

BAY AREA WOODWORKERS ASSOCIATION

October 1987 - Vol. 6, Issue 10

Box 421195 San Francisco CA 94142

THIRD THURSDAY PREVIEW

The October 15th meeting will be held at Larry Borsian's shop. Directions from S.F. and the East Bay: take 101-S to Paul Ave. Exit. Turn Right and follow around under the freeway on Paul Ave. Go 2 blocks to 3rd Ave. Turn left on third and go about 5 blocks, turn left on Yosemite Street. Park: Shop located at 1775 Yosemite (on the left side of the street). From South: take the 3rd Street Exit and go about 12 blocks to Yosemite Street, turn left.

This month's meeting will be a discussion of toxins in the workplace and hazardous waste storage and disposal. The Right To Know Project have provided two speakers to address the BAWA membership. Scott McAllister, an industrial hygienist for CAL OSHA Consultation service will discuss general hazards specific to woodworkers and how to use Material Safety Data Sheets. Robin Dewey, from the Toxic Control Program of the Department of Public Health, will lead the discussion on hazardous waste problems.

The Right To Know Project is organized to help employers and employees get the assistance and information necessary to be informed of the dangers present in our occupations. With knowledge and understanding of the dangers, we can take the precautions necessary to protect our own and our coworkers health.

FORMALDEHYDE — used in glues for plywood, furniture, and particleboard operation.



Can cause severe eye, nose, and throat irritation, coughing, dizziness, rashes, and headaches. Some people become "sensitized" (they develop an allergic-type reaction that's get worse every time they are exposed.) New animal studies indicate that formaldehyde may cause cancer of the nose and sinuses. Skin contact must be prevented — skin rashes are also common.

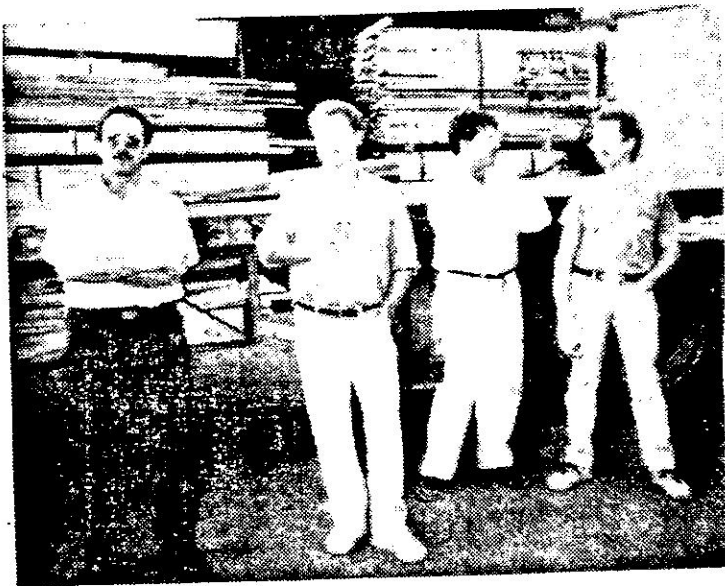
Substitutes: some employers have switched to isocyanate glues but these also pose health problems. Some manufacturers have tried to lower the amount of formaldehyde in the glues, but say that the glue then does not work as well. Manufacturers say they have not yet found a good substitute. Closed systems are crucial when mixing glues or where large amounts of exposure can occur. Adequate ventilation is needed. Wear respirators if levels are high.

HIGHLIGHTS FROM LAST MEETING

White Brothers Lumber Co. hosted a dinner and presentation for BAWA members. Before dinner we received a tour of the facilities which included the various machines used and explanations provided by the expert employees of White Brothers. After a delicious steak dinner; Don White and others gave us the buyer's perspective on availability of different woods. Some of the information passed along at this meeting follows...

Domestic hardwoods keep rising in cost. Europe is buying a lot of American lumber now with the result that White Brothers can barely stock enough oak to keep up with their current client's needs. On the positive side; Don has never seen better quality lumber available. When purchasing red oak; we need to be aware that there are 239 different species of oak available. Color varies according to location so to get uniform color, you must request it in your order. The closed grain woods such as birch, maple, etc. are also "firming up" and can be expected to start going up in price as well. Bill Wert talked alot about the types of plywood stocked by White Brothers. In responding to questions, Bill indicated his decision as a buyer to stock affordable plywood of decent quality. The list of what that includes goes on and on. The presentation closed with a discussion of the exotic woods and plys that White Brothers carries. Samples of Australian Euclid (looks like lacewood) were passed around by Tony and he indicated that eucalyptus is available on a fairly reliable basis. Other exotics seem to be on a catch as catch can basis with the scarcity increasing and no reforestation plans in operation to guarantee the availability of exotics from Brazil, etc. in the future.

All in all, it was a very informative and enjoyable meeting. The members of BAWA appreciate the time and trouble taken by White Brothers lumber.



