The Miracle Product

Assume for a moment that wood had never existed... plenty of stone, metal, glass... everything... but no wood. Suddenly out of the research laboratories comes an amazing new product. It is available in unimaginable quantities. The supply renews itself... if not abused, a never-ending supply. It is strongly competitive in cost. It does not shatter and its resilience permits it to absorb shock that would rupture or break other materials. It has fine natural insulating qualities. It can be produced in large sizes and/or laminated for sheer strength. It stands up ruggedly almost indefinitely. It has aesthetic qualities of a range in nature and character that will not be copied by man, because man can only produce the stereotype. It is the ideal surface for painting. It works into all nature of articles (from usefully rugged to beautifully delicate) with the simplest of tools. It possesses a tremendous strength-to-weight ratio. It laminates well with good adhesive. It engages the thread of a screw or grips a dowel pin or nail forced into it.

Then, too, left in its natural state, it provides rest and refuge for man and beast, protection of water sheds, and even fuel, if need be. The small parts of which it is constituted may be taken apart and put back together again in other forms... paper, for instance.

Wouldn’t that be the most remarkable discovery?

Our most fabulous natural resource is often taken for granted. Without trees (wood), life as we know it would not be possible.

The Beauty and Character of Wood

It is as difficult to adequately describe the natural beauty and character of wood as it is to describe an original painting or other work of art. In fact, this is more than a passing comparison. A tree and a painting are both originals, and each is the only one of its kind.

General and basic characteristics within species are constant, but there are many variables in growth and appearance resulting from the local climate and soil conditions. The wider the growth ranges of a species over the earth’s surface, the greater the variance in many superficial characteristics of the timber.

Despite the difficulty of description, an attempt is made here to combine some systematic compilation of practical characteristics, with enough descriptive material to be of true, informative value.

For the moment, let’s avoid, references to "beautiful woods" and "fine finishes". It is now becoming more generally recognized that all the woods we list here are "beautiful", each in its own way, by its own characteristics, and according to the appeal each has to every individual. The natural appeal and warmth of real wood is inherent in all species and these characteristics cannot be approached in any other material.

Furthermore, we offer to convey some impression of comparative hardness and porous structure which indicates "texture" and the requirements of finish. Today’s finishes make it possible to put a "fine finish"

on any wood, and it is only a matter of what is required to accomplish the job.

Here at Bacon Veneer Company, we are intending this to be a complete, scientific compilation (there are literally thousands of species of timber in the world) but rather, we seek to provide you with a basic practical listing of woods which will cover virtually all the names one would hear in the American veneer and lumber markets, in addition to names of references and interest.

In the less common and remote species, correct botanical classification is often in doubt as applied to a certain wood of limited commercial interest. Also, a commercial classification may include a number of species, the woods of which are all commonly grouped for marketing purposes. In these cases, we indicate what we consider the most significant of the species involved.

VENEER - Historical Perspective:

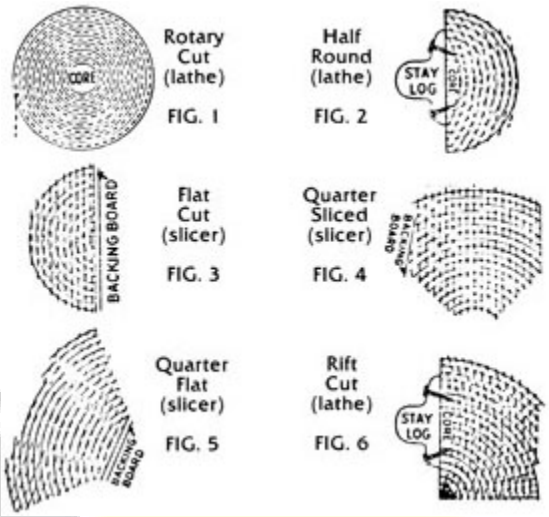
The concept of veneer, be it wood, ivory, marble or whatever, originated in centuries long past (witness the artifacts of King Tut's tomb) but the only means of conversion was some saw-like abrasive edged tool which could "wear" a kerf through the solid block by tedious hand work and thus separate a relatively thin layer of the material which then had to be "worn down" to a somewhat smooth and uniform condition. With the advent of the hand saw, per se, the operation became somewhat easier and more accurate. Then came more refined saws and finally power, all of which resulted in the possibility of the Veneer Saw. This was a large circular saw blade which eventually was refined to saw veneer 1/20" thick and with loss of only 1/20" saw kerf. The saw endured until after World War II but only for thicker veneer, quarter-sawn Oak and Aromatic Cedar which were usually not sliced until that time.

The "veneer knife", i.e. production lathe and slicer, came along only in the nineteenth century and reached a point of some sophistication again after World War II. Even so, the basic principle of the cut (knife, bar, and pressure) is little changed from the beginning. It should be said that all references we are making here, relate to wood veneer. Of course, harder material must still be abrasively cut if indeed the requirement exists.

Adhesion of the veneer (the glue line) was always a problem until evolvement the hotplate press, and of the resin, phenolic and sophisticated adhesives, creating a "revolution" in the 1930's and forward. For example, this made possible the waterproof lamination of 11 ply, one inch thick Mahogany panels 6' wide by 36' long used for PT Boat hulls in World War II as well as think skins (sometimes made up of veneers only 1/85" thick) for glider construction.

During the earlier to middle decades of this century (and occasionally even unto this day) the debate of "solid" vs. "veneered" furniture was universally carried on largely because of adhesive problems in veneered furniture and cabinets. After the developments in the 30's, however, there was no basis for choice other than personal preference. In fact, much can be said in favor of the physical properties of the plywood construction and, of course, the aesthetic value of selected and matched veneers on the face defiles comparison with anything else, be it solid wood or manmade materials.

Common Methods of Cutting Veneer



The concentric solid lines represent the growth rings of the log or section thereof. The dotted straight line (figs. 3, 4, and 5) and circular or curved (figs. 1, 2, and 6) represent the course of the knife edge as it passes through the flitch. The medullary ray is represented only in figure 6 as a solid radial line because of its significance in this method of cutting. (See Rift) The "stay log" is a heavy casting as illustrated, reaching both ends of veneer lathe (with chucks retracted). There must always remain a backing board or core of some sort which was the portion necessary to hold the flitch for cutting.

Glossary of Veneer and Plywood Terms

BACKING VENEER - The layer of veneer used on the reverse side of a piece of plywood from the face or decorative side.

BALANCE MATCH - Any number of pieces of veneer of equal width matched (book, slip or reverse slip) in the face.

BOOK MATCH - A book match is accomplished when one piece of veneer is turned over to join the adjacent piece, like turning the pages of a book. This results in a repeating grain pattern.

BUTT MATCH - Same as End matching which consist of opening two matching pieces of veneer end wise rather than edge wise (book watch). This may be done to make a balanced face (for a top, for example) or if long panels are required beyond limits of the veneer length. It is particularly essential that grain character be precisely matched for sight continuity at the joint.

CANT - That section of a log or piece of wood made ready, by sawing, for cutting into veneer in the proper manner desired. After cutting this section of the log, the sheets are kept together consecutively, as cut, and handled in sequence through process of clipping and drying, so that they are crated for shipment in the same order. This also is called flitch.

CENTER MATCH - An even number of veneers of equal width matched (usually book, but also slip or reverse slip) in the face so that an equal number of veneers are on either side of the center point (which is a veneer joint) of the face.

CHECKS - Fine splits or separations running parallel with grain or lineal porous structures of the veneer. There is also cross checking which may appear in end woody types of veneer figure where separation is in the vertical porous structure.

CHIPCORE - A product made wood chips (usually cut to a certain size, depending on the particular process) mixed with a bonding material (probably of a resin base) and pressed into boards or panels of stock sizes and thickness such as 3/4" x 4' x 8'. This is core material for thick plywood where otherwise limber core is used. Obviously, it is a product of much higher utilization than lumber and has become highly specialized with advancing technology. The "wood chips" may be anything from shavings (Flakeboard) to finely ground particles (Particle Board) and various combinations thereof with a high degree of sophistication in the density and character of the binder.

COMMERCIAL VENEER - Commercial Veneer is a rather loose term generally applied to veneers cut to mechanical or structural specifications, in contrast to face veneers intended for aesthetic purposes. So-called commercial veneers are usually rotary cut and include all of the crossbands and core and backing items which go to make up plywood, as well as some stock for faces of plywood where the appearance of the face is not necessarily for decorative purposes. Some special commercial veneers are sliced.

CORE - The relatively thick veneer or thicker lumber or chip core which is the center "ply" of any panel. I the case of a 3-ply panel, for instance, the grain of the core runs across the panel perpendicular to the

direction of grain of face back. On a 5-ply panel, the direction of grain of the core runs parallel with the face and back, but perpendicular to the crossbands which lay between the face and the core and the back and the core. In the case of 7-ply panel, the core grain direction runs opposite to the face and back again, and so on.

CROSSBANDS - the layer or plys of veneer with the grain running perpendicular to that of the face and back in a panel constructed of 5 plys or more.

DOOR STOCK - This is a general term commonly used in veneer and plywood manufacture referring to veneers which may be specified for the face the door and suitable for the door cutting which is usually 86" for "standard" doors but very commonly 104" to 111" or longer.

DRAWER BOTTOM STOCK - Term rather generally applied to any veneer, usually of comparatively low grade for reasons of one undesirable characteristic or another, which is used for the panel constituting the bottom of drawers in furniture and desks. Before the advent of particle board, all bottoms of all drawers of all furniture were plywood.

DYED VENEER - It seems to have been an obsession of man to manipulate the coloring of wood far beyond the imagination of the Creator. This is evident in ancient inlay work (of course modern as well) and on to the current century. However, nothing substantial was really accomplished until the advent of modern aniline dyes and sophisticated processing which makes possible enduing results of quality. While somewhat "standard" colors may be available in most species, it is possible to match almost any color presented if commercially feasible...

END MATCH - End matching consist of opening two matching pieces of veneer end wise rather than edge wise (book watch). This may be done to make a balanced face (for a top, for example) or if long panels are required beyond limits of the veneer length. It is particularly essential that grain character be precisely matched for sight continuity at the joint.

FACE VENEER - The decorative veneer on the face of the panel; the exposed side, be it wall paneling, furniture, cabinet or other.

FINGER JOINT END MATCH - This is an end match of the veneer in which the finger jointing must be "hand done" in order to absolutely match the grain lines of the two pieces. Properly done, the "joint" is almost imperceptible.

FLITCH - That section of a log or piece of wood made ready, by sawing, for cutting into veneer in the proper manner desired. After cutting this section of the log, the sheets are kept together consecutively, as cut, and handled in sequence through process of clipping and drying, so that they are crated for shipment in the same order. This also is called flitch.

GRAIN - The term applied loosely and generally to almost any visual effect of porous structure.

HALFROUND - A means of cutting veneer on a lathe, utilizing stay-log. This results in a grain pattern between sliced and rotary cut.

