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## Furniture: Renovation, Repair, Refinish

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# *Furniture Renovation, Repair, Refinish*



*"Brighten the corner where you are  
by making the most of what you have"*

SOUTH DAKOTA STATE COLLEGE  
EXTENSION SERVICE  
A. E. Anderson, Director  
Brookings, S. D.

# *Furniture*

Renovation, Repair, Refinish

By

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## **Renovation**

Daily care of furniture, the regular removal of dust and gritty particles which scratch the polished surfaces, the immediate attention to spots and stains and occasional thorough renovating will postpone the need of re-finishing indefinitely.

### **Removing Spots and Scratches**

Crude oil is excellent to revive varnished furniture which has surface scratches or has grown dull looking. It should be sparingly applied with a piece of flannel and polished with silk. Furniture generally scratched and marred, is much improved by a brisk rubbing with crude or linseed oil and rotten stone. The cleaning mixture is removed with clean oil and the surface polished.

Liquid wax is used as a reviver for waxed furniture. It should be flowed on freely and all surplus carefully removed. Oil or wax is best not used alone, each should be followed by a good polish. One may be made by mixing equal parts of turpentine, strong vinegar, alcohol and raw linseed oil in the order named.

If the furniture is badly clouded, it may be sponged with a soft lintless cloth, wrung out of very hot water containing one tablespoon each of linseed oil and vinegar and two tablespoons of turpentine to one quart of water. Follow with a reviver—crude oil or wax and then by a good furniture polish.

Dents in furniture may be raised by covering the dented spot with three or four thicknesses of damp blotting paper, heavy absorbent paper or cloth and applying a heated iron over it being careful to cover only the dented portion. As soon as the paper begins to dry, replace with a freshly dampened piece and repeat the application of heat. The finish is likely to be more or less marred in the process and should be treated with a reviver and polish.

Deep scratches extending through finish and stain into wood will need restraining. Almost any stain may be matched by combining ocher, umber, sienna, venetian red or lamp black. Mix a stain which appears to match, apply it in small quantities on the end of a tooth pick. Allow to dry and cover with shellac. If it does not prove a satisfactory match, remove shellac and stain with alcohol and try mixing again. When a satisfactory match has been made, cover with shellac and wipe off the excess. Dry overnight and finish smoothing by rubbing the spot lightly with a little pad of No. 000 steel wool saturated in linseed oil, following the grain of the wood. Rub the entire surface of the piece of furniture with a mixture of rotten stone and oil, remove the rotten stone mixture with clean oil, remove the excess oil with a soft cloth, apply wax if desired and follow with a good polish.



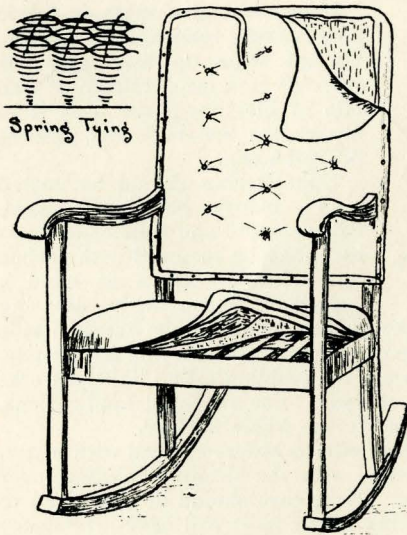


Fig. 1.—Under the outer covering is one of muslin, the padding, a layer of burlap, and the webbing.

A more simple but less effective way to fill deep scratches is to apply a paste made of the color or colors and thick gum arabic glue. Deep gouged holes may be filled with this paste or with stick shellac of the proper color and shade, melted on the heated point of a knife.

Burns are treated similarly to scratches though they are more difficult to deal with and as a rule are not as easily satisfactorily mended. If the charred surface is removed by rubbing with an abrasive, a dent is left in the wood which must be filled. When the burn is slight, the discoloration may be less conspicuous than the filled dent. In such case, it should be covered with paste filler or shellac to preserve the surface. When dry, it should be smoothed down and finished as directed for scratches.

White spots may be removed by rubbing with oil (crude or linseed) or liquid wax, or by covering with a clean blotter and passing a heated iron over, but not touching the paper. If the spots do not yield to these treatments sponge them with a soft cloth wrung out of warm water to which a few drops of ammonia have been added, and rub at once with wax or polish.

