

# Chapter 16—Specialty Wood Products

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## Description of the Products and Their Uses

A wide variety of special-purpose wood products are manufactured from locally available forest resources. Specialty wood products may be either rough or finished articles and may be made entirely or mainly of wood—everything from bat boxes to yardsticks (table 16-1). Many such products were originally manufactured in local shops when rural people, often farmers, became specialists at making one thing or another because a needed item could not be purchased in stores. This was the reason for the major turning industry that developed in southwestern Maine, for example. Most specialty wood producers today are officially classed as secondary wood processors, as distinct from mills producing primary, intermediate, or unfinished forest products such as cants, timbers, posts, ties, lumber, and panel products. Specialty products today are often produced directly from logs cut for the purpose, not from commercial lumber and plywood, and thus would not include most standardized wood furniture, shelving, cabinets, and millwork.

Although some establishments that produce special wood products are fairly large (more than 150 employees), most firms are smaller, with 2 to 30 employees being more typical. Despite continuing substitution of metal and plastics for traditional wood products, the list of specialty wood products, as noted in this chapter, is extensive.

## Market and Competition Considerations

In many cases, converting standing timber into specialty articles adds substantial value, yielding products having many times greater unit value than standardized lumber. Even though many wood products face shrinking markets, specialized small producers can fill a niche, and eventually supply national and worldwide customers. Development of establishments to produce and market specialty wood products has proven to be a viable economic development strategy for communities near appropriate forest resources.

Considering the specialized nature of many wood products, the large number of firms successfully making and marketing their specialties is somewhat surprising. Some markets for wood products are either shrinking or growing rather slowly. But the market for other wood products is growing as the environmental movement and

the demand for products made from sustainable and recyclable materials continues to grow. Many individuals will pay a higher price for a wooden rather than a plastic widget, feeling that trees are renewable while oil is not, and that one has no choice but to throw away a plastic widget when it breaks, whereas wood can be repaired.

Finding and holding market share seems to be one of the critical factors determining the feasibility of establishing or expanding any enterprise in specialty wood products. Successful firms are those that (1) develop a market niche, and (2) effectively build solid multilevel markets—OEM (original equipment manufacturer) contracts; wholesale distribution; and direct, catalog, or retail sales.

Competition in wood products is partly mitigated by product differentiation—many producers point to the unique features that distinguish their product lines. The modest number of firms that compete for these markets usually cite substitutes such as aluminum or plastics as the most serious competition. For many products (for example, wooden housewares, picture frames, and clothes hangers), overseas competitors pose a greater threat than other domestic producers. However, the quality, durability, and common sense of wooden products can eventually sell a product after customers become dissatisfied with inferior imitations.

One suggestion on identifying new market opportunities in specialty wood products is to look for items that were once made out of wood and used in the past to solve particular problems. Sources of such ideas include old retail store catalogs, museums, old farms, and even sects such as the Amish. There is often still a need for certain items, or a new use for tools and furnishings that have been around for many years. If reproduction of an old item is the goal, it is important that the item still be handmade.

One sign of success for producers of special wood products in New England is to have one of the large mail order companies carry an item in their catalog. L.L. Bean (Maine), Orvis (Vermont), and Lands End (Wisconsin) carry many specialty wood items. Many States issue special catalogs of locally (State) made items, and this should always be investigated. For example, L.L. Bean usually does at least one catalog a year featuring Maine-made items. Companies often must accept the rigorous inspection and no-quibble replacement policy.

