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Refinishing Woodwork, Floors and Furniture

Rizpah A. Douglass

Because of shortages of materials and lack of labor and time, many families have not made needed repairs around the house. Even though most farm families will still be exceedingly busy, some of the needed materials may soon be available again, the refinishing of woodwork, floors or furniture will doubtless be given an important place in home activities and the directions that follow will prove useful.

General Directions for Refinishing Woods

Remove old finish. Best results are obtained when all the old finish is removed, especially if the finish is in a poor condition. The main objects are to remove it without injuring the wood and with as little labor as possible.

Commercial paint and varnish remover may be more expensive but it is less likely to injure the wood than is home-made remover.

Commercial removers are inflammable. Do not use them in a closed room or around a fire. Apply as directed on the can to only small areas at a time; allow to stand until the varnish is soft. Remove the sticky substance with a case or putty knife. Scrape with the grain of the wood. Use a fine wire brush or steel wool for carved places and turnings. Brush off the wood when dry.

Apply a second coat of remover on the shiny spots, scrape and brush as before. Clean the surface with a cloth moistened with alcohol or turpentine to stop the action of the remover. Allow wood to dry thoroughly.

Several varnish or paint removers may be prepared at home. The lye mixture is easy to make and removes paint quickly, but needs to be handled carefully because it is hard on the hands and clothes and will darken or burn the wood if not used correctly. It would be best to confine the use of the lye mixture to removing paint and enamel.

To make the lye mixture, dissolve 3 T. of lye in ½ c. water, and add it to one quart of thick, boiled starch. Prepare the mixture in an enamelware container.
Apply the remover to only a small area at a time. Use a rag wrapped around the end of a stick to apply the mixture. Scrape off the loosened paint in the manner prescribed for commercial removers.

Rinse with water; then apply a strong solution of vinegar to stop the action of the lye. Rinse and wipe dry. Allow wood to dry at least 48 hours.

Remove stains. Dark water spots, ink, or the darkening of the wood caused by the remover may be bleached with a solution of oxalic acid (2 tsp. oxalic acid crystals to 1 pint of hot water). Allow this solution to remain on the spot 15–20 minutes; then wash with a weak solution of sal soda or ammonia water to stop the caustic action of the acid. More than one treatment may be required in severe cases.

Produce a smooth surface. Fill cracks and dents. This is one of the most important steps of all. Fill all holes or cracks. Use shellac gum or plastic wood. Heat shellac gum like sealing wax and drop it into the hole. If plastic wood is used, be sure it is the correct color. It can be obtained in a light color or in oak, walnut, or mahogany.

Remove shallow dents and bruises (not veneer) by placing a damp woolen cloth or wet blotting paper over the dent and then holding a hot iron over the cloth until the steam swells the wood enough to eliminate the dent.

When all surfaces are dry, sandpaper them until smooth. If the surface is rough, start with a coarse sandpaper (No. 0 or No. 1); then use finer 2/0 or 3/0 as the wood becomes smoother. Always sand with the grain of the wood, sanding across the grain causes scratches. When sanding flat surfaces, place the sand paper over a small block of wood. Wrap three or four thicknesses of cloth over the block before wrapping it with sandpaper. The cloth padding enables the sandpaper to come in contact with the slight depressions that are present on all wood surfaces.

Steel wool can be used on carvings, mouldings and turnings. When the surface is smooth, dust thoroughly since even small particles of dust and sand will spoil a new finish.

Build a new finish. The purpose of finishing wood is to enhance its natural beauty and to protect it. A good finish is usually thin, and does not give the wood the appearance of being enclosed in glass. A thin transparent finish that has a satin lustre is the most desirable.

"Dark stain" is seldom used. However, some old furniture made of fine woods such as mahogany, walnut, and cherry may need a diluted stain to give it a richer color. Occasionally, it is advisable to stain some pieces of furniture to make all the furniture in the room uniform in color.
Mahogany and cherry, naturally reddish in tone, should not be stained brown like walnut. Neither should walnut be stained the reddish brown of mahogany. Do not stain old maple, but give it a coat of boiled linseed oil to bring out the honey color desired.

