

HOWE TRUSS BRIDGE

STANDARD GAUGE

THE HOWE TRUSS BRIDGE WAS USED BY MANY RAILROADS AROUND THE TURN OF THE CENTURY. A HOWE TRUSS BRIDGE COULD BE EASILY CONSTRUCTED FROM LOCALLY AVAILABLE MATERIALS. THESE BRIDGES WERE USED TO SPAN SMALL

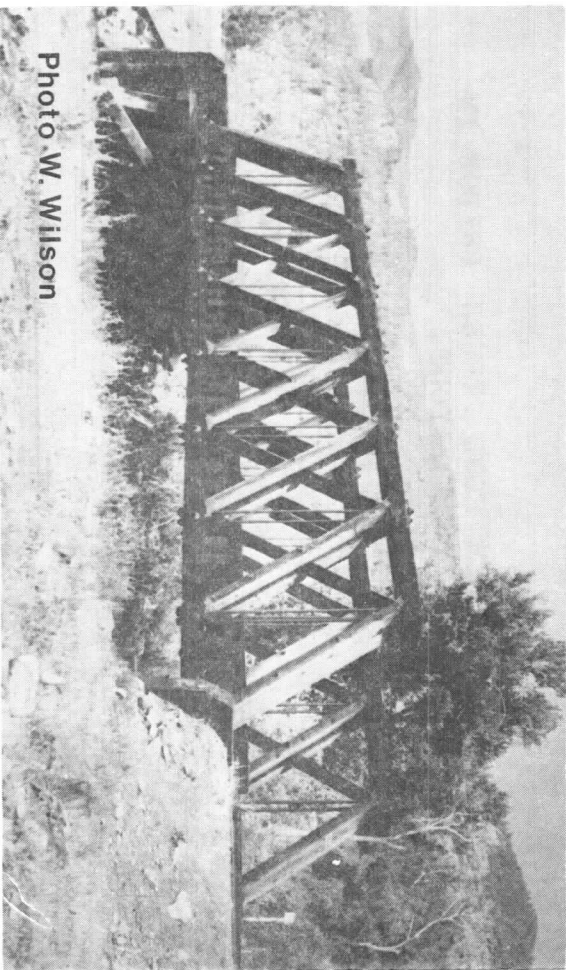


Photo W. Wilson

CREEKS AND WERE USUALLY LESS THAN 60 FEET IN LENGTH, A FEW EXAMPLES OF THIS TYPE OF BRIDGE CAN STILL BE SEEN TODAY.

OUR BRIDGE IS DESIGNED TO N.M.R.A. CLEARANCE FOR STANDARD GAUGE.

GENERAL INSTRUCTIONS:

IF YOU PLAN TO STAIN YOUR MODEL, ALL WOOD PARTS SHOULD BE STAINED BEFORE ASSEMBLY. REGULAR PAINTING CAN BE DONE AFTER ASSEMBLY.

MOST WOOD PARTS ARE CUT TO LENGTH REQUIRED, AND COLOR CODED. SOME TRIMMING WILL BE NECESSARY ON DIAGONAL PARTS. WORK CAREFULLY TO OBTAIN NEAT JOINTS. SOME SANDING WILL BE NECESSARY TO REMOVE FUZZ. IF YOU DESIRE, A WIRE BRUSH CAN BE USED TO BRING OUT MORE GRAIN EFFECT. THIS SHOULD BE DONE BEFORE STAINING AND ASSEMBLY.

PLANS CAN BE ATTACHED TO A FLAT BOARD AND PIN OR MASKING TAPE CAN BE USED DURING CONSTRUCTION TO HOLD PARTS IN PLACE WHILE GLUE SETS.

BE SURE TO READ THROUGH ALL ASSEMBLY INSTRUCTIONS CAREFULLY BEFORE BEGINNING CONSTRUCTION.

