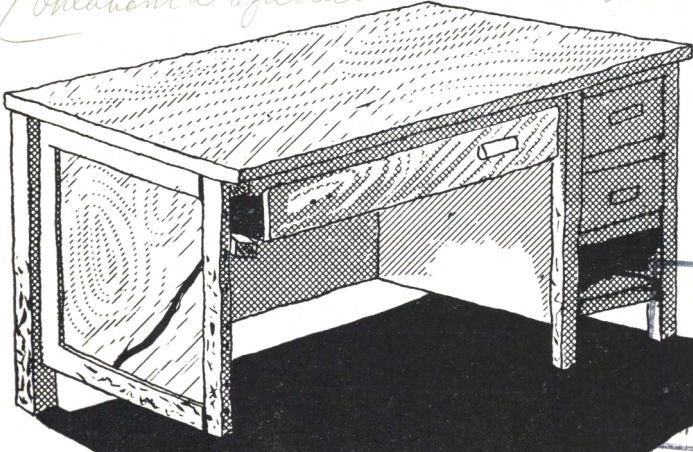


REFINISHING FURNITURE AND CARE OF WOOD

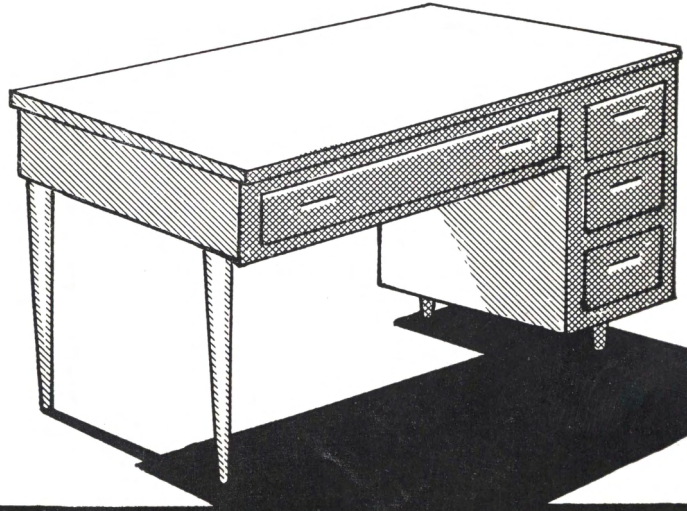
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REFINISHING FURNITURE AND CARE OF WOOD

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Refinishing furniture is more than adding a new coat of varnish or paint. Every step of the process in refinishing must be carefully done to have a professional appearance when the job is completed. Many types of finishes can be achieved through careful workmanship.

Antiques have been sought after and cherished by many because of the beautiful solid wood used in constructing them. Age and use have mellowed the color of many old pieces. Although all homes do not and cannot have antiques there are many pieces of good furniture with attractive lines that can be refinished to an advantage for its sentimental value as well as the contribution it can make toward a more livable home.

An inventory can be made to help decide whether a piece of furniture is worth refinishing. These are some points to be considered. Are there strong sentimental attachments that you or members of your family have for the piece of furniture? Will the cost in money, labor, and time be worth while? Do the lines of the design lend themselves to beauty and service in your home? Can the ornamentation be easily removed and replaced? If you decide to refinish the piece of furniture these steps in refinishing are recommended.

1. Take off removable parts.
2. Make necessary repairs.
3. Remove old finish.
4. Prepare surface for new finish.
5. Stain wood the desired color.
6. Fill the pores of open grain woods.
7. Apply the new finish.

TAKE OFF REMOVABLE PARTS

Remove detachable ornaments such as the metal drawer pulls, glass knobs, mirrors and other parts that should not be finished.

MAKE NECESSARY REPAIRS

It is best to repair furniture before starting to refinish. Weak places should be strengthened and made firm. Tighten all loose joints where necessary by the use of screws, glue, braces or other reinforcements.

To Reinforce Joints in the Chair:

Pull the loose joints apart and scrape off the old glue. Test the joint for firmness of fit. If not tight, place strips of cloth over the end that goes into the hole. A mortise and tenon joint (Fig. 1) that is loose may be made tight by placing a piece of muslin or other cloth over the end of the tenon. Usually one thickness of cloth will insure a tight fit. For a dowel joint, (Fig. 2) two small cross strips of cloth will make a tight joint. Both parts of the joint and the muslin should be covered with glue.

