

PHOTOS BY JACK BURGESS

# Modeling Barbed Wire

With monofilament fishing line, you can fence in those open ranges on your layout/**Jack Burgess**

**B**arbed wire was first successfully introduced commercially in 1873. Its introduction spelled the end of large, open range lands and quickly became common, especially throughout the West.

While the Rock Quarry produces a quarter-inch scale version of barbed wire, no such product is available for HO scale. When I recently decided to add a typical, fenced grazing area alongside the mainline on my Yosemite Valley Railroad, the first task was developing a method of reproducing barbed wire.

The method which finally evolved involves using monofilament fishing line as the wire and adding knots to duplicate the "barbs." The fishing line I selected is .005" in diameter; knots were added using the jig shown in Figure 1. This simple jig consists of two pins, one as simply a position indicator and the second inserted point side up. The jig insures that the knots will be spaced evenly throughout the length of line. While prototype barbs are spaced on approximately 4" centers, they can be spaced further apart on the model without loss of realism, since both the knot and wire are considerably larger than a prototype barb. My fence uses barbs

approximately 24" (scale) apart.

The jig is locked in a vise and one knot held on the "positioning" pin. An overhand knot is started adjacent to it. The overhand knot is slipped over the second pin and pulled tight. Because of the slipperiness of the monofilament line, the knot will automatically be drawn into proper position respective to the first knot. This operation is continued until sufficient line is produced for the length of fence desired.

Typical barbed wire fences are typically 4'-6" high and consist of either three or four strands spaced 10"-16" apart; limiting the fence to three strands rather than four helps to disguise the oversize materials.

Fence posts are constructed on the prototype from both metal "T-bars" or wood, either rough finished 4"×4"s or unfinished tree limbs. To coincide with my 1939 time frame, I chose 4"×4"s for my installation. T-bar posts come pre-painted red with white tops and can be duplicated from ABS plastic structural shapes.

For my wood posts, scale 4"×4"s were cut to approximately 7'-0" long and roughened and prestained. A single No. 80 hole was drilled at each strand location in each post

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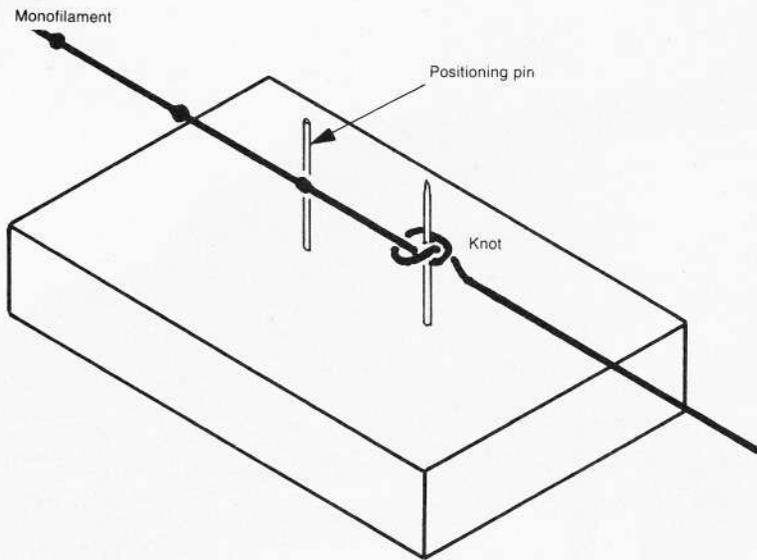


Fig. 1

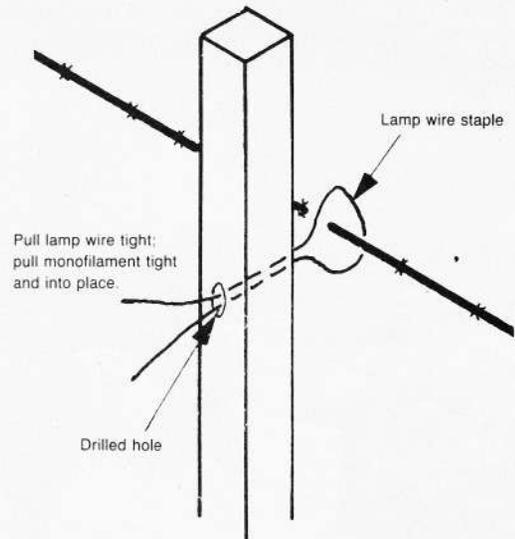


Fig. 2

Artwork: Jack Burgess  
Not to scale

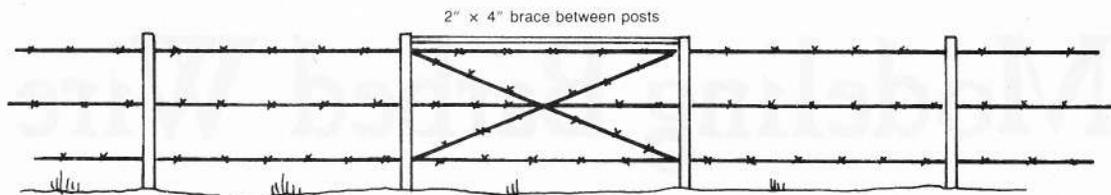


Fig. 3

Push-pull section

and the post installed in predrilled holes held in place with white glue in the completed scenery with approximately four feet between the top of post and ground line; posts were installed on 12-15 foot centers. A length of stripwood with a pencil mark was used to insure that all posts were installed to the same general height above the ground line.

The "barbed wire" monofilament line was attached to the installed post as shown in Figure 2. While I considered simply bonding the "wire" to the post using ACC, I didn't feel that it would have enough holding strength when used in combination with the rough, unpainted post. Therefore, short lengths of stranded lamp wire were slipped around the "wire" and through the appropriate hole, pulled tight and fixed with a drop cyanoacrylate, forming a "staple." The excess lamp wire was then snipped off with flush cutting wire cutters.

Keeping the barbed wire tight during installation is relatively important, since the final wire will not assume a realistic sag as often seen on the prototype. In order to maintain tension, begin at a metal post and fix all three strands in

place. Then, move to the next post, pull the lamp wire staples tight, pull all three strands of barbed wire tight, and bond all three in place. If necessity requires individual strands to be tightened one at a time, start at the lowest strand so that ACC will not migrate down the post and prematurely lock a strand in place not under tension.

Additional lengths of barbed wire can be spliced at posts by slipping both strands under the staple before bonding. Starting the second strand with a knot will prevent it from slipping.

After the ACC has dried, the wire can be brushed painted. I chose Floquil Antique Bronze, dulled after drying with rust-colored pastel chalks.

Several details can be included in modeling barbed wire, all of which add to the realism. Pull-post sections, in which the top and bottom strands are alternated to form a crisscross section, are located every 1,000-1,300 feet on the prototype and at corners and are shown in Figure 3. "California gates," simple gates constructed of barbed wire and small-diameter posts, can also be included.