WOODTURNERS GUILD OF N.S.W.

By hand and eye

NEWSLETTER No. 1/84 FEBRUARY, 1984.

OBJECTIVES

a) To promote the craft of woodturning.

b) To bring together individuals interested in woodturnin

c) To exchange woodturning ideas and knowledge through such avenues as :

Discussion
Seminars
Demonstrations
Recurring Education
Competitions

d) To encourage interest in woodturning through the display of turned articles at exhibitions, shows, fairs, etc.

e) To inform members of the availability of turnery timbers and associated items. Where possible to arrange purchase at prices advantageous to members.

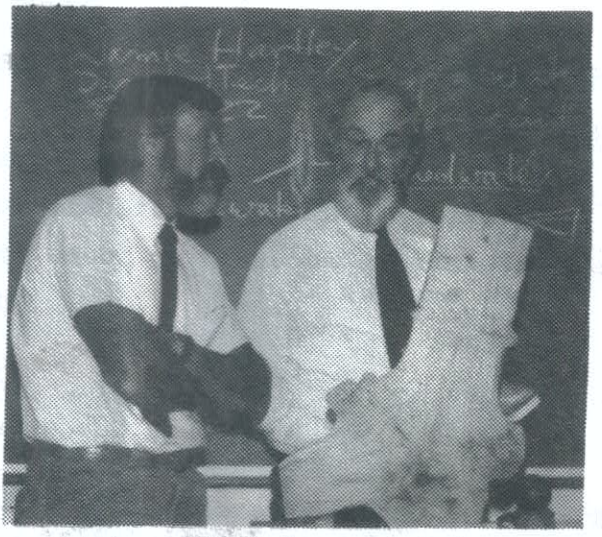
f) To seek and exert a progressive influence on the design and techniques of woodturning.

NEXT MEETING: 27th April, 1984
Subject: Demonstration Night.
Bowl turning by Mike Darlow.
Tool grinding.
Auger boring.
Flute and reeding jig.

All correspondence to: THE SECRETARY
WOODTURNERS GUILD OF N.S.W.
21 WOODBURN AVE.,
PANANIA. 2213

George Hatfield

John Stewart-Smith



GARDEN TIMBERS

John Stewart Smith gave an interesting and informative talk directed mainly to the home drying of garden timbers. The samples he brought along showed that many of the non-commercial timbers which are often available green are just as useful and attractive for the amateur woodworker as commercial varieties. The examples included Orange, Persimmon, Mulberry, Native Olive, Christmas Bush, Cotoneaster and even tree fern which is not a true timber but which can be used if you are prepared to cut out the hard woody central portion and glue into usable sizes.

The message came through clearly that any green timber that comes your way from friends, neighbours or the tip is worth opening up to see whether it is worth seasoning for later use.

Unfortunately there is little or no collected data on these non-commercial timbers, but the opportunity is there for such information to be gathered by the members of the Guild and recorded through the Committee.

All timber contains sap, which is predominantly water with small quantities of sugars, salts and colouring matter in proportion up to 150% of the dry timber weight and this must be reduced under controlled conditions to the equilibrium point of 10 to 15% at which it will vary with the amount of water vapour in the atmosphere. Note that since the sap is predominantly water it cannot be washed out with water. Such a misconception arises because logs and baulks which cannot be seasoned immediately are often kept saturated to avoid premature and uncontrolled surface drying.

Hardwoods are generally deciduous and have broad leaves. The cell structure is "pored" i.e. could be likened to cans stacked on top of each other. Softwoods are evergreen, have needle shaped leaves and the cell structure is non-pored (trachead) i.e. like needles pointed top and bottom and thicker in the middle.

The water is combined in the cell walls, and free water is enclosed within the cell. This free water dries first without shrinkage of the timber.

The drying action is from the surface of the timber with water migrating from the centre to the outside, and ideally, the drying rate from the surface should be the same as the migration rate through the timber. Evaporation is about 50% more rapid through the end grain than through the sides. Since splitting and cracking result from the shrinking of dryer portions being restrained by the timber which is still wet, orderly removal of the water is essential.

Sealing the end grain (both ends) is the first step. Commercial sealers are bitumen based, but any convenient sealer such as paint, parafin wax, or one of the commercial floor waxes is suitable. Paint sometimes penetrates deeply, and wax is a good vehicle for fungus growth although this does not penetrate more than a few millimetres. Sealing the end grain results in drying primarily through the sides of the timber and too rapid drying causes surface checking. It should

be noted too that some timbers, particularly those with pronounced medullary rays such as shee-oak are very difficult to dry without cracking and splitting. Consequently non-commercial timbers which repay the time and trouble of seasoning are a matter of trial and error. It is usually better to remove the bark as retention of the bark inhibits drying.