**Table 16–1. Special-purpose wood products**

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Almond knockers	House logs
Arrows	Incense sticks
Barrels—tight/slack cooperage, staves, hoops, heading	Jacks, ladder
Baseball bats	Knobs and handles
Baskets	Ladders (roof, apple)
Bat boxes	Lamps and parts
Battery separators	Landscaping floral planters
Bean shooters	Lathing and slats
Beehives, beekeeping supplies	Lattices
Benches and chairs	Letters and numerals
Bentwood products, example: furniture	Log homes
Bird feeders and houses	Mallets
Blocks, tackle	Mashers, potato
Boats/canoes	Maul and sledge handles
Bow staves	Moth repellents
Bowling pins	Novelties and toys
Bowls, turned and shaped	Nutcrackers
Boxes and crates	Paddles and oars
Buckets and tubs	Paint stirring sticks
Bungs	Pallets and skids
Butcher blocks	Pencil slats
Candlesticks	Picnic tables
Canes and walking sticks	Plaques or trophies
Carvings	Playground equipment
Cemetery baskets	Pool cues and croquet sets
Chessboards and sets	Pulley blocks
Chisel hammers	Reels and spools
Clock cases	Rollers
Clothes drying frames	Rolling pins
Clothespins	Rulers and yardsticks
Clubs, police	Scaffolds and staging planks
Countertops	Seats, toilet
Craft wood	Shakes
Cutting boards	Shingle hair
Decoys	Shingles
Dishes and dish drawers	Shoe trees and stretchers
Dowels and turnings	Signboards
Excelsior	Signs (sandblasted, routed, burned)
Fence: split cedar post and rail, pickets	Skis (snow, water, cross-country)
Fencing sections	Slingshot crotches
Fishing poles	Snow fence/nursery shade
Flag steps	Snowshoes
Floats and docks	Spokes
Flooring	Stakes (tree and garden)
Florist materials	Toothpicks
Frames: picture or mirror	Toys
Furniture (rustic, finished)	Traps
Game calls and blinds	Trays
Games, gift items, puzzles	Trellises
Garment hangers and dryers	Wedges for handles, tree felling
Gavels	Windmill blades
Gazebo kits	Wood cremation urns
Golf clubs	Wood snow scoops
Grain measures	Wood-burned designs
Gunstocks	Wooden jewelry
Hammers, meat	Woodenware, household
Handles: turned and shaped	Wreaths/roping
Hay forks	

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*Barrels ready for testing. Photo courtesy of McGinnis Wood Products, Inc. (SFP-3)*

Another way to identify new niches is to carefully and imaginatively examine mill waste. For example, shingle mills in Maine that saw native northern white cedar often have several waste wood pieces that can be used to make unique wood items. The cedar bolts (50-inch-plus lengths of log) must be squarely trimmed on the ends before being cut into shingle blocks. These cut-off ends (“lily pads”) usually are discarded into a firewood pile. But if these ends are 4 to 5 inches thick, they can be used as steps in a walkway or cut in half and nailed together like steps to display small items. Likewise, when the shingle block is sawn, there are at least three 16-inch-long slabs from each block. Wise sawyers save the pieces with the bark on for birdhouse producers. (The shingle producers themselves could make these birdhouses [or cemetery boxes] out of the slabs in the winter when the demand for shingles slows down.)

After the block has yielded all the shingles that can be sawed, there is usually a triangular-shaped piece remaining, about 3 inches on a side and 16 inches long. This piece usually goes into the firewood pile also, but it could be cut into children’s blocks. The sawing of the shingle itself produces long strings of fiber called shingle hair. When sawn with a carbide-toothed saw, a thin ribbon 1/32 inch or so by 16+ inches long is produced by each tooth passing through the block. Gift food companies can use the shingle hair as padding in their gift boxes and baskets. Finally, for shingle mills with saw

edgers, the thin edgings can be bundled for kindling wood.

The foregoing is an example of looking at a primary processing operation to see if any of the waste is usable, especially if a little more work (sawing, shaping, sanding, drying, bundling) could make it so.

## **Distribution and Packaging**

For most specialty wood articles, packaging plays only a small role. Heavy items such as fence sections or ladders are often distributed through lumber and hardware outlets and are palletted, strapped, or bundled for shipping. Many wooden products are sold individually, often without separate or special packaging. Typically, they require no special labeling or point-of-sale information. Gift, novelty, and craft items may be first packaged by the retailers. Some companies offer the option of clear wrap if the item may get dirty from customer handling.

