The variety of cabinet and upholstery work manufactured by Frederick Parker & Sons from the turn of the last century until the outbreak of the second world war was immense.

Many of the pieces were faithful reproductions from original chairs in the collection of antiques. Many of the skills which have now almost become extinct, such as rush seating and chair caning were carried out by the company in its factory at Cowley Peachey near Uxbridge, between 1906 and 1936.

At this time there was an extensive vogue and demand for decorated and lacquered furniture. The photograph shows the studio at Cowley Peachey, where this detailed and intricate decorative work was carried out.

MACHINING OF CHAIR FRAME PARTS

Making chairs is now largely a job for machinery, although much hand craft is still essential, by combining hand finishing with the precision of modern machines, Parker-Knoll produce chairs of the highest quality.

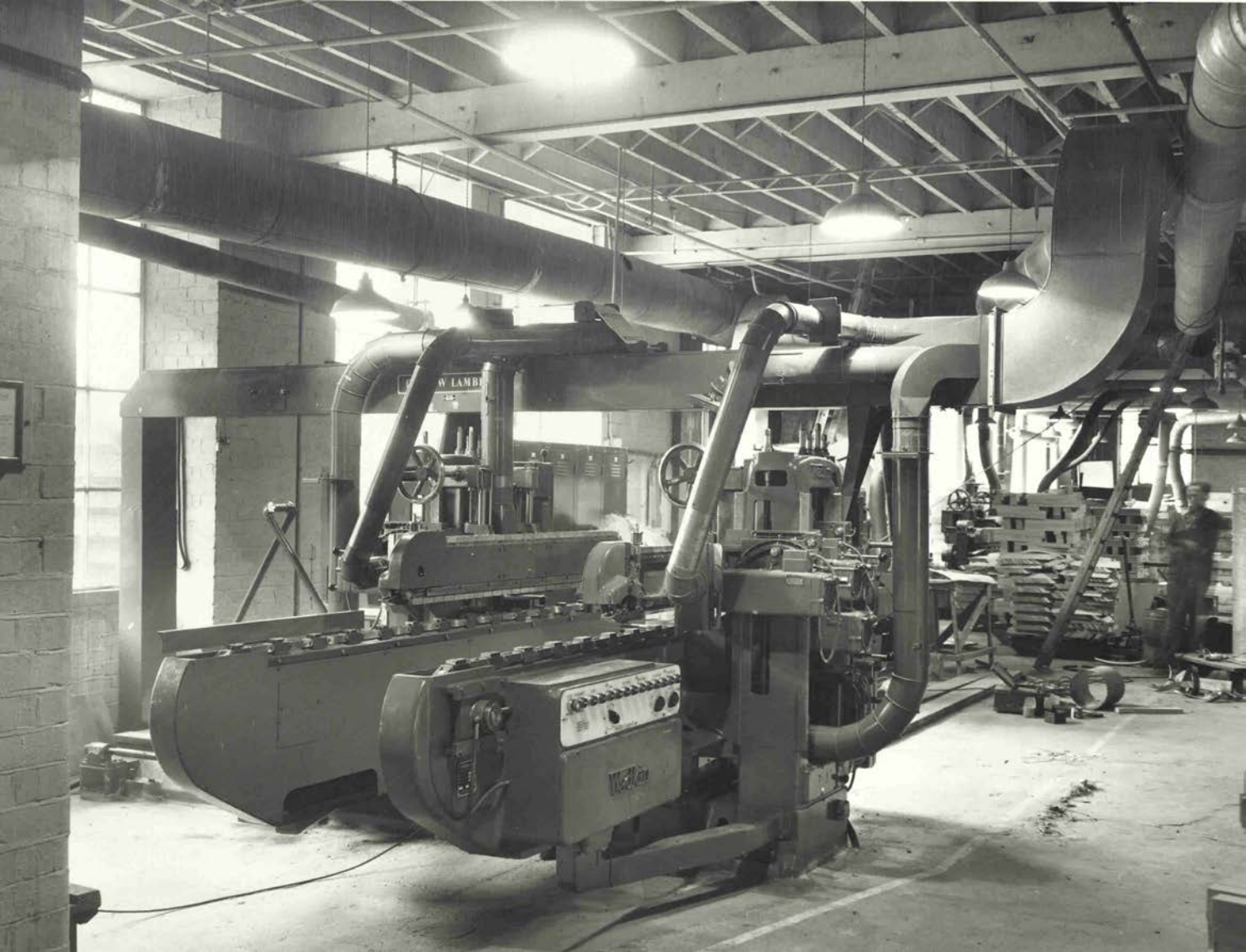
In bygone days, the old craftsman worked to the nearest one eighth of an inch, and production time was not important, but to-day machine made parts fit to within one thousandth of an inch, that is precision!

