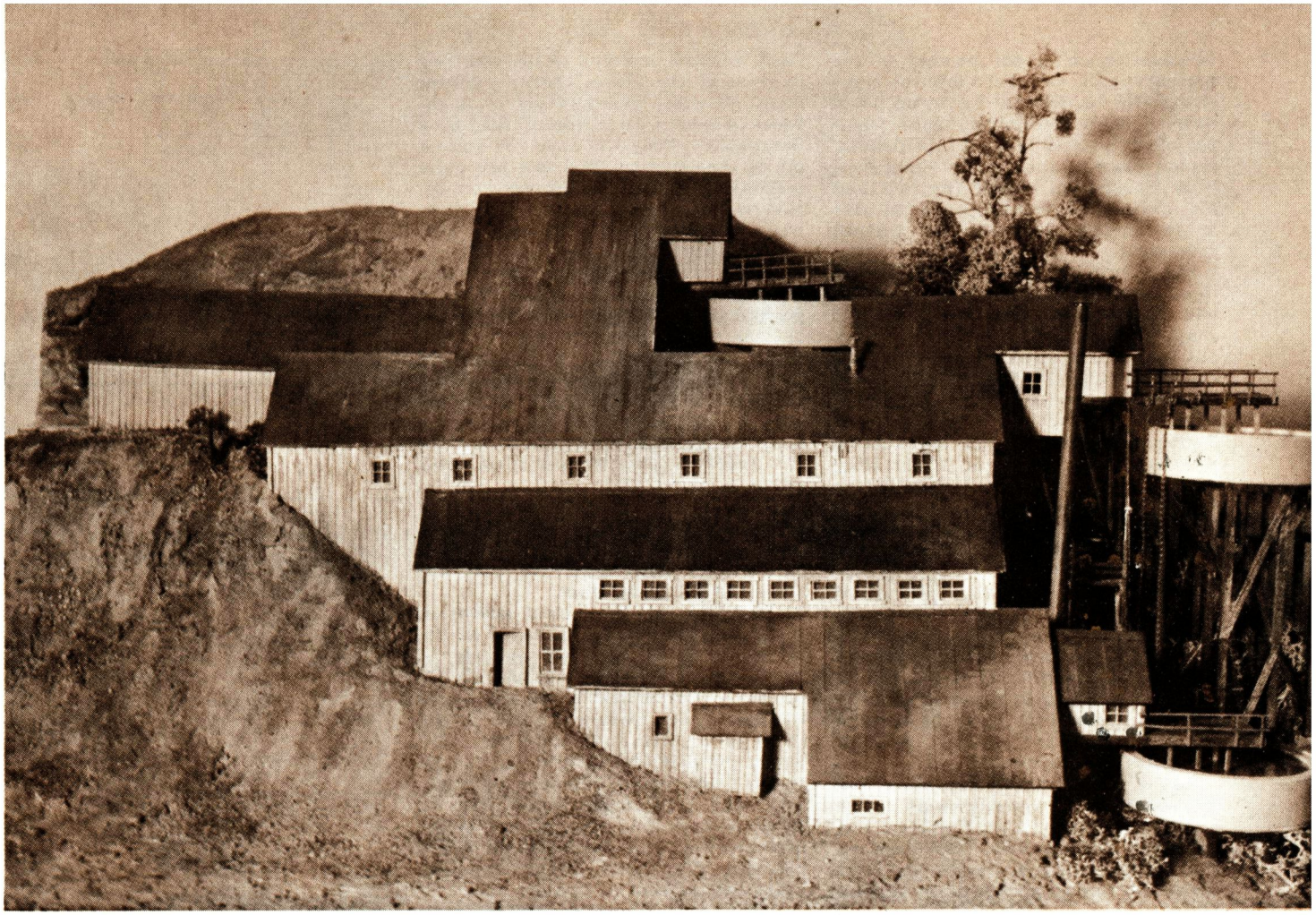
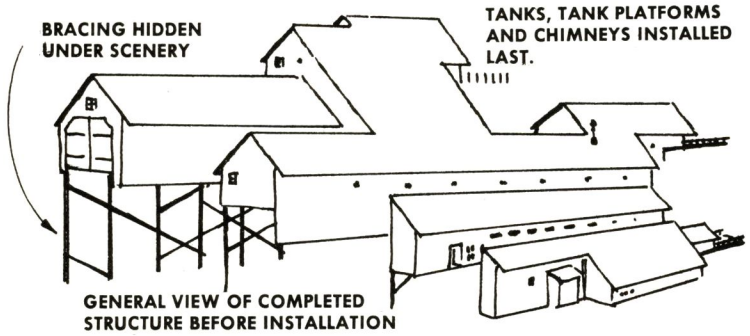


MOUNTAIN FLOTATION PLANT

By Gil Melle'



GENERAL VIEW OF COMPLETED STRUCTURE BEFORE INSTALLATION

A fascinating adjunct to any mine scene is this flotation plant in which ore is partially refined prior to shipping. It's a tough craftsman project that has to be taken in simple stages. Start it tonite.

AS you've gathered if you've studied some of my previous articles, I'm a nut on mines and feel that mining and railroads go together much like ham 'n eggs, Stravinski and Bernstein, or Thalonius Monk and way out jazz. If you built the mine described in these pages not long ago or perhaps have another mine or two on your layout, you might go for the flotation plant described here.

A flotation mill is a processing plant where raw ore is separated from all foreign materials (such as dirt, rock, debris) through a sorting, sifting, and washing process until the ore reaches a fairly pure state. The washing process is carried out in the three tanks that surround the building. Some of the undesirable elements settle while others float to the water. Hence the term, flotation mill.

TOP—Gil's model blends into a mountainside and despite a complex appearance, requires relatively little space that would otherwise be used for anything but mountain scenery

The model is unique in that despite its apparent large size, it isn't really large at all. In addition, it is designed to be built into a spot where you might think you'd never build anything at all, on the side of a steeply sloped hill or mountain. The tanks, the sloping roof, and the overall odd appearance all combine to make this a most unusual structure worthy of a spot on any model railroad.

If you don't already have a mine or don't contemplate building one, this flotation mill can still be built on your layout with tram or mine tracks running off around the mountain to a simulated mine.

The ore is hauled from the mine to the mill by means of ore cars that enter the long shed at the east end through the large double doors. Ore can and is hauled to the mill by means of a tramway similar to the type shown in fig. 27. The towers and buckets are easily constructed but are optional. Even easier would be use of the operating aerial bucket system imported by Polk's. The tramway would terminate at the west end of the building.