Suggested glues are: cabinet glue (animal glue) sold in flakes or chips at lumber and hardware stores; casein glue (product from skimmed milk) which comes prepared or in a powdered form to be mixed with water.



Fig. 1. A mortise and tenon joint. If this type joint is loose, it may be tightened by placing a piece of muslin over the end of the tenon.

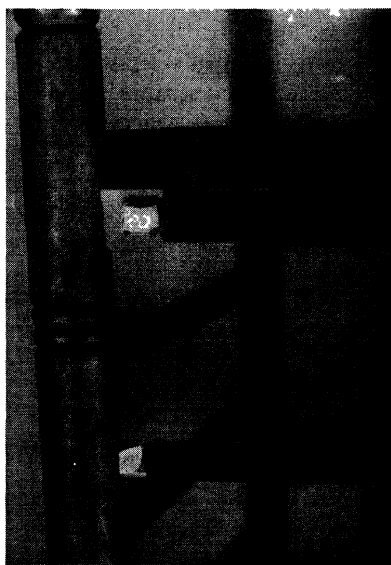


Fig. 2. A dowel joint. Two small cross strips of cloth will make it fit tightly. Both the parts and the muslin should be covered with glue.

Never fill the open spaces in the loose joint with quantities of glue. Glue itself has little strength. After the glue is applied, force the pieces in place. Press together by making a tourniquet with a rope or strong cord, (Fig. 3). Place pads of paper under the outside edge of the article where tourniquet presses to avoid marring. Tighten with a stick of wood to draw the joints together. Remove excess glue while it is still soft. It should be held in this position for 24 hours or more until the glue is thoroughly dry.

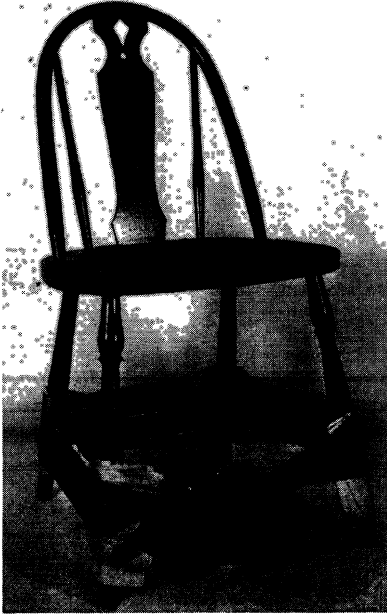


Fig. 3. A tourniquet such as shown here is used to force pieces in place after glue has been applied. Pads of paper are used to avoid marring.

REMOVING OLD FINISH

Old finishes can be removed with a commercial varnish and paint remover. The most reliable commercial removers do not contain alkali, acid or water so they will not injure or raise the grain of the finest woods. Most varnish removers contain paraffin. The paraffin forms a film on top of the remover after being applied to the furniture. This slows evaporation and gives the remover an opportunity to soften the varnish or paint. This type remover is especially good on vertical and slanting surfaces.

Caution:

Many of the liquids used in refinishing furniture are either highly inflammable or explosive. Finishing should be done in rooms

that are well ventilated and free from open fire.

The remover should be applied over a small area at a time. The number of times the remover is applied and the length of time it will need to stand will depend upon the age and the thickness of the old finish.

Varnish remover is best applied with a stiff bristle brush. Flow the remover over the finish. Within 5 to 10 minutes, the old finish will have become soft and somewhat gummy. When the surface looks mushy it can be wiped off with old rags or scraped with a scraper

or putty knife. If the surface seems sticky, continue using the remover until the surface is slick and smooth. A stiff brush or a piece of wood sharpened like a chisel is an aid in removing the finish from a round or carved surface.

In removing the finish from veneer, proceed cautiously, without too much scraping or rubbing, to prevent loosening the glue.

Removing Varnish Remover.

Turpentine, denatured alcohol, naphtha or gasoline (do not use ethyl) can be used to go over all surfaces after finishing with varnish remover. Soak a soft cloth in one of these solutions and wipe the surface carefully to take away all the waxes that may linger after using the remover. If wax is left on the surface it may prevent the new finish from adhering properly.

Some of the newer removers need no after treatment. Read the directions for use of the particular remover you are using.

Caution: These liquids are inflammable. The wood should be allowed to dry at least 24 hours before starting the refinishing process.

