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Showcase Cabinets

The delicate interplay of glass and wood

by James Krenov

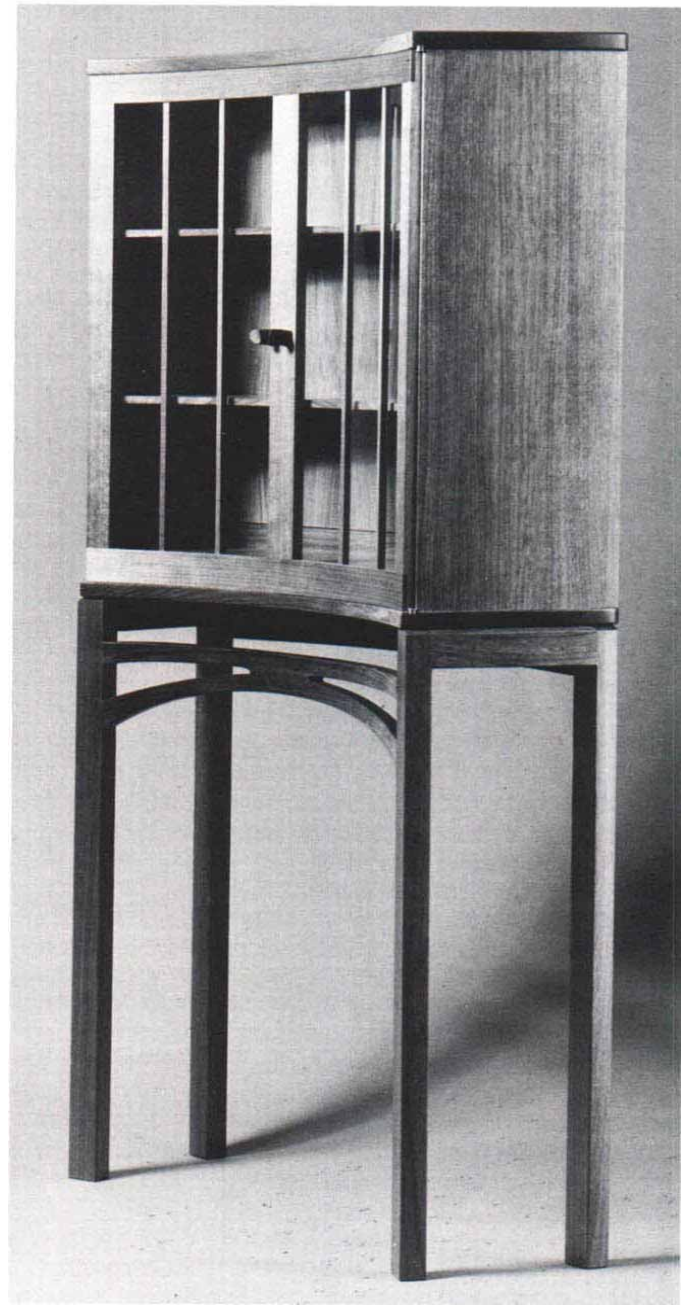
It is a puzzle to me why there are not more interesting showcase cabinets around. Certainly, living habits don't exclude this type of furniture. We do accumulate objects that are pleasing to behold and deserve a nice home of their own. Perhaps too many people have a preconceived, discouraging notion about showcase cabinets. Cabinetmakers may share such prejudices. Or the technical problems of doing doors with thin wood parts and closely fitted glass may discourage cabinetmakers. I suspect this is so.

A way of getting past these problems is to use pretentious, special-effects glass and wild wood in all sorts of bubbly shapes. Interesting, although we may be missing opportunities by not taking advantage of the effects that simple glass set in pleasing facets can create. Work with glass and wood, if it is to succeed, demands great accuracy, patience and a way of conceiving and then doing a piece that is different from what some of us have been involved with.

Someone says, "Showcase cabinets do not use enough wood!" This can be true. One is prompted (by mirrors and such) to forget, or at least to neglect, that this is in fact to be a cabinet, not an aquarium or a bar.

At first, I, too, thought showcases were not truly cabinets. Then, because I liked the function of such pieces, I attempted to achieve some sort of balance between the wood and glass as related to the purpose of the piece. The real challenge is the pleasing interplay between you as craftsman and those who will use the showcase. You express something personal—your own version of a concept that is also a certain mood, while making something for someone to use and enjoy. Through usage the piece will achieve further expressions.

Whatever mild interest I had in showcases from the outset has increased since then. It needn't always be so. Even a craftsman who tries to make such pieces with an open mind and a sense of the possibilities may conclude that it's not for him. Certainly, one of the things we should try to determine as craftsmen is the sort of work that is really for us. We are by our nature (the sum total of the traits we have or do not have) either finely tuned, meticulously inclined, or a bit of the opposite, the kind of people who do rough-cut, "unorganized" work. In the latter case this type of cabinetmaking is a frustration. Probably after trying we will then leave it. For those who discover something interesting here, I think such work leads to further discoveries and increased interest. Through one possibility you come to the next, and the next. That's the essential difference in our work between monotony or routine and this other thing, which really keeps it alive through the years. After all, I hope that some of us, in choosing our craft,



Showcase cabinet, Tasmanian blackwood (1977), 53 in. high, 30 in. wide (max.), 10 in. deep. The curved horizontal rails are laminated from resawn stock. Oil finish.

Photos: James Krenov and Bengt Carlen

are choosing a way to live and work and be happy doing it for a long, long time.

