

BOB LANG'S

THE COMPLETE

Kitchen Cabinetmaker

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revised edition



Shop Drawings and Professional Methods for Designing and
Constructing Every Kind of Kitchen and Built-In Cabinet

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INTRODUCTION

A little more than ten years ago I had this idea to write a book about building cabinets. I didn't know it at the time, but I was at the point where my career was about to change from full-time cabinetmaker/part-time author to full-time author/part-time cabinetmaker. After thirty years of earning my living making things out of wood, I was ready for a change. I thought there was a need for a book written from the point of view of someone who had been exposed to different methods and techniques.

In my woodworking career I cycled through a number of jobs in shops large and small, intermixed with owning my own shop. My resume from that time may look like I'm the type of guy who can't hold a job, but those years gave me a broad base of experience. I wanted to distill the best practices from those years and adapt them into techniques that could be used successfully in a typical, minimally equipped shop. I also wanted to include details and options for face frame cabinets, frameless cabinets, and what I typically build, cabinets that utilize the best features of both styles.

What I had in mind was the sort of book I needed when I was starting out, a reference that would lay out sensible options for construction and a way to manage a project from conception to completion. The woodworking part of a typical kitchen project is relatively simple; the difference between satisfaction and frustration is usually found in how the numerous choices and steps of the project are handled. The risks are higher if you are doing this work for your own home as opposed to doing this work for someone else.

Things can still go wrong when you're not your own customer, but eventually you get to walk away. If you have to live with the results of a poorly planned project (or with a family who had to go for far too long without a working kitchen), what might have been a rewarding experience can turn ugly and stay ugly. That sort of thing can be avoided, and avoiding disaster is what this book is all about. There are a lot of parts in a typical kitchen, and the sequence of making them and putting them together along with keeping track of them all is a big job.

The success of the first edition of this book was a bit of a surprise, and it has been gratifying as an author to hear from readers who found it helpful. In the fast-changing world of publishing, not many books have the staying power to last through several printings. It's surprising how similar the process of putting a book together is to a large cabinet project. There are a lot of little pieces to fit together, and the goal in each case, at least for me, is to put together something of quality that will last a long time.

There is a real satisfaction to be found in taking an idea and a pile of lumber and turning it into something useful and enduring. There are practical benefits to be found in making cabinets. You can have a kitchen far nicer than you could otherwise afford and much better suited to your own needs when you build your own. If you're considering cabinetmaking as a career or as a serious hobby, a kitchen or other cabinet project is a good way to get a taste of it while filling a need and to get equipped with the basic tools and machinery.



A matter of scale. In this large kitchen, wide vertical elements at the ends of the island match the scale of the cabinets to the scale of the room. This and the taller, narrow counter caps define the kitchen as a distinct area.



Tradition at the toe. In modern kitchens, the area below the cabinet doors is recessed and known as the "toe-kick." In the early 20th century, the detail matched the baseboard of the room.



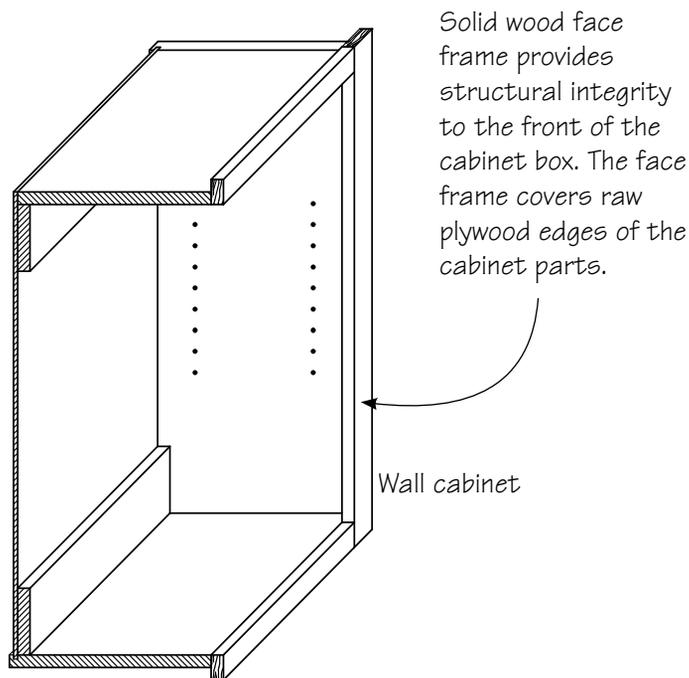
Borrowed from architecture. Decorative curved brackets, called corbels, serve a functional purpose. In this case they provide support for the heavy, overhanging counter on this island. Here again we see the end panel extend to the floor and baseboard below the doors.