The structure is a freelance composite of several mills of this type that I have seen. It is circa 1880 and embodies a principal often employed in industrial structures of that period, namely the gravitational movement of crude material. That is why many of these buildings were erected on moun

tainsides much in the manner of the present model. Ore is fed into the higher sections of the mill and drop down through each successively lower compartment with a stage of processing taking place at each level. From here it is transported out of the mill and into waiting railroad hopper or ore cars or to another tramway for further processing.

Begin with fig. 1, the North Elevation. Study it and fig. A. The latter will give a good idea of the general shape of things to come. Start cutting out your North walls, eight in all. Because the sides are large, we have reduced the four main side elevation drawings to exactly one half HO size. Double the model for HO, triple it for S gauge, and quadruple it for king sized O gauge. OOO gaugers might be able to get away with using the 1/16" scale drawings as shown. TTers will also have to enlarge the plans to size.

Be sure to allow for beveling at corners and for overlapping. The third highest wall from the bottom in the large group will have to be made up of several jointed pieces of battenboard siding since Northeastern's siding is limited to a 3½ inch width. Disregard the roof sections for now. Be sure to cut out all door and window openings. Lay aside for the present.

Fig. 2 is our South Elevation and follows the same procedures as in fig. 1. Fig. 3 shows the East Elevation and has seven wall sections. There are six wall sections in fig. 4 which is the West Elevation. Lay all groups aside as completed.

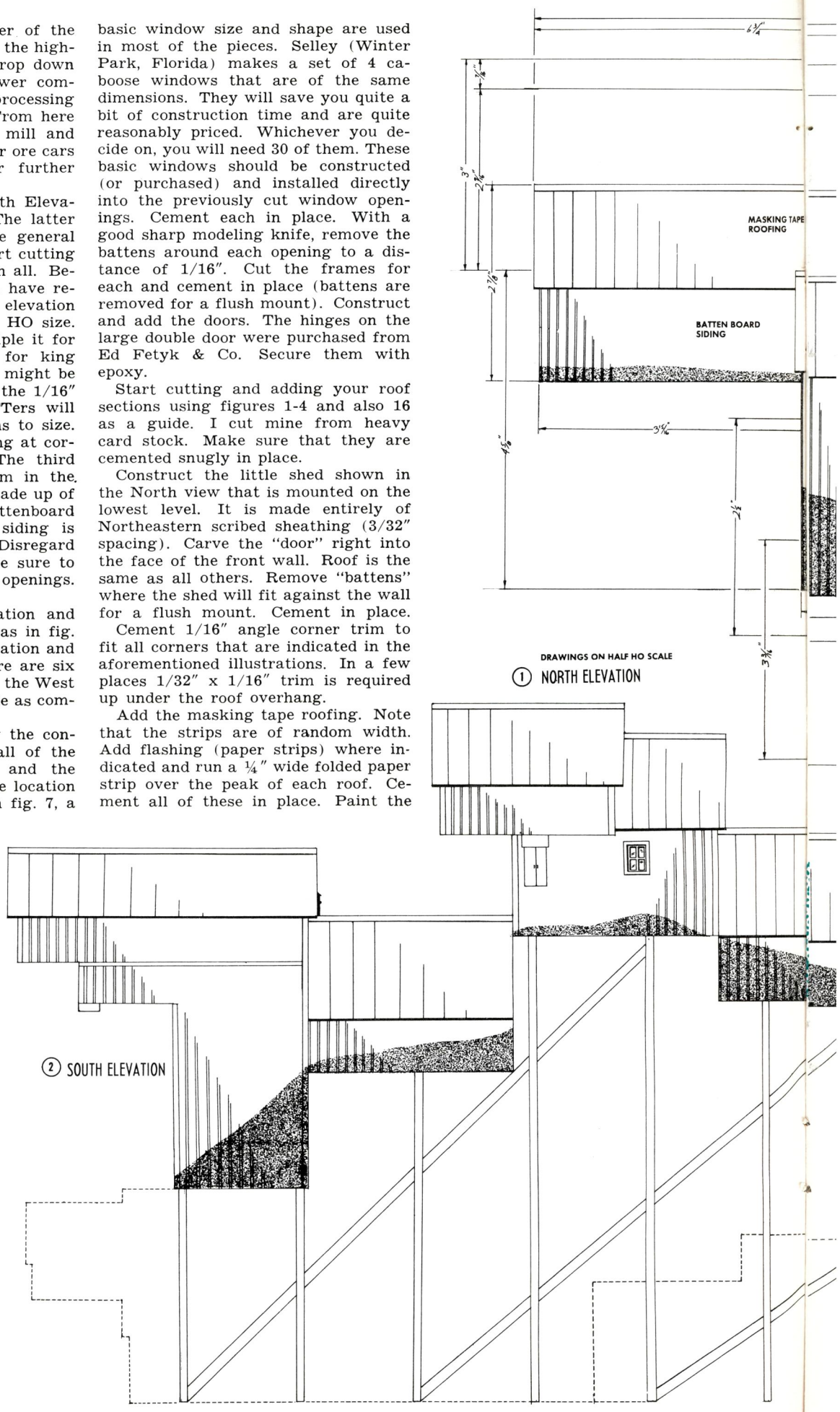
Figures 7 through 15 show the construction methods used for all of the window and door openings and the aforementioned views give the location of each type. As you note in fig. 7, a basic window size and shape are used in most of the pieces. Selley (Winter Park, Florida) makes a set of 4 caboose windows that are of the same dimensions. They will save you quite a bit of construction time and are quite reasonably priced. Whichever you decide on, you will need 30 of them. These basic windows should be constructed (or purchased) and installed directly into the previously cut window openings. Cement each in place. With a good sharp modeling knife, remove the battens around each opening to a distance of 1/16". Cut the frames for each and cement in place (battens are removed for a flush mount). Construct and add the doors. The hinges on the large double door were purchased from Ed Fetyk & Co. Secure them with epoxy.

Start cutting and adding your roof sections using figures 1-4 and also 16 as a guide. I cut mine from heavy card stock. Make sure that they are cemented snugly in place.

