johnson of Sky Lodge Farm. Rick entered the business the hard way: by building his own saw (which will turn out 8-ft. boards). Sky Lodge’s specialty is custom-sawing for restoration; he will cut boards of any width, thickness, or wood species. Like the Donnell mill, Rick prides himself on producing perfectly flat boards with top and bottom uniformly planed — with no marks of plane “chatter” or “tear-out.”

At Granville Manufacturing Co., Jeff Fuller notes that his mill “has been producing high-quality quartersawn clapboard for over 100 years.” Granville produces 4 standard sizes: 6-in., 5-1/2-in., 5-in. and 4-1/2-in. Primary species are Spruce and Pine, and they’ll do custom sawing. Granville also offers prefinished options such as priming, painting, and pre-staining. They recommend Olympic Machinecoat finishes that are warranted for 10 years, but will custom-apply any finish. Machine coating offers 2 advantages: (1) A saving on installation costs, and (2) A factory-applied finish that looks and performs better than a field-applied finish. Jeff says, “We carry a large inventory, emphasize service, and ship anywhere in the U.S.”

Ward Clapboard Mill, also over 100 years old, is the largest producer of quartersawn clapboard, shipping orders within a couple of days from its 350,000-ft. inventory at two mills — in Vermont and Maine. Mill manager Frank Badlow, along with George Armstrong, designed and built the special radial saw at the Maine mill. The Vermont mill uses turn-of-the-century equipment, cutting clapboards the way they’ve been milled for 100 years. Frank Badlow says he prefers Spruce, citing the even tone and color of the wood that absorbs stain more evenly. Spruce also has greater tensile strength than pine, so it doesn’t dent as easily. Frank says that Ward, which sells both retail and wholesale — as well as do custom work — has the largest range of standard sizes on hand, and can provide pre-staining when specified.

In an era of low-cost shortcuts, it is reassuring that there are enough buyers with an eye for long-term value to support a market for a high-quality product like quartersawn clapboards. — CL

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Cumberland Woodcraft, which has stocked the entire line of Orac Decor ornament for two years, also sells two kinds of adhesive cartridges for affixing the ornament. Standard costs $3.50 and is used for moldings and medallions; Extra Fix costs $13.60 and is necessary to hold moldings with mitered corners. (All ornament should be toe-nailed until adhesive dries.)

Marketing director Randy Reese adds a footnote: "This ornament is intended only to replace ornamental plaster, not wood moldings. If a stained effect is what you want, use wood, but in a painted period room this works as well as plaster."

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These Engineers Know How To Get High

Daniel Quinn, owner of the 40-year-old Skyline Engineers Of Maryland, hasn't been feeling the economic crunch the way many builders have. "Traditional values survive despite economic hardships," maintains Quinn, in reference to ecclesiastical projects. So the demand for the kind of work they do — steeple restoration, fabrication, and 23K-XX gold leafing — remains constant.

Steeple restoration involves assessing: Surface condition, stoning, and extent of scaffolding. "With our expertise in rigging, our guarantee — we are the only Master Gilders who give 15 years — and record of completed projects," Quinn feels Skyline can handle any "high-altitude" project. Prices for gilding, although difficult to gauge until the site is surveyed, can run from $40-$90/sq. ft.

Contact: SKYLINE ENGINEERS OF MARYLAND, INC., 5405 Beall Dr., Box 671, Dept. TB, Frederick, MD 21701 (301) 831-8800. CS# 10340 — JL

This handsome cast-iron fireplace ensemble from Fourth Bay is actually two separate units: Fireplace and mantel. The cast-iron hob-grate fireplace (model #4253) is a replica of a c.1825 English original. The firegrate, originally designed for coal, will burn either wood or coal. The 36-in. x 36-in. fireplace (without mantel list) for $2,500.

The cast-iron mantel (model #4297) is a reproduction of a c.1865 English Georgian surround. It is cast as three pieces, and is highlighted-polished to bring out the full luster of the metal. (No finish is applied to the iron, so it has to be kept polished.) List price for the iron mantel is $3,500. Cast iron mantels were quite popular in England during the 19th century — and were used to a lesser extent in the U.S. But few have survived intact in this country. So, to date, not many U.S. consumers have developed a taste for cast-iron mantels.

For customers who prefer a more conventional mantel, Fourth Bay can supply the fireplace with a wood mantel in a variety of styles.

FOURTH BAY, Box 287, Dept. TB, Garnettsville, OH 44231 (800) 321-9614. CS# 10380 — CL Or write in No. 521

A Sign For The Times

Paul Musgrove has been fabricating signs (historic and contemporary), restoring facades, designing interiors (including faux marble, graining, and trompe l'oeil), and consulting in all aspects of sign making and painting for 10 years. In his home town of Mt. Holly, N.J., he has made a name for himself by painting signs for nearly 30 local retail stores.

Shown is one of Paul's original signs. The cedar construction measures 5 ft. by 11 ft. After design approval, Paul and staff fabricated the piece, covered it with a rubber mask from which he cut away all but the lettering, sandblasted it (to give a grainy, distressed look), primed, painted, applied polyurethane (pre-cast) moldings, and finished off with 23K gold highlighting. Price: $5,000.

Paul's shop currently bills out about 200 projects a year. Paul will also sell designs and scale drawings and provide consultation on custom projects.

Contact: PAUL MUGROVE GRAPHIC DESIGN, R2D9 High St., Dept. TB, Mt. Holly, NJ 08060 (609) 267-3393. CS# 10400 — JL
Faucets, Sinks, and Tubs

Reproduction faucets and fixtures made here and abroad are flooding the market, and it can be hard to tell good quality from bad. Here’s some advice from four suppliers.

BY EVE M. KAHN

To get a handle on today’s complex plumbing fixture business, we interviewed Brian “Mac” McIntyre, of Mac the Antique Plumber; Chris Rheinschild, of Antique Baths & Kitchens; Ragnar Boresen of the Sink Factory; and Tom Scheller of Bathroom Machineries. All of them deal with a wide variety of reproduction plumbing. They told us how to avoid products that don’t look good or won’t wear well.