Generally speaking, there are four basic solutions to showcase cabinets. Each poses problems and invites variations. There is the flat, one-piece door or two flat doors in the same plane. The second solution is a *V*-shaped single door or two doors set at an angle to form a *V*. Another will be one or two doors forming a convex curve. And last, a door or doors making a concave curve. It is a personal matter which—if any—has a special appeal. The appeal will probably begin with something visual: One likes the way a *V* appears, the way light plays on its glass, the idea of related angles and proportions. Or maybe one of the curved doors is more inviting. Its softness, perhaps. At any rate, I believe the first thing that attracts us is visual, whether curve or flat or angled, glass and light as related to wood. After that, we must think in terms of the work entailed in some particular solution we like. We probably should try from the beginning to choose something both possible and worth doing.

Besides the idea with the various demands we might first conceive, there are in showcase cabinets an enormous number of details to be discovered; these we can play with and use. Some, of course, are directly anchored to the construction we decide on. Others—such as the various sensitive shadings we can use in connection with the doors, or the top and bottom pieces, the thin strips with which we divide the glass—are largely decorative. The center of this kind of work is aesthetic, yes, but it is also the physical relation of wood to glass, the fits we need and how these relate to the various steps of the work. There is perhaps more organized method in making showcase cabinets than in any other kind of cabinetry.

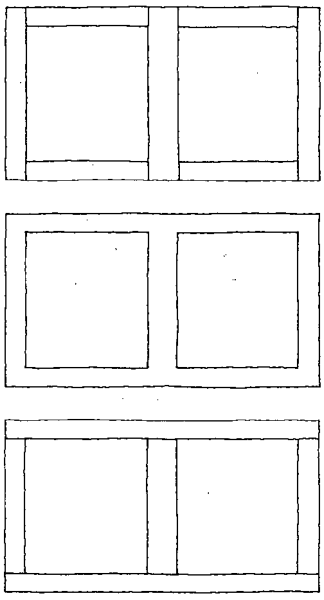
The sort and thickness of the glass is to be considered from the beginning. Once upon a time we had blown glass with a greenish or brownish tint; it was alive, the real thing. This is now almost impossible to get. The modern imitations of antique glass do not appeal to me, so when I cannot obtain blown glass I use ordinary clear glass, about 3/32 in. (just under 3 mm) thick. The average thickness of a door I make for a showcase cabinet that is, say, 16 in. by 30 in. or 24 in. by 30 in. is usually slightly under 3/4 in.

Simply put, flat doors are carefully chosen wood in pleasing proportions that belong to a well-balanced piece; they make a good first exercise. Curved doors are another and more involved matter. Usually one has to saw the laminates for the shaped parts and glue these up to the desired thickness on a mold. This is extra work, but it's worth it. I wouldn't try to make curved doors cut from a thick plank of solid wood. First, it results in a lot of diagonal or wrong-way grain, which makes the cutting of rabbets or slots for glass difficult and weakens the joints; and second, since it is very hard to predict exactly the visible pattern of wood on the pieces thus sawn, we're apt to end up with an imbalance.

Once you have an idea for a cabinet and have considered the practical problems themselves, it is time to think also in terms of proportion. There are various possibilities with doors that may or may not be simple in their construction. By placing the horizontal and vertical pans of a door in certain relations to one another, we can change the proportion of a given shape or size without changing the size itself, and in so doing make a door appear to be wider or narrower; higher than it really is or not as high. There are options. Nor do the various parts of such a door need to be flush. There can be intentional yet slight differences in the thickness of some members, which will introduce little subtleties and divide up the elements to give us proportions within proportions. These divisions are not for the sake of complexity, but because they are pleasant and give us variation instead of a single impression, something for the eye to play with. And it adds challenge in the work, since such details are worthwhile only when neatly done.

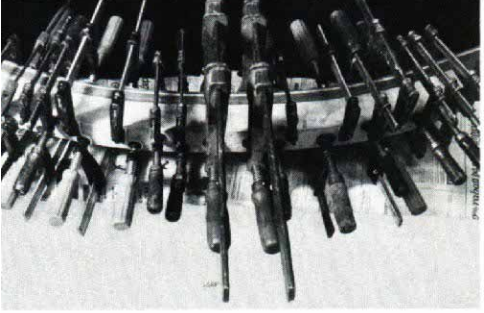
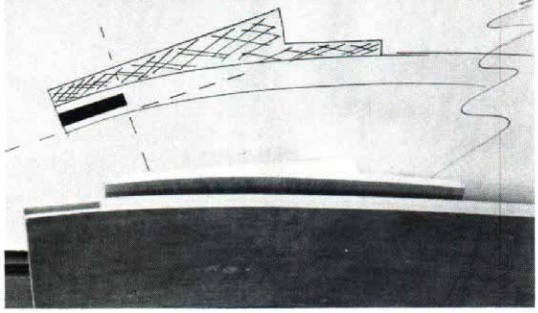
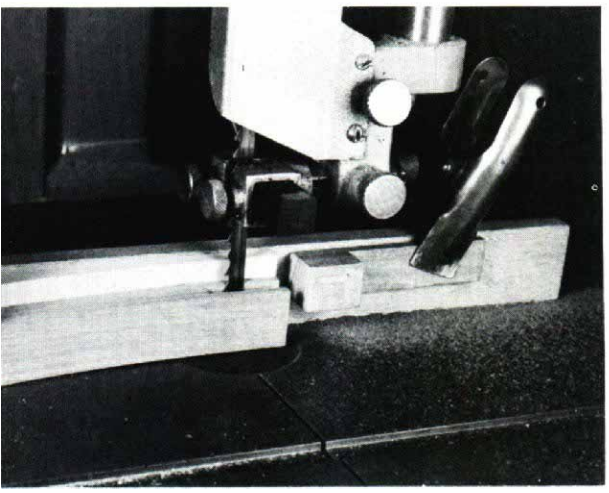
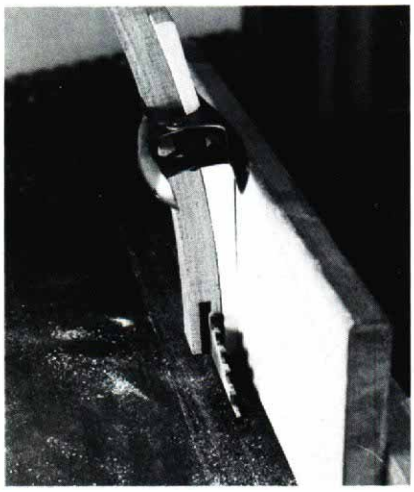
With curved doors it is best to have the curved parts themselves—that is, the top and bottom pieces of the door—extending out all the way. Thus the unbroken curve gives us a calm and complete sense of the shape of the cabinet; it is not

Wall-hung cabinet of lemonwood (1966) has variation of the V-door: two smaller doors about 60 cm (23½ in.) high.