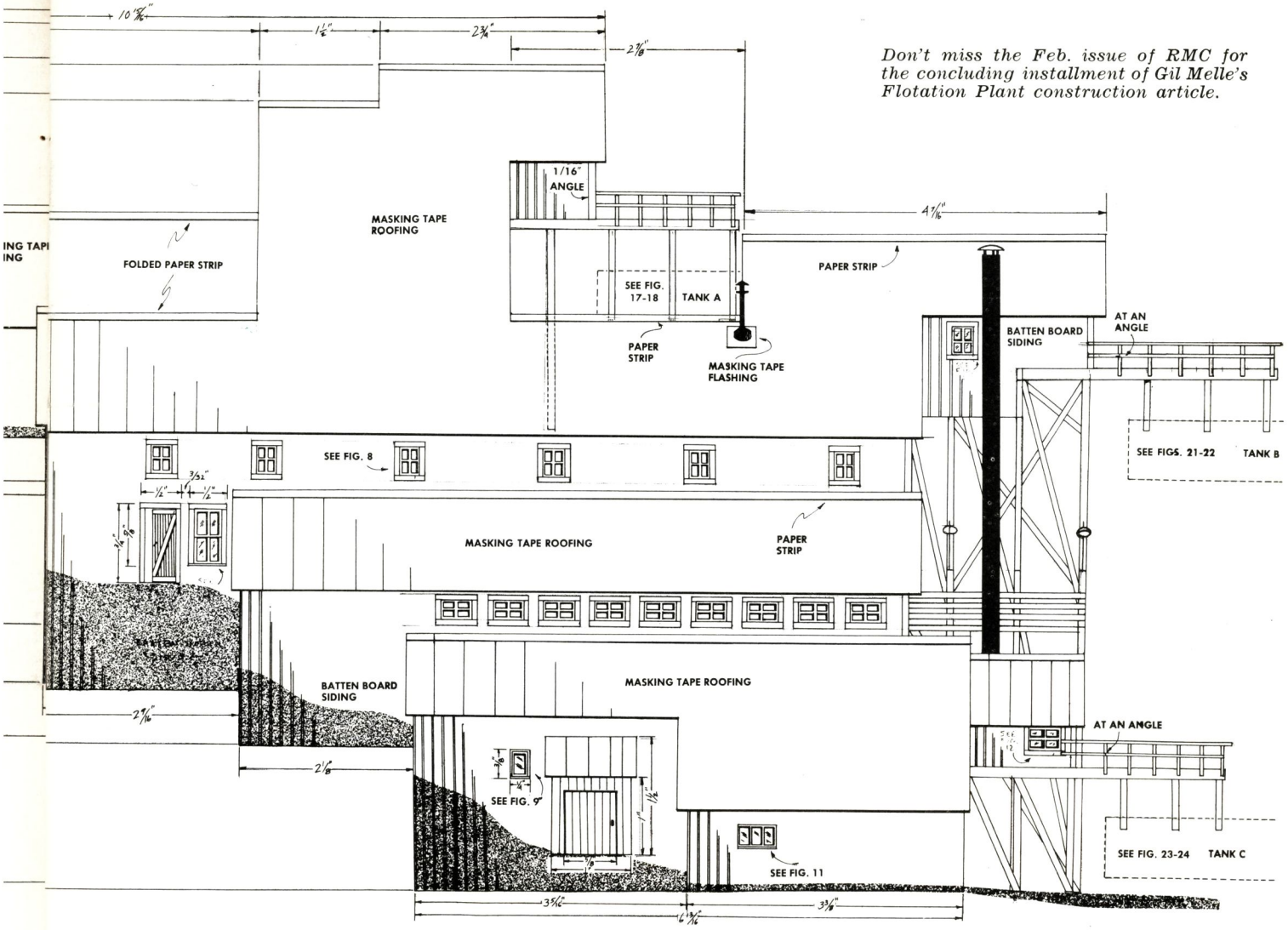
Construct the little shed shown in the North view that is mounted on the lowest level. It is made entirely of Northeastern scribed sheathing (3/32" spacing). Carve the "door" right into the face of the front wall. Roof is the same as all others. Remove "battens" where the shed will fit against the wall for a flush mount. Cement in place.

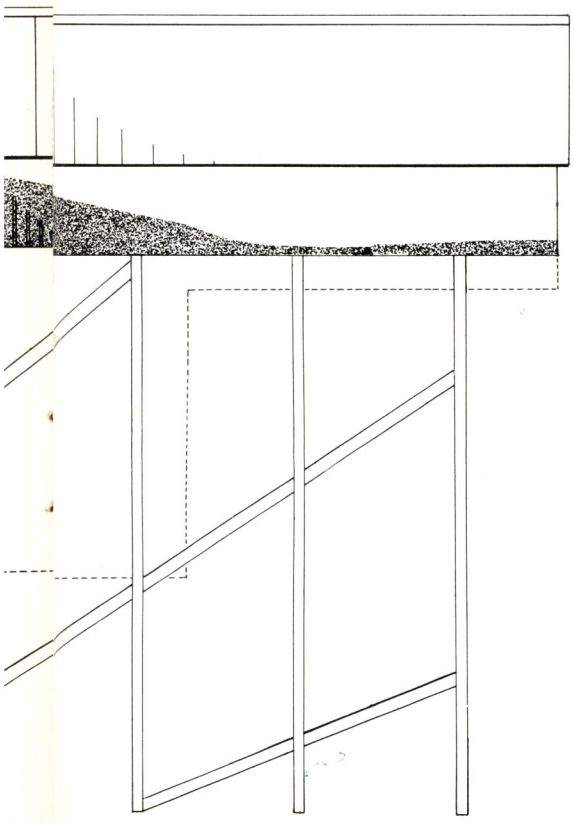
Cement 1/16" angle corner trim to fit all corners that are indicated in the aforementioned illustrations. In a few places 1/32" x 1/16" trim is required up under the roof overhang.

Add the masking tape roofing. Note that the strips are of random width. Add flashing (paper strips) where indicated and run a ¼" wide folded paper strip over the peak of each roof. Cement all of these in place. Paint the

