

# Woodworkers Club

## OF HOUSTON

VOL. 5, NO. 5

MAY, 1989

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Bill Hochmuth - President 774-1733  
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Steve Procter - Newsletter Editor 728-1459

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Zatis Murphy - 469-3563  
Don Richardson - 661-1365  
Gary Wallace - 855-3408

### APRIL MEETING

Our Hostess was Alicia Morrison, owner of International Billiards, Inc. Next door to the showroom Mr. Bill Forgie builds custom pool tables.

Alicia provided a brief history of billiards/pool/snooker, and described the elements of a quality pool table. Pool tables must be very strong to withstand the weight of the slate and a person sitting on the rail.

The dimensions of pool tables vary greatly--from 39" x 78" to 56"x 120". Generally the larger the table, the thicker the slate. Large slates are usually segmented into three sections because of their enormous weight. Anyone who has ever attempted to move even a small slate table quickly appreciates this practice.

Other dimensions of the table are carefully regulated to ensure similar play on different size tables. All playing fields are based on "2 square"--length is twice width. In this manner the mathematical formulas which govern complicated rail shots remain the same from table to table. If you don't fully appreciate the math principles of angle and trajectory, you should see an educational film put out by the Walt Disney studios a few years ago called Donal Duck in Math magic Land. Part of the film, which is a mixture of live action and animation, is devoted to the trigonometry of pool shots. They cleverly overlay the angles and calculations in animation on top of a real pool pro shooting trick shots.

In the workshop, using basic machine and hand tools, Bill Forgie is turning out custom tables in oak and tambor, with lacquer finishes. Bill's skill makes up for the lack of sophisticated equipment. Several of his tables were used as props in a movie shot in Houston recently.

Our thanks to Alicia and Bill for a fascinating program!

Coincidentally, a recent *Fine Woodworking* issue details construction of a pool table.

### PROBLEMS AND SOLUTIONS

Robert Sandlin is looking for 1/4" tap and die set for dowels, and also looking for assistance on 36" diameter carriage wheels. It was recommended he look at the Woodwrights Shop for tips on the carriage wheels.

### BUY AND SELL

Murray Gordon has a basic Shopsmith w/accessories-----\$1000.00.

Bob Soderblom has antique tools (no more anvils, though).

Dick Allen has a Delta 18" 3 wheel bandsaw--\$275.00 and AMT Benchtop drill press without motor \$40.00 550-1854.

### SHOW AND TELL

Murray Gordon built a computer desk with keyboard drawer in white oak plywood with walnut trim. Finished in Watco Oil.

Ken Walls showed a purpleheart and maple stave bowl construction. He also had 8 piece bowls in wenge/maple.

Chuck Maxwell brought a lazy susan in oak with maple cutting board in the center. He used a pin router and templates (the jig king strikes again!)

Louis Vallette made a 7" long 90 degree tool rest for a Shopsmith lathe for reaching into bowls.

Arnold Kitzmiller brought an "old shoe" a delicate miniature wood carving.

### OTHER CHARITY NEWS

The Girl Scout need some trophies made in plywood resembling a silhouette of their founder. Anyone with a pin router or even a regular router can easily handle this project.



They will pay for materials. Contact Steve Procter 728-1459 for more details.

### CLUB BUSINESS

Club Shirts--polo style shirt imprinted with your name and the club are \$15.00. Caps are \$5.00. If you want a shirt and or cap please follow the instructions in the paragraph relating to shirts and caps, attach your check or money order and mail to the club P.O. Box or bring to the next meeting. The shirts must be ordered at one time because of silk screen printing minimums---DEADLINE FOR ORDERING MAY 20TH, 1989.

Treasurer's Report--\$2789.00 all bills paid.

There are new videotapes in the lending library. Remember the \$5.00 fine for not returning them on time. \$2.00 fine for late books.

### CHARITY SHOW

Sam Zelsman is doing an encore performance as Chairman of the Charity Show Committee.

- Bill Saltans--Publicity
- Don Sloan--Set up
- Sharon Buckley--Projects
- Hebert Wilbourn--Scheduling
- Bob Odom--Telephone Committee
- Bill Beggs--Demonstrations
- Chuck Maxwell--Demonstrations

Lets all try to give these folks a helping hand.