TRUMPT PRODUCTS

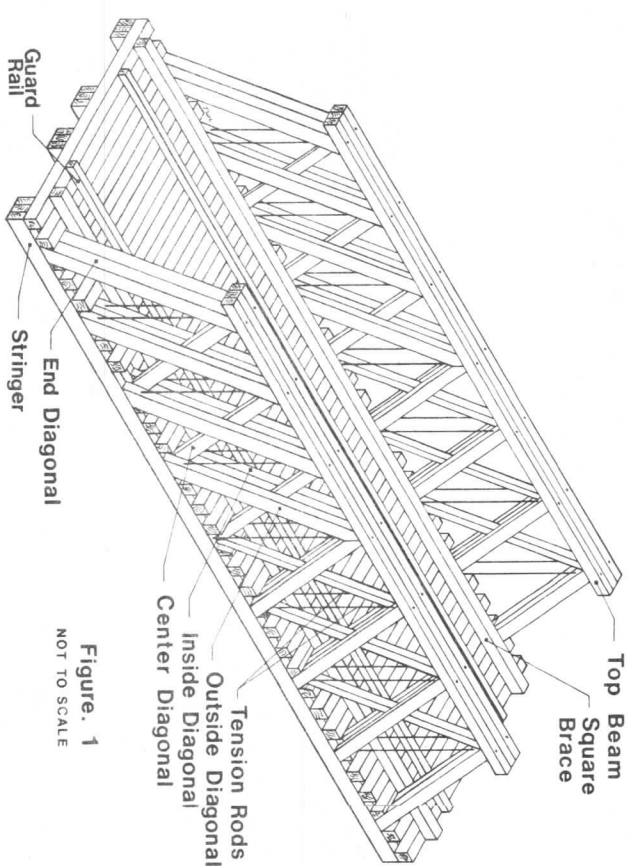


Figure. 1
NOT TO SCALE

AN ISOMETRIC DRAWING IS SHOWN IN FIGURE 1. FOR YOUR REFERENCE.

ADDITIONAL MATERIALS YOU WILL NEED:
SINGLE EDGE RAZOR BLADES OR X-ACTO KNIFE, SMALL TWIST DRILLS, WHITE GLUE AND ACC CEMENT, FINE SANDPAPER, SCALE RULE (TO TRANSFER MEASUREMENTS) WOOD STAIN OR PAINT(YOUR CHOICE)

CONSTRUCTION

BEGIN CONSTRUCTION BY LAMINATING STRINGERS. EACH STRINGER CONSISTS OF TWO LONG AND TWO SHORT LENGTHS OF 1/8 x 1/4 STRIPWOOD. (RED END) LAMINATE THE PIECES AS SHOWN IN FIGURE 2.

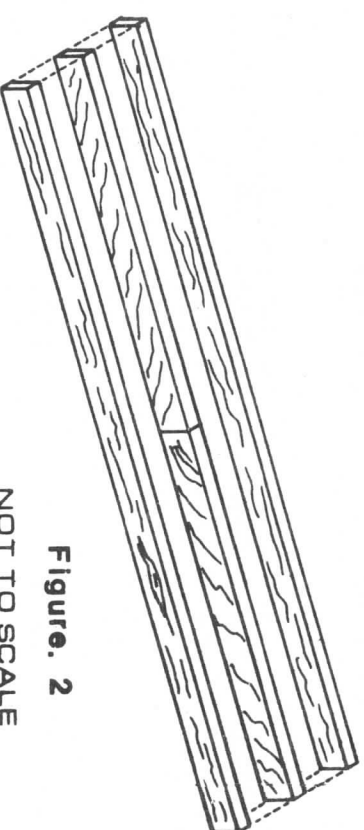


Figure. 2
NOT TO SCALE

(NOTE) THE JOINT IN CENTER WILL BE HIDDEN WHEN BRIDGE IS ASSEMBLED. MAKE FOUR STRINGER ASSEMBLIES. AFTER GLUE DRIES, TRIM EACH TO EXACT LENGTH OF BRIDGE DECK.

A PIECE OF WAX PAPER CAN BE USED TO PREVENT ANY GLUE FROM STICKING TO THE DRAWING. USE ONE OR TWO PIECES OF MASKING TAPE ATTACHED STICKY SIDE UP OVER DECK PLAN. POSITION TIES OVER THE DECK PLAN AS INDICATED. LEAVE ALL TIES FULL LENGTH AT THIS TIME. THE TIES ARE NOT COLOR CODED. THE SQUARES WITH X'S INDICATE WHERE TIES WILL BE TRIMMED LATER TO ALLOW SIDE GIRDERS TO MOUNT TO THE DECK.

