

Left: To clean the wood's pores of impurities before filling, Frank uses a soft-steel-bristle brush, scrubbing lightly and with the grain. The brass-bristle brush on the bench can also be used. Right: After sealing the dyed wood with a thin coat of shellac, Frank mixes the filler made of powdered whiting with colored pigments and paste wax. He rubs the filler into the grain with a cheese-cloth applicator.

Creating a Decorative Filled Finish Treating wood's pores for color and contrast

by George Frank

hen I left my native Hungary and emigrated to Paris in 1924, I carried all my possessions in a small suitcase that couldn't have weighed more than 15 lbs. But I also carried a wood-finishing method in my head that was to keep me busy experimenting for many years to come. The wood-finishing process involved filling the pores of dyed open-grain woods with a contrasting-color filler to produce decorative effects. My old wood-technology teacher at the Technological Institute of Budapest, Hungary, had showed me an example of decorative filling years earlier on an oak desk that had been blackened and its pores loaded with white filler. The effect was striking! Although he told me that the piece had been made by Central-European cabinetmakers around the turn of the century, he couldn't tell me anything about the pore-filling process other than the composition of the white filler: plaster of Paris.

Three years later, I struck a bargain with the elderly owner of the rooming house where I lived: I repaired her furniture, and she gave me the key to a decent little workshop where I could experiment with decorative filled finishes. After endless research and hundreds of ruined samples-a potbellied stove helped me dispose of my errors and failures—I produced 15 pairs of master samples that helped my fledgling finishing business take a giant step forward.

Of all the finishing methods Ive ever conjured up, the decorative filled finish is probably the most versatile and one of the most successful processes Ive used to enhance wood furniture, cabinets, paneling and architectural interiors. A decorative filled finish is an easy, attractive way to dress up plain woods, giving them color and bringing out the grain pattern. It is accomplished by using a dye of one hue to color the surface of the wood, and a contrasting- or complementary-hue filler to color the pores. Thus, you can create a vast range of decorative effects, adding color as subtly or as boldly as you choose. I'll tell you how I produce a set of samples with my decorative filled finish, including preparing the wood, dyeing or staining, sealing, filling the grain, and finishing. With these methods and a little practice, you can produce decorative filled finishes, like the samples on the facing page, and use them to create colorful effects on your furniture and cabinets.

Preparing the wood-While the decorative filled finish will work on any open-pore wood, the finish is most stunning on ash or red oak. Close-pore woods, like birch or maple, won't work because the pores are too small to accept the filler. To prepare my original master samples, I started by cutting several dozen $\frac{1}{4}$ -in.-thick boards. To make the proportions of the samples pleasing, I cut them 10 in. long by $6\frac{3}{16}$ in. wide, which corresponds to the "golden mean," a sophisticated and visually pleasing ratio that occurs in nature. (For more on the golden mean, see *FWW* #66, p. 78.)

After selecting the best-looking sample boards, I smooth each piece with a steel scraper blade, filed flat and freshly sharpened, and then sand with 100-, 120- and 150-grit papers. To keep the surfaces flat, I stretch the sandpaper over a hand-size block of marble. With sanding complete, I use a clean sponge to apply warm rainwater on the samples. You may substitute distilled or spring water for rainwater; the point is, use water free of chemical contaminants. After the wood has dried, I resand with 220-grit to clean up the raised grain.



By staining or dyeing wood, sealing it and then packing the pores with a contrasting filler, you can create a decorative filled finish that adds color and brings out the grain pattern in any open-pore wood. From left to right, the samples are: red oak with black ani-

The sample boards are now smooth as a baby's bottom; next, the pores have to be cleaned, since the filler can't be introduced into pores filled with debris. I have a powerful air compressor in my shop and flush out most of the sawdust with a blow gun. Then, as shown in the left photo on the facing page, I use a dry, clean wire brush to scrub the wood with the grain to clean the pores of impurities. I prefer a brush with either soft-brass or fine-steel bristles. *Don't* use a brush with coarse, hardened-steel bristles.

Coloring the wood-The smooth, clean, dustless samples are now ready to be stained. For me, coloring the wood is a passion; I feel wood is alive and responds to my care with shades, hues, brilliance, depth and beauty that compensate me for all the preparatory work, To color my first sets of samples, I used mostly natural dyes, combined with some color-producing chemicals. For example, I combined brazilwood extract with varying concentrations of dichromate of potassium to create attractive reds, from crimson to pale pink. One of these colors is shown in the sample on the right. Another one of my favorite colors comes from a natural dye made from walnuts called "brou de noix." This dye changes a light-color wood to a rich brown color, as shown in the center sample. All my natural coloring ingredients are water soluble, and I use them as warm as I can handle, to get better penetration. For more on natural and chemical dyes, see my book, Adventures in Wood Finishing (The Taunton Press, 1981) and my article in FWW #66. A variety of natural and chemical dyes are available from Olde Mill Cabinet Shoppe, 1660 Camp Betty Washington Road, York, Pa. 17402.

