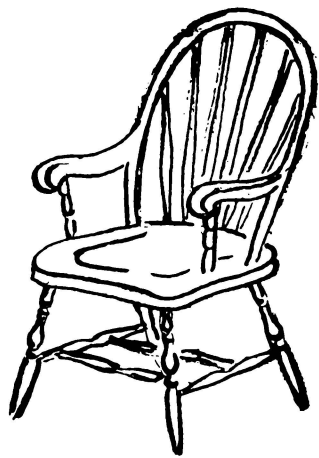


Refinishing Furniture



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Refinishing Furniture

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There are many ways to refinish furniture. Some techniques are best suited for professional use only. The methods included here are appropriate for beginners.

Many pieces of furniture can be satisfactorily refinished at home. Before you start a home project, consider these things:

Is the piece worth refinishing? Study its design, construction, and the wood.

Do you have the time and energy? Labor is the main cost in refinishing.

Do you have a suitable, well-ventilated place in which to work? Refinishing takes a long time, is messy, and the piece needs to dry in a dust-free place.

Over-restoration can ruin a fine piece of old furniture. In refinishing old furniture do not strive to have the piece look new. If the piece is not disfigured, leave some indications of age, such as traces of paint, the marks of the cabinetmaker, and signs of wear that come naturally with use through the years. Many old pieces of furniture need only to be cleaned, and this should be your first step if there is a finish still on the wood.

Cleaning Instead of Refinishing

Varnish, Lacquer, Oil, and Sealer Finishes

Furniture with a natural finish (except shellac) can be cleaned with the following solution: 1 quart hot water; 1 tablespoon gum turpentine (to cut the dirt); 3 tablespoons boiled linseed oil or lemon oil (to lubricate, feed, and polish the wood).

Keep this mixture hot in a double boiler while you use it. Dip a soft cloth in the solution and wring it out; do not use a dripping wet cloth. Apply the cleaning solution to only one part of the piece at a time. Rub the wood with the cloth, keeping moisture away from joints. Some surfaces may need friction to remove all the old dirt. No. 3/0 steel wool can be used to rub the solution lightly on neglected pieces. Rub with the grain. Wipe the surface with another cloth wrung out in clear warm water; wipe immediately with a dry cloth.

After the surface has dried thoroughly, you may also want to use 3/0 steel wool and FFFF pumice powder with oil (lightweight mineral, paraffin, lemon, or olive oil) to lubricate the wood and smooth the surface. Dust the surface with FFFF pumice powder, and keep the steel-wool pad wet with the oil as you rub it over the surface, with the grain of the wood. Rub rungs with a mixture of pumice and oil, using the pads of your hands. On carvings, use an old toothbrush or nailbrush to remove dirt from deep crevices. Remove all traces of the oil and pumice or steel-wool particles with a soft brush and dry cloths until no finger marks show. Polish with a woolen cloth.

Shellac Finish

If you are in doubt whether the finish is shellac, you can tell by sponging a small area on the underside of the piece with denatured alcohol. If the finish is shellac, it will soften. A shellac finish should not be washed with water or alcohol. Water will turn it white, and alcohol softens it. A shellac finish should be restored.

Waxed Furniture

Remove dirt and wax with a cloth dampened with turpentine or a commercial wax remover and cleaner. The piece may then be rewaxed.

Furniture Polish

The following is a good furniture polish: Equal parts of lemon juice; denatured alcohol; olive oil; gum turpentine. Dampen a lintless cloth, such as a clean woolen cloth, with this mixture. Apply to furniture, and wipe off with a dry cloth.

Repairing Finished Surfaces

White Spots or Rings

White spots on a varnish or shellac finish are usually caused by moisture, heat, or alcohol. You may repair them by using one of the following:

1. FFFF powdered pumice and oil (paraffin, light mineral, olive, boiled linseed, or lemon oil). Sprinkle or dust powdered pumice lightly over the white spot or ring. Dip a No. 3/0 steel-wool pad into one of the above oils. Rub lightly with the grain of the wood until the spot disappears. Wipe the surface with a soft cloth.
2. Damp cloth and household ammonia (for deeper white spots). Wring out a soft cloth in clear water, then dip it in ammonia and wring it almost dry. Lightly and quickly, whisk the cloth over the white spot or ring. Rub the spot with a dry cloth.
3. A commercial product for removing white spots. Follow manufacturer's directions.