AFTER ALL TIES ARE POSITIONED, GLUE CENTER STRINGER AS INDICATED ON DECK PLAN.

AFTER GLUE SETS, REMOVE ASSEMBLY FROM PLAN. CHECK THAT THE TOPS OF THE TIES ARE EVEN. SOME SANDING MAY BE NECESSARY. INVERT DECK OVER PLAN.

ATTACH TWO GUARD RAILS OF 1/8 SQUARE STRIP (GREEN END) AT POSITION INDICATED ON DECK PLAN.

THE SMALL NUT-BOLT CASTINGS CAN BE INSTALLED AT THIS TIME. DRILL A HOLE AT EACH DOT ON THE GUARD RAIL. THE NUT-BOLT CASTINGS CAN BE PRESS FITTED OR GLUED AS YOU PREFER.

RAILS CAN NOW BE INSTALLED. USE YOUR FAVORITE SIZE AND METHOD TO INSTALL RAILS OVER THE CENTER STRINGERS. IF YOU ARE SPIKING THE RAIL, SMALL PILOT HOLES CAN BE DRILLED TO PREVENT SPLITTING THE TIES. A SMALL DROP OF ACC CEMENT AT THE SPIKE WILL SECURE RAIL, SPIKE AND TIE TOGETHER. THE RAILS SHOULD EXTEND PAST BRIDGE ENDS A SHORT DISTANCE FOR EASIER INSTALLATION LATER. SET DECK ASIDE FOR NOW.

TWO SIDE GIRDER ASSEMBLIES ARE NEEDED. THE END DIAGONALS ARE TWO STRIPS LAMINATED TOGETHER. MAKE FOUR END DIAGONALS FROM 3/16 SQUARE STRIP (BLACK END) MAKE TWO TOP BEAMS BY GLUING THREE 1/8 x 3/16 STRIPS (BLUE END) TOGETHER FOR EACH BEAM. DO NOT TRIM TO LENGTH AT THIS TIME. SET ASIDE FOR LATER.

USING THE DRAWINGS AS A TEMPLATE, PIN DOWN ONE OF THE STRINGERS PREVIOUSLY ASSEMBLED. POSITION AND GLUE END DIAGONALS. REFER TO ISOMETRIC DRAWING (FIG. #1) AS NEEDED.

USING 1/8 x 3/16 STRIPS (PURPLE END) MAKE SIX DIAGONALS. THE CENTER TWO DIAGONALS SHOULD BE FITTED VERY CAREFULLY. THE REMAINING FOUR CAN BE FITTED ON LOWER END ONLY AT THIS TIME. WHEN ALL PIECES ALIGN OVER THE DRAWING, THEY MAY BE GLUED IN POSITION (INSIDE DIAGONALS).

✓ USING 1/8 SQUARE STRIP (BROWN END). MAKE SIX DIAGONAL BRACES. AGAIN ONLY THE LOWER END NEED BE FITTED AT THIS TIME. BE SURE TO APPLY GLUE TO ALL POINTS WHERE THE DIAGONALS CROSS EACH OTHER. (MIDDLE DIAGONALS)

✓ USING 1/8 x 3/16 STRIPS (PURPLE (YELLOW END)) MAKE SIX DIAGONALS. THESE ARE THE SAME AS THE INSIDE DIAGONALS, AND ARE MADE THE SAME WAY (OUTSIDE DIAGONALS)

✓ AFTER GLUE SETS, USE A STRAIGHT EDGE AS A GUIDE AND TRIM THE TOPS OF ALL DIAGONALS EVEN WITH THE BOTTOM OF THE UPPER BEAM. A SANDING BLOCK MAY BE HELPFUL HERE TO OBTAIN A GOOD FIT.

✓ THE TOP BEAM PREVIOUSLY LAMINATED CAN NOW BE GLUED TO THE TOP OF THE DIAGONALS. WHEN GLUE DRIES THE TOP BEAM CAN BE TRIMMED TO LENGTH.

✓ MAKE SECOND SIDE GIRDER AS YOU MADE THE FIRST ONE.