FAUCETS & FITTINGS

“Go for solid brass only, not stainless steel, and make sure there are no plastic parts inside,” says McIntyre. “Look for a heavy-duty stem, and don’t believe the manufacturers who tell you that washerless faucets are always better — the ceramic disks inside can wear out, and if the company disappears or changes its patterns you’re in trouble.” He also recommends solid porcelain levers or cross handles instead of resin-filled porcelain-coated pieces, which can break.

Rheinschild dismisses new faucets and fittings before he buys them. “I watch out for poorly machined, rough castings,” he says. “And I make sure there are no huge handles relying on tiny works — you crank those once too often and you destroy the inside.” Nor does he approve of brass coatings rather than chrome or nickel plate, and he usually avoids foreign-made goods: “When the importer stops importing,” he says, “you can’t get parts.”

Another problem with imports, says Boresen, is that “some of them are manufactured in places that don’t have the 100 psi. water pressure we get in the States, so thevalves aren’t engineered to stand the strain.” He also warns that bad faucets don’t just have to be repaired often or replaced, they can also damage fixtures: “Porcelain breaks most often while the faucets are being worked on or changed.”

“Foreign-made is not necessarily bad,” says Scheller, “as long as it’s compatible with American products, as many of the Taiwanese imports are.” He adds, “But stay away from discount-priced units, no matter how tempting they are. Some faucets that look like good ones may have thinner castings and non-standard works, which are hard to repair.”

Keep in mind, adds Boresen, that antique faucets are often not difficult to resuscitate: “I’ll charge $20 to restore an antique to its original splendor, in any finish; a new Chicago faucet of similar quality would cost $300.” He also emphasizes, as do the other three suppliers, that Chicago Faucet Co. sells some of the best faucets on the market. “They haven’t changed their works in years; you can put a 1980 part on a 1920 faucet,” he says. McIntyre calls the company “the Cadillac of faucets.”

SINKS, BATHS, TOILETS

Taiwan, Brazil, Portugal, France, and Italy are among the countries now exporting reproduction porcelain fixtures. Quality varies by country, within country, and even within shipments. On a pedestal sink, “make sure the pedestal fits the top,” says Scheller. “And that the top’s not warped. And the faucet and drain holes on sinks and tubs should be perfect circles.” Scheller also says that although a few surface pits are unavoidable — “nothing is perfect” — a smooth, even glaze is ideal.

Another way to check porcelain quality is to examine the unglazed parts. “The hotter the porcelain was fired, the stronger it is,” says McIntyre. “The unglazed bottom should be very dense and hard, not porous, flaky, or crusty.” He also suggests checking the tank liniers on oak-tank toilets: “Copper or galvanized steel won’t last; you get seam leaks in three to seven years,” he says.

“We only use vinyl.” Also stay away from non-porcelain tubs, says Rheinschild: “Fiberglass and polyester are more susceptible to abrasive cleaners. They just won’t last 70 years.”

Boresen also suggests avoiding some porcelain imports. “They may be strong,” he says, “but the design fineress, the fine details aren’t there. One alternative is to buy re-fit ed antiques. “There are more reproduction manufacturers than ever,” he says, “but most of them make the same 15-odd designs. Before the 1930s, hundreds of styles were available.”

Who’s Included

The 30 companies included on the Source List on page 32-34 include general restoration supply sources, like Restoration Works that offer some plumbing; importers and distributors like Watercolors and Key Electric who concentrate on plumbing and large, old manufacturers like Chicago Faucet, as well as smaller, newer firms like the Sink Factory. There are also a few antique dealers who carry a significant selection of restored plumbing. As noted in their write-ups, some companies offer custom work and/or custom colors, and some can repair and finish old fixtures and fittings. Their literature ranges from one-page flyers to thick binders; some still have a single, smooth, or hard, not porous, flaky, or crusty. You may need information immediately, call or write the companies directly. We’ve provided all contact information on the Source List. (Please mention TRADITIONAL BUILDING.) If you simply need information to update your file, you may find it more convenient to use the enclosed Product Information Card or the Form on page 46.

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Antique Emporium
7805-7809 Lorain Ave., Dept. TB
Cleveland, OH 44102
216-651-5480 or 651-7756

Barclay Products
424 N. Oakley Blvd., Dept. TB
Chicago, IL 60612
312-243-1444

Bathroom Makers
Box 1029, 495 Main St., Dept. TB
Murphys, CA 95274
209-728-2833

Besco Plumbing
729 Atlantic Ave., Dept. TB
Boston, MA 02111
617-423-4535

Bona Decorative Hardware
3073 Madisons Rd., Dept. TB
Cincinnati, OH 45209
513-321-7877

Chicago Faucets
210 S. Nuclear Dr., Dept. TB
Des Plaines, IL 60018
312-694-9400

Crawford’s Old House Store
590 Elizabeth St., Dept. TB
Waukesha, WI 53186
800-556-7878 or 414-542-0685

Cumberland General Store
Rt. 3, Dept. TB
Crosstree, TN 38555
800-334-4600 or 615-484-0481

DuraGlaze
2325 Brossford Ave., Dept. TB
Nashville, TN 37204
615-298-1787 or 865

E. Guerin
23 Jane St., Dept. TB
New York, NY 10014
212-243-5270

Hardware +Plus
791 E. Kingsley Rd., Dept. TB
Garland, TX 75041
214-271-0199

Hippo Hardware and Trading Co.
201 E. 12th St., Dept. TB
Portland, OR 97214
503-231-1444

Liette International
243 Fleet St., Dept. TB
New Bern, NC 28562
800-533-1999

Mail-order source of everything from porcelain resurfacing kits to showers, corner sinks, pedestal sinks with fluted or plain bases, kitchen faucets, high- and low-tank toilets, clawfoot tubs, and shower curtains.

