

# Making A Single Shot Rifle Pattern, Part 2

*The pleasing, classic lines of the Remington Rolling Block No. 2 are worth a hand-built stock. We complete the project in this final segment.*

by Dominick Pisano

In Part One we started building our Remington Rolling Block No.2 stock by creating the pattern. The pattern is now ready for machining. Depending on the skill of the person doing the pantograph work, the final product will be close to a slip fit. Final fitting is a matter of carefully scraping away high spots. Now is the time for precision work to get that hairline fit between metal and wood.

The forestock is next. I make these from scratch as they are fairly straightforward. The forend on most original single shot rifles was typically just a splinter of a thing. Not much there. I have found that my customers want a bit more hand filling forend, but not a god awful thing such as a beaver tail forearm or anything of that ilk. If you know

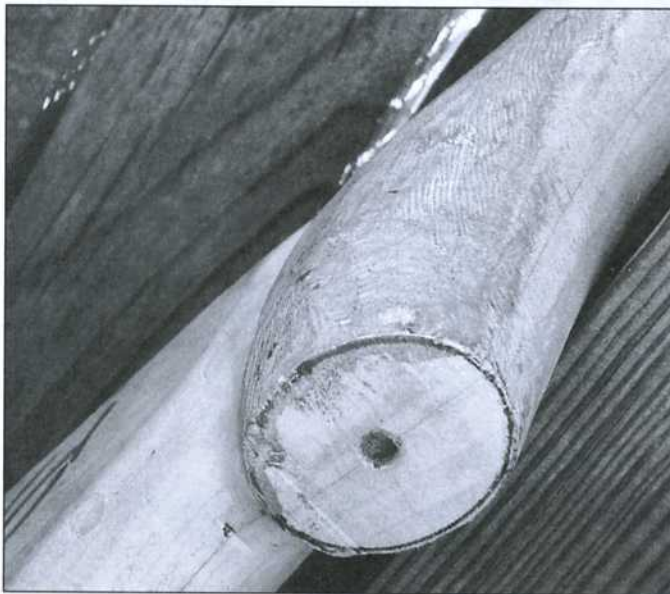
exactly what you want, go to work. If not, look at as many photos of the original forends on the particular rifle you are stocking and imagine what it would look like if it were just a little more hand filling and comfortable.

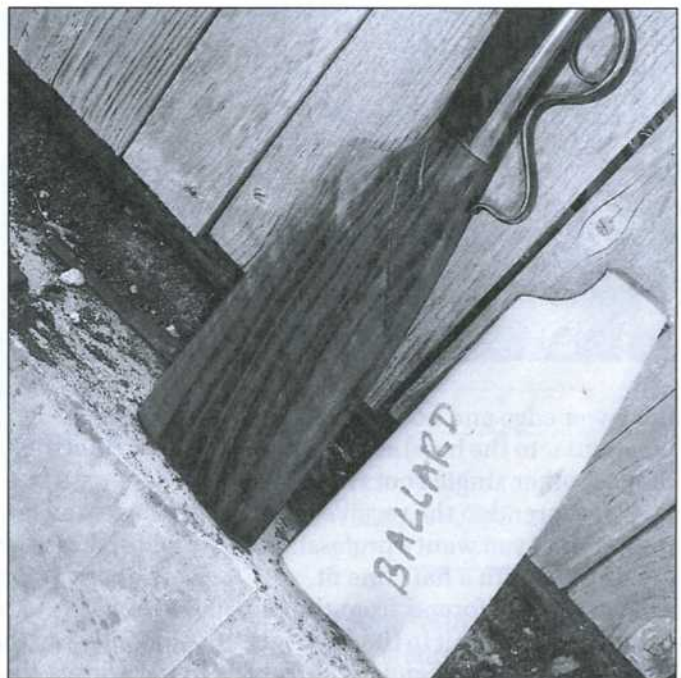
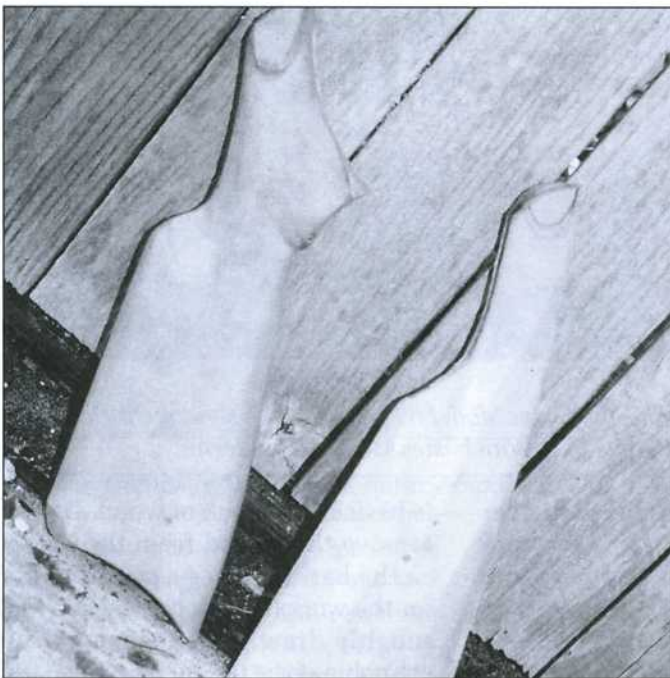
To begin, I square up the forend blank to 10 inches long,  $\frac{3}{4}$  inches wide and  $1\frac{3}{4}$  inches deep. To be on the safe side, measure the depth of the front of the receiver to be certain the wood is deep enough to accommodate with slightly more if you want a bit of perch belly. A good example of this can be found on the CPA Stevens 44  $\frac{1}{2}$ . Note how the bottom of the forend is a tad below the lowest point of the receiver face. I

