

COVERED WOODEN
BRIDGES
OF
BENNINGTON *and* VICINITY

By
JOHN SPARGO

*Director-Curator of Bennington Historical Museum
and Art Gallery*

Illustrated

BENNINGTON HISTORICAL MUSEUM AND
ART GALLERY, BENNINGTON, VERMONT

1953

THE COLYER COLLECTION
OF PAINTINGS, SCULPTURES AND SILVER

was bequeathed to the Bennington Historical Museum and Art Gallery by one of its Life Members,

COLONEL JOSEPH H. COLYER, JR.,

together with a portion of his estate establishing the Joseph H. Colyer Memorial Fund for the care, maintenance and display of the Colyer Collection. Colonel Colyer died August 15, 1948.

Under certain conditions and restrictions purchases of works of art to be added to the Colyer Collection of Paintings and Sculptures may be made from the memorial fund.

In the Colyer Collection there are important paintings by the following, among others: *Italian*—Baroccio, Caravaggio, Andrea del Sarto, Palma Vecchio, Salvatore Rosa; *Flemish*—Pourbus, Snyders, Rubens, Van Oost, Van Dyck, Sellaer; *Dutch*—Van Mieris, Van de Velde, Cuyp, Miervelt, Dirk Hals, Bol, Dusart, S. Ruysdael; *French*—Troyon, Cazin, Mignard, Largilliere, Boucher, Daubigny, Bonheur, Vernet; *British*—Lawrence, Opie, Gainsborough, Lely, Hoppner, Beechey, Hudson, Landseer; *American*—Sully, Hart, Innes, Inman, Blackburn, Rembrandt Peale, Chase, Shirlaw, Wyant, Herter; *German and Austrian*—Denner, Holbein the Younger, Hornung, Buhler, Van Gelder.

Among the sculptors represented in the Colyer Collection are: Coutan, Barye, Hudson, Argente, Boucher, MacMonnies, French, Fraser, Sharady, Rinehart, Boulogne, Vicham, Müller, and others.

An elaborately illustrated cloth-bound handbook covering the collection has been published by the Museum. Price \$2.50.

BENNINGTON HISTORICAL MUSEUM AND ART GALLERY

Owned and maintained by Bennington Battle Monument and Historical Association, Incorporated, formed in 1875 for the collection and preservation of relics and data pertaining to the history of the region. Projected in 1875 as one of the major objectives of the newly organized historical society, the museum was not established until 1928.

The museum is regional in scope. It is regarded by many as one of the most beautiful regional museums in the United States, and one of the best managed.

The Art Gallery has been linked on to the museum. It is not regional, but general. It contains examples of the work of many Old Masters as well as modern painters of distinction. It has also a notable collection of sculptures. The art of the region has not been neglected and the collection of paintings by Vermont artists is very fine.

Painters represented include Van Dyck, Rubens, Sarto, Caravaggio, Palma Vecchio, Rosa, Pieter Pourbus, Snyder, Van Oost, Dirk Hals, Sel-laer, Mieris, Cuyp, Bol, Miervelt, Van De Velds, Troyon, Cazin, Bonheur, Mignard, Gainsborough, Lely, Hoppner, Beechey, Lawrence, Inman, Inness, Ralph Earle, Rembrandt Peale and many others. Sculptors represented include Rodin, Daniel C. French, Barye, MacMonnies, Boucher, Coutan, H. Daillon, Simon Moselsio, and many others.

Director-Curator.....	John Spargo
Assistant Curator.....	Richard C. Barret
Conservator of Paintings.....	Michael Alonzo

Contributions of money for the support of the Bennington Historical Museum and Art Gallery are solicited, as well as gifts of objects suitable to the collections. Address the Director-Curator.

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By

BENNINGTON HISTORICAL MUSEUM AND ART GALLERY
BENNINGTON, VERMONT

FOREWORD

This booklet is published by the Bennington Historical Museum and Art Gallery in response to a widespread demand for good pictorial representations of the few old covered wooden bridges that exist in Bennington and vicinity, accompanied by reliable information concerning them. The utmost possible care has been taken to insure complete accuracy. Too much has been written and published about the old bridges, purporting to be "history" that is just nonsense.

