Wrought Lattice Girders between the end posts and by double Struts at intervals, between the intermediate posts; both the floor beams and lateral struts in the longer spans are held in the center by rods, to increase their stiffness; the diagonal and counter ties are secured in brackets on the posts to prevent vibration and rattling, and the whole work is made with machine-faced joints, turned pins and drilled bars, so as to require no adjustment when once erected, and to secure the greatest possible strength and stiffness under any action of wind and traffic.

For Spans of 275 to 325 feet, we build the Triple Intersection Truss, an example of which is shown on page 1, which was built by us in 1878, and is the longest Highway Truss span in the United States, and unequaled for strength, stiffness and economy of construction. We also have special designs for Truss Spans up to 500 feet length, for which we can submit plans and estimates on short notice.

Plate and Lattice Girders and Rolled Beams may be often advantageously used for spans of 10 to 40 feet, especially in locations where the full width of the road or street is to be bridged. Short culverts can also be made with rolled beams and rolled buckled plates covered with cement, concrete and paved or gravel roadway, so as to form a permanent part of the street surface. Having had a large practice in this class of work, we are prepared to give special plans for same at any time.

Painting.—A special feature in all our work is the facility with which every part of the iron work can be reached for painting at all times, thus making it practically indestructible by preventing any chance for rusting. The hollow closed forms of arches and posts are all objectionable on this account, and we have dispensed with lattice work as far as practicable, using solid rolled posts and struts instead, to facilitate the proper painting of the work, and lessen the spaces in which moisture would collect and cause rust.

Iron and Paved Flooring.—We have in some instances, where the heavy traffic warranted the expense, dispensed with the wood joist and flooring, ordinarily used on iron bridges, and substituted iron joists carrying buckled plate and concrete flooring. We put on an iron floor with Asphalt pavement on 4-35 foot spans, with 22 foot roadway, at Thomastown, Conn., in 1879, which is giving perfect satisfaction. We put Asphalt covering on wood flooring for 190 and 400 foot bridges at Concord, N. H., in 1872 and 1873, with very good results, the cost being small, and the durability of flooring being increased fully four-fold.