

## UNIT 16

# WOOD FINISHING

Finish is applied to stock to protect the surface and enhance the natural beauty of the grain. The type of wood finish used depends on a number of factors, such as the kind of wood, desired appearance, available time to finish the product, and available wood finishing supplies and equipment. After reading this unit, you will be able to identify the most common finishes used in a woods laboratory. In addition, you will be able to prepare a piece of stock for finishing and then finish it to a desired appearance.

When using any type of wood finish, it is important that you first apply the finish to a piece of scrap stock of the same kind of wood. Apply the finish according to the manufacturer's instructions.

### WOOD FINISHING PROCEDURE

Two series of steps must be followed in order for your product to have the best possible appearance. The first series involves the preparation of the wood surface for the final stain and finish. The second series is the application of stain and protective finish. Care must be taken with each of these steps.

### STEPS IN PREPARING A SURFACE FOR FINISHING

1. Remove all mill marks using a cabinet scraper or by sanding the stock.
2. Remove dents by using moisture and heat or by filling.
3. Repair and fill defects.
4. Remove any excess glue from exposed surfaces.

5. If the wood color is not even, or if it is streaked, the surface should be bleached to achieve a uniform shade.
6. Finish sanding the entire surface using 180 to 220 grit sandpaper.

The surface should now be ready to begin applying filler, sealer, stain, and finish protective coatings.

### REPAIRING DEFECTS

Nail holes, small cracks, and other small defects must be repaired prior to applying any type of finish. **FILLERS** are commonly used to repair such defects. Types of fillers include Plastic Wood™, wood putty, water putty, and stick shellac. See Fig. 16-1. These fillers should be used before applying the finish.



Fig. 16-1. Products commonly used in repairing wood defects. Plastic Wood, wood putty, and water putty.

### Plastic Wood

Plastic Wood is available in several shades and colors including natural, oak, mahogany, and walnut. It comes in a ready-to-use form.

Use Plastic Wood before any finish is applied. The surface should be clean and dry. Press Plastic Wood into place using a putty knife or small spatula. Fill large holes by placing thin layers into them. Allow each layer to dry before applying the next one. Overfill the hole to allow for shrinkage and sanding. Keep the can covered tightly when you are not using the Plastic Wood.

**Caution:** Plastic Wood is extremely flammable. Avoid excessive inhalation of fumes. Use only with adequate ventilation.

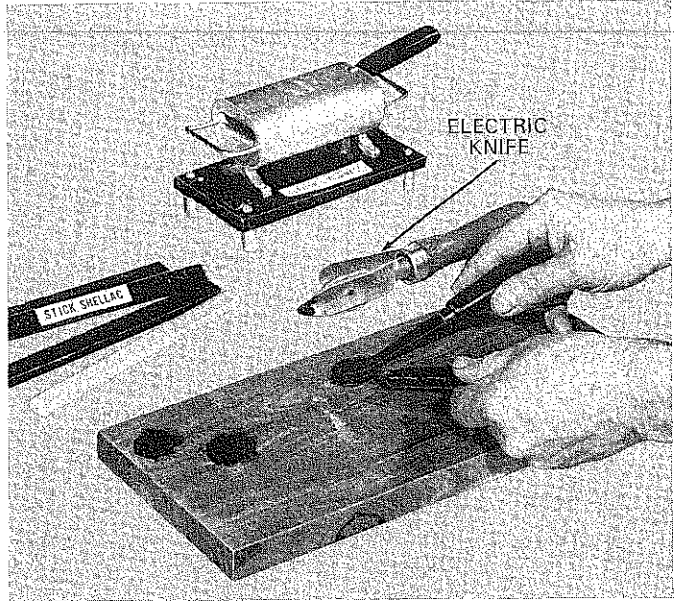


Fig. 16-2. Repairing wood defects with stick shellac.

and apply heat with a soldering iron or household iron.

Water and steam cause the wood fibers to swell and spring back to their approximate original shape. It is not possible to completely repair dents that have torn fibers. When the wood dries, sand it smooth with fine abrasive paper.

### PUTTY STICKS

Putty sticks and blending pencils are generally used after applying the finish. They are also used on prefinished surfaces. A variety of colors and types are available, Fig. 16-3. Select a stick that best matches the finished stock. Rub the stick over the hole until it is filled. Wipe off the excess with a cloth pad.

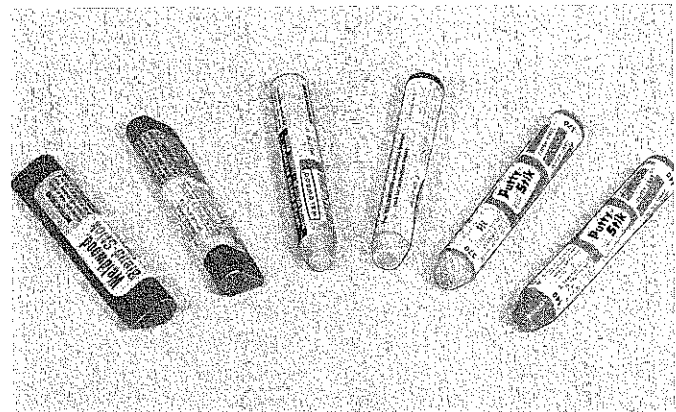


Fig. 16-3. Putty sticks are generally used after applying finish and to fill nail holes in prefinished panels.