All chair parts pass through four basic wood machining operations, 1. Planing, 2. Shaping, 3. Boring and Morticing, 4. Sandpapering and Finishing.

Modern wood working machinery enables several of these operations to be combined to great advantage, simultaneously carrying out a number of jobs that used to be done individually.

The photograph shows a double end tenoning machine. Chair parts pass through the machine on a conveyor belt, the ends of the parts being sawn to whatever angle and length is required. Simultaneously a tenon joint can be cut on one or both ends of the chair parts. The width of the machine is variable so that it can deal with individual chair parts or six foot rails for settee frames.

Once the machine has been set up its operation is fully automatic, apart from feeding in the rough sawn parts at one end and collecting the machined parts at the other.



AUTOMATIC SHAPING

Shaped chair parts, particularly sculptured arms, are most easily and swiftly obtained from the automatic shaping machines.

Sawn pieces for shaping are loaded onto a jig which rotates on a turntable. As it does so the chair parts meet the cutting knives on the machine. Their lateral movement is guided by the contours of the dark fibre tracks on the side of the jig. In this way the contour of the jig controls the profiling of the chair part, which often makes four separate circuits of the turntable, one side being shaped during each circuit.

R
72
RYE

BORING AND MORTICING

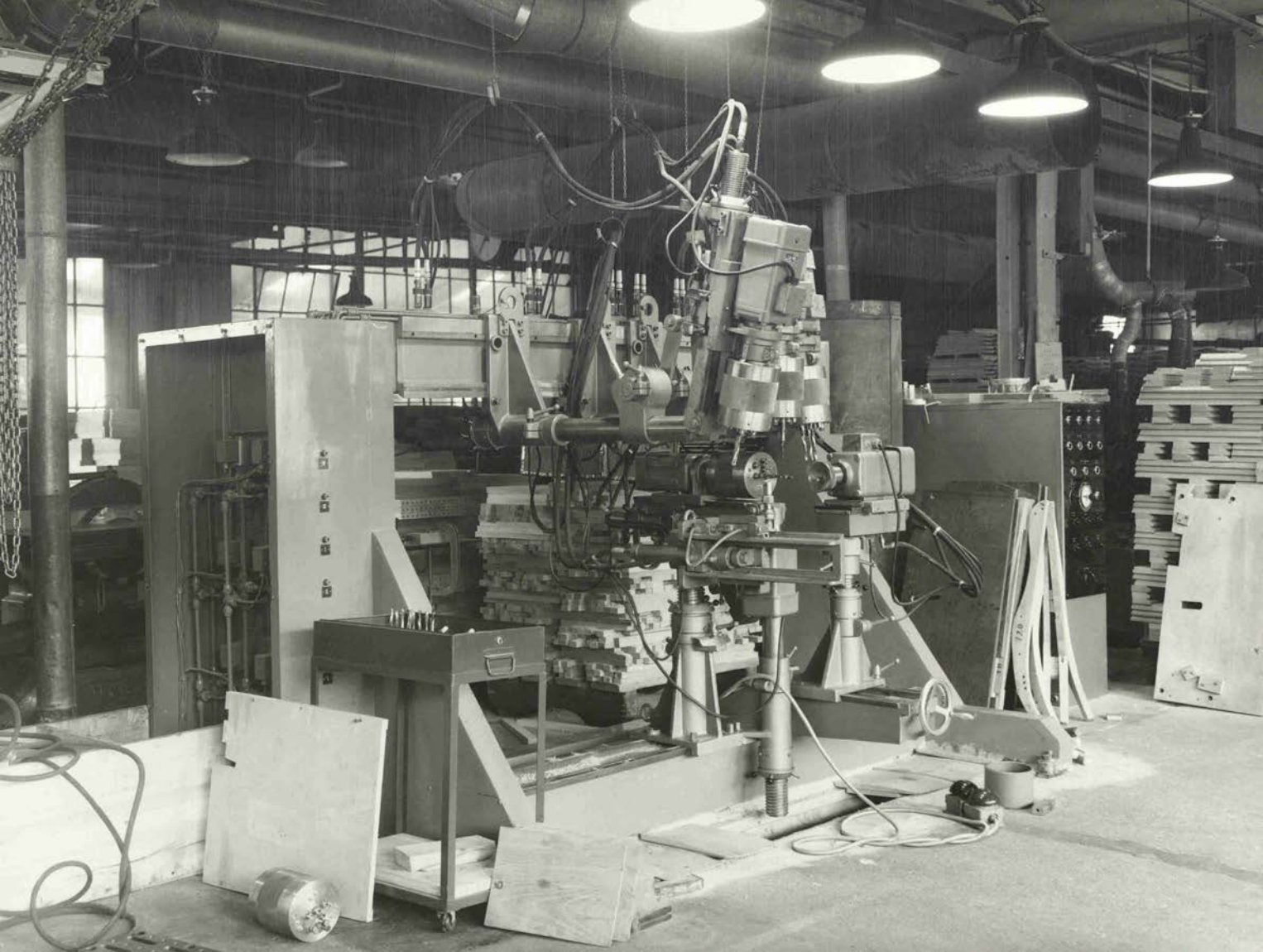
In building chair frames, it is not always possible to use mortice and tenon joints owing to the narrow sections of the timber employed, both chair side rails and back rails often have to meet the back foot of the chair at the same level, in these cases dowel joints are used.

Dowel borings are therefore required in the ends of the seat rails, whereas in the back seat and front legs, borings are required in a number of places and not at all on the ends.

