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## Ruhlmann Cabinet

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# Ruhlmann Cabinet

Early in the 20th century, a group of far-thinking designers began to mantle the world in new ideas expressed in beautiful new shapes. In the realm of furniture making, the high priest of this Art Deco movement was Jacques-Emile Ruhlmann. Mike McGlynn, one of our best contributing editors, takes on an impressive Ruhlmann-styled cabinet.

Ruhlmann. The name is enough to strike fear into the hearts of even the most experienced woodworker. Jacques-Emile Ruhlmann designed some of the most complex and finely crafted furniture of the early 20th century. He is considered the high priest of the Art Deco furniture movement, and the craftsmen he employed were the finest of their day.

Mike McGlynn, one of our most talented contributors, has long admired his designs and contemplated making a Ruhlmann-styled piece for years. A recent room remodel at his home provided an ideal chance, in the form of a new entertainment center. Mike pulled out all the stops for this piece.

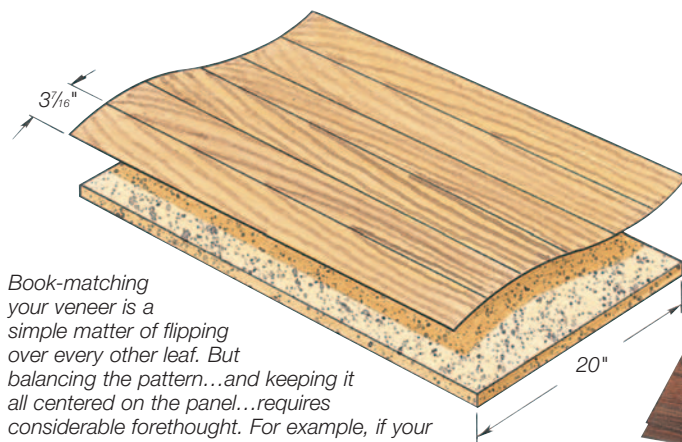
## Design Considerations and Construction Methods

After studying Ruhlmann's work, much of which has survived in wonderful condition, Mike made his design choices: maccassar ebony for the veneer and Avonite, a humane, man-made ivory substitute.

His next challenge was to figure out the construction methods and their sequence. Veneering is one of those tasks that give even accomplished woodworkers pause. Here are a few of Mike's general suggestions and pratfalls to avoid. First, have the most stable core possible. In today's world this means medium-density fiberboard and, where you must use solid wood, some-

thing like poplar or soft maple. Second, whenever possible, avoid veneering over joints, especially if the core is solid wood. We've seen it result in cracks too often. Third, vacuum bagging is by far the best way to lay up large flat panels. And finally, the best way to veneer edges and curved parts is with the iron-on method. Coat both the veneer and your core with Titebond II®, let it dry, and apply the veneer with a hot iron. (More on that later.)

With those points in mind, you're ready to start your veneer work. Unfortunately, the first step is one of the most nerve-wracking: cutting and taping up the veneer panels. There is no way we can overemphasize the



*Book-matching your veneer is a simple matter of flipping over every other leaf. But balancing the pattern...and keeping it all centered on the panel...requires considerable forethought. For example, if your goal is a 20"-wide finished panel and your rough veneer leaves are 5" wide, you will need six leaves approximately 3 7/16" wide (allowing for about 1/4" trim on each edge of the veneered panel).*







*The author's method for creating straight veneer edges is a sliding carriage that clamps all of the leaves together at the same time, with fully supported edges. His jig creates clean, dead-straight edges. After the first edge is established (right), small blocks (above) are screwed in to adjust the width of the veneer.*



importance of planning your veneer layout in advance. Mike's veneer arrived as 19 consecutive leaves approximately 11 ft. long and 5¼" wide. His first step was to label the leaves on all four ends, including the leaf number, to keep track of them during layup (see *photo*, previous page). Then he made a list of the veneer panel sizes he needed to lay up. To determine this, he increased the panel dimensions by 1/2" in width and 1" in length over the stock it needed to cover. He also determined the balanced book-matched pattern of his veneer leaves by laying them out side by side.

### Nontraditional Approach to Taping up Veneer Panels

Once you've edged your veneer (see *photos*, above), you're ready to tape. As far as Mike is concerned, when it comes to flat panels, throw your traditional veneer tape as far as you can. Now pick it up and throw it again! Mike tried some on the pediment top and it took forever to sand off. So he decided to try an experiment using clear packing tape instead. With some scrap veneer, he taped up a small piece and vacuum-bagged it with epoxy. To his joy, when he took the piece out of the bag the tape peeled off perfectly clean, with no problem. His new method is to put a piece of packing tape across the joint every 3 to 4 inches and then lay another piece the full length of the seam.

With the veneer all laid up, you're ready to prepare the core-stock. Cut your panels 1/2" larger than the veneered

panels so the veneer edges won't get crushed in the bag. Mike's choice of material for gluing the veneer to the core stock runs contrary to commonly held wisdom. He uses epoxy for most of veneering because the panels end up dead flat, and the epoxy allows plenty of open time, which is important when working alone. Roll the glue on with a very short nap roller and put a single coat on both the panel face and the veneer back, and then place the taped-up veneer on the core stock. For the core stock, Mike used white birch veneered MDF. Conventional wisdom says that ending up with two layers of veneer on one side and one on the other makes for an "unbalanced" panel. Mike has discovered that, with the use of epoxy glue, this is not a problem.

The last step before placing the panel in the bag is to put a 1/4" melamine caul in place with some masking tape to make a sandwich that is easy to move. Vacuum-bagging is a topic all its own, but suffice to say leave the panels in the bag for about 10 hours.