Adapting an elegant style. These cabinets feature several design elements of California architects Charles and Henry Greene, who worked in the early 1900s. The sculpted handles, cloud-lift shapes on the rails, and ebony pegs were all signature features, adapted here in a thoroughly modern kitchen. Posts on the outer corners define the wall cabinets.

Beauty and function combined. Details usually found only in fine furniture are combined with the functional elements a working kitchen needs. In these cabinets, as in the upper cabinets, posts define transitions between cabinets, and behind the outer face, several individual boxes make construction and installation manageable. Careful planning at the outset leads to success when the job is finished.





Corner blocks secure and square joints between cabinet sides and face frame.

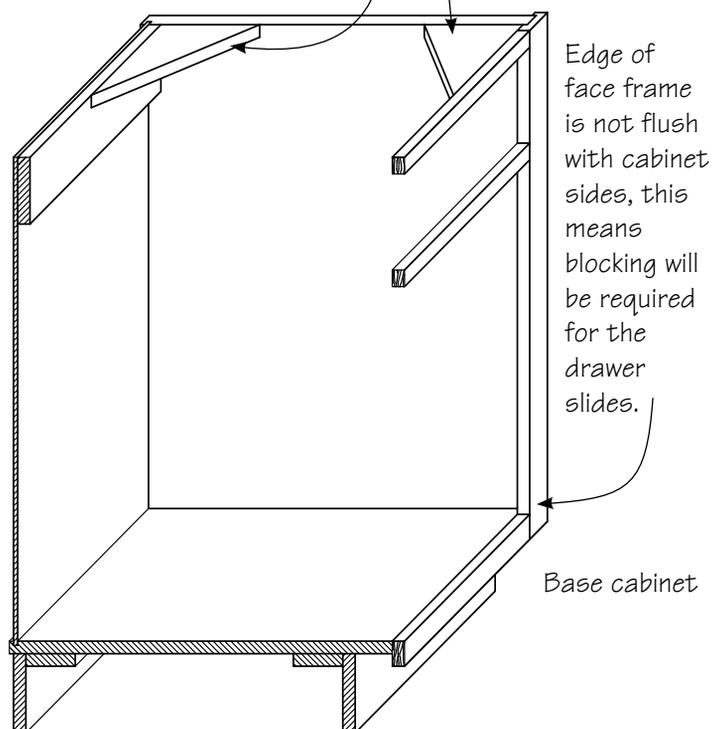


Figure 9. Face frame — Cutaway view shows typical face frame cabinet construction for base and wall cabinets.

they have been used millions of times successfully, but I still don't trust them. So I use $\frac{1}{4}$ inch shelf pins instead. (**Figure 8**)

The actual plywood boxes can be assembled in the same way whether the finished cabinets are frameless or contain face frames. There is a separate chapter on "joints for cases" (**Page 52**), and the chapters on assembling will cover the minor differences that might occur in some situations. For now, let's look at what makes a face-frame cabinet, and what needs to be considered and decided before building. (**Figure 9 & 10**)

Traditional Face-Frame Cabinets

Face-frame cabinets are often referred to as traditional. The use of this term makes it sound like we have been building cabinets this way for centuries, that perhaps the founding fathers had kitchens with 36-inch high countertops and 3 inch x 4 inch toe-kicks. In fact, the traditional way of making cabinets is a rather recent development, as is the concept of kitchen cabinets entirely.

The modern kitchen only began to take its present form around the turn of the 20th century, with standard sizes of cabinets and appliances evolving in the 1920s and 1930s. It wasn't until the post-World War II era that the forms we consider as having been used forever became entrenched. Before standards were established, most kitchens had very few cabinets. What cabinets there were resembled freestanding pieces of furniture, and often were called furniture-like names such as dressers and presses. The style and dimensions of these reflected the taste, skills, and judgment of the local cabinet-maker.

Even during the building boom of the 1950s, most new American kitchens were

cobbled together on-site, and the standards that were followed were a mixture of what fit with the sink and appliances, and what the carpenter doing the work preferred.

The point is, we aren't dealing with anything sacred when it comes to how we build face-frame cabinets. We are using methods and materials that have evolved over the years, and continue to change.