CLASSIFIEDS

TOOLS FOR SALE: Rockwell RC-33, 13" planer with extra knives and dust hood = \$850.00 Delta 14" bandsaw with gear reduction (vintage) = \$450.00 Binks Pressure Pot with Devilbiss spray gun, regulators and hoses included = \$300.00 Call George Rezendes 824-3122.

BLACK WALNUT Hardwood - air dried 5 years - chainsaw milled. \$2.50-3.50/ board foot. Contact: Bob Lambertson 342-8468.

Many Central Americans seeking refuge in our country would like to continue their carpentry but lack the tools. Each of us have tools stuck in some forgotten place in our garages, shops and basements. These forgotten or little used tools could help support a family now struggling in our country. If you can help with a donation of both hand and power tools; please call Bruce or Jill Thomas-Bignami at (415)939-8784. We will pick up if needed or just bring them to the next BAWA meeting.

The Woodsmith Store in Berkeley is looking for woodworkers with retail experience to act as salespeople or manager trainee. Call Terrie, 540-6247.

CALENDAR

The Southern California Holiday Woodworking Show will be held December 4-5-6, 1987. Location: Los Angeles County Fairgrounds, Pomona, Ca. The Harvest Festival will also take place at the same time and place.



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WOODWORKING HAZARDS

By Monona Rossol, M.S., M.F.A.

Wood and Sawdust

Wood is probably the most commonly used material in the arts and in home hobbies. Softwoods, hardwoods, plywood, and exotic woods for furniture or marquetry are often used. However, almost any type of wood may end up in the shop when antique or used objects are repaired or modified. This variety of woods means that woodworkers, too, can encounter a wide variety of woodworking health hazards.

Almost everyone who works with wood considers sawdust and sanding dusts as nothing more than a nuisance. However, these dusts also can be health problems. For some years it has been known that some wood dusts can cause allergies, that some are toxic, and that others contain toxic substances such as silica, pesticides, and preservatives. It also has been established that certain types of cancer are related to wood dust exposure.

Cancer

The most prevalent type of cancer related to wood dust is cancer of the nasal cavity and nasal sinuses. A recent twelve-country survey showed that 61 percent of all nasal and nasal sinus cancer cases were found among woodworkers. It also showed that an alarming 78.5 percent of a particular nasal cancer, adenocarcinoma, occurred in woodworkers.

Analysis of these woodworkers' exposures showed that many had worked only with wood dust and not with solvents or other chemicals, which are what people often associate with cancer. Hardwood dusts are definitely implicated, but no studies have been conducted on workers exposed only to soft woods, so broader conclusions cannot be drawn.

Statistics show that 7 out of 10,000 woodworkers will develop nasal adenocarcinoma each year, compared to only 6 out of 10 million annually in the general population. The average latency period (time from first exposure to onset of cancer) is forty to forty-five years. In some cases, however, very short exposure periods—as little as eighteen months—followed by decades without exposure have resulted in nasal cancer. It has been estimated that about 2.5 percent of furniture workers will develop nasal cancer within fifty years of entering the furniture industry.

Most woodworking artists and hobbyists are exposed to much less dust than furniture workers, and they need not consider giving up wood as a material. But it is important to control this wood dust with dust collectors and vacuum cleaners (The American Conference of Governmental Industrial Hygienists recommends keeping both soft and hard wood dusts below five milligrams per cubic meter of

air during an eight hour work day). Woodworkers also should report any persistent nasal dripping, stuffiness, or frequent nose bleeds to a physician familiar with wood dust hazards.

Dermatitis

Irritant Dermatitis. Irritant chemicals in the sap and bark of some trees can cause a reddening and blistering of the skin called irritant dermatitis. This disorder is not likely to appear in wood workers unless they cut trees, saw raw timber, or work with an unusual wood such as cashew.

Allergic Dermatitis. This skin disease results from an allergy to certain sensitizing (allergy-causing) chemicals in some woods. Its symptoms may start as redness and irritation and may proceed to severe eczema, fissuring, and cracking of the skin anywhere the body has been touched by the offending sawdust. The sensitizing chemicals are most likely to be found in many common hardwoods, so anyone using these woods is at risk. (see table 1.) Some exotic woods have even caused dermatitis in persons who were exposed only to the *solid* wood, not to its dust. Rosewoods (Papilionaceae family) are one such type of wood. Prolonged contact with rosewood musical instruments, bracelets, or knife handles has been known to cause allergic dermatitis.

Should you suspect that a skin problem is caused by a particular wood, a doctor can conduct a patch test on your skin. Should you need to have an unusual wood identified, send a small piece of it [not sawdust] for testing to Forest Products Research Laboratories, Madison, Wisconsin.

Respiratory System Effects

Upper Respiratory Effects: Some woods can damage mucuous membranes, causing effects like sneezing and dryness and soreness of the throat, larynx, and trachea. These effects may progress to nosebleeds, coughing blood, nausea, and headache. Eye irritation [conjunctivitis] usually occurs as well. Sequoia [Taxodiaceae], western red cedar [Cupressaceae], and boxwood [Ruteceae] are especially noted for some of these effects.