For many years it has been necessary to carry out such borings by individual operations on individual boring machines.

The photograph shows a newly installed Multi-Boring Routering machine which combines such individual operations in a fascinating way. This electronically controlled machine will bore in one operation for instance, the dowel borings in a chair back foot for the side seat rail, the back seat rail, the arm joint with the back foot with a routered position and the borings necessary for the joint between the top back rail and the top of the chair back foot.

This machine is typical of the Parker-Knoll policy of using the most up to date production methods in order to obtain the full advantages of machine production of vast quantities of chair parts to exact dimensions.



PRODUCTION PLANNING

Production planning as regards machine loadings in the mill is closely based on the sales forecast. Weekly sales in numbers vary by different types of model, so that it is necessary to plan machine loadings, and production batches, so as to ensure that a sufficient stock of finished chair parts is always in store to meet demand.

At this stage of production parts for each model are produced in quantity batches which progress from machine to machine until they are finally inspected and passed into the frame part store.

FRAME PARTS STORE

This store resembles a vast jig-saw puzzle.

Chair parts for each model in the range are held in stock in sufficient quantity to meet average day to day demand. All chair parts are inspected on receipt before being put into stock, and chair arms are sorted into pairs of similar colour and grain texture.

All parts held in store are ready for assembly as required and parts are issued on a day to day basis to the chair makers who assemble them into complete chair frames.