determine which end of the forend blank will be the rear (i.e., next to the receiver) and which will be the top. This is important as a lot of wood will eventually be removed and I want to be certain that I take advantage of the best figure and color configuration in the blank. I then mark the blank so I don't get mixed up later.

With that accomplished, I find the center line of the top of the blank and trace it on using a straight edge. Then I carefully measure the barrel where it joins the receiver and divide the number in half. In other words, if the barrel measures one inch across the flats, mark the rear of the blank  $\frac{1}{2}$  inch on each side of the center line. Repeat this step ten inches from

*Below left: Palm swell on the DeHaas-Miller pattern, fit to the customer's hand. Below right: Two Rolling Block #2 patterns, one with pistol grip and one without.*





*Above left: Right side of Rolling Block #2 patterns. Above right: Ballard pattern and completed stock side by side.*

the receiver, marking the blank and carefully noting whether the barrel is tapered or not. I connect the lines and now have the barrel dimensions on the blank. Using a square I mark the front and rear of the blank so I can see the barrel width from each end. This is important as I use a router table to hog out the majority of the wood in the barrel channel and the wood is machined with the top down which obstructs the lines previously drawn on the top of the blank. If you do not have access to a router you can then carefully chisel out the barrel channel by hand. Be careful to keep the inside straight and square to fit the side flats of the octagon barrel. Sharp chisels are a must for this work. It's bit more labor intensive but you can do a better job this way if you take your time.

The Rolling Block #2 has an octagonal barrel with a slight taper. Routing the barrel channel requires a 45 degree bit and a straight-sided bit with a flat bottom. I carefully set up the fences on the router table, taking into account the barrel taper. I set the 45 degree bit in the router and line it up visually from each end, confirming that I correctly set the infeed and outfeed fences. I make no effort to cut