Lung Problems: Upper respiratory effects are seen in most workers exposed to irritant sawdusts. However, asthma, alveolitis [inflammation of the lung's air sacs], and other lung diseases affect only a minority of such workers. Woods such as sequoia, teak, and western red cedar are known to cause these diseases. A few woods such as sequoia and cork oak can cause recurrent bronchitis or lung inflammation, resulting in permanent lung damage.

Lung symptoms may not appear until several hours after

Sawdust exposure, making diagnosis difficult. Any recurring or persistent lung problems should be reported in detail to a physician familiar with wood dust hazards.

Toxic
Some woods contain small amounts of toxic chemicals which may be absorbed through the respiratory tract, intestines, or occasionally through skin abrasions. These chemicals may cause symptoms such as headache, salivation, thirst, nausea, giddiness, drowsiness, colic, cramps, and irregular heart beat. In exceptional cases, poisoning has occurred from food containers, spoons, or spits made from woods such as yew or oleander.

Should you suspect that your symptoms are related to a particular wood, a physician should be informed and the wood should be identified.

Precautions With Wood and Sawdust

1. Try to purchase wood from suppliers who know a good deal about the kind of wood they sell, where it is from, and how it was treated.
2. Avoid wood treated with PCP, arsenic, or creosote.
3. Equip all woodworking machinery with local exhaust dust collection systems. These systems ideally should vent to the outside rather than return air to the shop. [See: *Ventilation: A Practical Guide*, COH, 1984.]
4. Wear a NIOSH-approved dust mask when dust cannot be easily controlled such as during hand sanding.
5. Wear protective clothing to keep dust off the skin. Wear gloves or barrier creams when handling woods known to be strong sensitizers.
6. Practice good hygiene. Wash and shower often, keep the shop clean.

Some Woods and Their Health Hazards

Commercial Name(s)*	Family	Origin	Health Effects
Maple	Aceraceae		D
Cashew	Anacardiaceae	America	D
Birch	Betulaceae		D
Gabon Mahogany	Burseraceae	Africa	D, C-R, A, AL
Redwood	Caesalpiniaceae	America	T
Virginian pencil cedar,	Cupressaceae	America,	
Eastern red cedar		Asia	D, C-R, A, T
White cedar, Western red cedar	Cupressaceae		D, C-R, A, T
White cypress pine	Cupressaceae	Oceania	D, C-R, A
Chestnut, Beech oak	Fagaceae		D, C-R, A
Walnut	Juglandaceae		D, C-R, A
American whitewood, Tulip tree	Magnoliaceae	America	D
Red cedar, Australian cedar	Meliaceae	America,	D, C-R, A
		Asia	
Mahogany, Honduras Mahogany,	Meliaceae	America	D, C-R, A, AL, T
American Mahogany, Baywood			
White Handwood	Moraceae	Oceania	D, T
Alpine ash, Yellow gum,	Myrtaceae	Oceania	D, C-R, A
Mountain ash			
Ash	Oleaceae		D
Ebony, rosewood, blackwood,	Papilionaceae	Africa, Asia,	D, C-R, A, T
jacaranda, foxwood		America,	
Pine, silver fir, European larch	Pinaceae		D, C-R, A
Douglas fir, red fir, Douglas spruce			
European spruce, whitewood,	Pinaceae	Asia	D, C-R, A, AL
black spruce			
New Zealand white pine	Podocarpaceae	Oceania	D, C-R, A
Cherry, black cherry	Rosaceae		D, C-R, A
Boxwood	Rutaceae	America	D, C-R, A
Poplar	Salicaceae		D, C-R, A
Sequoia, California redwood	Taxodiaceae	America	D, C-R, A, T

Key to Health Effects

D	Dermatitis	A	Asthma
C-R	Conjunctivitis-rhinitis	AL	Allergic Asthma
		T	Toxic effects

*Different commercial names are sometimes given to different species within the same family. For example, oak, chestnut, and beech are in the same family and have the same health effects. Some commercial names are very misleading about the family to which the tree belongs. For example, redwood and California redwood are not in the same family; white cypress pine, pine, and New Zealand pine are not in the same family. To identify a wood's hazards, its exact species and origin may be required. Woods can be identified by the Forest Products Research Laboratory, Madison, Wisconsin.

This table was derived from the International Labor Organization's *Encyclopedia of Occupational Health and Safety*, vol. 2, third (revised) edition (Geneva, 1983).

Wood Additives and Preservatives

Pesticides and preservatives are introduced into wood while it is being timbered, processed, and shipped. These chemicals also may cause dermatitis or other illnesses. Almost every wood you use has been treated in some way, and it is almost impossible to find out exactly what chemicals have been used. They can vary from relatively innocuous polyethylene glycol (PEG) and denatured alcohol to highly toxic pesticides. Some chemicals banned in this country are added to wood routinely by foreign loggers and shipping companies to prevent insect and mold damage during shipping.

