



PHOTOS BY THE AUTHOR

Board-for-board construction

A better way to use this time-honored technique/**Jack Burgess**

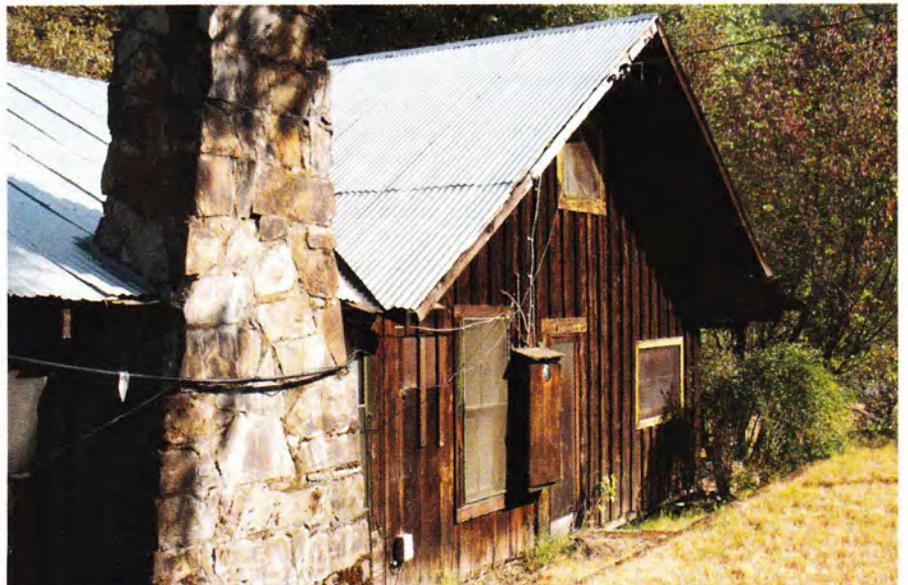
I have been a devotee of scratch-building with styrene for over 30 years. My rule is that if I'm scratch-building a model of a painted prototype, whether a building or a freight car, I build it from styrene. I have a few buildings on my Yosemite Valley Railroad layout that duplicate unpainted structures, and these have been scratchbuilt from wood. Such buildings are always built board-for-board, rather than using scribed wood siding. If a building will have a visible interior it features fully built-up walls complete with studs and sills. However, a simpler approach can work for models that

don't have visible interiors but still need a board-for-board exterior.

I recently decided to finally build a model of Jim Law's house. I first met

Jim Law back in the late 1960's. Jim began working for the Yosemite Lumber Company around 1919 and eventually became a foreman on the

The author's HO scale model of his friend Jim Law's house basks in the sun along the Merced River, just as it still does in real life. Although the model features board-for-board construction, it was a quick and easy scratchbuilding project. The prototype was photographed and measured in the summer of 2008. The variations in the weathering are fascinating. Some parts of the building were constructed after the date the author models, so were omitted.





8,300-foot logging incline that extended from the YVRR station at Incline up the ridge to Trumbull Peak. The Yosemite Lumber Company built the incline through the winter of 1923-24. In 1924, they also built a house for the logging superintendent at the bottom of the incline.

When the logging company closed down in 1942, Jim Law purchased this

house from the lumber company for \$1.00 and lived there for the next 50 years or so. Before he passed away around ten years ago, I spent many enjoyable hours talking to Jim, either out on his lawn along the nearby Merced River during the warm summer months or around his kitchen table during the winter months.

