Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	CUM.904
Historic Name:	Stage Road Bridge over Mill Brook
Common Name:	
Address:	2 Main St
City/Town:	Cummington
Village/Neighborhood:	
Local No:	
Year Constructed:	c 1890
Architect(s):	
Architectural Style(s):	Truss Ball; Truss King Post Rod
Use(s):	Other Engineering; Other Transportation
Significance:	Engineering; Transportation
Area(s):	
Designation(s):	
Building Materials(s):	

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Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

CUM.904

MASSACHUSETTS HISTORIC BRIDGE INVENTORY

Municipality: Cummington District: 2

Street name/Rt. #: Stage Rd.
Over
Street name/Rt. #: Mill Brook

Bridge key #: TWN212016100 Photo ##s:

Bridge plan #: C-21-26

Common/historic name:

Current owner:

UTM coordinates:

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National Register status (insert date)

Entered: Potential:

Eligible: Non-eligible:

Field rating: (3) 2 1

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Date built (source): 1890-91 (B.A. Drew)

Date(s) rebuilt (source): 1929 (comp.)

Builder (source):

Designer (source):

****

Structural type/materials: Ball pony truss, "kingpost" version

Overall length: 29' Deck width/layout: 14' out-out.

Skew: -

Main unit, # spans: 1 lengths: 28'

Approaches, # spans: - lengths:

Plaque: No location:

Alterations, unusual features, comments:

new plank deck, stringers are rolled I-beams. might be orig

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Visual quality (bridge and setting): High X Average ___ Low ___

Site integrity: Retained X Violated ___

Describe: Gorgeous wooded setting - rocky streambed between wooded hillsides; abandoned dams (small one ca. 50' below bridge, larger one, w/ several acre pond originally, ca. 200' above) and numerous overgrown masonry foundation and retaining walls line western bank

History of bridge and site:

B. A. Drew says bridge was built elsewhere in Cummington (Rt 9) in 1890-91 and was moved here 1924

Sources:

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Summary statement of significance:

The oldest ^ of only 3 known surviving Ball trusses, all in Massachusetts. D.A. Drew, who has researched Charles H. Ball and his patented iron truss bridges, believes 30-40 Ball truss bridges were built, all in the 1890s and mostly in western Mass. with only a few examples in nearby New York and Vermont. Among the 3 survivors this is the only "kingrod" version of the Ball truss (the other 2 and "queenrod" versions) and it appears structurally unaltered (One of the queenrod trusses - D-1-11 in Dalton - has been heavily reinforced w/ welded steel members)

3rd example is in Windsor, W-41-11, 1893. Dalton bridge was found "Potentially Eligible" 10-6-81, built 1893. You should have a file on that one.

Statement prepared by: ___ **Date:** ___

****

Field survey by: S.J. Roper, MDPW Hist. Bridges Cons. **Date:** 27 Sept 1984

p.s.i., to a valve house at the surface.

The air-depleted water flowed along the tunnel and up a return shaft until it emptied into the river 48 ft. below the intake basin. When more air was produced than was being used, and the air pressure rose above 125 p.s.i., the water level in the tunnel was depressed and the excess air blown out, shooting a fountain of air and water over 100 ft. into the air.

From the valve house the compressed air was transmitted to Cobalt in 20-in. pipes. From there 12 and 6-in. feeders radiated to the customer mines. Air was sold by meter at $.25/1000 cu. ft. to the large mines and at a graduated scale, based upon the number of drills in operation, to the smaller customers. It was not only cheaper than steam or electric power, but was free of noxious gases, and in curious contrast to its means of generation, exceptionally dry, important in winter work.

Other Taylor compressed air plants were at Magog, Quebec (1895), Ainsworth, British Columbia (1897), Peterborough, Ontario (1899), and the Victoria Mine, Ontonagon Co., Michigan (1906). *S.A.O.*

SHAMROCK MILLS (Hanes Hosiery Mill No. 1)

In 1911 Shamrock Knitting Mills, a manufacturer of infants' and men's cotton socks, built a one-story brick building on Marshall St. in Winston-Salem, N.C. The ground floor was a half level below grade, and the main floor was capped by a sawtooth roof which illuminated the knitting rooms. Although the building's architect is unknown, it closely resembled the 1902-03 White Oak Plant of Cone Cotton Mills in Greensboro, N.C. designed by Providence, R.I. mill architects C.R. Makepeace & Sons.

The Mill was divided into seven sections: knitting; packing; drying; dyeing; and boarding (giving shape). The large street-level knitting room housed the knitting machines as well as the looping and trimming equipment. Looping machines secured the toe of the stocking and trimmers cut the loose threads. The heels, however, were trimmed by hand. In the basement the gray goods (undyed hosiery) were stored, dyed and boarded. Each sock or stocking was boarded by stretching it over a cardboard form.

