

**FIGURE TYPES**  
**in**  
**MAHOGANY**

PRICE \$1.00

# MAHOGANY VENEER PLATES

**Accepted Standards**—For the past 20 years the Mahogany veneer plates which have appeared in *The Mahogany Book* have become the accepted standards for specifying Mahogany in the veneer and plywood industries and by manufacturers using veneer or plywood products.

These plates, which are reproduced in this book, have become the standard sales and ordering guide by the many users and purchasers of Mahogany veneer. Designers, architects, and the purchasing departments of manufacturers and government agencies freely use the notation: "M. B. Pl. No. \_\_\_\_" to designate their selection of Mahogany veneer.

While *The Mahogany Book* plates are the accepted standard of the industry, they are primarily used in specifications to establish a close approximation as to what is desired or what is available. As everyone knows, in all wood veneers there are innumerable variations and combinations that may occur between one figure and another. Because of this, the plates are not to be considered as swatches of something man-made like wallpaper or fabrics.

**Allowable Tolerances**—It is a well-known fact that the veneer of no two trees is exactly alike. Often two flitches from the same tree will vary considerably. Also, the figure pattern in a single sheet of veneer may vary to some extent.

Therefore, it is up to the parties involved to determine what tolerances are allowable. And, it should be kept in mind that tolerance should be greater with large quantities of veneer than for small quantities.

While the Mahogany plates serve a very useful purpose, often a few added words at the time a transaction is made will serve to make the meeting of minds more complete and avoid subsequent disagreement. Periodically the Association receives requests from buyer or seller to decide what should be a fair fulfillment of a specification based on the plates in *The Mahogany Book*. Because this is a matter that must be agreed upon by the buyer and seller, the Association cannot make such rulings.

As a guide to better buying and selling, reproduced on the following pages are forty plates of Mahogany veneers in a variety of figures and patterns including several that are comparatively rare.

*George N. Lamb*  
*Al Albini*

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## GENUINE MAHOGANY

# THE MEDIUM OF MASTERS

**INCOMPARABLE BEAUTY**—Genuine Mahogany has brilliantly enriched design conceptions compatible with today's gracious living. For over 200 years it has been the inspiration of creative craftsmen from the 18th Century cabinetmakers down to contemporary designers. Its beauty has enhanced the quality of both traditional and modern designs.

**VARIETY OF FIGURES**—Few, if any, other cabinet woods have the wide variety of figures that are found in Mahogany. The turns and twists in the grain that create exciting figures are distinctly unique in character. Mahogany is the wood in which the many beautiful wood figures first became known. Mottle, fiddle-back, swirl, crotch, broken stripe and others were first used to describe Mahogany—the most romantic of all cabinet woods.

**WIDE RANGE OF FINISHES**—Be it natural or toned finishes, old world or copper tones, Mahogany has great adaptability to fine finishing that accentuates its inherent beauty. It can be finished in any color from light to dark and others between the two extremes. Its unique texture and freedom from defect are the reasons why Mahogany is so adaptable to modern finishing methods.

**PERFECT MEDIUM OF GOOD DESIGN**—When the variety of figures is multiplied by the wide range of finishes, the possibilities of distinctive design are unlimited with Mahogany. And, because Mahogany offers the perfect medium of expression for any design theme in furniture or cabinetwork, why experiment with woods or imitations that have less to offer in beauty, versatility, and durability which give permanent satisfaction?

**THE MEASURE OF QUALITY**—Because of a fortunate combination of properties essential to a first-class cabinet wood, genuine Mahogany has attained an excellent reputation down through the centuries. Chief among these properties which Mahogany possesses to a high degree are attractive appearance, fine finishing qualities, ease of working with tools, and ability to “stay in place.”

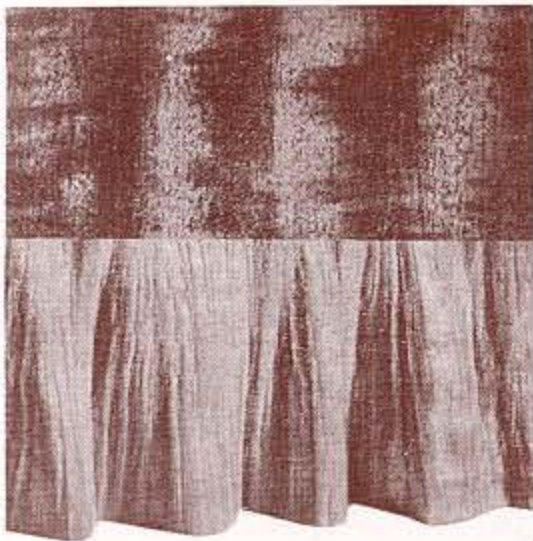
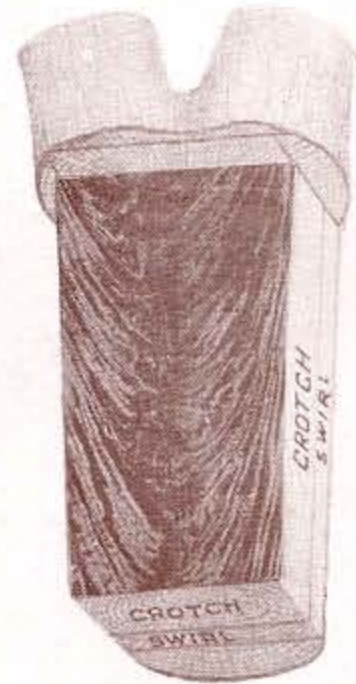
In Mahogany are found the combination of qualities desired by master craftsmen. And, because it has so many fine characteristics, Mahogany is truly the measure by which other cabinet woods are judged. That's why it's the *MEDIUM OF MASTERS*.



## FIGURES IN MAHOGANY

**HOW FIGURES ARE FORMED**—Figure in wood is the pattern formed by four basic factors or combination of these things: (1) the growth rings, (2) the medullary or pith rays, (3) pigment figure (irregular infiltrations of coloring matter), and (4) irregularities of growth, such as cross grain, wavy grain, or various other distortions of the normal course of the fibers.

**CROTCH**—Mahogany's famous crotch figure comes from the trunk of the tree just below where it forks into two nearly equal branches. The outer portions of this block, top and bottom, produce swirl figure veneers that gradually merge into the true crotch figure produced from the central part of the block. Note that the crotch figure is inverted when used on the vertical surface of furniture.



**STRIPE AND MOTTLE**—The illustration on the left shows Mahogany cut on the quarter with the grain. The alternate in-and-out direction of the grain produces the typical stripe figure. If in addition to this interlocking grain there are also cross wrinkles in the grain, the stripe figure becomes a mottle. The variation in the interlocking grain areas and the cross wrinkles give rise to the endless variety and combinations of stripes, broken stripes, mottle and fiddle-back figures.

**PORES**—The pores in genuine Mahogany are tubular vessels that extend from the roots through the trunk to the branch terminals. They show up on the surface of lumber or veneer as fine pen lines, dashes or dots (see illustration) accordingly as the cut is parallel to the grain or more or less slightly across the grain. They tend to mark the direction of the grain and therefore emphasize and bring out the grain pattern or figure. In light finishes, the pores are often given a dark filler to accentuate the grain pattern. Light filler does the same for dark finishes.



**PITH RAYS**—Pith rays are very small and thin wavering bands that extend from the pith or heart of a tree to the circumference. In Mahogany they show up as small flakes on surfaces that are on the true quarter. Such areas are often designated as "sycamore grain" which wood has much larger pith rays.



## CUTTING MAHOGANY VENEERS

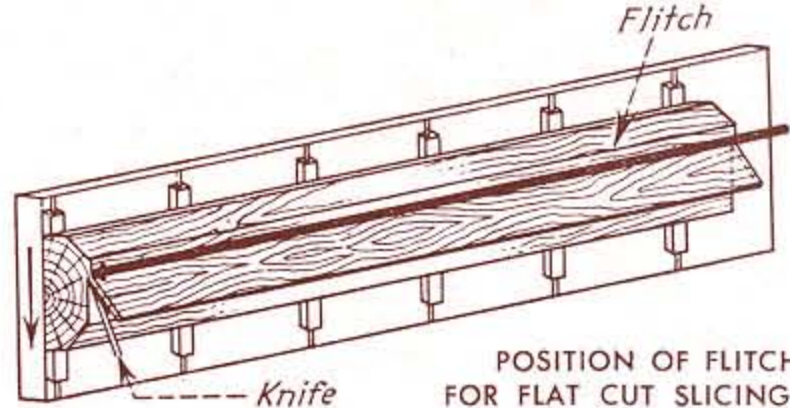
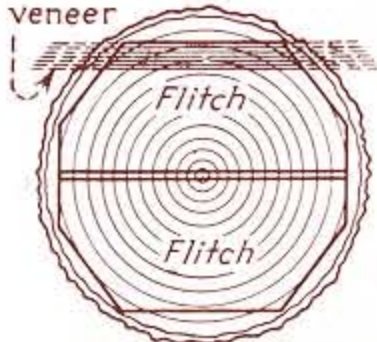
**PRINCIPAL METHODS**—Generally speaking, there are three methods of converting logs into veneers although with their variations they comprise at least six different types. The method of veneer cutting is usually determined by market requirements and the character of the log.

