

## **The Bowstring Arch-Truss**

A highly significant type including an arched upper chord (tied, or rigidly fixed at the abutments) with diagonals serving as bracing and supporting the roadway, the bowstring arch-truss's development dates from Squire Whipple's patent of 1841. Although Whipple and bridge engineers such as Thomas Moseley patented proprietary forms of the bowstring arch, the arch-truss in the bowstring configuration (with Pratt or Warren trusses) was not frequently built until the late nineteenth century, primarily for lightly traveled rural roads requiring relatively small spans. The development of metal bowstring arch structures is discussed in greater detail in the section of this report entitled "Metal Suspension, Arch, and Cantilever Bridges." Research uncovered previous Maryland Historical Trust survey forms or HAER recordations for one bowstring arch-through truss bridge (HAER No. MD-83; the Waverly Street Bridge at Williamsport) and three pin-connected pony trusses on rural roads (MHT-F-2-5, the Crum Road Bridge over Israel Creek in Frederick County, built circa 1875 by the King Iron Bridge Company; MHT-F-2-2, the Bennies Hill Road Bridge over Catoctin Creek, also a King product built circa 1880 in Frederick County; and MHT-HA-1237, Bridge 51 in the Whitakers Mill Historic District, Harford County, a bowstring arch-truss bridge of undetermined date featuring a Warren truss configuration).