One-craftsman supplier of high- and low-tank toilets with oak boxes, oak medicine cabinets, wall-mount and pedestal sinks, basins, cast-iron clawfoot tubs, copper kitchen sinks, and dinner plate-size showerheads. Custom work is available in oak and copper.

Architectural salvage shop that keeps dozens of antique wall-hung and pedestal sinks, clawfoot tubs, toilets, and faucets in stock.

Large faucet-and-fixtures manufacturer that offers toilets with fluted bases in high- or low-tank and close-coupled models; also pedestal sinks, acrylic-and-fiberglass clawfoot tubs in many colors, centerset and widespread faucets, and showers for clawfoot tubs.

Antique and reproduction bathroom fixtures and fittings; wall-mount and pedestal sinks, clawfoot tubs, wall-hung toilets, mahogany or cherry toilet tanks and seats, drinking fountains, showers, faucets marble and mahogany lavatories, and even c.1940 urinals.

Distributes a variety of fixtures and fittings: mahogany vanities and high- and low-tank toilets, hand-painted pedestal sinks and basins, clawfoot tubs; Art Nouveau and Victorian sinks, toilets, faucets, and showers. Workshop can repair, refinish, or modify to spec.

Distributes fixtures and fittings, including marble or brass drop-in and pedestal sinks, and porcelain pedestal sinks with a choice of 15 basins, two pedestals, and 42 colors as well as custom hand painting.

90-year-old plumbing manufacturer that produces commercial-quality items for residential use: gooseneck showers for clawfoot tubs, centerset and widespread faucets, and kitchen faucets with built-in soap dishes. Most pieces available in brass or chrome plate.

Restoration supply source that offers porcelain toilets with fluted bases; also pedestal sinks, acrylic-and-fiberglass clawfoot tubs in many colors, centerset and widespread faucets, and showers for clawfoot tubs.

"Old-time" general store with catalog of hard-to-find products: steel tubs with oak trim and oak ceiling, cast-iron tubs, hip baths, showers, sinks, brass basins, reproduction c.1900 faucets, and oak high- and low-tank toilets.

Company refinishes marble, porcelain, or fiberglass bathroom fixtures; it also sells refinished antique sinks and tubs and distributes reproduction sinks, toilets, tubs (custom finished in any color), faucets, showers, and accessories.

Manufactures unusual faucets with handles shaped, for example, like starfish, birds, rocks, pineapples, or dolphins and with spouts shaped like turtles, swans, or goose heads. Also pedestal sinks and porcelain basins finished with classical patterns.

This "all-in-one-source for the restoration contractor" offers clawfoot-tub showers, faucets, fittings; dozens of centerset and widespread faucets; cast-iron clawfoot tubs with or without oak trim, pedestal sinks, and oak high- and low-tank toilets.

Restoration supply shop and salvage yard that sells antique and reproduction clawfoot tubs and fittings, pedestal sinks, faucets, and accessories, all from the 1900's to the 1950's.

Imports unusual plumbing fixtures and fittings: toilets, wall-hung and pedestal sinks, clawfoot tubs, painted china accessories, and a Vienna-Workstate-esque freestanding enamelled-metal sink with built-in soap dishes and below-sink cabinets.
PORCELAIN REFINISHING

Porcelain on antique bathroom fixtures is sometimes so chipped, cracked, or crazed that you have only 2 choices: (1) Look for another fixture, or (2) Have the porcelain finish restored. If the finish is only slightly cracked or worn, often the best course is to learn to love the blemishes and regard them as part of the charm and character of the piece.

To restore a porcelain finish, a 2-part high-tech coating is applied over a surface that has been carefully cleaned and etched to provide the right porosity and a good bond. Timing and good surface preparation make the difference between a job that can last 10-15 years and a botched job that won’t last 12 months. (The do-it-yourself kits they sell at the hardware store are next to worthless.)

Because there are no industry standards for the formulation and application of porcelain restoration finishes, the experience, reputation, and reliability of the applicator is of primary importance. The customer also should be aware that the restored surface is not as hard as true porcelain, and should be cleaned only with non-abrasive cleaners, such as Bon Ami or liquid cleaners. The following firms are among those with an established track record in the porcelain refinishing business:

- DURAGLAZE, 2825 Bransford Ave., Dept. TB, Nashville, TN 37204 (615) 298-1787 or 1865 Write in No. 649
- MIRACLE METHOD OF CENTRAL CONN., 456 Tollgate Rd., Dept. TB, S. Glastonbury, CT 06033 (203) 657-2284 Write in No. 655
- OLE FASHION THINGS, 402 SW Evangeline Thruway, Dept. TB, Lafayette, LA. 70501 (318) 234-7963 Write in No. 657
- PERMA CERAM ENTERPRISES, 65 Smithtown Blvd., Dept. TB, Smithtown, NY 11787 (800) 645-5039
- PERMA GLAZE, 7310 E. 22nd St., Ste. 167, Dept. TB, Tucson, AZ 85731 (520) 332-7397
- VINTAGE TUB & SINK RESTORATION, 701 Center St., Dept. TB, Ludlow, MA 01056 (413) 589-0769