Recipe for Lye Paste.

For old pieces of furniture heavily coated with paint or varnish several applications of remover may be needed to remove the finish. In this case, lye paste remover may be more practical and less expensive.

Mix enough cold water with four tablespoons of starch to make a smooth paste. Add one quart of boiling water and cook until clear and thick. Dissolve 4 tablespoonfuls of concentrated lye in cold water and add to the starch mixture. Select an old granite or earthenware container and use a stick for mixing as the lye will react with other materials. To apply use an old broom or large, stiff brush and work rapidly. Use a strong vinegar solution as the solvent for cleaning the surface and checking the reaction of the lye in the pores of the wood.

NEVER use lye on expensive or cherished woods. The lye paste remover will darken and raise the grain of the wood to some extent. It is easy to remove a veneer with this method. **When using the lye solution, caution should be used as it is dangerous to the eyes, flesh wounds and clothing. Work with it out of doors whenever possible.**

PREPARE SURFACE FOR NEW FINISH

Removing Stains from the Surface.

Ordinary stains will disappear as the article is rubbed down with sandpaper. It is possible that discoloration, such as a stubborn ink

stain, may remain. When this happens, apply a strong vinegar solution and let it stand in the sun for some time. Wash carefully. A weak solution of ammonia will neutralize the vinegar and restore the color if the wood has bleached. Always work with the grain of the wood. When dry, smooth with sandpaper.

More difficult stains may be bleached more by using Oxalic Acid. Mix 1 oz. powdered or 2 ozs. crystals of Oxalic Acid to one pint of hot water. Allow this to stay on the spot for a few minutes then wipe with a household ammonia solution to neutralize.

Raising of Dents and Bruises.

Small dents and bruises may be raised by placing two or three layers of damp woolen cloth over the spot and pressing it with a hot iron. The steam and heat will soften and raise the fiber of the wood to its previous level. Do not allow the cloth to become dry or the wood may be burned.

Sandpapering.

A smooth, hard surface is essential to successful finishing or re-finishing. This is done through careful sandpapering of the surface beginning the rubbing with No. 1/2 sandpaper for coarse-grained woods and No. 2/0 for fine-grained woods and finishing with No. 6/0 or No. 8/0, using one or two intermediate sizes, depending upon condition of the wood. Steel wool may be used successfully around turnings and carved surfaces. Wrap sandpaper around a small block of wood to obtain longer more even strokes.

Wood Fillers.

Wood fillers are used to fill the pores or cells of the wood to make a smooth even surface. There are three types of wood fillers:

1. Transparent filler such as oil or shellac used on wood with many small cell openings.
2. Liquid fillers intended for use on non-porous woods and those with small cell openings; such as, birch, cherry, maple, yellow pine.
3. Paste fillers are used on more porous woods, such as mahogany, oak, and walnut. Most commercial fillers tell how much solvent should be used to thin them. If no directions are given they should be thin enough to brush on freely. When the applied filler starts to set, wipe off with a soft coarse cloth across the grain of the wood. Follow with a soft cloth with the grain.

Foundation Formula for Oil Stain:

- 1/2 pint of linseed oil
- 1/2 pint of turpentine
- 1 tablespoon of Japan drier

Add enough oil color to obtain the color desired.

Burnt umber is a rich warm brown that is suitable for staining most old or antique furniture. It can be used upon walnut, cherry, and mahogany. Oak is exceptionally well adapted for the use of oil stains. A soft porous wood such as old pine requires a very dilute or weak stain of burnt umber. The same is true for old maple. Old woods such as walnut, cherry, or mahogany usually require little or no staining.

After the oil stain has been applied, the furniture surface should be wiped with a clean cloth and allowed to dry twenty-four hours.

NEW FINISH FOR NEW OR OLD FURNITURE

The procedures for adding a new finish are varied because of the many kinds of woods, types of finishes, and designs for furniture. When a method is selected, it should be followed carefully step by step. Personal taste and the use to be made of the piece of furniture will help to determine the method of refinishing.

Mahogany, walnut, cherry, oak, maple and curly birch look best when done in a natural finish so that the beauty of the grains will not be concealed. The finish should merely act as a clear, protective coat that preserves the natural beauty of the wood. Thick glossy coats of finish call attention to themselves instead of enhancing the beauty of the wood they cover.