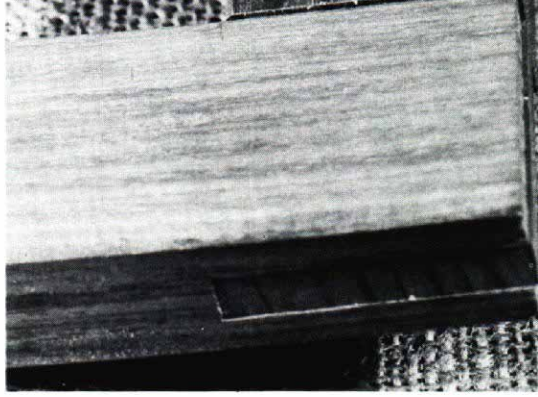


Proportions: With the same outside measurements, a number of apparent variations are possible. Grain patterns will enhance or diminish the effect.

This article is excerpted from James Krenov's third book, The Impractical Cabinetmaker, © *1979 by Litton Educational Publishing, Inc., to be published this fall by Van Nostrand Reinhold Company. His other books are* A Cabinetmaker's Notebook *and* The Fine Art of Cabinetmaking

Thin wood layers glued to a curved form make the door rails. Start clamping at the center and work outward (top left). To make slots for the tenons, design a guide block for cutting slots that parallel the curve from a full-size drawing (top right). Using a spring clamp to tack the block to the wood, cut slots with a band saw or a table saw (bottom left, right).




The vertical parts of the door are slightly thicker than the laminated curves (top); later, they will be planed to the same curve (bottom). These small details make all the difference.

"chopped off" by the vertical sides of the door. It is important to get this feeling of wholeness, to let the curve have its full intention. In such doors I find that having the sides, top and bottom flush on the outside as well as on the inside results in a calmness; it gives the mood that goes best with the soft curved intention of the piece. One should try to accentuate this feeling in the details of the various other parts. Think soft.. . .

In its principal steps only, the work is apt to be as follows:

1) Concept of the piece, shape and size of door (or doors) related to whole.
2) If curves are part of the concept, mold for laminating. Saw and glue up laminates. Be generous with widths.
3) Vertical parts of door: Keep straight, true, and slightly thicker than laminated (horizontal) pieces.
4) Make slot and tenon joints as needed.
5) Dry-clamp, set up, then plan spacing of pins (vertical bars) to take various widths of glass. Replate these to position of shelves and whole cabinet as you'd like it. A bit of composing. . .take your time!
6) Lay out and make template (or templates) for routing rabbet in curved parts of doors. Do all this with care! Have scribe line along inside edge and stopcuts chiseled at ends. Rout a little at a time.
7) Assemble doors. Mark for rabbet in outside pieces and groove (or rabbet) in middle ones. Double-check margins as related to machining. Make stopcuts, scribe, and do all machine work, including bevel on inside of parts having groove. Before reassembling, plane the inward front edges on vertical door parts to a nicely rounded shape.
8) Assemble. See that rabbets or grooves meet as they should. Round edges along curved door fronts.
9) Make (shape) and fit vertical pins to hold separate pieces of glass. Cut them straight grain, and make lots of extras! Think about glass fit.
10) Glue up doors. Prepare everything, study setup. Dry-clamp first. (Neatness)
11) Clean all corners. Plane vertical parts of door to curve. Have plane iron razor sharp, fine set.
12) Do machinework for overlap fit of doors, angled to suit curve. Watch out!
13) Square doors. Check total width top and bottom when in right curve—make template or measuring stick—and proceed with work on cabinet case. (Lay out position of sides, how doors fit.)
14) Refit pins for glass, make rest of parts (to fit rabbets and pins) that hold glass in place, drill, countersink. Fit to doors using pieces of plywood as thick as the glass, or the glass itself.)
15) Final fit of doors. Polish and finish all door parts (handles?). Remove doors. Complete case, finish, make stand if needed. Go through all details before hanging doors for keeps!

The above list, or something like it, would be one of those reminders I make for myself on a scrap of paper. Since the various procedures are closely interrelated, it will be difficult for me to give you an exactly parallel description to suit your project—we should be together doing the work. As I have been through it many times by now and am (almost) used to the zigzags, it is hard to foresee what your difficulties, if any, might be. For the time being, you'll just have to ask and, I'm sorry to say, try to answer, your own questions.

Choose the wood carefully. Relate the graphics and the color to the intention of the piece as a whole. The choice of wood can make or break not only a cabinet that is all wood, but also a showcase cabinet. Don't fool yourself into thinking that with these cabinets the choice of wood is any less impor-

tant than with others. Cut the various layers of laminate for the door with care, keeping them in a visual relationship to the cabinet shapes. I make them 2½ mm or 3 mm thick (roughly ⅛ in.); on a door about 20 mm thick there are seven or eight layers.