The three principal types in veneer manufacturing are sliced, rotary, and sawn, although the latter is very seldom used. The sliced method has two main types: flat cut and quartered. In rotary, there are three variations: full rotary, half round, and back cut. Sawn veneers are cut on a special type of circular or band saw in both flat cuts and quartered methods.

**FLITCH**—The term flitch is used to designate a longitudinal portion or section of a Mahogany log. For quartered or flat cut veneers each log is sawn into several of these flitches. Because of standard knife lengths, rotary veneers are never longer than 12 feet, while quartered and flat-cut veneers are never longer than 17 feet. Every sheet of veneer in a flitch is kept in consecutive order as it is sliced which is imperative for matching purposes. Each flitch is allotted a number, and after cutting, two to four sheets are drawn from the flitch as samples and similarly numbered. Veneers are purchased by examining these samples.

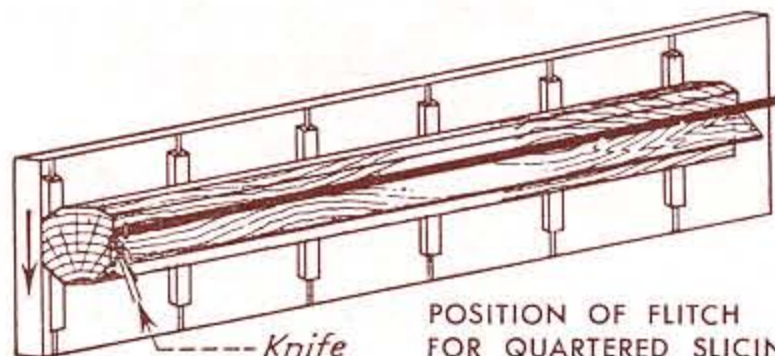
**FLAT CUT**—This method of slicing veneers is a natural cut as the tree grows. The log is opened down the center lengthwise. The halves are then trimmed, steamed and placed on the slicing machine in such a manner that the resulting veneers have a combination of straight grain (quarters) on each side of the sheet with flat cut (heart character) in the middle.

Cutting lines  
for flat sliced  
veneer



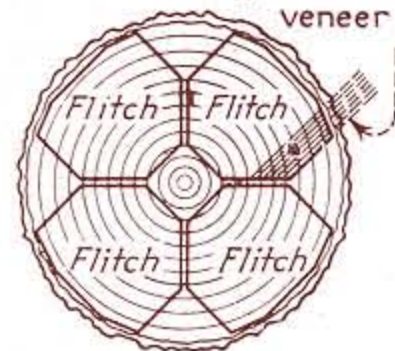
POSITION OF FLITCH  
FOR FLAT CUT SLICING.

**QUARTERED**—The difference between quartered and flat cut is in the preparation of the log which is sawn in quarter-cut flitches. Then, the veneer of each quarter is cut approximately at right angles to the growth rings. This produces the straight and broken stripe and other mottle or fiddle combinations of figures.



POSITION OF FLITCH  
FOR QUARTERED SLICING.

Cutting lines  
for quartered  
veneer

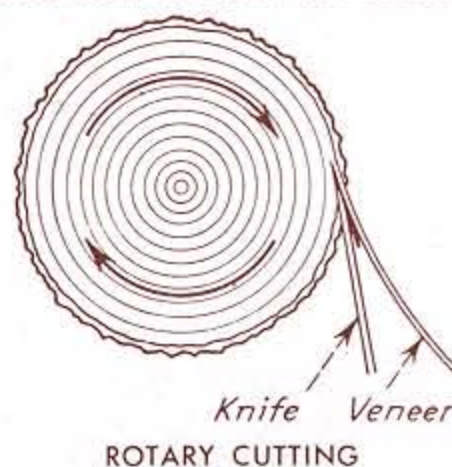


Illustrations by permission from "Plywood—What It Is—What It Does," by Louis H. Meyer, Copyright 1947, McGraw-Hill Book Company, Inc.

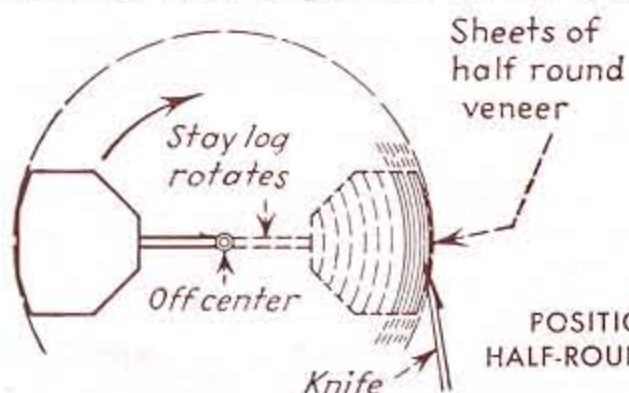


## CUTTING MAHOGANY VENEERS (Continued)

**FULL ROTARY**—With this method the log is turned on a lathe against a knife thus getting a continuous cut around and around the flitch. These continuous sheets are then clipped off at specified intervals so that they may be handled more easily. Rotary cutting produces a swirly, variegated grain marking, as the knife edge travels more or less along the arc of the growth rings in the tree.



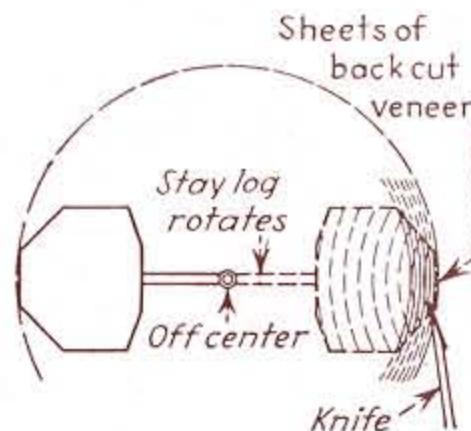
**HALF-ROUND ROTARY**—This cut is also made on the lathe; however, the flitch is fastened to chucks that are off center, so that as the log rotates, only a portion of its surface is cut into



POSITION OF FLITCH FOR HALF-ROUND ROTARY CUTTING.

veneers. As the blade cuts through the growth rings off the line of their arc of growth, the figure is much milder than that obtained in full rotary cutting and shows slightly more heart character than that produced by slicing.

**BACK CUTTING ON ROTARY**—This type of cutting is also done on a rotary lathe with the use of a “stay log” and differs from half-round rotary cutting in that after the log is cut through the center lengthwise it is fastened to the “stay log” on the bark side. In back cutting the first sheets come from the heart of the tree, while in half-round the first sheets come from the outside of the tree. The direction of the cut is against the growth rings of the wood, thus producing narrower hearts with more striped edges.



POSITION OF FLITCH FOR BACK CUTTING ON ROTARY.

## Sampling and Selling Veneers

After the veneers have been dried and their rough edges trimmed, samples are taken at regular intervals, and placed in the display rooms as representative of the flitch. Both veneer manufacturers and veneer salesmen maintain these showrooms where furniture manufacturers, plywood producers, and other users may select their stocks, or order samples to be sent to them.

Buying and selling veneers is a “tailor-made” operation. Selections of flitches are made by screening samples of grades and figure types that are representative of the flitches for sale. Buying representatives must be skilled in selecting the right type of veneers for the ultimate use intended. Just as cloth for a tailor-made suit is chosen, so are veneers selected from samples.



## VARIETY AND COMBINATIONS

**NO LINE OF DEMARCATION**—Illustrated on the following pages are typical figures and patterns to be found in Mahogany. Plates 6, 8, 19, 20, 21, 29, 30, and 32 show matched effects. The plates showing figure types have been selected with great care, but it should be kept in mind that the type of illustrations cannot be exactly duplicated. One should expect some variation not only between different fitches but also within a single fitch.

For instance, Plate 25 shows quartered plain stripe; Plate 26 shows broken stripe; and Plate 27 shows wide broken stripe. These are types, but there is no exact line of demarcation between them.

**INNUMERABLE VARIATIONS**—Take the case of Plates 6, 8, 21 and 22. Plate 6 is a strong mottle figure; Plate 8 is intermediate between a broken stripe and a mottle; Plate 21 is a strong fiddle-back figure; and Plate 22 is a mixture of mottle and fiddle-back. Actually there are innumerable variations and combinations that may occur between the block mottle figure and the fiddle-back figure.

The variation in the interlocking grain and the cross wrinkles gives rise to the endless variety and combinations of stripes, broken stripes, mottle and fiddle-back figures. The alternate in-and-out direction of the grain produces the typical stripe figure of Mahogany. If in addition to this interlocking grain there are also variable cross wrinkles in the grain, the stripe becomes a mottle, and if the cross wrinkles are regular, the figure is a fiddle-back.

**BEAUTY MARKS**—Mahogany, though it is exceptionally free of defects in the better grades, is a natural product. As such, it may occasionally contain variations of grain pattern called “cross-bars” or small, sound “pin-knots.” These characteristics actually help to identify the material as a product of nature and serve to emphasize the beauty of the wood. In no way do they harm the structural qualities of the wood. All this was well recognized by the master cabinetmakers of the 18th and 19th Centuries who did not hesitate to include these “Beauty Marks of Nature” in their most important creations which are today’s priceless antiques.