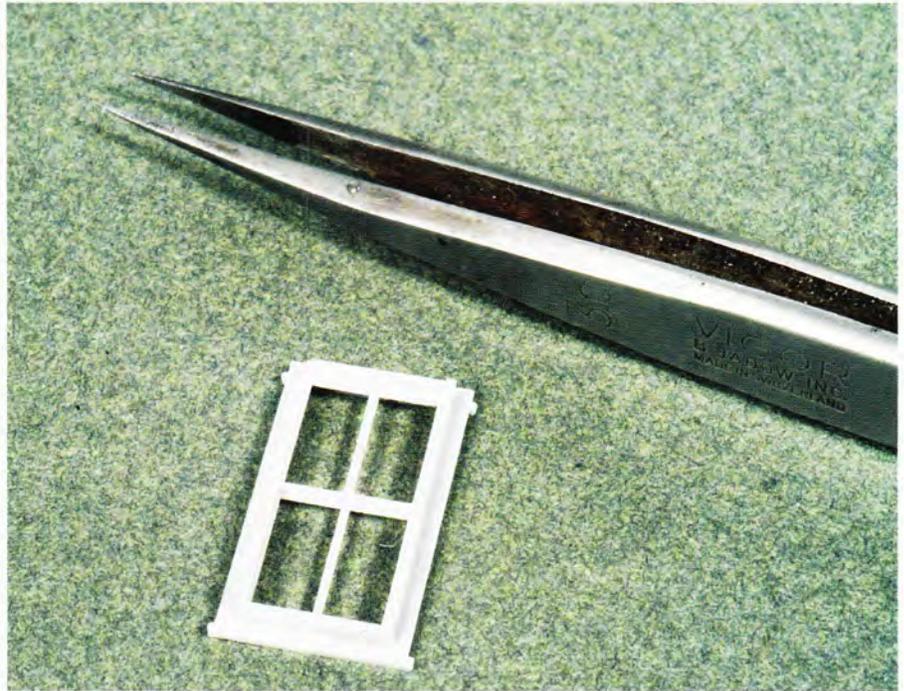
Since Jim's house was only 50 feet or

so from the YVRR mainline, it was always on my list of buildings to scratch-build. Years ago, Jim told me many changes were made to the house after he bought it, including converting the garage into a kitchen and adding a porch to the side overlooking the river. This past summer I took an hour or so to measure the portion of the house that is still original and made up a



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Spacers made of .020" styrene were glued to the back side of the Grandt Line window and door castings (*near right*). These spacers, together with backer pieces of styrene glued to the inside of the building, allowed the windows to be set out from the surface of the styrene building shell to clear the stripwood siding pieces added later. Scraps of styrene were next glued around the inside of the window openings as backer pieces. Scribed styrene was also used for the roof (scribed side down) since the underside of the eaves and porch would be visible when the model was installed on the layout (*right center*). The exterior view (*far right*) shows how the window castings project from the wall, leaving the space behind their molded-on trim. The eaves, doors and windows were painted using an airbrush prior to installing the pre-stained stripwood siding pieces.



rough sketch of the building.

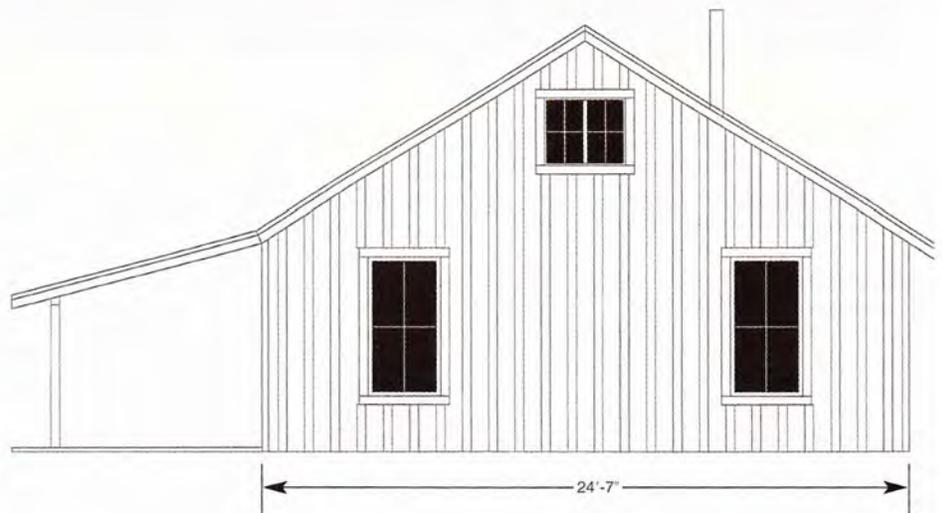
Over the years the unpainted, board-and-batten exterior on Jim's house had weathered to a beautiful patina that accented the subtle variations of the original wood. The window and door frames were obviously painted green at one time (although some have since faded to a shade of yellow), providing a beautiful contrast with the siding. I also needed to keep in mind that I would be modeling the house as it was in 1939, when it was only 15 years old and in better condition. In addition, while individual boards and battens would still be essential, I wanted to use Grandt Line castings rather than scratchbuild the windows and doors.