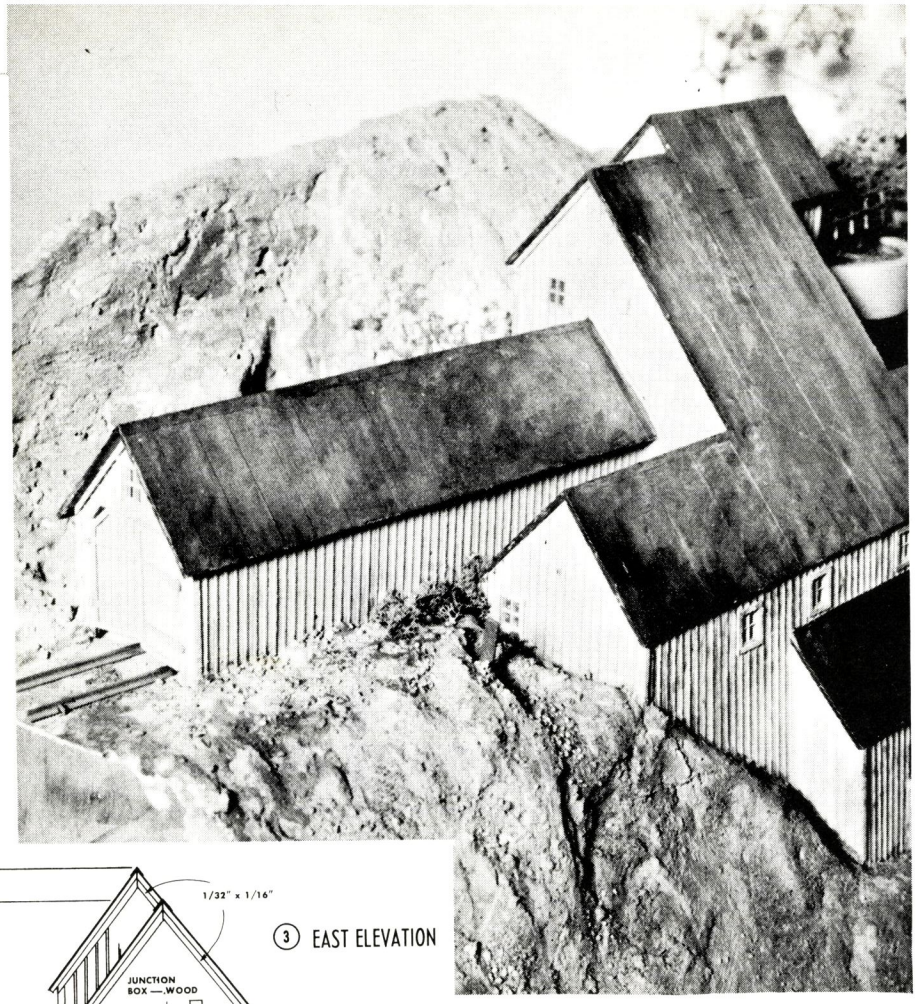


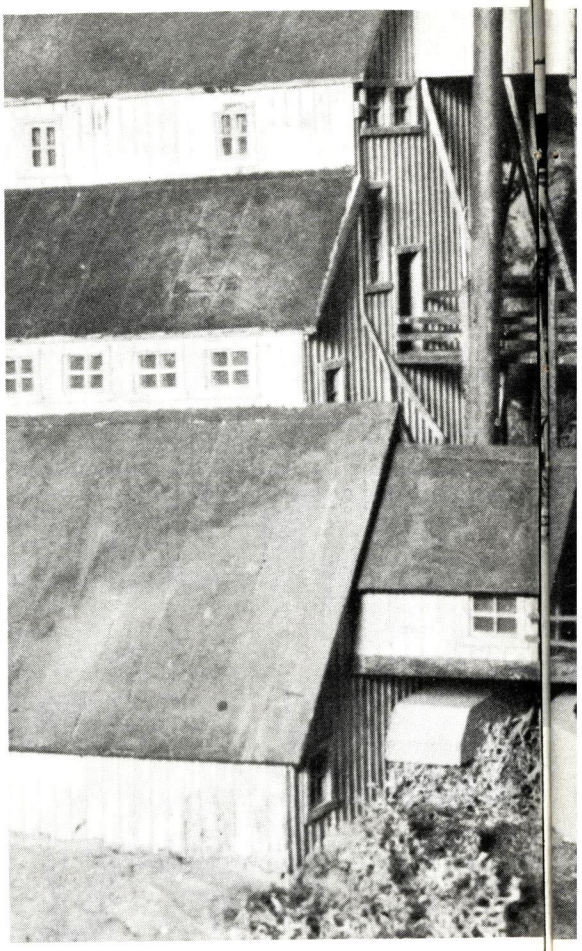
Don't miss the Feb. issue of RMC for the concluding installment of Gil Melle's Flotation Plant construction article.

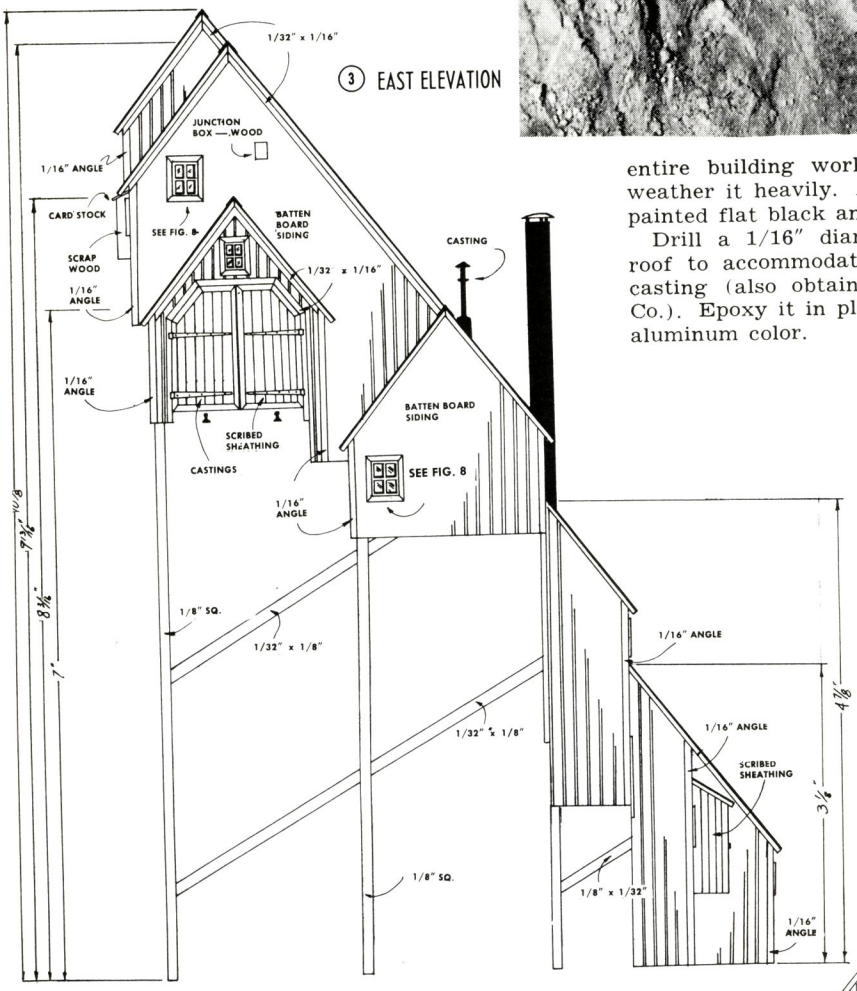




MEET GIL MELLE'—Jazz musician, band leader, composer; Gil has had original works played at the United Nations and has had his group feature on lp recordings. Some years ago Gil also had a fling at kit manufacturing under the name "Industrial Model Works" but gave it up to return to music and oil painting, at which he has also received a number of awards and one man shows in New York and other cities. Gil enjoys turning out super construction features for RMC and thinks model railroading is more fun than ever for the creative model railroader. Gil is married to another musician, known under her stage name of Jackie Parker. The couple have a little girl, Lisa.