### Wood Putty and Water Putty

Wood and water putties are available in a powder form. They are prepared by mixing the powder with water to form a smooth, thick paste. Mix only a small amount at a time; the putty dries very quickly. Add a small amount of vinegar to slow the setting. Dry colors or water stains can be added if color is required.

Prepare the hole or crack by removing all dirt and grease. Wet the edges to provide a good bond. Use a putty knife to press the mixture into the cavity. Smooth carefully with a wet putty knife or finger. Wait until the putty is dry before attempting to sand it. It may help to moisten the putty with water when sanding.

### Stick Shellac and Lacquer

Stick shellac and lacquer are available in a variety of colors. Select a stick that is slightly darker than you expect the wood to be when applying the finish. Dampen a small spot of the stock to help you visualize the color. Use a heated knife, or electrical heating unit to melt the shellac or lacquer and work it into the defect, as shown in Fig. 16-2. Excess stick shellac can be scraped away, and then sanded with the grain.

### FILLING DENTS

Most small dents in the stock can be lifted prior to applying the finish. This can be done using water and heat. Lightly moisten the dented area of the stock, place a wet cloth over the dent,

## BLEACHING WOOD

Wood bleach is commonly used to lighten wood, remove dark streaks, and prepare the surface for special finishes. OXALIC ACID can be used as a mild bleaching solution. Mix the powdered oxalic acid with water to a ratio of 1 part oxalic acid to 20 parts water. The oxalic acid is usually harmless to your skin, but should be kept away from your eyes and clothing. It is generally applied with a cloth pad.

Commercial wood bleach is commonly sold in liquid form in two separate containers. One container holds sodium hydroxide and the other holds hydrogen peroxide. The two solutions are mixed together in small amounts, as needed, by following the manufacturer's instructions. See Fig. 16-4.

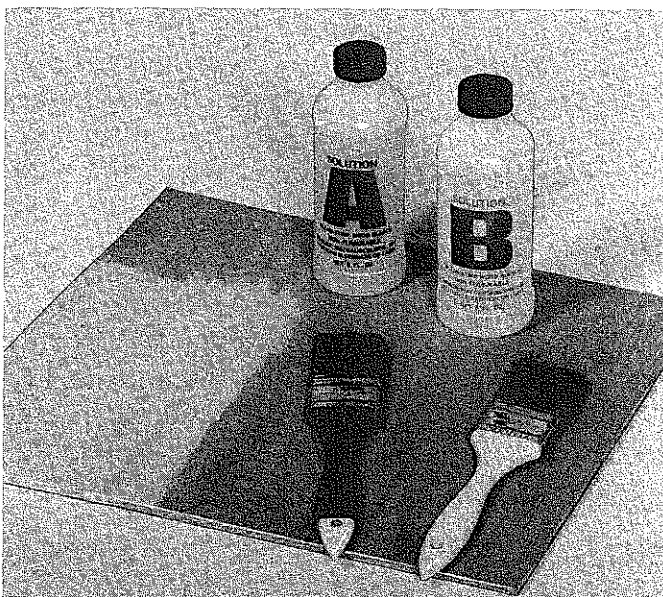


Fig. 16-4. Using commercial wood bleach. Bleach has been used on the light-colored area at the left.

When working with commercial bleaches, always wear rubber gloves to protect your hands and arms, and goggles for eye protection. Use the bleach only in well-ventilated areas. If the bleach comes into contact with your skin, wash the affected area immediately using soap and water.

An alternative to oxalic acid or commercial wood bleaches is common household bleach. Household bleach may be used directly from its container. Allow the bleach to soak into the wood until the desired color is obtained.

Most bleaching operations raise the surface grain of the wood. It will be necessary for you to lightly sand after the surface has dried.

## SANDING

The stock should be perfectly smooth before applying any type of finish. It is time-consuming to correct surface defects in the stock after applying some finishes. The finished surface will not be any smoother than the surface to which it is applied.

Use a flat sanding block to hold fine abrasive sheets. Always sand with the grain of the stock. Use a TACK RAG to remove all dust and grit from the product. A tack rag is a chemically treated piece of cheesecloth that allows it to remain soft and tacky.

## BRUSHES

Brushes are available in a variety of sizes, shapes, and grades. Some brushes have animal hair bristles, while some have nylon bristles. The bristles are usually set in rubber and held in place with a metal ferrule, Fig. 16-5.

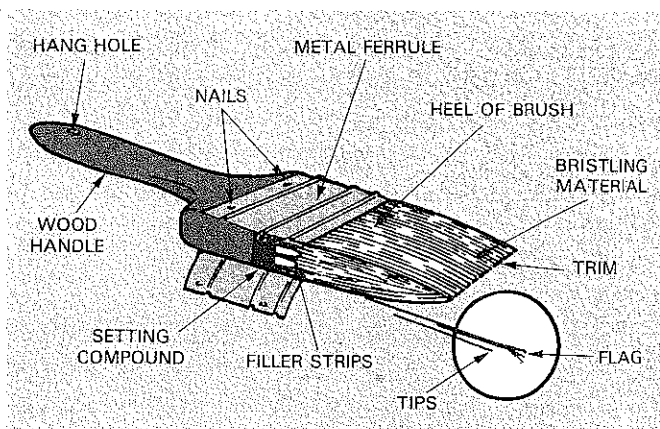


Fig. 16-5. Brush cut-away view showing constructional details.