CHAIR ASSEMBLY SHOP

Chair frames are built up by the side-assembly method, each chair side being constructed as a complete unit. The chairmaker dowels and assembles the parts in his jig where all joints are glued and cramped together. In this way the complete left and right hand sides of a chair frame are built.

These are next built up into a complete frame by introducing the cross framing rails. First on one chair side, then on the other, joints are glued and the frame tapped lightly into position.

Chair frames are assembled daily in sufficient quantity to maintain stocks of completed frames of all models in the chair frame store.

CROSS FRAME CRAMP

When the side frame assemblies have been joined with the cross framing rails, the loosely jointed frame is placed in an air pressure cramp which forces all the cross joints together into a completely rigid chair frame. Following this operation, corner blocks are fitted where required to provide extra rigidity, tacking rails are added to form upholstery outlines and all tenon joints are pegged.

Although the chair frame and each single part of those frames has been made with meticulous precision, every chair is hand finished after assembly, before being inspected and being passed into stock in the chair frame store.

CHAIR FRAME STORE

An upholstered chair hides much of its quality underneath the covering material. Clearly a good quality chair must carry a sound chair frame. By using only the finest quality materials and employing the latest production methods, Parker-Knoll achieve and maintain their very high standard. Indeed there is no difference whatsoever in quality between the frames of the lowest and highest priced chairs in the range.

It is at this stage of production that the chair frames which have previously been made in quantity batches now assume their individual identities.

Instructions are given for the polishing of the wood work, upholstery materials are specified and so on. From this point each chair belongs to a specific customer's order.

Chair frames are labelled on the top back rail with all necessary details to enable them to be completed for delivery. Frames are then sent to the polishing shop.

POLISHING SHOP

Frames for chairs ordered in a dark finish are immersed in staining tanks to give the timber a basic stained colour, and when dry are sprayed with a sealing base coat which is tinted to the wood finish required.

For natural finish chairs a clear sealing coat is applied to the unstained frame.

When the sealer has hardened, surfaces are smoothed by hand with sandpaper, before being sprayed with tough clear lacquer.

Ripples in the polish from the spray gun are softened out by pulling over with a solvent.

When dry, the frames move on to the spring fitting shop.

SPRING MAKING SHOP

The toughened steel springs used by Parker-Knoll in all their chairs have over many years earned for them an enviable reputation for comfort and durability. The galvanised steel wire used will take a strain of up to 120 tons per square inch. Springs are coiled in heavy, intermediate and light gauge wire, and made to varying lengths. A braided cover is woven round each separate spring which is then ready for use.

To ensure perfect comfort, each chair is fitted with springs of varying lengths, and in the shaped chair back of different gauges. Stronger springs are placed in the lower chair back to give firm lumbar support with lighter springs in the centre. Parker-Knoll comfort does not just happen - it is very carefully put there for you.

TAPESTRY ISSUE DEPARTMENT.

While the chair frame for each order has been polished and sprung, the material for covering the chair has been issued from the tapestry store. Lengths of covering material for each order are cut from the roll and labelled with identical tickets to those already on the chair frame.

TAPESTRY CUTTING DEPARTMENT

In the cutting shop the lengths of material for each different model are laid on a jig and many separate thicknesses are cut simultaneously.

Occasionally for special materials, the slower method of marking out round the template by hand before cutting with hand shears is employed.

SEWING MACHINE DEPARTMENT

Here all the sewing work is done and chair cushion cases are made. The sewn material for each order then goes to the upholstery department to be attached to its particular chair frame.

UPHOLSTERY DEPARTMENT

The frame and covering material for each order together with all filling materials required are placed on the overhead conveyor which delivers them to the upholsterer.

The time taken to upholster a chair varies, of course, according to the type of model.

All standard models have the back upholstered over a kapok bag, this forms a soft even pad over the back springs. The bag is made by blowing an exact weight of kapok into a tiffany case which is then tufted to keep the filling in position.

When the upholsterer has finished his work, the chair is placed on the floor conveyor which takes the chair to the inspection point where it is reunited with the seat cushion which has been cut from the same piece of material.