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<thead>
<tr>
<th>COMPANY</th>
<th>SPECIALTY</th>
<th>Literature</th>
<th>Tubs</th>
<th>Sinks</th>
<th>Toilets</th>
<th>Faucets</th>
<th>Showers</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac the Antique Plumber</td>
<td>12-year-old plumbing distributor that sells high- and low-tank toilets, pedestal sinks with fluted bases, brass basins, shower curtain rods, and a wide variety of faucets, showers, and other fittings. Also a few antiques, including clawfoot shower pans.</td>
<td>Send $6 for catalog</td>
<td>✓</td>
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<tr>
<td>Norstad Pottery</td>
<td>Stoneware drop-in round sinks painted with abstract swirls, Japanese maple leaves, and thin pinstripes, in colors including deep blue, brown, rust, gray, and rose. Custom colors and designs are available.</td>
<td>Free</td>
<td>✓</td>
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<tr>
<td>Omega Salvage</td>
<td>15,000-sq.ft salvage yard with up to 100 antique sinks; skirted or clawfoot tubs; and high- and low-tank toilets with oak or porcelain tanks, all either rebuilt or as is. Styles include Art Deco, Victorian, and Neoclassical. Also reproduction and antique faucets, showers, and accessories.</td>
<td>Free Write in No. 564</td>
<td>✓</td>
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<tr>
<td>Ole Fashion Things</td>
<td>Refurbishes and sells tubs from 4 to 6 ft. L and pedestal sinks; also distributes clawfoot tubs including slipper and center-fill models, high- and low-tank toilets with porcelain or oak tanks, pedestal and drop-in sinks, and brass faucets, showers, and accessories.</td>
<td>Free information; send $3.75 for catalog</td>
<td>✓</td>
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<tr>
<td>Rapetti Faucets George Botcher Ltd.</td>
<td>Imports unusual European plumbing fittings: showers, faucets with cross handles, and fittings for clawfoot tubs. Finishes include chrome, polished brass, and colored enamel.</td>
<td>Free</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Restoration Works</td>
<td>Restoration-products showroom and mail-order source: faucets, fittings, and shower-curtain rods for clawfoot tubs; toilets with fluted bases and porcelain high tanks; Marbrex polyester clawfoot tubs in six colors; sink faucets, pedestal sinks, porcelain and brass drop-in basins.</td>
<td>Free</td>
<td>✓</td>
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<tr>
<td>Roy Electric</td>
<td>Among their best-selling plumbing items are clawfoot-tub enclosures with showers, faucets, and pipes; also pedestal sinks, oak or porcelain high- and low-tank toilets with fluted or plain bases, clawfoot tubs, and dozens of styles of faucets and showers.</td>
<td>Send $5 for catalog; Free flyer Write in No. 670</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>White One</td>
<td>A 360,000-sq.-ft. warehouse contains a vast selection of architectural antiques, including vintage plumbing fixtures. Inventory includes clawfoot tubs, pedestal sinks, high-tank toilets, fittings, and bathroom accessories.</td>
<td>Free Write in No. 499</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>The Sink Factory</td>
<td>Manufactures 14 styles of pedestal sink, from streamlined to Edwardian, reproduction toilets, basins that can be custom painted, custom marble or granite tops for vanities, and brass supports for open vanities. Can repair and replait old fittings.</td>
<td>Send $3 for catalog Write in No. 666</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Sunrise Specialty</td>
<td>Imports or fabricates everything needed to recreate Victorian baths: oak high- or low-tank toilets with or without fluted bases, centered and widespread faucets, pedestal sinks with fluted bases; showers and fittings for clawfoot tubs; and tubs with or without trim.</td>
<td>Free Write in No. 667</td>
<td>✓</td>
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<tr>
<td>Tennessee Tub</td>
<td>Distributes fixtures and fittings and sells antique tubs and sinks. Reproduction lines include pedestal sinks, showers and fittings for clawfoot tubs, widespread and centerspread faucets for kitchen and bath, and toilets with oak seats and fluted bases.</td>
<td>Send $6.50 for catalog</td>
<td>✓</td>
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<tr>
<td>Val's Antique Baths and Architectural Antiques</td>
<td>Carries unusual vintage plumbing fixtures in working condition: pedestal sinks with twisted bases, two-basin pedestal sinks, sidefill clawfoot tubs, ribbage showers, and foot and sitz baths; also plain and painted tubs, some with embossed designs, and embossed toilets.</td>
<td>Send specific request for photos Write in No. 662</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Vintage Plumbing</td>
<td>Source of antique bathroom fixtures and fittings, specializing in Victorian and Art Deco: pedestal sinks, plain and embossed toilets, and sidefill clawfoot tubs, ribbage showers, and accessories. Shop can also duplicate, repair, and refinish fixtures and fittings.</td>
<td>None; send specific request for photos</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Vintage Tub &amp; Sink Restoration</td>
<td>Restores damaged antique fixtures and sells restored sinks, tubs, and toilets as well as faucets and fittings for clawfoot tubs.</td>
<td>Send $4 for catalog</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Watercolors</td>
<td>Imports faucets, showers, and accessories, including reproductions of c.1900 styles: of special note are shower-and-faucet combinations for clawfoot tubs, wall-mounted temperature controls, and faucets with cross handles for one-, two-, and three-hole sinks.</td>
<td>Free Write in No. 053</td>
<td>✓</td>
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Low-tank toilet with oak seat, copper-lined oak tank, and brass fittings from SUNRISE SPECIALTY.

Brass deck-mounted sink faucet with soap dish, 6-in. swing spout, and porcelain handles, from CHICAGO FAUCETS.

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Solid-brass 1-in. tubing makes up this reproduction ribcage shower from ROY ELECTRIC.

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Pedestal sink with fluted base, model 290, from the SINK FACTORY.

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Faucet imported by RAFFETTI/GEORGE BLOTCHER, with pop-up drain control.

WATERCOLORS imports this cross handle, part of a widespread set with automatic drain.
EXTERIOR LIGHTING & FIXTURES SHOWCASE

Here's an illustrated cross-section of traditional street clocks, bells, and exterior lighting fixtures.

By Judith Siegel Lief

In deciding which exterior lighting fixtures to purchase, there are two factors to consider: Design and material. All of the lighting companies listed below offer a wide range of traditional designs — and it's fairly easy to find the style you want. Materials are another matter.

If there's a controversy over materials used for exterior lighting fixtures, it boils down to this: Consider the setting. These lighting companies fabricate posts out of cast iron, steel, cast (anodized) aluminum, FRP (fiberglass-reinforced polymer), or cast concrete, and not all materials are appropriate for all applications.

Cast iron is the traditional material. Denise Shaffer of Lamp Light, Inc., says, "Cast iron shows wonderful detail; it's heavy, authentic, and poses no fire hazard." Lamp Light uses cast iron for the base and decorative fittings and 9- or 11-gauge steel for the post because "we can pull the bending in one piece, which gives it tremendous structural integrity." For urban settings, cast iron can withstand salt used in snow zones and is rugged enough to resist dings from parking cars.