# MAHOGANY VENEER PLATES

*Note:* The plates shown in this book are the same and have the identical numbers as those used in all eight editions of *The Mahogany Book*. The original grouping and subsequent additions broke up sequences of related figure types to some extent. The necessities of book making did not permit re-grouping of the plates. However, the descriptive copy for each plate in this book appears on the opposite page so there should be no problem in relating text material to the corresponding plate.

## ◆ PLATE NO. 1 CROTCH FIGURE

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The crotch figure is produced just below where the tree forks into two limbs and is a result of the wood that has been confined and twisted between the two limbs as they increased in girth. Crotches are usually 3' to 8' long and are not plentiful. Strangely enough, they are available in merchantable quantities in only African Mahogany. Many trunks do not end by dividing into two limbs of about equal size. If the crotch angle is too wide, the crotch is too short to be useful. If the angle is too narrow, the increasing diameter of the limbs will imprison some of the bark and thus ruin the crotch figure.

## ◆ PLATE NO. 3 PLAIN SWIRL

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This figure in Mahogany has long been known, and at first, was always associated with the veneer that is cut from the crotch block as described on page 4. In more recent years, the swirls from the crotch blocks have not been sufficient to meet the demand for swirly figure. Consequently, other types have been developed through selection of logs, short sections of logs, and by special placement and cutting. These swirls are illustrated elsewhere in this book. This plate is typical of the first sheets cut from the crotch block.

## ◆ PLATE NO. 2 HIGHLY FIGURED SWIRL

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This is just about tops in a figured swirl. It also gives plenty of evidence that a few more cuts into the crotch block will produce sheets with the full crotch figure. The central splashes that presage the crotch figure are sometimes called "moonshine." After the knife passes through the full crotch area, the sheets again become swirly, with the last sheets cut being the plainest. These crotch block swirls vie with the crotch figure in superb matching possibilities.

## ◆ PLATE NO. 4 FIGURED FLAT CUT

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The log producing this figure is prepared and cut in exactly the same manner as for plain flat cut as shown in Plate No. 7. The only difference is that it is one of the relatively small number of logs that have cross wrinkles as described in paragraph three on page 4. The inverted V or cathedral pattern shows up in the center of the sheet, but the wrinkles turn the striped edges into some form of mottle figure. Here again the variation is endless and each one a gem. Supply very limited.



1 Crotch Figure



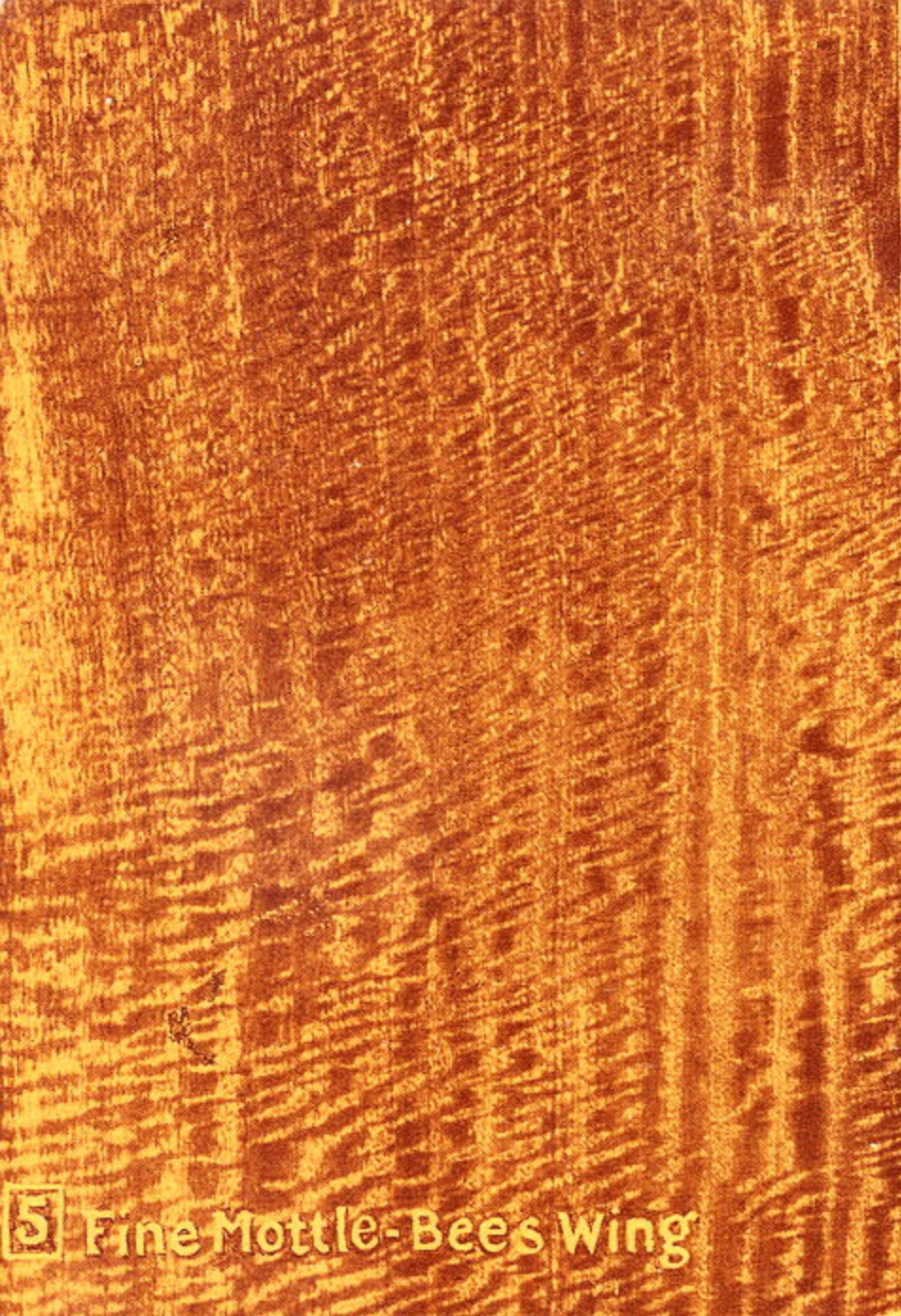
2 Highly Figured Swirl



3 Plain Swirl



4 Figured Flat Cut



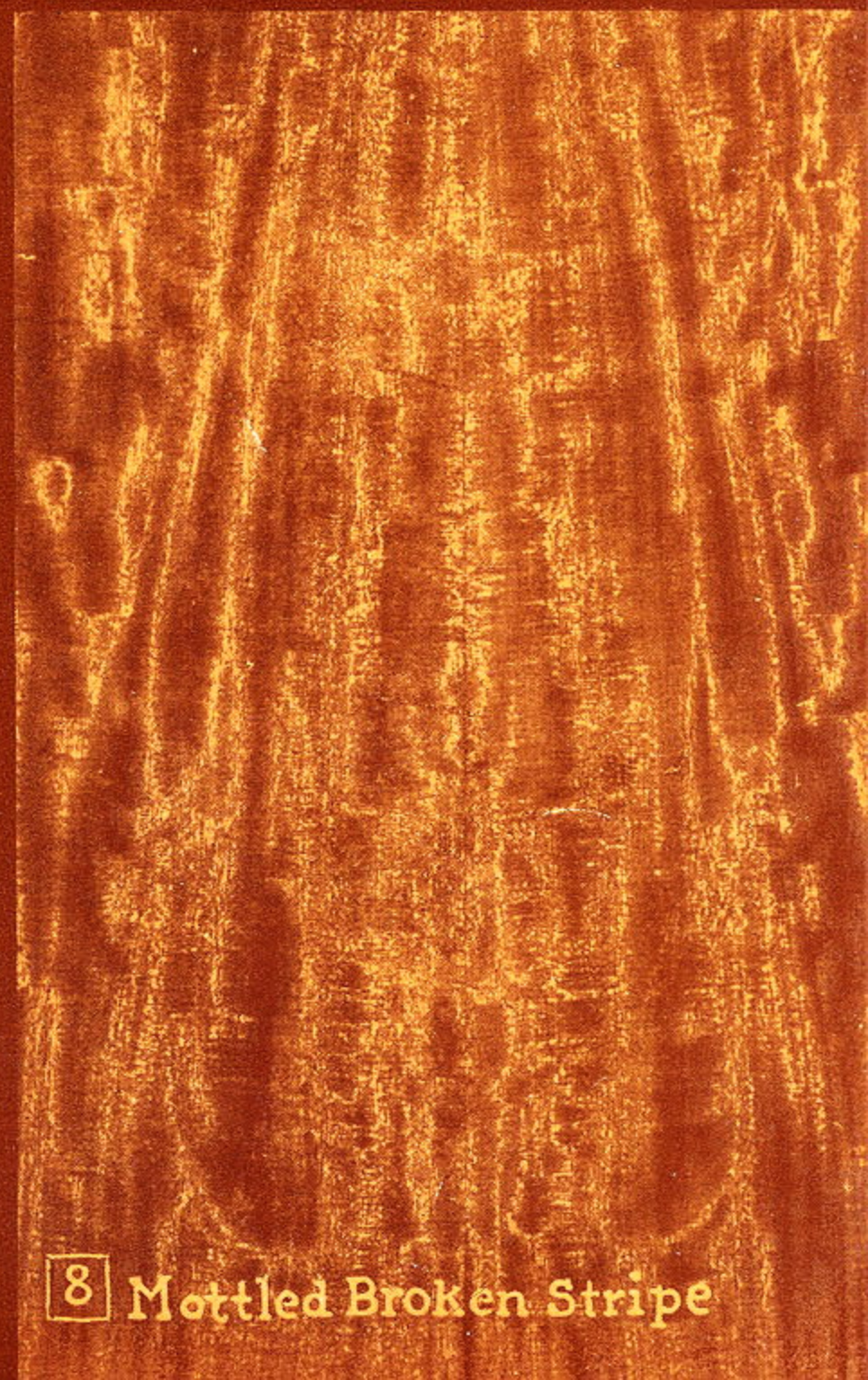
**5** Fine Mottle-Bees Wing



**6** Large Block Mottle



**7** Plain or Flat Cut



**8** Mottled Broken Stripe

## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 5 FINE MOTTLE — BEE'S WING