Production is then complete and the chairs are ready for a throrough inspection. All chairs are examined for possible faults, a final quality check which ensures that each chair reaches the high standard of which Parker-Knoll have every right to be proud.

"SLIPPERS" AT WORK

On upholstered chairs tacks around prominent edges and wings would be most unsightly. To overcome this the covering material is positioned by the upholsterer all round the edges of the chair but the tacks are not driven home.

Fixed in this way the seams can be hand-sewn to give a neat finish. The lightly placed tacks being removed as the work progresses.

Hand sewing requires deft and strong fingers, the material must meet tightly together at the edges and not be allowed to pucker. Skilful use of the curved needle and heavy thread produces a clean seam with no trace of the thread visible.

SPECIAL SHOP

As is to be expected, Parker-Knoll are continually investigating new methods and material. In a special production shop they are now moulding chairs in reinforced plastic.

Contoured moulds represent accurately the shape of the plastic shell on which various types of glass-fibre mat are built up.

Each layer of glass-fibre mat is thoroughly impregnated with resin and consolidated with brush and roller to exclude all air bubbles.

When hard, this new light weight chair making material, although quite thin, has immense strength.

The upholstery contours for the chairs are built up on the shell using specially moulded latex foam rubber units. This type of chair presents unusual problems, and the upholsterer has had to adapt his traditional skills to working with new materials, new methods, and even new tools.

The finished chairs embody most attractive contoured shapes, which it would be impossible to produce by normal chair frame construction methods, except at an exorbitant cost.

THE PARKER-KNOLL TRANSPORT FLEET

As chairs are passed by the final inspector, they move to the dispatch department where they are marshalled into motor van loads for different areas. As soon as each van load is complete, away it goes.

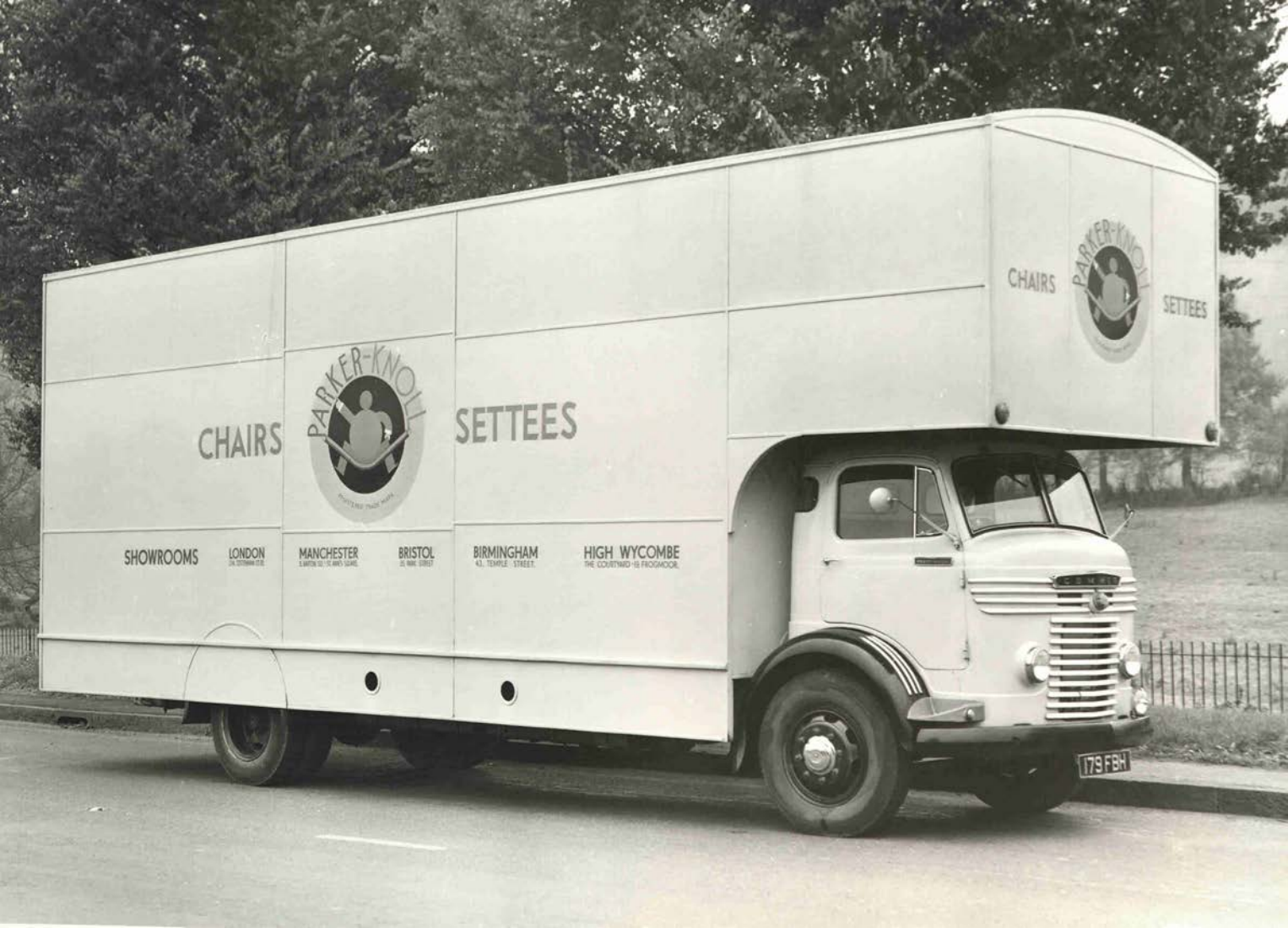
Parker-Knoll's motor transport fleet covers an average of 14,000 miles a week, delivering chairs all over Britain.