Bill Saltans has been approached by a charity looking for instructors in Woodworking to help rehabilitate manic-depressive patients 2 hrs. per week.

### BOWL CLINIC

Ken Wallis will be holding a clinic on how to make bowls like he had at show and tell at the April meeting. (Bowls with a cross hatch or checker board pattern). The Clinic will be on the same Saturday May 13th following our meeting. The clinic will begin at 1:00 P. M. and be held at the Shopsmith classroom off of Hwy 290. Dick Link has been very gracious to allow us to use there facility. There is plenty of parking and seating for at least 50 people. If you would like to attend just show up at 1:00 P.M. at Shopsmith.

### SHIRT AND CAP ORDER

On a piece of paper please put your name and phone number, size of shirt, please print how you want your name stitched on the front of the shirt. Include your money as we can not place an order without the money.

The sizes small, medium, large and extra large.....\$15.00 tax included.

For Double extra large.....\$18.00 tax included

Baseball style caps.....\$5.00 tax included.

Make your check payable to Woodworkers Club of Houston.  
Mail to P.O. Box 34481 Houston, Texas 77234 or bring to the May meeting.

### MAY MEETING

WHEN: MAY 13TH, 1989 9:00 A. M.

WHERE: HARDWOOD LUMBER, CO.  
700 E. 5 1/2 ST. (IN THE HEIGHTS)

PROGRAM: Charles E. Pace will bring us up to date on history, tradition and lore of Windsor chair making. He will demonstrate turning chair parts on a treadle lathe. Pace will demonstrate the tools used by traditional chairmakers.

DIRECTIONS: Refer to the Hardwood Lumber Ad on the back page of this newsletter for map.

REMEMBER IF YOU WISH TO SIT BRING A CHAIR !

SEE YOU THERE !!!!!!!



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Come in and checkout our over arm router system.

Check out our hard woods - Bowl and spindle stock - Exotic  
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Mon, Tues, Wed, & Fri  
9:00a.m. to 6:00p.m.:

Thurs: 9:00a.m. to 9:00p.m.

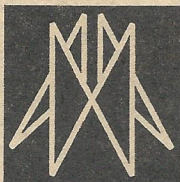
Sat: 9:00a.m. to 5:00p.m.



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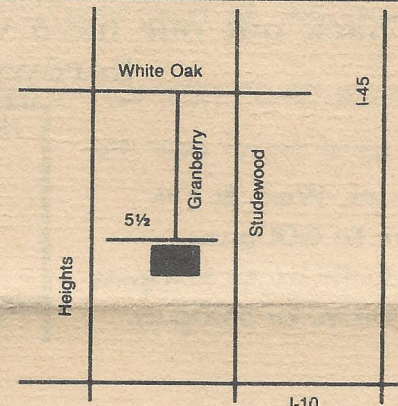
Exp. 5/89

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21801 Industrial Blvd., Rogers, MN 55374



# The Woodworkers' Store®



Please see my color card for milk paint finishes. For chairs sold "in the wood" for your own finishing, deduct \$40.

I have made a number of oil finished "natural chairs" with sugar pine seats, cherry turnings, and oak backs. A very pleasing combination, \$35 extra.

I require a 25% deposit with your order. The balance is due on completion. Shipping, if necessary, is F.O.B. Houston, Texas with a \$20 crating charge (side chairs \$20/pr.). Chairs can go by motor freight or bus express.

Charles E. Pace  
1738 W. Alabama  
Houston, Tx 770098  
713/524-8553

## FINE WINDSOR CHAIRS

by Charles E. Pace

My chairs are made like the Windsors of 200 years ago, using the same materials and most of the same tools. My lathe has a motor instead of foot power and I use a bandsaw occasionally, but it's 98% handwork: just a lot of careful shaving, carving, turning, bending, fitting, & finishing.

Seats are 2" pine plank, carved deep for real comfort. Other parts are split from green wood following the grain, then shaved or turned. Maple for turnings, oak for the back. Legs and stretchers are selectively dried so dry tenons go into green holes and everything shrinks together. Legs and posts are fitted to tapered sockets in the seat, then wedged. Glue provides additional insurance.

The old chairs were painted and I prefer mine that way as it unifies the design. I use milk paint (choice of seven colors) rubbed down and oiled. Chairs can also be clear oil finished or sold "in the wood."