Domestic wood processing chemicals include potassium dichromate, ethyl triethanolamine, glycol humectant, naphthenic acid, copper hydrate, zinc and copper naphthenate, creosote, pentachlorophenol, and a number of arsenic compounds. These last three preservatives are especially hazardous. They are not only acutely toxic, but are suspected of causing cancer, mutations, and birth defects in humans. For this reason, the Environmental Protection Agency (EPA) recently reclassified these wood preservatives as Restricted Use Pesticides. They now can only be sold or used by licensed certified applicators or persons operating under their direct supervision. All wood products which have been treated with these products now must be labeled.

Pentachlorophenol (PCP)

PCP has been widely used in the United States and was commonly found in treated wood and some over-the-counter wood products such as stains and preservatives. These industrial grade PCP's are especially hazardous because they contain very toxic impurities, including some of the dioxins.

PCP can enter the body by inhalation, ingestion, and skin absorption. PCP exposure can result from applying PCP-containing products, handling or working with PCP-treated wood, living or working in buildings built from PCP-treated wood (a situation noted especially in treated log houses), and burning treated wood.

To avoid exposure to PCP, woodworkers should not use wood known to be preserved with PCP or its salts. In addition, supplies of wood stains and preservatives should be checked and PCP-containing products should be discarded. Trade names to watch for include: Chem-Penta, Chemtrol, Chlorophen, Dovicide EC-7, Dovicide G, Durotex, Lauxtal A, Na-PCP, PCP, Penchlorol, Penta, Pentachloropheny Laureate, Pentakil, Pentanol, Pentasol, Permacide, Permanguard, Permasem, Permatox, Sinituho, Term-1-trol, and Weedbeads.

Arsenic

One of the most commonly used wood preservatives is inorganic arsenic. A shop worker may be exposed if he or she handles, cuts, or tools arsenic-preserved wood.

Arsenic is suspected of causing cancer and birth defects as well as accumulating in the body to produce progressive symptoms including tiredness, headaches, nausea, garlic-smelling breath and perspiration, numb and weakened hands or feet. Exposure to arsenic-containing sawdust may cause skin rashes and sore and swollen eyes and throat.

Woodworkers should avoid arsenic-preserved wood. Woods which are likely to be arsenic-preserved are those intended to last a long time or come into direct contact with water—including wood for home and building construction, marine or boat building, fence posts, and park furniture. Some of these woods can be identified easily because they are slightly green in color. The greener the

wood, the more toxic it is. However, some arsenic preservatives do not color the wood. Persons who use scrap lumber should be especially cautious.

Creosote

Wood treated with creosote should also be avoided. It is usually easy to identify because of its brown color or tarry surface (as in fence post treatments).

Solvents

Woodworkers use many products which contain solvents including finishes, adhesives, and paint removers. All solvents are toxic and most are flammable.

In general, solvents can cause dermatitis on skin contact and their vapors can irritate the eyes, nose and throat. Once inhaled, solvents can enter the blood stream, damage internal organs such as the liver and kidneys, and can cause a narcotic effect on the nervous system. Symptoms of solvent narcosis may include light-headedness, dizziness, headache and nausea. Woodworkers should be aware that solvents can impair judgement at relatively low levels making accidents more likely. (For more detailed information about solvents, see COH Publication List: "Common Solvents and Their Hazards.")

Glues And Adhesives

Many skin conditions and allergies can be caused by wood glues and adhesives. Epoxies, for example, can cause blistering, allergic dermatitis, and asthma. Adverse reactions to epoxy are seen in almost 50 percent of all workers who use it regularly.

Urea-formaldehyde and phenol-formaldehyde resins and glues release formaldehyde gas which is a strong eye and respiratory irritant and allergen. (For more detailed information see COH Publications List: "Formaldehyde.")

Glues and cements which contain solvents can dry and defat the skin making it more subject to infections.

Polyvinyl acetate (PVA) emulsion glues like Elmer's are exceedingly safe in comparison to many other types of wood glue. These glues require longer setting times than some of the solvent adhesives and epoxies, but you should use them anyway, whenever possible.

Safe use of the more hazardous adhesives requires avoiding skin contact, sparing and careful use, keeping containers closed as much as possible during application, and good general shop ventilation.

Vibrating Tools

Almost every woodworker has experienced a tingling in his or her hands or arms after using vibrating tools like orbital sanders or chain saws. In most cases the tingling disappears within an hour. However, a significant number of those who use vibrating tools now are known to be at risk from a more permanent condition commonly called "white hand," "dead fingers," or Raynaud's syndrome.

This disease, more correctly called Vibration Syndrome, progresses in tool users through stages of intermittent tingling and numbness (even when tools have not been used), through blanching (turning white) of fingertips especially in cold weather, and to extensive blanching of fingers well beyond the tips in both hot and cold weather. Severe cases lead to much pain and ulcerated and gangrenous fingers.

A 1983 NIOSH comprehensive study concluded that vibrating tools can cause advanced stages of this disease in as little as one year's regular hand-tool use. NIOSH recommends redesigning tools, being alert to symptoms, maintaining tools well, taking ten-minute work breaks after

every hour of continuous exposure, maintaining normal and stable workplace temperatures (especially avoiding cold temperatures), and not grasping the tool harder than needed for safe use (tight gripping of the hands increases the likelihood of damage).