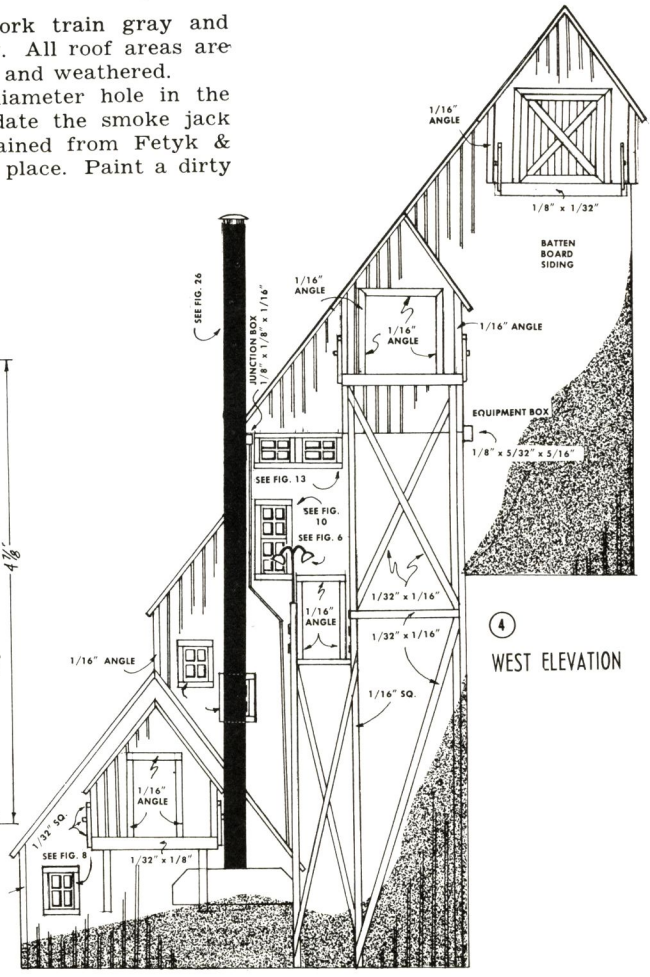




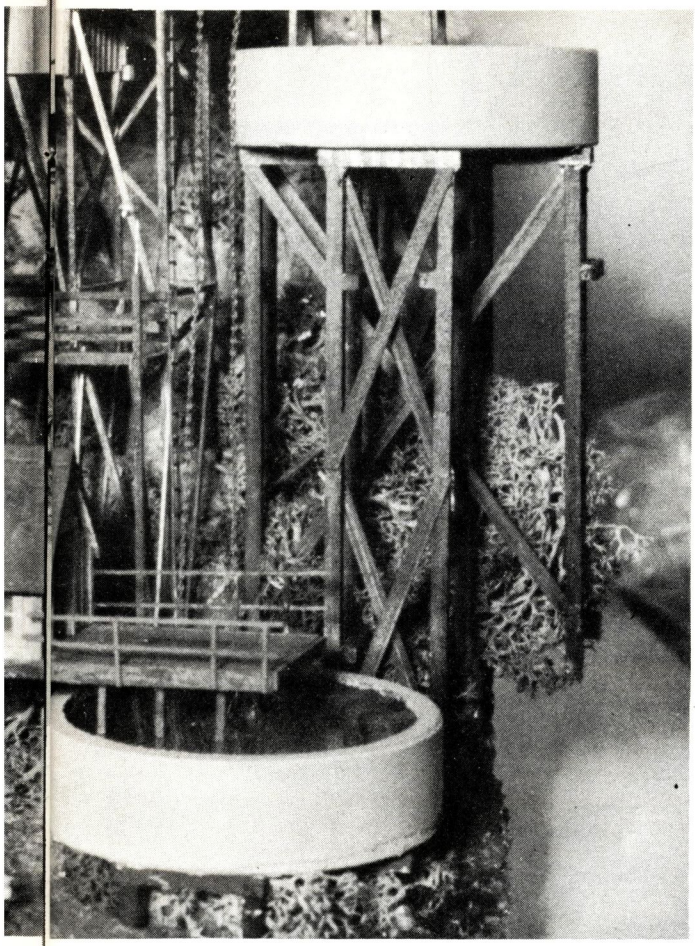
3 EAST ELEVATION

entire building work train gray and weather it heavily. All roof areas are painted flat black and weathered.

Drill a 1/16" diameter hole in the roof to accommodate the smoke jack casting (also obtained from Fetyk & Co.). Epoxy it in place. Paint a dirty aluminum color.



4 WEST ELEVATION



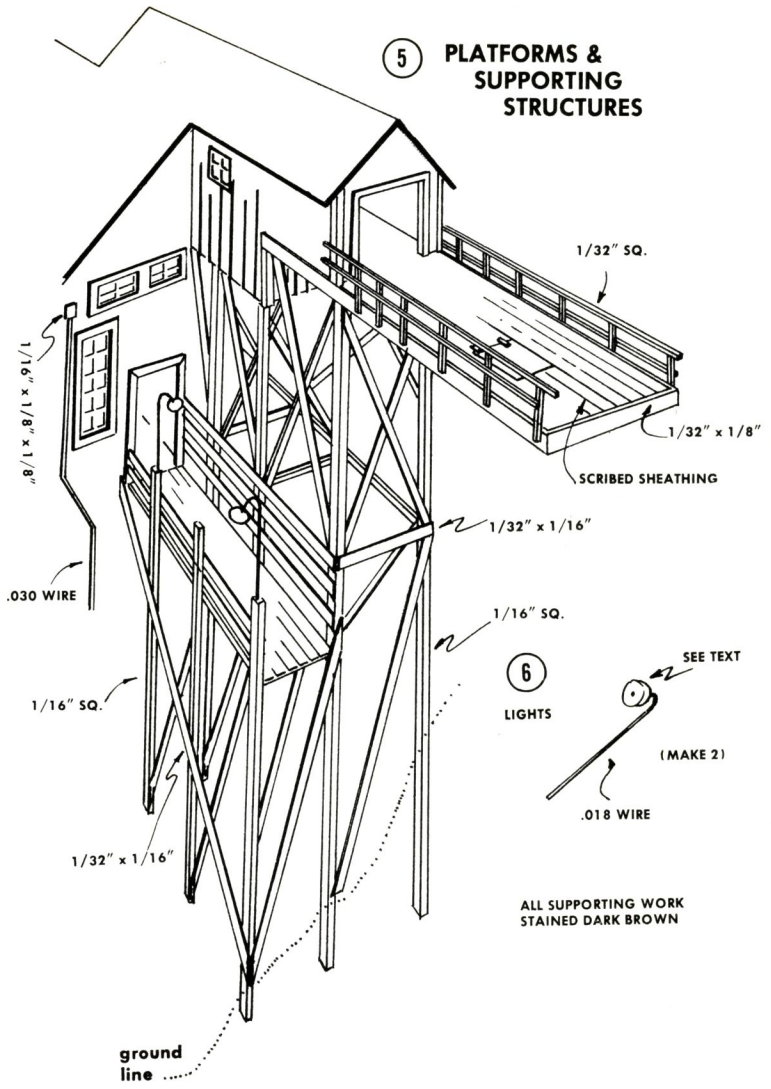
LEFT: Side and roof detail shows clearly in this view of the North Elevation. South side of structure is almost entirely nestled against side of mountain. Materials are largely wood.