The big difference, of course, is the presence of the face frame, a solid wood framework that is attached, as one might expect, to the face of the cabinet. The members of the frame are usually between 1½ inches and 2 inches wide, but they can also be narrower or wider in some circumstances. This solid wood frame adds strength to the front of the cabinet, and helps to keep the box behind it from racking. It also covers the raw plywood edges.

With frameless cabinets, the front edges of the plywood parts form the face of the cabinet. These edges are covered cosmetically, but if you cover them using ¾ inch square solid wood, you will also stiffen the face of a frameless cabinet. Plastic laminate on the edges will also be stiffer than edges banded with a more flexible plastic material. If frameless cabinets are designed, built, and installed properly, the difference in strength at the front of the cabinet will not be significant.

The sum of all this is, you can make a perfectly sturdy and strong cabinet using the so-called traditional face-frame method, or using the so-called European frameless method. Although there are no meaningful differences in strength, there are differences in appearance. In the drawings on the next few pages, we'll take a closer look at the differences in appearance between face-frame and frameless cabinets, and between overlay and inset doors and drawer fronts.

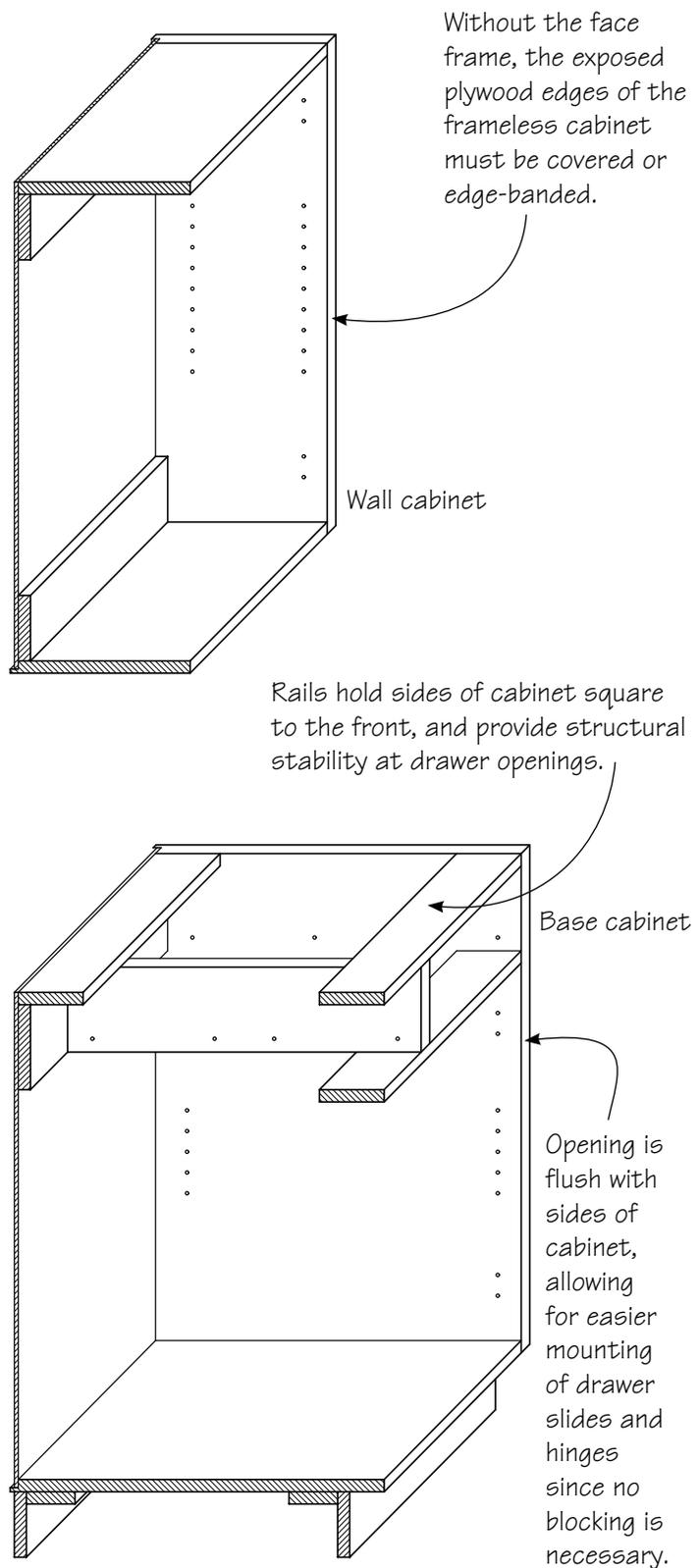
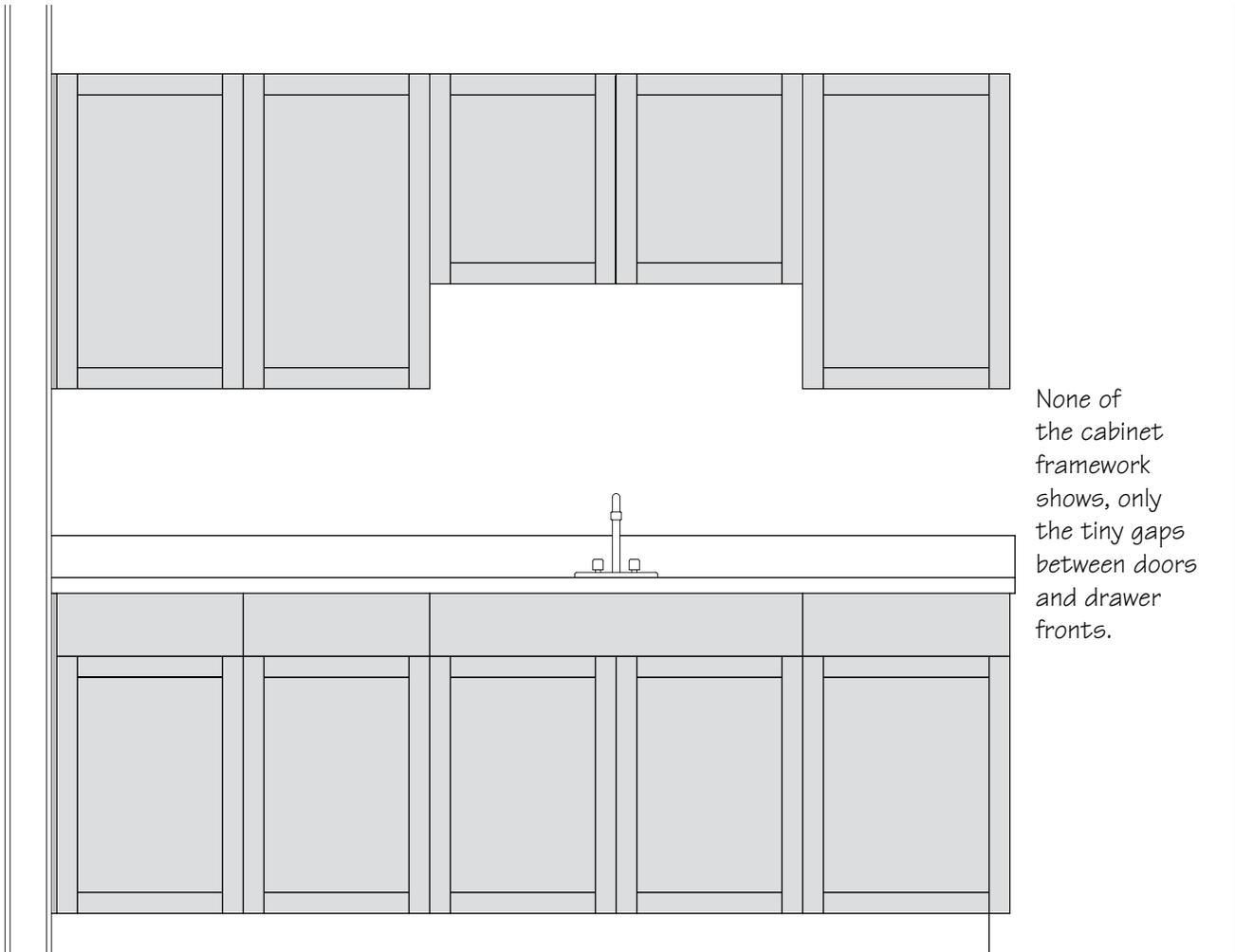


Figure 10. European 32mm — Cutaway view shows typical European 32mm, or frameless, cabinet construction.



