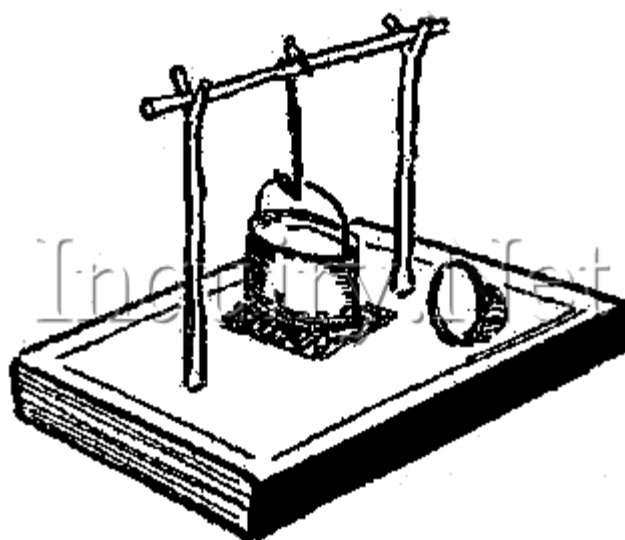


PIONEERING MODELS

If you do not know enough about it yourself, get a friend to come and demonstrate with models or instruments for a few evenings (Scouting for Boys).



Scouting is eminently a matter of the out-of-doors, and the only reason why we do any of it indoors is that the weather will not permit us to go out. This, however, need not hinder, but help, our outdoor Scouting, since by our indoor preparations and practice we should be in a position to get right on with a job, knowing what is required and what we have to do, as soon as we do get out of doors.

Too often, however, our indoor Scouting does not prepare us for the real thing, but is just a kind of parlor-scouting as far divorced from the real thing as table football is from the real game.

Pioneering is hand work; and as such is the natural extension of the making of plans and models. So it is that the making of models indoors, when we cannot get out, can be almost of the same value to the pioneer as the making of plans is to the builder. Model bridges, say, of various types are full of interest to everybody, and demonstrate the uses of lashings, knots and hitches in a very practical manner. The interest that boys (and their fathers!) take in models is too well known to need more than a passing mention.

Models, can be instructional from the point of view of what is learnt in the making of them and of their subsequent use for purposes of demonstration. From the latter point of view it is generally best that models of such things as bridges should be left partially finished so as to show the process of construction clearly.

Knotting Boards

First of all mention may be made of the value of knotting boards to show the various stages of the construction of different knots, whippings, splicings, and lashings. The value of these has been underestimated in the past, with the result that if a Scout Troop has a knotting board at all, it is content with one which a keen and expert knotter has made. There is no reason why such boards should not be made for each Patrol as part of an inter-Patrol competition, while it is still more valuable if every Scout in the Troop is required to produce one. A minimum standard of knots to be done should be laid down, but all and sundry should be encouraged to add to that minimum as much as they can. It is rather difficult to imagine a maximum, but perhaps it might be attained by some 150 different knots, hitches, bends, whippings, splicings and lashings. Anyway an average Scout and an average Troop would probably be quite content with that!

Materials for Models

For the making of models of bridges, fireplaces, camp-sites, shelters, log cabins, and so on, the following tools and materials will usually be required:

Tools: A good sharp knife, hammer, punch, pliers, brad-awl, screwdriver, paint brushes, small pair of forceps.

Materials: Modeling clay, fixative, water-colors, (student's, quality), oil colors, builder's chalk lines, fishing line, fine sand, fine gravel, small stones, household pins, oval brads, panel pins; countersunk screws.

For base and woodwork:

Three-ply wood in sheets, cuttings off joists and spars (from builder's yard), pieces of birch or alder, cuttings from black-thorn or hawthorn (the portions with natural bark very carefully dried).

For trees and bushes:

Pieces of sponge, soaked in green water-color of various shades; thoroughly dried, and torn up to the required sizes.

For working parts:

Single and double sheave blocks, snatch blocks, etc, These should have brass sheaves and be stopped with brass wire.

Selecting the Scale

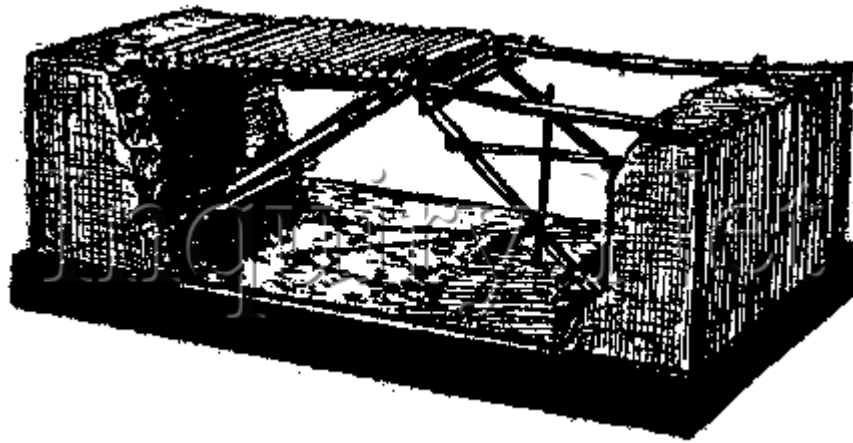
The scale is a very important part in a model, where accuracy is a matter of some moment. The most satisfactory scale to adopt for practically every type of model is 1 inch to a foot.