Depending on the nature of the specialty wood product, the full range of conventional woodworking equipment may be required. Some of these products are made from logs felled specifically for a particular producer. This requires that the logs be barked, cleaned, and either sawed or split to obtain the raw material. Space, equipment, and time are required for air drying or kiln drying of most hardwoods used in the production of finished articles.

## **Profiles**

Profiles of some successful enterprises devoted to making and marketing specialty wood products will illustrate the factors that must be considered when contemplating a new or expanded venture involving specialty woodworking. The four categories discussed here are (1) barrels; (2) wooden bowls, trays, and frames; (3) gunstocks; and (4) tool handles.

### **Barrels**

#### **McGinnis Wood Products, Inc.**

McGinnis Wood Products, Inc. (MWP) of Cuba, Missouri, started making wine and whiskey barrels in 1987. Prior to expanding his plant to produce finished tight cooperage, Leroy McGinnis had operated a “green mill”—turning out staves that were delivered to barrel makers. But making only staves was somewhat seasonal, with cyclical ups and downs resulting from changing demands of the major cooperage firms.

To build a larger business that could also employ his son and two sons-in-law, McGinnis decided to expand to



*Missouri white oak logs ready for processing into staves and heading. Photo courtesy of McGinnis Wood Products, Inc. (SFP-5)*



*Missouri staves stacked for dry kiln. Photo courtesy of McGinnis Wood Products, Inc. (SFP-4)*

make high-quality cooperage bearing the MWP brand. With financial backing from a local bank, he purchased complete barrel-making machinery from Sweeney Cooperage in Vancouver, British Columbia. This Canadian firm had gone out of business in the early 1980's. The equipment was shipped to Cuba, Missouri, and set up to start turning out barrels by mid-1987.

Today the plant operates year round, with 48 employees at full capacity. The product line also includes blocks of rough staves, circled heading, and sets of kiln-dried, jointed, and bent staves that are sold to other barrel makers. The annual output of 25,000 barrels and hogsheads for the wine and whiskey trade constitutes the

mainstay of this family-operated business. The majority of wood used is native Ozark white oak. In addition, some oak is obtained from Illinois and Kentucky. Last year MWP purchased logs worth about \$1 million. Turning out a precisely fitted, tight barrel requires use of specialized woodworking machines and much hand-work—the ancient craft of the skilled cooper. The payroll for labor at MWP runs \$5 million to \$6 million a year.

The conversion of raw logs to barrels begins with washing and sawing the oak into rough stave bolts. The stave is then quarter-sawn with a “drum saw,” producing the familiar curved shape that becomes the circumference of the finished barrel. The green staves are next sent through a steam tunnel and bent end-to-end. Sets of staves are then carefully planed, fitted, and routed to receive the heads.

The heading mill involves flat sawing and planing to create circled barrel ends. Matched sets of staves are finally forced together over the heading, and steel hoops are applied to complete each coopered vessel. Bourbon makers usually specify black iron hoops, while wine makers (who age their products longer) prefer galvanized hoops.

Some European wine makers believe that American oak is too strong and “woody” to properly age their red wines. They would greatly prefer barrels made from French Limousin oak. But when the price of the best French barrels reached \$650 a few years ago, all but a few vintners found the cost too high. In order to become more competitive in selling to the European wine industries, McGinnis sought a source of oak that would better satisfy their needs. In 1991, he went to Hungary to arrange trials of aging wines in Hungarian oak—a lighter and more porous wood than American white oak. Results thus far look promising. McGinnis is now importing oak logs from Hungary and exporting barrels at prices that wine makers on the continent can afford. Typical prices for barrels of Hungarian oak range from \$160 to \$275.

In addition, MWP has recently signed a 5-year contract to make and ship barrels to Scotland. These barrels are made from wood aged and air dried for 1 year. The Scots do not want the oak kiln dried. Barrels for Scotch to be aged 8, 12, or 20 years are larger than domestic barrels—actually a 66-gallon hogshead.