My designs are traditional, but not exact copies. If you want different proportions or a different Windsor style or a copy of an old chair, please ask.

These chairs come with a lifetime guarantee: to outlast either myself or the original owner.



PRICE LIST - SEPTEMBER 1986

with options illustrated

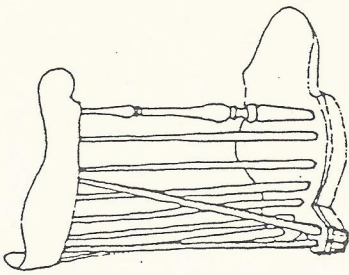
SIDE CHAIRS

- Loop Back \$ 360
- Fan Back \$ 420

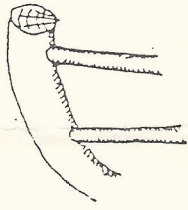
ARM CHAIRS

- Continuous Arm \$ 500
- Bow Back \$ 540
- Comb Back \$ 560
- Settee for two \$ 780

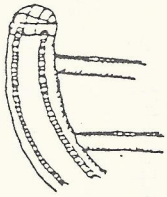
High Chairs  
85% of full size



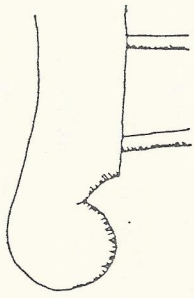
Braced back \$ 50



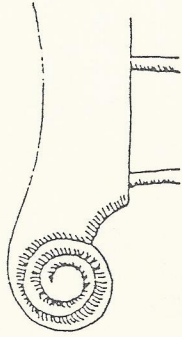
Regular round bow



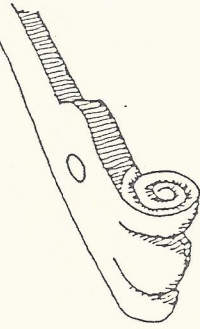
Beaded bow \$ 15



Plain ears



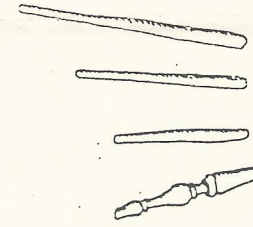
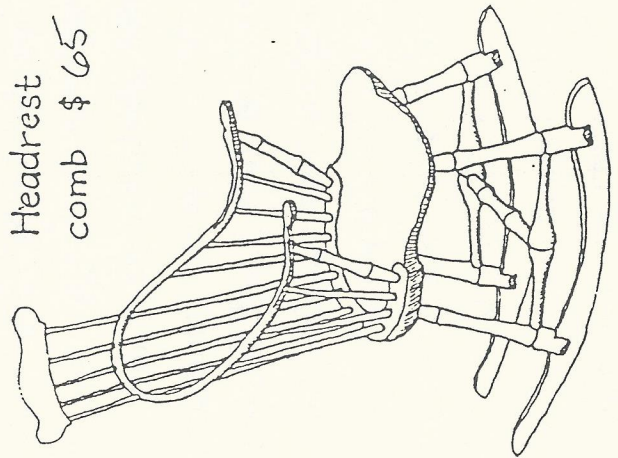
Carved scroll ears \$ 30



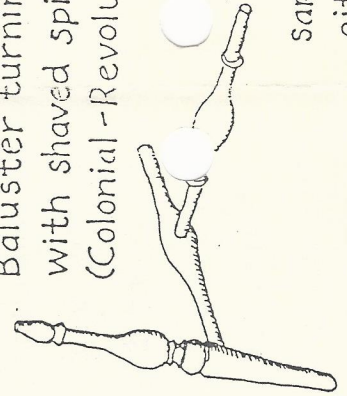
Flat arms

Carved knuckles \$ 40

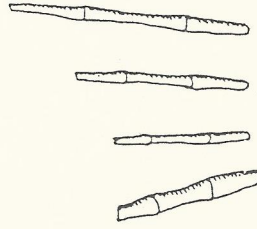
Headrest comb \$ 65



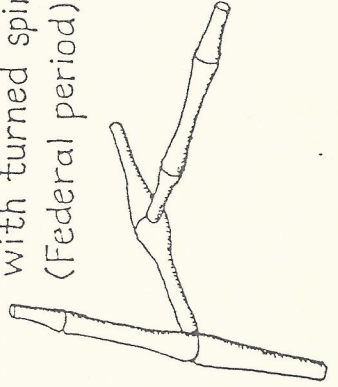
Baluster turnings with shaved spindles (Colonial-Revolutionary period)



same price either style



"Bamboo" turnings with turned spindles (Federal period)