Marianne Leisinger at Dutch Products suggests that aluminum is easier to maintain than cast iron (in salt-free environments) but, more important, is less than half the weight of iron. Installation is easier; shipping charges are less. (Posts come with a base coat of Rustoleum, ready for painting.)

Bob McAllister of Shakespeare praises fiberglass: "Its primary advantages are that it's light in weight — so it installs easily — and is inexpensive to ship. And it's more shear resistant than cast-iron and won't bend like aluminum. In addition, fiberglass doesn't need to be grounded."

Carol Wester of Great Lakes Concrete Products claims cast concrete is the least expensive of all materials used for posts. And, since the color is cast into the concrete, chips don't show. The average post, which weighs about 700 lbs., can be installed using the direct burial method, so the cost of an anchor base is eliminated.

So consider the setting. In urban situations, metal is probably a better choice. Cast iron is authentic for restorations and can withstand minor automobile assault. Aluminum, though it doesn't have the ruggedness of cast iron, is easier for installation and maintenance. In areas that are not vandal prone, FRP can be the most economical choice. And if cost, strength, and load-carrying capacity are important — and historic authenticity is not — you may want to consider cast concrete.

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WRITE IN NO. 6
EXTERIOR LIGHTING & FIXTURES SHOWCASE

No. W421-152. Solid copper wall-mounted lantern, glass on 3 sides; body is 12 in. h. $255. Also available in 3-1/2 in. length term period interior lighting fixtures. They are the largest supplier of historic hardware in the U.S.

BALL & BALL. 463 W. Lincoln Hwy., Dept. TB, Elgin, IL 60120 (215) 363-7330. Or write in No. 297

- Model CL-4F Four-Faced Post and Tower Clock. Made of cast iron, cast aluminum, and fabricated aluminum. Arabic, Roman, or custom faces available: $29,000 each. Also decorative bollards, light poles, trash receptacles, benches, and tables.

BENCH MANUFACTURING CO., PO Box 158, 56 Westminster St., Dept. TB, Concord, MA 01742 (508) 371-3060.

- No. 14508K. Cast-aluminum lamp post measures 9 ft. h. $595. Also wall-mounted fixtures.

BRUCE POST CO., PO Box 214, Dept. TB, Chestertown, MO 65806 (301) 778-6181. Or write in No. 373


DUTCH PRODUCTS & SUPPLY CO., 166 Lincoln Ave., Yardsley, PA 19065 (215) 495-4873.

- Turned Post in clear all-heart redwood. Center drilled; 6 in. x 6 in. x 8 ft. only, for local distributor. Other styles of lamp posts, custom turnings.

ELECTRIC TIME COMPANY INC., 45 West St., PO Box 466, Dept. TB, Medfield, MA 02052 (508) 359-4366.

- Renaissance 1400 wrought iron and copper lantern. Can be converted to post or hanging. Seven designs, each available with 4-8 variations per fixture; 4 finishes. As shown: 14-1/2 in. h. $285. Also self-illuminated clock. Diameters 24 in. to 60 in. style (2400) and 72 in. to 120 in. style (4600). Can be manufactured to fit any size or shape tower opening (square, rectangular, octagonal, elliptical). $1,000-$15,000. Also silhouette, tower, post, street, and wall clocks.

E.S. FORGERIES, 500 North Main, Dept. TB, Springfield, MO 65806 (800) 876-5186. Or write in No. 650

- Harp Light with 27-15 post. Cast-iron lantern measures 23 in. h. by 18 in. w.; incandescent 70- or 75-watt high pressure sodium, 38 lbs.; $400. The concrete post weighs 700 lbs. and costs $490.

GREAT LAKES CONCRETE PRODUCTS, PO Box 157, W. 162 W. 160 S. Fountain Blvd., Dept. TB, Menomonee Falls, WI 53051 (214) 265-3010. Or write in No. 664

- P109 Garrison Post Lantern; 26 in. h. by 11 in. w. Fixtures available in copper or brass: $320 and $340 respectively. Also wall-mounted, interior lighting fixtures in iron and tin, and wrought iron hardware.

LIGHTING BY HAMMERWORKS, 6 Fremont St., Dept. TB, Worcester, MA 01603 (617) 755-3434 Or write in No. 604

- New England Street Lamp. Solid copper with wrought iron spade brace. 2 sizes: 38 in. (8400) and 28 in. (8240). Ver- digris or copper tone finish. Other finishes: complete line of weathervanes.

MACQUIARRIE & NICCUM, Box A, Dept. TB, Somerville, CT 06072 (203) 749-2776. Or write in No. 654

- Paris Street Light; 38 in. h. x 18 in. w. x 18 in. d.; $579. Authentic reproduction of 1870 in brass, copper, or copper verdigris. 88 designs; custom; many finishes.

BRANDON INDUSTRIES, 4419 Westgrove Dr., Dept. TB, Dallas, TX 75248 (214) 250-0480. Or write in No. 497

- The E. S. Forgeries. 500 North Main, Springfield, MO 65806 (800) 876-5186. Or write in No. 650

38 JANUARY/FEBRUARY 1991
No. 612P, measures 19-1/2 in. w. by 47 in. h., uses 4 standard bulbs; mounted on ladder rest (10 ft. - 30 in. w. by 6 in. h. $65). Finish is black over solid copper and brass (also antique copper or antique brass) $688.50. Other post and mounted fixtures, too.

NEWSTAMP LIGHTING, PO Box 189, 227 Boy Rd., Dept. TB, North Easton, MA 02356. (508) 230-7071. Or write in No. 80.

Presidential Series Lamp Post (standard only). Fiberglass construction; rust, rot, and corrosion resistant. Finish is black, blended into the resin, finished with pigmented polyurethane. Available with either anchor base post or direct burial style. Cost is approximately $750.