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This represents another extreme in the mottle figure. It is basically the same as the large block mottle, but scaled down in pattern to less than one half. The stripes are narrower and the cross wrinkles more numerous. This delicate figure is more typical of satinwood and a rarity in Mahogany. Usually, the mottle figure in Mahogany ranges between the extremes that are shown. Top quality—rare.

### TAGS AND LABELS

*Manufacturers of Mahogany merchandise that qualifies for the Association's tags and labels may obtain a 15-page booklet entitled "Tags and Labels That Tell & Sell" which gives the complete story about these potent selling symbols.*

### ◆ PLATE NO. 7 PLAIN OR FLAT CUT

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On page 5 are shown diagrammatic sketches of the end of a log cut into flitches and the placement of a flitch in a veneer slicer to cut at right angles to the log radius. The cut is in the general direction of the growth rings, but cuts through the growth rings with a frequency determined by their curvature and any natural growth irregularities. This typically produces a sheet with the inverted V or cathedral grain pattern. The sheets cut from the outer portion of the flitch have a wide heart and close to the center, the heart is narrow with wide striped edges.

### ◆ PLATE NO. 6 LARGE BLOCK MOTTLE

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This is another figure that is based primarily upon the stripe produced by the interlocking grain of Mahogany as shown and described on page 4. When the cross wrinkles are deep, somewhat regular and mostly spaced about the width of the stripe, the figure is a block mottle. Logs of this type are quite rare and often represent a "once-in-a-lifetime" find. Quite rare.

### WHAT EVERYONE SHOULD KNOW

*An ideal sales training manual entitled "What Everyone Should Know About Genuine Mahogany" is available. Written in question and answer form, and well illustrated, this 30-page booklet has the answers to most questions on Mahogany.*

### ◆ PLATE NO. 8 MOTTLED BROKEN STRIPE

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To carry on the story of the mottle types, this intermediate figure should be in sequence between that of the broken stripe and the full mottle. The pattern is about half broken stripe and half mottle. Next to broken stripe it is one of the most available types of quarter cut figured Mahogany. Because of its pattern of long and short markings, it matches well and also gives a fine play of light and shadow.

## **MAHOGANY VENEER PLATES (Continued)**

# **From Flat Cut To Swirl and Crotch**

The never-ending variety of figures within figure types is a constant source of delight and enchantment to creative craftsmen who work with Mahogany. Designers, for example, find in Mahogany a vast range of figure choices that enables them to choose the right figure for the right design. In addition, this variety makes it possible to find the veneer figure that best expresses the feeling they wish to convey. No other wood offers such latitude for selection. There is more diversified beauty in Mahogany than any other medium.

Plates No. 9 through 20, on this and the following pages, dramatically illustrate the variety of figures that a number of crotch blocks may produce, ranging from the plainest wood to the most beautiful of all wood figures.

### **◆ PLATE NO. 9**

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Even in the plainest of Mahogany flat cut there is beauty in the simplicity of pattern. For restraint in the low key, this is a good example of the ultra conservative pattern in lumber or veneer.

### **◆ PLATE NO. 11**

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Here we see the shell figure pattern with a light trace of the growth rings. The motion that is evident takes on an elongated oval shape as the eye moves upward.

### **◆ PLATE NO. 13**

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This plate shows a swirl, which after the cutting of a few more sheets, will blossom into a full crotch figure. It is already outlined in the center.

### **◆ PLATE NO. 10**

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Not so conservative as Plate No. 9, but still on the conservative side. This plate contains a little more movement than in the plain flat cut design. It's the beginning of "motion-in-wood."

### **◆ PLATE NO. 12**

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The emergence of more swirl in the gradually developing swirly figure becomes noticeable, like the soft undulating waves of the sea. Here we see a balanced-motion effect in the swirly pattern.

### **◆ PLATE NO. 14**

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This swirly figure resembles a mountainous area in relief or the choppy waves of the sea. It is a good example of the exciting third dimension in a Mahogany veneer pattern.

From Flat Cut to  
Swirl and Crotch.

9

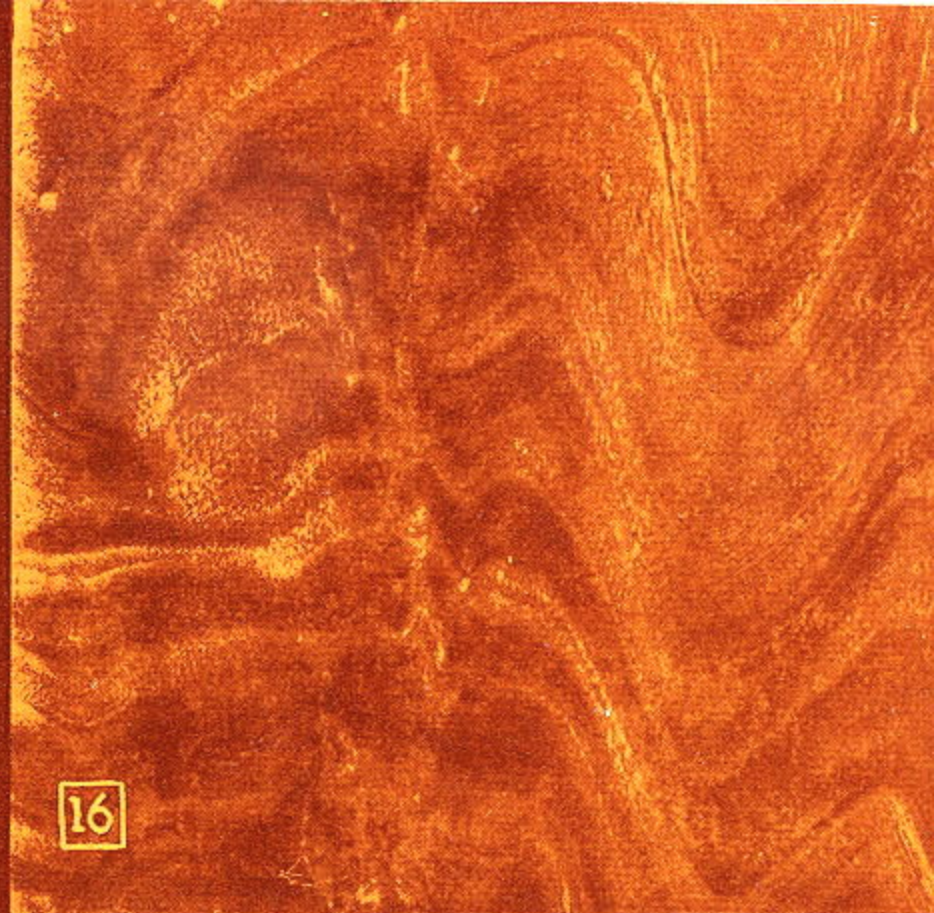
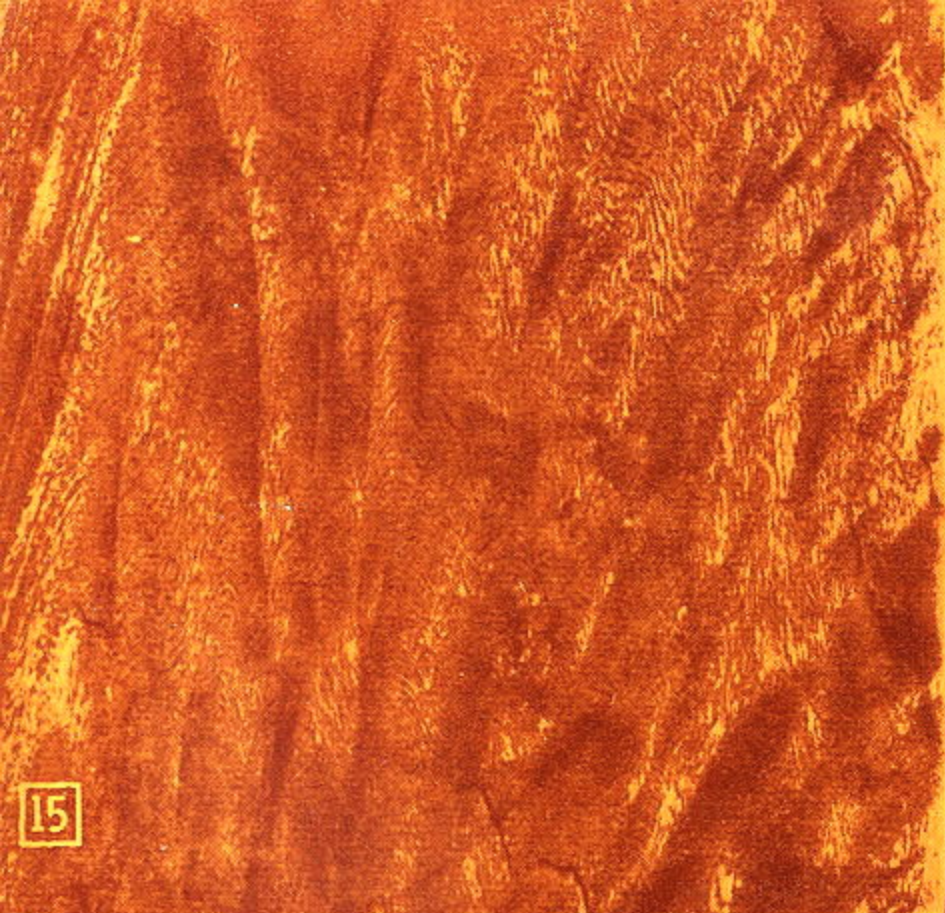
10