Rockers \$ 110

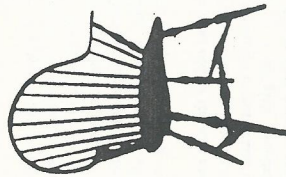


# The Shell Book of Country Crafts

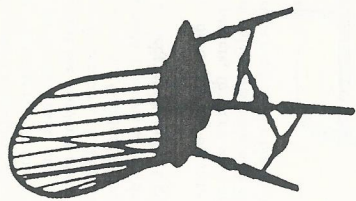
Text and Drawings by  
**JAMES ARNOLD**

the design is cut out with a fret-saw. These designs are traditional, the 'wheel' being, perhaps the best known and most widely used. Others echo a Gothic tracery and all some skill in order to retain the symmetry of pattern. In the hand-made 'wheel-back' there is the vestigial hub in the centre, but for economy this is absent from the factory-made splat, as is the delicate beveling on the back edges. One should look, too, for a bead all along the back bow edge. Some Windsor have their backs composed of a top piece like the back of a comb, supported by three identical splats in which an 'urn' motif has been incorporated in the design.

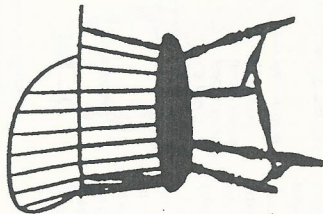
The seat, then, is the heart of the matter and the foundation of a good chair. Elm is chosen as it responds to the adze and is not prone to splitting; inferior wood has a tendency to warp, which is why a cheap chair will sometimes 'rock' diagonally. Look at a really good seat and see how many straight flat surfaces there are.



*Continuous Arm*



*Oval Back Side Chair*



*Sack Back*

## Chair-Bodging

Chair-bodger—what a queer name for a sensitive if primitive craftsman. However one considers it, there seems to be a derogatory implication. Quite simply, a chair-bodger is a man who, 'on the spot', in the beech plantations of the Chilterns, produces all the turnery, the legs, spars and stretchers which are part of chairs of the Windsor style.

His raw material is beech, which by its nature turns very well when green, which enables him to cut and turn newly felled timber. Bodgers usually work in pairs, one chopping up the 'billets', the short logs, into suitable pieces for the second man, who works at the lathe. Like the hurdle-makers, they work at the source of supply, as this greatly simplifies their work. When one plantation has been 'worked out', they move to the next plantation, taking with them the lathe, tools—very few—and the grindstone when they 'set up' again, as before.

It has been usual for the owner of the plantation to arrange for the felling and the lopping and topping. Such timber is worked on the 'selection' system, whereby, instead of a whole wood being cleared the trees suitable for work are selected for felling. The result of this is that in any plantation one will find trees at all ages of growth, intermingled, the older giving shelter to the seedlings. This type of woodland, of tall straight beeches, is characteristic of the Chiltern Hills for many miles about the centres of the chair industry, High Wycombe, Stokenchurch, and Penn.

The first stage is of secondary conversion, from the felled tree to lengths of about 2 ft or so, by means of a two-man cross-cut saw. To raise a felled trunk to 'sawing-height' necessitated the use of the simplest form of leverage and inclined plane. This consists of two logs 7 or 8 ft long, one end on the ground and the further supported on two short legs of about 18 in. The trunk is levered up this incline to the top, where it is held by pegs knocked into holes.

The sawn lengths are split into halves and quarters with beetle and froe and further reduced with a short-handled broad-axe into pieces suitable for legs, spars, and stretchers. These operations preserve the grain by cleavage and require a fine judgement to avoid waste. After chopping to a polygon, each piece is rendered approximate to the round by drawing on a 'horse', which has a foot-controlled vice. And so, stage by stage, each piece of wood is transferred from the rough billet to the shape ready for the lathe. A good supply for the turning is always prepared to obviate any interruption.