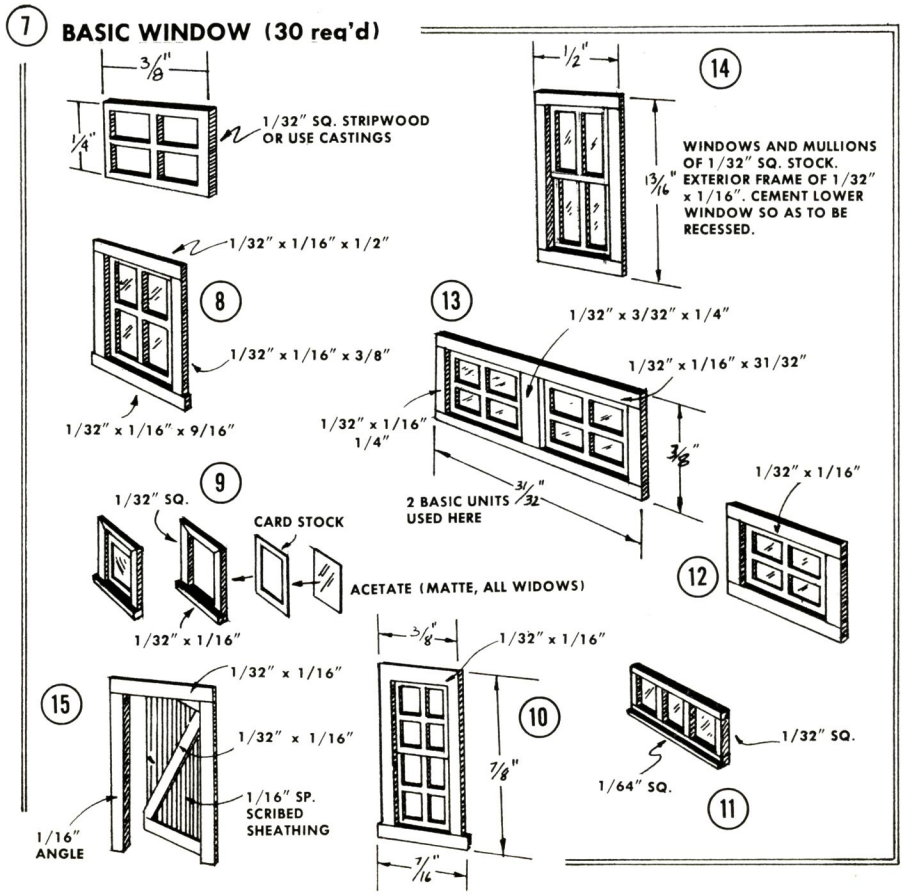
ABOVE: Flotation tanks are supported by intricate looking but easily fabricated wood trestle and add much to overall appearance.

The sub-bracing shown in figures 2 and 3 are completely obscured from view when this model is completed but is necessary for added strength and support as well as alignment. Construct it of scrap wood if possible. Fig. 16 may be an aid to you in this construction.

Construct the three platforms (attached to main structure) and their support substructures as shown in figs. 1, 4 and 5. Platforms should be built and attached first, then the substructures and last the railings. Don't forget the hatches shown in fig. 5 atop each platform. They are simply slips of card stock with paper "hinges." Paint all platforms and associated parts with a thinned out roof brown paint.

Construct "lights" as shown in figure 6. The "reflectors" are made of "nips" from the leftover "tree" or "gate" of a plastic kit. They're 1/8" in diameter and should be drilled to accommodate the wire "posts" and sanded smooth. Secure to bent wires with plastic cement. Paint dirty aluminum color. Drill two holes in the substructure uprights to hold them.





MOUNTAIN FLOTATION PLANT

The second part of our flotation plant, in which we build the factory into the mountain and add the many required details, including the tanks.

By Gil Melle'

Part 2

CONSTRUCT three tanks as shown in Fig. 20. Figure 19 is also helpful. Using a pair of dividers, scribe three circles on a sheet of acetate or similar material that will fit snugly within the cardboard rings. The bottom cardboard discs are traced with a compass and cut out with scissors to fit smoothly within. The rings are carefully cut from a 2⅞" to 3" diameter cardboard mailing tube (a box from Kraft grated cheese product would serve nicely) to a depth of ¾" each. Cement the card discs in the bottom as shown. Coat the inner surface with Ambroid Super White Glue and sprinkle ballast over the still wet surface until it is completely covered. Cut a thin card stock band to wrap around the inside of the tank so that the ends just meet. It should be 9/16" wide. This will act as a spacer between the two discs. Cement it in place down the upper acetate disc in place down flush against the band with Elmers glue-all. When dry, coat the upper surface with any plastic cement (the type used for plastic kits) until completely covered. When this dries it will realistically simulate the slightly rippled surface of real water.

With one tank construct and add the supporting substructure indicated in figs. 23-24. This will be tank "C." Taking another tank, complete the structural detail shown in figs. 17 & 18 thereby completing tank "A." The remaining tank gets the rather elaborate treatment shown in figs. 21 and 22. This is tank "B." Paint the tanks or vats a concrete tan (flat) and all substructure detail with a roof brown flat wash. Put aside and allow to dry.

Construct the chimney as shown in fig. 26. See painting instructions. The double chimney shown in fig. 25 is an optional accessory. I didn't build it, but in the event that you decide to, simply mount it on ground level directly behind the south wall wherever you can find a suitable space (later).