The market for tight cooperage is substantially smaller today than 20 years ago. Many old-line cooperage firms have left the industry. As recently as 1979, Seagram in Memphis used 1,600 to 1,800 barrels per day. Schenley and Blue Grass Cooperage in Louisville and Bourbon Cooperage in Lexington each accounted for 1,700 barrels daily. Today, all except Blue Grass Cooperage and

Independent Stave Company of Lebanon, Missouri, are gone.

Bourbon whiskey is required to be aged for 4 years in new, charred white oak barrels. After one use, these barrels can be used in aging blended whiskeys, or they are sold to be converted into oak chips for barbecue flavoring. Some used bourbon barrels are sent to California and Spain for wine, and others find their way to Scotland for malt whiskey. Bourbon makers last year purchased about \$1.1 million worth of barrels. Requirements for the wine industry are somewhat smaller, but barrel consumption for aging of premium California red wines is growing at a healthy rate.

The organization of the barrel-making industry is slightly unusual. There are many plants that make only rough staves. These are typically small operations employing 10 to 25 persons. A few firms make finished staves and heading, but do not assemble complete barrels. Some plants specialize in reworking staves from barrels that have been used. A limited number of larger plants turn out finished tight cooperage.

### **Independent Stave Company**

Independent Stave Company represents an integrated confederation relying on numerous, relatively small, widely scattered suppliers. Headquartered in Lebanon, Missouri, this firm operates about 20 plants that produce staves. These staves are shipped to be finished by the main factory or in a smaller barrel-making shop in New Florence, Missouri. The Lebanon factory employs 300 persons and is a major factor in the industry, turning out nearly 600,000 barrels a year.

Despite the contraction of the barrel-making industry and the dominant position of the larger cooperage firms, there is still opportunity for small entrepreneurs. Rough or finished staves are being made by eight additional firms throughout Missouri that are not affiliated with Independent Stave. Each of these stave plants is located in a small community and has 12 to 18 employees.

### **Perryville Stave Company**

One highly successful enterprise is Perryville Stave Company of Perryville, Missouri. This firm concentrates on making staves and heading for whiskey and wine barrel makers. The plant is a bit larger than most stave makers—34 employees at full production. According to the plant manager, most of the white oak used is cut locally.

Because the plant is located near the Illinois border, about 20 to 30 percent of the wood now comes from out of State. The bark is removed and the logs are cut into blocks, which are quarter-sawn and then resawn flat in 5/4-inch thickness. Rough staves are stacked to dry several months before shipping to the barrel maker.

Because the cooperage industry in the United States shows only slight growth, the company has sought to gain a larger share of the export market—and with good success. Last year Perryville sent more than 125 containers (trailer loads) of staves to Spain for wine-aging barrels. The firm was recognized by the Missouri Governor for being one of the highest dollar exporters in the State. This suggests that plants limited to making staves and heading can grow and compete, not only within the United States, but overseas as well.

Firms that have aggressively marketed cooperage or staves wherever there was potential demand have carved out special niche markets that have yielded excellent profit. The success of several small firms proves that opportunity for growth exists, even in an industry that has suffered massive decreases in total barrel demand.

## **Wooden Bowls, Trays, and Frames**

Production of turned and carved walnut bowls has long been one of the traditional woodworking specialties. Craftsmen in many forest areas continue to create appealing articles as fine gifts, kitchenware, or decorator items. Tastes and preferences in this market have changed slowly over the years, but a strong demand persists for examples of native craftsmanship.

### **Shepherd Hills Walnut Shop, Inc.**

Ron and Randy Reid established a highly successful venture known as Shepherd Hills Walnut Shop, Inc. The first shop to market walnut specialties was located in Lebanon, Missouri. Area residents and flocks of Ozark tourists were quick to purchase and display the walnut wares from this initial marketing enterprise. The success of these early offerings led to expansion of the line of wood products—salad bowls, cutlery (tossing forks and spoons), desk accessories, and carved mirror and picture frames became staples of the firm.