The late Professor Louis B. Puffer, of the University of Vermont, a native of Bennington, made the most thorough and complete study of the covered wooden bridges of Vermont that has been made. He was an engineer and he personally visited, studied and photographed more than two hundred covered bridges, practically every one standing during the years his research was in progress. His notes and photographs are in the museum and it is to be hoped that the notes can be edited and, with the photographs, published. For some of the information in the following pages concerning the construction and dimensions of the bridges described, and for certain photographs as indicated, I am indebted to the unpublished material of Professor Puffer.

Acknowledgment is also made of the helpful cooperation of Mr. Richard Sanders Allen, of Round Lake, N. Y. Widely known for the enthusiasm with which, for many years, he has collected material relating to covered wooden bridges, Mr. Allen has always been generous and gracious in his cooperation with us at the museum. For historical data and for various useful suggestions grateful appreciation is hereby expressed. Information concerning Henry Bridge not otherwise obtainable came from Mr. Hall Park McCullough, of North Bennington.

The paintings reproduced—Governor Robinson Bridge, by Aston Knight; Chiselville Bridge, by Edwin B. Child and Gilbert Smith; West Arlington Bridge, by Gilbert Smith; and Red Bridge, by James T. White—are owned by the museum.

JOHN SPARGO.

ILLUSTRATIONS

GOVERNOR ROBINSON BRIDGE

From painting by Aston Knight, owned by Museum

CHISELVILLE BRIDGE

From painting by E. B. Child, owned by Museum

ARLINGTON GREEN BRIDGE

From painting by Gilbert Smith, owned by Museum

SILK BRIDGE

From photograph by L. B. Puffer

BRIDGE AT PAPER MILL VILLAGE

From photograph by L. B. Puffer

HENRY BRIDGE

From photograph owned by the late Mrs. B. T. Henry

