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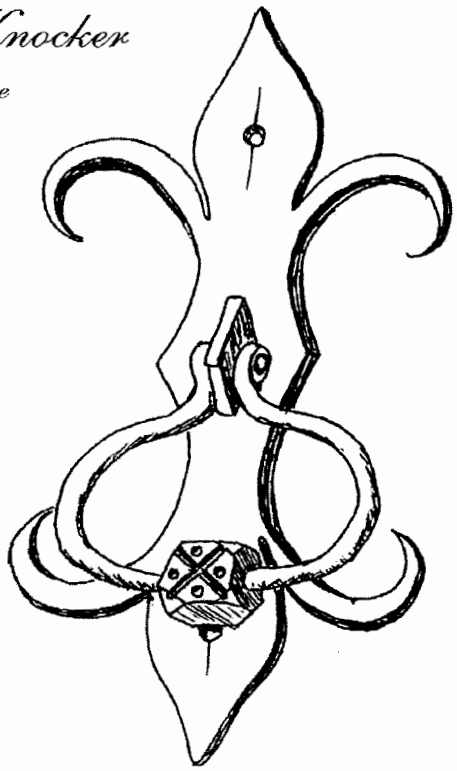
Bob Patrick's Fleur-de-lis Door Knocker

May 2006 Demonstration ~ by Steven Spoerre
Michigan Artist Blacksmiths Newsletter

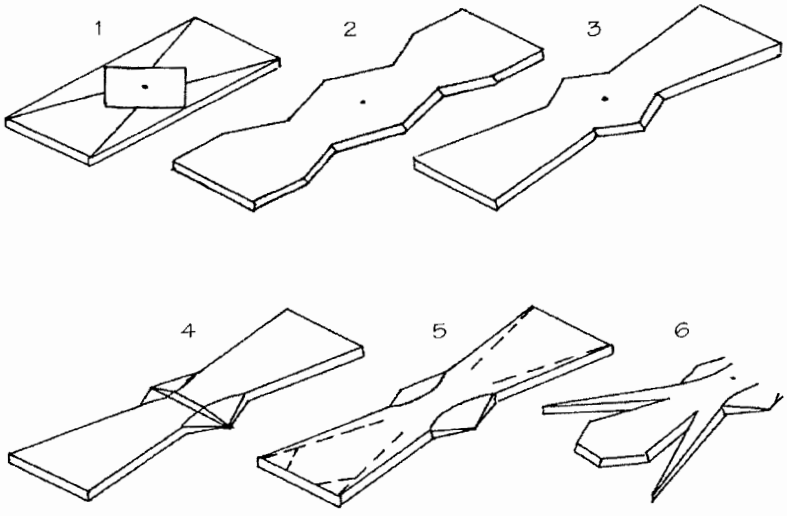


Bob Patrick started blacksmithing and metalwork around 1957 and began as a restoration blacksmith at Hale Farm and Village in 1967. He taught blacksmithing at Kent State University in the Metals Department of the Art School. He has a certificate in horseshoeing from Midwest Farrier School. In the 70s and 80s, he demonstrated at the Frontier Folklife Festival in St. Louis under the Arch. He has been the Master Blacksmith for the State of Missouri in their Cultural Heritage program three times and demonstrated at chapter conferences all over North America. In 2002 he received the Alex Bealer Award. He presently runs his own blacksmithing business from a home shop outside Everton, Arkansas, in the Ozark Mountains.

The traditional fleur-de-lis pattern used in this door knocker represents a stylized lily composed of three petals, bound together near their bases. This door knocker combines many blacksmithing skills: drawing out, slitting, tapering, punching, welding and riveting, so it is a wonderful demonstration piece. The final challenge is to keep the elements symmetrical.

Fleur-de-lis Back Plate

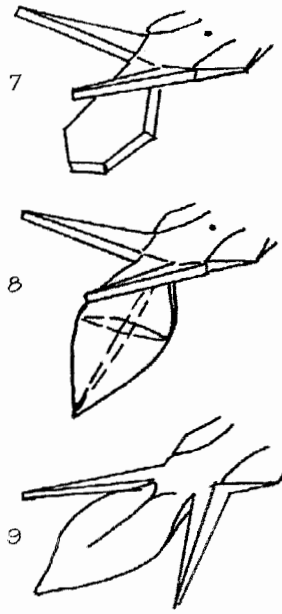
1. Chalk outline on a 1½" x ¼" x 5" piece of steel.
2. Roughly hammer out the shape, distributing the metal where it will be needed later in the project.
3. Forge a diamond boss in the center.
4. Hammer down the points of the diamond. Refine the center area to the desired shape.
5. On cold metal, chalk the layout lines for the petals and the comers to be removed. Using a cold chisel, score along the chalk lines.
6. Heat the end and split the outer petals away from the center. Remove the triangles at the end of the center petal.