Paper Adhering to Surface

Warm oil--lightweight mineral, paraffin, olive, boiled linseed, or lemon--and No. 3/0 steel-wool may be used to remove paper stuck to a surface. Saturate paper with warm oil; allow to stand a few minutes. Using the steel-wool pad, rub lightly with the grain of the wood. Apply more warm oil to the damaged area if necessary. Wipe the entire surface with a dry cloth.

Scratches

On unstained woods with a natural finish: broken pieces of nutmeats--pecan, English or black walnut, brazil, or butternut--may be rubbed diagonally along the scratches until they become dark.

On stained woods with a natural finish: Choose a stain that will blend with the old finish, of a color like the type of finish originally used on the piece. On walnut finished with varnish, use a walnut varnish stain alone, or add it to a clear varnish of the same brand.

Varnish-finished piece: A varnish stain may be bought ready-mixed in wood colors. If too concentrated, it may be added to a clear varnish of the same brand.

A colored varnish may be bought and added to a clear varnish of the same brand. Put container pan of hot water before applying.

A varnish may be tinted with colors--in-Japan (finely ground pigment in a base of quick drying varnish instead of linseed oil). Use gum turpentine to thin colors--in-Japan.

Gum turpentine applied with a small brush will soften the varnish over a very small scratch. Colors in oil, such as burnt umber, thinned with gum turpentine, may be applied diagonally to a scratch with a small brush or with your finger.

A commercial scratch remover may be used.

Lacquer-finished piece: Use a lacquer thinner to soften the finish. Apply with a small brush or toothpick.

Shellac-finished piece: Soften the shellac around the scratch by brushing it with denatured alcohol.

Restoring Finishes

Hairline Checking in Varnish

Hairline checking is often caused by exposure to sunlight or heat and by sudden or repeated changes in temperature. It may also be caused by too much or too little moisture in the wood before the finish was put on, or the way the veneer was cut and which side was used for the outside surface.

To slow up this tendency to check, wash the finish with hot water, boiled linseed oil, and gum turpentine. When the piece is thoroughly dry, rub the surface with a mixture of: 2 tablespoons boiled linseed oil; 1 tablespoon gum turpentine; 1-1/2 tablespoons varnish.

Warm the mixture in a container placed inside a pan of hot water or in a double boiler. Apply the warm mixture with 3/0 steel-wool pad, rubbing with the grain. Apply to only a small area

at a time. When the mixture begins to stiffen on the surface, rub off with dry lintless cloths. Caution: Remove all excess to prevent surface stickiness.

Old, Worn Shellac Finish

First, remove any old wax from surface with a cloth dampened in gum turpentine. Mix 2 parts paraffin oil in 1 part white shellac. Apply with 3/0 steel-wool pad, rubbing with the grain. Wipe with a lintless cloth. Caution: Shellac must be fresh. Old shellac remains sticky and will not dry.

Remove the Old Finish

Dislodging layers of old paint or varnish is not difficult, but does require patience, time, and perseverance to get the surface clean. A good grade of commercial paint and varnish remover is the safest material to use in preparing wood for a natural finish. Commercial removers should be counteracted with both denatured alcohol and gum turpentine. Read directions on the label. There are non-flammable as well as flammable types of remover. The non-flammable type is preferable. Thoroughly clean off all the remover with denatured alcohol. Do not let remover dry and remain on the piece.

Never Use Lye: A beginner should not use lye to remove a finish. Lye burns and pulps wood. Because of difficulty in stopping the action of lye and removing it, the new finish often remains sticky and does not dry. It may even come off in a short time.

