

Hollows and Rounds

Making the most of a common pair of planes

by Graham Blackburn



A few of the author's hollows and rounds, a mixed bag bought over the years—some so recently that they have yet to be reconditioned. At far left is a pair of English planes with skewed irons;

at far right is a pair of side-cutting rounds. Unlike most molding planes, which are named for the shapes they cut, hollows and rounds are named just the opposite, for their profiles.

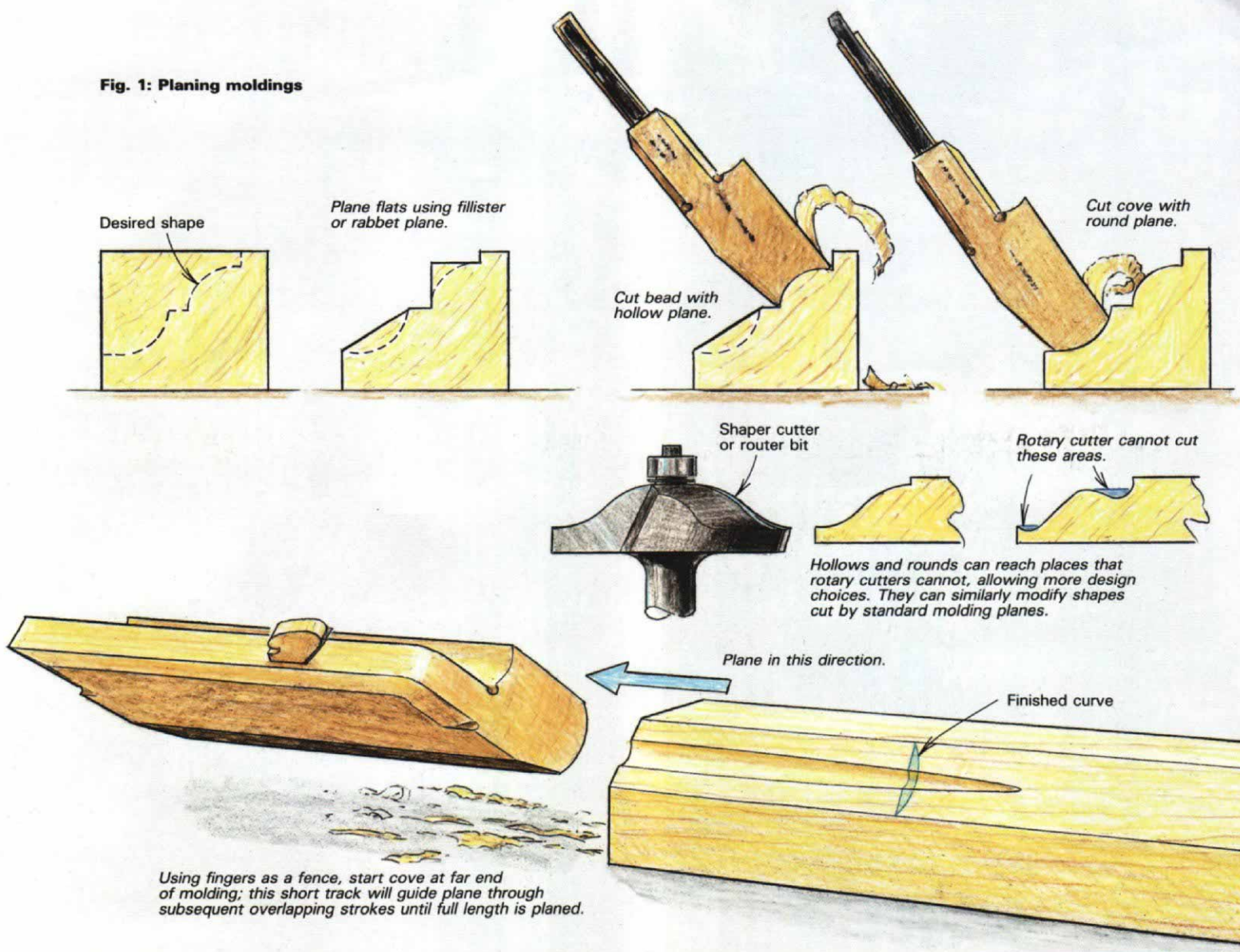
Of all the wooden molding planes that are still to be found in antique shops, at flea markets and at the back of many workshops, the hollow plane, and its mate the round plane, are among the commonest. They hardly appear at first glance to be among the most useful of tools, but their relative abundance is an indication of the important position they once held in many woodworkers' tool kits. I well remember, as a boy in England, seeing rows of them in my school workshop and watching with fascination as they were used for all manner of work. Today, more than 30 of them have a place in my own workshop and find frequent employment in my custom-furniture business. The photo above shows a good range of sizes, from a variety of makers here and abroad. While these are by no means a complete set of graduations, these are typical of what you might easily find for sale, and a selection such as this is sufficient

to accomplish most of the purposes I will discuss in this article.