SHAKESPEARE, PO Box 733, Dept. TB, Newberry, SC 29108 (803) 800-9006.

Franklin Post - Society Hill Luminaires. Authentic reproduction of Ben Franklin style. Cast-iron post in 9 ft. 9-1/2 in. to 12 ft. high. $1,200-$1,500.

SPRING CITY ELECTRICAL MANUFACTURING, CO., PO Box 18, Dept. TB, Spring City, PA 19475. (215) 948-4000. Or write in No. 103.

Model SC-1 Geyserite with Fiesta Base. Cast aluminum, 13 ft. h., choice of 5 colors. $675 with globe.

UNION METAL, 1022 9th St. SW, PO Box 9920, Dept. TB, Canton, OH 44711. (216) 450-7653.

Cathedral of Antwerp skeleton dial clock. Gold leaf on copper. Self-correcting clock mounted on galvanized steel roll. 23.3 ft. $30,000. Also bells, carillons, electronic carillons, tubular bells, custom towers.

THE VERDIN COMPANY, 444 Reading Rd., Dept. TB, Cincinnati, OH 45202 (800) 543-0488.

Parliament 3 (replica of British design) with three Chelsea 35-15 lanterns. Solid copper lantern; spiral cast aluminum post (shortened for photo); copper or brass finish; 6 finishes. 3 lanterns, $1,245; post parts, $1,626; base (not shown) $675. Many other posts, wall-mounted, and hanging fixtures.

WARD INDUSTRIES, 14128 Bonnie Court, Dept. TB, Middlebury, IN 46540 (219) 625-2546.

The Camper Post Light. 12 in. w. by 22 in. h. Numbered and signed in solid copper. Main body lifts off post cap with access to bulb. Finished stained or untreated $295. Also wall-mounted & bracketed fixtures, sconces, candle lanterns, and patio lamps.

WASHINGTON COPPER WORKS, Dept. TB, Washington, CT 06793 (203) 869-7527.

The 1980's was the decade in which the architectural profession came to terms with the preservation movement. That some architects were more at ease with old buildings than others is apparent from this useful new design sourcebook from Wiley. This volume presents 200 photos (and some plans) of old buildings that underwent development of one type or another.

Readers will obviously find some of these projects more appealing than others. Depending on point of view, of course; readers will disagree on which of the illustrated projects are winners and which are losers.


The book is almost as useful for its illustrations of what didn't work as for the clear winners; sometimes negative examples are the most powerful teachers. You'll have to supply your own critique, however; the authors don't offer any critical evaluations of the projects. The book is divided into three main sections: (1) Additions to older buildings; (2) Adaptive re-use; (3) Infill construction and the integration of new buildings into existing environments.

Not all of the projects are tax-act jobs done for the Secretary of the Interior standards. In fact, some examples will make preservation purists bristle. However, most of the projects seem to strike a creditable balance between the need to preserve historic architecture while at the same time providing for modern function. The material for the book was provided by the various designers and architectural firms involved, so there is some useful description of the program and real-world constraints.

In the section on additions to old buildings, the authors have some kind words to say about additions that follow the style of the original. Any architect who has been wrestled with the National Park Service over interpretation of the Interior Secretary's Standard No. 9 will draw comfort from this section.

If you are interested in working with or around old buildings in the 1990's, you'll find this volume a source of useful ideas. — CL.

Least favorite: Facades of two 18th-century Washington, D.C., townhouses incorporated into an ultramodern office development. (The facades look like the scalps of defeated enemies tacked to the wall of the modernist victor.)

The Secret Preservation Information Center
So few people are aware of it that it might as well be a national secret: The little-known National Trust for Historic Preservation Library at the University of Maryland is actually the largest preservation information center open to the public. But Sally Sims Stokes, curator of the preservation collection, assures us that she doesn't want to keep the library under cover. To the contrary; she'd like to see more people use its considerable resources.

The collection contains more than 50,000 items ranging from clippings and brochures to restoration do-it-yourself books. And the collection grows daily. For example, the National Park Service recently designated the library as the central repository for all research reports relating to historic preservation. Each month the library staff combes more than 300 periodicals and adds to the Univ. of Maryland Index to Historic Preservation Periodicals — the first such comprehensive index. Ms. Stokes is also encouraging local preservation organizations to send copies of their reports and documents to the library where they will become available to other groups. The collection was originally started by the National Trust for Historic Preservation. But in 1986 the Trust turned the library over to the University of Maryland, which now has full responsibility for managing and expanding the collection.

The collection is open to the public from 9:00 a.m. to 5:00 p.m. Monday to Friday. Ms. Stokes says the staff can prepare preservation bibliographies in response to telephone requests. The library staff is also available for consultation upon appointment. Contact: Sally Sims Stokes, Curator, Univ. of Maryland National Trust for Historic Preservation Library Collection, Architecture Library, College Park, MD 20742 (301) 405-6320. — CL.
still make time to supervise his own construction sites? "I have a big problem giving up control," he admits. "If I'm on site, I can make sure things get done my way. I can change or correct things as I go along. I can watch over the really fine details. I've put sprinklers into little ceiling rossettes, and that's tough to get right if you're not looking over somebody's shoulder. And I can make sure we come in on time, within budget. We give good commitment; that's how we compete with the big-time folks."

He inherited his taste for hands-on work from his father, an expert cabinetmaker in a hamlet near Dallas. By age 12, Killis Jr. was serving as his father's apprentice, although he soon realized he'd rather be designing than building. "I figured, That way I'll get to sit in an air-conditioned office all day," he says. "Boy, was I wrong." After 3 years of a five-year architecture program at the University of Texas at Austin, he left school for a year and worked in construction. "Something was missing, but I didn't know what," he says. When a professor at the school told him about an upcoming course in modern design to suit a historic context, Almond promptly re-enrolled. He had found what his previous courses lacked: A sense of respect for the past. He graduated in 1972 and apprenticed for three years to O'Neil Ford, an architect in San Antonio.

