ACADEMY NOTES

Notes from the Shopsmith Woodworking Academy

Finishing Touches — PART THREE — Applying a Natural Finish

Mother Nature provides a variety of methods for protecting wood...beginning with the bark on a tree. Bark insulates the live wood from decay, disease, insects, people who like to carve their initials into them and other pests.

Once the tree has been sawn into lumber and the lumber transformed into a piece of fine woodworking, there are a number of natural finishes that can be used to pick up the job of protection where the bark left off. Three of the most important finishes in this category are shellac, lacquer and varnish.

Each of these are made from saps, resins or chemicals that have been extracted from living plants - in some cases, the trees themselves. Like the bark, they form a protective coating on the outside of the wood. This coating is fairly hard and transparent, and can be built up through the application of successive coats.

Choosing a brush

Natural finishes can be applied using a number of different methods, but most of these methods have a single tool in common...the brush. The quality of this brush is extremely important. The better the brush, the better the final finish. Hog and badger bristle brushes are among the best. The bristles of these brushes are naturally split (*flagged*), allowing you to load-up more finish at one time and letting the finish flow more evenly onto the surface of the wood.

Proper care of these brushes is as important as their quality. Start by soaking your new brushes in a solvent (turpentine, alcohol or linseed oil) for a hour or so, then wrap them in paper and leave them wrapped for a day before using them. When you first dip your brush into the finish, spin it rapidly back-and-forth between the palms of your hands to dislodge any loose bristles (all new brushes have them). Dip it to only one-third of its bristle length and remove any excess by gently tapping it against the can rim. **NEVER** wipe the bristles across the rim, as this can loosen the bristles.

If you use your brushes often, keep them suspended in solvent. To clean and store them, slosh them in solvent, press out the excess with a smooth piece of wood and repeat. Wipe the brush dry, then wash thoroughly with a good detergent. Rinse, wrap the bristles in paper and hang the brush up, bristles down.

Shellac

Shellac is manufactured by an insect, the lac bug, which sucks sap from a tree, then excretes a resin. This resin is later scraped from the trees and dissolved or *cut* in alcohol. Five pounds of shellac resin *cut* into gallon of alcohol is called a *5-pound cut*. This *cut* is important; shellac should be thinned to at least a 3-pound *cut* before brushing. Buy shellac in small quantities, because once the resin is *cut* into the alcohol, it has a very short life — usually only 4-6 months.

When you get ready to apply the shellac, blend it with denatured alcohol to get the desired cut. Never shake the can to mix it, as this creates air bubbles. When applying, brush with long, even strokes. Short strokes leave too many brush marks. Allow the shellac to dry for two hours between coats. Once you've built up a deep finish, allow it to dry for a day, then rub the surface smooth with

00# steel wool. If you want a high gloss, follow-up with progressively finer grades of steel wool. Polish with a good, high quality paste wax.

Shellac can also be applied without a brush, using a technique called ***French Polishing*** that will produce a mirror-like finish that's beyond description. To do this, wrap a piece of fine linen around a large ball of cotton. Moisten the pad with 5-pound cut shellac, then sprinkle with linseed oil. Rub the surface of the wood is a circular or *figure-8* motion. When the pad begins to stick, moisten it again with more shellac and linseed oil. The body of the finish will start to build up as you rub. When you've attained the desired lustre, sprinkle the pad with alcohol and rub the surface with the grain of the wood to remove any circular marks.

Lacquer

Lacquer has as its base, cellulose, a chemical made from cotton. Lacquer is extremely fast-drying and is suitable for both wood and metal finishing.

Until recently, lacquers had to be sprayed onto a project. They were so quick-drying that they dried right on a brush. However, today, slower drying, *brushing lacquers* are relatively easy to find. These finishes are especially suitable for smaller projects — picture frames, carvings, pens/pencils, small shelves, any project where you can cover the entire project surface with a single brush-full of lacquer.

If you've stained he wood, first seal it with a lacquer sealer to keep the stain from *bleeding* into the lacquer top coat. Sand the sealer lightly with 5/0 garnet sandpaper and wipe with a tack cloth to remove all dust. Brush the lacquer on in long, even strokes with the grain, as with shellac. Allow to dry for two hours between coats. If necessary, you can sand down the high spots where the brush strokes overlapped with 6/0 garnet sandpaper.

After the final coat, let dry for a day. Rub down the finish with a felt pad and rubbing compound made especially for use with lacquers. When the surface is smooth, wipe off the grime and apply a good wax.

Varnish

For years, varnish has been the mainstay of wood finishers and refinishers. It's made from a variety of tree resins, blended with drying oils. The resulting finish is harder than shellac, less finicky than lacquer and can be used on a variety of applications.

When using varnishes, it's important that you take great care in preparing the surface prior to application. Wash the project down with benzene to remove all traces of grease and dirt. If you've stained the wood, apply a wash coat of shellac and alcohol and sand lightly with 5/0 garnet sandpaper. Wipe thoroughly with a tack cloth.

Brush the varnish on *across* the grain in long strokes. Wipe the excess varnish out of the brush and go over the surface again *with* the grain. Wipe the brush again and go over the surface once again *with* the grain, this time, using the tip of the brush to smooth the varnish. Allow to dry for six hours, then sand lightly with 6/0 or 7/0 garnet sandpaper soaked in benzene. Wipe down thoroughly with a tack cloth. Apply successive coats in the same manner as he first.

After the final coat, allow to dry for one to two days. The varnish may look awful, showing marks and dimples, but don't worry, as these can all be rubbed out. Saturate a piece of felt with linseed oil, sprinkle with pumice stone and rub with the grain in long strokes. Wipe and buff with a soft rag.

Caring For A Natural Finish

Periodically, a natural finish will need cleaning and polishing. Lemon oil makes a good cleaner and won't build-up. A carnauba paste wax will replenish the finish, keep it from turning brittle and fill any tiny scratches. Don't use commercial furniture polishes; these could react with natural finishes and ruin them.

Coming up in the March/April issue — PART THREE — *Applying A Synthetic Finish*