11

12

13

14



## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 15

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Figured swirl takes on many different patterns, all of which are distinctively beautiful. This shows a figured swirl which may emerge into the full "burning bush" crotch of Plates 17 and 18.

### ◆ PLATE NO. 17

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And here it is! The "burning bush" crotch! Opinions may differ, but to us this is the most beautiful figure in the world of wood. Its flame gives it the name "burning bush" crotch. No artist could paint such a picture. A rare figure.

#### POINT-OF-DISPLAY

*Attractive, full color, point-of-display easels showing the tags and labels are available to manufacturers and retailers at 20¢ each. Size: 10½" x 8½".*

### ◆ PLATE NO. 19

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Finally, we come to the feathered crotch which like all other figures comes in many variations. This is a matched crotch with unusual light and dark contrasts. It is dark when the eye looks into the grain and light when with the grain.

### ◆ PLATE NO. 16

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This is another form of figured swirl that has wave effects. The irregularities in the growth rings are noticeable as they ascend and descend like long loping waves on a rock-bound coast. It is really a variation of Plate 14.

### ◆ PLATE NO. 18

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Like its adjacent companion, this is another "burning bush." Its flame-like design is wide in detail and spreads like a forest fire pushed by wind. A rare figure.

#### MAHOGANY LUMBER

*Although Mahogany veneers are sold from samples selected from each flitch, Mahogany lumber is sold in accordance with the measurement and inspection rules for hardwood lumber. The grades set forth in these rules are established by and published by the National Hardwood Lumber Association, 59 East Van Buren Street, Chicago 5, Ill. Their "Rules Book" may be obtained from them at 50¢ per copy. These rules are universally known and recognized in the hardwood trade throughout the world.*

### ◆ PLATE NO. 20

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An exceptionally beautiful, matched feather-crotch. Perfectly centered in both figure and color, the "feathered-features" are so realistic that one can almost "feel" the soft, silky plumes evident in this crotch. This plate shows the pleasing and harmonious symmetry of pattern obtained by matching.

## **MAHOGANY VENEER PLATES (Continued)**

### **◆ PLATE NO. 21 FIDDLE-BACK FIGURE**

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While this veneer is quartered and is a 2-piece match, the interlocking grain is very shallow. As a result, the stripe pattern is almost obliterated and the cross figure dominates the surface. In this case, the wrinkles are fine, evenly spaced, and close together. If such a surface were split with the grain, it would have a wash-board effect. The name is derived from the fact that the backs of old violins often have this figure. Fiddle-back lends itself to usage on smaller surfaces, while the mottles are better for larger areas. Top quality not plentiful.

### **◆ PLATE NO. 23 PLUM PUDDING — RARE**

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The numerous dark oblong spots seen in Plate No. 23 are suggestive of the name plum pudding by which this rare figure type is known. It comes under the same classification of unusual growth figures such as burl and bird's-eye. The grain around the "plum" may be plain, but often it is quite wavy and occasionally it is burly. Like burls—which are huge tumors or warts on a tree—and bird's-eyes—which are scattered "humps" in the wood—plum pudding is the result of some pathological or mechanical disturbance of the growth tissue. Because this does not happen often, it is rare.

### **◆ PLATE NO. 22 MOTTLE AND FIDDLE-BACK**

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This composite pattern is another type based on the broken stripe. On a single sheet there appear areas where the stripe pattern shows and other areas where the mottle figure or the fiddle-back predominate, mostly a well scattered mixture. This figure is also referred to as "raindrop" because it suggests rain being driven across a window pane. This pattern is more available than the "pure" types of figured Mahogany and has high decorative value. Top quality not plentiful.

### **◆ PLATE NO. 24 BLISTER FIGURE — RARE**

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A distinct variation of the curly figure occurs where the rolls are very wide and short with narrow depressions between. This creates a "blister" figure which may range from fine to large in the size of the "blisters," or they may be mixed large and small. A bold blister figure, such as Plate No. 24, is also known as "quilted." Blister figure shows best in flat or half round cutting. Like curly or wavy grain figures occasionally found in a tree trunk, blister is a distinct type, the origin of which is a puzzle to foresters. The most tenable theory is that it may be an hereditary characteristic.



[21] Fiddle-back Figure

This image shows a close-up of a wood grain pattern labeled 'Fiddle-back Figure'. The pattern consists of fine, closely spaced, wavy lines that run vertically across the frame, creating a textured, undulating appearance.



[22] Mottle and Fiddle-back

This image displays a wood grain pattern labeled 'Mottle and Fiddle-back'. It features a combination of irregular, blotchy 'mottle' areas and the fine, wavy 'fiddle-back' lines, creating a complex and varied texture.



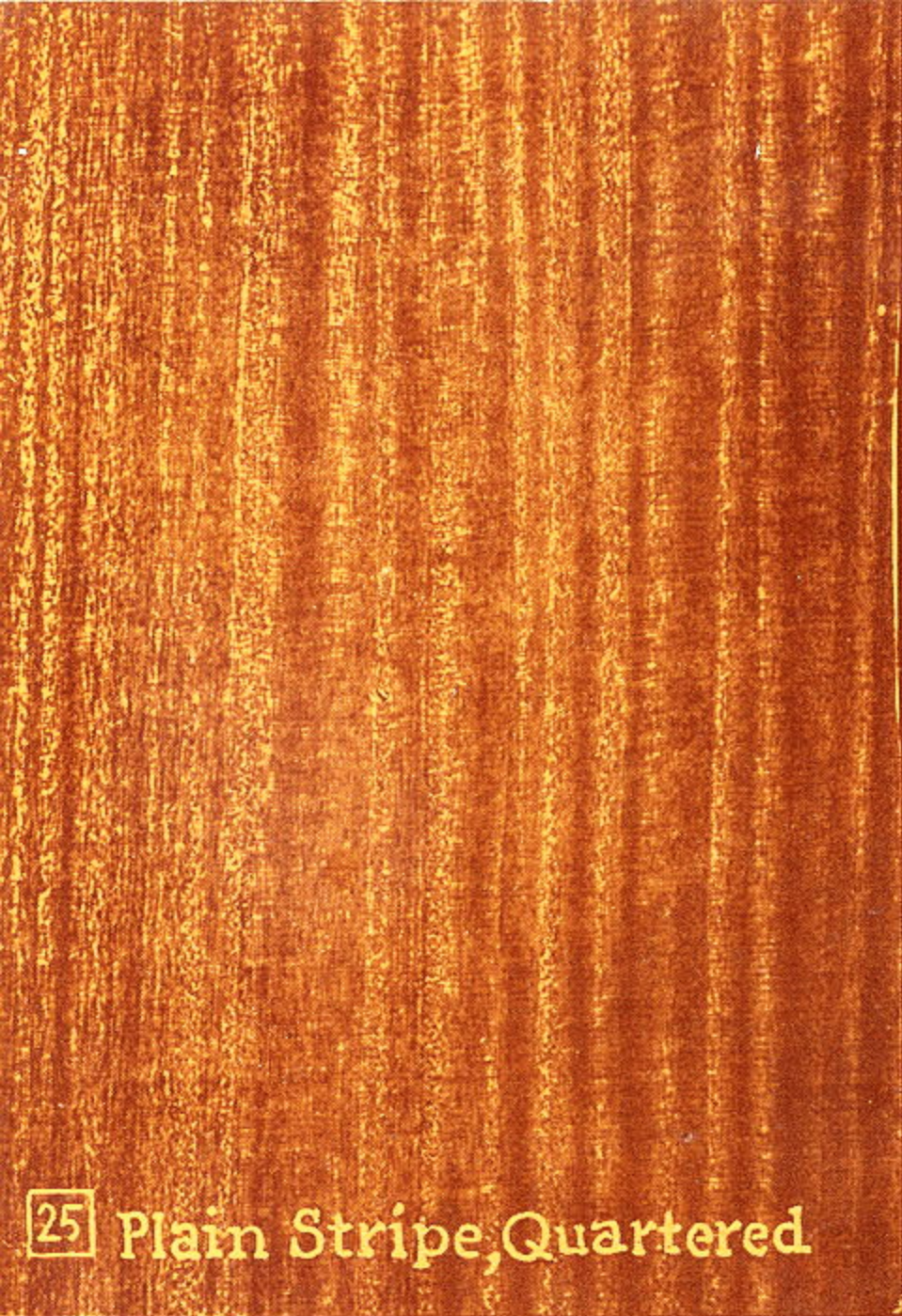
[23] Plum Pudding-Rare

This image shows a wood grain pattern labeled 'Plum Pudding-Rare'. The pattern is characterized by a dense, irregular arrangement of light and dark brown spots and streaks, giving it a mottled, 'plum pudding' appearance.