Although the production sequence is ended with the dispatch of each chair, it is only where life begins for chairs leaving the factory.

By combining modern machine methods with skilled hand-craft, Parker-Knoll chair quality reaches a very high standard and that standard never varies.

The important thing about furniture, whether hand-carved, machine made, old or new, is that it should be first class throughout. In chairs this means comfort too.

The springing system supplies the comfort, - Parker-Knoll comfort-guaranteed by this name which can be found on no other chair.


CHAIRS
PARKER-KNOLL
SETTEES
SHOWROOMS
LONDON
MANCHESTER
BRISTOL
BIRMINGHAM
HIGH WYCOMBE
CHAIRS
PARKER-KNOLL
SETTEES
179 FBH

GENERAL SPECIFICATION FOR PARKER-KNOLL CHAIRS.

TIMBER

Selected hardwood throughout - 4 sides clear and free from defects. Kiln dried to approx. 12% moisture content, the process of which includes sterilisation. All our timber stocks sprayed twice yearly to prevent woodworm attack.

FRAME

All joints dowelled or tenoned close fitting and well glued. Good quality all skin "Scotch Blue" used on all joints, but urea-formaldehyde resin glue may be used at special request. All arrises removed and show-wood sanded. No. 12 screws used on all screwed construction joints.

POLISHED FINISH

Coloured Finishes

Non grain raising stain to colour shade, grain sealed and matched to colour, hard finish semi-matt Melamine catalysed lacquer.

Natural Finishes

Clear grain sealer, hard finish cellulose satin lacquer.

SPRINGING

Seat and Back Sprung

Springs

Made from high tensile steel patented wire, galvanised 110-120 tons breaking strain.

Eyelets

Brassed steel cellulose finished (monometal for export).

Web

Tested to 250-lb breaking strain across the width.

UPHOLSTERY

Seat

Parkertex latex foam cushion. Interior fastened to cover along front edge.

Back

First quality pure air spanded kapok in tiffany case, tufted to prevent movement.

Platform

Front edge sprung.