It is important to purchase good brushes, and to see that the brushes are properly used and stored. A brush that is used regularly for the same type of finish can be stored by drilling a hole through the handle, inserting a wire through the hole, and suspending the brush in a can or jar containing solvent. The brush should be positioned so that the bristles do not touch the bottom of the container. See Fig. 16-6.



Fig. 16-6. Storing brushes in glass jars with rubber lids.

A good way to preserve the quality of a brush is to clean it after every use, dry it off, and store it properly. Remove the excess finish by pulling the brush lightly across the top of a container. Wash the brush in the appropriate solvent and then dry it using paper towel or a cloth. Scrub the brush with soap and water and wrap it with paper or aluminum foil to protect the bristles.

#### Wood Finishes—Safety and Care

1. Keep sparks and flames away from the finishing area.
2. Place all waste materials and rags in a fire-proof, metal container. Finishes should be stored in a fireproof cabinet.
3. Always use an exhaust fan (or work in an area that is adequately ventilated) to remove dangerous fumes while applying or removing a finish.
4. Wear goggles and rubber gloves when handling hazardous liquid such as bleach and finish removers.
5. Clean your brushes and store them properly after each use.
6. Tightly seal finish cans and store them in a metal cabinet.
7. Protect your clothing when finishing.

#### STEPS IN APPLYING A FINISH

After all surface defects have been repaired and the surface has been smoothly sanded, you are ready to apply the finish. The steps involved in applying a finish are as follows:

1. Select the final finish. This choice should be made after considering the planned service for the product, the various types of finishes, the available equipment, and the amount of space in your woods laboratory.
2. Choose the color stain, if desired.
3. Is a filler necessary? Carefully inspect the surface of the stock. Is it an open-grained or close-grained wood?
4. Dust the surface of the stock using a soft-bristle brush or vacuum cleaner. Be careful not to inhale the dust.
5. Wipe the surface clean with a tack rag.
6. Carefully follow the prescribed procedure for staining, filling, sealing, and applying final finishes you have selected.

#### WOOD STAINS

Stains are used to emphasize wood grain and impart color into the surface of the stock. Wood stains can be classified according to the solvent or vehicle used in their manufacture. Types of solvents used in the manufacturing process include linseed oil, turpentine, mineral spirits, alcohol, and water.

#### Oil Stain

Pigmented oil stains contain finely ground color particles, or PIGMENTS, and a liquid, also known as a VEHICLE. The pigments do not dissolve. They are mixed in a vehicle such as linseed oil or mineral spirits. It is a common belief that stain, such as walnut stain, will color the wood to closely resemble walnut stock. However, the color name simply indicates the color, such as brown or reddish-brown. The pigment remains on the surface of the stock, providing uniform color and appearance. Oil stain should be allowed to dry thoroughly and then coated with a sealer (shellac or lacquer) to prevent bleeding of the stain into the finish coats.

Stir the stain thoroughly. Apply it quickly and uniformly, using a soft brush. Flow the stain across the grain, and then make light finishing

strokes with the grain. Carefully check the stock for skips or spots that were missed. Allow the stain to set up until the surface appears to be flat or dull (approximately 5 to 10 minutes). Then, wipe the surface with a clean, lint-free cloth with the grain of the wood to bring out the highlights of the grain, Fig. 16-7. Depth of color can be controlled by the amount of stain left on the surface. Use turpentine or mineral spirits for clean up. Allow about 24 hours for oil stain to dry before applying paste wood filler or a finish coat.

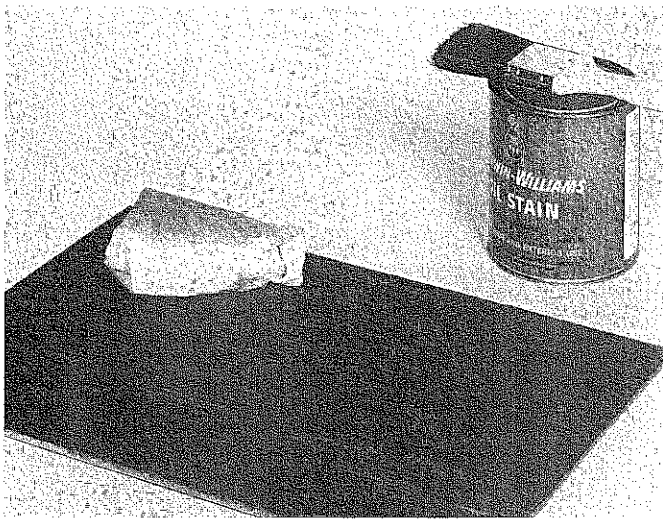


Fig. 16-7. Applying oil stain. Wiping with lint-free cloth to bring out highlights.

Penetrating wood stains are made by mixing oil and oil-soluble dyes. One problem that commonly occurs with penetrating stains is that excessive quantities of the stain are absorbed by the end grain. A coat of linseed oil applied to the end grain a few minutes before using the penetrating stain will help to equalize the color.