1. Oil Finish:

Recipe for Oil Finish:

Oil Mixture No. I

- 1 part linseed oil
- 2 parts turpentine

Oil Mixture No. II

- 1 part turpentine
- 2 parts linseed oil

Advantages of the Oil Mixture:

- a. It is inexpensive.
- b. It is simple to apply.
- c. It is durable because it is resistant to heat, water, and scratching.
- d. It is successfully used on cherry, maple, walnut, and other firm woods.

Foundation Formula for Oil Stain:

½ pint of linseed oil
½ pint of turpentine
1 tablespoon of Japan drier

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Method of Applying Oil Finish:

- a. Apply oil mixture No. I with a soft cloth or finger tips. (If the container of oil is placed in warm water before applying it will penetrate the wood better).
- b. Rub into the wood with palm of the hand or a wool cloth. (Friction keeps the surface warm). Wipe the surface with a soft cloth to prevent a sticky surface.
- c. Allow to dry thoroughly. (Should the surface be sticky, dampen a soft cloth in turpentine and wipe the surface and again allow to dry).
- d. Use a clean piece of firmly woven wool to buff the surface. Men's old felt hats washed and cut into pieces about 5" square make excellent buffing equipment.
- e. For all succeeding coats of oil, use Mixture II, following the same instructions as above.
More time should be allowed for drying between each succeeding application of oil Mixture No. II.
- f. Usually a minimum of three applications of oil will be used while a dozen applications will build up the desired soft polish.
Each year an application can be made.
- g. The final step is to protect the surface from dirt. After a few coats of oil have been applied, wax the article with paste floor wax.
If other coats of oil are desired later, the wax may be removed with turpentine, then when the oil is dry, re wax. Refer to the section at back for directions for waxing.

Caution:

All rags used in the application of the oil finish should be burned or washed immediately with enough soap suds to remove the oil. Fires are frequently started by careless handling of oily rags.

2. Oil and Stain Finish:

This is for woods which do not have a good grain or color. Apply the oil Mixture No. I; allow this to dry for 24 hours. Stain with oil stain. Allow this to dry for 48 hours. Then proceed as for regular oil finish using the oil Mixture No. II. After the desired number of coats of oil have been applied, this finish may be waxed.

3. Penetrating Seal:

Penetrating floor seal can be used as a finish. A soft cloth or brush can be used for applying it. Let dry thoroughly. Use very fine sandpaper or fine steel wool after each application, including the last one.

Apply paste floor wax to protect the surface.

4 Shellac and Wax Finish:

Shellac gives a hard, glossy finish unless the final finish is rubbed down with pumice stone and oil to give a dull finish. Shellac can be used by itself and also as an undercoat for varnish. Shellac, however, is neither heat proof nor water proof, and should not be used upon furniture that may come in contact with water. A shellac surface may be partially water-proofed by a coat of furniture wax.

Shellac may be thinned with denatured alcohol. A good proportion for the first coat is $\frac{1}{2}$ shellac and $\frac{1}{2}$ alcohol. The amount of shellac can be increased for further coats.

Every coat of shellac should be sanded very lightly with sandpaper or steel wool. If a very light finish is desired, use white shellac; if a darker tone, use orange shellac. Check the date on shellac container. Old shellac may be dark.

5. Oil and Shellac Finish:

This is very good for open grained woods. The shellac helps fill the pores while the oil develops the soft luster.

Apply oil Mixture No. I, following the instructions as applied in the oil finish, then follow with a second oil application, using the No. II mixture. Some may wish to use a third or fourth application before applying the shellac mixture, but this is not necessary.

Oil and Shellac Mixture

1/4 cup Shellac

1/2 cup alcohol

1 cup linseed oil

Wipe off the excess shellac mixture after it has been rubbed in thoroughly. After 24 hours a second application of the oil and shellac mixture may be applied. As a final finish this may be waxed after the second coat of the shellac mixture has dried thoroughly.

6. Stain, Shellac, Wax Finish:

Apply the desired stain following the instructions in the section covering stains. Allow to dry 48 hours. If shellac is applied

too soon over the stain, it will not dry. Apply a mixture of:

$\frac{1}{3}$ shellac
 $\frac{2}{3}$ alcohol (denatured)

Allow 24 hours for the mixture to dry, sand and repeat several times. Allow more drying time between each application. Apply wax as a final finish if desired.