As my Paris wood-finishing business grew during the 1920s to employ over two dozen workers (a success bolstered by my winning France's prestigious "Brevet d'Invention" award in 1928 for my finishing processes), we were faced with larger commissions requiring decorative filled finishes done by **te** square meter. I then reluctantly replaced my natural and chemical dyes with aniline dyes. The little lost in the sheer beauty of the natural dyes is gained back in consistency and ease of application with the anilines. I favor the German Arti brand dyes (available from Highland Hardware, 1045 N, Highland Ave., Atlanta, Ga. 30306), preparing them according to the directions on the package. To apply the dye, 1 saturate a small piece of scrap foam rubber and wipe it with the grain, using long, overlapping strokes. If you use a water-base aniline, you may need to lightly resand the wood with very fine paper,

Once the wood is dyed, I apply a coat of shellac using the Frenchpolishing method. Using a tampon (but *no* lubricating oil), I rub on several breath-thin layers of shellac, so that the wood's dyed color is well protected by a transparent shield, but the pores remain open and clean. For more on this, see "French Polishing" in *FWW* #58,

Mixing and applying the filler—I filled the pores on my earliest samples with plaster of Paris, but cleaning off the hardened excess proved too time-consuming. Therefore, I improved the filler mix-

line dye and plain white filler; red oak with red aniline dye and yellow-color filler; ash with walnut stain and peach-color filler; white oak with green aniline dye and blue-color filler; ash with logwood and potassium-dichromate dye and beige-color filler.

ture by substituting a new basic ingredient: whiting, a powdered chalk sometimes called "gilder's whiting," (available from local hardware stores or Pearl Paint Co., Canal Street, New York, N.Y. 10013). This mixture not only fills pores well, but excess is easy to clean off. To make colored filler for a decorative finish, I combined about a cup of whiting with a couple of teaspoons of colored pigment powder (sometimes called earth colors or fresco colors, and available from Constantine, 2050 Eastchester Road, Bronx, N.Y. 10461). Mix the whiting and pigment into a paste by adding a little varnish maker's and painter's (VM&P) naphtha or mineral spirits until the filler is slightly thicker than toothpaste. Also to this mix, I add a teaspoon or so of regular paste wax (available at hardware stores or supermarkets), which acts as a binder. Don't substitute a specially formulated automotive wax, as it may contain petroleum oils or silicones that can cause finishing problems later.

To use the filler, mix it in a clean container, stirring it into a smooth, heavy paste. Then, using a piece of cheese cloth, wipe the paste on the colored wood surface, forcing it into the pores by rubbing in a swirling motion (see the photo at right on the facing page). After the pores are loaded, use a clean piece of cheese cloth and wipe off the excess filler (you don't have to wait for it to dry) *across the grain.* The filler dries completely in two to three days, depending on the thickness of the mixture and the humidity in your area.

Final finishing—With the samples sporting deep, well-defined colors, with contrasting fillers emphasizing the natural markings of the wood, the next job is to preserve and protect the colors with a topcoat of finish. While you can apply most common finishes (such as oil, varnish and shellac) over the filler, it's a good idea to seal the surface with shellac before topcoating and to check finish compatibility on a sample before doing an entire piece.

Now that I've given you the basics for preparing a decorative filled finish, experiment with different stains or dyes and color combinations. You may choose to leave the wood natural and add wild colors—maybe even metallic pigment—to the filler. Another possibility is to bleach the wood before filling and use a very light-color filler, to create a soft, weathered effect. Each of these options works well with my techniques. Just take careful notes and keep track of how you prepare each mixture, so you can duplicate it if it's a winner.

In conclusion, I'll leave you with a true story about how much a decorative filled finish can appeal to a customer. In 1935, I had my eyes on a revolutionary new car, the Citroen 6. Unfortunately, not only was it costly, it was hard to get: one could wait two or three years for delivery. So, I went to the local Citroen dealer, with samples in hand, and I told him, "I would be honored to refinish the paneling in your showroom, if you're willing to do me a little favor..." Three months later, yours truly was driving his own Citroen 6 around the streets of Paris, with a smile on his face.

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