In the past I've built individual board-by-board structures without windows by making a styrene substructure, then gluing pre-stained boards to it. Since I wanted to use styrene castings for the windows and doors on this building, I needed a slightly different approach.

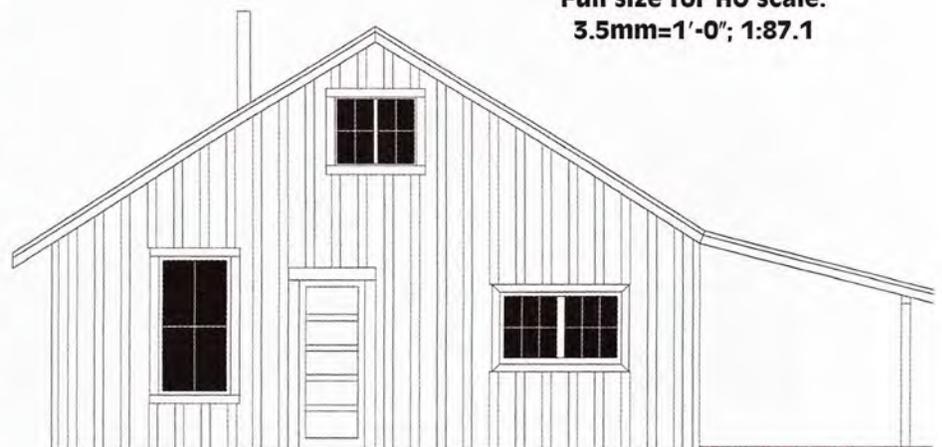
I started by laying out the four sides of the building on .040" plain styrene, cutting out the sides and the openings needed for the various windows and doors, then assembling the sides and roof to form the basic building.

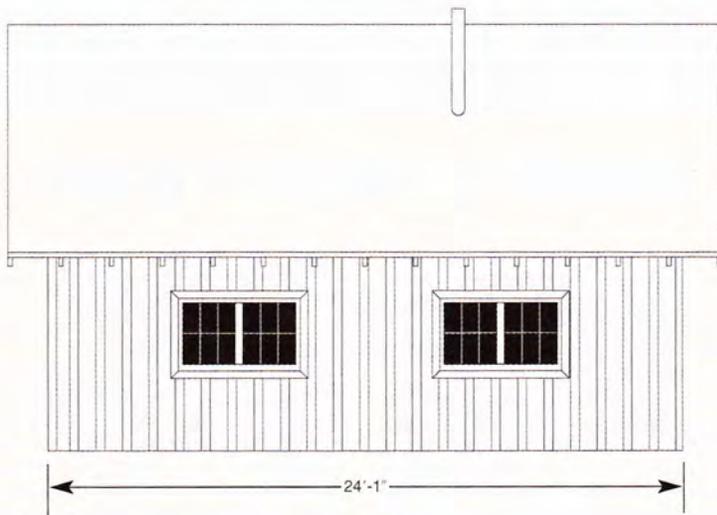
In order to add the window and door castings to the styrene shell before adding pre-stained stripwood, these styrene castings needed to be installed in the building so they stood out from the surface of the styrene sub-wall. My idea was to glue the windows in place before sliding pre-stained stripwood under the molded-on trim around them. Since window and door castings are typically glued in place with the trim flush with the exterior wall, I needed a way to glue them in place with space under the trim for the stripwood.