Scraping Destroys Original Surface: Scraping a surface with sharp tools or glass planing, or even cutting too deeply with abrasives will destroy the original surface. The mellowness and texture in old wood is brought about by age, years of use, and repeated rubbing. Once removed, it cannot be replaced. There is also danger of gouging the surface when a beginner uses a scraper.

Remove Hardware: Before starting to remove the finish, take off hinges from table leaves; remove handles and knobs or other hardware from doors and drawers to make finishing of parts easier. Old cane, padding, and upholstery should be removed from chairs.

Remove Stains or Freshen Color: Remove dark spots by bleaching them with a solution of oxalic acid. Apply to the entire surface with a brush or cloth and allow to remain on about 20 minutes. For a more even effect, it is advisable to use the acid over the entire top of the surface and not over the spot alone. Immediately wash the acid off with a weak ammonia solution followed by clear water, and let the surface dry for 24 hours.

When the wood has a gray, faded appearance, wash the entire piece with this oxalic and tartaric acid solution to freshen the color. It is advisable to wear a mask when smoothing after this process.

If bad spots cannot be removed by bleaching, it may be necessary to sand or scrape the wood slightly. It is better to let an experienced person do this, with a warning against removing any more surface than is necessary. Not all finishers and cabinet makers appreciate and respect the beauty of a wood surface that comes only through age. Too much sanding, planing, or scraping injures the mellowness and richness of color and texture of the surface achieved from age and usage. This mellowness is known as "patina." Moreover, the new wood beneath will not be the same color as the rest of the piece that has not been scraped.

Smooth Surface with Abrasives: Always make strokes straight with grain of the wood--never around or across the grain. Protect parts where grain goes in another direction. Maintain an even pressure. Use a smoothing block on large surfaces. For first smoothing, choose an abrasive finishing paper of a coarseness that will not scratch (this varies with the kind of wood). For last smoothing, choose an abrasive fine enough to produce a satin smoothness when rubbed. It should also bring out the grain. Brush sandings out of abrasive paper to make it last longer and cut more efficiently. When final smoothing is done, brush sandings out of carvings, crevices, and turnings. Wipe entire surface carefully first with a dry cloth and then with a tack rag (see page 7).

Abrasive Finishing Papers: Finishing papers have a finer grit than cabinet papers and are recommended to smooth furniture surfaces for finishing. Use Fine 1/0-3/0 for first smoothing, Very Fine 6/0 for final bare wood smoothing, (dry or wet) and for smoothing between finish coats.

Steel-wool is made of fine, wool-like strands of shredded steel. It is a very good all-around abrasive for final smoothing. Veneers should be smoothed with steel-wool only. You will find that pad-form steel-wool is easier to use. It is available in one-pound packages of 16 pads.

Stain Wood if Necessary: A stain is needed on wood, such as basswood, gum, and poplar, that has no natural beauty; wood that appears faded or grayed; piece that has several colors or types of wood in it; wood that has been previously stained. A stain is not usually needed on woods that have natural beauty in pattern and color, such as mahogany, walnut, cherry, pine, and maple. If a stain is desired, it should be used after the surface is smoothed and before a coat of finish is applied.

Water stains come in powdered form in wood colors ready to be mixed with water. They are good for modern hardwood furniture that does not take an oil stain well. They are not ordinarily used on veneer. They may be used on: birch, maple, cherry, walnut, mahogany, and rosewood.

Oil stains are intended for soft woods that absorb stains readily; they have little effect on hardwood. They may be used on fine-textured, close-grained and small-pored woods like basswood, poplar, and gum. They are also recommended for oak, chestnut, hickory, and mahogany, but may become clogged in the pores. An oil stain can be used on pine but darkens it. You can buy oil stains ready to use or you can mix them yourself. To be sure of an even coat of stain on soft wood, first use a lintless cloth to apply a coat of the following mixture: 3 parts gum turpentine; 1 part boiled linseed oil; wipe off with lintless cloth.

