



Critical moment in throwing a bridge across a stream, a real engineering feat that is a challenge to any Troop

Building Models of Bridges

THERE is romance in a tiny model of a well-engineered bridge. when two stringers nearly a yard long and as little as one's little finger will support a bounding Scout **at** their center. What the making of models instead of full-size bridges means in conservation of timber, we will leave for others to calculate. What the collection of long slim willow switches and the hoarding of a precious bundle of sticks on top of the furnace or in the attic means to the boy in our Troop. hardly requires calculation or imagination. But the big important interest these bridges is that the constructive ability, native to every Patrol in each of our Troops, is utilized in the most delightful way on rainy afternoons at camp or during winter evenings at home; something true, something imaginative, something fundamentally sound has been created by the Boy Scout.

It once was my privilege to assist Scout Executive Earl W. Beckman. then of Flint. Mich.. in a Patrol Leaders' training camp. On the morning of the last day, our eighty boys hiked two or three miles along a charming stream in quest of small training branches and willow sticks for model making, where it could be cut without harm to future timber crops. The boys were told that these models would be hopeless wrecks in a few days. as the green branches would shrink and the unshellacked cord would stretch. The wood should be seasoned in the warmest and driest place in the house, the attic, while the Troop is about its summer and autumn business.

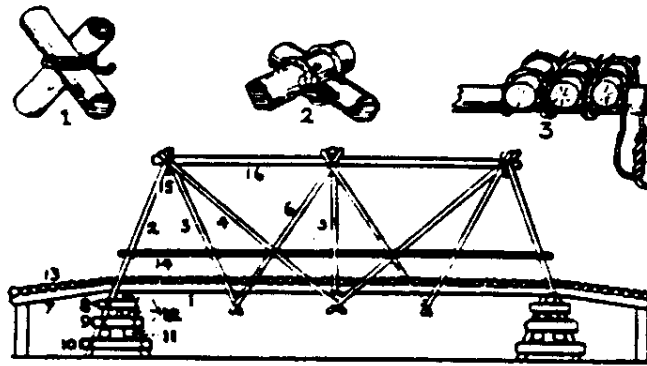
The material should be cut along ditches, in roadsides which the highway commission must soon entirely clear of brush, and along streams where vegetation is so abundant that all we and will never be missed. This wood should be seasoned in the warmest and driest place in the house, the attic.

Building the Single Span Girder Bridge

The method of lashing the shears is illustrated in Figure 1, bowline or other fixed loop being used with two half hitches. The method of lashing the abutments is illustrated in Figure 2, the knot being the square. The floor timbers are fastened as indicated in Figure 3. Were it not for the fact that occasionally a string may break, it would be unnecessary to bother with the surgeon's knot under the girder and each additional timber would be but another thread in a woven floor.

The flooring of a model takes what the boys call a "lot of material," but the job of tying it to the girders is so interesting that they will stay with it until it is done. A base should be made to which the abutments are fastened. and this may be either a simple base with piers at the end, or a more elaborate shadow box, in the back and sides of which a complete representation of a stream with rocky banks overgrown with vegetation may be worked out. When the bridge is firmly fastened to its base and all of its elements securely tied in a most Scout-like manner, the whole should be shellacked as a safeguard against further shrinkage and the effects of moisture upon the lashings.

The boy who has built a good bridge model has built something into his own character, inevitably.



SPECIFICATIONS FOR MODEL SHOWN HERE

<u>No.</u>	<u>Pieces</u>	<u>Size</u>	<u>Use</u>
1	2	5/8 x 33"	Girders
2	4	5/8 x 16"	End Braces
3	4	3/8 x 13"	Truss Rods
4	4	3/8 x 17 1/2"	Truss Rods
5	2	5/8 x 19 1/2"	Center Brace
6	4	3/8 x 14"	Truss Rods
7	4	5/8 x 8"	Approach Girders
8	4	1 x 3"	Abutments
9	4	1 x 4"	Abutments
10	4	1 x 5"	Abutments
11	4	5/8 x 5 1/2"	Abutments
12	10	1 x 7"	Abutments
13	90	1/2 x 6"	Roadway Sleepers
14	2	3/8 x 31 1/4"	Rail
15	6	5/8 x 7"	Cross Ties
16	2	1 x 27"	Top Brace