In 1914 Shamrock became Hanes Hosiery Mills, and in 1918 the firm converted to ladies' cotton—later rayon—hosiery. By 1926 Hanes had outgrown the Marshall St. plant and moved to a larger one on W. 14th St. They experienced dramatic growth in the 1930s with the development of nylon, producing the first seamless stockings in the branded retail market by using circular knitting machines. Today the firm is one of the world's largest hosiery producers.

The 1911 structure now stands vacant and is up for sale. The Historic Preservation Fund of N.C., Inc. currently is preparing a Nat'l Register nomination for the buidling. *G.S.T.*

CONTRIBUTORS TO THIS ISSUE

Field Curry, Pittsburgh; Bernard A. Drew, Housatonic, Mass.; Robert M. Frame III, Minn. Hist. Soc.; Stephen A. Otto, Ontario Heritage Fndn.; Theodore A. Sande, Natl. Trust for Hist. Preservation; Peter H. Stott, Columbia Univ.; Gwynne S. Taylor, Historic Preservation Fund of N.C. With thanks.

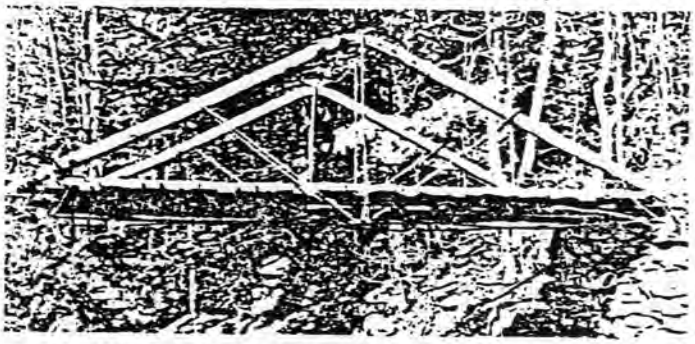
THE UNUSUAL IRON-BRIDGE DESIGN OF THE BI-MONTH

Under the above heading—which we introduce with some hesitation but can't think of a catchier one—we propose regularly to publish accounts of surviving examples of some of the more obsture designs for iron truss bridges that abounded in the late 19thC. The majority, if not all, of these were highly localized and are not apt to be found much beyond their area of origin. Perhaps the most interesting of this family are the bridges formed of sections not intended for structural work: today tubing; next issue railroad rails.

BALL'S IRON-PIPE BRIDGES

Charles H. Ball (1861-1928) built tubular truss bridges in a small shop in E. Windsor (Berkshire Co.), Mass., in the 1890s. He grew up on a farm outside the village, and worked for a number of years as a mechanical engineer with the Stevens Mfg. Co. of Cummington, a maker of wooden brush handles and pencils.

Ball became a partner in a machine shop in E. Windsor c1888. A few years later he began to manufacture and market iron bridges. Several were sold to neighboring towns in western Mass. and southern Vermont. Two of the bridges were erected in Windsor—they cost $200 each—but one was destroyed, apparently in a turbulent flood in 1938. Presumably other Ball structures met similar fates, as only four are known to exist today.



The Ball "tubular" truss bridge at Cummington, Mass. *Donna Drew photograph.*

Ball described his structures in a sales pamphlet: "To meet the demand for a low-priced iron bridge having all the important qualifications of strength and durability found in the best iron bridges now made, I have perfected a pipe truss bridge which is shown in the sketches. The question of artistic or architectural effect are not considered in planning this bridge. The main point being to produce a strong cheap bridge that will last as long as any iron bridge and cost but little, if any, more than a good wooden bridge.

"The pipes used are not the ordinary gas or steam pipes found in the market, but are heavier and are made for special purposes requiring great strength. The beams and floor joists are of steel and the rods and bars of best double-refined iron. Sidewalks will be added when desired. Please send dimensions of bridge needed and estimated cost will be furnished by letter, or in person . . ."

Here are brief descriptions of the surviving Ball bridges. All except Cummington's are in Berkshire Co.:

The **Dalton bridge** spans 41 ft. and is the longest. An 1895 town report indicates the cost was $386 for the bridge, $472.06 for the substructure and railing. This is the only structure still bearing the maker's plaque, which reads: "Built 1894 by C.H. Ball, East Windsor, Mass. Patented July 25, 1893. S.L. Young, F.L. Warren, G.T. Pike, Selectmen of Dalton, Mass." [UTM: Pittsfield East 530051.]

GONE → The 34-ft. **Hinsdale bridge** has no railing or other accessories; is located near the source of the Housatonic River. [Peru 556953.]

Cummington's (Hampshire Co.) 28-ft. triangular bridge was moved to its present site in 1924. [Worthington 721050.]