Noise

Noise levels are measured in decibels (dB) on a logarithmic scale on which every increase of 10 dB means a tenfold increase in noise intensity. For example, ordinary conversation averages about 60 dB while the average circular saw produces between 100 and 109 dB. Saws, planers, routers, sanders, and the like can easily produce a cacophony of ear-damaging sound waves.

The longer one is exposed to excessive noise, the greater the damage to the ear. This fact is reflected in the OSHA standard for noise which restricts louder sounds to shorter periods of time. For example, the Permissible Exposure Limit for an eight hour day is set at 90dB. Saws, planers, routers, sanders, and the like can easily produce a cacophony of ear-damaging sound waves.

Measuring precise noise levels takes some skill and special equipment not usually available to art and hobby woodworkers. However, you may assume that you need ear protection if you must talk loudly to be heard one or two feet away or if you have ringing of the ears or difficulty in hearing for a while after work.

Prevention of hearing damage begins with the machines which make the noise. Try to purchase well engineered machines which run quietly. Some machines also can be purchased with dampening equipment such as mufflers and other sound absorbing materials. All machines will run more quietly when they are well oiled and carefully maintained. Mounting machinery on rubber bases will reduce vibration transmission and rattling.

If noise levels are still high in the shop, wear ear protection. For lighter noise, special ear plugs can be purchased (do not improvise with cotton or other materials). Use ear muff-type protectors for heavy noise exposures.

Machine Guards

OSHA standards require guards on saws and many other pieces of woodworking equipment. Yet machines commonly are found unguarded in art schools, studios and homes. The accident potential of these machines is obvious and

both home and industrial shop; statistics document that they occur frequently.

People who use guarded saws for the first time may find them awkward. But workers accustom themselves quickly to guards on saws (and other machines), and soon would not be without them.

Fire Hazards

The National Fire Protection Association reports that scores of fires and explosions occur annually in woodworking shops. One reason is that fine wood dust in a confined area can explode with tremendous force if ignited with a spark or match. Combining wood dust, machinery, and flammable solvent vapors and liquids greatly increases the hazard.

Fire prevention authorities agree that adequate ventilation is the best way to curb the risk of fire. Ventilation should be combined with safe solvent handling and good housekeeping procedures to remove dust and scraps regularly.

Medical Surveillance for Woodworkers

1. Know the symptoms and diseases your woods can cause. Avoid toxic or allergy-provoking woods when possible.
2. Be able to give your doctor a good occupational history. Know the chemicals to which you are exposed by having Material Safety Data Sheets available on the products you use. Keep records of exposures and symptoms.
3. Suspect that a health problem may be related to your work if it improves on weekends or during vacations.
4. Have your physician pay special attention to examination of your sinuses and upper respiratory tract. Report symptoms such as nasal dripping, stuffiness or nosebleeds.
5. Have a pulmonary function test included in your regular physical examination every two or three years to detect lung problems early.
6. Have a base line hearing test and periodic hearing tests as often as your doctor suggests.
7. Be prepared for accidents: know your blood type, wear an alert tag if you have special medical problems, and keep up your tetanus shots.
8. Should symptoms or illness occur and persist even after treatment, seek the advice of a specialist such as a doctor who is Board Certified in Occupational Medicine.



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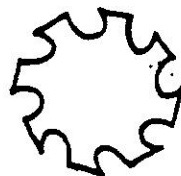
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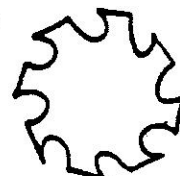
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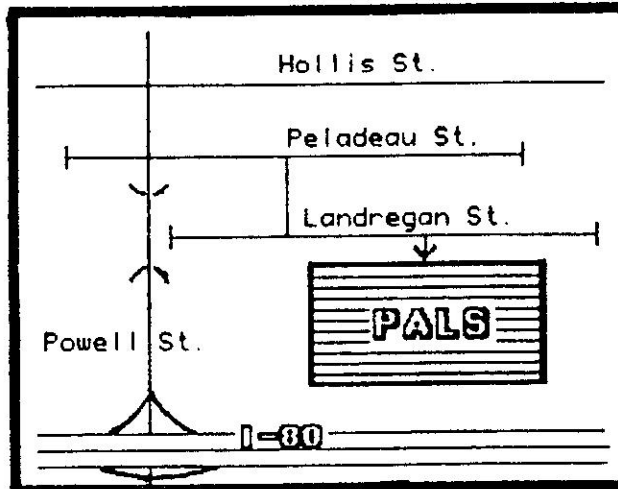
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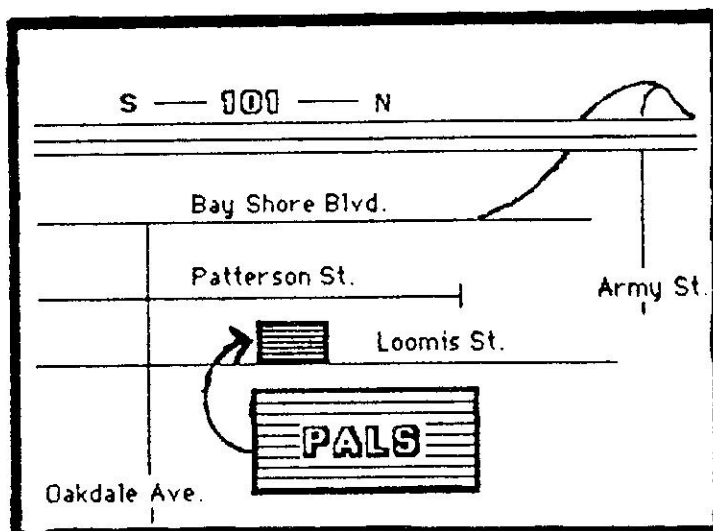
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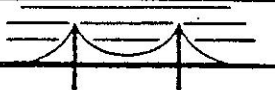
The mainmast from a large racing yawl was lying on the dock in two heavy pieces, broken on San Francisco Bay on a midsummer weekend and presenting a particularly challenging repair for the woodworkers of the old boatyard when they arrived for work one Monday morning.