AIR DRYING

Having removed the bark and sealed the end grain store the timber under cover in a moderately dry area with reasonable air circulation for six to nine months. Drying should not be forced and it can be advantageous in a period of low humidity to put the timber in a clean perforated plastic bag to reduce the rate of drying in the initial phase, but ventilation must be adequate to avoid condensation with resultant fungus growth. After the initial period move into a warmer area again under cover and with reasonable air circulation and store until the weight becomes constant. (Weight can vary plus or minus approx. 2% through variation of atmospheric moisture).

Because air drying is a long process and cannot be shortened successfully it is necessary to think well ahead. In our conditions it is better to cut the tree in spring because spring and summer are more humid than the winter months and problems are minimised by slower evaporation when the timber is wettest.

The moisture content of a live tree varies only slightly in the different growing seasons and there is no real benefit in felling when the tree is in a period of minimum growth.

The passage of time after initial seasoning does not affect the moisture content because it is then dependent on the air humidity of the environment. This is best exemplified by well known occurrences of timber in antique furniture cracking when the pieces are kept in air conditioned rooms with humidity sensibly and consistently lower than normal air humidity.

CHEMICAL DRYING

An early method of drying timber was to coat the surface with common salt. This is successful as far as drying is concerned, but the residual salt affects tools and equipment during processing.

A modern equivalent of this procedure is to coat the timber with Sodium Alginate. When this dries and flakes off, the timber is seasoned. Copies of a paper on this method can be made available. It should be noted however that the article relates to sawn timber with a maximum thickness of 50 mm and recommends that it be treated immediately after milling.

KILN DRYING

Practical Woodworking of July 1974 published an article on the construction of a small kiln which is said to provide the equivalent of 12 months air seasoning in five hours.

The principle of kiln drying is to provide a humid atmosphere, warm the timber right through to a temperature of up to 55°C in a closed container, then reduce the temperature and adjust the ventilation of the container and so proceed until the timber is dry. The heat and moisture in the kiln control the rate of drying, which is much more even through the timber than air drying.

Different timbers require different drying schedules which must be established by trial and error, (waxy timbers and those with a high percentage of silica or colouring matter are slow drying) consequently a log should be kept to record the temperature and times for different timbers.

The basic rule is to dry slowly rather than quickly and never make the timber bone dry.

(Other methods of drying next issue)

DUNGOG OUTING

The Guild's first weekend outing was duly launched on 24th March. Sixteen early morning risers assembled at the Dungog Post Office at 1 p.m. and were met by Mr. Kevin Saville the Manager of Taylormade Timber "Gluelam" factory, who then conducted the party through the works following the normal production flow.

The timber, mainly Brush Box, with small quantities of Turpentine and Radiata is received ex sawmill in widths varying from 50 to 250 mm and nominal thickness of 27 mm. After a period of air seasoning, the blanks are moved in sized stocks to the kilns, where under carefully controlled and supervised conditions the moisture content is reduced to 8-10%, the gradient for glueing being 2%. The large boiler which provides steam for heating and humidity control is fired with waste shavings with consequent savings in cost and a great reduction in the use of fuel oil.

After curing, the timber is rested for up to seven days before machining and transferring to the glue room. Here, the machined planks are made up into various flat widths suitable for a variety of domestic uses and a wide variety of structural members, cambered and/or curved beams and portal arches being available as stock sizes or to suit customer design requirements. The adhesive used is a Resorcinol Formalehyde, and after cramping, the units are left to set for 24 hours followed by a further curing of up to three days before final planing and sanding.

Apart from its considerable aesthetic appeal, has a high resistance to corrosion and resists chemical, abrasive and impact damage to a high degree.