Spots caused by alcohol or liquids containing alcohol should be rubbed at once with the finger (from outside to center) to spread the softened varnish back in place. If the spots are large and old the whole surface will need refinishing. If small, they may be covered with a small pad of absorbent cotton and several layers of cheese cloth and moistened slightly with alcohol making sure that the alcohol covers the edge of the spot. After the varnish has softened spread it back in place with finger. Rub with oil and polish.

Dirty or spotted painted furniture may be cleaned by washing with mild soap and warm water. If spots do not respond to washing, rub with soap jelly, rinse with warm water and dry thoroughly. Spots which still persist may be rubbed with whiting and soap, then washed, rinsed and dried.

Wicker, reed, and cane furniture is cleaned by washing it with warm mild suds applied with a brush. Rub the suds well into the cracks and work quickly to prevent it from becoming water soaked. Rinse with warm clear water and dry at once.

Sagging rush, cane or split bottoms may be tightened by turning the chair upside down and thoroughly soaking the under side with hot water. The chair should remain in up-turned position while it dries.

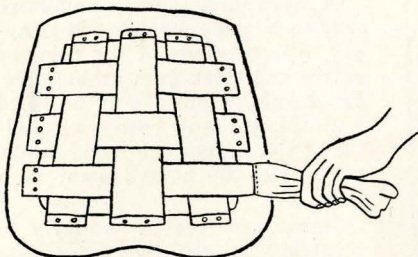


Fig. 2.—Pull webbing taut and fasten with three tacks near inner edge of frame.

### Cleaning Upholstery

If possible, give spots on fabric upholstery immediate attention. Do not wipe up the spot, but sprinkle corn meal, talcum or torn bits of blotting paper over it to absorb the moisture and prevent its spreading.

Upholstering should be dusted well before being renovated. Grease spots and soils of oily nature may be removed with carbon tetrachloride. Have at hand a supply of clean white blotting

paper or soft absorbent cloth to take up the soiled carbon tetrachloride before it has time to evaporate. Use the carbon tetrachloride generously. It evaporates readily and will not injure the padding. Rub lightly, working from the outer edge to center of spot. Use repeated applications. When the spot has been removed, sponge the whole surface.

Materials should be tested for color fastness before cleaned with water. If possible, rub a white cloth moistened with the cleaning solution, over a hidden portion of the upholstery. Great care should be taken not to wet the padding under the upholstery fabric as it will have a tendency to pack and get musty.

Strong chemicals should not be used on upholstery. A heavy lather made of a mild white soap and warm water may be applied with a soft brush to the spot being careful not to take up any of the water under the lather. Scrub gently, remove the lather (as soon as it shows signs of soil) with a soft cloth. Repeat until lather ceases to soil. Work quickly and lightly to avoid wetting the padding. The whole surface may need shampooing. If so, apply the lather only to a small area at a time, rinsing it and removing as much of the moisture as possible with a soft absorbent cloth. Dry it as readily as possible in a current of air. A few drops of household ammonia added to the rinse water will help to brighten the colors.

Removable covers should be cleaned before they become badly soiled. They should not be washed unless one is sure that they will not fade or shrink. Dry cleaning with carbon tetrachloride, high test gasoline or naphtha is the most certain method.

### Refinishing

#### Preparing Furniture for Refinishing

Remove all removable parts. Discard all undesired ornaments. Fasten broken parts together with hot glue, bind firmly and dry thoroughly. Wooden or metal splits, cord, cloth strips and gummed paper may be used to bind parts together. Care must be taken to protect surfaces and edges from being marred.

Tighten all screws and bolts, put in extra finishing nails where needed. Fill holes and cracks with plastic wood (if surface is to be painted or enameled.) The plastic wood should be firmly packed and surface slightly raised as it shrinks some with drying. Allow to dry thoroughly and sand-paper even with surface.