Learning/Unlearning
"O'Neil Ford remodeled and rehabilitated, he did not restore," says Almond. "But he was the best in the state at what he did. Under him I converted an old printing plant into apartments and a boutique, which was at the cutting edge of preservation at the time. I learned a lot, and I had to unlearn a lot, all on my own. There were no books to learn from then; the Secretary of the Interior hadn't even published his guidelines yet." Almond next delved into museum-quality restoration, spending two years as an architect with the Historic Sites and Restoration Branch of the Texas Parks and Wildlife Department. He oversaw work throughout the state, on everything from missions and wood and adobe forts to archaeological digs, and he opened a private practice when John and Sarah Yates asked him to restore their home.

The couple had just inherited a 1929 Mission Revival ranch house on the outskirts of San Antonio. It had been vandalized and vacant for years; yet Almond calls it "an absolute joy to work on" — a phrase that crops up often when he recounts his career. He is especially fond of its plasterwork, including a fireplace, designed by San Antonio folk artisan Dionicio Rodriguez, which resembles the facade of a thatch-roof log cabin. On the project, Almond developed a skill he has been refining ever since: Hiring talented restoration crews. "Texas is full of craftsmen who still use ancient techniques," he says; for example, he tracked down Maximo Cortez, an 82-year-old craftsman who had worked with Rodriguez, to help restore the Yates fireplace and over the years he has also found cement-tile makers who have been in business for decades, as well as woodworkers who keep alive the traditions of Galveston's once-thriving shipbuilding business.

Large projects followed the Yates assignment in quick succession, including both restorations and adaptive uses. Many of them met state precedents, including a 19th-century San Antonio dry goods store that Almond rehabilitated into offices and restaurants in 1979. He enabled the owner to receive Tax Act certification for the building, although its missing cornice was never rebuilt. It was simply painted on, using trompe l'oeil. "That shocked the commissioners," Almond recalls, "but it was certified. We spent $3200 to paint the cornice — it would have cost $32,000 to rebuild it — and I can still hear the owner saying, 'Pigeons don't pay rent.'"

The Moody Mansion
For the past two years he has been tackling one of his toughest assignments yet: The Moody Mansion in Galveston. Inside its brick-with-limestone-trim walls and under its

Two tiers of half-round balconies flank the Opera House's stage, whose curtain features an idyllic river scene. (Photo: Van Edwards)
Almond restored the c-1930 Paramount Theater in Abilene, Texas, including its tiled outer foyer. (Photo: Jon King Keating)

TRADITIONAL BUILDING

Terra cotta-tile roof, lie 42 rooms, totalling 28,000 sq.ft., and Pottier & Stymus-designed decor full of rare marbles, exotic woods, ornamental plaster, and stained glass. The 1892 house, designed by W. H. Tyndall, has been in the Moody family since industrial tycoon William Lewis Moody Jr. bought it in 1900. Its technology was well ahead of its time: Cast-iron beams run through its first-floor ceiling, distributing the weight of the second floor to the outer load-bearing masonry walls and allowing expansive first-floor rooms.

"Tyndall was applying an idea from the commercial architecture of the time, and trying to emulate the Newport mansions," says Almond, who undertook the restoration work in 1988. W. L. Moody's daughter, Mary Moody Northen, had lived in the house until just before restoration began in 1983, and she had never changed the decor, moved the furniture, or even thrown much away.

Among the one million objects she left when she died in 1986 were hundreds of photos of the interior and exterior. "It's rare to work on something so well documented," Almond says. "On so many other buildings, we end up flying blind."

A Rescue Mission

Despite the extensive documentation, the project floundered before Almond came to its rescue; he is its fifth restoration architect. Although previous practitioners had stabilized the major problems—damage from hurricanes, wear and tear, termites, and plumbing leaks—an enormous amount of work had not been completed, and the Mary Moody Northen Foundation's budget was far from bottomless.

Almond swiftly applied his Attila the Hun tactics: 'I stopped all work, redid the drawings, and rebid major elements,' he says. 'When a car's out of control, the first thing you have to do is hit the brakes. And then I hired one of the finest restoration crews ever.' Among his more ingenious new ideas was to redesign the house's heating and cooling system. Ducts for the first floor rise through old chases and in between joists, and tiny units for the second floor are concealed in corners or under eaves, with narrow wall slots serving as outlets. "They make what you might call a 'non-architectural statement,'" Almond says.

High-Tech Docents

Although a few rooms will not be ready when the Moody Mansion opens this spring, and the landscaping will not yet meet Almond's exacting standards, the building will represent one of the world's most technologically sophisticated house museums.

Docents will carry infrared devices that trigger sound and light shows. Voices will describe what life in the house was like and what happened in a particular room, sometimes by reading family letters. Spotlights will shine on the objects the voices mention.

And behind the scenes, a computer will dictate all maintenance work: Almond has developed a historic-minded variation of a commercial-building maintenance program. "As soon as you log on, it will tell you what needs to be done in that day," he says. "It'll tell you which light bulbs need to be changed, how many are in inventory, where to get new ones. It will tell you if you need to vacuum the hall, which vacuum to use, how much cord to bring. It can be modified by the client, and the head of maintenance can practically run it with one finger. There's nothing like it on the market."

And then he sighs. "Oh, am I happy with this house," he says. "To be associated with it, and yet to be invisible. When you can't wait to get to work in the morning, you know you're doing something right."*

TRADITIONAL BUILDING

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For complete program details and registration information, write or call:

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National Building Museum
Judiciary Square, NW
Washington, D.C. 20001
(202) 393-0038
project report

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At The St. Ann Center, not only have state-of-the-art brownstone restoration methods been developed, but apprentices are being trained in masonry skills.

PROJECT REPORT

CLIENT: The St. Ann Center For Restoration And The Arts

PROJECT SCOPE: (1) Develop state-of-the-art technology for brownstone repair; (2) Serve as an education center for transmission of preservation know-how; (3) Provide job training opportunities for masonry apprentices.