HENRY BRIDGE

From photograph by L. B. Puffer

RED BRIDGE

From Water Color by James H. White, owned by Museum

BRIDGE AT NORTH POWNAL

From photograph by H. Lee Hull

MAP OF LOCATION OF BRIDGES

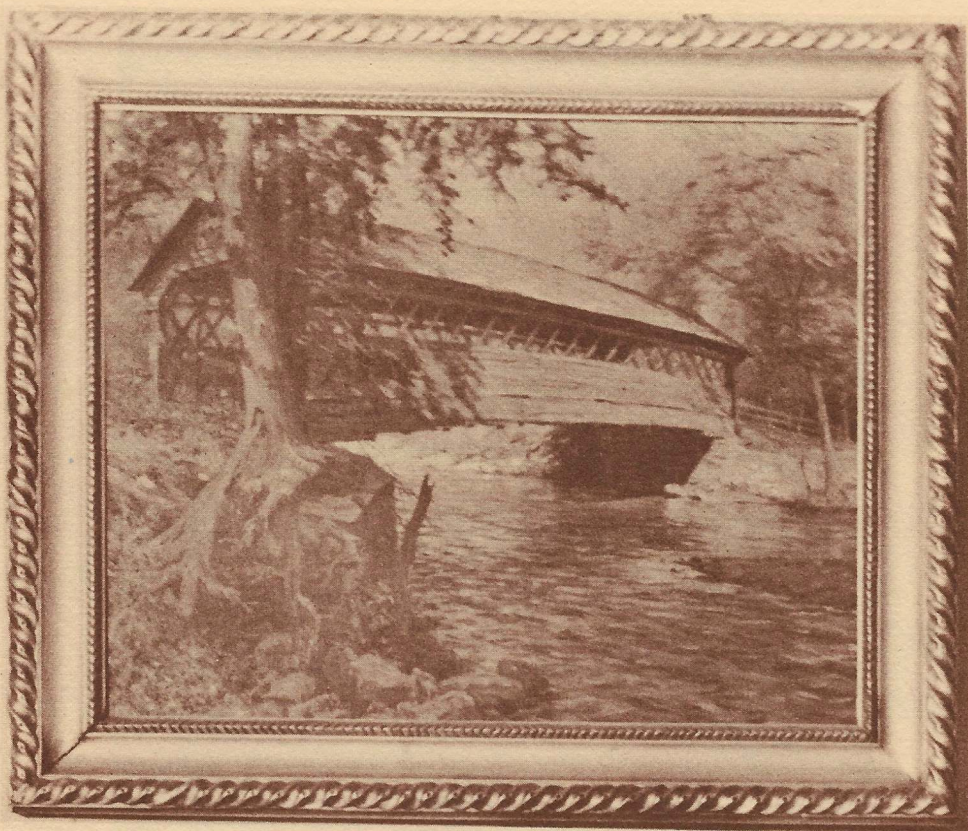
Drawn by Richard C. Barret

POWNAL BRIDGE

From photograph supplied by R. S. Allen

McCAULEY BRIDGE

From photograph supplied by R. S. Allen



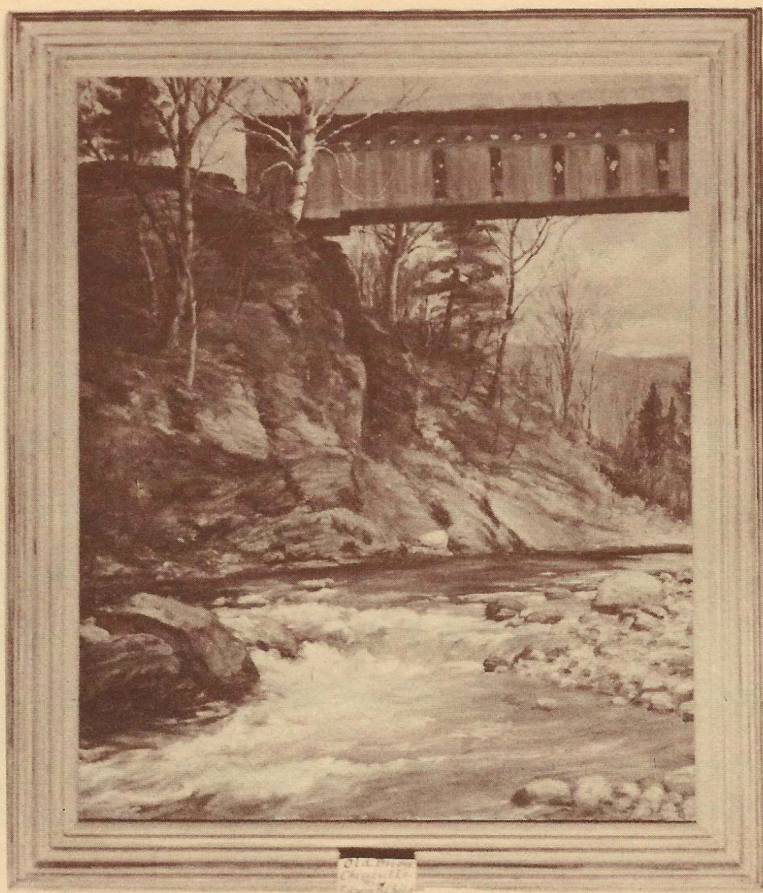
GOVERNOR ROBINSON BRIDGE

From painting by Aston Knight, owned by Museum

The old-fashioned covered wooden bridges that have survived the stress of storms and floods and other ravages of time and the inexorable changes made necessary by the construction of highways suitable for modern transportation, possess a special fascination for many of the tourists who come to Vermont in large numbers every year.

Painters find these old bridges among the most attractive features of the regional landscape. Some of the outstanding painters of Vermont have painted pictures including covered bridges that have attained great popularity. The late Edwin Burrage Child, one of the finest of our New England painters of landscape, painted several pictures in which covered bridges constitute either the primary interest or a secondary one. Gilbert Smith, one of the most popular of our present day Southern Vermont painters, has painted many pictures featuring the five covered bridges that remain in Bennington and vicinity, still serving the purpose for which they were designed.

Altogether aside from their merit as works of art, these pictures of covered bridges by Gilbert Smith and others will acquire, in a not distant future, a new interest as historical documents. In a few years at most the old covered bridges will have disappeared from the Vermont landscape almost entirely. Whatever the merits or demerits of the paintings as works of art, their value as historical data must continually increase.