✓ MONOFILAMENT LINE IS INCLUDED FOR USE AS TENSION RODS. REFER TO SCALE DRAWINGS AND FIGURE 1 FOR POSITION OF EACH ROD. HOLES CAN BE DRILLED FROM THE TOP AND BOTTOM TO INSERT MONOFILAMENT. THE METHOD WE USED, WAS TO INSERT THE LINE THROUGH THE BOTTOM. PUT A SMALL DAB OF ACC CEMENT ON THE END OF THE LINE AND INSERT INTO THE HOLES ON THE TOP BEAMS. NUT-BOLT CASTINGS WILL BE MOUNTED ON THE TOP BEAMS. THE LINE IS INSERTED ONLY A SHORT DISTANCE. AFTER THE CEMENT HAS DRIED, THE LINE IS INSERTED IN THE HOLES IN THE BOTTOM STRINGERS, THEN PULLED SNUG. A DROP OF ACC IS USED TO HOLD LINE IN PLACE. WHEN DRY, TRIM EVEN WITH THE BOTTOM OF THE BOTTOM STRINGERS.

✓ THERE ARE FOURTEEN TENSION RODS ON EACH SIDE GIRDER. AFTER ALL RODS ARE IN POSITION, THE LARGE NUT-BOLT CASTINGS CAN BE CENTERED IN THE HOLES ON THE TOP BEAMS.

✓ THE REMAINING NUT-BOLT CASTINGS CAN NOW BE INSTALLED. DRILL A HOLE AT EACH LOCATION. PRESS-FIT OR CEMENT AS YOU DESIRE. WE INCLUDE ENOUGH CASTINGS TO DO THE ENTIRE BRIDGE BUT REMEMBER ONLY CERTAIN SIDES WILL BE SEEN ON YOUR LAYOUT. YOU MAY NOT WISH TO INSTALL THOSE THAT WILL NOT BE SEEN.

✓ YOU ARE NOW READY TO ASSEMBLE THE SIDE GIRDERS TO THE DECK. DRAW A PENCIL LINE 3/8" FROM TIE ENDS RUNNING THE LENGTH OF THE DECK. SOME OF THE TIES WILL HAVE TO BE TRIMMED TO ALLOW THE DECK TO SIT ON THE STRINGERS. REFER TO FIGURE #1. CHAMFER TIES WHERE THE DIAGONALS FIT. IT MAY BE NECESSARY TO REMOVE THE ENDS OF SEVERAL TIES. THE BOXES

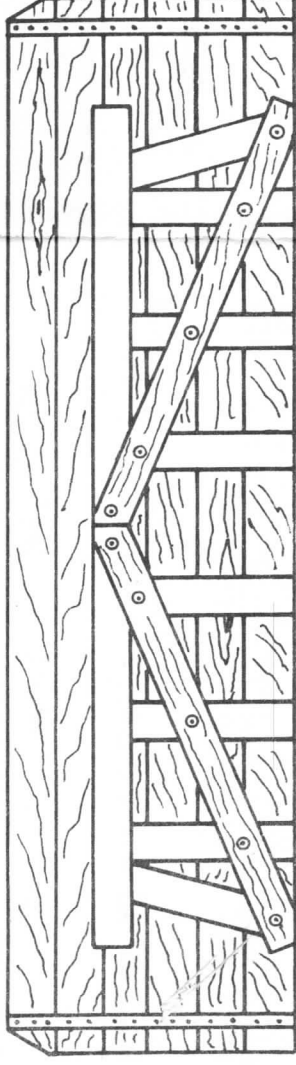
WITH X'S ON THE DECK PLAN ARE APPROXIMATE LOCATIONS WHERE TIES WILL NEED TO BE ALTERED. DO BOTH SIDES AT THIS TIME.

✓ AFTER BOTH GIRDERS ARE FITTED TO THE DECK, THE SQUARE BRACE CAN BE GLUED IN PLACE. INSTALL NUT-BOLT CASTINGS FIRST. THIS BRACE CAN BE GLUED TO THE SIDE GIRDERS FOR MAINTENANCE AND TRACK CLEANING LATER. IF NOT THE WHOLE ASSEMBLY CAN BE GLUED TOGETHER MAKING A VERY STRONG HOWE TRUSS BRIDGE.

ABUTMENT ASSEMBLIES

OPEN THE PACKAGE CONTAINING PARTS FOR THE ABUTMENTS. PREPARE THE WOOD PARTS AS BEFORE. USING FIGURE #3 AS A TEMPLATE, CUT PILING & CAP TIMBERS TO MAKE BENTS. USE 3/16 SQUARE STRIPWOOD. PIN DOWN CAP TIMBER, FIT & GLUE PILINGS IN POSITION INDICATED ON PLAN.