HARDBOARD - A product made in similar manner to chip core except finer wood particles are used, resulting in a denser board and, ordinarily, with one smooth hard surface and a matted back surface. It is produced in various grades of varying properties. There are numerous processes for making chip core

and hardboard, all of which result in basically similar products. (Reference chip core

HARDWOODS - Common classification including all broad-leaved trees as opposed to the general category of the conifers, or cone-bearers which constitute Softwoods. The hardness or texture of the wood itself has no bearing on the groupings. This is a close non-technical interpretation o the botanical division of plants into the (1.) Angiosperms, meaning that the seeds are enclosed in an ovary or closed cavity, and (2.) Gymnosperms, meaning they are not; these are Softwoods. Angiosperms are divided into (1.) Monocotyledons (plants with single seed-leaf) and (2.) Dicotyledones (those with two seed leaves or cotyledons). The latter includes most shrubs and Hardwood trees. Technically then, Hardwoods are Dicotyledonous Angiosperms. Most of the flora of the world is made up of Angiosperms and but a relatively minute portion consist of the commercially important Gymnosperms, most common to the North Temperate Zone.

HEARTWOOD - The center, mature, “dead” portion of the tree, darker in color in contrast to sap, to a greater or lesser extent, depending on species.

KNOT - Cross section of branch, grain of which runs approximately at right angles t o that of the piece in which it occurs.

LONGWOOD - General term often applied to veneer cut from the trunk of the tree in any of the various manners as illustrated. However, this term is also used rather loosely by many to refer to flat cut veneer of the more popular species in use.

MARQUETRY FACES - A background face of veneer into which has been inlaid a decorative or picture design by use of segments of woods of various character and color.

MEDULLARY RAY - The medullary ray is an arrangement of cellular structure in a tree which radiates out from the center to the perimeter of the log. In other words, this medullary ray growth is perpendicular to the growth ring line. It is in some evidence in veneer of various species, such as Maple, African Mahogany, Beech and Brown Elm, but to a comparatively limited extent, in most hardwood species, it is not of any significance in appearance. On the other hand, the Oaks and American Sycamore or English Plane Tree and Lacewood or Silky Oak have characteristically heavy medullary ray growth, and the quartered flake figure in these woods is the result.

MISMATCH - Same as Random Match. This specification indicates veneers, either sliced or rotary, are put together at random for the face of a piece of plywood, with no attempt to match grain. However, it is generally understood the purpose here is to give a general semblance of overall uniformity, as compared to contrast plank effect intended in the Plank Match.

NATURAL - A general descriptive term to indicate “unselected for color” in grading veneer or lumber of such hardwoods as Birch, Maple and Ash. Also sometimes used to describe appearance of veneer of lumber with a high degree of sound character markings

OVERLAYS - In manufacturing certain veneers from such irregular shaped solids as Burls and Clusters and Stumps, small and odd shaped pieces of veneer result from “rounding up”. From these are clipped rectangular books(usually eight matching pieces or more), generally 5” and wider and 6” and linger. These “books” are bulk crated and sold as Overlays. They usually show very good figure and are popular and economical for endless patterns of small alternating character.

PANEL STOCK - The same general application described under Door Stock, except that it refers to stock panels which are 4' wide and 8' long. Therefore, the gross length of the veneer required for these panels is at least 98" to 100". It may include 9' and 10' lengths.

PARTICLE BOARD - Same as Chip core. A product made wood chips (usually cut to a certain size, depending on the particular process) mixed with a bonding material (probably of a resin base) and pressed into boards or panels of stock sizes and thickness such as 3/4" x 4' x 8'. This is core material for thick plywood where otherwise limber core is used. Obviously, it is a product of much higher utilization than lumber and has become highly specialized with advancing technology. The "wood chips" may be anything from shavings (Flake board) to finely ground particles (Particle Board) and various combinations thereof with a high degree of sophistication in the density and character of the binder.

PEELED - Same as rotary cut. This particular term more generally used and applied to commercial and Fire production.

PIN KNOT - A knot less than 1/4" in diameter which shows a distinct center portion. It is merely a very small branch growth which did not develop for one reason or another.

PLAIN SLICED - Method of cutting veneer across the half log; tangential cut.

PLANK MATCH - This specification indicated veneers are put together for the face of a piece of plywood at random, with no matching grain character in the same face. When sliced veneers are used, this results in the surface appearance of jointed solid lumber in furniture.

PLY - A term referring to any layer of veneer in a piece of plywood. A 3-ply panel has three layers of veneer, 5-ply has five layers, etc.

QUARTER CUT - Method of cutting veneer as nearly to the radius of the log as possible from pi-cut segments, usually quarters.

QUARTER FLAT - Method of cutting veneer from a quarter of a log (tangential cut) in contrast to half log in plain slicing.

RANDOM MATCH - This specification indicates veneers, either sliced or rotary, are put together at random for the face of a piece of plywood, with no attempt to match grain. However, it is generally understood the purpose here is to give a general semblance of overall uniformity, as compared to contrast plank effect intended in the Plank Match.

RECONSTITUTED VENEER - This product is mad by laminating a block of veneers from what one would call the "edge" of the block; i.e. across the layers of veneer laminated together,. In its simplest application, it is obvious the edges of the laminated veneer become the "grain" of the Reconstituted Veneer and so the "grain" is perfectly straight. By maneuvering the contour of the laminations in the block form, any desired configuration can be attained. Reconstituted Veneer may be dyed as well (see Dyed Veneer). This product allows the "natural" substance to be maintained while freeing the designer to manipulate his/her own horizons.

REVERSE SLIP MATCH - The variation from slip match is that every other piece of veneer in the face is reversed, end for end, with the adjoining sheet which ?balances? the characteristics of the pieces of veneer in the face. It eliminates the ?marching? of character marks across the face. It is the ideal way of

taking advantage of the natural character of the veneer with good ?balance? in the face.

ROTARY CUT - Manner of cutting veneer whereby a log is centered in large lathe. As the log revolves, the cutting knife moves slowly toward the center (varying by thickness of the veneer being cut, for instance), and a continuous sheet of veneer is peeled from the log. ex Rotary Book Match

SAPWOOD - This is the outer and living portion of the tree. As additional layers of growth accumulate on the outer perimeter, the inner layers of the sapwood become heartwood. Sap is lighter in color and the differentiation in color and thickness of the sap layer varies considerably by species.

SKETCH FACES - Face of single ply veneer, cut and designed in patterns of varying intricacy to meet specifications of mechanical assembly in grain - or character appearances of veneer used for each segment - all as set forth in sketch of the face submitted with requisition. Such faces are often two-piled

SLICED - This is the method by which most of the find face of veneers are cut. Flat cut and quartered veneers are cut on the slicer as are crotch blocks. The log is first sawn into flitches (sometimes called cants), and this is most commonly a quarter section or half section of a log. It may be trimmed to a many-sided section, but two parallel sides are necessary, one to be held against the surface of the flitch table on the slicer, which clamps the flitch and moves up and down by an electric drive in a slightly shearing motion. The slicer knife, on another section of the machine is fed toward the flitch table slowly, in increments depending on thickness of veneer being cut. In contrast t the feed on the veneer lathe, which moves the knife steadily into the log in rotary cutting, the slicer knife is moved toward the flitch the full amount of the thickness of veneer with each stroke.

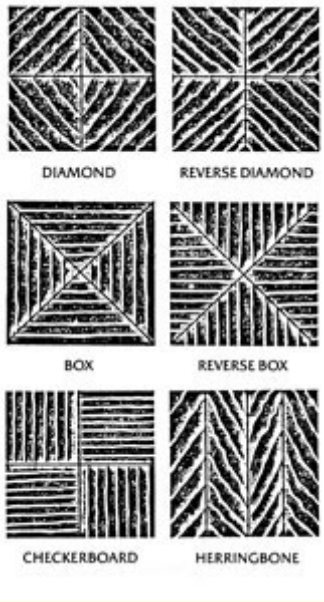
SLIP MATCH - This is a method of matching veneers for the face of plywood whereby consecutive sheets of veneer are slipped out side by side (in contrast to turning them over for book matching) and joined together with a repetition of the same grain appearance.

SOFTWOODS - These are the conifers or cone-bearing trees, the Gymnosperms as described in comparison under Hardwoods.

SPECIAL MATCH - Special matching or sketch matching (per a sketch submitted) of veneers may be done in an infinite number of patters, including the more common diamond match, box match, checkerboard and herringbone and a host of others. Any of these may likely be a center design with border.

STUMPWOOD - Stumpwood is that portion of the tree just below the surface and for some 30” above the ground. Veneer cut from this portion is more commonly called Butt Veneer.

TWO PLY - A term indicating treatment of veneers difficult to work and inclined to checking as well as sketch faces where assembly of veneers and patterns result in varying directions of grain in the same face. Such veneers are then worked into desired face (likely a sketch face) and then glued to a thin ply of commercial veneer to hold and stabilize the face. This is two-ply and can then be used and applied as a face on plywood construction as any ordinary single ply veneer. Example



SPECIAL MATCH Special matching or sketch matching (per a sketch submitted) of veneers may be done in an infinite number of patterns, including the more common diamond match, box match, checkerboard and herringbone and a host of others. Any of these may likely be a center design with border.

Glossary of Veneer Figure Types

“Figure” is a general term referring to the visual surface effects which result from the infinitely varied porous structure of each tree or, in fact, section of each tree. Obviously, the general appearance is affected by the manner in which the log is cut into veneer (i.e. flat cut, quartered, etc.) but the basic cross figure or curl types remain dominant, no matter how the log is cut. There are two general figure categories, (1.) grain figure, resulting from various cuts in relation to the annual growth rings (ex. 1,2,3,) and (2.) crossfire figure, which are a distortion of the normal structure and, as the name implies, result in figure markings of various types across the grain . (ex. 1,2,3,4)

BIRDSEYE - There are many theories concerning the generation of “Birdseye” figure or appearance which occurs almost exclusively in Hard Maple (Acer saccharum) growing in the Upper Peninsula of Michigan and, of much less significance, in a similarly narrow latitude east to the Maritimes. It is said that birds peck the surface (necessarily to the cambium layer) if the trunks of the relatively limited number of “chosen” trees, and to varying degrees, maybe in search of “bugs” or possibly seeking the Sugar Maple sap. These variously scattered irritants to the normal growth layer heal with spotty distortion, are cut across and revealed in the veneer as Birdseye figure. Obviously, the more “scattered irritants” the more “spotty distortions”, and therefore the more desirable Birdseye effect. (Example)

BLISTER - A decidedly uneven contour of the growth rings brings about blister figure when the log is rotary cut and the straight knife passes across these contour variations. The veneer, while smooth, appears to be covered with blisters. The only difference between blister and quilt or Pommele´ is size of figure. Occurs mostly in West African redwoods such as Khaya (Mahogany) Sapeli and Makore. (Example)

BROKEN STRIP - This strip effect develops only in quarter slicing veneer, usually includes some end wood character, and it appears that the strip figure runs down under the surface and then out again, more of less "broken". It occurs most commonly in the large tropical redwoods but also to some degree in a broad range of tropical species. (Example)

BURL - A burl is a wart like growth, probably caused by some injury to the growth layer. In the process of "healing", there may be very abnormal growth and accumulation of undeveloped buds to eventually form this burl, which may vary in size from a few inches (of no veneer value) to a tremendous, somewhat oval growth weighing as much as two tons. Burls figure results from rotary cutting this growth, and the general appearance is a close arrangement of many small "eyes' with much distorted grain appearance intermingled. Burls are common mostly to a few species, including Walnut, Myrtle, Redwood (California, that is), Elm (European), Madrone, Ash and Mappa (European Poplar). (Example)

BUTT - Butt figure results from half-rounding sections of the stump wood. Where the roots from into the solid stump, there is considerable distortion into wavy ripple marks. Of course, there is always the distorted grain figure, along with greater or lesser amounts of the wavy cross figure. American Walnut is the principal species which lends itself to production of Stumpwood Veneer. The U.S. market values Walnut Butt Veneer (other factors being equal) by percentage of sheet showing the Butt cross figure (example). (Reference Walnut, French, and Walnut, English)

CLUSTER - The cluster figure results from cutting half round veneer from the trunk of certain trees in which it is characteristic . It is some variation of scattered clusters of burl figure, intermingled between the clusters. Often the muscle figure is very strong around the clusters and fades out to almost plain areas between. This is most common in Myrtle and West Coast maple, Claro Walnut and Ash (European). (Example)

CROSSFIRE - This is a general term often applied to all the various types of figure markings across the grain. However, it most likely refers to a type such as (example) In the German trades they call it "Blitzen" (lighting).