The break was very jagged with splits running for a few feet in both directions. Several of the carpenters wondered whether it would not be faster to make a new spar, but the more experienced men felt that it could be properly repaired with the careful addition of some new wood so the project was begun.

A piece of clear, straight grained, air-dried softwood was located through a wood broker and loaded into a truck for Alameda. Meanwhile, a spar bench was leveled across a row of horses and the two broken pieces, each weighing over two hundred pounds, were set up on its dead-flat surface. It was immediately evident that neither of the two broken parts was straight. Another complication appeared when a pair of "wind sticks" were set up, one through the sheave slot at the top of the mast and one clamped to the tennon at the bottom. A twist of about ten degrees was evident as soon as the two sections of the sail track batten were aligned. It was determined that the part of the mast which contained the break, however, was reasonably straight and, since the owner said that he always pulled the mast "into column" (to make it straight) with the rigging, the project continued. The twist was deemed not unusual for spars of that age and also not a serious problem.

The two parts of the break were brought as close to their original relationship as possible. Measuring splinters and voids indicated a 2 3/8 inch separation. Index marks were made on the mast five feet away from the break in both directions with the extra 2 3/8 added to insure that the repaired length would match the original. Chocks were bandsawn to support the mast in its natural curve and these were nailed to the bench. The mast was then marked at each place where these chocks abutted it so that when the broken section was sawn out and the halves were being worked on independently they could always be placed back in their original relation to each other [as they would need to be during the glue-up]. Cracks were traced and marked with patches of masking tape so that the location of the scarfs would be entirely in undamaged wood.

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Several plywood squares were cut a few inches larger than the diameter of the spar and bandsawn so that they would fit snugly around the mast with one edge bearing flat on the spar bench. Cleats were screwed to these plywood "yokes" and then screwed into the mast itself. A plywood box was built around each set of yokes and the cuts for the scarf joints were layed out on the tops of the boxes. Each piece was then turned over and bottoms were added to the boxes so that the mast sections would remain in exactly the same attitude when pushed across the band saw table as they had been when they rested on the spar bench. The two splintered ends were then cut off with a hand saw.

The scarf joint required a deep slot called a "bird's mouth" to be cut into the upper section and a sharp, flat point cut onto the lower piece. These cuts would be matched by the cuts on the new material with a slope of 12 to 1.

The new material arrived and was surfaced and glued into two sub-assemblies with cut lines drawn on the squared edges. When the bandsaw had been checked for squareness in both directions, and its table rubbed with soap, the first cut was made straight up the center of the bird's mouth. The purpose of this cut was to cause a triangle of wood to fall away at the end of each "business" cut thus eliminating the need to back the saw blade out of a 38 inch kerf. These side cuts had to be very clean, especially near the tip where very little cleaning of the glue surfaces could be accomplished. With the help of a rolling cart that could be cranked up and down and two yard workers who could be signaled left or right, all the cuts were made in about ten minutes. What remained of the boxes was unscrewed from the mast and the rest of the afternoon was spent with edge tools and 80 grit paper making the eight bandsawn faces flat and true and smooth enough for good wood-to-wood contact throughout the joint.

This care with the glue surfaces was made necessary by the yard's choice of glue. They had been very successful with brown glue (urea resin) ever since it first appeared on the market many years ago. The younger carpenters, left to their own devices, would probably have chosen an epoxy resin or perhaps several resins, - penetrating, and then slightly thickened, - but tradition prevailed and the bandsaw marks had to go.