This scale is small enough to enable models to be made of quite large objects, such as log cabins and long bridges, and yet large enough to enable a great deal of detail to be shown correctly. Smaller scales require boot, or carpet, thread for lashings, and are too small to show knots, hitches and lashings, although they may serve to demonstrate the various types of bridges, say, in use. If all, the details of the model are true to scale, material, texture and color, then the model makes itself.

Making the Base

Whatever type of model is being made, its basic framework should always be strong enough to stand handling, and lifting by one end, without the construction being disturbed in any way. The framework, therefore, should be made of deep section, and be well nailed, or preferably screwed, together. The area of the framework will naturally be dependent on the size of the model to be constructed, and should not be skimped in any way (see illustration, above) A sheet of plywood is then cut to the necessary size, about a quarter of an inch less all round than the framework, and is screwed down on the framework from the top. Blocks, of wood should be glued to underside where depth is necessary for boring holes to fix main uprights, butts of trestles, and so on.

The Banks of a River



The usual form of bridge model represents the section of the river to be bridged. A very useful and, interesting model, if a trifle unwieldy, can, however, be made to show a number of different types of bridges spanning the same stream.

In order to make the banks, blocks of wood of the same width as the base should be firmly secured by screws from the underside of the plywood. These should be roughly shaped so as to show variations in the conformation of the land, and to give character to the bank faces (see illustration, above).

Laying the Ground Surface

The surface of the base, and of any blocks screwed to it, should then be covered with a plastic modeling clay designed for this purpose. A good brand will adhere to wood, metal, china, stone, cardboard--in fact almost anything. It sets hard in a couple of days, but can be broken up and, brought back to its original plastic consistency by adding water. There is no need to go into the details of its use, as they are to be found on every tin. Should some kind of an undulating surface be required, it will be necessary to affix rough pieces of wood, varying in size and thickness, till the general conformation desired is effected. In order to avoid cracks, however, it is best to cut and gouge one single block of wood. The whole can then be covered with the plastic clay, and finished off to hide all the joints and sharp edges. This surface can be painted, and covered with sand, gravel, stones, bushes, etc., as desired.

In order to procure an imitation of rough ground, seccotine is applied to the required area, and then sprinkled freely with sand, or any other material used, so that the area is completely covered. When everything is hard and dry, the residue which has not adhered can easily be tipped off. Small stones should be set separately.

Coloring the Surface

The coloring of all grass surfaces should be rather more vivid than eventually required since the plastic clay is absorbent, and the colors will tone down as they get thoroughly dry. Oil color of a bluish tint will be found most suitable for the rivers, as the glazed surface suggests wetness. If watercolor is used, a coat of clear varnish will give, a similar effect.

Building the Model

The model itself should be built up bit by bit, in precisely the same way as a full-size job is tackled. Great care should be taken with measurements, so that all proportions are correct. This is especially necessary in the building of trestles. The correct knot and the correct lashing for the purpose should always be used, and a pride should be taken in having everything correctly done in every detail.

Where a lashing is applied to join two spats, the surface of the wood that the lashing is to cross should be slightly gummed so that in the event of the wood shrinking, as it invariably does, --or of the cord becoming loosened, owing to changes of temperature, the strength of the join will not be impaired.

So far as is possible all the members of the Patrol or of the Troop should be concerned in the building. Apart from the making of the base and the making of different parts of the model, the painting, and so on, which can all be given to different Scouts to do, there is the collection and preparing of the material. A certain number of sticks of different lengths are required, cord has to be cut to required lengths, the plastic clay has to be worked, colors have to be mixed, and so on. These are jobs which can be given to the Scouts who are not so proficient with their fingers as others.

It is a mistake to leave all the work to be done by one who is already keen on that sort of thing. Every effort should be made to get others interested, and the surest way to interest

them is to give them a job connected with the work. Occasional inter-Patrol competitions in producing models in the making of which each single member of the Patrol has had a hand is a helpful way of gain practice and encouragement to all.

Frequently it will be found that it is the odds and ends of little finishing, touches that cause the most interest and joy. It is worth while, therefore, reproducing a few sentences from an article on "Model Making" that appeared in *The Scouter* for April 1930:

"The tent should be carefully cut out of stiff drawing paper and fixed on its poles, with guy ropes of fine string or thread to little pegs driven into the surface. The fire, formed of tiny twigs, gummed to the 3-ply, can be made very, real by the inclusion of a small piece of red tinfoil such as is used for the covering of fancy chocolates.

Small bushes are best fashioned out of pieces of sponge stained green, and trees can be effectively built up on shapely twigs by the same means. Fence posts are easily made from match-sticks with rails from the thin wood of match-boxes. A pool or stream always looks very effective and is simply formed with a scrap of glass, colored, blue on the underside and fixed flat, the modeling clay being carefully finished off to cover all edges.

It is in the embellishment of the model that scope lies for the exercise of ingenuity.

Results

The actual results produced by Scouts will at first be crude, but practice will soon improve that. Apart, however, from what is actually learned in the building of models, a good deal is also learned about the actual thing.

For instance, the model of a bridge obviously teaches the makers about the different knots and lashings that are required, the proportions that are necessary, and the way in which everything was to be set up. In the same way the model of a camp site will illustrate the position of tents, fires, latrines, and all the other many things that go into the building up of a good camp.

Model-making does call, for patience, care, deftness, originality, ingenuity, imagination, resource, and observation--all good Scouting qualities--and brings constructive and inventive faculties into play, the while providing a most absorbing hobby. Truth, correctness of detail, and imitation of reality--always with an eye to correct scale--will be rewarded by success.

And besides being good fun, it is all good indoor pioneering that any Troop, or Crew for that matter, can take up in the winter months.