[24] Blister Figure-Rare

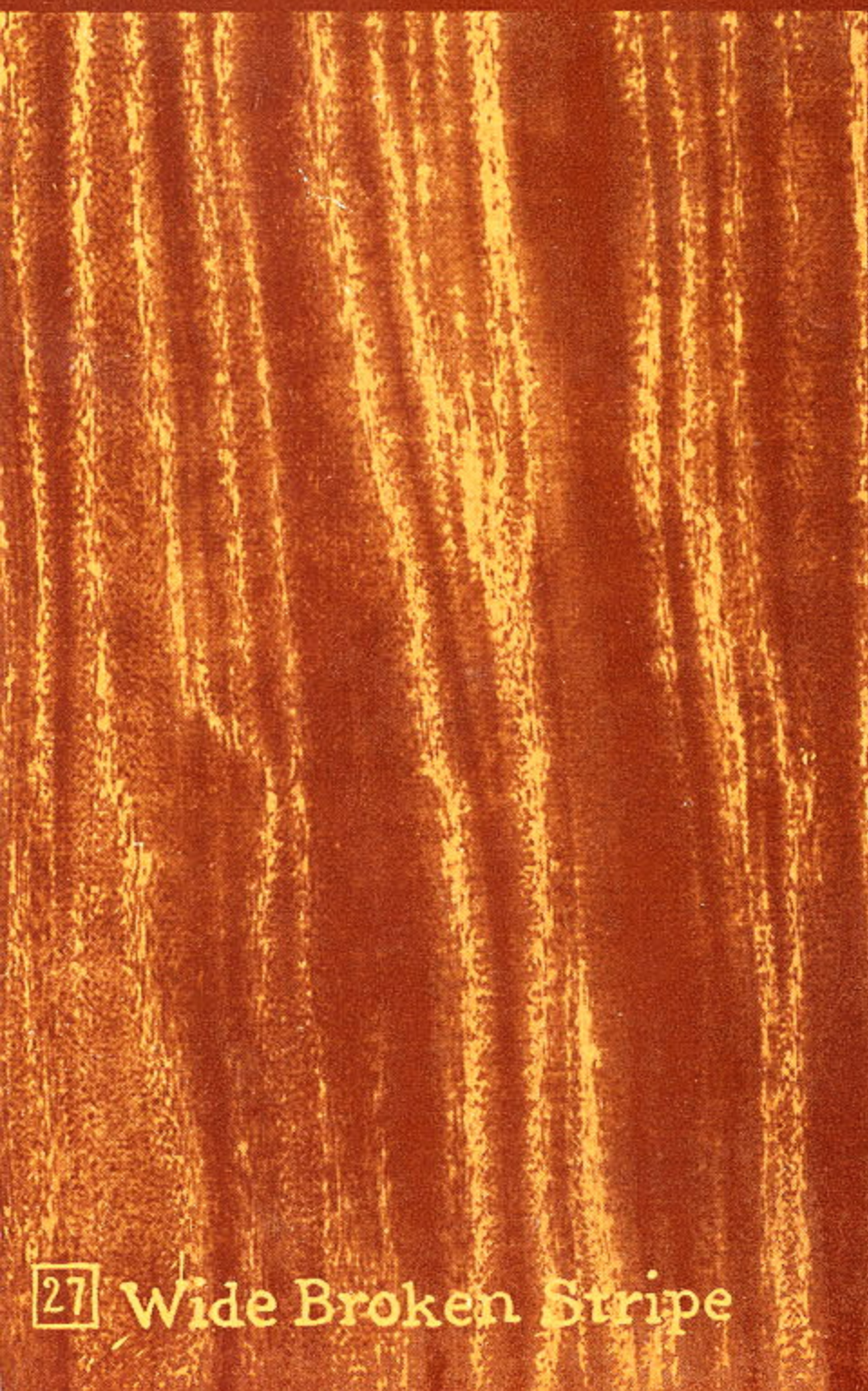
This image displays a wood grain pattern labeled 'Blister Figure-Rare'. The pattern features prominent, rounded, blister-like shapes that are arranged in a somewhat regular, grid-like fashion, creating a unique and eye-catching texture.



[25] Plain Stripe, Quartered



[26] Broken Stripe



[27] Wide Broken Stripe



[28] Rope Figure

## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 25 PLAIN STRIPE, QUARTERED

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For many years most Mahogany veneers were cut on the quarter. When so cut, most logs produce a stripe or ribbon figure, as explained in paragraph 3, on page 4. When any kind of a tree is quartered a stripe figure is the result. In temperate zone woods, the stripe figure is the result of cutting through the growth rings on the quarter or radius plane. In Mahogany, the stripe figure results from cutting across the interlocking grain as depicted in the second illustration on page 4. Today, the stripes share popularity with the flat cuts. In quartered or "figured" Mahogany lumber, the stripe is also the typical pattern.

### ◆ PLATE NO. 27 WIDE BROKEN STRIPE

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This is only a variation of the more normal broken stripe figure. Once in a while a log comes along in which the bands of the interlocking grain are considerably wider when seen on the flat surface. This produces a bolder figure which on larger surfaces and large pieces of furniture is in good proportion and more appropriate. Incidentally, now and then we find logs that produce a stripe much narrower than the average. This is commonly referred to as a pencil stripe. Also, it is very common to find stripes of various widths in a single sheet.

### ◆ PLATE NO. 26 BROKEN STRIPE

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The stripe figure in Mahogany seldom runs the entire length of a sheet of veneer. The alternating strands of the interlocking grain have a tendency to twist so that the stripes are broken here and there. This characteristic is highly variable in different flitches, and even within a single flitch. Usually, the stripes turn away to the right or left in a manner that breaks up the regularity. Instead of being regimented to look man-made, the surface has a charm and appeal that only nature can produce.

### ◆ PLATE NO. 28 ROPE FIGURE

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This variation of the broken stripe figure is a rare occurrence in Mahogany. However, it does happen in various degrees of regularity. This pattern is the result of a number of stripes, all breaking one way, either right or left. The resultant appearance is a "stepped" diagonal stripe. Rope figure may give a pleasing variation to matching possibilities.

### MAHOGANY EXHIBIT

*A permanent display of over 300 Mahogany panels in a wide range of finishes and a variety of figures shown in this book are on exhibition in the Mahogany Association's headquarters in space 1728 of the American Furniture Mart in Chicago. Designers, manufacturers, architects, writers, and others interested in Mahogany are cordially invited.*

## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 29 MATCHED FOUR PIECE CENTER V-MATCHED ENDS

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This exquisite matched Mahogany panel illustrates the high degree of perfection attained in symmetrically matched veneers. The beautiful crotch centerpiece consists of four perfectly matched Mahogany crotches. These hearts were unusually crooked and the flare in the butt match is the result of this turn in the heart. The upper and lower ends of the panel are two perfectly V-matched sheets of ribbon-striped Mahogany veneer. Note how in both the crotch and stripe designs the figure of each match joins to form a perfectly symmetrical pattern. Because of the wide range of beautiful figures in Mahogany veneers it is possible for the artist to arrange wood pictures that nature alone can produce.

#### DURABILITY

*Mahogany is an extremely durable wood both outdoors and indoors. It is very resistant to insect attack and to organisms of decay. It is a preferred wood for furniture used in the tropics because it is avoided by termites and other insects.*

*When the Panama Canal was built, parts of the old railroad were dug up and the Mahogany cross-ties were found to be in excellent condition. Exterior doors of many West Indian edifices are still perfect after centuries of use. As marine lumber, the use of Mahogany in boats and ships dates back to the explorations of Cortez.*

### FIGURED LUMBER

*Mahogany is probably the only cabinet wood that is commercially available in figured lumber. Normally most figured logs find their way to the veneer mill and plain straight-grained logs are cut into lumber and used for purposes that require structural strength. However, the casket trade prefers stripe figured lumber for tops and swirly or stripe figured lumber is used in solid furniture for table and case tops.*

### ◆ PLATE NO. 30 MATCHED EIGHT PIECE CENTER RIBBON STRIPE ENDS

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Depending on the design desired, the art of matching can be as intricate as a jig-saw puzzle and more gratifying. Veneers may have to be squared, or clipped at an angle, or cut into a number of small segments, or treated in some other manner. For example, in Plate No. 30 there are eight perfectly matched pieces of Mahogany veneer in the center piece design. The ribbon stripe ends are book-matched. In making an eight piece match, it requires eight sheets of veneer to make the matched panel. That would be a lot of waste except for the fact that from the same eight sheets, seven more similar panels could be made. In the sequence of eight sheets, each of the four pairs should be made from two adjacent sheets.