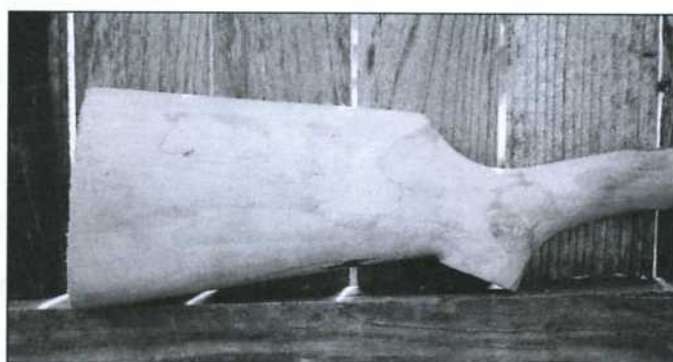
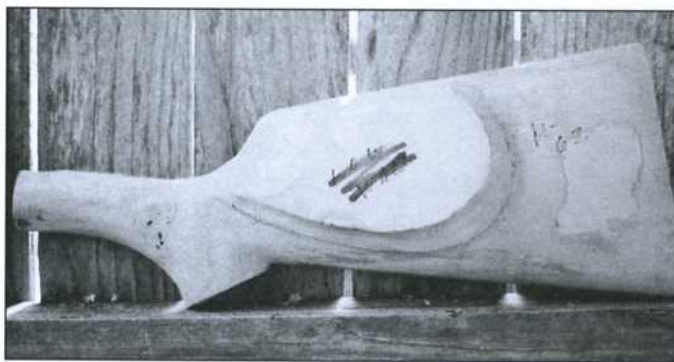
to the line previously drawn on the top of the stock because I want to end up with a barrel channel that is 1/16 inch smaller than the barrel. That gives me 1/32 inch on each side of the barrel channel for the final fitting to be done by hand. Smaller is better in this case. It's too easy to make a mistake and wind up with a too wide barrel channel. Yes, I have done it. That's how I know!

Now I lower the bit to make a test cut and allow a small amount of wood to be removed. Walnut is very hard and it's easy to burn the bit if you try to take too much off all at once. If I am satisfied all is well I run the wood through several times slowly, raising the bit a little for each pass until I am about 1/16 inch above the mid line of the side flat. Repeat this procedure for the other side of the channel. All that is left to do is to make the bottom flat in the barrel channel. For this I use a flat-bottomed straight bit of appropriate diameter. When I'm done with the router I have what appears to be a perfect barrel channel, except that it won't fit since I left a bit of excess

wood that has to be removed for the final fitting.

To do this I first remove the sights, forend lugs, etc., from the barrel. This makes for a clean barrel except for the dovetail cuts. I then place the routed forend on the top of the barrel, well forward of the receiver. By use of marking agent, begin the removal of excess wood from the barrel channel, slowly moving the forend rearwards towards the receiver. I use files and rasps as well as abrasive paper backed by a small flat block of wood and slowly work away the excess wood. Try and fit, try and fit until the rear of the forend abuts the top front of the receiver. Now the forend is perfectly fitted to the barrel, but not to the receiver.

While it may seem strange, I prefer to work on the top of the barrel because I fit the forend in two separate and distinct steps. The first step is to get a perfect fit on the barrel and the second step is to get a perfect fit against the receiver. I do better work that way. This is more evident with the RB #2 because the front of the receiver is curved forward toward



*Above left:* Left side of Winchester Model 62 pattern with shadow line cheek piece. *Above right:* Right side of Winchester Model 62 pattern.

the lower edge and not flat (i.e., perpendicular to the bore) as is the case in most other single shot rifles. The fit of the forend to the receiver is all important if you want a professional looking job with a hair line fit.

Remove the forend from the top of the barrel, place it in the vise right side up and fit the forend to the front of the receiver. The front of the receiver gracefully curves forward from the top to the bottom, giving the action a very attractive look. The bottom of the forend is the only place that is touching the receiver. To make fitting easier I now measure and then remove excess wood from both sides of the rear of the forend in a slight concave flair from a line drawn roughly three inches—an arbitrary measurement that works for me—in front of the receiver with files and rasps. I do this on both sides of the stock until the wood is about 1/16-inch strong on the sides of the forend where it meets the receiver. I take some effort to make these side flairs identical.

I do the same thing on the bottom of the forend, except this time the flair is convex. I work to fit the forend to the receiver using a variety of diamond and carbide rotary rasps in a Dremel tool making use of the spotting-in technique to identify and rasp away the high spots. If you are not adept at using the Dremel be careful and work slowly as it can get away from you. Since the barrel is already just about a perfect fit, this operation will go faster than you think. You may need to remove wood from the inside of the channel

as the forend is being moved further and further to the rear and the widening barrel taper must be taken into account.