### Non-Grain Raising Stains

Non-grain raising (NGR) stains are made by dissolving colored dyes in glycol and alcohol. Non-grain raising stains will not bleed through a finish, nor will they raise the grain. They dry very quickly, making them popular for spray applications. Their resistance to fading is excellent. However, NGR stains must be stored in nonmetallic containers.

### Water Stains

Water stains are made by dissolving water-soluble dyes in water. Four ounces of stain added to one gallon of water makes one gallon

of ready-to-use stain. Water stains do not bleach or fade when exposed to sunlight.

Water stains penetrate deeply into the wood, and tend to raise the grain. When using a water stain, raise the grain of the stock by sponging the surface lightly before applying the stain. Allow the wood to dry and then sand lightly with fine abrasive paper with the grain of the stock. Apply additional coats of the water stain to darken the surface. Coat the surface of the stock that has been water stained with shellac or lacquer sealer before applying other finishes.

### PASTE WOOD FILLERS

Wood consists of an endless number of interwoven fibers that contain holes or pores. Close-grained woods, such as maple, pine, and basswood, have small pores. These small pores only need to be sealed with finishing materials, such as shellac, lacquer, linseed oil, or synthetic materials before applying finishing coats. Open-grained woods, such as walnut, oak, ash, and mahogany, have large visible pores. These large pores should be filled with paste wood filler to obtain a smooth surface before applying most other finishes. See Fig. 16-8.

Paste wood filler is made from ground silica, linseed oil, turpentine or paint thinner, and drier. It is sold as a heavy paste that needs to be

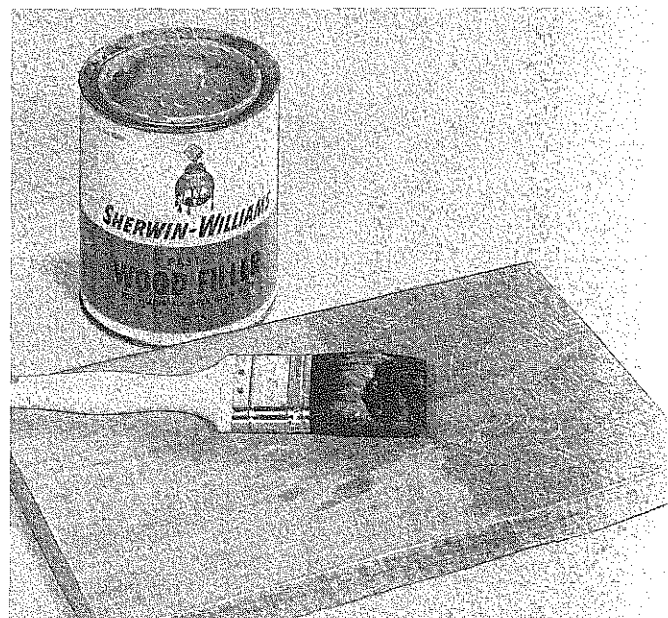


Fig. 16-8. Paste wood filler being used to fill pores of open-grained wood.



thinned for use. The filler should have a heavy creamy consistency when in use, being thinned by paint thinner or turpentine. Paste wood filler is available in a natural (light buff) color, and in colors such as oak, walnut, and mahogany. The natural filler can be tinted with oil stains. Color of the paste filler should closely match the color of the finished wood.

Mix the paste wood filler to the correct color and consistency when filling an open-grained wood. Try the filler on a scrap piece of stock before using it on your product. You can apply it directly onto the unfinished stock, or apply it to the stock after using a thin coat of sealer. When using the sealer, make sure that it dries before using the filler. Apply the filler along the grain, brushing it into the pores with a stiff brush. If the product is large, coat only a small section at a time. Wait a few minutes until the filler begins to take on a dull appearance, and then wipe off the excess. Rub across the grain using a lint-free cloth, such as cheesecloth, as shown in Fig. 16-9. Use a soft cloth to remove any remaining residue. You can clean out the corners with a piece of cloth wrapped around a pointed stick. Allow the stock to dry about 4 to 6 hours, and then rub lightly with 220 grit abrasive paper.

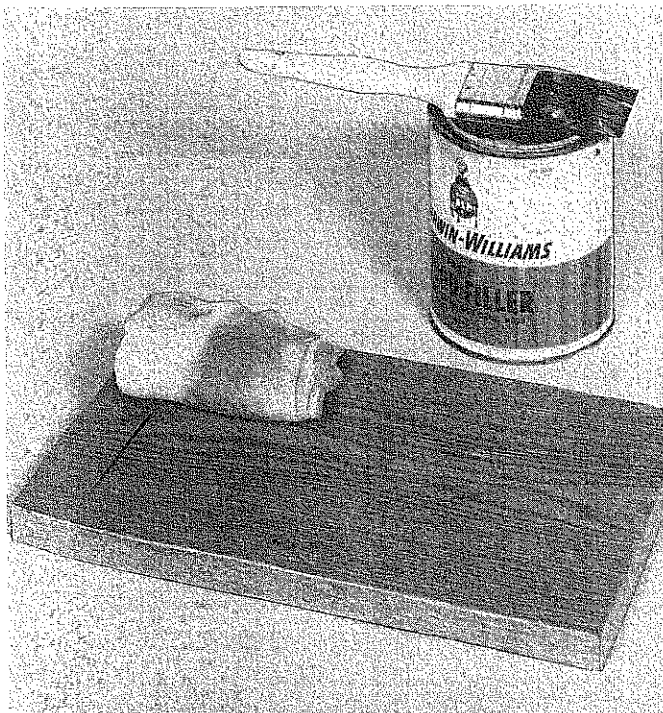


Fig. 16-9. Excess wood filler being removed, working ACROSS the grain.