No matter how cautiously we work, there will be deviations along the way. Even at its best, our accuracy is not quite total. The laminated door parts will emerge nearly, but not exactly, of an even thickness throughout—and they are curved. The other pieces will need to be shaped (hollowed or rounded) later on to form the whole smooth curve of the doors. Before doing this, however, we must make rabbets and perhaps grooves in these vertical parts, and do so without going astray. Our objective, you see, is to have all the details coincide at the corners; we don't want to chisel and chip and scrape trying to fit glass to wood. To provide a working margin here I make the vertical parts of the door slightly thicker than the laminated parts. This gives me the chance to make small adjustments before machining and to shape these pieces afterwards. Actually, the work is not as complicated as it may sound, though it is necessarily exacting. Once you get the idea, you will discover a certain consistent logic about planning layout and methods. From then on, you can work without further accident—provided you achieve the right amount of concentration. Patience and care at every step are absolutely essential. If you are not set upon such an effort, perhaps it is better to avoid these cabinets altogether.

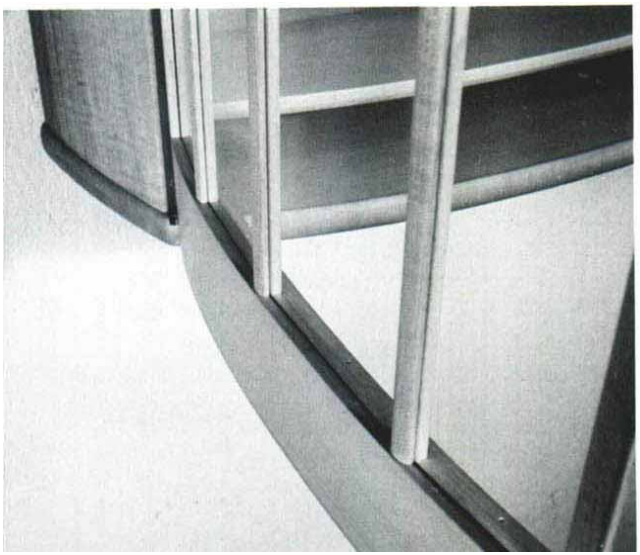
Having made the principal parts of our door—whatever the shape—and cut the various joints that are needed, we fit them together dry. Now comes the most critical part, the rabbets in the top and bottom pieces. It is necessary to solve the problem of rabbets in the horizontals before doing those in the side pieces. If it is a curved door, we must make a very exact template of the curve with the various facets. But wait! To do this we have to know the locations of the various sections of glass; their widths and the thickness of the strips that will divide and hold them. This, in turn, should relate to the shape of the curve we have chosen, the size and proportion of the door. We must now back up a bit, to the point where we conceived the idea for this piece and, with it, the main parts, the relationship of the front to the rest of the cabinet. Right or wrong, some details could hardly have been more than a guess. Now, deciding on how the vertical strips, and behind them the shelves, will look, we do more than guess. The difference between right and wrong in spacing these various facets of glass is a matter of sensitivity, judgment and experience. It's an elusive thing. And neither I nor anyone else can tell you when you've got it just right. You, yourself, have to feel it.

To "get it right," even in relation to ourselves, we should experiment with various curves and spacings. I tend to make my curves more tense at the ends; that is, the door is slightly less curved along the middle and then tightens toward the outsides. And after some experiment I have concluded that the pins (the verticals dividing the glass) need to be closer together toward the outside of the door and farther apart at the middle. How much and how little depends upon the curve and, of course, how one feels about the shelves that are going to be in the cabinet. These make a horizontal division that is not obvious when you have only the door in front of you, so consider that there will be horizontal lines here and that they will "shorten" the door somewhat—in the case of a curved door, they will make it seem wider than it really is. I use thin strips of wood to simulate shelves and tape these onto the inside of the door between the horizontals. I can then move rhem up or down, observing how the "shelves" affect the door, until I arrive at something I believe will be fairly good. Someone says, "But I can use glass shelves, and then there will be no negative effect." That is not always true, although sometimes glass shelves do work very well. Usually this is because the door and the rest of the cabinet do not need definite horizontal lines to compensate for exaggerations or deficiencies of proportion.

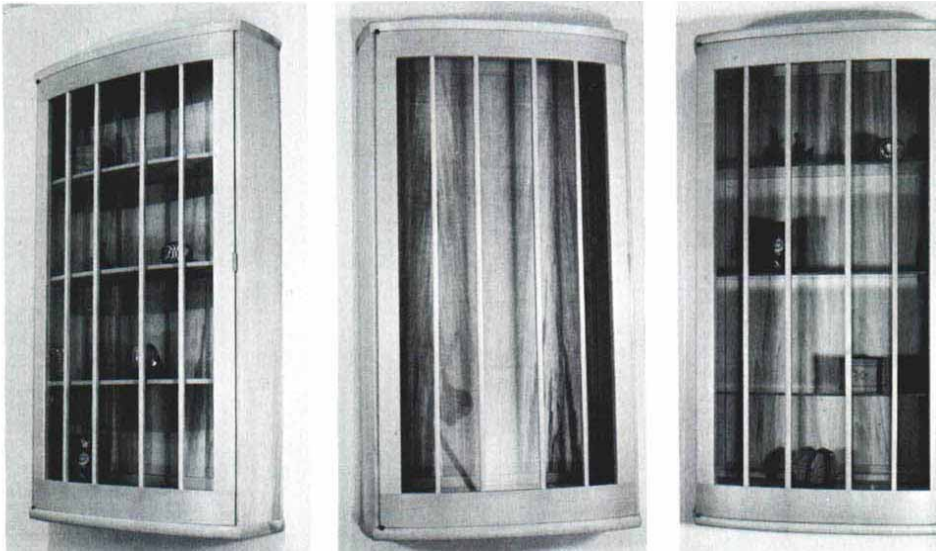
The cabinet is somehow meant to have glass shelves. In other cases, with a similar cabinet, shelves of glass may prove to be all wrong; one will discover this when one changes from glass to wood here. This is a matter of experience, of judging and observing, which also means experimenting.