Occasionally a piece of furniture will have a board that has a light streak in it. If it is conspicuous and undesirable, apply a coat of stain to make it tone in with the rest of the wood. If a piece of furniture is made up of several different kinds of wood, staining may be necessary to get a uniform color effect.

Staining one wood to resemble another is sometimes practiced in the finishing of woodwork or furniture. Thus, birch is often stained to resemble mahogany or walnut, and gum wood to resemble walnut.

Oil stains are the only kinds of stain recommended for the inexperienced finisher. These stains may be purchased in many colors at most local paint and hardware stores.

If stains cannot be purchased, mix 2 parts boiled linseed oil, 2 parts turpentine and 1 part Japan drier. To this mixture add the desired oil colors (available in small tubes).

The various wood colors may be composed as follows:

- **walnut**—burnt umber and vandyke brown;
- **cherry**—burnt sienna and a small amount of burnt umber;
- **mahogany**—raw sienna;
- **dark oak**—burnt umber and a small amount of raw sienna.

Before applying any stain, test for color by applying the stain to a board or some inconspicuous part of the furniture. Wipe off immediately. Repeat the application if the shade is not dark enough. If too dark, add turpentine to the stain and test again. When the shade appears to be satisfactory, apply the stain with a brush to a small area, wipe off the surplus and allow to dry twenty-four hours. The final test occurs when the stain is completely dry.

Varnish stain is a varnish to which color has been added. Although the staining and varnishing are accomplished in one operation, the results are usually unsatisfactory. It conceals the grain of the wood and an inexperienced person often has difficulty with streaks and runs.

A filler gives a smoother surface for the finish. Use a paste filler for open grained woods such as mahogany, walnut and oak.
Use liquid filler for close-grained woods such as maple, cherry, cedar, gumwood and birch.

Fillers may be purchased with or without stains. Thin a paste filler with turpentine to the consistency of cream. (See directions on container.) Brush on, allow to remain until it becomes dull; then rub off across the grain with a coarse cloth. Allow to dry.

**Final Finishes.** The film type of finish which forms a coating on the surface includes shellac, varnish, and lacquer. Any one of these makes an attractive finish, but a few objectionable features are common to all of them. The surfaces which they provide are easily marred and scratched and cannot be patched easily. Furthermore, these finishes are more difficult for the inexperienced person to apply.

Three coats of varnish are required for the best results. Rub down each coat thoroughly with very fine sandpaper or pumice stone before the next coat is applied. Powdered pumice stone is used with water for each coat except the last when oil is used instead of the water. Take care not to rub through the finish. The rubbing process takes away the high gloss and gives a satin finish.

Do not stir varnish too much as this causes bubbles to form. Select as wide a brush as it is convenient to use. Fill the brush with varnish by dipping it one half of the length of the bristles into the varnish four or five times. Each time wipe off the surplus on the sides of the container. Allow the varnish to “flow” on. Brush with the grain of the wood, using only the tip of the brush. Do not brush varnish too much since over brushing causes minute air bubbles to form and leaves the surface rough when dry. Do not varnish in the same room where sanding is being done.

Shellac makes a harder finish than varnish but is very brittle. Shellac will water spot, and therefore should not be used on furniture that may come in contact with water. It is also soluble in alcohol and so it cannot be recommended for dressers, where cosmetics with alcohol bases are often placed. It is not suitable for floors as it mars easily.

Apply two or three thin coats of shellac rather than one heavy coat. Mix equal parts of white shellac and alcohol for the first coat. If color is desired, use orange shellac. Apply with a full brush, stroking with the grain of the wood. Do not restroke more than once or twice as shellac begins to set quickly. Let dry 12 hours; rub with fine steel wool or very fine sandpaper; then apply the second coat. This same procedure should be followed in the case of a third coat.

To give the desired satin appearance to the last coat after it is dry, rub with FFF pumice stone mixed with oil. Make it the con-
A. Good—brush edges tapered.
B. Poor—brush edges abrupt.
C. Dip brush in paint or varnish, wipe off surplus on side of can.
D. Stroke with grain of wood, use only tip of brush.
sistencia of thick cream. Use a piece of felt or a new, clean blackboard eraser for a rubbing pad.