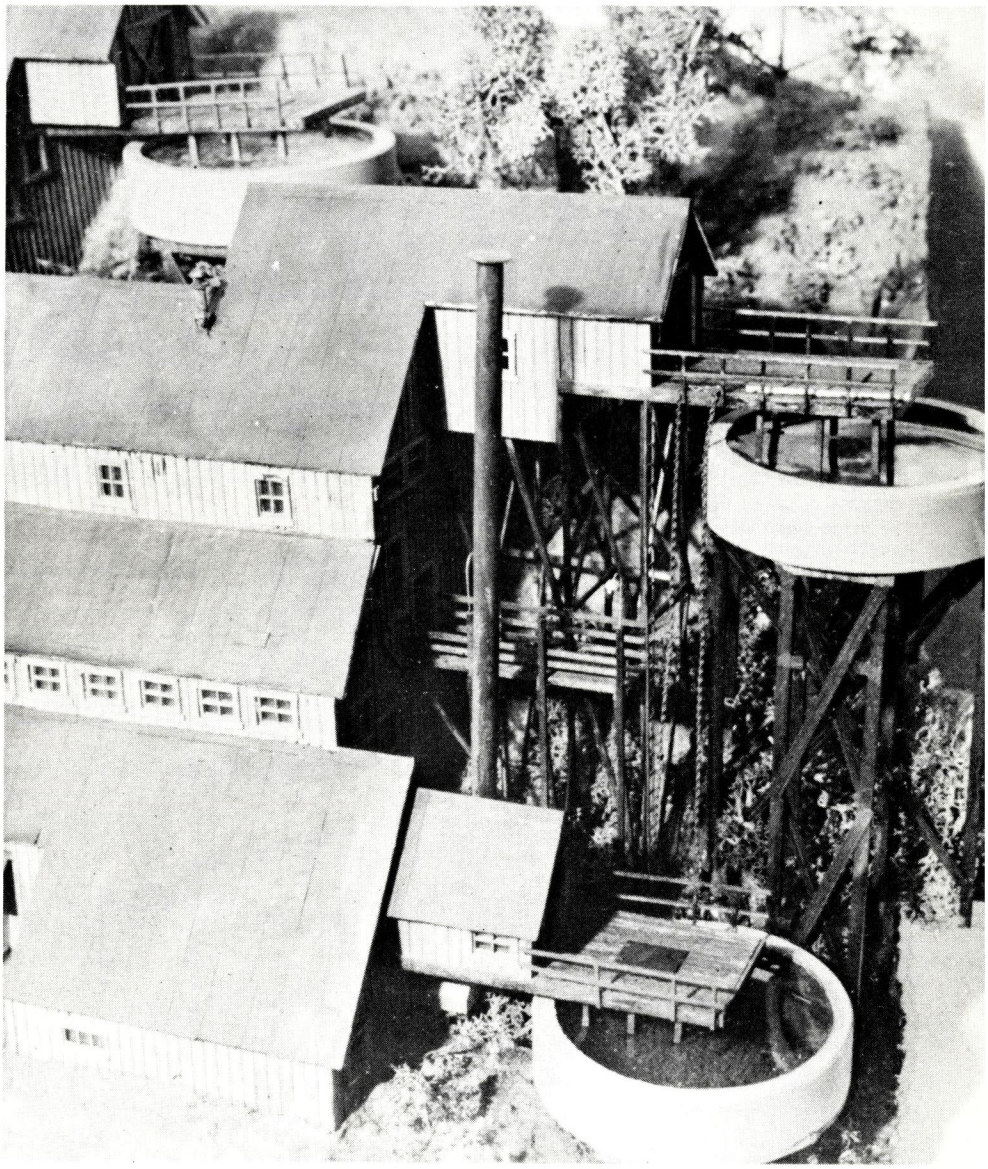
You now have five constructed units or six as the case may be; the main structure, three tank assemblies, and the one or two chimney units.

Taking the main body unit, stand it in place approximately where you want it and when satisfied with the location, cement it in place. Start lining up your "B" tank and cement it to your layout in the proper place.

Cut slivers of screen of appropriate size and line them up so that they contact the two mounted units on all sides. Try to engage the screen along, the indicated ground contour lines of figs. 1, 2, 3, 4 and 22.

Start building up the plaster atop the screen sections. Work carefully and a little at a time. When all screen area is covered (including spaces between the legs of tank "B"), add batches atop the now firm plaster where the other three units will stand and press each of them into the wet plaster in their proper location and carefully aligned. Smooth out these batches to match the basic contour of your mountain with a spatula or painting knife while the plaster is still workable.

When looking down upon the model, the tanks appear to have a liquid appearance with all the wet appearance of real water. Other details also present themselves.



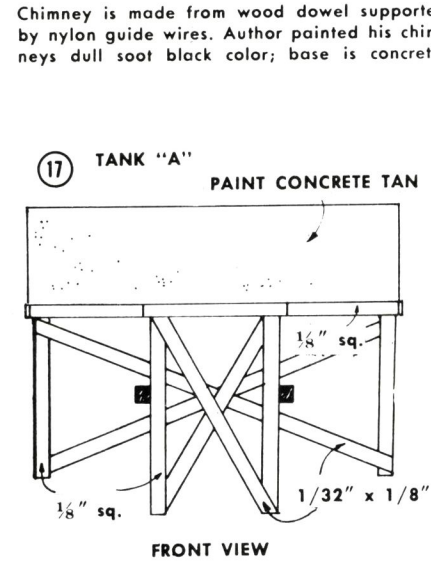
Guidewires may be added to your chimney(s) at this point if you so desire.

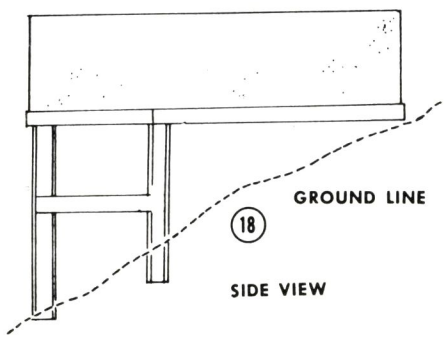
Paint your mountainous scenery using your favorite techniques, being sure to add rocks, lichens and even trees here and there for greater realism.