The veneer for the sides and pediment are pretty easy to lay up, but the front is much more complicated. The reason for this is that after taping up the veneer, but before laying it up, the parts that make up the face frame veneer must be trimmed off. Mike did this with a clamped straightedge and a sharp knife. He cut the vertical pieces, or stiles, off first because seams with the grain are harder to see than cross-grain ones. Then he cut the top and bottom rail portions off. Once you've carefully marked these pieces' orientations and relationships to each other, set them aside until you are ready to veneer the face frame. After the veneered panels have dried, they should be sanded before being cut to size. It's easier to sand when you don't have to worry about burning through a sharp edge. Sand the panels to a 120-grit, making sure any epoxy bleed-through is removed.

### Contemplating the Face Frames

Building and veneering the face frames (front and back) is like a puzzle. To prevent significant problems, you need to machine and assemble them in exactly the right order. The first step is to cut the birch veneered MDF strips that make up the face frames. Mike made the stiles an extra 3/4" wide for mitering purposes, but he cut the rails to exact width. All were left 1" long. Next, you'll need to veneer the appropriate edges of the face frame, including the inside edges of the stiles and the inside (or exposed) edges of the top and bottom rails. Use the iron-on method for this process. (Oops: When you tape up this veneer, you'll have to go find the old-fashioned paper tape you already threw away earlier!)

# JACQUES-EMILE RUHLMANN: THE HIGH PRIEST OF ART DECO

With any popular artistic movement, there are those designers or craftsmen whose names immediately evoke the genre. Think of Frank Lloyd Wright and the Prairie School or Gustav Stickley and the Arts & Crafts movement. But no name is more thoroughly identified with a school of thought than Jacques-Emile Ruhlmann and the Art Deco movement. Ruhlmann (1879-1933) was nothing less than the high priest and foremost practitioner of Art Deco. From 1919 until his death, Ruhlmann's name and Art Deco were virtually synonymous.

There is no doubt that Ruhlmann was a brilliant, original designer, and that he pushed his highly talented craftsmen to staggering levels of fit and finish, but he also had one other small detail working in his favor. At the age of 27, after the death of his father, Ruhlmann took over his family's business, Société Ruhlmann—a highly successful commercial painting and wallpapering firm. The success of Société Ruhlmann allowed him to run his interior design firm, Ruhlmann et Laurent, essentially as a money-losing business. In his notebooks Ruhlmann freely admits to losing money on virtually everything his firm turned out. Making an elaborate piece of furniture is much easier if you don't have to worry about making a profit. That's not to say his pieces weren't expensive. There was, for example, a so called "slipper bed" that sold for 19,000 francs in the mid 1920s...sufficient

funds at the time to buy a nice house in Paris. By the way, the bed took 1,200 hours to build.

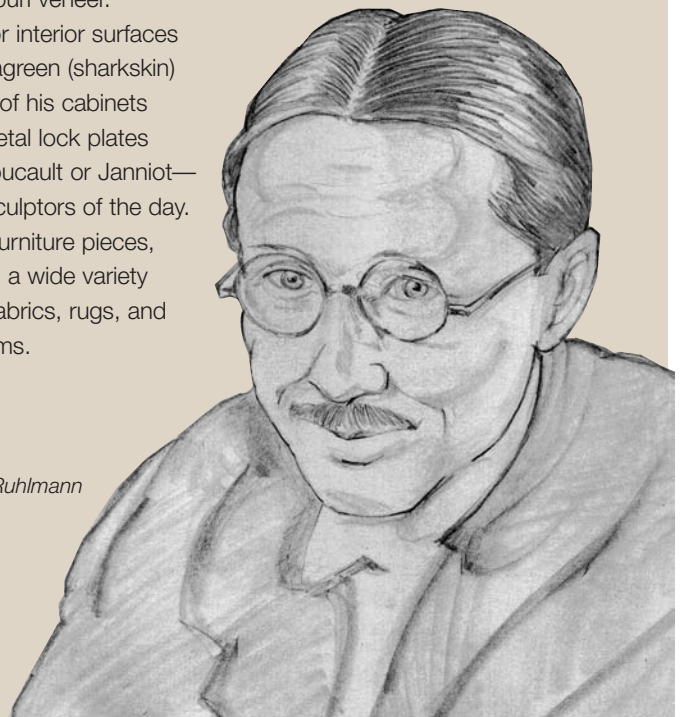
Ruhlmann employed the very finest craftsmen—over 60 woodworkers, finishers, and specialists who were paid 30-50% more than comparable workers of the day. Mike McGlynn has had the privilege of viewing a number of Ruhlmann's pieces in person and can say, without hesitation, that the wood-working his shop turned out is the finest he's ever seen. The veneer and inlay work is simply mind-boggling, with striking details like a 1/32" band of ivory inlay at the corner of each facet of an eight-sided, curved, torpedo-shaped leg veneered in Amboina burl. Ruhlmann noted that a highly skilled craftsman needed 40 hours to make one of these legs. The materials used in a Ruhlmann piece were the richest available. Many were veneered in either Maccassar ebony or Amboina burl veneer. Oftentimes writing or interior surfaces were covered in shagreen (sharkskin) or doeskin. Several of his cabinets feature elaborate metal lock plates created by either Foucault or Janniot—well-known metal sculptors of the day. And, in addition to furniture pieces, Ruhlmann designed a wide variety of lighting fixtures, fabrics, rugs, and other decorative items.