Steps in Repairing and Refinishing Wood

Remove hinges, handles, knobs, etc; remove the old finish; repair if necessary; remove dents, bruises, warped places, replace or repair veneer, repair small cracks, reglue. Prepare wood for the new finish; remove dark stains or freshen color of wood if necessary; remove grease stains; smooth surface with abrasives. Examine piece, wipe surface with dry cloth and tack rag, stain wood if necessary. Apply finish. Penetrating wood sealer finish: Apply 2 coats of sealer, 24 to 48 hours apart, fill holes with stick shellac; apply paste wood filler to coarse grain open-pored woods; apply remaining coats of sealer. Let final coat dry one week before rubbing with pumice and oil. Varnish, shellac, or lacquer finishes: Apply paste wood filler to coarse, open-grained woods. Apply coats of finish; let final coat dry one week, rub with pumice and oil, then rottenstone and oil.

Natural Finishes-- Advantages: Easy to apply, quick-drying. Surplus sealer must be removed each time it is applied; otherwise, a glass-like coating will form on the surface, which will scratch easily. Most sealers resist moisture and abrasion, and are easy to patch. They are quick-drying and resistant to scratching and injuries.

How to Choose a Sealer: Read the label carefully. There are 2 types--those containing varnish and those with wax. Usually, the former type is used on furniture. The thin type of sealer has been found to go on more smoothly with less "piling up" especially on close-grained woods in furniture.

To Apply Sealer: The method of applying penetrating wood sealers is as important as the choice of a sealer. Let first coat dry 24 hours. Succeeding coats, rub surface lightly with 3/0 steel wool. Let final coat dry 1 week; rub with pumice and oil.

Oil Finish: An oil finish develops the richness in the wood color and is considered by many to be the most beautiful of all finishes. It should be used, however, only by those who have enough patience and elbow grease to apply many coats of oil and turpentine and to do a great deal of rubbing. The oil finish is particularly desirable for table tops and furniture that may be easily spotted and scratched, because, if properly done, the wood is impervious to water, heat, and scratching. If sufficiently oiled and rubbed, this finish needs no waxing. An oil finish should not be used on elaborately carved woods, because it is too difficult to keep clean and to develop a polished finish. The piece of furniture may be used during this process of finishing, which may take several months or even a year to complete.

To Apply Oil Finish: Smooth surface; wipe with dry cloth, then with a tack rag. Apply oil mixture hot or cold on plain surfaces, but it is wiser to use it cold on carved or grooved parts where there is danger of its setting too quickly. The hot oil penetrates the wood more quickly than does the cold oil and brings out a richer color. Oil should always be heated in a double-boiler to prevent fire.

Apply the oil generously with a soft cloth, rubbing it until the wood has absorbed all the oil it can. This takes from 5 to 20 minutes, depending upon the condition of the wood and the temperature of the oil and of the room. With several changes of cloth, all excess oil is wiped off. Take care to get all traces of oil out of the crevices; otherwise, it will harden like varnish or become sticky and will have to be removed with varnish remover.

Next, each part of the piece is well rubbed from 10 to 20 minutes with a polishing cloth. A linen cement bag or grain bag is excellent for developing a polish, because the friction of such material produces heat. A woolen cloth also may be used. The rubbing is essential to bring out the luster. From 4 to 12 coats of oil are needed to bring out a luster that gives a soft satiny effect. Each coat must be thoroughly soaked into the wood before another coat is applied.

Drying Time Between Coats of Oil: In dry, warm weather allow 2 days, at least, between first and second coats, 1 week between remaining coats. In moist weather, 1 week, at least, between first and second coats, 2 weeks and progressively longer between remaining coats.

More time should be allowed between each successive coat. This process is repeated until no dull spots remain; it should also be repeated once or twice a year to keep the furniture in good condition. Table leaves should be oiled on the underside as often as the top is oiled, to prevent warping.

If the grain of the wood is raised with the oiling, it may be rubbed smooth with steel wool. Oil that has hardened in the cracks may be removed with varnish remover. A sticky surface is an indication that the oil has not been removed thoroughly. If the surface is oily where the hand has been held for a few minutes on the wood, it is not dry enough for an additional coat.