Today, Shepherd Hills Walnut has expanded to operate three retail stores in popular tourist spots throughout the Ozark region. By concentrating on display and sales, these stores have grown to now employ 28 people. Annual sales run from \$2 million to \$4 million per year.

An interesting aspect of the enterprise is that Shepherd Hills markets but does not actually produce any of their wares. Rather, Randy and Ron Reid determine the design and style of wood products that will satisfy customer desires and contract with many independent woodworkers to make the article. Each craftsman takes full responsibility for all aspects of production. They must locate suitable wood, ensure that the wood is properly and thoroughly dried and aged, and then supply the artistry and skill needed to create the products. The number of craftsmen producing for sale through

Shepherd Hills Walnut varies. Currently over 21 small woodcraft workers provide the variety of items for sale in the three stores.

### **Native Wood Products Inc.**

A different and more traditional mode of wooden bowl and tray production can be found at Native Wood Products Inc. located just outside Ozark, Missouri. The plant now operated by F. G. Crain and Michael Crain was founded 30 years ago. For many years the factory has specialized in turned and shaped bowls made from regional black walnut—mostly cut in and around Christian County. Serving trays, carved frames, and wooden accessories were added along the way to provide diversified selection.

Within the last few years, customer preference developed for other woods. Today more than half of the company's output is in oak.

Overall, the market has proved cyclical, but shows no signs of drying up. The factory operates year round and employs 35 people at full capacity. One of the major drawing cards has been the appeal of signs along the highways—"Walnut Bowls—Buy Direct From The Factory." Seeing craftsmen at work turning and finishing the products has great appeal for tourists. All operations are performed at the plant. At various times of the year, everything from the sawmill through the final finishing can be observed.

Walnut and oak logs are first sawn to make blanks. All wood is air-dried and then run through the kiln to bring moisture down to about 8 percent. Thoroughly seasoned and dried wood is essential to obtain a smoothly turned or routed surface. All the equipment used is conventional woodworking machinery—no numerical control or computer-programmed routers are required.

The marketing strategy used by Native Wood Products has three thrusts. Roughly half of the output is sold direct at the factory. A system of manufacturer's representatives promotes sales through retail stores and gift shops throughout the country. Finally, Native Wood Products sells direct through wide distribution of its catalog.

Competition in the market for woodcraft articles in the past came largely from producers in regions traditionally known for woodworking. Today, a wide range of wooden housewares and gift items is being offered from foreign countries. Wood products from South America and the Pacific Rim offer stiff price competition for similar products made in the United States.

## **Gunstocks**

Manufacture of production and custom gunstocks has long been centered in the Midwest. Only about a dozen firms specialize in turning out original stocks for arms makers and custom replacement stocks for sportsmen and gunsmiths.

The structure of this industry is somewhat unusual and has changed over the years. Gunstock makers operate on three levels.

- makers of seasoned and kiln-dried gunstock blanks;
- high-volume producers of original stocks for arms manufacturers and the military; and
- suppliers of custom gunstocks for sportsmen.

### **American Walnut Company, Inc.**

The American Walnut Company, Inc., in Kansas City, Kansas, and **Midwest Walnut Company** in Council Bluffs, Iowa, are among the leading producers of kiln-dried gunstock blanks. In addition to black walnut, some blanks are cut from ash, cherry, red oak, and white oak. These blanks are shipped to plants where gunstocks are produced.

### **S&K Industries, Inc.**

S&K Industries, Inc. moved to Lexington, Missouri, in 1971 and rapidly established a role as one of the largest makers of production gunstocks. Today, S&K produce all the wood stocks for Remington Arms, which accounts for about 60 percent of the specialty wood products that they produce.