Whether for glass or for wood shelves, I make two or three holes for shelf pegs at each of the levels that seem well placed, thus allowing for a certain amount of leeway. Another eye may find a variation in my choice, even better. Let's decide on a spacing. And turn to thinking about making the faceted templates with which to rout the rabbets on the curved horizontals of our doors. Plan this so the depth of the rabbets will be equal at the various corners. (The measurement of this depth is from the inside of the door.) Do take time now to get it as exact as possible. Later our rabbets in the sidepieces (ver-

The vertical strips (pins) that separate the pieces of glass are shaped to a tighter curve than the cabinet front. If they simply followed the curve of the door, they would appear flat, being less than ½ in. wide.



Wall-hung showcase of Swedish maple, 88 cm (34⅝ in.) high, 56 cm (22 in.) wide, 18 cm (7 in.) deep, oil finish. The type of shelves, or lack of shelves, changes its effect: at left, with maple shelves, as it was made. Center, the same cabinet without shelves seems elongated, Right, with glass shelves.



deals) will be made to coincide with these, and this early care will pay off then.

Usually I cut the rabbets about three-quarters of the depth (or thickness) of the door itself. In other words, there is rather little wood at certain parts (depending on the curve and how we divide it) of the front edge. The glass is up front in the door, rather than being set back. I think this gives a sense of lightness; the door appears less thick and therefore less awkward. Besides, there is more room behind the glass for the fitted wood pieces that hold it in place.

Making one door only, we need a single template, which we shift from one surface of the clamp block to the other, being careful not to change its relationship to marks that indicate the positions of pins and rabbet ends.

We can do likewise with a pair of doors, or else make two identical templates, which we handily use without shifting them on the clamp block: The lower left-hand one is also the upper right-hand one, provided they are really accurate! All our planning is from the inside of the door. You will notice in the photos that the piece is clamped to the template so the router has access from what corresponds to the inside of the door part being worked.

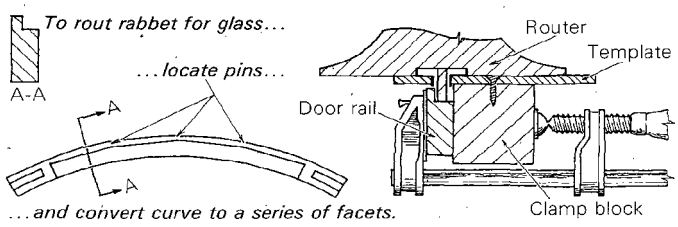
We concentrate our attention and accuracy where it really counts—to the way the glass will fit the door. If there are small differences in the thickness of the wood at the front edge of the rabbet—between the door front and the glass—it does not really matter all that much; a very slight variation here will bother no one. Granted, however, we do try to get each of our measurements as accurate as possible. Gradually, the relationship of details becomes clear; we coordinate the steps and methods that are important, and we master them. We learn how to plan: where to allow in our measurements, and how much.

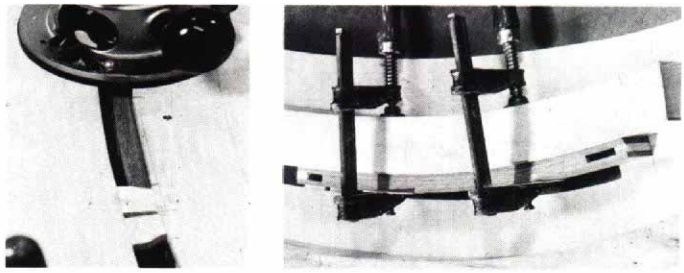
To do the rabbets neatly, we must prepare the various parts by marking off exactly where each cut is to be made. Mark (while clamped up) the starting and stopping points of each cut, and chisel a notch there to prevent chipping out. Then, if the grain is at all difficult, it is safest to ensure the lower edge of the cuts with a very fine scribe. We do the more complicated horizontal (shaped) pieces of the door first, then dry-clamp and mark accurately for the work on the sidepieces. Keep the margins as small as possible! With some doors, where one side (toward the middle of the cabinet) is narrow, I machine a groove instead of a rabbet to meet the adjoining rabbets precisely. And here again the accuracy needed is relative: An allowance on the inside thickness of this frame part helps us to arrive at a common depth from which to set exactly the table saw or router.

With the rabbets done, we can make the vertical strips or pins that will separate the panes of glass. From the beginning it is necessary to know the thickness of the glass we are to use. When we saw or rout the grooves to fit, there is one thing more to remember: The pieces of glass as they meet at these strips will be at a slight angle. The angle corresponds to the various facets making up the door in its curve. Each groove, therefore, needs to be a trifle wider than the thickness of the glass to allow for this slight angling. Take this into account, but you should not make the groove sloppy and allow too much for the thickness of the glass. Without a proper fit, the glass is liable to rattle as a car passes outside.