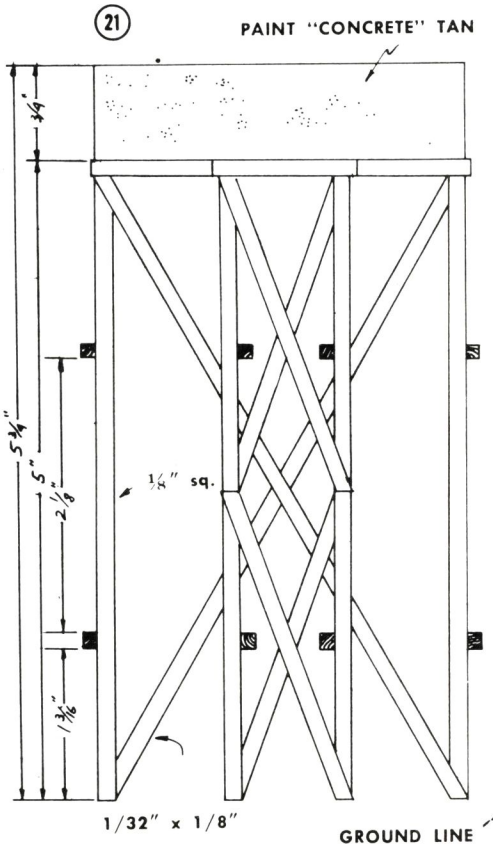
I added a couple of touches of realism that you might also like to include (see photo) namely, an old rusty ladder leaning up against tank "B" (secured with Epoxy) and an old rusty chain dangling down from the platform above.

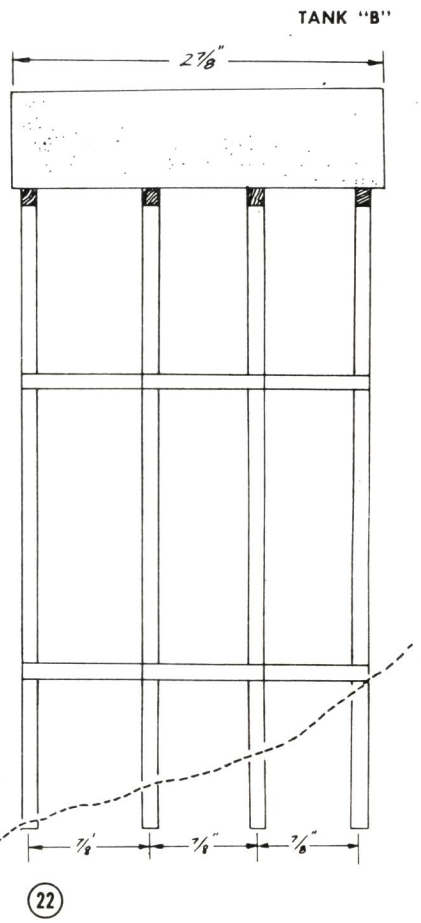
Anytime you like you can add the tramways previously discussed and perhaps an elaborate system of trackage leading up to the big shed.

Chimney is made from wood dowel supported by nylon guide wires. Author painted his chimneys dull soot black color; base is concrete.





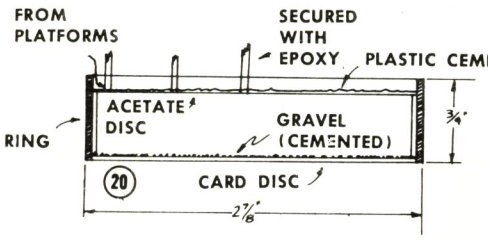




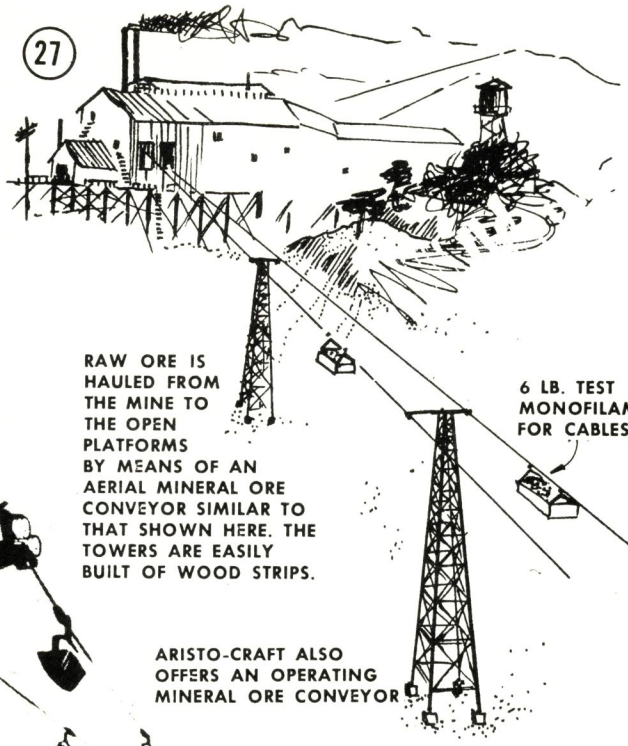
(19)

ACETATE DISC CUT WITH DIVIDERS (SEE TEXT) TO FIT SNUGLY INSIDE TANK. SECURE FROM UNDERNEATH WITH EPOXY. COAT UPPER SURFACE WITH PLASTIC CEMENT.

CARDBOARD RING

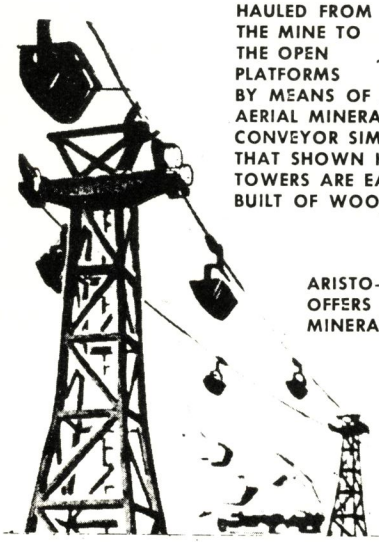


(27)



RAW ORE IS HAULED FROM THE MINE TO THE OPEN PLATFORMS BY MEANS OF AN AERIAL MINERAL ORE CONVEYOR SIMILAR TO THAT SHOWN HERE. THE TOWERS ARE EASILY BUILT OF WOOD STRIPS.

6 LB. TEST MONOFILAMENT FOR CABLES



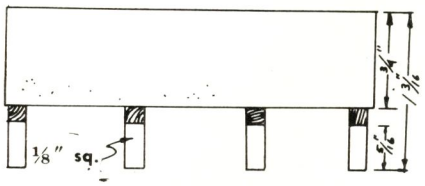
ARISTO-CRAFT ALSO OFFERS AN OPERATING MINERAL ORE CONVEYOR

Additional life can be added to the flotation plant through use of an Aristo-Craft mineral ore conveyor, providing continuous automatic operation. It's HO, suitable for all scales.

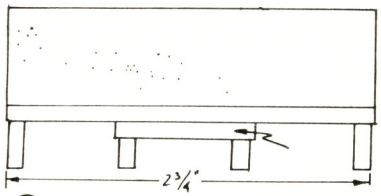
Tank details and supporting trestle work is shown in this view, and is similar for all three tanks. Acetate discs simulate water.

TANK "C"

(24)



"CONCRETE" TAN



(23)

CHIMNEY DETAILS

(26)