DANGER: Oiled rags are easily combustible. Immediately destroy, or wash them if you plan to use them again.

For quicker results this oil finish may be tried: First coat, 1/3 raw linseed oil, 2/3 turpentine; allow 24 hours to dry. Second coat: pure boiled linseed oil; allow 24 hours to dry. Third coat: pure boiled linseed oil; allow 24 hours to dry. Fourth coat: 1/2 boiled linseed oil, 1/2 Japan dryer. Watch closely for any tackiness: rub off with clean burlap. Finish with pumice and oil, rubbing with steel-wool.

Shellac Finish: Thin shellac with equal parts of denatured alcohol to the consistency of milk. Apply with a brush.

Special Oil Finish

Equipment--Oil mixture, double boiler to heat mixture, lintless cloths

Oil Mixture No. I

1 part linseed oil
2 parts turpentine

Oil Mixture No. II

1 part turpentine
2 parts linseed oil

Use on woods of good color and grain such as mahogany, cherry, maple, and walnut. Use either raw or boiled linseed oil. Raw linseed oil takes longer to dry. Apply the warm oil with a lintless cloth. Oil that is warm is absorbed more readily and produces a richer color. Linseed oil is flammable so heat it in a double boiler.

After 20 minutes, rub off excess oil with a dry cloth. When it dries, it becomes sticky and hard. Rub well with a wool cloth which develops heat and keeps the surface warm. This causes more oil to be absorbed.

Let the first coat dry at least 2 days if boiled linseed oil is used before applying another. Use mixture No. I for the first coat and Mixture No. II for the remaining coats. If raw linseed oil is used, wait a week before applying second coat. Allow 2 weeks to elapse before applying third coat.

At least 4 coats of oil are needed; 10 to 12 are recommended. After each coat, rub vigorously with a wool cloth.

French Polishing Finish: The surface should be prepared with painstaking care. Stain with water stain only and allow to dry thoroughly. Thin approximately one pound cut white shellac with alcohol or commercial shellac solvent to a water-like consistency. Apply to the wood with a soft lintless cloth which is rolled into a ball. Dip the cloth into the shellac and rub onto the wood in rapid, straight strokes, using light pressure. When dry, sand, and repeat the process. Apply repeated coats and sand until a light glow begins to appear. The surface should be sprinkled lightly with very fine pumice stone before sanding. After the first few coats, a faint sheen will appear. At this point add several drops of oil to the shellac mixture and continue the applications, but change over to a rotary motion. Add more oil gradually to subsequent coats. The result will be a superb, deeply glowing finish that, with ordinary care, should endure through several lifetimes.

Wipe Surface With a Tack Rag

Before each application, wipe off surface with a dry cloth, then with a tack rag. A tack rag is a treated wiping cloth that picks up fine dust and particles that an ordinary cloth will not remove. Tack rags may be obtained at automobile supply shops and some paint shops for a small price. Store folded cloth in aluminum foil or in a very small jar with a tight lid.

To Make Your Own Tack Rag

Wash a piece of closely woven cheesecloth several times. Then dip it in warm water, wring it out slightly to prevent drip, wet the cloth with turpentine, and shake it out loosely. Dribble varnish freely over the surface of the cloth. Use enough varnish to make the cloth quite yellow. Then fold and twist it into a tight roll to force out the water and to allow the varnish and turpentine to saturate the cloth. Twist a second time. The tack rag should be sticky enough to pick up dust but dry enough not to leave moisture on the furniture. If it should dry out in using, sprinkle a few drops of turpentine and water over it. If it is too moist, shake it out in the air for a few minutes. Rough edges should always be folded inside when the cloth is used. Store as directed above.



ISSUED IN FURTHERANCE OF COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, ACTS OF MAY 8 AND JUNE 30, 1914, IN COOPERATION WITH THE U. S. DEPARTMENT OF AGRICULTURE. W. H. DAUGHTREY, DIRECTOR, AGRICULTURAL EXTENSION SERVICE, VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG, VIRGINIA.