*Jacques-Emile Ruhlmann  
1879-1933*

## Ready to Invest in a Ruhlmann?

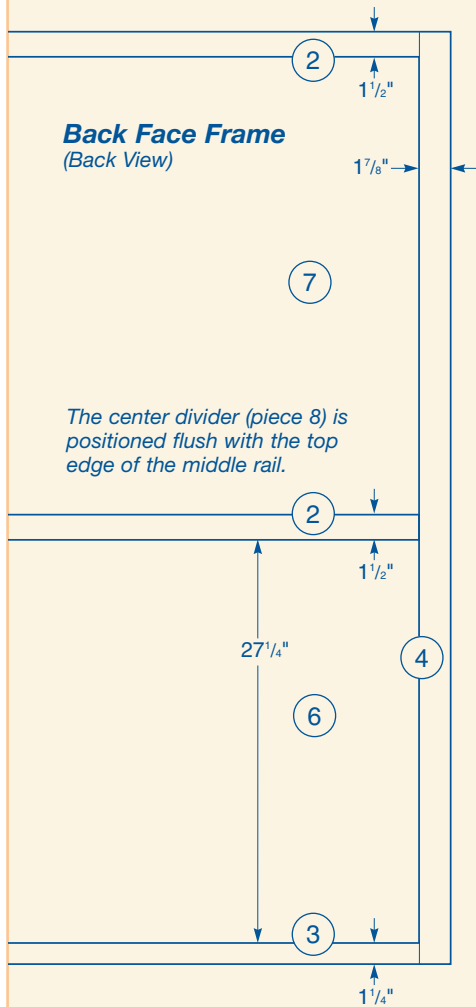
Stunning design, spectacular execution and limited volume combine to make Ruhlmann pieces among the most sought after and expensive antiques on the market. Once while in New York, Mike spotted a Ruhlmann sideboard cabinet in an antiques gallery. It was 7' long by 3' high by 20" deep. It was veneered in Maccassar ebony with a stylized horse and chariot inlay done in ivory on the front. The price: a cool \$2.5 million. Recently he returned to the gallery and the piece had been sold.

Ruhlmann was one of those rare individuals who had an endless amount of God-given talent and the financial means to bring his ideas to life. And it is a richer, more beautiful world because he did.



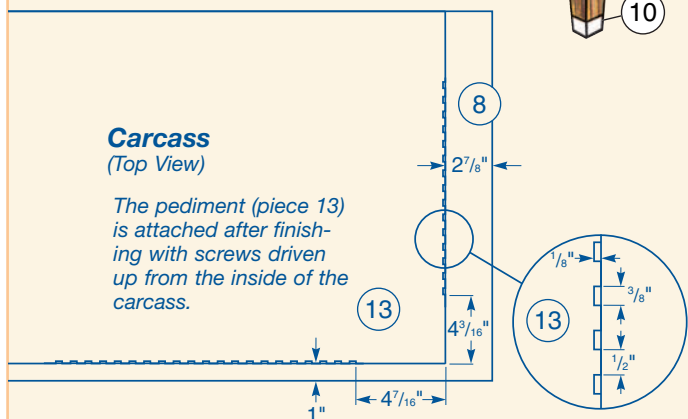
## Carcass Exploded View

### Back Face Frame (Back View)



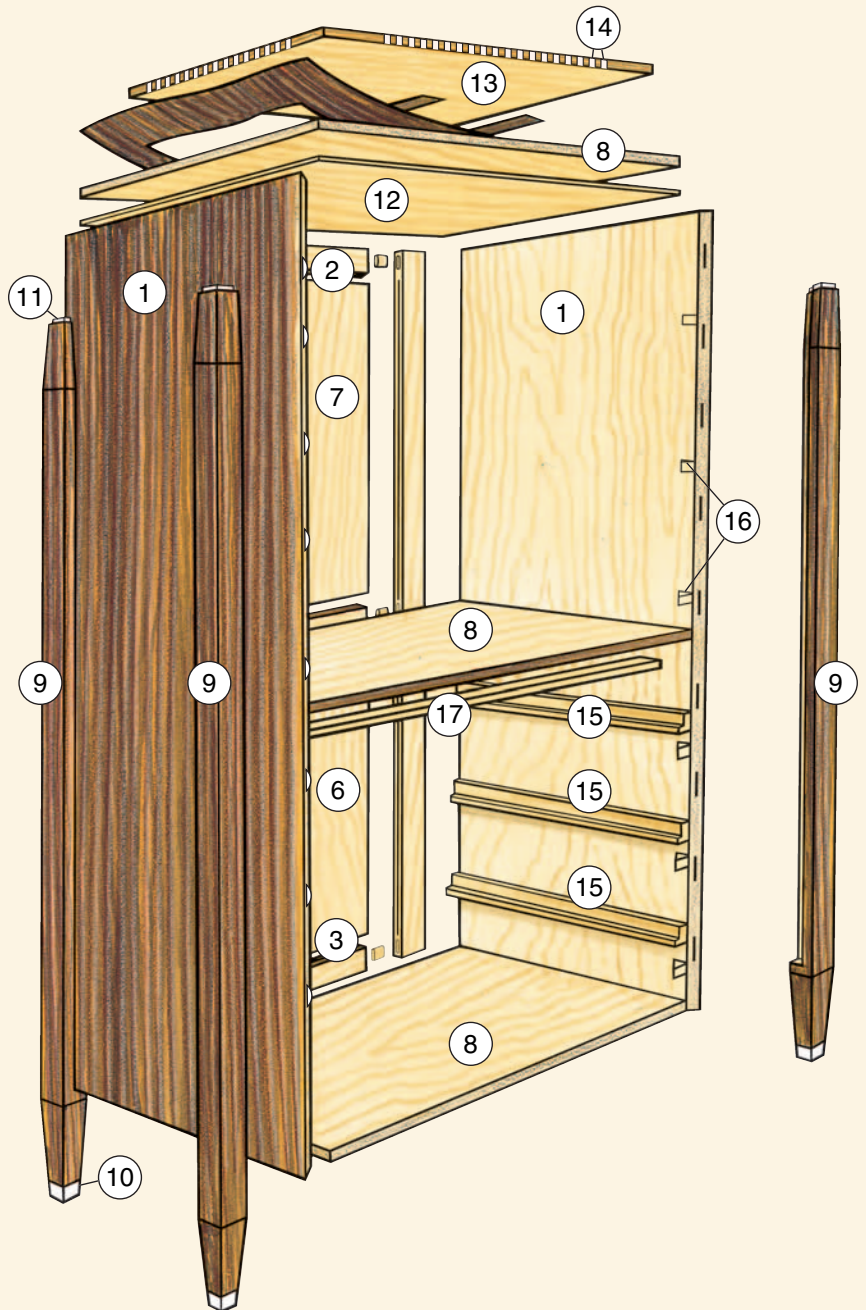
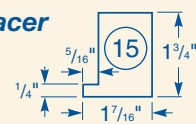
The center divider (piece 8) is positioned flush with the top edge of the middle rail.