BUILDING: The Church of St. Ann and the Holy Trinity (formerly Holy Trinity Church) — built 1847

LOCATION: Brooklyn, N.Y.

PROJECT MANAGERS: David A. Korman, Preservation Coordinator; Glenn Boornazian, Architectural Conservator

PROJECT CONSULTANT: John Stubbs (for the World Monuments Fund)

The Church of St. Ann and the Holy Trinity in Brooklyn Heights, N.Y., shares a problem common to many old, inner-city churches: A small congregation that cannot afford the repair and restoration this 1847 masterpiece requires.

Two factors, however, distinguish St. Ann from hundreds of other down-at-heels ecclesiastical counterparts: (1) St. Ann is a National Historic Landmark (containing, among other things, the first set of figural stained-glass windows produced in this country); (2) Community groups outside the congregation recognized that St. Ann was a place worthy of special rescue efforts.

Ten years ago, when it became clear that the existing congregation could not properly fund repairs of this Gothic revival masterpiece, the New York Landmarks Conservancy initiated a pilot project in restoration, which expanded use of the church buildings as a performing arts center. In 1983, a volunteer Board of Directors formed The St. Ann Center for Restoration and the Arts, Inc., whose main goals are to raise funds for the church’s restoration and to oversee the cultural and community uses of the buildings.

Since then, financial aid has come from government and private sources — including corporations and foundations throughout the U.S. Major funding has been provided by the New York State 1986 Environmental Quality Bond Act, The J. Paul Getty Trust, The Vincent Astor Foundation, The J.M. Kaplan Fund, Samuel H. Kress Foundation, and The Andy Warhol Foundation for the Visual Arts, among others. In addition, the World Monuments Fund recently selected St. Ann’s as the pilot restoration project for its U.S. Heritage Program.

Currently under the chairmanship of the indefatigable Evelyn Ortner, ASID, The St. Ann Center for Restoration and the Arts’ annual operating budget has grown to around $1.5 million. The restoration side of the Center’s programs, coordinated by David Korman, has three major in-house components: (1) A stained-glass conservation studio (headed by Mel Greenland) that is restoring the priceless stained glass panels created by William Jay Bolton; (2) A program for sandstone conservation and training using state-of-the-art technology; and (3) A program of wood windowframe stabilization and conservation under the direction of Kevin Crawford.

The current sandstone conservation project got under way in May, 1989. Architectural conservator Glenn Boornazian and master mason Dennis Rude (both of Cathedral Stone Co.) were hired to design and implement the pilot program.

Stone delamination and spalling was caused not only by a poor quality of sandstone and previous bad pointing. High-cement mortars that were used created hard, monoporous joints that restrained stone expansion and forced moisture to evaporate at the edges of the stone. So instead of the mortar joints deteriorating, the edges of the expensive cut stonework began to decay.

Boornazian, assisted by one mason and three apprentices, tested a wide variety of materials and procedures for cleaning, restoring, and repointing sandstone during the pilot phase, which ended in December, 1989. The St. Ann Center Sandstone Conservation Committee concluded that the most satisfactory material for restoration of the St. Ann sandstone was Jahn M-70 restoration mortar. (The Jahn material is a cementsitious product imported from Holland that closely matches the physical, aesthetic, and vapor-transmission characteristics of sandstone.)

Armed with knowledge from the pilot phase, sandstone repair is moving forward on the entire church building. Of equal importance, the mason apprentices training program is proving quite successful. A total of 9 apprentices have been involved in the program. Not only are these young men and women learning practical masonry skills, but they are also developing a good sense of the value of historic materials.

Because of its research and educational components, the St. Ann project is far more than a garden-variety restoration job. Not only is a national landmark being restored to the highest preservation standards, but also the
sandstone restoration skills being developed will find their way into the larger preservation community. And young people are learning marketable skills and historic sensitivity that have value beyond the St. Ann program. It is indeed a model project on many levels.

The Brownstone Dilemma

Brownstone (a reddish-brown sandstone) is a marginal building material. It was very fashionable in the 1850's through 1880's — but more for its color than its inherent virtues as a structural stone. Builders liked it because it was plentiful, inexpensive, and easy to cut and carve.

However, as a naturally occurring sedimentary stone, brownstone blocks have wide variations in color, aggregate size, and porosity — even when they come from the same quarry. Because most sandstone is quite porous, it is subject to deterioration and spalling in climates that undergo freeze-thaw cycles.

Unfortunately, the original brownstone used in St. Ann was not of the highest quality. In a paper submitted to the New York State Museum in 1889 entitled "Building Stone In New York," J. Smock cited a quarry in Portland, Conn., as the source of the brown sandstone for St. Ann. In Smock's survey of the Portland quarry, it was clear to him that there were wide variations in color and aggregate size.

Problems with the Portland sandstone have plagued St. Ann since shortly after its construction. The original 1844 brownstone spire was taken down at the turn of the century because of structural problems due in part to defective stone. A major repair program was undertaken in 1906 when many deteriorated units of Portland brownstone were replaced with new stones from a different quarry. And in subsequent decades, a patchwork of incompatible cement patches and repointing mortar was created. Much of the previous repointing and patching was done with hard, low-permeability mortars that actually accelerated deterioration of the sandstone.

In many respects, the massive sandstone restoration program going on at St. Ann today can be traced back to the unfortunate stone specification written in 1844 — and to inappropriate repair materials and methods employed over the years to deal with the substandard stone.

Hand toothing that's done after the patches set make the repairs indistinguishable from the original quarried and cut stone.

One of the original finials was found lying in the church yard and was used to create the model for molding replicas with a cementitious casting mix.

Workers remove deteriorated stone using hand-held hammers and chisels along with the same pneumatic carving beads they use to take mortar joints for repointing. They then drill the stone wherever armatures will be required.

Masons build the patching material over the armature slightly higher than the finished surface, to allow for final carving and shaping. Six basic color mixtures of the Jahn material were created to match the different shades of natural stone occurring on the building.
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