From a relatively modest firm, S&K has grown to impressive size. The firm currently operates seven plants—four in Lexington and three in nearby Carrollton. Employment has swelled from less than 100 in the 1960's to 450 at full capacity today.

Special stock-making machinery was obtained when Remington decided to stop making their own stocks and have them made by S&K. Some 76 truckloads of special woodworking equipment, valued at \$30 million, was moved from New York to Lexington to consolidate stock work.

In addition to gunstocks, the remaining 35 percent of S&K's production is devoted to making finished special wood products for other manufacturers. They produce all of the wood fittings for Steelcase office furniture and light fixture parts for Lightolier, Inc. Recently S&K has added a simple but highly lucrative line of trophy plaques and bases.

## Reinhart Fajen

One of the leading makers of replacement and custom rifle stocks was established when Reinhart Fajen decided to forsake gunsmithing and stock finishing to specialize in manufacturing shaped and inletted gunstocks.

In the postwar years, Fajen had earned a wide reputation for fitting and finishing beautiful rifle stocks for gun fanciers. In the 1950's, Reinhart left the Kansas City area and set up a shop in Warsaw, Missouri. At that time, war surplus military rifles from many nations were readily available. By removing the service stock, replacing it with a sportier style stock, and applying a quality finish, a handsome and serviceable hunting rifle could be had at a fraction of the cost of commercial arms.

After restrictions were placed on importation and sale of surplus military rifles, the market reverted primarily to providing semifinished stocks for custom gunmakers and replacement stocks for gun fanciers. While rifle stocks were the mainstay of the trade, special shotgun stocks and handgun stocks were in growing demand. Two things distinguish a custom stock from a standard factory stock—elegance of design or functional form; and the care and skilled craftsmanship evident throughout its production. Gunstock buyers are critical and unlikely to be satisfied unless the product displays quality in every line.

The range of woods used to make stocks has grown far beyond the traditional American black walnut, although walnut is still highly favored. In search of stocks that are strong and light and that show eye-catching grain figures, many stocks are shaped from maple, English walnut, claro walnut, cherry, mesquite, laminated woods, and even black oak, or redwood. The wood is first sawn to a rough stock blank before aging and drying. Fajen insists on a full 6 months in the drying kiln. Slow drying—which some stockmakers attempt to rush—is the only way to ensure the proper moisture content for maximum strength and stability.

Stocks are shaped by a duplicating lathe guided from a master pattern. At the Fajen plant, this step may be performed using a Geiger numerical, controlled copying machine. For longer stocks, the Richardson or Zuckerman carving machines are generally preferred.

The number and variety of stock designs is astonishing. Fajen can make over 100,000 different stocks from his standing patterns. It is hard to imagine a production shop that could try to match this diversity. Craftsmen direct each cut made by the carving machine that contours the stock—a skill that requires years of experience.

The stocks are then routed internally to fit precisely the action and barrel of each particular rifle. Precision

plunge routers can be employed to cut the wood to fit the action. If the action is to be glass-bedded, additional machining is required to accommodate and key in the epoxy resin and glass fiber bedding compound. The stock will be cut 1/16 inch oversize in both the lower action area and 2 inches of the barrel channel, with the remainder of the barrel “free floated” for maximum accuracy.

Both rifle and shotgun stocks are offered in three degrees of finish—Semifinished; Custom Fit; and Custom Fit and Finished. Semifinished stocks are 100 percent shaped, are 95 percent machine inletted, and are ready for final sanding and finishing. These stocks are primarily sold to gunsmiths who can perform the final critical fitting of the action and finish the stock with fine checkering or carving. Depending on the grade of wood used, semifinished rifle stocks range in price from \$66 to \$260. Shotgun stocks in Semifinished grade cover a wider price range from \$35 to \$189 for special trap styles.

Custom Fit stocks are 100 percent shaped and inletted to fit the particular barreled action and are ready for final sanding and finishing. This grade is marketed to sportsmen and gun fanciers who savor the prospect of finishing their own stocks.