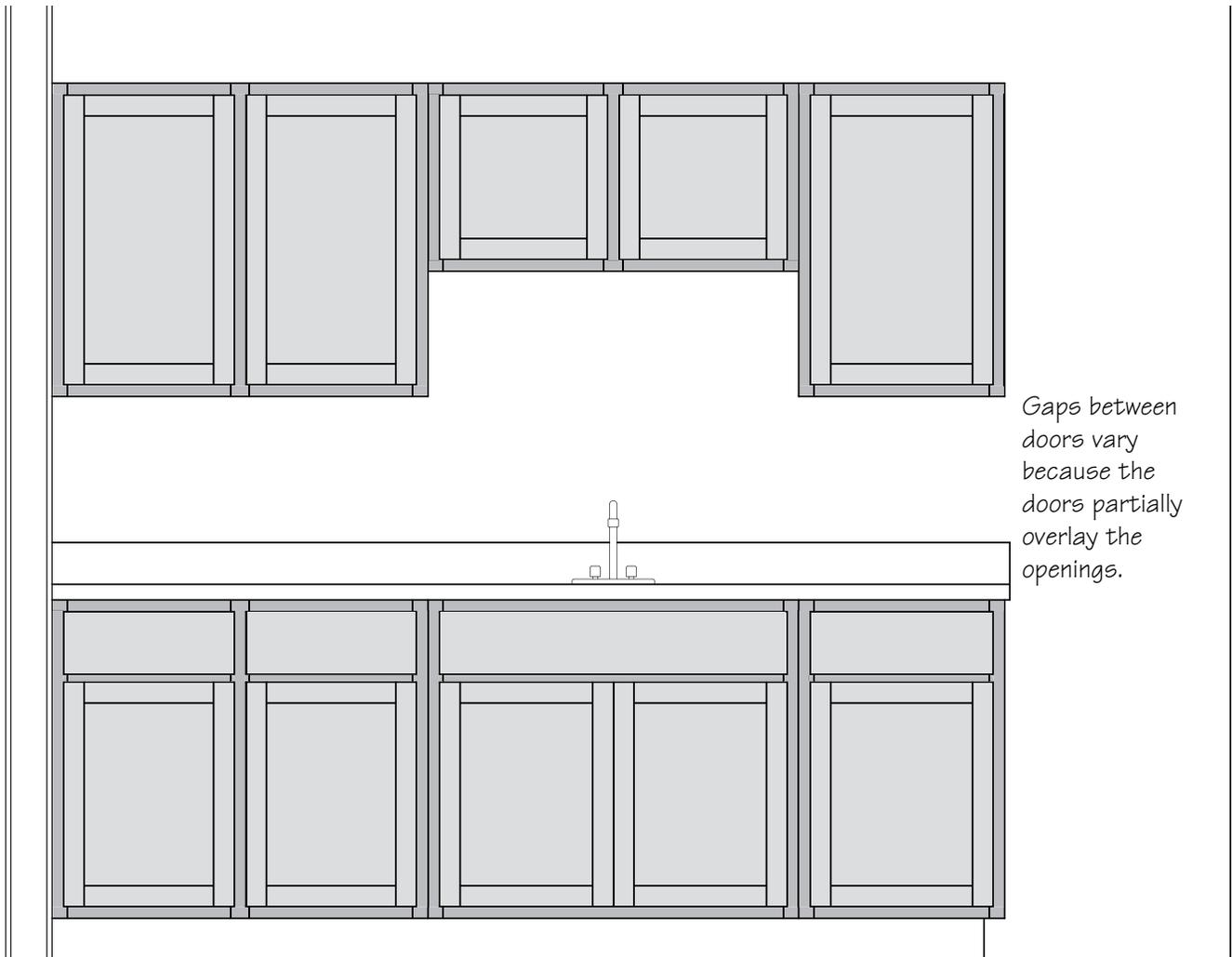
None of the cabinet framework shows, only the tiny gaps between doors and drawer fronts.

Figure 11. A traditional look can be achieved with frameless construction by using wood frame-and-panel doors and end panels, with full overlay hinges.

Frameless Cabinets with Full Overlay Doors

Frameless cabinets can be made to have a traditional look with the addition of stile and rail doors, as seen in the elevation drawing above.

To most people, face-frame cabinets look better, and the general perception is that they must be of higher quality. Quality, however, is a function of the materials used and the skills of the maker, not the type or style of cabinets.



Gaps between doors vary because the doors partially overlay the openings.