I planned to use scale 1" x 12"s for the siding planks. Cutting the window



Jim Law's House
Full size for HO scale:
3.5mm=1'-0"; 1:87.1





openings to match the “glass” size of the castings, then gluing them directly to the surface of the shell wouldn’t work since the castings would then stand out too far from the building wall. Instead, I needed to glue the castings inside a normal-sized opening in a way that would allow them to project out from the shell.

Through trial and error I determined I first needed to glue spacers made from .020” styrene strips (I used scale 2”x4”s) to the inside of the window castings, as shown in the construction photo. The thickness of this spacer would be dependent on the styrene castings being used and the siding thickness. Next, a scrap piece of styrene was glued as a backer to the inside of the building along one side of the first window opening. I used some leftover .020” thick scribed siding for this step. Again, see the photos. This first backer piece needs to be square with the building and slightly overhang the window opening since the back of the window casting will be glued to it.

When this backer piece dried, I inserted the window in the opening and lightly glued the back of the window to the backer, making sure it was square and plumb. If the spacer is the proper size a board should be able to slide under the window trim on the outside and be a snug fit.

When everything looked good a second backer piece (more scrap styrene) was glued to the the opposite side of the window opening inside the building, flush with the other edge of the window casting. This side of the window can

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now be glued in place, completing the process. Keep in mind that all this is more difficult to describe than execute. The construction photos should help to understand the simple steps.

Once all of the doors and windows were in place I airbrushed them with Floquil Light Green. I also airbrushed the eaves and undersides of the roof and porch with Floquil Brown.

I used scale 1" x 12" stripwood for the boards and 1" x 4"s for the battens. I started with 12" long pieces and stained them with Minwax[®] Provincial stain. The stripwood for the porch was stained with an ink and alcohol mixture and later highlighted with Doctor Ben's Aged Driftwood weathering solution to provide a contrast with the building itself.

Thin cyanoacrylate was used to attach the boards to the styrene substructure. I cut the pieces a little long so they could be trimmed to length afterward. For the gable ends I cut one end of each piece of stripwood on an angle to match the peaked roof. Also, before gluing any boards in place, a pencil line was drawn on each side to make sure the first pieces would be square to the sides. Working from the center out toward each edge minimizes any problems with keeping the boards square and plumb on the wall.

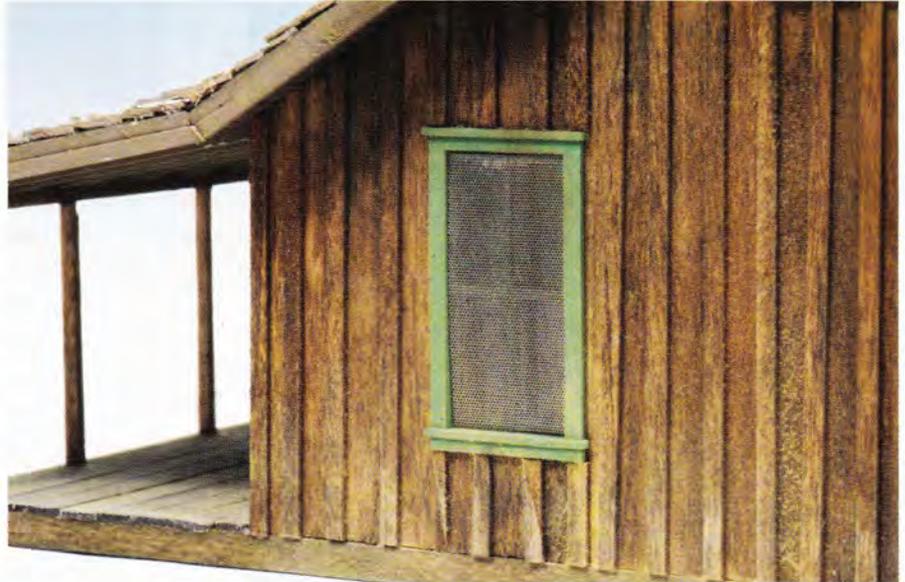
Thin cyanoacrylate works very well for this step—just hold the piece in place and add a drop of cyanoacrylate on the sub-wall alongside the board. Capillary action will pull the adhesive under the board, bonding it in place. The thin cyanoacrylate cures almost instantly, making the process go fast. As you add the boards, you need to work around the windows and doors, fitting pieces in as needed.