Paint and enamel are commonly used to finish the cheaper woods. Under-coating or flat paint is used under enamel to make the finish more durable. Give knots in the wood a coat of shellac before applying any paint. Thin the first coat of paint with turpentine. Brush out well. Use the tip of the brush, and always brush with the grain of the wood. Allow to dry overnight and then sand lightly with 2/0 sandpaper. Apply the second coat as it comes from the can and, when dry, sandpaper again. Stir the paint frequently while painting.

Apply one or two coats of enamel. Allow the enamel to dry 48 hours and sandpaper between each coat. Enamel cannot be brushed out as much as paint; therefore, keep the brush full of enamel and flow it on without allowing it to run. Put it on as smoothly as possible. When the last coat is thoroughly dry, rub with pumice stone and oil or water. This treatment produces a dull finish. Some may prefer to use a semi-gloss paint instead of enamel.

Fortunately, wood finishes are now available that give protection, that enhance the beauty of the wood, that are easily applied, and that are durable yet patchable. Plain oil finishes have 100% penetration but leave no surface seal, whereas penetrating seal oils have good penetration in the first coat and seal the pores of the wood with the succeeding coats, thus making the surface resistant to stains and scratches.

Linseed oil is probably the oldest of finishes. It requires no stain as it brings out the color and beauty of the grain of the wood, but it does darken the wood.

Mix 2 parts boiled linseed oil and 1 part turpentine and apply with a brush. Let stand 20 minutes; then wipe off all excess oil. Much rubbing and polishing are necessary for a good oil finish. Repeat applications until desired finish is obtained. To prevent a sticky surface, never apply one coat until the preceding coat has been thoroughly rubbed in.

For specific instructions for applying penetrating seal oil, follow the directions on the can. Apply liberally with a cloth, pad or brush, let stand 15 or 20 minutes, and then wipe with a dry cloth to remove the excess. Allow to dry 12–24 hours, before the second coat is applied. Buff lightly with fine sandpaper or steel wool and apply another coat in the same manner. Apply a third coat if needed. When thoroughly dry, the surface may be waxed.

Wax is a durable finish when applied correctly; however, it is more generally used as a protection to the other finishes. A paste wax wears longer than liquid wax. Place a small amount on a pad made of several thicknesses of cheese cloth. Rub over surface until
it is covered with a thin, even coat of wax. Allow to stand 30 minutes; then polish with a woolen cloth.

Several thin coats of wax thoroughly buffed between each coat are more durable than one thick coat.

Apply liquid wax in the same manner as paste wax. It is easier to apply but will have to be replaced more frequently.

Refinishing the Woodwork

Woodwork is considered a part of the background of the room. It should match or harmonize in color and tone with the walls. Its color plays an important part in either making the room appear light or dark. The trend today is toward light woodwork.

Preparation of woodwork for finish. Where a complete refinishing is necessary, remove the old paint, enamel or varnish. Commercial removers are recommended because they are more easily controlled than homemade remover. Some of them are inflammable so be sure the room is well ventilated and has no open fire. After the finish is softened, scrape it off with a steel scraper, putty knife, or fine wire brush. Clean with turpentine or the solution recommended by the manufacturer. Let the wood dry and then sandpaper it. Producing a smooth surface is a necessity if a good appearance is desired since rough spots can never be concealed.

If the woodwork is slightly worn, remove all the wax or polish with turpentine and sand off the old gloss. Sand worn spots around the edges and paint or varnish them before an all-over coat is applied. Prime and fill new wood before painting or varnishing.

Methods of Finishing Woodwork. The choice of the finish for the woodwork will depend upon the type of wood and the effect desired. Inexpensive woods are usually finished in enamel or paint. The better quality wood, smooth in texture and fine grained, may be finished in clear, washable spar varnish, or stained and varnished.

Other popular finishes for woodwork are blonde, pickled, and antique or old ivory.

For a blonde finish, bleach new wood or old wood from which the finish has been removed by one of the following:

Commercial bleach: Follow directions on container.

Laundry bleach: Use full strength; rinse with clear water.