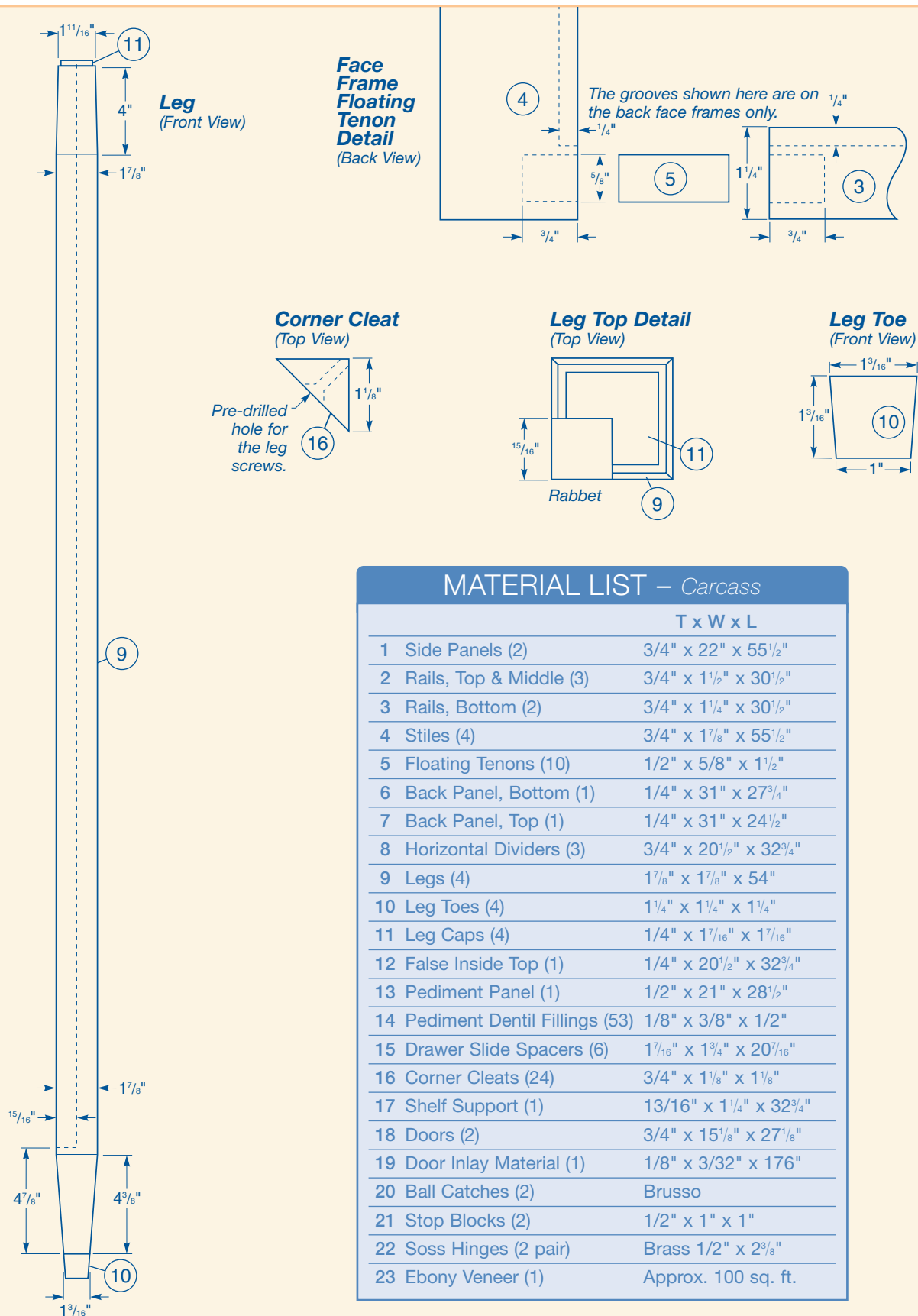
### Carcass (Top View)



The pediment (piece 13) is attached after finishing with screws driven up from the inside of the carcass.