7. Shellac Finish:

Shellac is often used in finishing wood. It gives a hard, glossy finish unless it is rubbed down with pumice stone and oil to give a dull finish. Shellac, however, is neither heat proof nor water proof. It is often used as an undercoat for wax and varnish finishes. Several thin coats of shellac are better than one thick coat using a mixture of $\frac{1}{2}$ alcohol and $\frac{1}{2}$ shellac. Each coat should be rubbed with steel wool or fine sandpaper after the shellac has dried for several hours. Do not apply shellac on a rainy day or damp day, as shellac absorbs water and may not dry properly.

8. Varnish Finish:

When the word varnish is used, it refers only to clear varnish and not varnish stain. Varnish stain is NOT recommended.

A varnish finish protects the wood and is easily cleaned, but it is also easily scratched. It is difficult to apply without collecting dust. Varnish, as a finish for furniture, is being used less now than formerly because of the recent development of clear lacquer. A clear, dry day is best for varnishing. A varnish finish is applied much the same as shellac finish. First stain the article, then give the stain a sealing coat of shellac. Follow by applying one or two coats of varnish. Allow each coat of varnish to dry thoroughly, then rub it either with steel wool or fine sandpaper. Apply the final coat of varnish. If a dull finish is wanted (and it is the best and most popular finish) rub down the last coat of varnish with powdered pumice stone and oil. Rubbing varnish may be applied with a lint free cloth and rubbed on the surface for the finish. This gives a satin finish, but is not highly glazed. Rubbing varnish may be secured from local paint and varnish stores.

Varnish Troubles

Several of the common and bothersome varnish difficulties which follow varnishing, with suggested remedies, are:

A. Blistering — Small spots appear where the varnish raises. Prevention: Remove grease or oil from the surface by proper cleaning, and do not apply varnish in damp weather or in direct, hot sun-

shine. Avoid all shellac undercoats when the varnish coats are to be exposed to water, especially hot water.

B. Bloom — a cloudy effect in blotches which discolors the finish. Prevention: Varnishing in moist conditions should be avoided.

C. Crazing—Minute cracks appear. Prevention: Varnish only when the temperature is about 70° F. or above. If the varnish was applied in the cold, then the varnish is too hard.

D. Crawling—The varnish does not spread smoothly and evenly. Prevention: Avoid low temperature during application and drying. Cleaning old surfaces which are to be revarnished is important. Benzine or turpentine may be used. A varnish that is too thick may be the cause of the trouble.

E. Deadening — A gloss varnish may lose luster, often in spots. Prevention: Only well-seasoned lumber should be used. Undercoats should not be porous and should be thoroughly dry.

F. Spotting — The cause is sometimes severe chilling of a freshly varnished surface, or splashes of water.

9. Lacquer Finish

A good lacquer finish has the advantage of being waterproof. It does not check or crack, and is extremely tough and resistant to mars and scratches. It is easy to apply and gives a beautiful finish.

Methods for lacquer finishing are almost identical to those used for varnishing. First stain the surface if necessary, then cover the stain with a sealing coat of thin shellac. Rub the shellac coat with steel wool or sandpaper. Follow by applying a coat of clear lacquer. Use lacquer as it comes from the can.

If it has become too thick, thin the lacquer with a lacquer thinner. Allow the coat of lacquer to dry. Usually one coat of lacquer is sufficient.

The final lacquer coat may be rubbed smooth with pumice stone, using either oil or water as the lubricant. If more than one coat of lacquer is necessary, rub the undercoats with steel wool or fine sandpaper. Polish the final coat with either furniture polish or wax.

10. Paint or Enamel Finish

Either of these preparations covers up the natural beauty of the wood so they are never recommended unless the wood is discolored or of a poor quality with an unattractive grain. Painted furniture is

sometimes chosen for bedrooms due to the many beautiful colors of paint. Pastel colored furniture is very appropriate for a girl's room.

The surface to be painted must be clean, smooth and dry. Several thin coats are no more expensive than one thick coat and are, of course, much smoother and more attractive. Turpentine is used to thin paint or enamel. A temperature of 70 to 80 degrees is most desirable for the application of paint or enamel.

For good results, two thin undercoats of flat paint should be used and at least one top coat of enamel. Paint and enamel are stroked in with the brush, following the grain of the wood.