All in all, a very pleasant and informative afternoon and members thanks go to Kevin Saville, who fielded the many questions with ease; an enthusiast for timber and an expert in its working.
On to dinner at the Dungog Bowling Club on Saturday night, where a now total of 27 Members and wives entertained Kevin, Mike Thompson, the District Forester and his wife Anne together with the District Ranger Bob Sargent and his wife Joan. After dinner Bob gave an excellent talk on

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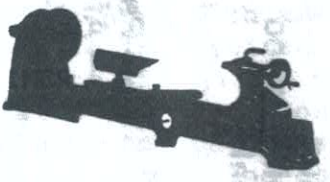

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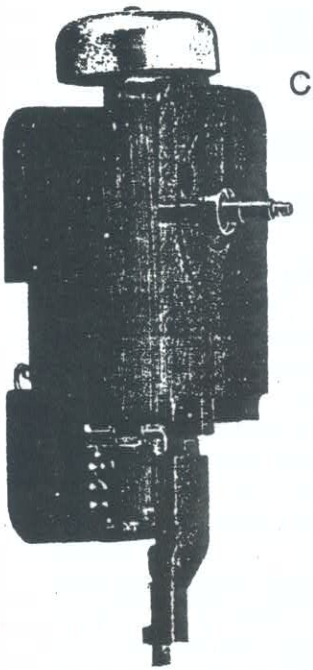

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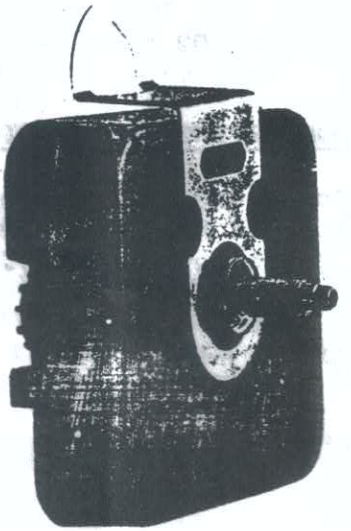


ACTUAL SIZE

QUARTZ MOVEMENT INCLUDING HANDS

forests and their management including facts and figures on harvesting, re-growth, re-afforestation and the economics involved. Operations of the Forestry Commission are on a scale not previously imagined (at least by the writer) and Mike quite calmly spoke of fifty and eighty year re-growth cycles, giving much peace of mind concerning the welfare of our forests.
Of more pressing interest to wood turners perhaps, Mike spoke of the harvesting of Craft timbers and advised the fact, perhaps not generally known, that certain of these timbers are available commercially from the Forestry Commission depot at Pennant Hills.
After a long session of wide ranging questions, all ably answered, a vote of thanks was given by our Vice President and the evening closed.

Sunday was great, a good sunny day, but unfortunately the Allyn river had risen over a causeway and access to that part of the forest was denied. However, the Williams Valley was clear and alternative arrangements for a visit to Barrington House and a walk in the surrounding sub-tropical rain forest were quickly made. Our bus driver Doug Shelton turned out to be the Shire President, no less, and we were treated to a detailed history of the Valley, its people, its industry and future plans during the trip.
On arrival, Bob Sargent conducted the party into the forest, using one of the good walking tracks provided by the Commission thank goodness. Various timbers, bush orchids and vines were readily identified by Bob and full information on their propogation life cycle and harvesting readily forthcoming.
It is hard to equate the piece of "stuff" spinning in the lathe with the grandeur of the tree seen in its natural habitat.
After morning tea at Barrington House the party returned to Dungog Showground for a barbeque lunch, discipline collapsed somewhat due mainly to the Taree Terror and his flying machine and the efforts of Dr Ken Graham to get his patient moving. However, an excellent barbeque lunch with all the trimmings was greatly enjoyed and the party broke

cont. page 12

up about three p.m. , some unfortunates leaving for home, the more sensible ones staying over for a more leisurely trip the next day.

All in all a great weekend, should be more of them. Apart from the locals, Kevin, Mike and Bob, who went out of their way to assist and organise for us, great thanks must go to Neil and Joan Jones, whose original idea it was, and who did all the spadework on the ground, booking accommodation, providing the food, arranging the tours etc., and to George Hatfield who liased and arranged details from our end. Hopefully when the "Telephone Otitis" being endured by the organisers clears up another such weekend will be arranged.

Don Wilson.

GUILD RECORDS AND LIBRARY

Tom Bartie has graciously offered to collate and re record brochurs and articles books etc donated by our members to form the nucleus of a library which could be of great value as it develops. This will also include reprints of talks and articles published in the Newsletter when they are of continuing interest.

A library list will be issued from time to time. All information will be available for perusal at our meetings and copies arranged on request.

At this time the articles on the drying kiln and the use of sodium alginate are available for copying.

Receipt of information or experience with "garden timbers" or experiences with the drying methods outlined in this Newsletter will be appreciated.

THINK TANK

Some replies have been received and useful suggestions submitted.

The long Christmas break may have resulted in this slipping the mind, and those who have not replied or even thought that a small contribution would not be worthwhile, are urged to do so. Perhaps at our next meeting on the 27th April?