[29] Matched  
Four piece center  
V-matched ends



[30] Matched  
Eight piece center  
Ribbon stripe ends

A close-up photograph of a single piece of wood with a flat cut, showing a prominent, continuous swirling grain pattern in a warm, reddish-brown hue.

31

1 piece  
swirly  
flat cut

A close-up photograph of two pieces of wood joined together in a matched swirly flat cut, creating a symmetrical, mirrored swirling grain pattern across the joint.

32

2 piece  
Matched swirly  
flat cut

## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 31 ONE PIECE SWIRLY FLAT CUT

This pattern differs from the swirl figures that we have illustrated principally because it comes from longwood rather than shorter sections of the tree. Longwood is a term that is loosely applied to veneers that are made from logs 8' to 16' in length. However, these logs are an exception to the usual smooth cylindrical logs that are typical of Mahogany. Due to the battle of survival in the jungle an occasional tree will have uneven contours. When these logs are flat cut, the pattern may be off center and wander about with capricious irregularity.

### ◆ PLATE NO. 32 TWO PIECE MATCHED SWIRLY FLAT CUT

This plate has been included not only to show another variation of swirly flat cut figure, but also to illustrate the pleasing matching possibilities of this type of figure. In this case, the log had bumpy places that produced veneer in which the heart is disconnected into three well-defined areas. This is a figure that well exemplifies that in Mahogany the wood of two trees is never alike. In fact, this characteristic often extends to logs and to flitches of the same tree. The nearest thing to uniformity is to be found in quartered wood with the stripe or ribbon figure.

## MYSTERY OF THE DRAPÉ FIGURE

For many years, Mahogany veneers known as Drapé occasionally have been imported from France. The chief pattern characteristic of this wood is more or less alternating cross bands of burl and swirl figure.

How this unusual figure occurred was a mystery until George N. Lamb discovered the reason for it in British Honduras about 20 years ago. It is caused by the parasitic strangler fig.

As a vine the strangler fig attaches itself to a host tree, and as it grows, the vine sends out horizontal bands at irregular intervals. The bands send their tiny "rootlets" through the bark and into the growing tissue of the tree. This interferes with the normal cell division of growth, creating a burl figure. The bands also restrict growth with the result that areas between bands keep on growing, creating a series of bulges which make the swirl figure.

Illustration on the left shows the strangler fig putting out the horizontal bands that are responsible for the figure in the panel shown on the opposite side.



## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 33 FLAT CUT NARROW HEART — STRIPY EDGES

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Flat cut Mahogany veneer has been discussed under Plate No. 7. This plate shows a flat cut sheet that came from a cut near the heart of the tree. Consequently, the heart is narrower and the edges show a strong stripe figure which is not the case in Plate No. 7. Actually, if this log had been quarter cut, it would have produced a good ribbon figure. As it is, it tends to break up the stripy areas on a plywood panel.

### ◆ PLATE NO. 35 FAUX SWIRL

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The faux swirl is produced by the half round manufacturing process. Used only in longwood, the faux swirl is cut from either a plain or swirly section of a log, but never from a crotch block which produces the natural swirl figure from the outside part. Usually, twisted, crooked, or limby logs are selected that have some swirly characteristics and are cut in short lengths varying from 4' to 6'. The flitch is put on the lathe, off center, in order to accentuate the swirly pattern.

### ◆ PLATE NO. 34 PLAIN FLAT CUT NARROW HEART

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This plate also should be considered in connection with Plate No. 7. It has a narrow heart instead of a wide heart, but the edges also are plain. Even plain edges usually show an indistinct stripy effect. In this case, the edges are intermediate between those of Plate No. 7 and Plate No. 33. These flat cut plates may be considered types, but the variation is almost endless.

### MATS

*For newspaper ads, literature, and sales promotional material, mats of tags and labels may be obtained at cost from the Mahogany Association, Inc.*

### ◆ PLATE NO. 36 FAUX SWIRL

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This is another swirl produced in the method described for Plate No. 35, and closely resembles the plain swirl from a crotch block as shown in Plate No. 3. In fact, in many instances it would be impossible to distinguish between the swirly figures obtained from the outside of a crotch block and the so-called faux swirl. Either would serve a decorative purpose equally well.

A close-up photograph of a wood grain pattern. The grain is oriented vertically, showing a series of parallel, slightly wavy lines. The color is a warm, medium brown with some darker and lighter streaks, giving it a 'stripy' appearance.

**33** Flat Cut-*Narrow Heart - Stripy Edges*

A close-up photograph of a wood grain pattern. The grain is oriented vertically, showing a series of parallel, slightly wavy lines. The color is a warm, medium brown with some darker and lighter streaks, giving it a 'stripy' appearance.

**34** Plain Flat Cut-*Narrow Heart*

A close-up photograph of a wood grain pattern. The grain is oriented vertically, showing a series of parallel, slightly wavy lines. The color is a warm, medium brown with some darker and lighter streaks, giving it a 'stripy' appearance.

**35** Faux Swirl

A close-up photograph of a wood grain pattern. The grain is oriented vertically, showing a series of parallel, slightly wavy lines. The color is a warm, medium brown with some darker and lighter streaks, giving it a 'stripy' appearance.

**36** Faux Swirl

A close-up photograph of a wood surface showing a 'Fiddle-back-Flat Cut' pattern. The grain consists of alternating, slightly wavy vertical bands of light and dark brown wood, creating a rhythmic, undulating texture.

**[37] Fiddle-back-Flat Cut**

A close-up photograph of a wood surface showing a 'Mottle Swirly Figure' pattern. The grain is highly irregular and swirling, with large, blotchy areas of varying brown tones, giving it a mottled and organic appearance.

**[38] Mottle Swirly Figure**

A close-up photograph of a wood surface showing a 'Shadow Figured Swirly' pattern. The grain is swirling and somewhat chaotic, with darker, more pronounced 'shadow' areas interspersed with lighter wood, creating a complex, swirling figure.

**[39] Shadow Figured Swirly**

A close-up photograph of a wood surface showing a 'Ripple Swirly Figure' pattern. The grain features distinct, wavy horizontal lines that ripple across the surface, creating a swirling effect with varying shades of brown.

**[40] Ripple Swirly Figure**

## MAHOGANY VENEER PLATES (Continued)

### ◆ PLATE NO. 37 FLAT CUT FIDDLE-BACK

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Fiddle-back is a small and refined type of figure which occurs both milder and more pronounced than the intermediate type shown. Very often this figure is strongest on the outside of the log. Makers of fine furniture traditionally appreciate the interest and liveliness mild fiddle-back figure gives a table top or other medium or small surfaces. The name fiddle-back is derived from its resemblance to the characteristic grain pattern often found on the backs of violins. Supply is limited.

### CHARACTER GROWTH

*Because Mahogany is a large tree growing in a dense tropical jungle it clears side limbs early in life. The result is a trunk singularly free from defect. However, small pin knots, burly spots or other scattered grain irregularities occasionally occur. These indicate genuine wood—not a plastic picture imitation.*

### ◆ PLATE NO. 39 SHADOW FIGURED SWIRLY

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The faint outline of a swirly figure gives the shadowy effect by which Plate No. 39 is known. The subtle shading of the figure is also attributable to the way it was cut, namely flat cut. Where soft detail is desired in designing, this often can be achieved by a shadow figured swirly Mahogany veneer. Sometimes a faint or shadowy figure of any kind is called a "ghost figure." Supply is limited.

### ◆ PLATE NO. 38 MOTTLE SWIRLY FIGURE

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This pattern is rather difficult to describe because it has a rather "muted" appearance. As pictured, there is a foreground of swirly pattern and a background of mottle figure of irregular "blotchy" light and dark appearance. Such a figure lends itself to soft finishes. Supply is very limited.

### MAHOGANY FILM

*A 16 mm. sound film in full color, 28½ minutes long, is available at no charge, except usual transportation, to manufacturers, professional groups, retail stores, high schools, colleges and for sales clinics. Titled "Mahogany—Wood of the Ages" this dramatic film shows tropical operations, the making of Mahogany lumber and veneer as well as the history, sources, and uses of the most romantic of all cabinet woods. A black and white TV version is available to television stations. This educational film has a high national rating and is distributed by Ideal Pictures, Inc., 58 E. So. Water St., Chicago 1, Ill.*

### ◆ PLATE NO. 40 RIPPLE SWIRLY FIGURE

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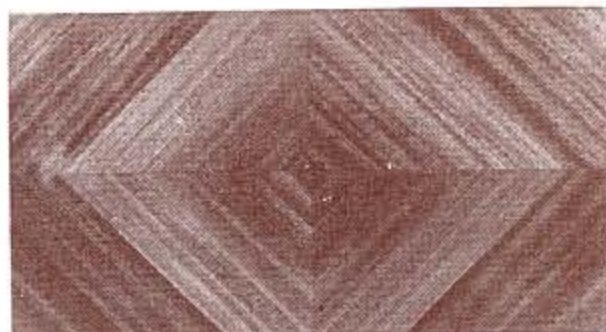
When cut half round, what may normally be a fiddle figure may shorten into a ripple figure. In this plate the ripple has a swirly background, hence the name. This type of Mahogany is really gorgeous in both furniture and architectural woodwork. Rare.