CROTCHWOOD-FEATHER - A crotch block (flitch) is cut from that portion of the tree where it forks into tow limbs, like a "y". Where the grain forms together at the "crotch", there is great distortion of fibers in interlocking growth. At the center of this crotch block is the concentration of this effect, and when veneer is sliced from this portion, a feather of plume or flame effect is obtained. It is of interest to observe that crotch veneer, when used in a vertical position on furniture, is almost always used upside down from the way it grew, and that is the way it is shown (example). Turn the image upside down and visualize the two limbs of the tree projecting up to the right and to the left. Crotchwood growth suitable for veneer is by far most common to Khaya (African Mahogany) and the two Western Hemisphere Mahogany, Walnut, and occasionally a few other species. (Example)

CURLY - Results from distorted growth of fibers in the trunk of the tree that gives a wavy or curly appearance in the veneer. This figure is usually most common in Birch. No good illustration of the figure

appears herein, but a combination shown: (example 1,2) this provide a good example.

ENDWOOD - The effect of the pore or fiber direction being perpendicular, or nearly so, to the surface of the veneer, in contrast to more common formation where fibers are, in general, parallel with the surface and length of the veneer. Endwood is most common, and is responsible for much of the figure effect in crotch and burl veneer as well as strong mottle and broken strip. (Example 1,2,3,4,5,6,7)

FIDDLEBACK - This figure is somewhat similar in growth and effect to the curly type and is often referred to as "Curly". However, "Fiddleback" refers only to a small roll appearance (example) the name is derived from the fact that, historically, this figure in Maple has been highly prized for making fine violins (fiddles). Not common, but occurs occasionally in Maple, Khaya, Makore, Douka, Black Bean, Koa, English Sycamore.

FLAKE - Flake figure is developed only in those species which have very heavy medullary ray growth (example). When the saw or knife cut is directly on or near to the radial, it is close to parallel with the medullary ray and therefore passes in and out of the uneven growth to develop the flake effect. (Graph example see Fig 4)

FLAT CUT - A grain figure resulting from slicing across a half or quarter of a log; tangential cut. (Graph example see Fig 3 & 5) This results in the oval or loop grain effect in the center of the sheet of veneer with straighter grain along the edge (example)

GHOST FIGURE - Term generally applied to any cross figure which is not at all prominent, but is noticeable from certain angles and may show up to some extent under finish.

KARELIAN BURL - This is an individual characteristic (not really a burl growth) of Birch growing in some areas of Karelia, for practical purposes Finland. (Example)

KNOTTY CHARACTER - Sound knots appear in only a portion of veneer (or lumber) cut and in intermittent fashion. (Example)

MOTTLE - This is another type of cross figure. The effect of broken up cross markings, intermingled with strips, is generally referred to as mottle. Broad cross markings, broken by variations in strip, produce a block or patchy effect, known as block mottle, (example) and a very small, fine figure is referred to as bees-wing-mottle (example) .Block mottle figure occurs more often in Khaya or Makore while bees-wing-mottle is more common to Sapeli, Bobbing, Satinwood, Black Bean.

NATURAL - A general descriptive term to indicate surface appearance of knots (sound or fill-treated) and all character markings inherent in the respective hardwoods. "Natural" is to hardwoods (i.e., Natural Walnut, Natural Butternut, etc.) as "Knotty" is to softwoods (i.e., Knotty Pine, Knotty Cedar, etc.). (Example)

OLIVE ASH - This name is applied to the heartwood of both American and European Ash where the color is bright tan with characteristic olive markings. The rare log so develops and the name is one of description rather than classification. (Example)

PLAIN STRIPE - This is a result of quarter slicing, where porous structure is formulated most normally parallel with the length of the veneer and with a minimum of distortion. A straight, uniform, stripy effect

results. Common in almost all timber with a wide variety of character. (Example 1 & 2)

POMMELE´ - This is a French word translated as “dappled” or “mottled”. As commonly applied to the appearance of certain veneers, it is then somewhat of a misnomer in pure translation because it actually denotes a large “blister” or “quilt” figure usually in West African redwoods such as Khaya, Makore, Sapeli and Bubinga. (Example)

QUARTERED - The sliced cut of a log as near to true radial as possible, which results in the stripe effect of one type or another, as mentioned herein. (See graph Fig. 4) (Example 1,2,3,4)

QUILTED - A very uneven or wavy interlocking contour of the growth rings is evident on the outside of the log as a more or less even but very “bumpy” surface. Rotary or half round cutting along this surface produces veneer with a quilted effect of continuous seashell overlay surface. It is interesting to note that a very similar condition or appearance is known as quilt in Maple (quilted Maple) Pommele´ in African redwoods (example) and Peanut Figure in Japanese Ash (Tamo).

RIBBON STRIPE - This is a result of quarter slicing the log and actually is between broken strip and plain strip. It gives the general appearance of a ribbon slightly twisted. (example): show stuff from p. 60)

RIFT - This description of figure or grain character is most commonly applied to veneer or lumber cut from those species having a heavy medullary ray growth. It is now almost synonymous with White Oak, in view of the popularity of Rift White Oak veneer. The effect in veneer is straight grain and no flake, produced by a cut near enough to radial to be across the growth rings and yet, at all times, enough off the true radial cut to avoid any direction of the cut parallel with the medullary ray. The most practical way of affecting this result is by a slight curve, accomplished by producing Rift Oak on a veneer lathe. (See graph Fig. 6) (Example)

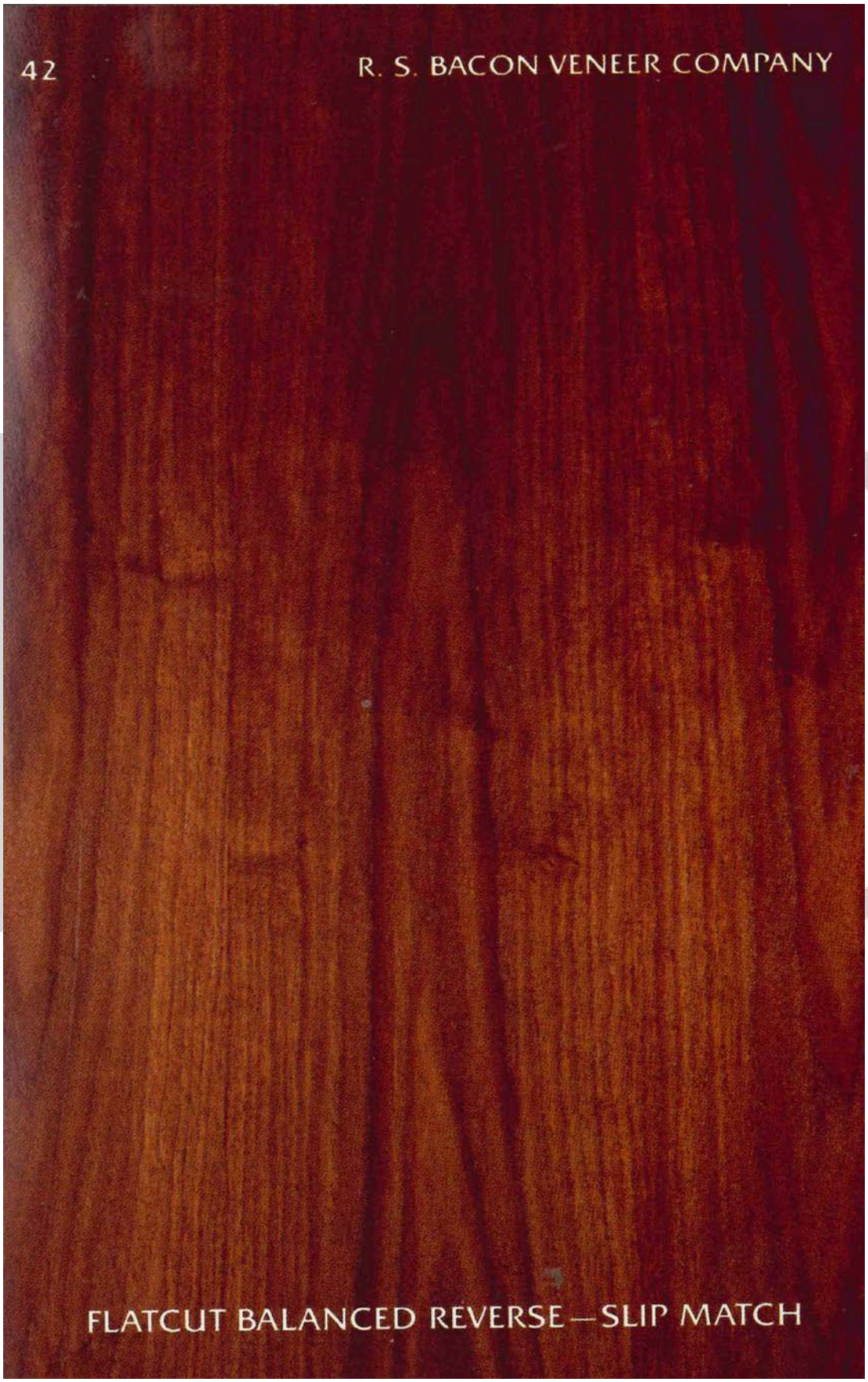
ROLL FIGURE OR HERRINGBONE - In description of Fiddleback Figure, reference is made to “small roll appearance”. While fiddleback figure is usually fairly horizontal to the length of the veneer, roll figure will appear as larger rolls or twists running more likely at some diagonal degree. Thus, when book matched, the “herringbone” description evolves (example).