MULTI-PURPOSE 6 IN 1 CHUCK

SPIGOT CHUCK

COLLET CHUCK

MULTI-PURPOSE 3 IN 1 CHUCK

CUP CHUCK

ENGINEERS CHUCK

LATHE CHUCKS

There is quite a selection of special purpose chucks to be had for hobby or craft work, among which are the following:-

MULTI-PURPOSE= (5 or 6 in 1) These are principally used for bowl or faceplate work using expanding jaws (3 or 4) fitting into a recess on the base of the bowl, pre-turned to the required diameter. They may also be used as plain, screw-on faceplates, screw point faceplates, clamp-chucks for pre-turned cylinders (goblets, vases, etc.), or end-holders for between centre work.

MULTI-PURPOSE.(3 in 1) This is a very recent development similar to the 6 in 1 above but specifically designed for the MICRO-WAVE seasoning technique, which will be described in greater detail in a later issue.

CUP CHUCKS are a simple form of chuck having a taper bore, generally about 2" (50 m/m) dia. into which the timber is forced, after which it needs no further tail centre support (depending on maximum length) and the goblet or vase may be completely turned, hollowed and parted off with the one, original mounting.

SPIGOT CHUCKS are generally used for bowl or platter work and have eight small jaws closing onto a spigot pre-turned on the base of the bowl to the required diameter. This spigot is never more than $\frac{1}{4}$" (6 m/m). The 2" (50 m/m) model

chuck has an interchangeable 1-1/2" (38 m/m) collet available if required and the 1-1/2" (38 m/m) model has a 1" (25 m/m) collet, if required, for smaller work.

COLLET CHUCKS are generally used for holding dowels or round rods with interchangeable collets, 3/8 3/4 and 1" sizes securely clamped by a ring-nut.

ENGINEERS CHUCKS available in a range of sizes, generally 4" to 6" (100 m/m - 150 m/m) and having 3 or 4 scroll-tightened jaws, the jaws can be independent for square or rectangular work clamping or self centreing for circular work. Internal and external holding jaws are usually included. Great pressure is exerted by means of a key. Backplates are fitted to suit various thread details.

JACK SKINNER, GLADESVILLE.

EXHIBITION AND SALES

Epping Boys High School is arranging the exhibition and sale of craft work during the Queen's Birthday weekend in June and would welcome high quality items of wood turning.

This would sensibly be co-ordinated through the Guild and will be discussed at our next meeting.

ARTICLES BY MEMBERS

Any articles, comments, questions which you may have would be welcomed by the Editor for inclusion in this Newsletter.

EDITOR I hope to become an expert woodturner and believe there are 3 ways of learning, attend a Tech course, ask a woodturner, attend private lessons. These sound OK but I do not have 3 years to attend a course basically for hobbyists, the woodturners I have met are not willing to pass on their trade secrets and private tuition groups do not teach rank amateurs at a reasonable cost. Have any of your members encountered these problems and is there a solution.

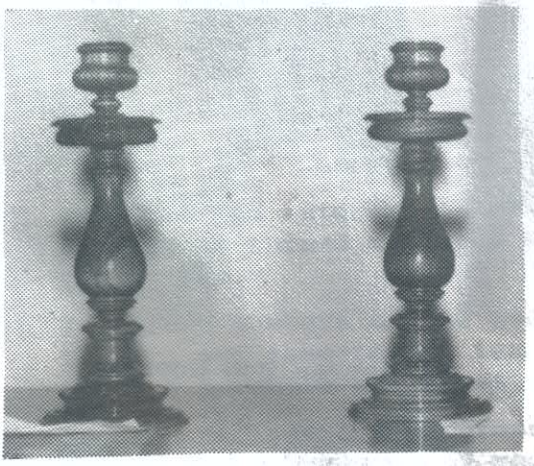
RICHARD PALMER, NORTH SYDNEY

Can any member help Richard - Editor

MONTHLY COMPETITION

The entries were not as numerous as at our previous meeting (no doubt due to other activities during the long holiday break).

The Pennant was again won by Tom Bartie with a pair of excellently turned and finished candlesticks. Come on you guys, what about giving Tom some real competition!



PROBLEM CORNER

Tony Buxey has found that turning Tasmanian Oak, Blackwood and Cedar results in his hands being stained black. Any ideas of what to use to get rid of these stains?

GOOD WISHES to our President who recently retired from his very responsible positions in the State Bank and State Building Society.
I'm sure Mac, that you can fill in some of that newly acquired spare time with Guild activities.

Secretary Allen Reay

Treasurer Bob Howarth

THE COMMITTEE

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