Fleur-de-lis

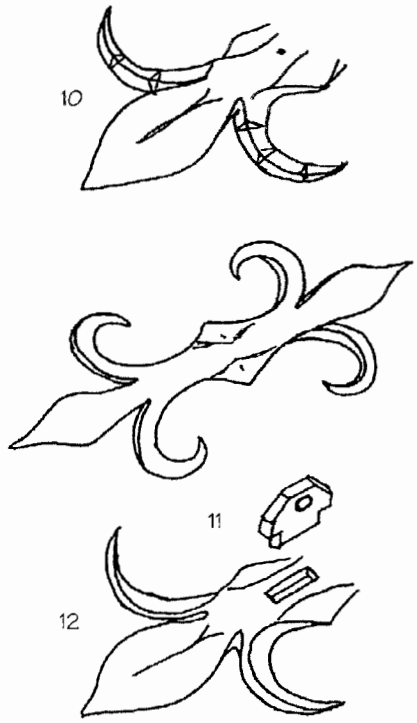
7. Bend the outer petals up and the center petal down. This allows room to work on the center petal.
8. Draw out the point, maintaining the material thickness in the middle of the petal and thin out the material to the edges. Round and refine the shape, keeping it symmetrical.
9. Return all the petals back to their original position. Bevel the outside edge of the outer petals.
10. Work symmetrically on the outside petals. Curve outer petals away from the center, then bevel the inside edges.

Repeat these instructions on the other half of the stock, keeping it all symmetrical, petal for petal. Watch the ends of the outer petals while you continue working. They are small and could burn up.



Knocker Pivot

11. Punch a rectangular hole in the center of the back plate for the knocker pivot. Punch the rectangular hole from the back of the plate first because it will be wider and the rivet head can be filed smooth to mount against the door. After one or two blows check the position and trueness of the punch. If everything is true, continue punching from the back. Finish punching the hole from the front over the vise jaws that are slightly opened versus working over the Hardy hole. This supports the long edges of the rectangle.
12. On a scrap piece of iron, punch another rectangular hole, the same size hole as the back plate. This will be used as a monkey tool for the tenon on the knocker pivot. Using a piece of ½" square stock for the knocker pivot, flatten the stock and form a tenon to fit through the monkey tool hole. True up the tenon in the monkey tool. Come down from the *front* side over the Hardy hole. Cut the knocker pivot off the parent stock. Dress up and round comers off while in the monkey tool. Punch the pivot hole for the knocker pin. Bring the tenon on the pivot to a high heat. Clamp piece in the vise, tenon up. Place the back plate over the tenon, face down and rivet together.

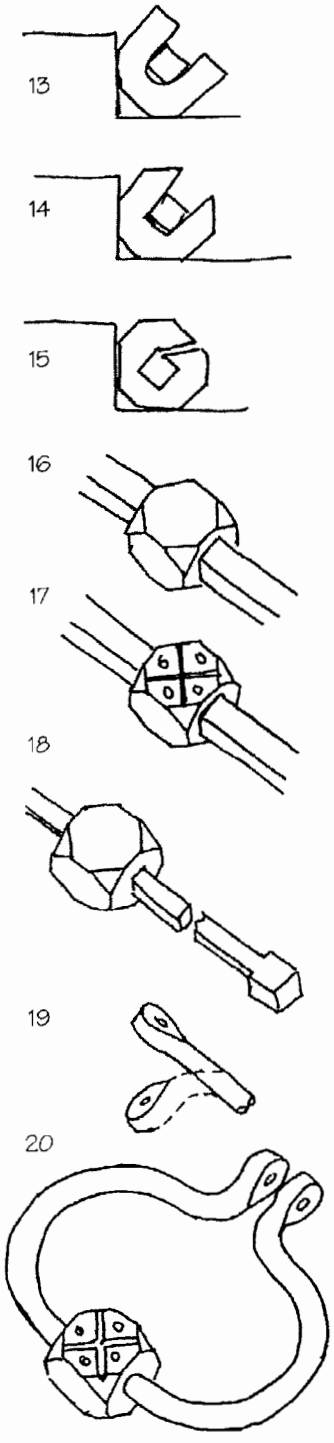


Fleur-de-lis

Knocker

You will need two pieces of ½" stock, one for the knocker arms and the other for the knocker ball decoration. The traditional size should be wide enough for three gloved fingers to fit. Estimate the length for the arms. Then determine the length of stock needed to wrap around the ½" stock – to become the ball on the knocker.

13. Heat and bend the short stock into a U. Place U against the step of the anvil, and drive the centered cold ½" bar stock into it.
14. Reheat and strike blows on both sides of the U.
15. Close it around the bar. Flux; heat to welding temperature and forge weld in the anvil step. Stick the ends and roll the bar around while hammering. Refine the edges at a high heat. Forge on the top of the anvil to the desired shape at a high heat so the welds won't split open.
16. Forge into a cube shape, and then flatten/break corners from the top and bottom.
17. Dress to final shape and decorate with punches and fuller. Trim lengths of stock on both sides of the cube to be the same length.
18. Draw out the knocker arms over the horn or Hardy hole. Leave a ½" cube mass at the ends to become the *coins* on which to hang the knocker. Forge the arms square, then octagonal, then round. Flatten and round the coins on the ends of the arms, keeping stock symmetrical.
19. Punch holes in the center of the coins, and bend perpendicular to the decorated face. The coins need to be positioned at right angles to the decorated side of the ball.
20. Bring ends together to the width of the center pivot piece. True up the coins, working to position them at a proper distance to hang on the pivot. Reorient the decorated face on the ball; check the curves on the arms. Make final adjustments to center the ball.



Bob wants the knocker ball to hit on the mounting screw head. Punch mounting holes into the top and the bottom center petals of the fleur-de-lis back plate. Straighten up. Cut a rivet to length and rivet the knocker onto the pivot.

Every surface, every bit of stock was *forged.* Every step of the way it was wonderful to watch Bob Patrick work. Thanks, Bob. ♣