Custom Fit and Finished stocks are hand fitted to the customer's action, checkered with 18- to 22-line-per-inch patterns in the grip and forearm areas, and given a tough, moisture-resistant gloss finish. Grip caps, forend tips, swivels, and other accessories are optional. Custom fitting and finishing add considerably to the value of the stocks. One-piece rifle stocks in Custom Fit grade cost from \$273 to \$686. This means that roughly 3.75 board feet of walnut can be converted into a finished product worth 50 to 100 times the value of the wood.

## Tool Handles

Production of turned and shaped wood tool handles and knobs is one of the all but invisible sectors in the specialty wood products industry. Yet a surprising number of handle plants continue to operate, and some even thrive and grow. There are handle makers in virtually every forested region, with some concentration in midwestern States.

Handle plant operators are quick to point out that wooden handles are slowly but inexorably becoming less common and essential. Nail guns are replacing hammers; axes are only used when the chain saw is not appropriate; shovels look puny compared to a backhoe; and the familiar posthole digger cannot keep up with the auger powered by a tractor's power take off. Clearly, growing use of power tools reduces the demand for hand tools with wood handles. But a quick look at some of the

handle manufacturers in Kansas, Missouri, and Arkansas shows that there is still opportunity in this low-tech industry.

### **Bolder Handle Products**

Bolder Handle Products in Doniphan, Missouri, has been in business for 12 years. There used to be more handle plants in Doniphan, but the number has dropped to five in recent years. The local hickory supply has been somewhat reduced, so today some hickory is brought in from Kentucky, and oak is purchased from Illinois.

Like many handle-making firms, Bolder Handle is a family concern, owned by Fred Allen and employing 12 persons. Fred's uncle, also in Doniphan, operates the James Allen Hickory Mill, which turns out both handle blanks and finished handles (all from local hickory).

Bolder Handle produces finished tool handles of all types, chiefly using native regional species. Striking handles (for sledges, axes, etc.) are made from hickory. Long-handled tools like shovels or hoes are matched with ash handles. Posthole diggers and wheelbarrows will have handles of oak. Handle designs are well established for the most part. Many replacement handles are made to Government or other specific standards. Handles produced for toolmakers such as True Temper or Stanley usually are custom-designed to match the proprietary style required by the tool designer.

Fairly conventional woodworking equipment is used in handle production. The only special machines required are duplicating lathes and pattern-copying Defiance lathes used to shape axe handles and a few other handles that do not have round profiles. After shaping and sanding, most handles receive a lacquer finish.

Bolder Handle elected to market primarily to Original Equipment Manufacturers (OEM) toolmakers. It is common practice for the tool firm to send a toolhead to Bolder and let them design and cut handles to fit their proprietary tools. As with most hickory mills, little goes to waste. All the sawdust and shavings are blown to a cyclone collector and sold to a St. Louis firm that makes liquid hickory smoke.

### **Other Companies**

Quite a few other handle-making enterprises dot southern Missouri and Arkansas, some producing blanks for sale to toolmakers, while some find it more profitable to make a full line of finished replacement handles. Beamer Handle Company in Van Buren, Missouri, has 14 employees, and this plant produces turned and shaped tool handles from ash, red oak, hickory, and sycamore. Wm. House Handle Company, operating out of Cassville, Missouri, has been making a full line of handles for 36 years. Glen and Ken House have

20 employees and buy logs cut from all over southwest Missouri. Ash, hickory, and white oak logs are debarked, rough-sawn, and air-dried. Handles for claw hammers, hatchets, axes, and picks require use of duplicating lathes and a dowelling machine. Finished handles are marketed primarily to hardware chains, building materials stores, and lumber stores.