Decide whether or not the old finish will have to be removed. If the piece is in bad condition, the varnish worn, blistered, crazed or the paint cracked and peeling, the finish will all have to be removed. If the piece is in good condition, smooth and shiny, the gloss will only need to be roughened so that the new finish will adhere. This may be done with very fine sandpaper or steel wool (00-000) or it may be roughened by sponging with ammonia and water, or lye and water, then carefully rinsed in clear water. All the finish may need to be removed from highly finished oak. If the filling of the wood is removed it should be replaced as oak is a very porous wood. Painted surfaces in good condition require little preparation for repainting. Wash it in warm suds, rinse and lightly smooth it with 00 sandpaper. The methods of removing old finishes and preparing woods for refinishing have been discussed in a previous bulletin. The fundamental precautions, however, bear repeating. All traces of finish remover, cleaning and smoothing agents must be removed and the surfaces thoroughly dried. The room in which refinishing is done must be warm, airy and free of dust. Varnish, wax and oil should be warmed in a hot water bath.

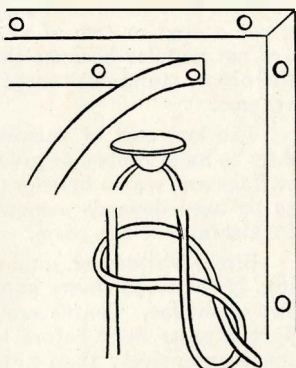


Fig. 3.—Braid mitered at corner and an upholster's knot.

### Finishes

If in good condition, the wood may be finished "natural", a transparent finish permitting the grain of the wood to show through. It may be stained or left its natural color. Maple is rarely stained though sometimes it is made silver gray. Walnut and mahogany are finished in natural color or darkened in shades of brown or red. Birch is finished light or stained mahogany, cherry, chocolate brown, golden, green or grey. Oak may be finished in light, dark, antique, green, grey, weathered, fumed, Flemish or a number of other color tones to blend with the desired color scheme.

Water stains produce clearest and most transparent effects. They raise the grain of the wood, however, unless the wood is first given a surface coat of ten parts benzine to two parts of raw linseed oil and let dry. Vegetable stains are considered best. Aniline stains are cheapest and clearest, but they have a tendency to fade. A little vinegar should be added to set the color and prevent fading. Stain should be rubbed in on hard woods and out on soft woods. It should be applied sparingly, evenly and all the surplus removed. Two thin coats are much better than one heavier coat. All stained woods must be filled to prevent bleeding.

Some woods are so open grained that they require filling whether stained or not. Such woods are oak, ash, walnut, chestnut, bass, linden, elm, mahogany, and butternut. Close grained woods which may be finished without filling are birch, maple, poplar, rosewood, cedar, cherry, beech, spruce and fir pine.

"Oil, wax or varnish?" It is not a mere matter of choice. Oil and

wax are best adapted to close grained hard woods. Wax may also be used on filled soft woods but the finish is more durable if the filled soft wood is given a coat or two of varnish before waxing. Highly glossed surfaces are not popular because they show signs of wear more readily and make the object stand out conspicuously instead of blending into the decorative scheme.

The last coat of varnish or enamel may be the flat drying type or it may be hand rubbed or given an eggshell finish. Oil produces a fine satiny surface and wax a heavier finish with a subdued sheen. The kind of finish to be used depends somewhat upon the texture of the walls and fabric furnishings of the room.

Birch, whitewood, gum wood and white pine are best suited for painting. If the wood shows knots or sappy places it should be given a coat or two of shellac. Coarse grained and soft woods must be filled with a transparent paste filler before being painted. Enamels and lacquers are used more extensively than paint and contrary to the old theory of building up the surface with three or four coats of paint, they are applied directly to the wood surface. Two or three coats are usually used, each sandpapered before the other is applied. The last coat may be left glossy or "rubbed." If a rubbed effect is desired, without the work of rubbing, the last coat may be lightly sandpapered and a coat of flat varnish or flat drying enamel applied. Slow drying enamels and lacquers are better used where details make its application slow. A tablespoon of kerosene in one half gallon of enamel will cause it to flow easily without injuring the enamel.

An antique effect is secured by brushing the dry enameled surface liberally with burnt umber or raw sienna (mixed with oil) and wiping it off immediately with soft rags, moistened with turpentine, leaving a slight amount to give deeper tone around carvings, grooves or edges. Allow to dry and apply one or two binding coats of white shellac. Antiquing is done only over white, ivory, oyster grey, green or robin's egg blue.