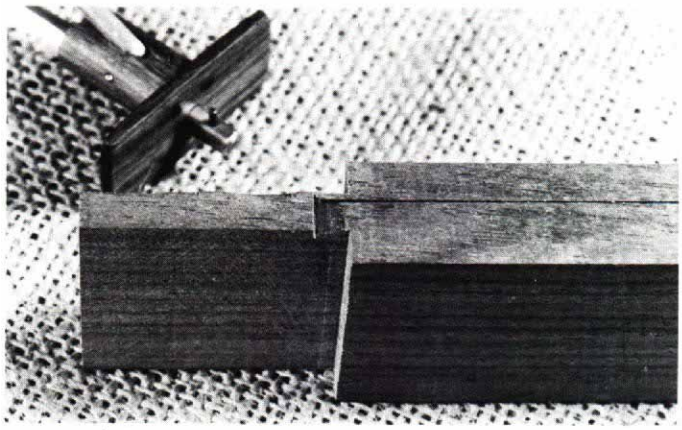
Some of you may prefer to cut the various pieces of glass to fit. This isn't easy! Having tried, I now go to my favorite *glasmastare,* as we call glaziers in Sweden, and have him do it for me. Before doing so I make a first assembly of the pins and the strips that are to hold them in place. Then, using scraps of thin plywood veneer, I cut slip-ins that correspond to the exact width of each pane of glass, all of which have a common length, namely the height of the door between rabbets. My *glasmastare* is very kind and patient; he cuts the glass extremely accurately. This, in turn, makes my work of final fitting much easier. If you plan to cut the glass yourself, try to do it as neatly as he does; it will pay off later on.

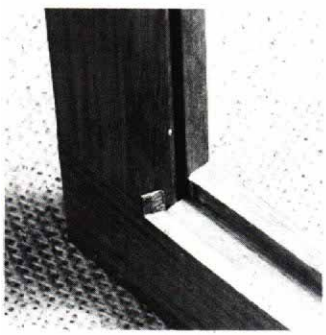
I have tried clumsily, with my photos, to show the various





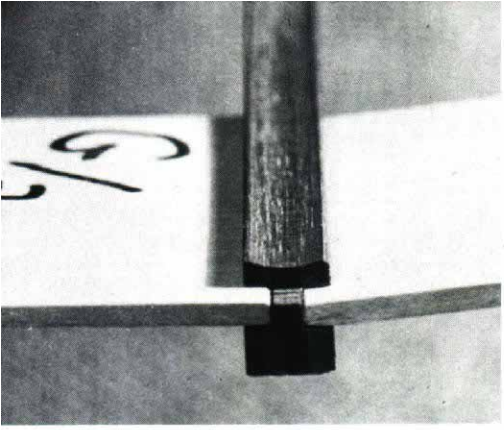
Once the pin spacing is determined, convert the curve to a series of flat facets for the glass and make a router template with which to cut the rabbets. This one, with both its halves alike (it could be in two parts), is for a pair of doors. The clamp support block (seen from below) is the same one used for laminating the stock. Rout with several small cuts rather than one large bite, to avoid chipping.

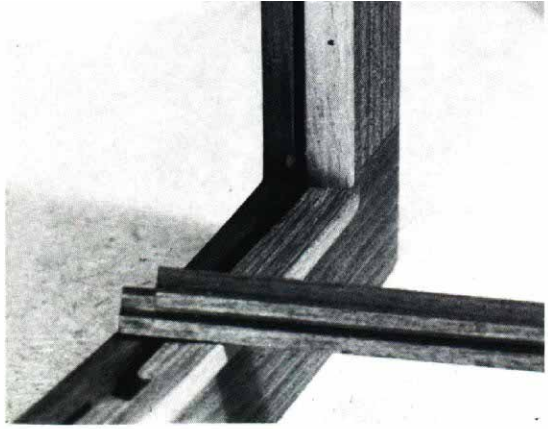




Before routing, a small stop-notch is chiseled at the ends of each cut, and the edge of the cut is scribed on the vertical parts (above). Where two doors come together (left), their parts are apt to be narrow and one can saw or rout a slot instead of a rabbet. The frame is then beveled inward from the slot, to afford a better view.

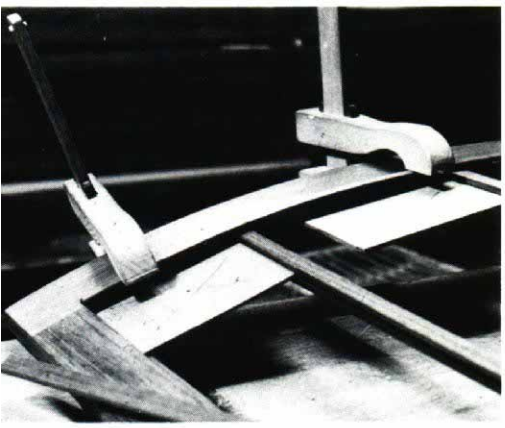
Illustration: Christopher Clapp

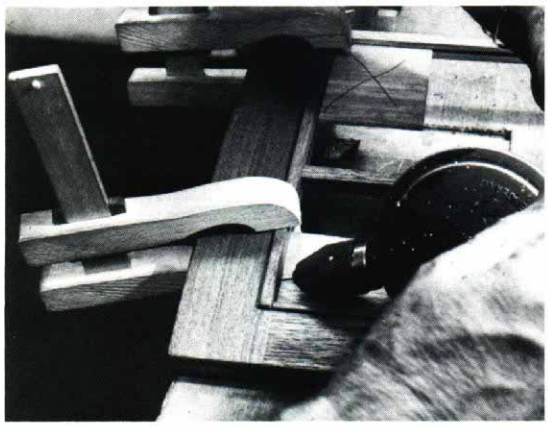


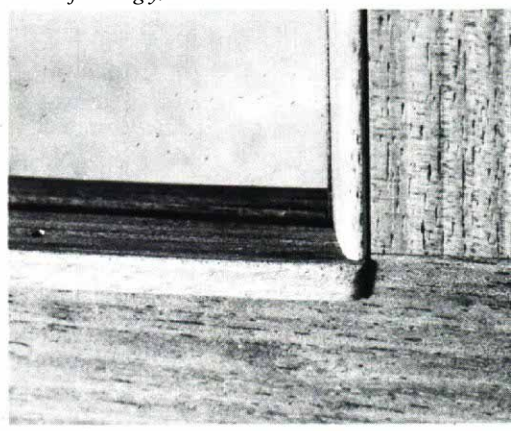


From left to right, top to bottom, account for the angle between the glass panels when routing grooves in the vertical pins, then cut the pins to shape. Their tenons fit cutouts in the beveled strips that, fill the rabbets in the top and bottom rails. Clamp together and drill for the brads that hold everything in place, using thin pieces of plywood to maintain correct spacing.