Old-Time Cabinets

The old-time method was to build an entire elevation as a single cabinet. Some would argue that it looks better, but there are many disadvantages to this approach.

The first problem is in fabrication. If you are building modular cabinets, you don't have to deal with vertical dividers inside the cabinets. The places where vertical dividers would occur are now cabinet ends. Making the dividers as dividers introduces the need for another method of producing joints, likely a dado across the width of the long cabinet bottom. It also complicates joints in components that would normally go entirely across the cabinet horizontally, such as the

rail below the top drawer. These joints can be difficult to lay out and cut, and will also be harder to assemble. At the very least, they break the rhythm of building the same consistent box.

The second issue is that of size and weight. One big cabinet is harder to move than two or three smaller ones. This may seem minor, but if you are working by yourself, it is a major issue. It will also be harder to level the big cabinet during installation, and a long wall cabinet will need several people to hoist it into position. There is some slight savings in material costs, but this is outweighed by the difficulties imposed by size and weight.

Figure 15. When overlay doors are used on face-frame cabinets, the gaps between the doors are not uniform, resulting in a clumsy appearance.

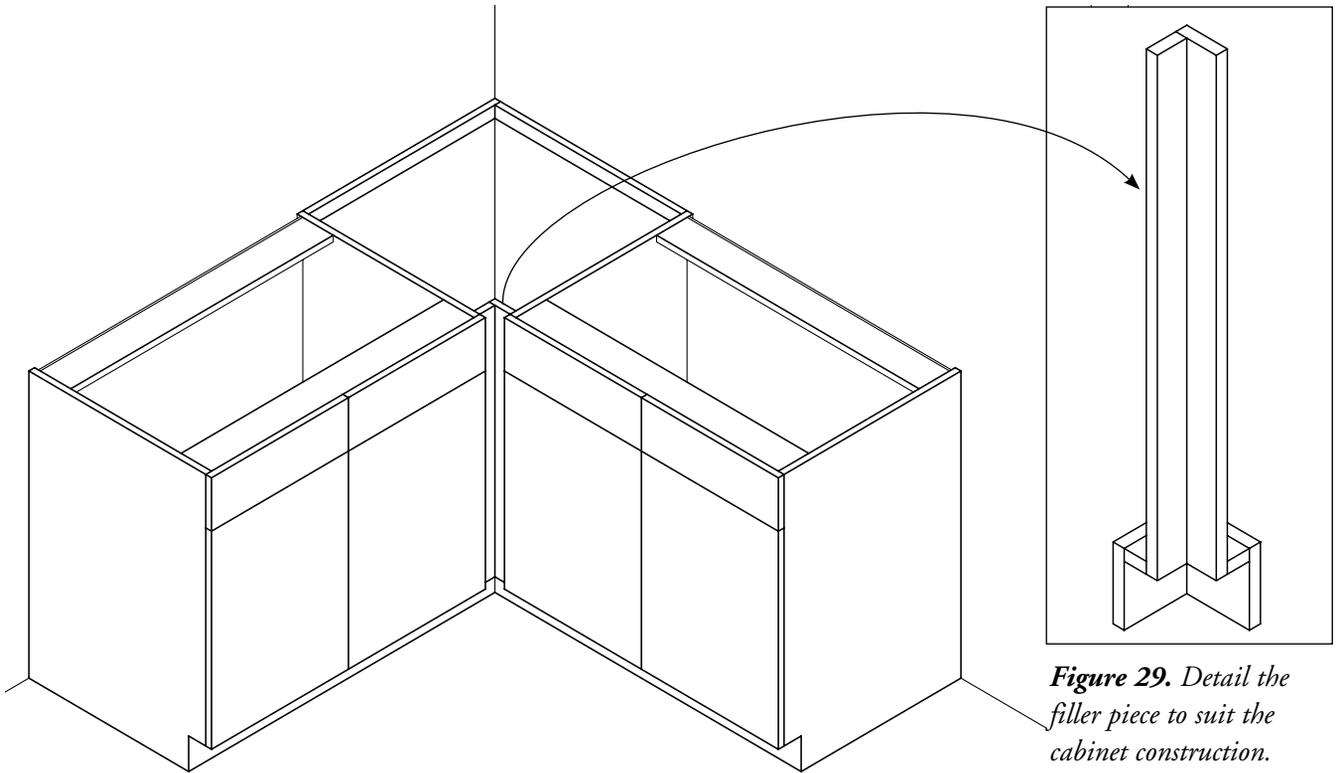


Figure 28. Inside corner — The simplest way to turn a corner is to use a filler piece between two standard cabinets.