Windsor's 31-ft. span was constructed of pipe smaller than the other examples (5.75" vs. 6.75" diam.), and has a railing on one side. [Plainfield 648106.]

Bridge building apparently was not a profitable venture, for Ball purchased a portable sawmill in 1895 and began a woodworking business which thrived until his death. *B.A.D.*

NURTH ELEV.

VIEW OF BRIDGE FROM E. APPROACH

View of W Abutment and floorbeam to hanger connection from South side

View of West abutment from N side

Photos: MARTIN GLENDON, Aug. 1987

View toward E Abutment, showing truss connections. Photo: MARTIN GLENDON, AUGUST 1987

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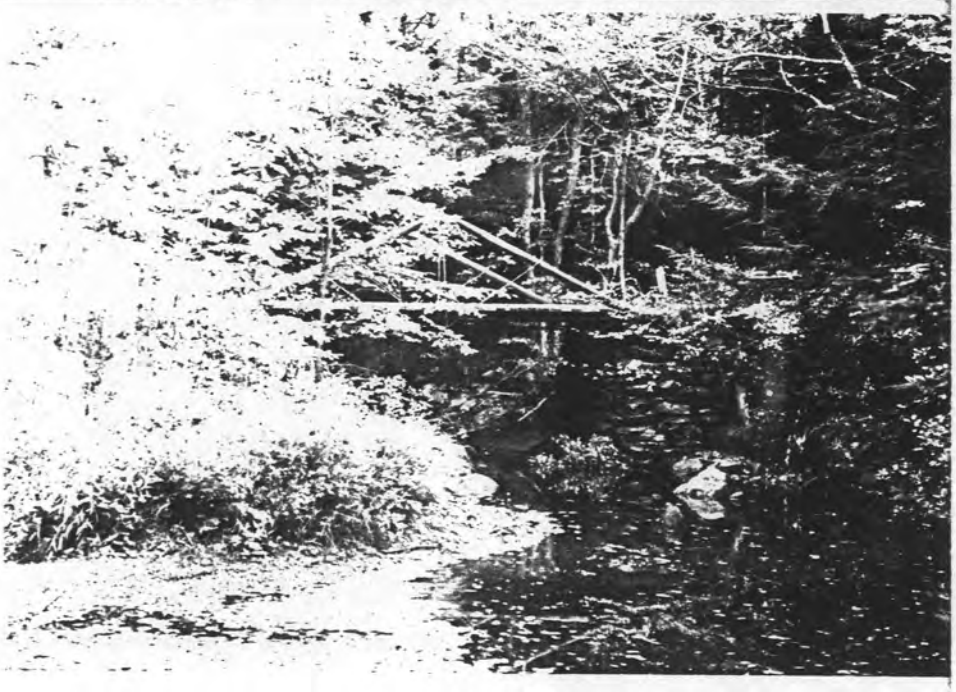

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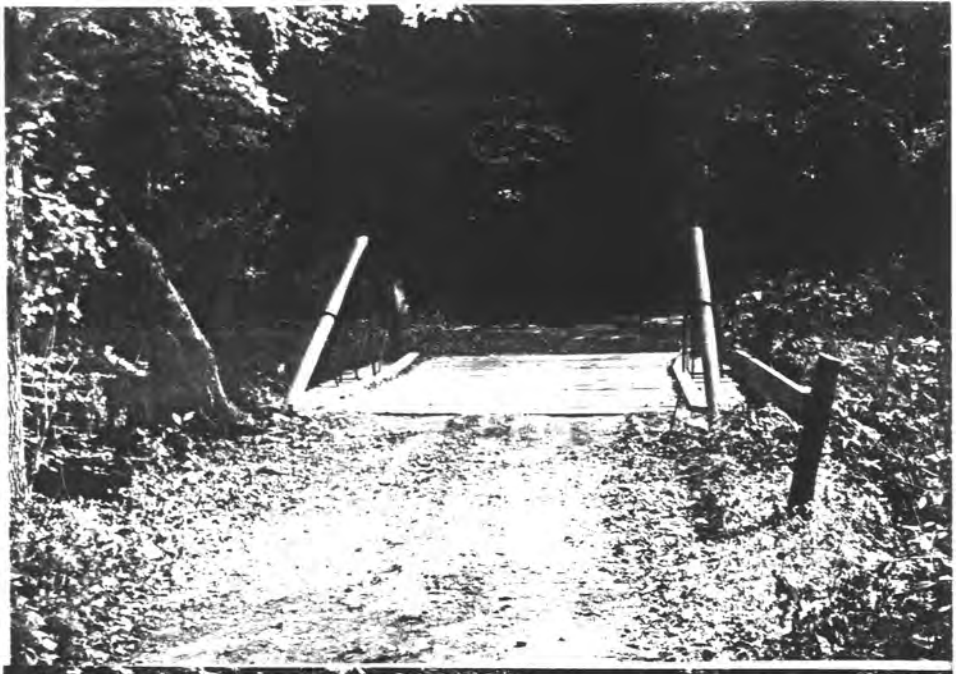