And now it's done. The glass should fit snugly, so it doesn't rattle.







steps in fitting the glass and the wood parts that hold it in place. There are beveled strips at the sides of the door and shaped pieces in the rabbets, top and bottom, notched to fit the various pins between the sections of glass. Usually, when I make the laminated parts of the door, I make them wider than need be and then bandsaw two or three thin layers off the curved shapes. These I later use to secure the glass. With such pieces there is no splash grain, and they are neat and easy to work since they already have the shape of the door itself—I need only trim them to fit the rabbet and then notch them for the pins. I do not use screws here, but prefer brads. With these it is easy to remove the glass if need be by carefully prying up the hold-in pieces. First I drill holes in the strips the size of an easy fit for the brads. Then I place the glass in the door together with the various pieces of fitted wood to hold the glass. With a slightly smaller drill, now a very tight fit for the brad, I drill through the various parts at a slight inward angle, making my hole deep enough for the whole brad. I countersink ever so slightly for the head itself. The brads are small and hardly noticeable, so they do not bother us as we view the cabinet. I take it for granted that we have tapped and then set them without leaving any marks on the wood.

Before polishing and setting in the glass for keeps, I carefully fit the door with its hinges to the cabinet. To allow for the fact that it will sag a trifle from the weight of the glass, I make the door fit a bit tightly upward. Then I polish the door and the various strips that will hold the glass in place. If there is to be a handle, I fasten this to the door. I finish everything possible before I put in the clean glass and hang the door.

Trying to describe showcase cabinets, I find myself talking mostly about a door or doors and the process of making and fitting them. It seems a rather dull and one-note description. Actually, a showcase cabinet is much more than a door or doors, or a glass front with a few objects showing through. Still, the door is usually the most difficult part. I feel, therefore, that special attention to it and its problems is justified. When we can make a door on the level of our intentions for the rest of the cabinet, I believe the chances of success are very good indeed.

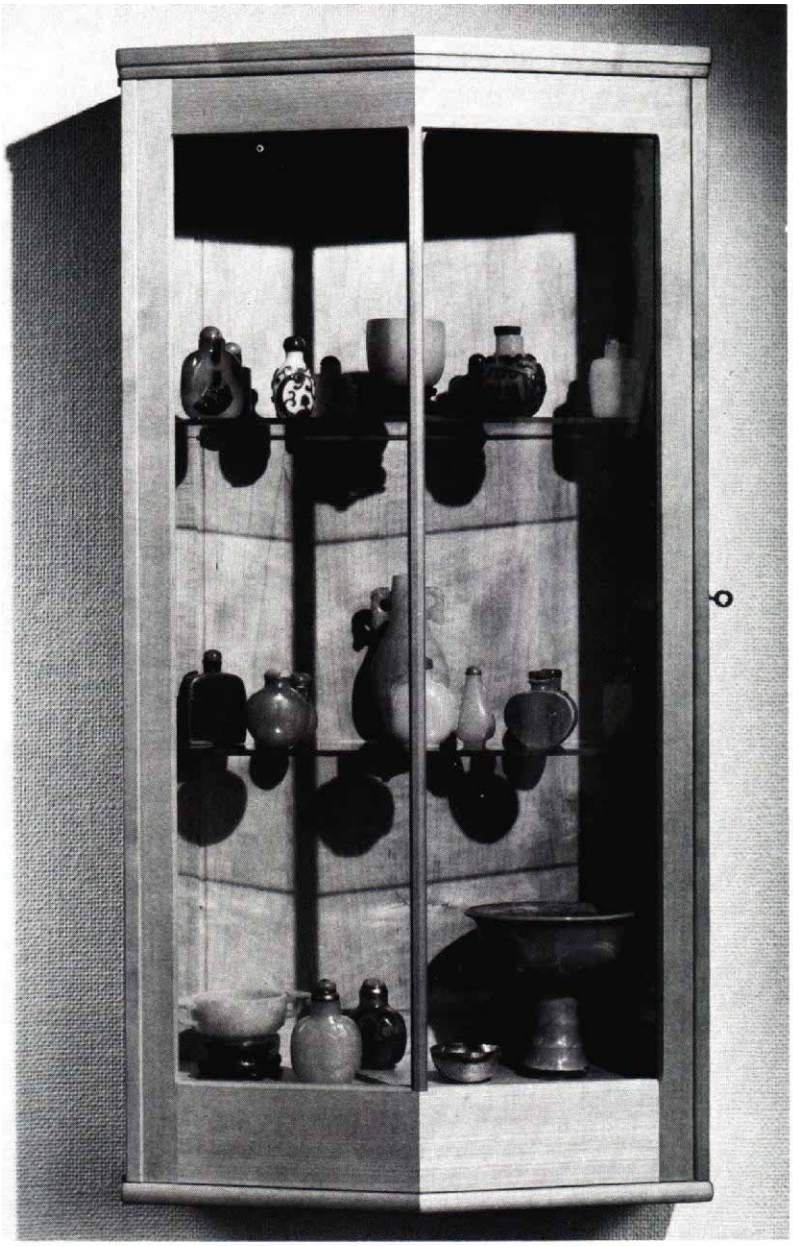
Our showcase cabinet is more than a glassed door or two. We should be aware of this rather early, so that when we sketch or draw or otherwise plan the piece with its important front, we think of it in relation to the whole: the degree of detail and refinement, the proportions, the amount of the back that will be exposed, how the shelves will affect the proportions as well as how they will cast their shadows upon the back piece itself.