ABUTMENT PLAN



FULL - SIZE 2. REQUIRED
FIGURE. 3

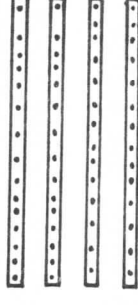
USING 1/16 x 3/16 STRIP, CUT & GLUE SWAY BRACES. WHEN GLUE SETS, BUILD SECOND BENT.

USING 1/8 x 1/4 STRIPS, BUILD RETAINING WALLS. SOME BOARDS DO NOT SPAN FULL WIDTH, THE JOINTS SHOULD BE HIDDEN BEHIND PILING. GLUE BENTS TO RETAINING WALL ASSEMBLIES. THE STRIP IRON BRACING IS REPRODUCED BELOW. CUT OUT AND GLUE IN POSITIONS INDICATED. DRILL HOLES FOR NUT-BOLT CASTINGS AND ATTACH. TOUCH-UP FINISH AS NEEDED AND PAINT IRON WORK. ATTACH ABUTMENTS TO BRIDGE.

AT THIS TIME FINAL PAINTING CAN BE DONE. IF YOU STAINED THE WOOD PARTS BEFORE ASSEMBLY, ONLY MINOR TOUCH-UP WILL BE REQUIRED. IF YOU ARE GOING TO PAINT YOUR BRIDGE, DO IT NOW. IF YOU STAINED THE WOODEN PARTS, ONLY THE CASTINGS AND TENSION RODS NEED BE PAINTED. USE FLAT BLACK, ROOF BROWN, OR RUST COLOR ON ALL IRON WORK. ANY WEATHERING CAN BE DONE NOW.

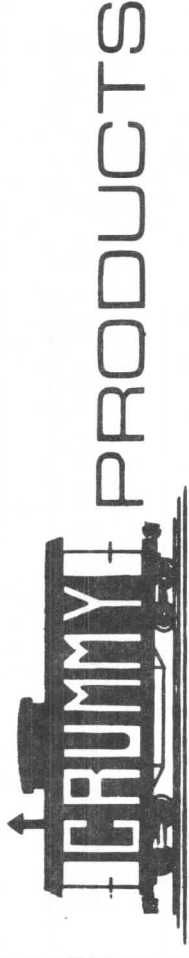
INSTALL YOUR CRUMMY HOWE TRUSS BRIDGE IN THE SITE SELECTED ON YOUR LAYOUT.

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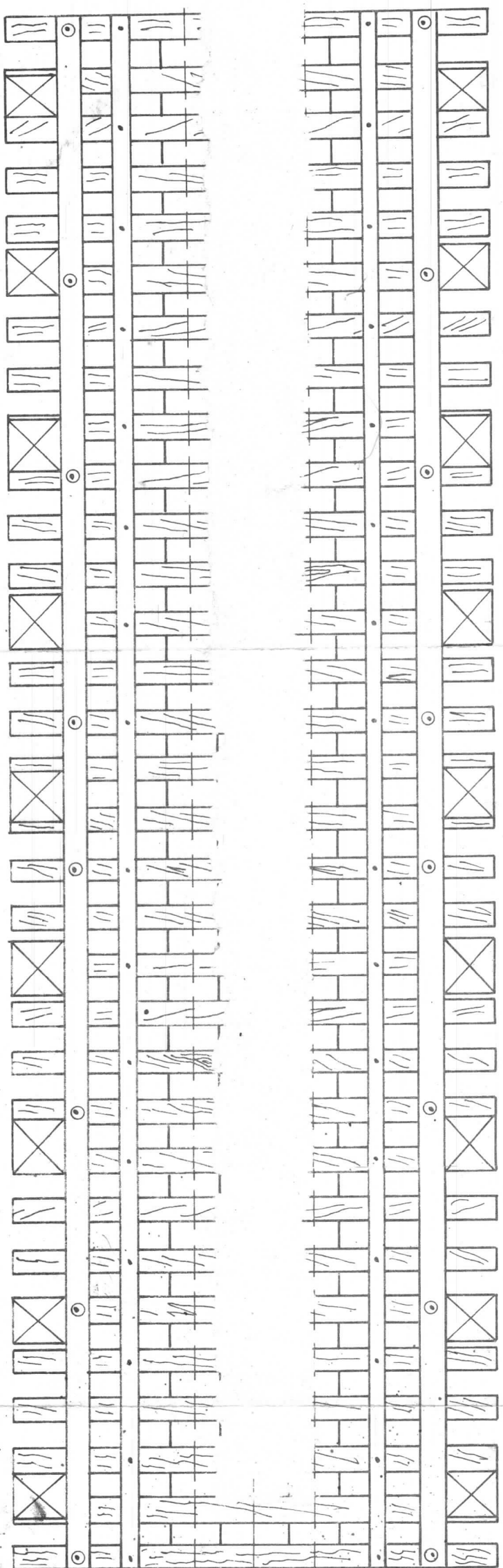
STRAP IRON
BRACING