## SEALERS

Sealers are finishes used as the base coat when filling the pores of close-grained woods such as maple, birch, pine, and cherry. Shellac, lacquer sealer, and sealer stains are commonly used for this purpose.

Sealers are available ready mixed, but are often reduced (thinned) before application. Shellac is reduced with alcohol, and is usually sold as 4-pound cut (4 pounds of shellac solids mixed with a gallon of alcohol). The 4-pound cut is then commonly mixed with an equal part of alcohol to form a 2-pound cut for brush application. Lacquer sealer is usually applied by spraying, Fig. 16-10, but it can also be applied to small products by brushing. Lacquer sealer is reduced with lacquer thinner. Sealer stains are usually reduced with turpentine or paint thinner.

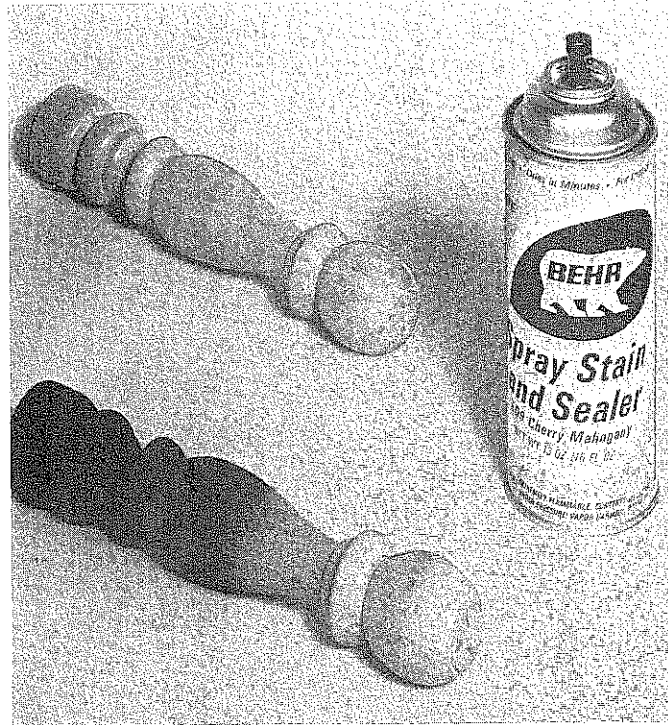


Fig. 16-10. Applying wood stain and sealer by spraying.

**WASH COATING** is the application of a thin coat of sealer, usually shellac or lacquer sealer. A wash coating is made by mixing 6 to 8 parts of thinner to 1 part of sealer. The wash coating is applied over paste wood filler and some stains to prevent them from bleeding into the finish. A wash coat can also be used on wood prior to applying paste wood filler.

When linseed oil and turpentine, or Danish oil finishes are used, be sure to allow the product to set for about 30 minutes after application. Then, wipe off the excess material and allow the remaining finish to dry 10 to 12 hours. Additional coats are applied in the same way. The linseed oil and turpentine finish penetrates the wood better if it is heated to approximately 140 degrees Fahrenheit before it is applied. When the final coat is thoroughly dry, a coat of wax should be applied. The surface can then be buffed to enhance its beauty and increase its durability.

You can apply sealers with a brush or by spraying. Be sure to follow the manufacturer's instructions for proper application.

### TOP COAT FINISHES

A variety of finishes are used for top coats, or oversealers. Varnish, lacquer, and shellac are often used to achieve a natural (clear) or transparent finish. Enamel and paint are used to obtain an opaque finish. Fig. 16-11 shows a variety of finishes commonly used in the woodworking industry.

8/0 abrasive sheets, or with 3/0 to 4/0 steel wool. Make sure that you tack rag the stock to remove all small particles before applying the next coat.

The final top coat should be smoothed after it has been applied. Sprinkle pumice or rottenstone and rubbing oil on the finished surface. Use a cloth to rub the material over the surface. Wipe off the excess polishing material with a soft cloth. See Fig. 16-12. Apply a coat of wax and buff with a soft cloth to shine.

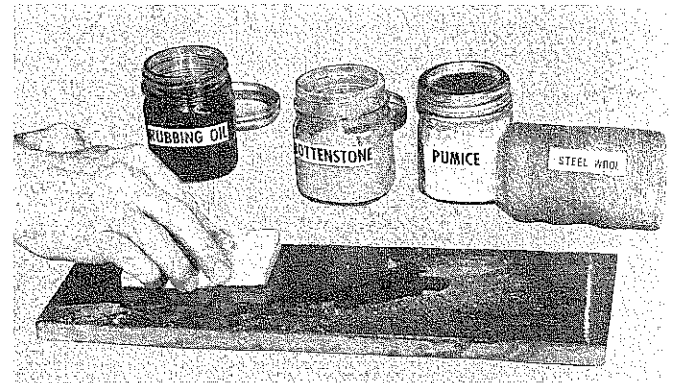


Fig. 16-12. Using rottenstone and rubbing oil to smooth final coat.