Another point: Usually included in our idea of such a piece is the way it will be used—on a wall at a certain practical height, or perhaps with a stand that should be a pleasing part of it. Try to get a clear impression of these possibilities. When looking at the work during the various stages, imagine (or simulate) the final way the piece will want to rest. Come as near as you can to reality This ability to achieve a well-balanced whole is dependent on observation (which becomes experience), and it is natural at first to be uncertain. When thinking of a stand, we may be tempted to imagine curves, shapes—not just a stand. All right, let your fancy go, but then allow for some other considerations. How will the stand serve its purpose, which is to support the case at the most pleasing height (with the doors open as well as closed)? How will the stand harmonize with the case? Harmony includes lines, and also volume; a stand has "weight," just as the case does. In reminding you of simplicity and harmony, I don't intend to be inhibiting; certainly a person with a mind for fantasy and taste can combine flair and harmony skillfully.

A last practical note: In showcases that have curves, the sides are apt to be set at an angle, which complicates the joints needed in a strong and well-made stand. I usually make these angled joints with spline tenons done neatly on the horizontal mortiser (that too-often overlooked machine). Take

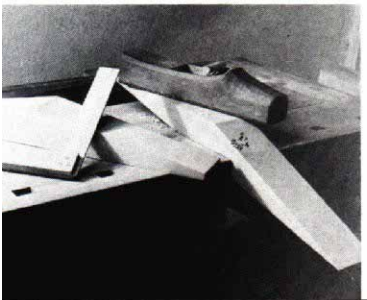
time to lay out properly, get all the angles correct and fits snug. Dry-clamp, and then study the stand with the case together. . . .Return, and look again. When you decide to glue up, have everything you need, including the specially fitted blocks that go with getting such pieces together.

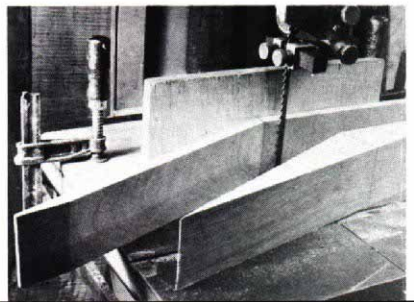
I hope and believe some craftsmen will go into this kind of work, discovering possibilities and satisfactions of their own. My attempts are limited; the illustrations here are meant only as a beginning. There is a great deal more to be done than I have even imagined. For those who try this path and then decide to abandon it, here's a consolation: One can learn something about oneself along the way. □

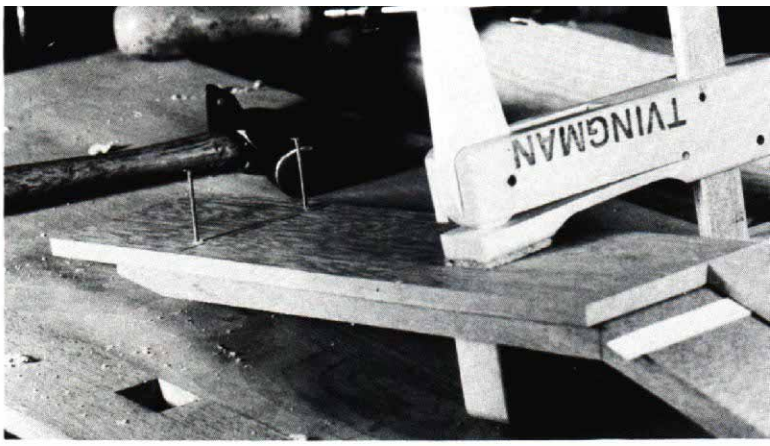


Swedish-maple showcase (1965) has a single door set in a mild V, and measures 86 cm (34 in.) high, 46 cm (18 in.) wide, 19 cm (7½ in.) deep. Oil finish.

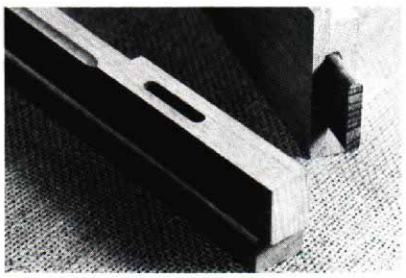
The horizontal rail for a V-shaped door is assembled from three pieces of wood. The inner piece (which forms the bottom of the rabbet that receives the glass) is bandsawn from a single piece of wood. This makes the basic shape without a complex joint.

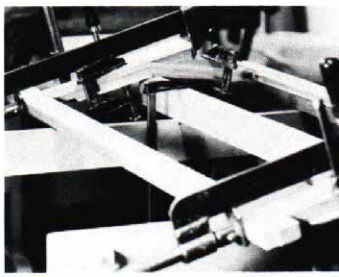






The two outer pieces, mitered at the middle, form the rest of the rabbet. Note that two thin shims of cardboard are used to raise each piece slightly while drilling for the stop-nails. When glued and clamped, with the shims removed, the miter fits tightly together.





Above left, the vertical sidepiece and bottom rail for a V-shaped door. Shading around spline tenon is a slight chamfer, to trap excess glue. At right, the door is glued in only one direction at a time. The other half is merely set in place dry. Clamping blocks have sandpaper against door surface, for a good grip.

From left to right, top to bottom, stock for the middle pin is only 7/16 in. wide, so a hardwood stiffener (darker wood) is glued to the back of it. A neat slot is scribed and cut in the door rail, then the bevel is hand-planed. Slots for the glass are routed and the stiffener is removed. Both panes of glass are pushed into their slots in this center pin, then the whole assembly slides into the door frame from the back, to be held in place by wooden strips as before.