Hollows and rounds are often represented as being the poor relations in the family of molding planes. While other molding planes—the ogees, the cavettos, the astragals and the beading planes, for example—all cut a distinct molding, the hollows and rounds are said to be used only in lieu of a more particular plane, in a makeshift effort to reproduce the desired molding. While it is true that hollows and rounds can duplicate moldings made by specialized molding planes, this is by no means their only job. They are also invaluable for completing and trimming moldings begun by more specific planes, for sculptural shaping, and for working hollow and round shapes in their own right—of which perhaps the crowning example is linenfold paneling (see *FWW* #36 or *FWW on Carving*).

Old books written at the time when machines were increasingly

Fig. 1: Planing moldings



replacing planes in the production of commercial molding, and when the fashion for moldings was decreasing anyway, often advise the beginner that hollows can be dispensed with by substituting flat-soled planes and sandpaper. This is roughly the equivalent, in today's terms, of suggesting that you don't really need to learn joinery, because everything ought to be put together with dowels or metal fasteners. In fact, a hollow plane could be your most useful tool when, for example, you need to round over edges. Rather than setting up a router, or being limited by the size of available roundover bits, reach for the nearest-size hollow plane. Draw the exact profile you desire on the stock and plane to the lines. You will find the hollow plane does not have to match the required profile exactly, as does the router bit; neither is it limited to a perfect quarter round.

Of course, if you have any kind of footage to prepare, a router is the method of choice. Yet even in this case, hollows and rounds can lend a hand, refining machine-made moldings and allowing the benefits of quick production without unduly limiting design choices.

Before we examine exactly what these planes can do, and how they do it, let's take a closer look at the variety of hollow and round planes you might find.

Varieties—The planes were originally sold in pairs of matching hollows and rounds, and numbered according to the width of the iron. Markings are not always consistent, but one of the most common systems in America was to number planes using even numbers only, from 2 through 30, for planes starting at $\frac{1}{4}$ in. and increasing by increments of about $\frac{1}{8}$ in. up to 2 in. In Britain, a frequent method was to sell sets of 18 pairs, ranging from $\frac{1}{8}$ in. to $1\frac{1}{2}$ in., rising by $\frac{1}{16}$ ths, and using both odd and even numbers—which also made possible the selling of so-called half-sets of nine pairs consisting of only the odd or the even numbers. You might also find the size stated as a fractional number, such as $\frac{4}{8}$, denoting a width of four-eighths, or $\frac{1}{2}$ in. Other numbers may refer to the manufacturer's catalog listing or a store code. Most planes are stamped with the manufacturer's name and address, and many are stamped with the owner's name, an obvious effort to keep the tools from wandering.

The most common arc for hollows and rounds is about one-sixth of a circle (60° of arc), but this will vary somewhat from one manufacturer to another. Therefore, you can't assume that by collecting a group of planes, made by different firms, stamped from 1 through 15, for example, you will have a graduated, fully matched set. Various manufacturers indicated the exact shapes

by charts of measurements, diagrams and printed tables. One manufacturer, the Ohio Tool Co., found it necessary, after having merged with another plane manufacturer, to publish two tables: one for their own planes and another for those of the company they had absorbed.

To complicate matters further, there are different kinds of hollows and rounds. The commonest sort by far have straight irons bedded at various pitches between 45° and 50°. (In general, the 45° planes are designed for softwoods and hence are carpenters' tools, while the 50° planes are for cabinetmakers working in hardwoods.) Then, less common, are planes with skewed irons, which are usually set at a higher pitch, around 55°. In addition, the overall family of hollows and rounds includes a number of specialty planes. I'll describe some of these briefly.

Planes with arcs comprising virtually one-quarter of a circle (90° of arc) are called table hollows and rounds, and are used specifically for cutting the two halves of a rule joint—by means of which drop leaves are joined to drop-leaf tables. The better quality table hollows and rounds were made with fences—unlike regular hollows and rounds—and this kind is the easiest to use when cutting rule joints. The lower grade, unfenced, table hollows are less easy to recognize—the clue is that both sides of the plane body, or stock, are beveled instead of just one. If you chance upon a pair (or even one) of table hollows and rounds, seize them, for they can be very useful in conjunction with regular hollows and rounds.