Fig. 16-11. Commonly used top coat finishes and stains.

You can apply a top coat finish with a brush, roller, or by spraying. Most types of top coat finishes remain on the surface of the wood to form a hard, durable, and protective covering.

When you apply more than one coat of finish, it should be sanded between coats with 6/0 to

VARNISH and ENAMEL are made from the same basic materials. However, pigment is added to the enamel to give it color and make it opaque. Varnish and enamel are made with natural and synthetic materials, creating a durable and waterproof finish. Drying time varies, but 8 to 10 hours is usually required between coats. Varnish and enamel are reduced with turpentine or mineral spirits.

LACQUER dries fast by evaporation. It is usually applied with spraying equipment, making it adaptable to mass production techniques. Lacquer can be brushed on small products if a retarding (slow drying) thinner is used to reduce it. Lacquer produces a clear, hard, durable, and heat-resistant film. Some lacquers are water resistant. Pigments can be added to make it transparent or opaque.

Lacquer is reduced with lacquer thinner. It should be applied in thin coats. Thick coats dry quickly on the outside, but remain soft on the inside. Lacquer should be allowed to dry about 30 minutes between coats. One caution should

be considered when using lacquer: it tends to soften and lift varnish, enamel, and some synthetic finishes. Lacquer should not be used over these materials.

**POLYURETHANE** is a clear, plastic coating. It dries fast and is highly resistant to abrasion and wear. It can be used on all types of wood used indoors or outdoors. Sealer is not needed when applying polyurethane. It should be applied with a good-quality, clean brush. Two or three coats may be required for new products. Lightly sand between coats to remove the gloss and ensure good adhesion between coats. Tack rag the stock after each sanding and before applying the next coat.

**SHELLAC** will produce a fine finish if it is applied in thin coats. Shellac should be made as a 2-pound cut, the same thickness as used for a sealer coat. Shellac is one of the oldest finishes. It is a good finish if it is properly cared for, but it is not alcohol or water resistant. Paste wax should be used after the final coat to enhance the shellac's beauty and protect it from moisture.

**PAINT** is available in a variety of colors with either an oil base or latex (rubber) base. They can be used for both interior and exterior surfaces. Paints are often used to beautify and protect surfaces where an opaque finish is appropriate. Oil-base paint is reduced with turpentine or mineral spirits, and usually requires at least 24 hours of drying time for each coat.

Latex-base paints are thinned with water. The next coat can be applied in a short time. Brushes used for latex-base paint should be cleaned in water immediately after use.

### THINNING MEDIUMS

The correct thinner must be used when reducing finishes. Refer to the manufacturer's instructions regarding the proper use of the thinner. Fig. 16-13 shows a variety of thinners used in the woods laboratory.

**TURPENTINE** is used to reduce oil stains, oil-base paints, varnishes, and enamels. The authentic turpentine is made from yellow pine trees. Substitutes for turpentine, commonly referred to as paint thinners, are made from petroleum.

**SHELLAC SOLVENT** is a combination of wood and grain alcohol. It is sometimes referred to as denatured alcohol. Shellac solvent should only be used for reducing shellac.

**LACQUER THINNER** is a clear liquid. It is used as a solvent for lacquer, lacquer sealer, and contact cement. Lacquer thinners have commonly been used as multipurpose cleaners. However, this practice should be avoided whenever possible because of the health hazard posed and the possible damage to the environment.

Extreme care must be taken when disposing of most finish materials, especially when they are in their liquid state.



Fig. 16-13. Thinning mediums.



**RETARDING LACQUER THINNER** is a special thinner used to slow the drying time of lacquer. It is also used to help eliminate "blushing." Blushing is a white or cloudy appearance on a surface caused by trapping small particles of moisture beneath the finish.

**LINSEED OIL** is obtained from flax seed. It is used to thin some types of paint, as well as being used as a drying agent in paints, fillers, and stains. It can also be used with turpentine as a finish.

**FLOCK** is pulverized rayon or cellulose acetate that can be sprinkled or blown on a sticky base substance such as enamel or glue. The results of this combination is a velvet-like coating. Flocking can be used on the bottom of small projects to protect furniture, as a decoration, and for a lining in boxes and drawers.

**CRYSTALLINE FINISH** can be brushed or sprayed on the surface of stock. It is similar to paint or enamel. When the crystalline finish dries, it forms a mass of wrinkles and crystals, making it an interesting and decorative finish.

**ANTIQUING, or COLOR GLAZING,** is used to make a new product look "old." It consists of a color base undercoat and a color glaze. A variety of color combinations are available. The base undercoat is applied over the surface

being finished. It provides a base color for the color glaze. When the undercoat has dried thoroughly, apply the color glaze. Wood tones and other special effects can be obtained using a soft, lint-free cloth to wipe or texture the color glaze while it is still wet. If the effect is not satisfactory, you can wipe off the glaze and start over again. Fig. 16-14 shows the materials that are required when applying an antiquing finish.

## SPRAY FINISHES

The spray gun is commonly used in the woodworking industry to produce a protective and beautiful coating with maximum speed. The spray gun atomizes (forms into a fine mist) the finishing material so it can be applied in thin, uniform coats. Correct techniques must be used to be successful when spraying finishing materials.