THANK YOU FOR USING CRUMMY PRODUCTS. WE ARE LOOKING FORWARD TO PROVIDING MORE UNIQUE MINIATURES FOR YOUR MODEL RAILROADING FUN. IF YOU LIKE WHAT YOU HAVE DONE AND WANT MORE, ASK YOUR FAVORITE HOBBY SHOP TO STOCK CRUMMY PRODUCTS FOR YOU.



PRODUCTS

5655 BEECHNUT, BOX 157 , HOUSTON , TEXAS. 77096.

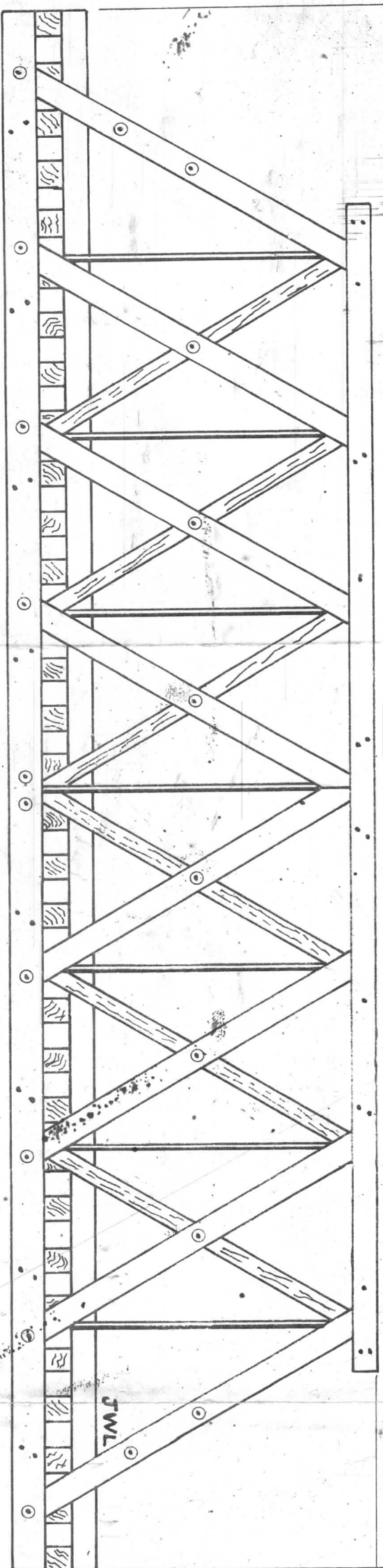


RAIL

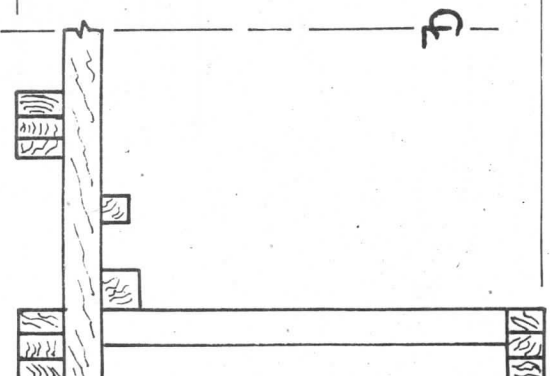
RAIL

HOWE TRUSS
BRIDGE
"S" SCALE
FULL SIZE

DECK PLAN



SIDE



HALF END