ROTARY - A method of cutting in which the log is placed on a large lathe and turned into the knife, so that continuous cut is made round and round the log, more or less parallel at all times to the growth ring, Result is a wild, variegated, grain effect. Except for Stumpwood, Burls, and certain figured logs for fine face veneers, (example) rotary cutting is used largely in commercial veneer production. (see graph Fig. 1)

WORMY CHARACTER - Under certain conditions worms or borers attack the log (seldom the living tree) to the extent that worm holes appear almost uniformly in sheet of veneer when cut. In that event a very pleasing effect may result. (Example)

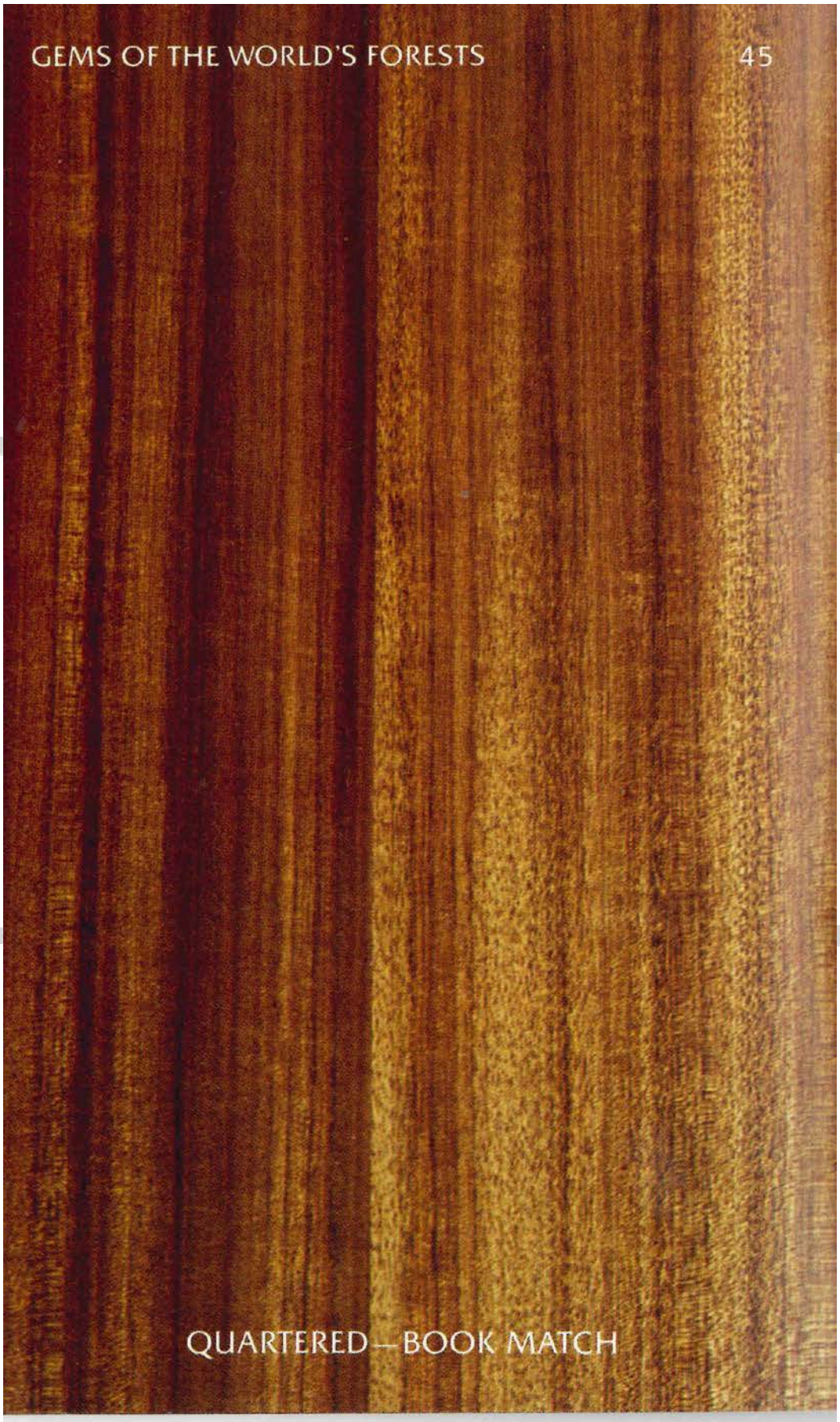
Pictures on the following pages are intended to illustrate a typical grain pattern and/or matching of the veneer and/or figure type without regard to species. Each species has its own character. Figure types are usually common to a few species.