When spraying, hold the spray gun perpendicular to, and about 6 to 8 inches away from, the surface to be coated. Do not tilt the spray gun up or down, Fig. 16-15. This results in an uneven spray pattern. Use a scrap piece of stock for practice. Begin at one side of the piece and move the gun toward the other side. See Fig. 16-16. Trigger the spray gun ON as you approach the first side of the stock, and OFF as you reach the other side. Make the necessary adjustment with the gun, mixture, or air pressure so the material is "wet" as it is sprayed on the surface. If the material is "dry," adjust the gun or verify the materials have been properly proportioned or blended.

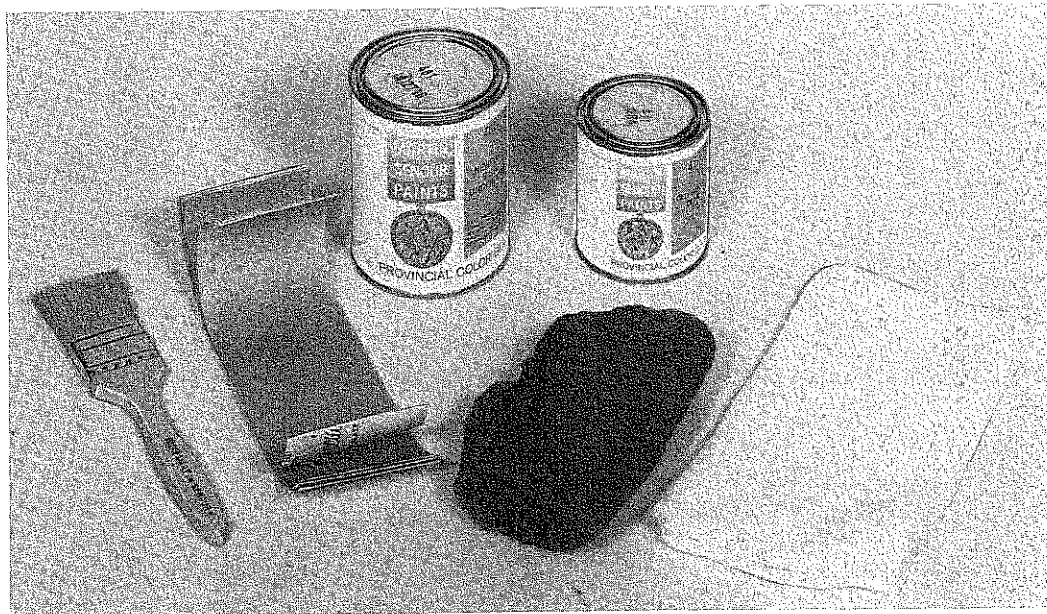


Fig. 16-14. Antiquing kit.

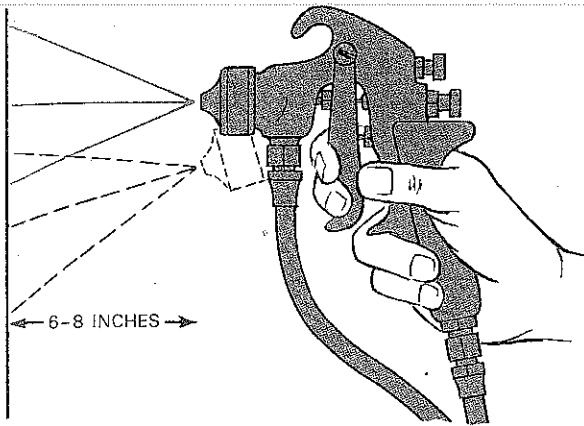


Fig. 16-15. The correct method of holding a spray gun.

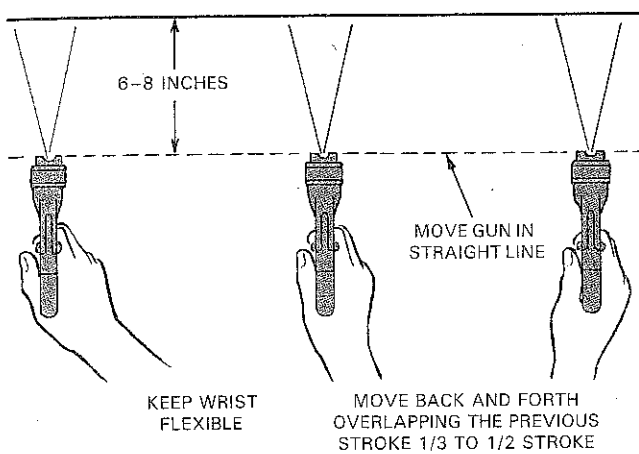


Fig. 16-16. The correct movement of a spray gun.

Continue with the succeeding strokes in the same way. Overlap the previous stroke about 50 percent, Fig. 16-17. When spraying a large panel, spray vertical bands along the ends of the piece first, and then continue with the horizontal strokes.