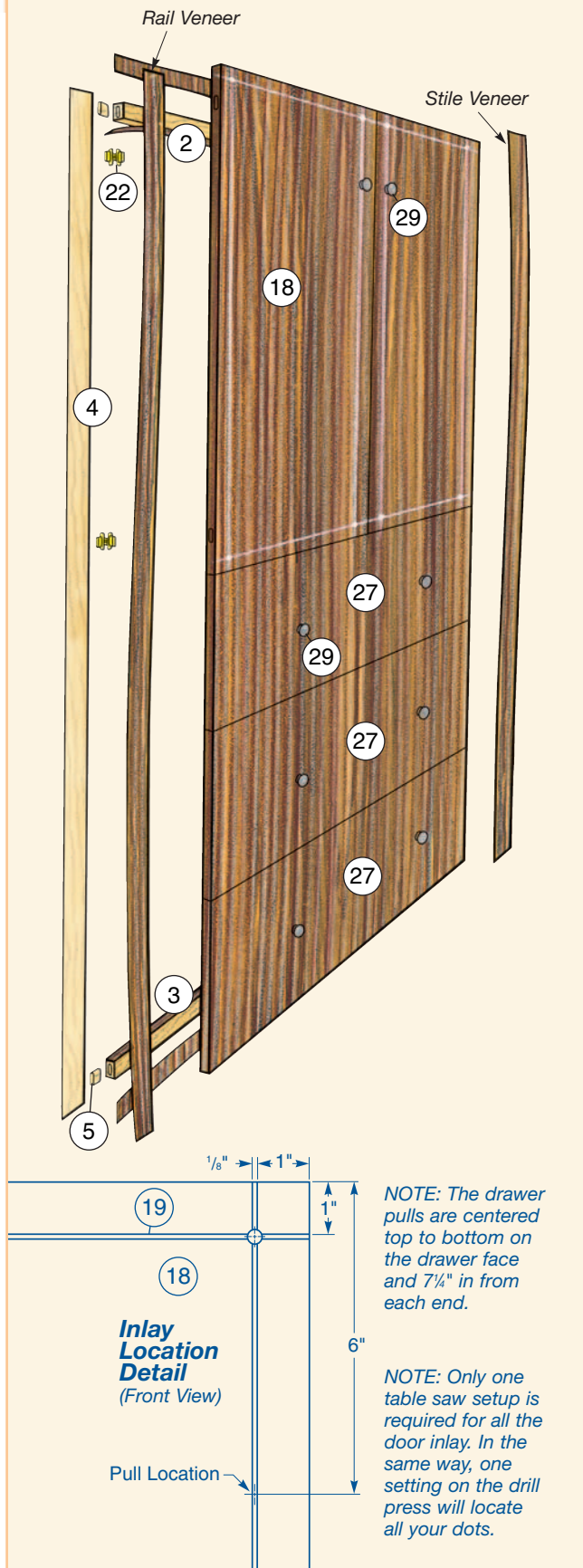
### Slide Spacer (End View)







## Face Frame Exploded View



After veneering, trim the edges with a flush-trimming bit and finish up with 80-grit sticky-back sandpaper on a hard block. Then trim the parts to length.

Join the face frame members (there is both a front and back face frame) with floating tenons made from yellow poplar or another affordable secondary wood. After marking their positions, Mike used his multi-router to cut the mortises in both the stiles and rails. For the back subassembly, the mortises need to accommodate the panel grooves. Plowing those grooves is the next step after cutting the mortises. Use 1/4" white birch veneered MDF for the back panels. The grooves for these panels should be cut 1/4" deep, using a router table and a down spiral bit to prevent veneer chipping. Remember, only the back face frame has panels.

Before putting together the back subassembly, you'll need to take care of two more steps. First, the back panels have to be cut so their grain will be balanced and lined up vertically in the cabinet. Second, the edges of the face frame members and panels need to be cut to exact length and then sanded up to 120 grit. Assembling the face frames is routine. Mike used epoxy and meticulously cleaned up the squeeze-out with lacquer thinner.

While the face frames are drying, the side panels can be cut to length. These cuts are very important, because they are, in the case of the top edges, veneered over. The best way to make these cuts is on a table saw with a scoring blade. If that isn't available, be sure to apply tape and use a fine-tooth blade to prevent chip-out.

Once the face frames are dry, they and the sides have to be mitered. To ensure accuracy, install a temporary rail in the front face frame (to keep the stiles from flexing). Mike did this in the drawer area where the pocket screw holes are less noticeable.

## Putting the Pieces Together

Assemble the carcass using biscuit joints, glue and nails. It's critical that the biscuit joiner be indexed off the inside faces because the sides are slightly thicker than the face frames (due to being veneered). This will allow you to flush off the veneer on the side's miter and then overlay it with the face frame veneer. Mike applied Titebond® glue to the biscuits and joints, assembled the pieces, and "clamped" them by nailing a few finishing nails through the face frames into the sides. These nail holes will be covered by veneer. Once the glue cures, flush up the side veneer to the face frame using a hard block and 80-grit paper, then putty the holes.

Before cutting the horizontal dividers, it's important to



check their exact size, as these pieces need to be piston tight. All these dividers are made from birch veneered MDF, but before you can properly size the center divider, it must have its front edge veneered. In a move that we're sure will make purists scream (but we think Ruhlmann would have approved), attach the three dividers with a series of pocket holes and screws. Put four pocket holes per side and five on the front and back. (Don't install pocket holes on the center divider's exposed front edge.) You can't see the pockets on the bottom and center dividers. You'll cover the top ones with a false panel. Screw the dividers in place, keeping the top and bottom flush with the sides and the center divider exactly positioned.

### Tricky Face Frame Veneering

Return to the iron-on method to secure the veneer to the face frames. On the front, Mike used the veneer he'd cut from the large taped-up panel and then set aside. This achieves the seamless veneer pattern that is so Ruhlmannesque. The first step to veneering the face frames is to make sure the inside (veneered) edges of the stile veneer are perfectly straight. The stile veneers need to be glued in place very accurately, with their inside edges lined up exactly with the inside edges of the face frame and placed exactly vertical, so all the grain lines up.

Veneering the rails is probably the hardest part of the entire project. It is critically important that the centerline of the veneer strip is the centerline of the cabinet. The problem Mike experienced with this process is that the veneer strip expands and contracts as you apply the heat of the iron. And once you apply the veneer with the iron, it will not move. A note from personal experience:



*No room for error: If veneering the face frames is the most difficult part of this project, cutting the veneered front panel into doors and drawer fronts surely is the most nerve-wracking.*

it is better to have a slight gap (very slight!) at a joint that needs to be filled, than to have a bubble that you can't iron down. The veneer on the back face frame is not as critical and need not match quite as well.

Most of the top is covered by the pediment, so simply veneer around the edge to 1" under the pediment line. Mike strayed from his own advice here and covered a joint...two pieces of MDF screwed together—not likely to ever move. He applied a couple of veneer pads in the middle of the top so that when he drove screws up through them, the pediment wouldn't cup.