FLATCUT—CENTER BOOK MATCH

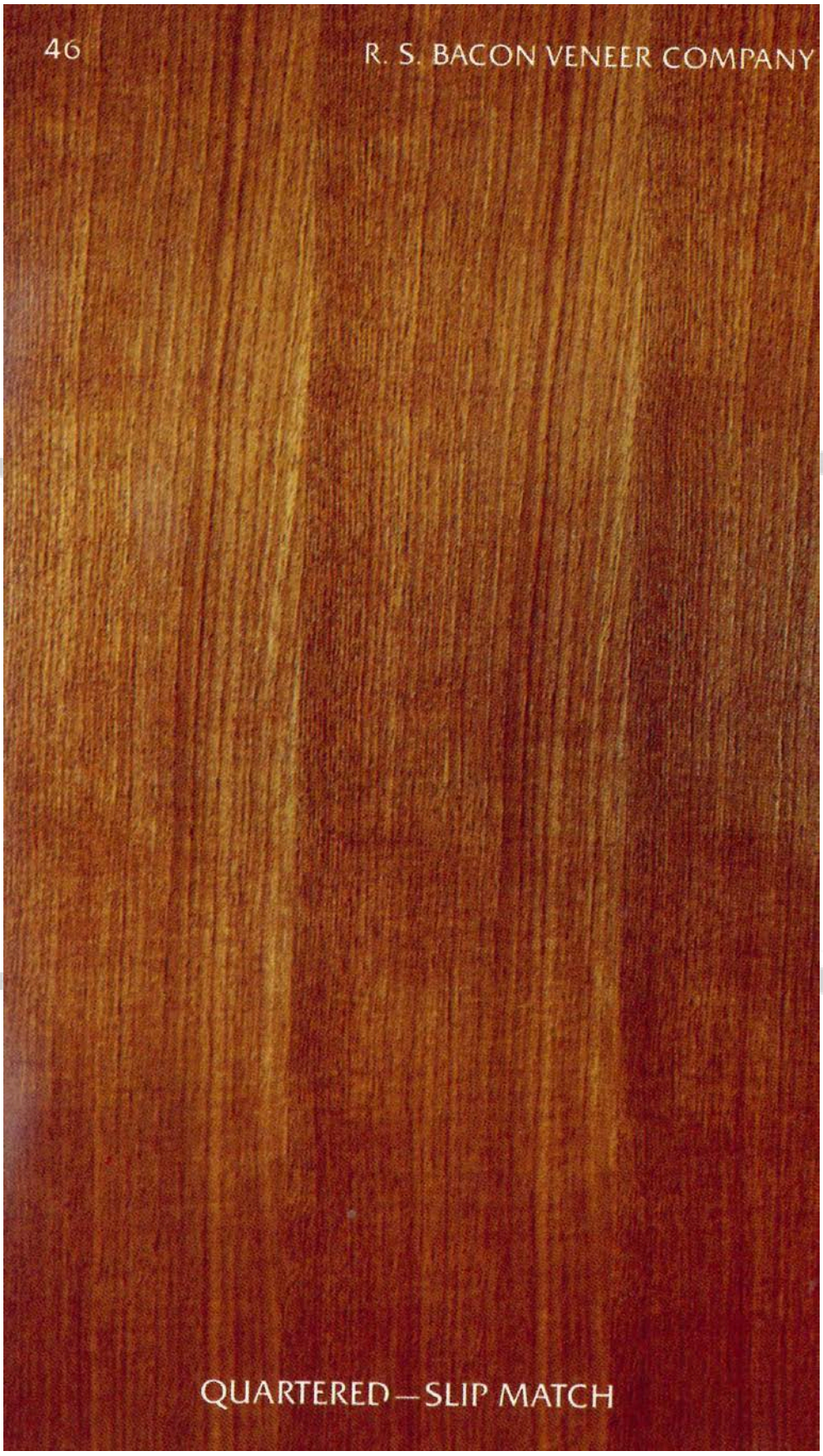

42
R. S. BACON VENEER COMPANY
FLATCUT BALANCED REVERSE—SLIP MATCH

FLATCUT—RANDOM MATCH

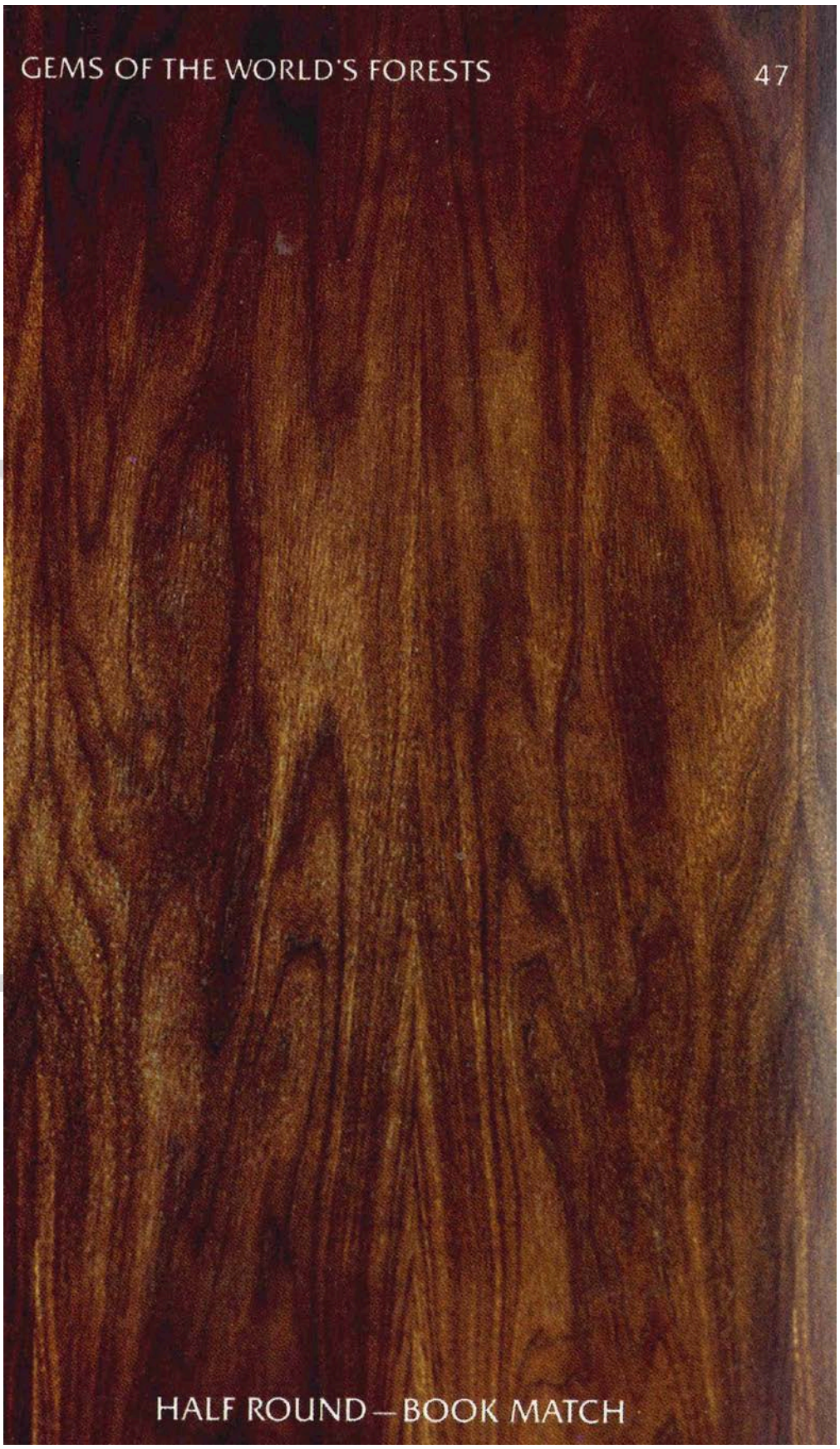
FLATCUT—NATURAL CHARACTER—RANDOM MATCH

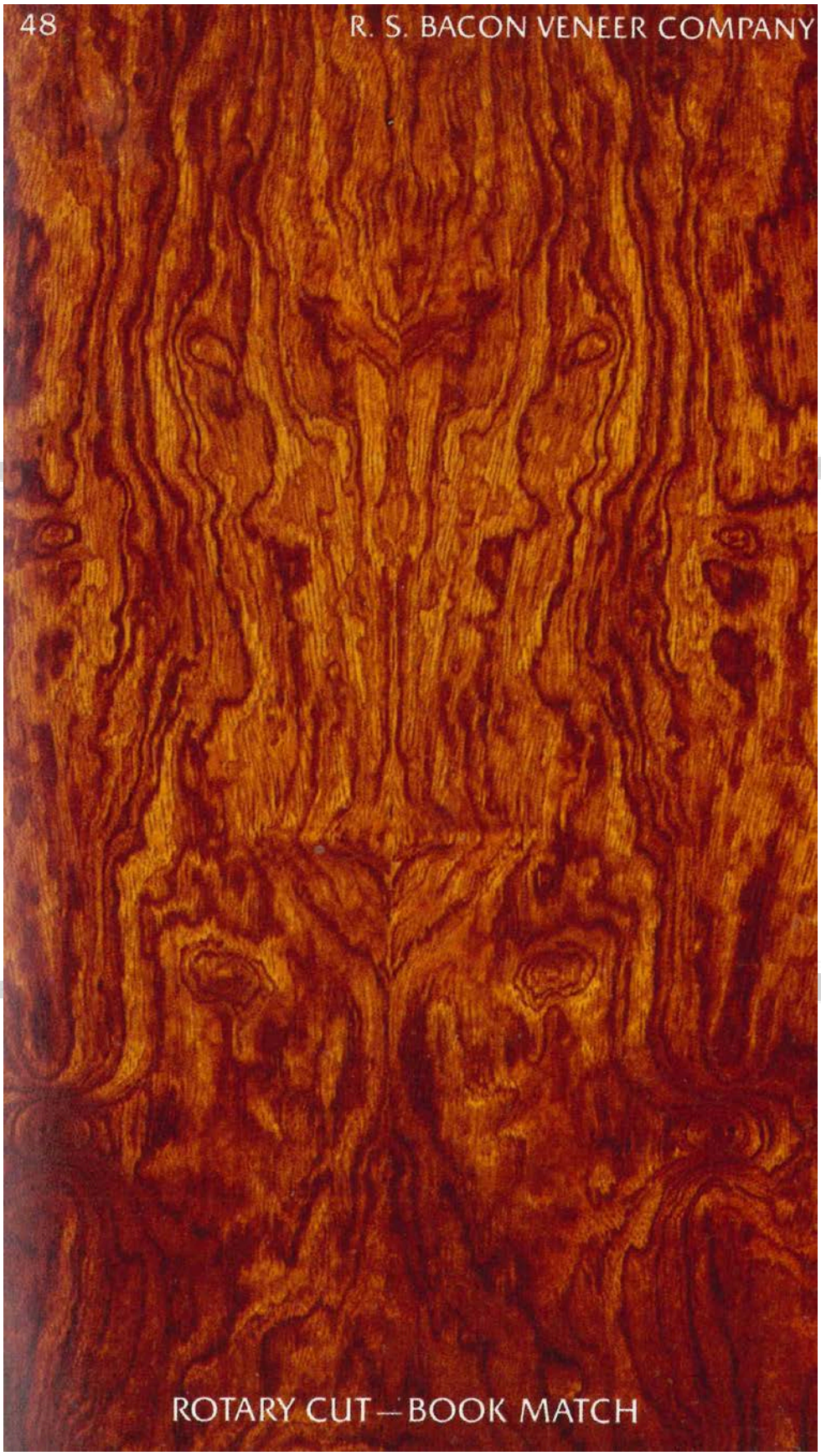


QUARTERED—BOOK MATCH



QUARTERED—SLIP MATCH


GEMS OF THE WORLD'S FORESTS
47
HALF ROUND—BOOK MATCH



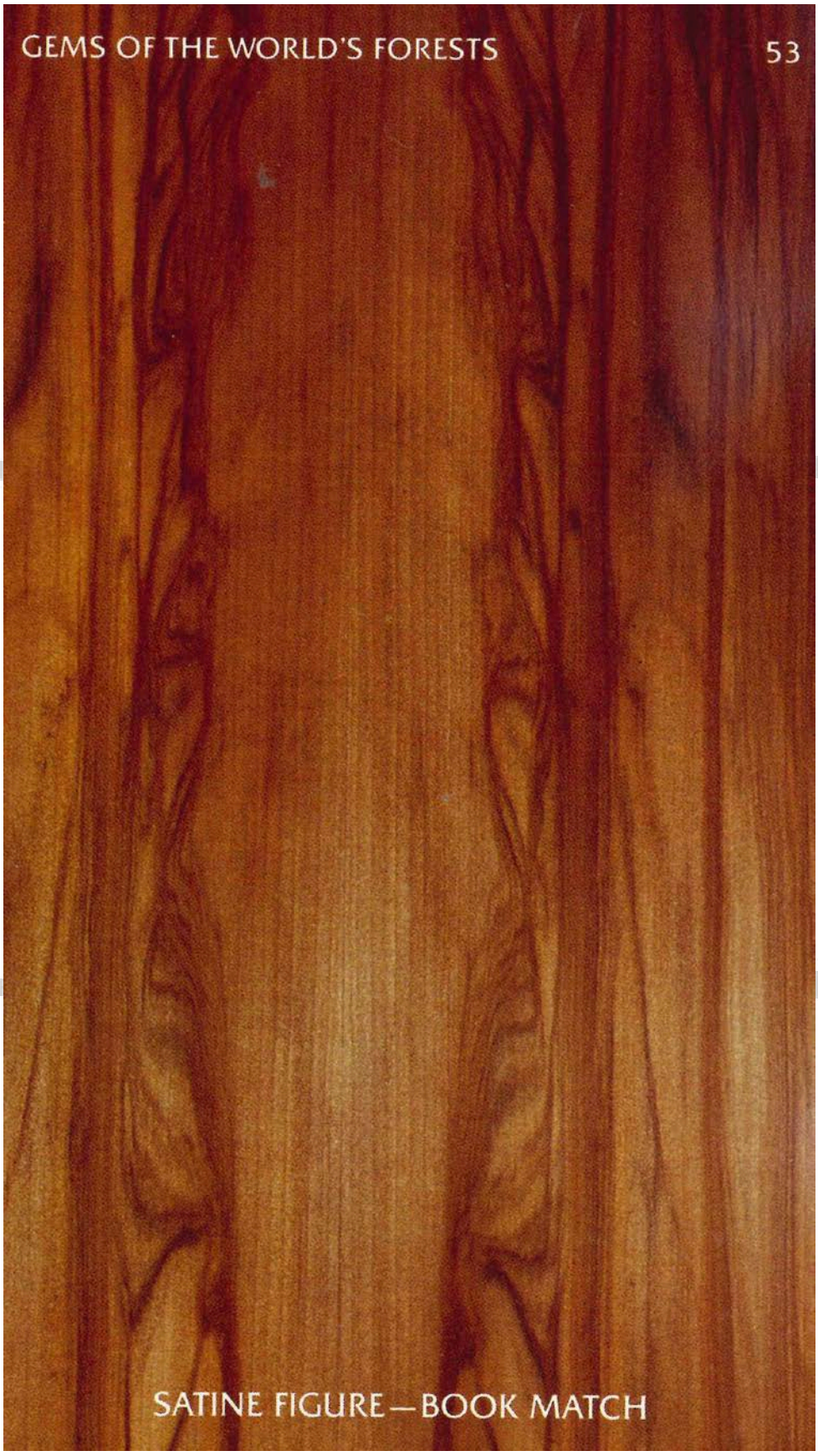
ROTARY CUT—BOOK MATCH

FLATCUT—CROSSFIRE FIGURE—BOOK MATCH

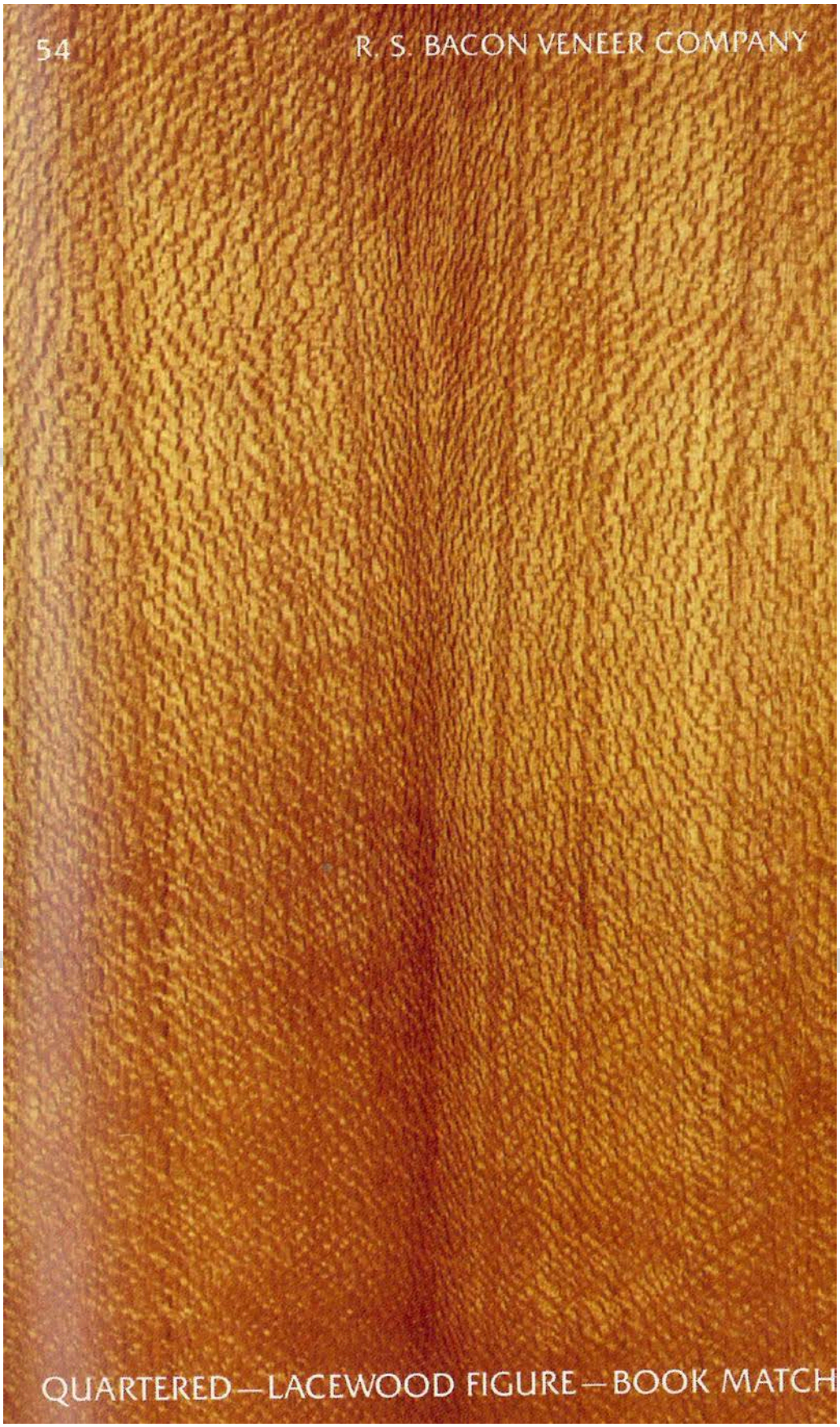
FLATCUT—OLIVE CHARACTER—BOOK MATCH

QUARTERED—FLAKE FIGURE—BOOK MATCH

RIFT CUT—BOOK MATCH

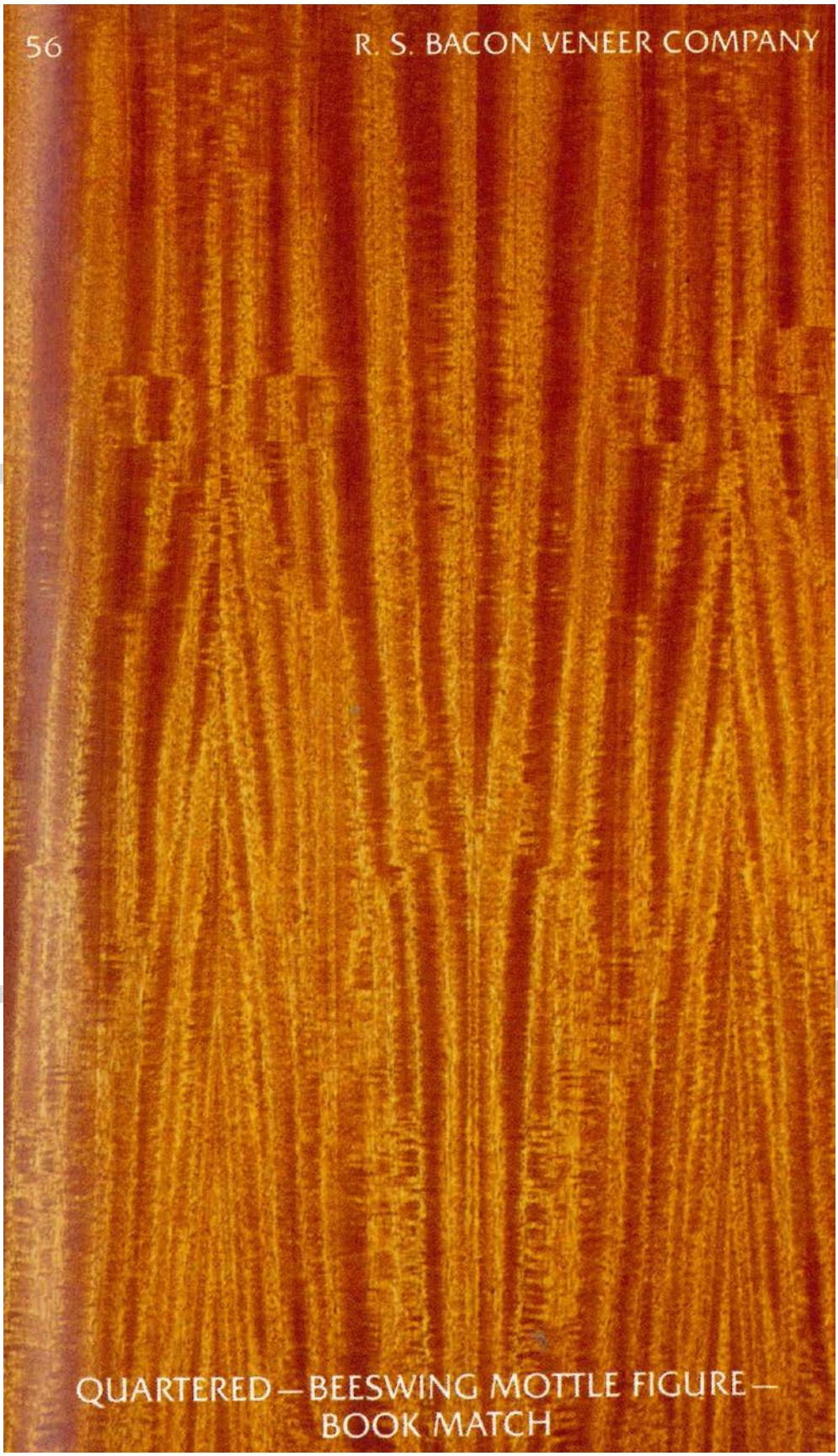


SATINE FIGURE—BOOK MATCH



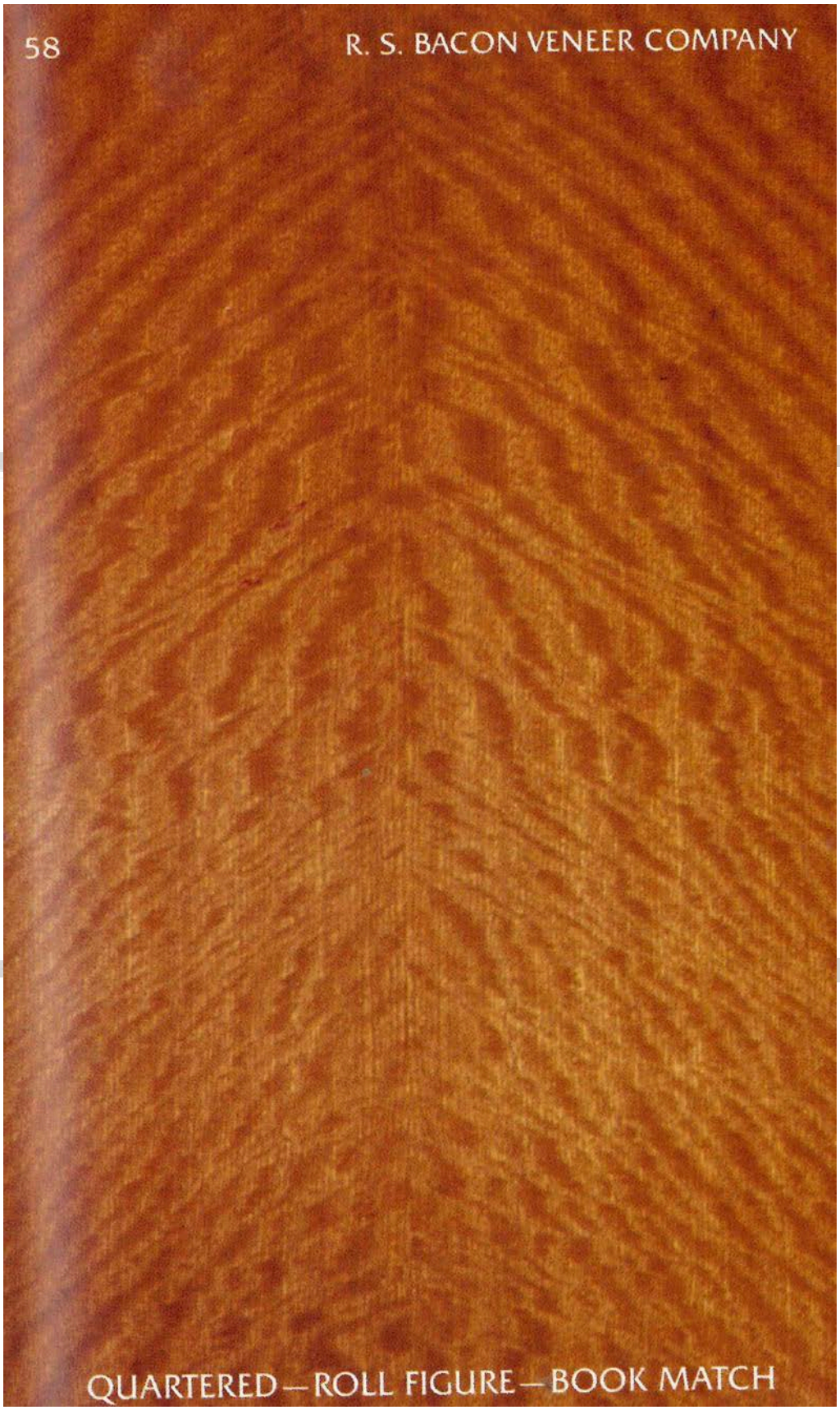
QUARTERED—LACEWOOD FIGURE—BOOK MATCH

QUARTERED—BLOCK MOTTLE FIGURE—BOOK MATCH

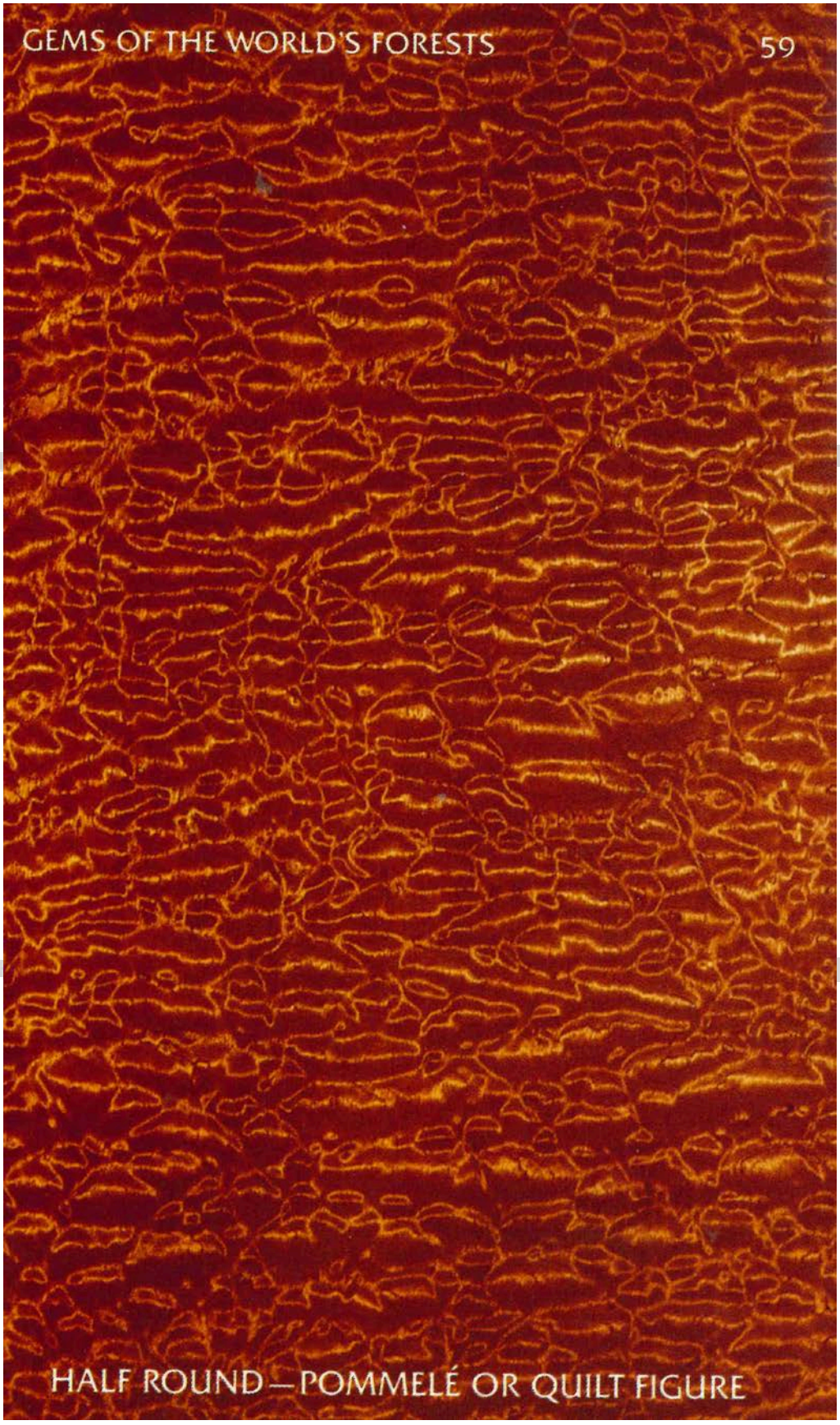


QUARTERED—BEESWING MOTTLE FIGURE—
BOOK MATCH

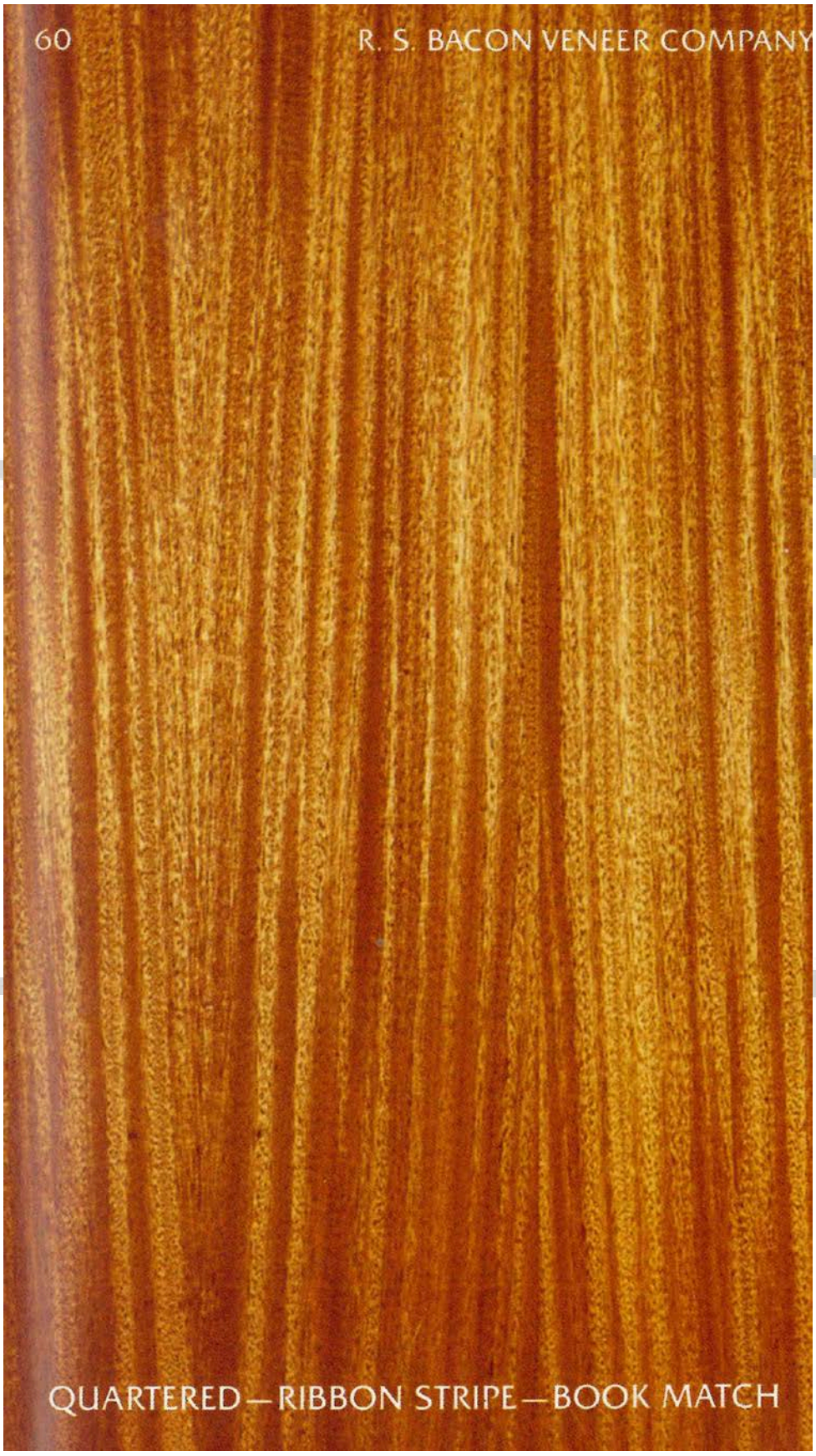