## MAHOGANY VENEER MATCHING

**ANY DESIRED EFFECT**—The art of matching veneers has been developed to such a high degree of perfection that the well-informed designer may obtain almost any desired effect thereby realizing the full value of the beauty in Mahogany.

Owing to the wide diversity of figure types, there is hardly any limitation to the variety of patterns that can be created through genuine Mahogany veneers. That's why it is the perfect medium for good design.



QUARTERED, DIAMOND MATCHED

**BASIC METHODS**—While there are many variations in matching veneers, the three general methods considered basic are book-match, end-match, and slip match.

**BOOK MATCHED**—Adjacent sheets from a flitch are opened like a book with the figure on the back of the upper sheet being matched to the figure on the face of the next sheet. Book matching not only creates an all over symmetry, but also adds charm as the matching develops additional patterns of unusual beauty.

**END MATCHED**—Often called butt matched. The veneers are matched as described for book matched, but the ends of the sheets are matched. Very often veneers are both book and end matched, this is called a four-way match.

**SLIP MATCHED**—This method is the simplest of all matching methods. The sheets of veneer are edge joined in the same sequence as they come from the flitch—no flopping over—something like spreading out a deck of cards. On occasion, slip matching is used with quartered striped Mahogany.

**VARIATIONS**—Ingenious matchers obtain additional designs, combinations, or variations of these basic methods. Such variations include diamond match, reverse diamond, herringbone, checkerboard, and other effects.



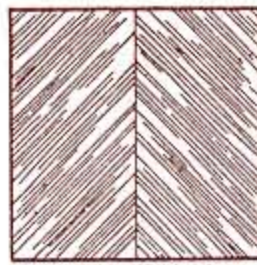
V-MATCH  
HERRINGBONE



DIAMOND  
MATCH



REVERSED  
DIAMOND



INVERTED  
"V" MATCH



BLOCK  
DESIGN



## BEAUTY IN MATCHED DESIGNS

**EMPHASIS ON FIGURES**—The current design trend in natural wood finishes has created new interest in grain matching with emphasis on highly figured woods. Because of the great variety of figures found in Mahogany, the designer interested in veneer matching has unlimited opportunities for unique combinations of figures and patterns.

Illustrated on the right is an 8-piece center-matched Mahogany crotch figure with V-matched ends in quartered ribbon-striped Mahogany.

**INGENIOUS COMBINATIONS**—An imaginative designer can achieve many exciting effects by combining basic matching methods with new design ideas which enhance the beauty of Mahogany's configurations.



8-PIECE  
WREATH

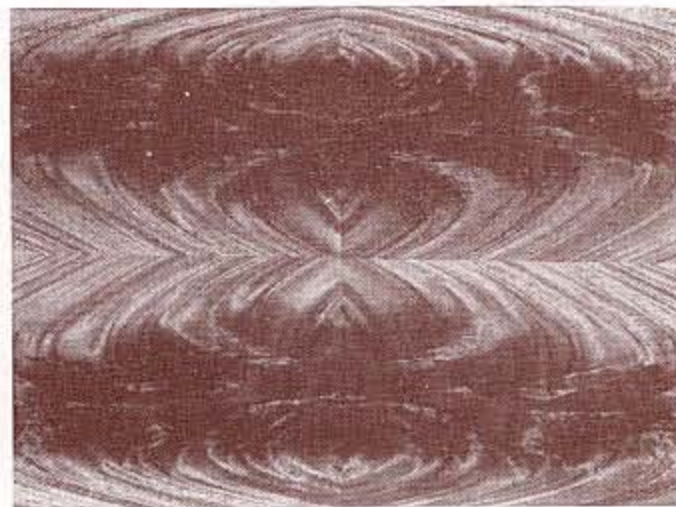
**CROTCH MATCH**—Because of its countless combinations and unusual effects, the crotch is one of the popular figure types most frequently used in Mahogany matching. Illustrated on the right is a 4-piece matched Mahogany crotch.



8-PIECE  
CROTCH

While the illustration on the left is also an 8-piece center matched design with V-matched ends, the center focal point is a wreath design of unusual beauty.

In the process of matching, the veneers may have to be squared, or clipped at an angle, or cut into a number of small segments, or treated in some other manner, depending upon the result desired. Since each sheet carries a pattern almost identical to that of the sheet next to it, they must all be cut in exactly the same place.



4-PIECE CROTCH



MATCHED SHELL CUT

**SHELL CUT**—When a section of a log is cut on a bias so that the face crosses the growth rings or the interwoven grain zones at an angle, the resulting figure is called a shell, cathedral swirl, or gothic swirl. This figure is illustrated on the left.



**EXTRA-DUTY MAHOGANY VENEER**—No longer is it necessary for manufacturers to use fake Mahogany grains such as plastics and other unsightly substitutes for extra-duty tops on hard-use furniture such as tables, desks, dressers, teacarts, and bars. Now it is possible to make genuine Mahogany plywood that resists unusually careless abuse such as cigarette burns, spilled nail polish remover, alcohol and fruit juices.

**EASY TO MAKE**—Any plant that makes plywood can make abuse-resistant Mahogany plywood (with approved finishes) on its regular production line with standard woodworking equipment. One method that has been developed recently is called Beautyguard which is achieved by a combination of approved finishes and laminating a special pre-coated aluminum foil layer beneath the face veneer. This method is possible in either hot or cold-press plywood operations.

**UNMATCHED NATURAL BEAUTY**—Among the many advantages of this process, foremost is the unmatched natural beauty of genuine Mahogany that can be achieved by this abuse-resistant construction. Manufacturers can offer their preferred finish shade and type using stains, fillers or pigmented toners with any degree of gloss or rub. It eliminates the glassy, wavy look of plastic surfaces. It is suitable for natural open-pore “in-the-wood” finishes.

**QUALIFIES FOR TAGS AND LABELS**—Manufacturers who use abuse-resistant Mahogany plywood such as Beautyguard may use the potent selling symbols of the Genuine Mahogany tags and labels if all exposed parts are made of genuine Mahogany lumber and the rest of the plywood surfaces are genuine Mahogany face veneers. Yes, it is now possible to label or tag an abuse-resistant Mahogany piece as “Genuine Mahogany” without running the risk of false or misleading advertising or visual consumer deception in fake Mahogany grains.

# MAHOGANY VENEER TERMS

Mahogany veneers are generally cut from the trunk and crotch of the tree. Commercially, they are grouped into three broad categories: (1) Longwood (2) Crotches and Swirls (3) Faux Swirls.

**LONGWOOD** is cut from the trunk and may be rotary cut, half-round rotary, back-cut rotary, flat or quarter sliced or sawn. The three general types of Longwood are (a) Flat Cut (b) Quartered and (c) Figured.

**FLAT CUT**—(An approximate tangential cut.) The veneer is sliced from the half log, mounted with the heart side flat against the guide plate, and the slicing is done parallel to a line through the center of the log.

**QUARTERED**—(An approximate radial cut.) The veneer is cut from the quarter log mounted on the guide plate so the growth rings of the log strike the knife at or near right angles, producing a series of straight strips.

**FIGURED** Longwood can be either flat cut or quartered depending on the characteristic of the log. The figure in veneer is produced by the interlocking grain and cross wrinkles, growth rings, and to a lesser degree by variation in pigmentation and flakes, or a combination of two or more of these factors. The way a log is sliced also contributes to the figure.

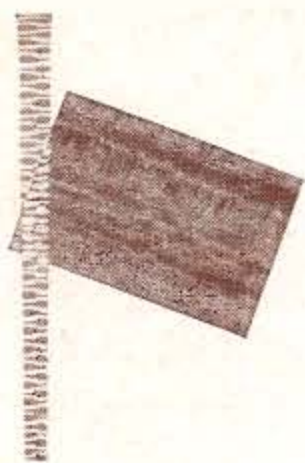
**CROTCHES AND SWIRLS** come from that portion of the tree just below the point where it forks into two limbs. Crotches are sliced parallel to the trunk line, and the outside of the block first produces a swirl figure, then a crotch figure through most of the block, then returns to a swirl in the opposite side of the block.

**FAUX SWIRLS** are created usually from logs having slight irregularities and by preparing the flitches so that the cut is not quite parallel to the direction of the grain.

**CROSS-FIRE**—Figures which extend across the grain such as mottles and fiddle-back are often called cross figure or cross-fire. A pronounced cross-fire adds greatly to the beauty of the veneer.

## AN ABUSED TRADE NAME

One of the most frequently abused terms which masquerades under the name and reputation of Genuine Mahogany is so-called "Philippine Mahogany." This is a trade name for an indefinite group of woods known as red lauan, tanguile, tiaong, almon (which isn't almond, a fruitwood), bagtican, mayapis and white lauan. The timbers that produce so-called "Philippine Mahogany" are in no way related to Genuine Mahogany. Under the current Federal Trade Commission ruling, they cannot be sold or advertised as Mahogany, but must at all times carry the trade name prefix.



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