After all of the boards were glued in place on one side I turned that side face down on the workbench and trimmed off the excess length of the stripwood using a sharp No. 11 blade. A number of light passes works better than one pass.

The battens were added in a similar manner, being careful to avoid excess cement along the edges.

After all of the boards and battens were on, I added some variations in the basic color of the walls by brushing some Minwax Red Oak stain under the eaves, as well as lightly sanding some of the bottom boards to replicate water staining and bleaching. Airbrushing a coat of Testors Dullcote over the building to cover some gloss spots left from the cyanoacrylate finished the walls.

I used Paper Creek "wood" shingles for the roof of the building, then added window screens using some photoetched, stainless steel military computer glare screen material I found many years ago



Pre-stained stripwood was easy to add by sliding the pieces under the trim on the castings. The window screens (modeled with etched stainless steel) are a nice touch.

at an electronics surplus store.

I then weathered the building heavily with pastel chalks, fading the painted window and door frames and adding

more variation to the stained stripwood. The building was then ready to be installed on my layout in memory of my long-time friend Jim Law. ☞

Installing support posts

Jim Law's house sits on a sloping bank overlooking the Merced River. Because of this, my model also had to be fitted to a similar area on my layout, which resulted in one side of the building resting directly on the ground and the opposite side on posts of varying heights. These posts needed to match the floor joists that were added to the model during construction to accommodate the porch, but it wasn't practical to glue pre-cut posts to these joists before installing the building on the layout because the ground slope varied too much.

The fact that the building is right next to the edge of the layout and at eye-level also meant that I needed to model not only the posts along the perimeter of the building, but also the posts further under the building. I needed a way to bury the posts in the scenery correctly spaced for the joists with all of their tops at the same elevation. Once that was done, I could then glue the building to the posts.

To accomplish this, I first cut a piece of .125" thick clear acrylic to match the size of the building. I turned the building over and held the acrylic against the floor joists and marked the post locations on it using a fine, felt-tip pen.

I planned to use 10"X10" stripwood for the posts, and they had a diagonal dimension of about 0.162". I therefore drilled

through the acrylic at each post location with a No. 19 drill bit, which has a diameter of 0.166". Using a drill press to make these holes ensured they would be perpendicular to the acrylic.

Next, I positioned the acrylic template on the layout where the building was to sit, made sure that it was level, and drilled through the template and into the scenery plaster with the same No. 19 drill bit. After vacuuming up the plaster dust, I put a drop of white glue in three of the holes around the perimeter of the foundation and inserted extra long, pre-stained pieces of 10"X10" stripwood in each, pushing them all down at the same time with another piece of acrylic while holding it level.

After confirming that all three of these initial posts were touching the acrylic and that the acrylic was level, I let them dry in place. This set the elevation for the posts.

When they were dry I installed the remaining posts at the same elevation as the initial posts. I put a drop of glue in each of the remaining holes and inserted the extra-long posts. I then used the same piece of acrylic plastic to push all of the posts down until the acrylic rested squarely on the initial three posts.

After this I spread soil around the posts and under the building, bonding it in place with diluted white glue. The building was then glued to the posts. ☞