Gently rap the front of the forend back against the receiver to be sure to get good impressions but don't overdo this as you don't want to split the forend. Once I'm satisfied that I have as good a fit as I can get, based on a clear outline made by the marking agent of the front of the receiver to indicate this, I replace the forend lug and inlet the lug into the forend. Then I deliberately and thoroughly mar the inside of the barrel channel just below the top of the forend to provide more surface area for epoxy. I use both small diameter rotary rasps and chisels to do this. The epoxy provides strength and waterproofs the interior of the barrel channel. Done properly, the epoxy will not be visible on the completed forend. I wax the barrel and the receiver where there is the slightest possibility the epoxy will flow so that the forend may be removed when the time comes. Apply the epoxy generously to the barrel channel and set the forend in place using a couple of C-clamps to hold the forend tightly against the barrel. Use a longer clamp to pull the forend back tightly against the receiver to ensure a tight fit and let the epoxy set overnight.

Now comes the fun part of shaping the forend. Except for the rear end against the receiver the forend

is basically a block of wood. Do not remove the forend from the barrel as the barrel makes a good handle for the work (fun) to come. I start by roughly drawing the shape of the schnoble at the tip, then I reduce the wood as close to final dimension just back of the schnoble area using half round and round rasps. If you are not familiar with making schnoble tips, keep a photo of the style you prefer and refer to it often. This gives two reference points to work from. The reduced area behind the schnoble and the shaped area in front of the receiver.

Draw the shape of the belly of the forend on to the forend and begin removing wood until you have achieved a gentle smooth curve from the receiver to the area behind the schnoble using the previously-drawn line as a reference. It's also a good idea to draw a center line on the bottom of the forend to ensure the forend is symmetrical. This line must be re drawn from time to time as wood is removed. Step back occasionally to be certain that everything looks right. I can not over emphasize this!

Now I do the same thing on both sides of the forend, first working down one side then the other. I make every effort to keep things symmetrical. Continuously drawing a center line on the bottom of the forend helps particularly if the wood is well figured. Figure of the wood can create an optical illusion



**Above:** Completed stock for a Rolling Block #2. This one has the pistol grip.

and throw one off. There's a lot of wood to be removed and I use any and everything to do that, such as course rasps, shurplanes, etc. Remember to step back from time to time to be certain everything looks right. When this step is complete you'll have what sort of looks like a forend but has what appears to be a box on the front end. We are saving the shaping of the schnoble for last.

Before starting on the schnoble I fit the forend to the barrel using an appropriate sized screw and escutcheon. I set the escutcheon deliberately about 1/16 inch below the surface of the wood so that I can clean up scratches and gouges during the final shaping and sanding. This attachment will further aid in controlling the forend during the shaping of the schnoble as I will be working my tools every which way.

The final operation to shaping the forend is the shaping of the schnoble. First I determine the shape of the schnoble that I feel is most appropriate to the rifle, in this case the RB #2. Since the action is smallish as single shots go, my desire is to shape a forend that flows smoothly from the receiver to the forend tip and looks like a part of the whole, rather than some appendage hung on the bottom of the barrel. The schnoble I have in mind will be small and refined looking. It is difficult for me to describe exactly how I do this because this comes as close to wood

sculpture as any other wood shaping job. Having previously drawn the schnoble shape on the forend, I now begin carefully removing wood using small half round rasp, rat tail files and any other tool to make this work go smoothly. I repeat, step back and look at your progress from time to time and from all angles to be certain you are creating the shape you want.

Although I have done literally dozens and dozens of these I always discover that I wind up with the schnoble larger that I want it to be. This is especially evident if I set the job aside and come back to it the next day. I often discover the entire forend is too large, so I carefully remove more wood making certain that all the lines flow together creating an eye-pleasing effect.

Once I'm comfortable that the forend is perfectly shaped, I carefully sand it using progressively finer abrasive paper up to 220 grit. Preserve the sharp edges at the top of the forend as you sand it down until it's at the barrel flat half way mark. Also preserve the carefully delineated lines that make up the schnoble. Sand the bottom down to the escutcheon until it's flush with the surrounding wood. Remember we set it about 1/16 inches below the wood surface. Relieve any sharp comers resulting from this operation until the forend is comfortable to the hand. **AG**

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