The pole lathe is probably the oldest form of rotating device for turning. It must have well preceded the wheel lathe, which has a continual rotation, as long as the treadle is operated. The pole lathe has a treadle and a long pole, often of larch, having a strong spring in it. This is anchored

at the butt-end and at a midway point it rests on a cross-piece, leaving the far end free. This end is joined to the tip of the treadle by a hemp rope, which is wound twice around the piece of beech to be turned. Now, as the treadle is depressed, against the spring of the pole, the wood is rotated 'toward' the turner and on release the pole rises, causing rotation to be reversed, 'away' from the turner. This means that all cutting or turning is made on the down stroke and the tool then withdrawn on the upward stroke. One might think it to be time-losing and less efficient than the continuous rotation of the wheel lathe, but the answer is partially in the aptitude of the bodgers. Most turners consider the pole lathe to be more sensitive, others prefer the wheel. Certainly the man who made the Windsor described later used a wheel lathe, as do most bowl-turners.

The lathe-bed consists of two balks of timber, about 6 ft in length and 2 or 3 in. wide by 4 or 5 deep. These are securely bolted to two stout sets of uprights. The head and tail stocks, actually called poppets, of wood, have long pegs projecting down between the bed and can be adjusted. The left-hand poppet has a fixed mandrel, but the right-hand has its mandrel adjustable on a screwed rod with a handle on its extremity. As with all other kinds of lathe, there is a long bar along the front—the turner's side—on which his left hand rests while holding the cuttings-tool near the ferrule—if it has one—while the right-hand maintains the sensitive leverage.

To watch a chair-bodger producing leg after leg with accuracy is an inspiration, like watching a blacksmith working on wrought iron, the more valuable as our environment is year by year encroached upon. Four or five types of cutting-tool are used; a deep gouge taking the first cut. The full width of the stick, leaving a coarse thread which is removed by a broad flat chisel ground with a slightly curved edge. The traditional rings, grooves, and bevels are marked with a paring chisel and formed with a narrow deep gouge and the paring chisel. Deep cuts are made with a skew chisel and the whole leg is finished off with the broad-chisel. A competent man can produce over 800 units a week, which means something like one unit leg or stick every four or five minutes. The bodger has the invaluable asset possessed by all craftsmen in that he can, at will, vary the patterns of his work, adding a little more bulge or taking a bit more out. That's how these traditional patterns acquire their regional characteristics.

At the end of a day at the lathe the pieces are stacked four-square for seasoning and drying. Bodgers have always been specialists in making these turned parts; they have never made the complete chairs. To do this would entail a complete departure from the extreme mobility of their craft method, for in one sense they are almost nomads.



# Making Windsor Chairs

The more one searches for the origins of this type of chair and investigates its history, the more one meets with evidence which tends to conflict. The suggestion that George III sat in one whilst sheltering in a house from a storm, may be placed with other apocryphal stories having much the same ingredients—a king, sometimes in disguise; a storm; and a poor man's cottage. In any case, these chairs were known as such some fifty years before George III became king.

The most sophisticated furniture of the seventeenth century was still fairly heavy and cottage furniture was correspondingly crude. By the general arrangement and the method of construction, the Windsor is likely to have had its origin somewhere in the latter part of the seventeenth century or the beginning of the eighteenth. The presence of cyma curves and the air of lightness seem characteristic of that period.

Until comparatively recently, the Windsor has always been a piece of 'cottage' furniture, rarely to be found in an environment more sophisticated than that of the moderate-sized farm-house. The elements were simple and could not have come out of the workshops of the cabinet-makers. With or without side-arms, it was clearly the work of the best carpenters, who were well equipped with tools and ability to make the simple styles of furniture. Since there is not a straight line in the entire chair, except the centre-lines of legs and stretchers, a high standard of skill in manufacture has been demanded and therefore still is, since the tools and methods have not changed.

One has but to consider an armchair made by the best of craftsmen, to examine the seat and be surprised by an illusion of thinness produced by some skilful staining and chamfering. That same chamfering, or bevelling, which on the old farm-wagons not only made them appear lighter but did, in fact, eliminate as much as one-eighth of the original weight, though weight is not a factor in the matter of chairs.