Oxalic acid: (4 teaspoons oxalic acid crystals to 1 pint water). Apply hot and let stand 15 to 30 minutes; repeat for lighter finish.
Wash with clear water several times and rinse with ammonia or sal soda water. Bleaches burn the hands and remove color from anything with which they come in contact. Wear heavy rubber gloves, and apply with brush or dish mop. Seal the wood with a colorless varnish or penetrating seal oil.

For pickeled finish, bleach, rinse, dry and sandpaper as directed above. Rub paint into pores and wipe off after a few minutes. Dry 24 hours. For white effect—use white semi-gloss paint. For gray effect—use white lead with raw umber and black tube paint added to give desired color. Seal color with two coats of liquid seal (1 part shellac and 1 part alcohol) or water-proof with colorless spar varnish. Dry 48 hours. Rub to satin finish with FFF pumice stone and linseed oil.

An antique or old ivory finish softens and tones down highly decorated surfaces, emphasized carvings and moldings, and conceals imperfections. It is not suitable to intricately carved woodwork.

Paint the surface with a mixture of one part ivory enamel and one part of flat white paint. Allow the painted surface to dry thoroughly.

For antique glaze, mix one tablespoon of burnt umber tube paint with about one-half cup of glazing liquid or enough to give the consistency of cream. Brush the glaze on and allow it to stand a few minutes. On a rough surface, wipe glaze from raised parts with a cheesecloth folded into a flat pad. On a smooth surface, wipe glaze from the center and leave a small amount on the edge. With a brush, blend the glaze from the edge toward the center. A cloth moistened with turpentine will remove the glaze completely so one can practice until the desired effect is achieved.

Refinishing the Floors

A cheerful atmosphere in a home is often dependent in no small degree upon the finish and condition of the floors. Floors that are smooth help the homemaker keep the house fresh and clean.

Preparation of floor for finish. Preparing a wood floor for finish is a most important process. All floors, whether old or new, should be as tight, level and smooth as possible. It may be necessary to remove the varnish or paint.

After the floor is thoroughly dry, remove all loose nails and drive new nails in a new place and set with a nail set. Fill the slight depression and old nail hole with plastic wood. Fill the cracks with crack filler and allow to dry, then plane, scrape or sand to make the floor smooth.

To make homemade crack filler, melt flake glue over hot water. Thicken with clean fine sawdust to the consistency of putty, and color with stain to match the wood. Use while hot, working it smoothly into cracks with a small knife.
Dark spots or rings may be removed or partially bleached by using an oxalic acid solution. Stubborn cases may require more than one treatment. These areas may have to be resanded as the grain of the wood is often raised by the treatment. Old oiled floors may be cleaned and bleached by mopping with a solution of one pound of tri-sodium phosphate dissolved in 2 gallons of water. WARNING: This solution is quite caustic and is injurious to the skin, clothing and shoe leather.

After applying this treatment, rinse the floor thoroughly with warm water and wipe as dry as possible.

Apply new finish. The floor finish will depend upon the use of the room, kind of wood in floor, condition of the flooring, the effect desired and the cost. Wood floors are usually finished with one of the five preparations:

- Penetrating seal oils
- Linseed oil
- Varnish
- Shellac
- Paint

Oil or shellac is seldom recommended, as oil collects dirt and darkens readily, and shellac is too brittle and mars easily.

Penetrating seal oil is desirable where a natural finish with little labor is desired. A stain may be added to the oil if a darker color is desired. Penetrating seal oil is a recommended finish as it is durable and can be patched when worn spots appear.

Paint is used on old floors where the wood or finish has not been kept in an especially good condition. For the best wear, select a floor or a porch and deck paint. Colors in oil may be added to obtain certain color effects. Medium tones such as tan, light oak, walnut brown, tile red or a warm grey are usually good choices, yet medium blue and black may be used effectively in some rooms.

**Refinishing the Furniture**

Many families have a comfortable chair, a favorite of the family, which needs repair and refinishing. Many worthy family heirlooms need to be repaired and refinished to make them usable and attractive again.