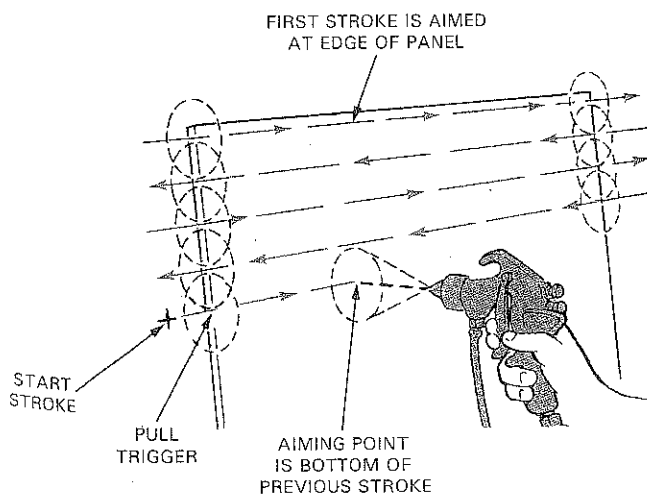


Fig. 16-17. Panel spraying technique.

## REMOVING FINISH

Ready-to-use materials are available that can effectively remove finishes from wood or metal surfaces. Refer to the manufacturer's instructions regarding the proper use of the remover before beginning. Cover your workbench with sheet metal, hardboard, or old newspapers before removing a finish. Protect your hands with rubber gloves designed for stripping operations. Always wear eye protection. Make sure the work area is well-ventilated, and use a respirator with organic cartridges.

Use a small brush to apply the remover to one side of the product. Continue applying the remover until the finish begins to loosen. Then, use a piece of burlap, coarse cloth, or coarse steel wool to wipe away the loosened finish. Use a nylon putty knife or spatula if the finish is thick. An old toothbrush or a small brass-bristle brush is helpful to clean around intricate or irregular shapes. Continue with the remainder of your product, removing the finish from one panel at a time. Allow the product to dry 8 to 10 hours, and then smooth it with fine abrasive material.

Many strippers require that the stripped surface be neutralized prior to applying a finish. The neutralization process removes any stripper that could still be in the wood pores, and reduces the possibility of the stripper lifting the new finish when applied. A word of caution when removing finish from stock. Many pieces of furniture have been previously painted with a lead-base paint. If this is the case with the piece of furniture you are working on, stop immediately and allow a professional to continue with the process. The removed residue must be disposed of properly, and proper clothing and breathing devices must be worn during the stripping process.

## TEST YOUR KNOWLEDGE, Unit 16

Please do not write in this text. Place your answers on a separate sheet of paper.

1. Why is it important to try a finish on a piece of scrap stock before applying it to your product?

2. Be sure the finishing product is applied according to the \_\_\_\_\_ instructions.
3. Nail holes, small cracks, and other defects should be repaired \_\_\_\_\_ applying a finishing material.
4. Plastic Wood handles like \_\_\_\_\_ and dries like \_\_\_\_\_.
5. Wetting the edges of a cavity provides good \_\_\_\_\_ between wood putty and the wood.
6. Use a color of stick shellac that is slightly \_\_\_\_\_ than you expect the wood to be when you apply the finish.
7. Putty sticks are generally used \_\_\_\_\_ applying the finish.
8. Oxalic acid can be used as a mild \_\_\_\_\_ solution.
9. When storing a brush for a short period of time in a can or jar of solvent, the brush should be held so the bristles \_\_\_\_\_.
10. Wood stains can be classified according to the \_\_\_\_\_ used in their manufacture.
11. A coat of \_\_\_\_\_ should be applied to the end grain to prevent excessive quantities of stain from being absorbed into it.
12. Paste wood fillers are used on \_\_\_\_\_ woods.
13. Wipe \_\_\_\_\_ the grain when removing excess paste wood filler.
14. \_\_\_\_\_ are used as the base coat to fill the \_\_\_\_\_ of close-grained wood.
15. Most \_\_\_\_\_ remain on the surface of the wood, and form a hard, durable, and protective covering.
16. Paint is available as \_\_\_\_\_-base or \_\_\_\_\_-base.
17. List three finish thinning mediums.
18. Hold the spray gun \_\_\_\_\_ to the surface to prevent an uneven spray pattern.

## ACTIVITIES

1. Make a list of the various finish materials available in your woods laboratory. Prepare four columns beside your list. In the first column, list the thinner for each item. In the second column, write the methods of application. In the next column, detail clean-up procedures. In the final column, list any precautions that should be observed.
2. Use a piece of scrap wood from the product you are building. Experiment using different kinds and shades of strains. Make sure to carefully label each sample detailing the procedure you followed.
3. Apply a finish coat to each of the stained pieces after staining. Again, use a variety of finishes and document your procedure.
4. Use a piece of scrap red oak about 4-inches wide and 10- to 12-inches long. Apply a paste wood filler to one half. Allow the filler to dry, then lightly sand. Apply three coats of a clear finish material over the entire piece. Observe the texture of the surface. Is there a difference in appearance? What is the difference? Did the paste wood filler require additional work?
4. Use a piece of scrap pine about 4-inches wide by 10-inches long. Mark the surface using a hammer, a knife, drop it, or anything else to simulate a damaged surface. First, moisten the dents and try to raise them with a hot iron. Which dents could be raised? Which could not? Try using a putty and Plastic Wood for the dents that could not be raised. Prepare the surface for a finish. Apply a couple coats of clear finish. Evaluate each method you used to repair the surface.