Glazing and stippling is done in much the same way except that any contrasting color may be used and more of it is left on the surface. The wiping process leaves the color in fine streaked or grained effect. Stippling is done by lightly tapping the surface (immediately after the wiping) with a brush held at right angles to the surfaces. This eliminates the streaks and produces a more all over effect. The brush should be wiped frequently on a clean cloth to keep it free from excessive paint.

A hand rubbed finish is produced by the application of two coats of high grade rubbing varnish. The first coat is rubbed down with 00 sandpaper or very fine steel wool. The second is rubbed with finely powdered pumice stone and sweet oil. Apply the oil liberally and shake on the pumice (from a cheese cloth bag). Rub it with a woolen cloth folded over a block of wood using light firm straight strokes with the grain of wood. If possible, make one stroke reach the entire length. Six or seven strokes are sufficient to dull the finish. Avoid scratches by keeping the cloth well saturated with oil. Use a small scrub brush for carvings and moldings. Dip it first in oil and then in pumice. When the entire surface has been rubbed remove the pumice with a piece of cheese cloth generously saturated with linseed or crude oil. The oil is lastly removed with a dry cheese cloth sprinkled with cornstarch.

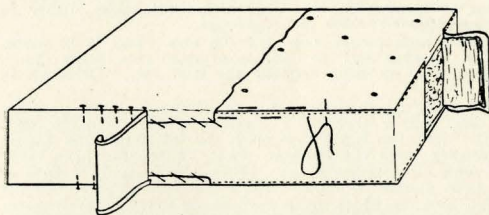


Fig. 4.—Steps in construction of box cushion.

stroke should extend the entire length of the surface treated.

An eggshell finish is produced is much the same way. A light linseed oil and fine powdered pumice is used. A clean shoe brush is substituted for the woolen cloth. It is not saturated with oil and is drawn just once over the surface in the same direction as the grain. The

### Upholstering

Worn or faded upholstery should be replaced with new. Sunfast denims, tapestry, cretonnes, glazed chintz, rep, velour, mohair, leather, and artificial leather are some of the materials used. Upholstering is not difficult but it is well to begin with a simple piece, a chair without springs.

Other materials needed are tow or hair for padding, sheet wadding, burlap, unbleached muslin and brown or black cambric, webbing 3½ inches wide, finishing braid and tacks, scissors, tack hammer, sharp edged tack puller, 8-ounce and 4-ounce cut tacks, a 9-inch upholsterer's needle, a regulator (a long thin wire instrument for arranging the padding material), and buttons covered with upholstering fabric.

#### Upholstering Chair Seat

Remove the old braid and covering. Insert a piece of cardboard under tack puller to keep from marring the wood. Save good tacks. If tacks break off, remove them with pliers. Cut away buttons used to hold cover to padding. Cut new braid the length of that removed allowing a little extra. (Notice how the braid was put on, also the cover, especially the construction at corners). Press old material and use it as a pattern to cut new cover. Under the outer covering is one of muslin, then the padding or stuffing and a layer of burlap. (Fig. 1) Remove each in turn, retaining the shape of each. Notice their placing and fastening. Turn chair upside down, remove the black cambric under cover exposing under side of webbing. If the frame needs strengthening, a triangular wooden brace or small angle iron may be used at the corners.

If the webbing needs tightening, loosen each strip at one end (one strip at a time). Sew a piece of strong cloth to the free end to give a hand hold to pull it taut, or use instead a webbing stretcher. With webbing held taut, fasten it in place near the edge of the frame with three tacks. Turn end back over tacks and fasten with two tacks placed between the three (Fig. 2).

Rotted webbing will need replacing. Measure the old strips to determine the amount of new needed. Allow one inch at each end for turning under. Replace the middle strip first. Fold under the end one inch and tack in place near inner edge of frame with five 8-ounce tacks. Avoid driving the tacks into old holes. Draw the free end of the webbing across the frame, stretch it tightly and fasten down as directed in above paragraph.

Place the burlap in position on webbing. Work the stuffing over, and replace. Distribute it evenly, and fill the corners well. Add new material if needed. Cover stuffing with two layers of sheet wadding, cut to fit. Place the muslin cover over it and slip tack at center (three or four 6-ounce tacks driven in lightly near the center). Slip tack the sides. Begin the permanent tacking at the center back and work alternating toward each corner. Remove the slip tacks as you work. Space the tacks one and one-half inch apart, driving them only half way in. Proceed the same way across the front and then the sides. Tack all corners last. Keep the muslin cover



as tight and as free from wrinkles as if it were the outside cover. If a wrinkle appears anywhere, remove the tacks needed to straighten it. Then drive all tacks firmly in place. If the stuffing appears uneven, adjust it with the regulator.