Clamping pads were cut to accomodate the radii of the mast and padded to avoid denting it. Clamps were gathered from around the yard and one section of the mast was accurately positioned in its supporting chocks and clamped to the bench. After the glue had been spread on every surface and the mast sections and new wood properly aligned, the second mast section was clamped to the bench to prevent "growth" while the inclined planes were squeezed up tight. Paper was used to prevent bonding everything to the bench and the clamps were left on over a weekend.

When the clamps had been removed and the surface glue scraped off, lines were drawn on the faces of the new material to show where the first lengthwise chamfer cuts should be made. Because there was no taper through this area, the accurate placement of these lines was quickly derived by centering a circle the same size as the mast within a square the same size as the new wood and then noting where lines drawn tangent to the circle and sloping at 45 degrees intersected the edge of the square. The block was then "eight sided" with a Skilsaw and

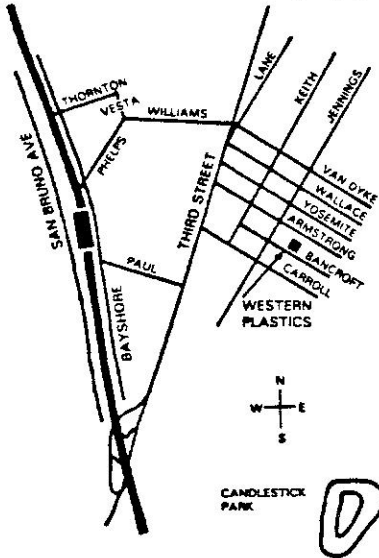
"sixteen sided" with an electric plane. The rest of the rounding process progressed from a jack plane and lots of pencil lines to a glass brick or "grill block" and then to 80 grit sanding belts cut open and used as if shoes were being shined. After the cross-grained sanding scratches had been removed and the rest of the mast had been wooded down with sharp scrapers, everything received a coat of thinned varnish.

When the project had been completed, the superintendent was asked whether building and rounding solid spars like this one "back in the golden age of sail" had actually been done this way or did the old timers perhaps have some tricks to save time and energy?

"We did it pretty much the same way," he answered, "but without the power tools. The trick has always been finding a clear eight-by-eight, straight and dry --- and sixty feet long."

Gary Carter

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FROM THE EDITOR

This month's upcoming meeting is important to everyone involved in building and finishing of furniture and cabinets. Please attend this meeting prepared to ask detailed questions about the hazards and the safety precautions needed for your own particular shop and type of work. The Right To Know Project has funding for only 2 years (at the time of this writing, they are in their second year) so the availability of information and expertise is not guaranteed to be there when each of us gets the urge to become informed. Take advantage of these two speaker's time and expertise. This is our opportunity to know what we can do to protect our health before its on the way out!

Kate Herald
editor

excerpt from Woodworkers Group of N.S.W

THE AIRWAYS AND THE WOODWAYS

What do you listen to in your workshop, between the clamour of machines? If you listen to a radio, have you ever thought what influence the programme is having on your turning, joinery, carving or, most importantly, design concepts.

Recent studies in the UK, USA and West Germany have shown that an increasing measure of influence on the workshop output is dictated by the radio input of each particular workshop. For instance, the continual listening to the classics (Brahms, Bach, Beethoven, baroque), etc, tended to give certainly a conservative design direction but more so a definite finesse in work details. Commentary in these programmes is often long winded and it shows in unusual lapses in the attention to detail. An example of this is screws not headed in parts of cabinets.

On another tack, the constant blatter of popular music (Rock & Roll) shows a definite new wave design direction and perhaps innovative jointing techniques. Unfortunately many rejected pieces tend to be found in these workshops due to the fluctuations in rhythm and continual variety put out by these programmes giving rise to continual interruptions to concentration.

These observations make up a tiny amount of the documentation available for those interested in this concept. The idea of altering your cabinet making ability by what you listen to seems far fetched but the information is seemingly well founded.

NICK HILL

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COMPANY

Our September meeting at White Bros. was certainly one of the high points of our year. White Bros. really knows how to put on a feast, and what could be a more appropriate location for such a gastronomic event than one of the Bay Area's largest and finest lumber companies? White Bros., of course, has been an East Bay tradition for many years and continues to be a valuable and ever expanding source for woodworkers. The steak barbeque which they treated us to at the September meeting was outstanding and on behalf of BAWA, I want to express our great thanks to Don White and all of the crew at White Bros. But does the support and generosity last beyond such events? Let me relate an incident that shows that it certainly does. I recently made 3 oak doors for a job using lumber from White Bros. I've always gotten excellent material from them but this time something was wrong and for reasons which I wasn't sure of, the doors developed numerous splits (after installation, unfortunately) and had to be replaced with new ones. Seems that I had hit a bad batch of oak. I took the damaged doors over to show Don White to see if he had any ideas as to what went wrong. He was astonished when he saw them and immediately offered a generous quantity of lumber at no cost to help compensate me for my losses on this job. And the problem wasn't even White Bros.' fault. The point is that White Bros. is the kind of supplier who stands behind their products and supports their costumers beyond anything that could be called standard practice. To me, that's worth a lot and it shows a partnership between supplier and customer that is rarely seen.