### **IXL Manufacturing Company, Inc.**

The giant of the tool handle industry is the IXL Manufacturing Company, Inc. Located in Bernie, Missouri, IXL has been a major factor in handles since 1892. IXL makes handles for major tool producers and an extensive line of replacement handles. Many small handle plants ship blank handles to IXL for finishing. The plant manager is in general agreement that demand for wooden tool handles is declining. But in Bernie, that demand keeps 150 production workers busy turning out handles bearing the venerable trademark of IXL.

## **Special Factors**

Many species of wood that at one time were unsuitable for carving can now be treated with a solution of polyethylene glycol-1000 (PEG) to eliminate as much as 80 percent of the wood's moisture-induced dimensional changes. PEG is a white, waxlike chemical that resembles paraffin and is often used in cosmetics. It readily dissolves in warm water and is nontoxic and noncorrosive. The PEG solution slowly diffuses into the wood and fills the space that would normally be occupied by water alone when wood is in the green condition and is swollen to its greatest dimensions. When the wet PEG-treated wood is dried, the PEG remains in the wood structure and prevents the wood from shrinking. However, this treatment should not be used when wood will be in contact with water again because the PEG will dissolve out of the wood again.

With PEG, applying standard finishes may be a problem. A person considering this approach should thoroughly study the procedure before undertaking any large-scale use.

## **Considerations for a Rural Development Strategy**

Starting a specialty wood products co-op is one way a rural area can improve opportunities for this kind of product. If standards are high and items are in good taste, of high quality, and of regional significance, a co-op can get a good price for them. Starting a woodworking association in conjunction with the co-op is also a good idea. The co-op may be able to accommodate finished pieces of local artisans in a separate gallery.

There are even ways to make the co-op a visitor and tourist draw. For example, to capture more retail trade, the co-op could offer a play yard so that children could be supervised while their parents shopped.

A good example of the use of specialty wood products within a rural development effort is the Lewis County Woodcrafts Cooperative. This Chehalis, Washington-based co-op received a substantial part of its start-up costs from the Lewis County Economic Development Council, the Washington State Department of Community Development, and the Northwest Area Foundation. Its leaders are now helping to replicate the effort in Grays Harbor County and Forks, Washington.

The co-op's membership includes 120 individuals and small firms, and an additional 300 applicants are awaiting qualification. The participants were notified of the co-op's services through a local newspaper ad offering "marketing assistance for finished wood products," and respondents were asked to bring products for inspection as part of an assessment of their capacity, tools, and skills. At the start, over 150 one- and two-person firms showed up with over 500 marketable materials.

The majority of the skilled woodworkers who have become co-op members were out of work or underemployed, many from the timber industry. Most could make quality wood products but had virtually no marketing skills other than "tailgating" and peddling to nearby specialty shops. The co-op coordinator, Russ Mohney, has an extensive knowledge of markets for wood items that can be made locally. His role has been to provide market intelligence and product development assistance to members. The products have been developed in four distinct lines: institutional goods (for example, bookshelves), outdoor products (for example, planters), consumer goods (for example, crafts), and mass-produced commercial goods. The group also gathers mill ends and other wood scraps that had previously often been discarded by area mills, stores them in a small wood yard, and makes them available to members.

Revenues are generated from member dues, sales commissions, and sales of materials from the co-op store. Currently, demand is outpacing supply. The co-op expects to generate \$1 million in sales of high value-added woodcrafts, furniture, toys, and other products by the end of the first year and forecasts that this may rise to \$4 million by the end of the second year. The organization eventually intends to sustain itself mainly on a fee-for-service basis.

Advertising is crucial for any kind of co-op to be successful. The State can help if there is a tourism office or bureau. No agency (Federal, State, county, or regional) should be overlooked that could help get materials, processing, and marketing advice to an area. Such

assistance can get a project going, help it overcome a manufacturing or marketing problem, or find new facilities if a product outgrows the home shop. Financial assistance as well as business management assistance may be necessary for specific co-op businesses or the coop itself.

## Contributors

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Directories of secondary manufacturers of wood products are available from the Department of Natural Resources in most States. These are good sources of information on types of wood being purchased for various products in each State.