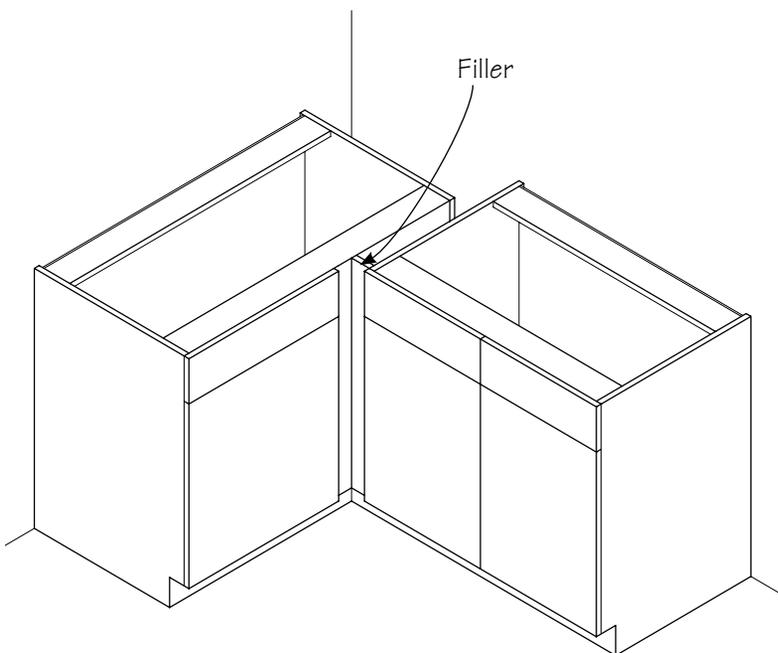


Figure 30. Inside corner — A blind corner base makes use of space in the corner but it can be difficult to access the interior of the cabinet.

easy way out is to leave dead space in the corner, between the two cabinets and under the counter as shown in the drawing above. (Figure 28)

You need to make a filler panel that connects the faces of the cabinets and the toe kick, and provides the necessary clearance space. You will also need to run cleats at the height of the top of the cabinets back to the corner to support the countertop. Usually the exposed part of each side of the filler panel is between 2 and 3 inches. Details will depend on the style of cabinets, and how the doors and drawer fronts overlay; the general idea is shown in the drawing above. (Figure 29)

Using the corner

Some people hate to waste that space in the corner, and there are ways to utilize it. I have mixed feelings about using it. It seems a shame not to use that area, but it can be difficult to get to it. These feelings can