Cut the new outside cover one-half inch larger than the old one. Lay it in place, front and back centered. Turn under the edge and slip tack to position two inches apart. Adjust any wrinkles and add a second row of tacks between the first row. Drive all in firmly.

The edge of the cover is finished with upholstery braid or gimpe fastened in place with finishing tacks. Turn under one end of the braid. Fasten it at right hand back corner with the free end to the left. Pull the braid taut with the left hand and fasten it temporarily with a tack some distance from the starting point. Place finishing tacks in center of braid, spacing them evenly  $2\frac{1}{2}$  inches apart. When the temporary tack is reached remove it and stretch and tack another portion. The braid can be stretched for only short distances on a curved edge, and the tacks are placed closer together and nearer the outer edge of the braid. Fig. 3 shows how to turn and miter a corner. If the braid joins at a corner, miter it; if not, simply turn end under and tack. If the seat is not to be buttoned, replace the black cambric cover on underside of chair.

#### Upholstering the Chair Back

Remove braid and buttons from back of chair. Remove the back outside cover first. Tighten or replace the muslin under cover. Rework the filling adding new if needed. Replace it and the front cover. If the back is buttoned, the front cover should be smooth but slightly slack. The tacks are not driven in permanently until the buttoning is done so that adjustments, if needed, may be readily made. Locate places for the buttons. Begin the marking with a row of uneven number of buttons at center of back. Keep the spaces even and place alternate rows of even and uneven number of buttons on both sides of the center row. Thread the upholstery needle with linen twine. Stick it through the shank of the button, re-insert one-quarter of an inch from where it came through and tie with an upholsterer's knot (Fig. 3). Insert a tuft of cotton under it before tightening. Draw tight, tie twice and cut not too short. If desired, all the buttons may be placed and all tying done at once. If no adjustment is needed, the front cover may be permanently tacked in place. The outside back cover is next put in place. It should be of the same material as the front or of a good grade matching, plain colored sateen. Tack finishing braid in place on front and back.

#### Making a Box-Cushion

Determine the size of cushion. Use heavy cotton material for under cover. Cut top and bottom pieces the same size (each one inch longer and one inch wider than the desired size of cushion). Cut a side strip five inches wide and three inches longer than the sum length of sides and ends. Turn under ends of side strip one inch and baste. Begin at middle of one side of top piece and baste top piece and side piece together. Join bottom piece to side piece in the same manner. (The ends of the side piece will overlap leaving a place to insert the filling.) Stitch quarter-inch seams. Turn right side out and box seam the edges and corners (stitch one-eighth-inch in from all edges and corners).

Turn the cover wrong side out. On the top, bottom, sides, ends baste securely a thick layer of cotton batting; turn the cover right side out and fill with hair, tow, or excelsior, packing it firmly. Begin at the farther corners and stuff each very tightly and then fill in between them; continue to fill from the sides toward the center; shake and spread the material with the hands to prevent lumping, pat the cushion on the outside to keep it flat and the edges well squared. When no more will go in sew up the opening and smooth any irregularity of stuffing.

Shape the cushion by sewing diagonally through the top and side beginning on the top, two inches from the edge. (Bring the needle diagonally down through two inches of the depth of the cushion. Insert the needle again one half inch to left of last stitch. When upper edge is shaped, reverse and shape bottom edge in the same way. Tack center of cushion at regular intervals to hold the stuffing in place.)

The outer cover may be made of cretonne, linen, silk, rep, damask, velour or tapestry. The top and the bottom are cut one inch wider and longer than the finished cushion. Each is centered and basted to place over the edge of the cushion and fastened to position with a long slant stitch. The side piece for outer cover is cut one inch wider than the finished cushion and three inches longer than the sum length of sides and ends. Turn the ends of strip under one-half inch and baste. Turn the side edges under one-half inch. Pipe, bind, cord or leave edges plain. Fasten strip to cushion by pinning to place, starting at the center of one side. Sew to cushion using slip or blind stitch. Blind stitch where side pieces join.

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