QUARTERED—FIDDLEBACK FIGURE—BOOK MATCH



QUARTERED – ROLL FIGURE – BOOK MATCH

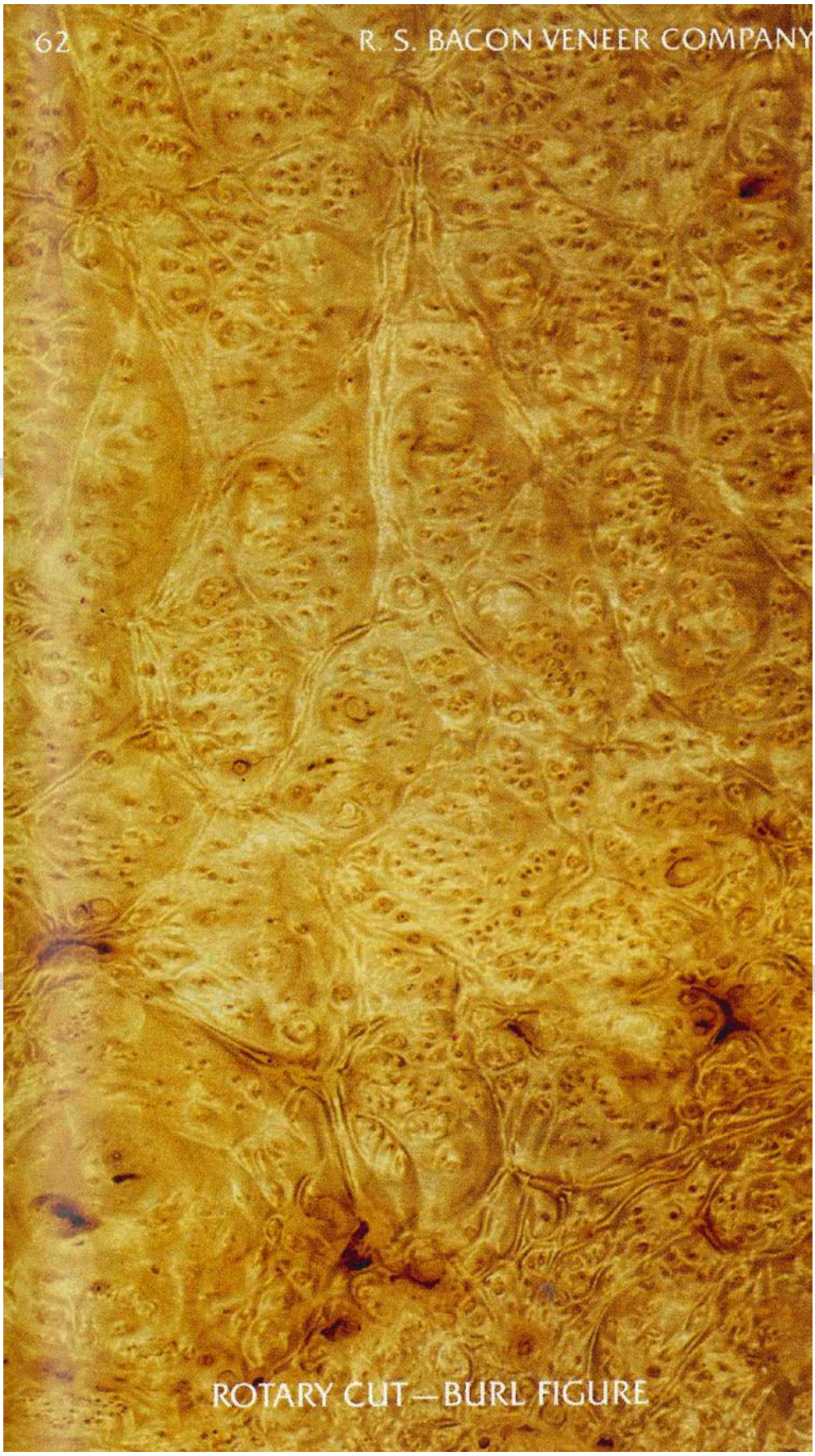


HALF ROUND—POMMELÉ OR QUILT FIGURE

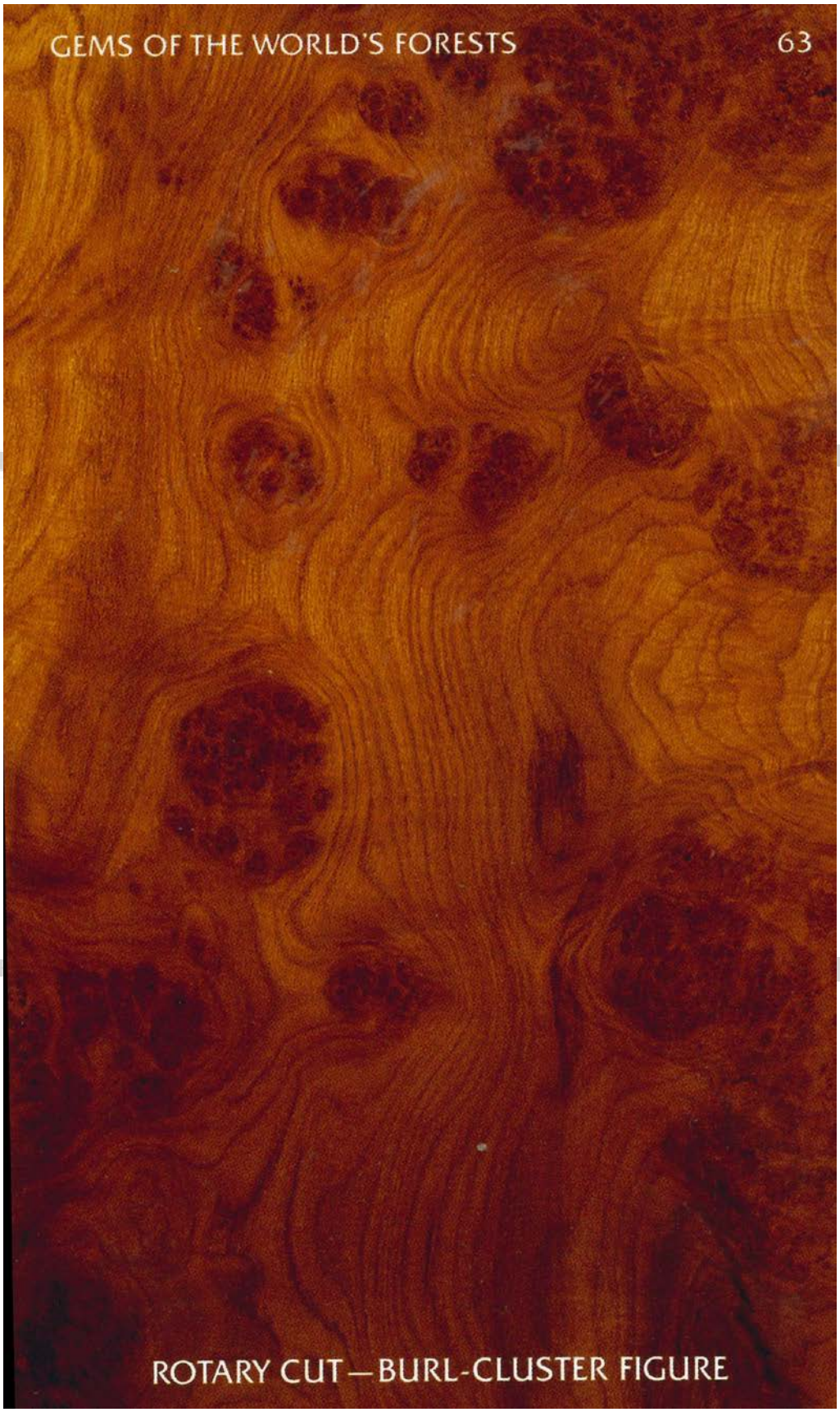


QUARTERED—RIBBON STRIPE—BOOK MATCH

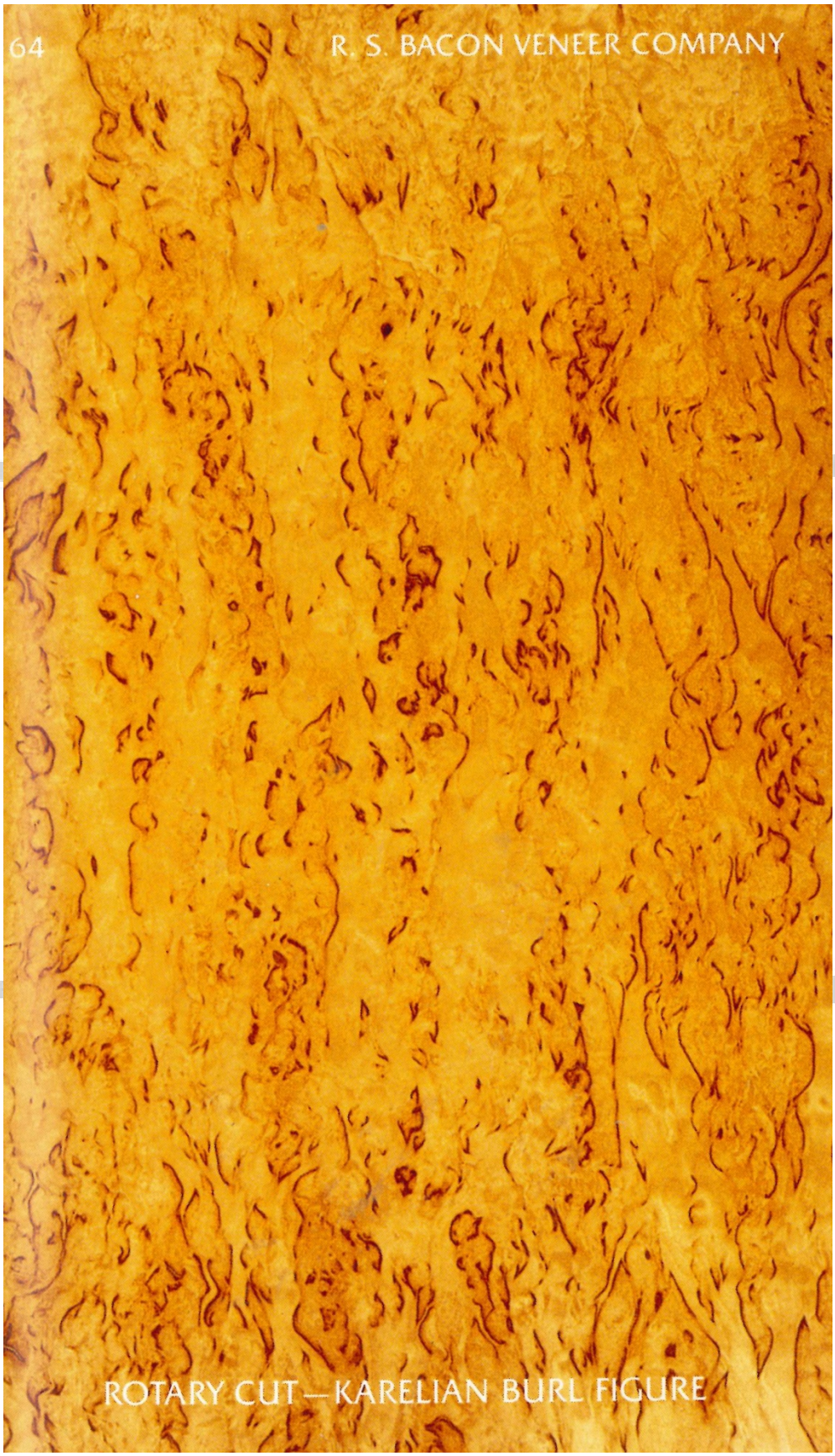
QUARTERED—BROKEN STRIPE—BOOK MATCH



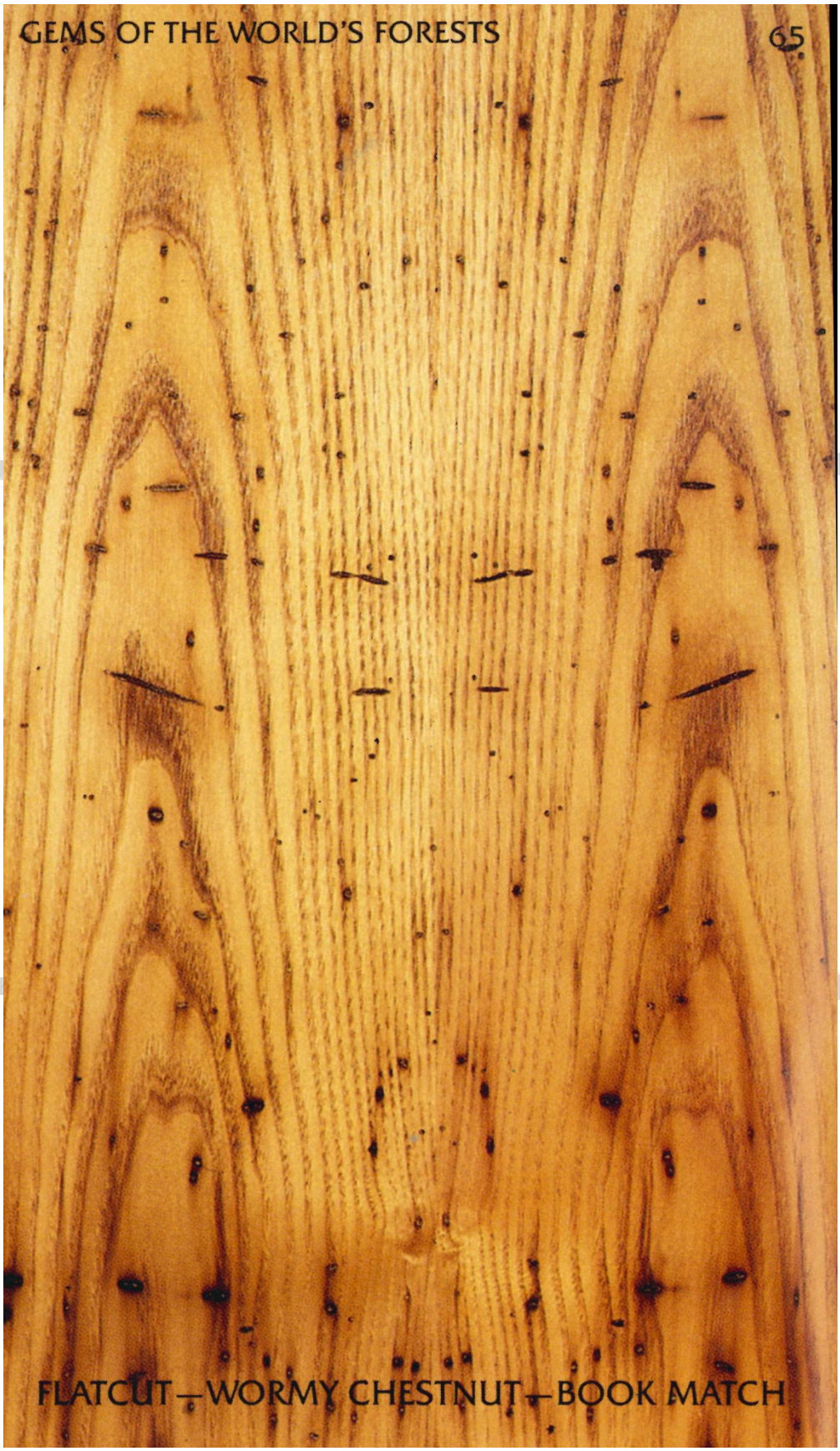
ROTARY CUT—BURL FIGURE



ROTARY CUT—BURL-CLUSTER FIGURE



ROTARY CUT—KARELIAN BURL FIGURE



FLATCUT—WORMY CHESTNUT—BOOK MATCH

ROTARY CUT—STUMP OR BUTT FIGURE—
FOUR PIECE MATCH

SLICED—FEATHER CROTCH FIGURE

SLICED—CROTCH SWIRL FIGURE

FLATCUT—FINGER-JOINT—END MATCH

FLATCUT—BUTT-JOINT—END AND SLIP MATCH

ROTARY CUT—BIRDSEYE MAPLE—
FINGER-JOINT END MATCH

VENEER: REFERENCE KEY

(1) Botanical Classification of species most commonly referred to by trade name listed. An **H** or **S** following the trade name indicates whether the species is in the general classification of Hardwoods or Softwoods