At this point, sand the face frame veneer and top carefully to 120 grit. Do not use a power sander for this operation or you will almost certainly burn through, which, at this point, would be disastrous.

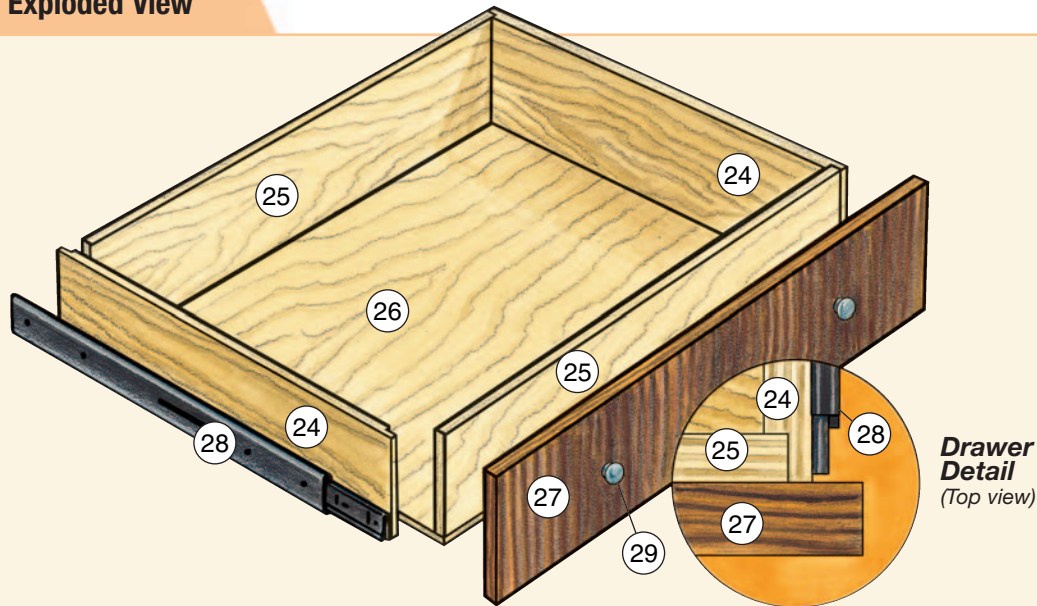
There is one last step that needs to be taken before the carcass is essentially complete. As you can see from the drawings on pages 128 and 129, Mike

attached the legs by means of screws driven through angled interior corner blocks. The holes on those blocks were made on the drill press before installation so they would be accurate. Finally, glue the blocks in place and set the carcass aside for the time being.

### Forming Doors and Drawers from the Front Panel

If veneering the face frames is the most difficult part of this project, cutting the front panel up into the doors and drawer fronts (see *photo*, above) surely must be the most nerve-wracking. There is no room for error. Proceeding with extreme caution, lay out, on bits of masking tape, your side cut lines. As with the rail veneer, it is very important that the center seam be exactly in the middle of the panel. To get the panel width it is necessary to subtract, from the face frame opening, the edge gap and the width of the veneer edging. Mike carefully cut the panel to width, making use of his scoring saw. The next

## Drawer Exploded View



### MATERIAL LIST – Drawers

T x W x L			T x W x L		
24	Drawer Sides (6)	1/2" x 7 <sup>3</sup> / <sub>4</sub> " x 20"	27	Drawer Faces (3)	3/4" x 8 <sup>3</sup> / <sub>8</sub> " x 30 <sup>3</sup> / <sub>8</sub> "
25	Drawer Fronts and Backs (12)	1/2" x 7 <sup>3</sup> / <sub>4</sub> " x 29"	28	Slides (Knapp/Vogt 8405EB)	3 pair, black
26	Drawer Bottoms (3)	1/4" x 20" x 29"	29	Pulls (8)	Brushed nickel

step is to lay out the horizontal cut lines. It is again necessary to account for the gap between the doors and drawer fronts and the veneer edging thickness. Mike had meticulously planned this from the very beginning, so he had a large enough panel to trim 1/8" off each end and then cut out three drawer fronts and the door panel exactly. The last step is to cut the door panel in half to make the two doors.

Edging the doors and fronts is pretty easy with one small caveat: edge all the doors and fronts in the same order. Do all the sides edges first, then the top and bottom edges, etc. When you're done, sand the whole thing to 120 grit and set the pieces aside for a bit.

### Inlay: A Ruhlmann Hallmark

Inlay is one of Ruhlmann's hallmarks, and it must be precise. Cut your inlay grooves with a narrow-kerf saw

blade with flat-top teeth. If a non-flat top-toothed blade is used there will be gaps under the inlay as it exits the door edges. Mike made the inlay grooves 3/32" deep and designed things so that

he could use a single fence setting to form all the grooves at once, thus ensuring that they would line up when the doors were installed. Using a wide belt stationary sander at a friend's shop,



Ironing on his own pre-glued veneer is a technique the author used to ensure perfect placement. He used this method on the leg caps (shown above), the long aspect of the legs and the cabinet's face frame members. Large panels are vacuum-bagged.