One should cite the authority of F. Gordon Roe, F.S.A., in definition of a Windsor Chair 'as a stick-back, wooden-seated chair, with turned or plain legs inset to the seat, and often (though not necessarily) having a decorative splat in the back. The seat is frequently shaped, and more or less saddle-formed . . . back and legs alike are plugged into the seat.'

The best factories in High Wycombe are equipped to produce very good factory-made chairs, but with all the ingenuity in the world it is impossible to imitate the hand-made Windsor—impossible, both mechanically and economically. It is the old story of the attention at every stage which the craftsman naturally gives. Made by machine, the seats appear thicker and are, the back- and arm-bows are thicker and square in section. The splats are elementary and lack the delicacy in the open work and they are left unchamfered. Recognizing this, one of the largest manufacturers has produced a range of chairs which is derived from the Windsor theme, in terms of the present techniques.

Windsors have been produced in such a variety of designs, in which the salient features have been cleverly interchanged, as to require consideration as a family. There are bow-backs, fan-backs, and comb-backs. The space in either side, varying in number, or there may be sticks alone, or splats alone. The designs of the splats are subject to considerable variation. The arm-bows may be continuous through the back, from side to side, or may simply project from each side of the back. The tips of the arms may be supported by a turned baluster or a plain stump which curves to form a point with the arm. All four legs may be turned, or the front alone turned and the back plain or

thirdly, the front may be 'cabriole' and the back plain. The leg—stretchers may be arranged on the conventional 'H', or have the peculiar deep arc which joins the front legs, with plain short stretchers to the back. From three basic designs, there have derived a remarkable number of variations.

Contemporary with the English chair-makers, those of the New England states of America went very much further and because Windsors were very much in vogue during the eighteenth and nineteenth centuries they were to be found in the homes of some of America's most famous people. The makers went further, too, in producing various widths of settees, some of which had ten or even twelve legs, office chairs and cradles, according to the regional variations of the Windsor theme. While the overall proportions of the English chairs showed little variation, many American designers let themselves go. Some chairs were lighter and more graceful, while others tended to be much heavier, having legs and stretchers extremely bulbous and more acutely set, further in from the edge of the seat. Some quite high backs, but all had the front legs project much forward as the hind did backward. (English chairs all have their front legs at nearly right-angles to the seat.)

Some of the American variations departed so far from the originals that, placed side by side, the family kinship seems very distant. Some of their makers may have seen few originals, but depended on a tenuous link, running through half a dozen states. A curious feature is in the finish they were almost invariably painted in various colours, thus obliterating the grain of the wood, whereas the English were



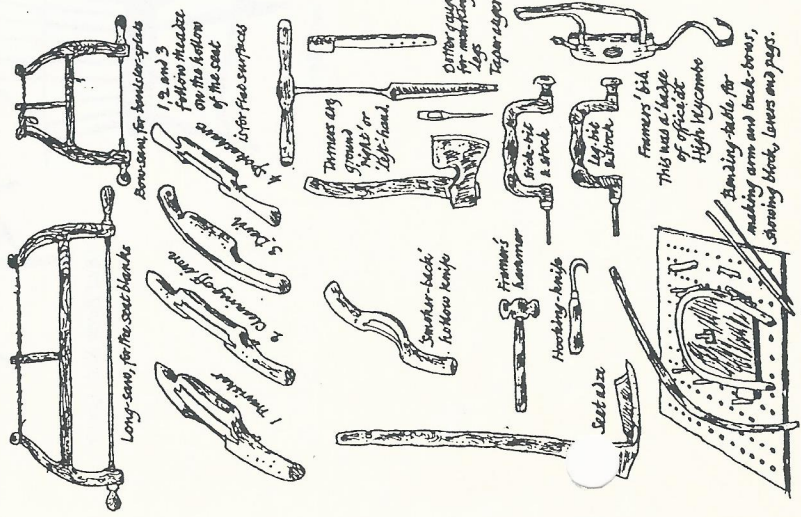
*Assembling the seat of a Windsor Chair.*

either stained and glossy-polished—not French—or given a satin-wax finish which enhances the grain of the wood. This latter is a characteristic of the hand-made chair. Incidentally, factory-made chairs are often dispatched for later finishing, 'in the white' they call it.