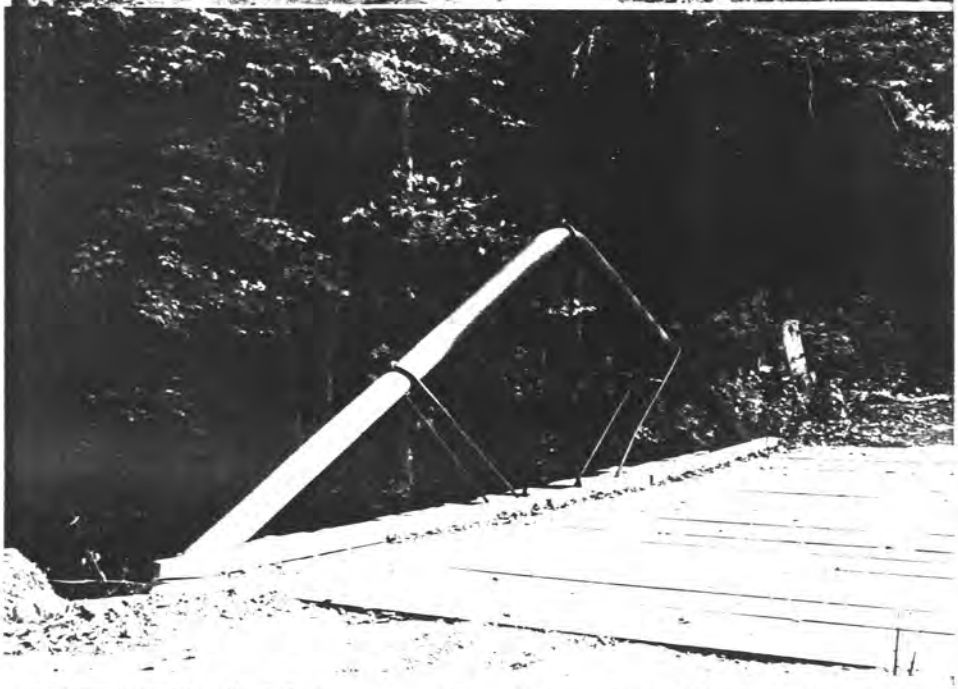

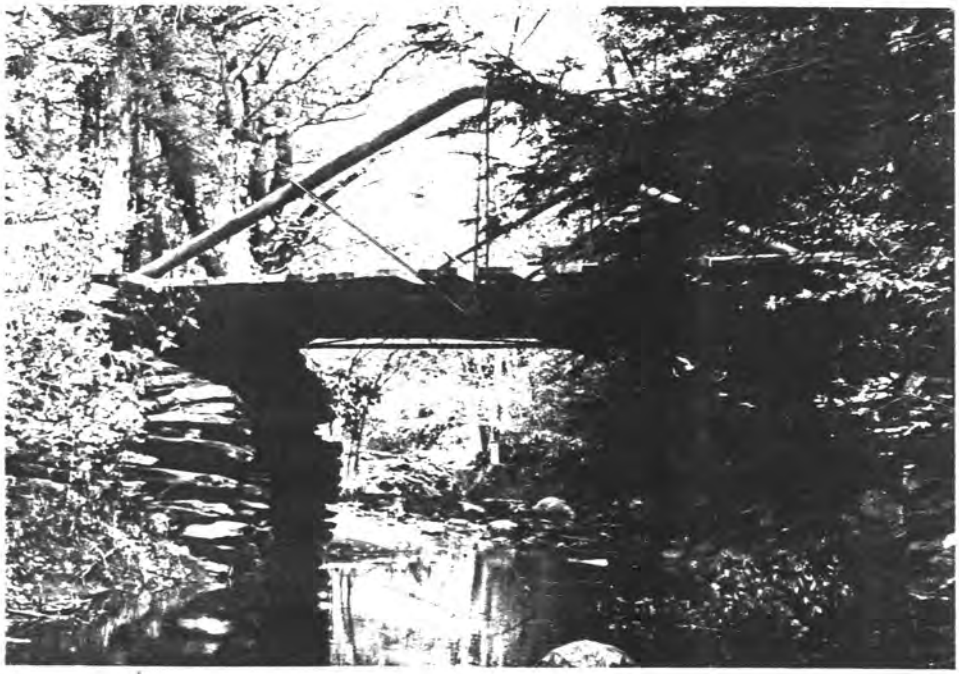

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for comparison —

& some photos of the unaltered queenrod Ball truss, W-91-11