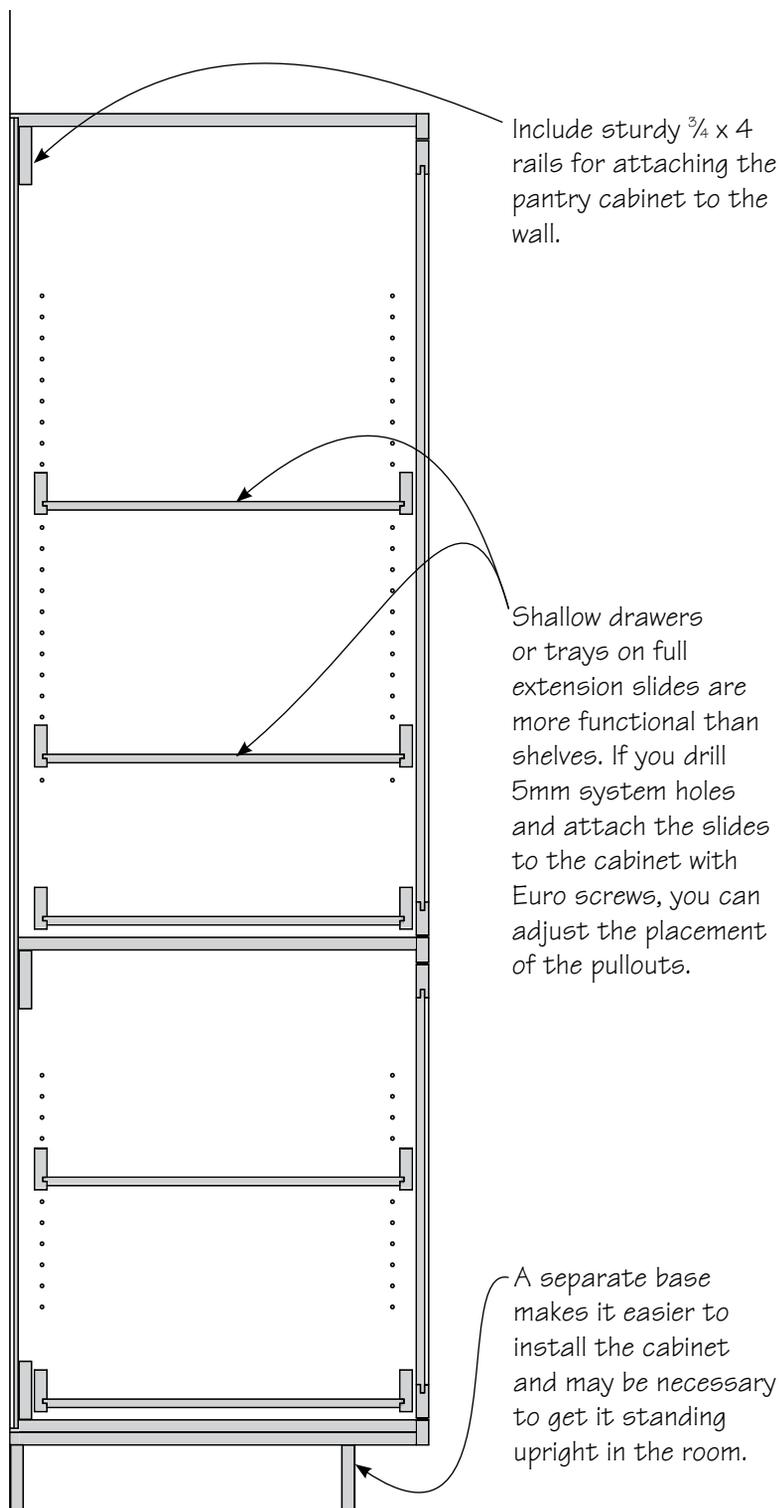


Figure 43. *Pantry cabinets carry a lot of weight and endure heavy use. They need to be especially sturdy and well constructed. Shop-made pull-out trays work as well as expensive pantry hardware and fittings.*

requirements to establish the overall size of the cabinet. It is also extremely important to consider what the oven needs to operate safely. Even though it obviously will need electrical power or a gas line, these are often forgotten until the appliance is installed, and someone asks, “Where do I plug this in?” There may also be requirements for venting, structural support, and attaching the appliance that can be missed early on.

The other critical dimension is the height of the cabinet, particularly if the cabinet goes all the way from the floor to the ceiling. You must have room to stand the cabinet up once it is brought into the room where it is to be installed. If there is a soffit that occurs above the cabinets, but not in the rest of the room, you probably will be able to stand up a full height cabinet and slide it under the soffit.

If there is no soffit, the cabinet should sit on a separate base, so that it can be stood erect, then lifted and slid back onto the base. If you’re taking this approach, there won’t be much room for error. One way to be certain is to draw a scale, or full-size elevation of the side of the cabinet, and take a diagonal measurement from the top front corner to the bottom back corner. If this number is less than the floor to ceiling height, you will have room.

Another solution is to make the box in two pieces, so that the top and bottom may be fabricated separately and then installed to form a complete unit. If one end of this is exposed, the horizontal joint will be hard to disguise. Here is a good place to use an applied end panel for the finished end.

Pantry

Pantry cabinets also go floor to soffit, or floor to ceiling, and the trend is to load them up with as many pullouts in as many forms as is possible. These are helpful in keeping items

HANDS-ON ADVICE FROM A MASTER WOODWORKER

Whether it's kitchen, home office, family room, or any other kind of built-in cabinet work, this classic technical handbook shows you exactly how to approach the complex job of designing and making custom cabinets. Robert W. Lang takes the mystery out of the job with clearly written text, meticulously detailed shop drawings, and sharp photographs that show how cabinets go together in the real world.

From the planning stage all the way through installation, *Bob Lang's The Complete Kitchen Cabinetmaker, Revised Edition* gives you a firm foundation for designing and building kitchen cabinets from scratch. This comprehensive handbook gives you the choice of building either traditional face-frame cabinets or contemporary frameless Euro-style cabinets. You'll benefit from practical and shop-tested methods and time-savers on every page.



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