For those of you who might not be familiar with White Bros., here are a few things to remember:

1. They carry a wide range of solid lumber, plywood and mouldings.
2. Veneers and new exotics are always on hand.
3. You can hand select your own material from stand-up racks.
4. Custom milling services are available on site.
5. 4 x 10 birch and red oak plywood is stocked in 1/4" and 3/4".
6. Special needs can be accomodated on request.
7. BAWA members qualify for special pricing.

Peter Good

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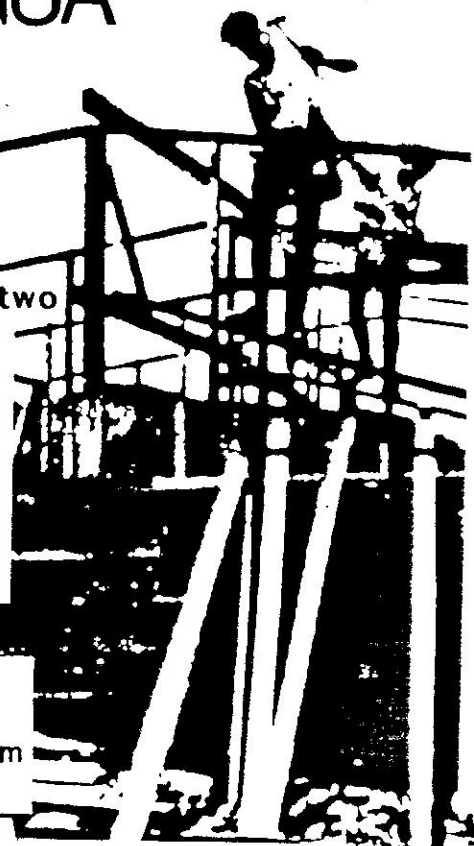
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We will be building houses at two cooperatives in the Matagalpa region, in rural Nicaragua. The housing will expand the productive capacity of the cooperative by accommodating more families, including some displaced by the war.

Train

Help train Nicaraguan workers in the use of building equipment and techniques: from felling trees to roofing.



SCHEDULE: 8 contingents of 20 construction workers will be in Nicaragua for 6 weeks, with options to stay and see more of the country, on the following dates:

Dec 3-Jan 14 Jan 21-Mar 3 Mar 10-Apr 21 Apr 28-June 9

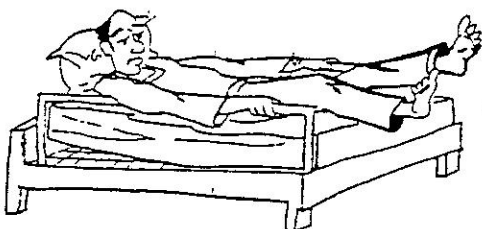
For further information call or write:
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P.O. BOX 1151, TOPANGA, CA 90290 TEL: (213) 455-1340

WOOD DUST —

Some wood dusts can cause headaches, nausea, vomiting and loss of appetite. Others can irritate the skin, nose and throat or cause skin rashes. Some cause allergic-type reactions.


There is also concern about wood dust causing cancer. Studies of wood furniture workers showed a higher than expected rate of nasal cancer (cancer of the nose and sinuses).

Needs to be removed at point where dust is generated. Engineering controls such as good ventilation are crucial. Good housekeeping will keep dust levels down. Housekeeping should be done by vacuuming or wet methods. Compressed air should not be used for cleanup because it blows the dust back into the air. Personal protection, such as respirators, is needed if dust levels are high or if ventilation is not working right.



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BAWA DATA

The Bay Area Woodworkers' Association is an organization of woodworkers who have banded together to promote woodworking in both technical and aesthetic directions. This newsletter is a monthly publication intended to serve as a communications vehicle and a source directory for the membership of this Association.

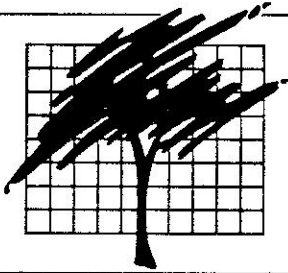
Membership dues are \$30/year, for which any member may participate fully in the Association, in accordance with the guidelines set forth in the By-Laws. This includes voting power on any issue brought before the membership for a vote, notification of the monthly shop talks and demonstrations put on by the Association, receipt of this newsletter each month, and privilege of participation in any special discount programs sponsored by local businesses in conjunction with this Association.

Checks for membership dues may be made out to the Bay Area Woodworkers' Association and sent to P.O. Box 421195, San Francisco, CA 94142. Membership cards will be issued to all members in good standing.

Copies of the By-Laws are available at all monthly meetings, or can be requested by mail.

The monthly shop talks and demonstrations are held on the third Thursday of each month at 7:30 p.m., at a location announced both in the newsletter and at the previous meeting.

The monthly executive committee meetings are held on the fourth Thursday of every month, and are open to any interested members. To arrange attendance, contact any member of the executive committee by telephone or the address given above.



BAY AREA WOODWORKERS ASSOCIATION

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