The job of refinishing, repairing and remodeling furniture often has an important place in the program of family activities. Much of the process of reconditioning involves time, patience and energy, but good workmanship adds to the durability, comfort,
Tie chair legs with rope to hold rungs in place while glue is drying.

Hold chair legs in place with a rope tourniquet while glue is drying.

Reinforce the back of a chair with a metal angle iron. Mend a broken table leg with a metal plate as shown above. Paint plate the color of wood.

Insert a new dowel pin into the rocker and up into the legs of the chair (upper drawing). Insert a screw up through the rocker into the leg of the chair. Countersink the screw (lower drawing). Repair a broken dowel pin or chair rung with a long screw (drawing at left).
and attractiveness of the piece of furniture and gives satisfaction to the workman as well.

Most of these jobs require two people working together, which makes the work easier and adds to the pleasure of the workers.

Make necessary repairs. Glue loose places. Cover a small amount of powdered glue with water; let it stand several hours. Heat the mixture over water until it is clear and ropy. Thin for use with strong vinegar or alcohol.

Scrape away every trace of old glue; then wash the joint clean. Wipe it dry. Spread a thin layer of glue over both surfaces, hold the parts in place with clamps or a rope tourniquet.

When the joint is too small to fit the hole, a thin piece of cloth may be placed over the end of the dowel or rung to tighten it enough to make it firm. Apply glue to both the wood surface and to the cloth. Loose veneer should be reglued and held firmly in place until thoroughly dry.

Reinforce weak or broken parts. Screws may be used to reinforce parts under strain. After gluing the parts, bore a hole deep enough to sink the screw head a quarter inch below the surface. Put in the screw and tighten. Clamp and allow to stand until thoroughly dry. Scrape off the surplus glue. Sandpaper. Cover top of the screw with plastic wood.

Corner blocks of wood or metal are often used to reinforce a table or chair. Many times a chair is weakly joined at the back of the seat. Reglue it at the back and test to see if the screws are tight. Brace with a metal bracket under the seat; be sure it is screwed firmly to the wood inside the leg.

A broken leg of a chair may be fitted together, glued and braced with a piece of iron screwed to the leg, past the broken part. Paint the metal braces the color of the wood.

Rocker legs that are broken off at the leg of the chair may be fastened on again by using a new dowel pin. Remove the old broken dowel; insert the new dowel pin to check it. Remove and cover it with glue and insert it up into the leg of the chair and down into the rocker. Use clamps or a rope to hold in place until thoroughly dry.

A screw coming up from beneath the rocker is another method of fastening a rocker securely. Bore a hole in the rocker. This hole should be smaller than the screw. Then bore a hole in the end of the leg. Glue the leg to the top side of the rocker; insert the screw from beneath. Countersink the screw to prevent uneven rocking.

Dresser drawers that stick or do not pull out evenly are most aggravating and time consuming. Determine what is causing the difficulty. Pull out the drawer, examine the under side. The sliding parts may need more sanding where they are binding. Then apply
wax or soap to the sliding part on the drawer and the frame where
the drawer slides.

Preparation of surface for the finish. Sometimes the old finish
need not be entirely removed from a chair. Remove all the wax
with turpentine or a commercial wax remover. Wash the chair
with a strong solution of soap or water. Sandpaper it completely.
Use fine steel wool for the rungs and carved places. Apply a coat or
two of varnish as directed on p. —. When the final coat is dry and
thoroughly buffed, apply a coat of wax to protect the finish.

If the old finish is in poor condition or the finish changes, remove
all the old finish. Remove stains, sand, fill cracks and holes as di-
rected earlier in this circular. Apply a stain and filler if needed.
Use paste filler on such porous woods as oak, walnut and mahogany.
Maple, cherry, cedar and redwood require a liquid filler.

Methods of finishing. Follow the directions given for finishes.
The choice will depend on the type of furniture, the use, and the
wood. Oil, varnish, shellac, and wax finishes are generally recom-
mended for hardwoods such as oak, mahogany, walnut, cherry,
maple, beech and birch. A stain is usually applied to birch, gum-
wood and pine before the final finish is applied. Paint and enamel
are used on the inexpensive woods. Bleached, pickled or blonde
furniture is a recent trend in furniture finishes.