(2) Origin - Area most commonly related to commercial aspects of the timber.

(3) Practical average weight in pounds per cubic foot, g - (green) and, d - (air dry).

(4) Hardness - A general comparative reference pertaining to resistance of the surface of a piece of the wood to impression.

V H . . . . . Very Hard
H . . . . . Hard
M H . . . . . Moderately Hard
S . . . . . Soft
V S . . . . . Very Soft

(5) Porosity - A general comparative reference pertaining to surface appearance of what is often called closeness of grain. Note: Bear in mind uniformity of porous arrangement in tropical woods, as compared to temperate species which show spring and summer growth contrast in varying degrees.

V P . . . . . Very porous
P . . . . . Porous
M P . . . . . Moderately porous
C P. . . . . Close porous structure
V C P. . . . Very close porous structure

(6) Figure Occurrence. This refers only to crossfire figure and in longwood. Some woods are often figured and some are not.

V C F . . . . Very commonly figured
C F . . . . . Commonly figured
F . . . . . Small but dependable percentage of logs figured
S F . . . . . Seldom if ever figured

(7) Commercial Portions of Tree - Indicates portion of the tree most commonly used for veneer and/or lumber, as the case may be, in the U.S. market. The letter symbol followed by an R indicates veneer is rarely developed from this portion in worthwhile amounts.

S . . . . . Stump
T . . . . . Trunk or bole
C . . . . . Crotch
B . . . . . Burl
T C . . . . . Cluster type figure from trunk

(8) Size of Timber - These figures are intended to indicate fair average minimum and maximum diameters (in inches) of veneer logs, (or merchant able logs if not used for veneer) customary available and acceptable.
The occasional tree may yield much larger logs.