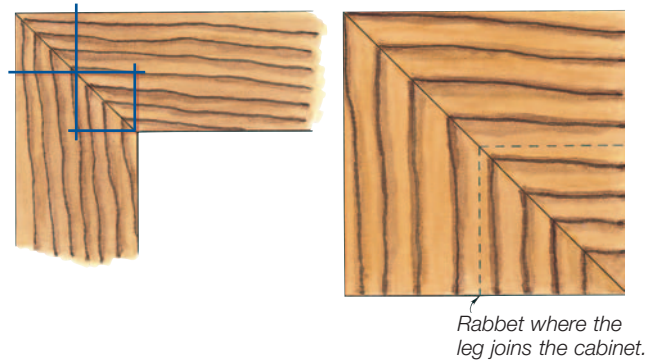
he was able to reduce strips of Avonite ([www.avonite.com](http://www.avonite.com)) until they tapped perfectly into the saw kerf. Then he carefully ripped strips that would be about 1/16" proud when installed. After doing a bit of experimenting, Mike chose Roo glue to secure the inlay strips. This adhesive is made to be used with melamine, but it tested well with the Avonite, providing a tenacious grip. Knock off the bottom corners of the inlay strip with sandpaper to help slip it into the groove a bit easier. The lines of inlay must be in place before the dot holes are drilled to provide support for the drill point at the line intersections. But getting the crosspieces to butt perfectly is not essential, as the dots will hide the intersections.

When installing the inlay, Mike used a 4" block of wood to help tap it in with a hammer. This prevented the inlay from cracking (it's rather fragile). After the glue dries, smooth the inlay flush with a scraper and sandpaper. Using a drill press with a fence and stop is the best way to drill the dot holes. Because all the lines are exactly equal distance from the edge, you should be able to drill all of the holes with one setup. Mike used an 8mm brad-point bit and moved to a tapered 5/16" plug cutter to cut the plugs from a piece of 1/2" Avonite. Mike found that it is crucial to keep blowing away the chips as the plugs are being made. Otherwise, the plugs ended up undersized and broke off while he was still drilling. Glue the plugs in place with cyanoacrylate glue and flush them up with sandpaper. With everything in place, give the doors a once-over with 120-grit paper and set them aside.

### Creating Legs that Can Handle a Little Stress

The legs of this cabinet take the most stress of any single part, so Mike decided to make the core from strong and stable poplar. First, he rough-milled them about 3/8" oversized and let them sit for several days to adjust to equilibrium. Next, he straightened and squared them up on the jointer and milled them to size. One of the elements that really makes this cabinet Ruhlmannesque is the tapered feet and tops of the legs. Mike shaped them with a sharp hand plane.

Veneering the legs is similar to veneering the door edges. Decide on a sequence, and do all four legs the same way. Mike chose to do the two side faces first, then the front and back faces. Apply one face of veneer at a time using the iron-on method. After applying each face, flush up the edges with a hard block and 80 grit-paper. The iron-on method works particularly well here, as it is very easy to work the veneer over the tapers without the use of complex cauls. It should go without saying that it is of utmost importance to keep track of your veneer arrangement. As you can see from the photos, the leg



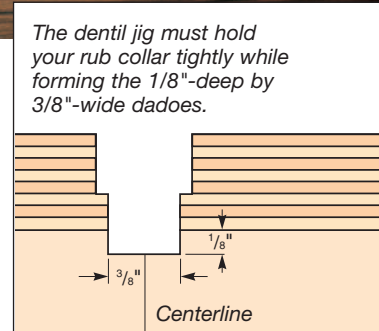
*Subtle but important details: Although only a small portion of this veneer is seen past the Avonite leg caps (pieces 11), the author taped up mirror-matched veneer for the tops of the legs and then cut out two squares per seam line.*

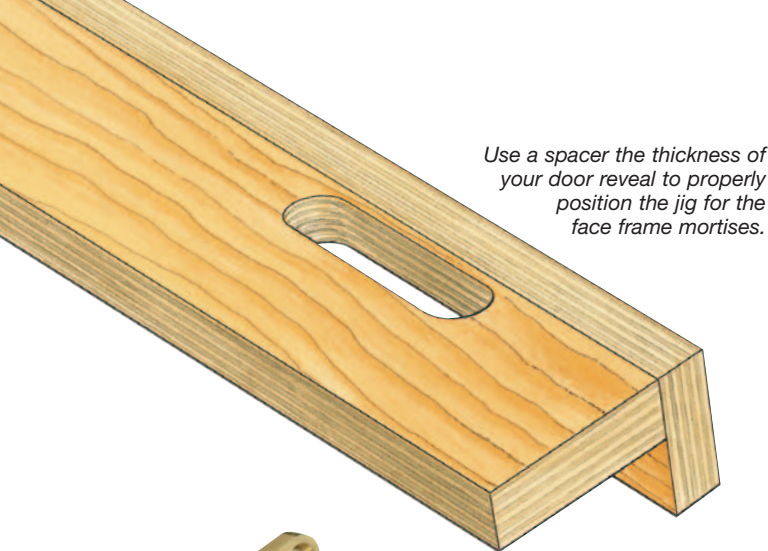
veneers are book-matched. This is a subtle point, but, when added to all the other subtle points, it sets the cabinet apart.

Another very subtle, but important point is the veneer pattern on the top of the legs. After the Avonite caps are set in place, there will be little of the veneer showing, but it's still great to see the veneer parallel the exterior faces of the legs. The caps are made up by mitering, at 45 degrees, two

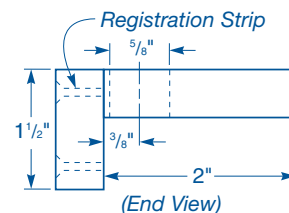


*The author made this precise jig to form the dentil-inlay openings. Indexed off of centerlines, the jig surrounds the sides and the edge of the pediment to prevent blowout. Once it's lined up with marks on the blue tape, the jig is clamped in place for each rout.*

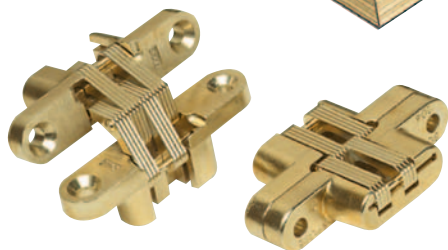




Use a spacer the thickness of your door reveal to properly position the jig for the face frame mortises.