Yet another variety is the side round. This type can have a profile consisting of a quarter round or a half round and was made in mirror-image pairs, as shown in the photo on p. 81.

Lastly, there is a group of planes that, while not strictly hollows and rounds, nevertheless cut these shapes and so deserve mention. These planes, which often have wide bodies like bench planes, include such exotics as ship hollows and ship rounds, gutter planes, forkstaves and nosing planes. For those interested, all these tools are shown in R. A. Salaman's *Dictionary of Tools* (Charles Scribner's Sons, Front & Brown Sts., Riverside, N.J. 08075; 800-257-5755).

Plane shopping—Now that you know what to look for, what are you likely to find? There is a good chance of coming across matched pairs of planes, especially if you buy from knowledgeable dealers, who are unlikely to split pairs up. Occasionally a set of hollows and rounds will turn up, often in some purpose-made box or chest, and such a find would be a great pleasure. But do not think that a single plane is useless without the "rest of the set" or even its mate. It is up to you how many you collect, and use, just as it was to the original purchasers. Cabinetmakers, and those joiners who worked in shops rather than on-site, kept many more sizes and types than a carpenter would have carried around with him, and indeed manufacturers themselves were by no means in agreement as to how many planes properly constituted a "complete set."

I keep a list in my wallet of the particular sizes and arcs that are missing from my collection. But my main strategy is simply to pick up all that appear on the horizon and trade any duplicates with other woodworkers or interested dealers or collectors. I find it astounding that these tools can be bought for as little as \$7 to \$10 in the open marketplace, for surely they represent much more intrinsic value. For the price of a router bit, I can buy a tool whose working life is longer than my own.

When you look for a plane to use, I'd suggest that something from the middle of the size range will be best to start with; leave

the extremes until later. How to judge the serviceability, and if necessary how to effect some basic restoration, was dealt with in my earlier article, "Old Wooden Planes" in *FWW* #57, so I shall mention here just a few correctible, yet critical, points.

The profile of the edge *must* match the profile of the plane's sole, otherwise one of two things will happen: Either the high area of the iron will take a coarse shaving, leading to tearout in the cut, or, if the iron is lowered to take a finer shaving, the plane will bottom out after a few strokes and be unable to cut the full profile. In the days when hand tools were the mainstay, planes were properly maintained by their owners; but in the days since, inept sharpening by bunglers is likely to have changed the profile of the iron. When examining a plane, you should assess how much work it will take to grind and hone the iron to match the sole, until the iron can be made to project through the mouth of the stock the same amount across its entire profile.

If the wedge is warped, bent or split, you may have to refit or remake it so it supports the iron evenly against its bed. If the wedge is blunted, it may be necessary to angle and repoint the tip so shavings exit cleanly.

Secret weapons—It should be obvious that hollows and rounds can cut independent rounded-over profiles and coves of various sections. It follows that they can finish up and trim similar sections of other profiles. This use is extremely valuable because of the main inherent weakness of most molding planes—they can work in only one direction. Thus, they cannot be reversed if grain direction changes in the middle of the workpiece.

To minimize tearout due to changes of grain direction, molding planes are tuned to take extremely thin shavings, which requires many passes of the plane to finish the job. When possible, the bulk of the material is removed with other planes, such as a rabbet plane or a fillister. Aside from speeding the work, this has the added advantage of doing most of the job with a plane whose iron is easily resharpened. Yet despite paying the best attention to stock selection, some tearout may occur. The hollows and rounds are the secret weapons that can step in and clean up the work by going in the opposite direction. Without these, no set of molding planes is truly complete.

The side hollows and rounds have tight arcs and the fact that they are made in pairs makes them reversible. They will be found to be of great use, as will certain auxiliary planes designed for cleaning up quirks and fillets, such as side snipes and snipesbills, and various shaped side- and V-rabbet planes—but these planes take us beyond the present discussion. A little experimentation will amaze you with the possibilities that hollows and rounds offer in the realm of molding adaptation and duplication—try skewing them to alter the cut, for example.

As to which sizes work best for any given profile, preferences will vary with experience. To start with, the planes you own will dictate the shapes you can attempt, but improved skill will seem to make each plane capable of an increased range. At this stage, hollows and rounds can become an extension of your eye and your intent. They will then compete with the Surform and rasp for rough shaping of sculptural forms as well as being always to hand for delicate trimming of a variety of shapes. Last, but not least, the sound they make when properly tuned and used is infinitely preferable to the threatening whine of any machine. □

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