Usually each coat will dry in 24 hours, but unfavorable weather conditions may lengthen the time. Each coat must be thoroughly dry before another is applied. Mix the paint thoroughly with a stick or paddle. Dip brush only one-third the length of bristles and press off excess paint against inside rim of can.

CARE OF BRUSHES

Much of the success of refinishing furniture is dependent upon the condition of the brushes used. A good brush is an essential investment and if given good care, it will last a long time, do good work and serve many purposes.

1. Avoid standing brush upon the end of its bristles as the weight will permanently bend the bristles.
2. Never leave the brush standing in paint and varnish.
3. When a period of only a few hours is to elapse between uses, suspend the brush in the thinner being used. This can be done by pushing a rod through hole drilled in handle or drive a large tack into the handle, just above the metal collar.
4. Clean the brush in the same liquid that is used to thin the finish.

Shellac brush—alcohol.

Varnish or paint—turpentine.

5. If paint remover has been used, rinse in denatured alcohol.
6. Wash thoroughly in a warm suds or strong soap or soap powder.
7. Rinse well and shake dry.
8. When thoroughly dry, tie in a paper bag and hang or lay so that the ends of the bristles will not turn up.

Few brushes wear out, but they become useless because they are not given proper care.

When buying brushes, remember a brush that sheds bristles is never an economy regardless of how small the cost.

SUGGESTIONS FOR CARE OF WOODS

White Spots on Furniture

White spots on varnished furniture may be caused by standing water, hot dishes or alcohol.

If the spots are slight, they may be removed simply by rubbing with camphorated oil or oil of peppermint. They may disappear when the surface of the furniture is washed with a mixture of 1 quart warm water; 3 tablespoons of boiled linseed oil, and 1 tablespoon of turpentine; then dried with a soft dry cloth, and rubbed with furniture polish.

For more severe white spots—those that are old or very deep—an abrasive may be needed as well as oil. One mixture that may be used for removing them is salt and salad oil. Dip the finger in oil, and rub over the spot with the finger or soft cloth until the spot disappears. If so much rubbing is required that it removes the surface, the rubbed area may need another coat of varnish. After drying, rub this varnish down with pumice stone and oil until it matches the rest of the finish.

Solution for Cleaning Soiled Furniture

To clean badly soiled wood, make a very thick suds from one part soap or detergent material to five parts of hot water. When this solution is cooled, beat with a rotary egg beater until there is a thick suds about the consistency of a perfect icing ready to spread. Dip off this foam and sponge a small area at a time. Wipe off all the soap with a cloth wrung out of clear water. When the wood is thoroughly dry, wax with paste floor wax.

Removing Clouded Surfaces

After many coats of furniture polish have been used, the furniture may have a "bloom," blurred or foggy appearance. This may be removed by dampening a soft cloth in a solution of 1 quart of water to which has been added 1 tablespoon vinegar.

Waxing Furniture

To wax, place a small amount of paste floor wax between several layers of cloth and using a circular motion, apply a thin coat to the wood. After five or ten minutes, polish the wood with soft outing flannel or

wool, rubbing with the grain. Several coats of wax may be needed to obtain the desired effect.

DUST CLOTHS

For Non-Waxed Surfaces

Dust cloths should be kept clean and not used too often without being washed. A good dust cloth for use on surfaces that are not waxed can be made as follows: Pour into a glass jar one tablespoon of furniture polish or boiled linseed oil. Cover, and turn the jar until the oil is spread evenly over the inner surface of the jar or can. Put the dust cloth in the jar and leave overnight. The oil will be evenly distributed throughout the dust cloth. It is important that there be very little oil on the cloth and that it be evenly distributed. Note: Do NOT use this cloth on waxed surfaces.

For Waxed Surfaces

To make a treated dust cloth for waxed or other surfaces, mix one tablespoon boiled linseed oil or furniture polish in one quart warm water. Dip damp dust cloth in solution and wring out very dry. Put cloth to dry before storing in can. A dry cloth is necessary for satisfactory dusting, as a wet duster clouds and dulls wood. When the cloth is not in use, it should be kept tightly shut in the can. Dark cloths which do not leave lint are best to use.

Cooperative Extension Work in Agriculture and Home Economics, Oklahoma Agricultural and Mechanical College and United States Department of Agriculture, Co-operating. Shawnee Brown, Director, Oklahoma Agricultural Extension Service, Stillwater, Oklahoma. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.