Some of the features which distinguish a hand-made chair from a factory-made have been mentioned. The greater subtlety of line, the use of chamfering. There are differences in the woods used. Hand-made chairs may consist of yew, elm, beech, apple, walnut, oak or cherry. For the sake of the beauty of such woods, a satin-wax finish is fully justified. In the original 'cottage' furniture the woods used were elm for the seat, beech for all turned parts, oak for the splat, and yew for the bows. One may well imagine a customer and a maker having a chat about furniture the outcome of which was some departure from normal practice. It will be appreciated that however much the chair-bodger contributed he was not equipped to make a complete chair.

A well-made armchair has its seat so well shaped and the 'd' distances of seat, back, and arms, and the legs so nicely positioned, that the resultant chair is an extremely comfortable piece of furniture. A demonstration of this was afforded one when Mr Goodchild invited me to sit in two chairs he had made. One was as just described, but the second was what he delightfully called a guest-chair.

The tools used are developments of some of those used by the village carpenters, the men who often made farm-wagons, or who worked in association with the wheelwrights. Most of the tools came not from the big Midland or Sheffield



tool-makers but were the joint products of the local black-smith and the carpenter, who turned up the wooden handle or the body, and the smith forging the blades to suit the individual user. These smiths, by making a spoon-bit or a drawhatch, could get just that edge that made all the difference. Between them, smith and carpenter produced many a tool not shown in the catalogues of the big makers. Even today, a Welsh bowl-turner has his peculiar 'outside' and 'inside' knives forged with a curl to his liking, the result of 'trial and error' between himself and the smith. Certain manufacturers, such as Henry Taylor, of Sheffield, specialize in making the complete range of wood-carver's chisels and gouges. But spoon-bits were the especial pride of some of these local smiths, who seemed able to overcome one of the defects of this tool, that of loss of diameter after repeated sharpening. They are forged in a number of sizes and each is fixed permanently in its own stock. Chair-makers say that such a tool is quicker in use and more responsive than the ratchet-brace into which a whole range of detachable bits can be fitted.

The use of a spoon-bit requires considerable pressure from the chest. A 'breast-bib' is worn, a broad piece of wood, curved to fit the chest and held there by strings around the neck and back. In the centre of the bib is a cup-like recess to receive the head of the stock. In the factories, the breast-bib was something of a 'badge of office' of the framers, who worked exclusively on framing. The bib was worn at all times.

The adze is as old as the axe and the type used by chair-makers is of great interest. The head is weighty and the blade turns up to a shallow concave and is maintained razor-sharp. This head, on a longish two-handed haft, gives a nice 'pendulum' swing that greatly assists in hollowing out the seat. One need not be a 'craftsman' to know the pleasure of using a tool that has served one well. The haft, in a lifetime of use, has long lost that 'shop-new' feel and has acquired the silken surfaces from use in warm, moist bands.

This chair-maker's adze, then, is used to shape the seat from the 14 in. blank. It's all done by sight, but the seat is not finished to its final smoothness. Instead, the legs and stretchers are fitted, when the seat is said to be 'legged up'. Smoothing off follows with a succession of shavers—the travisher, the smoothing-off iron and a devil, and a fourth tool, which may be described as a hybrid between spokeshave and the Jarvis used by wheelwrights. This is a smother-back hollow knife for shaving the hind side of bows.

Most craftsmen in wood, who have to bend it to a required shape, do this in two stages. First, the wood is rendered pliable by steaming, then it is either placed in a setting-frame, as with scythe-snathes, or to straighten out bends on a brake. The bows are made of yew or ash and a more persuasive method is employed. A pattern blank of the inside contour of the bow, is bolted to a square, cast-iron plate, in which holes have been drilled on a squared pattern. The piece of yew or ash, is secured at one corner of the blank and coaxed by levers to the contour, and the whole is secured. It is usual to make a number of bows in one go, and this batch is stored together. As with any steamed wood, the shape is retained when 'cold'.

All bows are drilled to accept the back sticks. In the type of armchair most commonly to be found there are four long sticks and four short on each side, the long running the full heights of the back and the short ones stopping at the arms. All must be set equidistant or the appearance will remain constantly offensive to the eye. The banister-splat, present in some designs but not in others, is of oak or walnut and