**Soss Hinge Jig**  
(Top View)



Soss hinges work great, but they're a pain to install. They must be installed perfectly; there's no adjustment to them. This door-length jig was designed to rout both the door and face frame mortises perfectly aligned. A dual set of screw holes on the registration strip lets you align the jig on the front face of the door and face frame, while keeping the hinge mortise holes in the same relative position. Soss hinges are bi-level, so you have to mortise the center portion after the wing portion.

matched strips of veneer and then mirror matching them. After taping up the mirror match, squares large enough to cover the leg top can be cut from along the seam line, as shown on the previous page. When gluing the caps on it is important to have the grain pointing the right way, with the long grain on the outside edges.

White "toes" are another Ruhlmann trademark. Mike glued up a block of Avonite and milled it to slightly larger dimensions than the bottom of the leg. Using the miter gauge jig shown in the right *photo* in combination with a disk sander on his table saw, Mike tapered the Avonite blocks to match the leg taper. He intentionally made the toes just a hair larger than the leg bottoms so he could flush them up after they were glued on. Glue the toes in place with black cyanoacrylate glue. Once again, flush up the toes with a hard block of 80-and then 120-grit paper.

Rabbeting the legs to fit the cabinet corners is a two-step process. First make two stopped cuts on the table saw to remove most of the rabbet. At the bottom end the rabbet is carefully marked and then finished with

a combination of hand saw and chisels. It's imperative that these rabbets need to be exactly square and all at exactly the same distance from the bottom. This is because the entire carcass rests on them and any variation will make the cabinet sit unevenly. Sand the legs up to 120 grit, but take care not to round over the edges that meet the cabinet, as this needs to be a tight joint. The last step on the legs is to install their Avonite caps. To make these, mill them to size and notch them to match the rabbet. Using a filler strip to simulate the carcass, glue the caps in place with clear cyanoacrylate.

### Top It Off with a Dentil Pediment

Another favorite Ruhlmann design motif, especially on his cabinets, was a dentil-inlaid cap or pediment. After you cut your veneered pediment blank to size and edge it with the iron-on method, make the dentil jig shown in the *photo* (previous page). There are several keys to this jig: it is indexed off the inlay centerline, it surrounds both the sides and the edge of the pediment to prevent veneer blowout, and it fits the router guide tightly for a no-slop

cut. Before you begin, mark all of the centerlines on a piece of tape so they will be more visible. Then carefully rout all of the recesses, making sure your jig is properly aligned and clamped for each cut. Mill the inlay material from Avonite so that it has a nice press fit and stands a little proud of the edge. Glue the dentil in with a clear cyanoacrylate. When you are finished flushing up the dentil, give the entire pediment a sanding to 120 and set it aside.



The author installed a disk sander in his table saw, in combination with a miter gauge jig, to taper the Avonite "toes," which must match the leg tapers. Here the author tests the setup with scrap lumber.



## IT'S ALL IN THE DETAILS

### Drawers and Other Details

As this is a face frame cabinet, and Mike used ball-bearing slides, the slides need spacers to move them out flush with the face frame opening. As you can see in the *drawings*, these spacers have a lip on the bottom, which Mike incorporated so the slides will have something to rest on during installation.

If you've read any of Mike's past articles you know he's not a drawer purist. He believes in making what works, not what tradition dictates. So, he made these drawers out of 1/2" Appleply plywood with rabbeted, glued and nailed corners. A simple, strong drawer that will never shrink or swell—like many “traditional” drawers seem to.

There is one last piece to make before starting the finishing process. As mentioned earlier, to cover the pocket holes in the top, a false inside top will need to be made out of 1/4" birch veneered MDF. Sand this piece to 120 grit and set it aside.

Now it's just about time to prep everything for finishing. The last step is to form the mortises for the Soss hinges on the doors and stiles. The *drawings* on the facing page provide the details of the jig Mike used to complete this step. Remember, there's no margin for error with these hinges! Once the mortises are formed, go over every surface, including the inside, with 220-grit sandpaper. Make careful note of all edges, easing those slightly that need it but leaving others, such as the leg rabbet edges, crisp and sharp. Take the time to go over every surface with a powerful light and look for any scratches that you might have missed.

To obtain the best result, Mike finished this cabinet in several parts: the carcass box, the legs, the doors and drawer fronts, the false top, the pediment and the drawer boxes. He

sprayed everything with two coats of vinyl sealer and two coats of 25° sheen catalyzed synthetic lacquer. Sand between each coat with 220-grit sandpaper. Once the individual pieces are finished, assembling the carcass will be quite simple. Start by clamping each leg in place and drilling a pilot hole, guided by the pre-drilled angle blocks. Then screw the legs in place with 2½" #8 screws. Attach the pediment with several 1" screws from the inside, two of which go through the veneer pads we mentioned earlier. After the pediment is installed, the false top can be added, with a few small brads.

Because Mike uses this cabinet for a TV, he decided to install a shelf support under the center divider. Set this piece 1½" back from the front edge and attach it from the bottom. Then wrap up by installing the drawers, doors and their brushed-nickel pulls. Two small stop blocks attached to the top rail and a couple of Brusso ball catches hold the doors flush.

To paraphrase Johnny Cash, Mike says he's built harder cabinets, but he can't really can't remember when. In reality, building this cabinet will be a challenging and rewarding experience that will greatly enrich your woodworking experience and vocabulary. Mike admits that the level of precision and cost might make most home woodworkers think this project is out of their reach, but he disagrees. The one major thing that this project reinforces is that the keys to fine and complex work are to take plenty of time and to think things through thoroughly. Good luck.

How does this cabinet reflect the style of Jacques-Emile Ruhlmann? The harmony of its details, simple and elegant in themselves, yet beautiful and rich when viewed together. Dark straight grained veneer, laid up in a fluid book-matched pattern, contrasted by off-white inlay. Simple shapes combined into a pleasing complex design...all join together to evoke Ruhlmann.