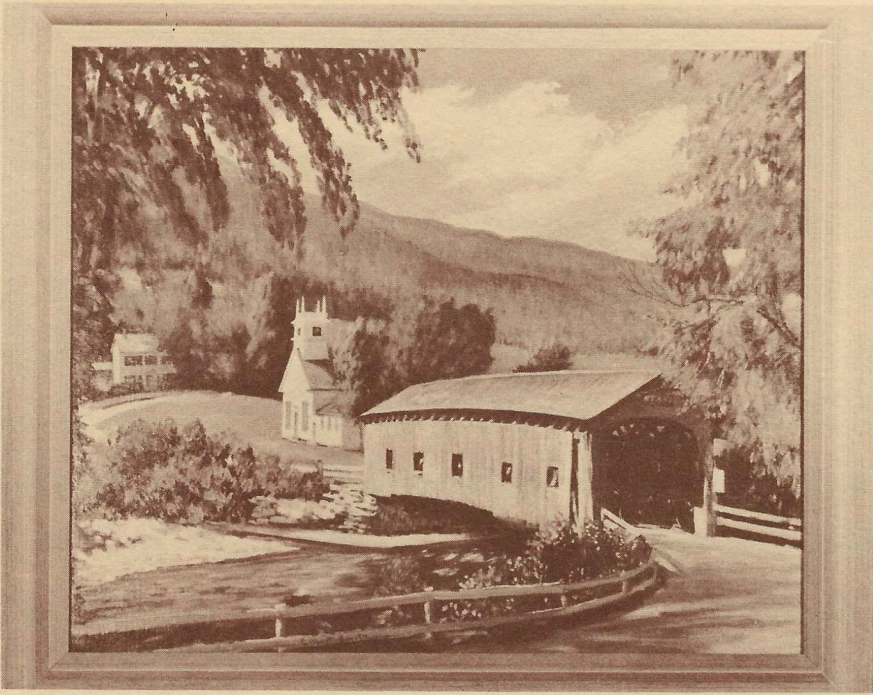


CHISELVILLE BRIDGE

From painting by E. B. Child, owned by Museum

The complete disappearance of the covered bridge from our regional landscape, in a few years, is inevitable. There are many people, including both Vermonters and those we call "Outlanders," who view this inevitability with keen regret. Whenever necessity arises to replace one of the old covered bridges with a bridge better adapted to the needs of present day transportation, the cry is heard "Selectmen! Spare the old bridge!" Occasionally it is feasible to move the old bridge intact to a new location, to span a stream crossing a side road over which there is not much heavy vehicular traffic.

When this can be done economically, at a cost the local taxpayers are both able and willing to bear, it is wise and commendable. There are sound arguments that can be advanced in its favor. There are no sound arguments against it. The old bridges add a note of charm to the scenery; tourists delight in them, and pleasing tourists is one of the most important sources of our economic strength. Catering to the needs and the taste of the hosts of tourists who come to Vermont each year, both summer and winter visitors, is a major business. An old covered bridge moved away from the main highway, but not too far away, and continued in service as a bridge, becomes an "attraction"; and as such it is an asset to all who in any manner or measure profit from the tourist trade. People who rent cabins or rooms in their homes; people who keep hotels or inns; dealers in antiques



ARLINGTON GREEN BRIDGE

From painting by Gilbert Smith, owned by Museum

and home-made products; gift shops; gas service stations; wayside stands—all these are beneficiaries of the wise policy of preserving covered bridges and continuing their use in the service for which they are suited.

While nothing but praise is due to those public authorities that are wise enough to preserve as many old covered bridges as can be used, there is nothing praiseworthy in moving bridges off to one side and setting them upon stone foundations where they "bridge" nothing. In the instances where this has been done the result is disappointing. It is even worse when an old bridge, instead of being moved bodily to a new location, is taken down and then reassembled. Unless the old bridge can be made to function as a bridge on a new location, it is far better to destroy it than to set it up as a functionless structure, no matter how much misdirected emotion finds expression in defense of indulgence in folly.

Some years ago, in connection with the promotion of the silly Green Mountain Parkway scheme, to which many well-intentioned Vermonters unwisely gave their support, it was actually proposed to erect "imitation covered wooden bridges." For picturesque effect, and to gratify the desire of tourists to see covered wooden bridges of which they have heard, it was proposed to erect, over streams and rivers at appropriately spaced points along the "parkway" steel bridges and to cover the steel with a concealing casing of wood! It was felt by the advocates of the scheme that it would be "good business" for Vermont. It is difficult to state the facts with the restraint essential to polite discussion. How much wiser the suggestion to replace obsolete covered wooden bridges with stronger and better ones of the same type. This would not be feasible in many instances, but in some cases it would be entirely so. In fact, this course has been followed in a few instances in our neighbor State of New Hampshire.



SILK BRIDGE

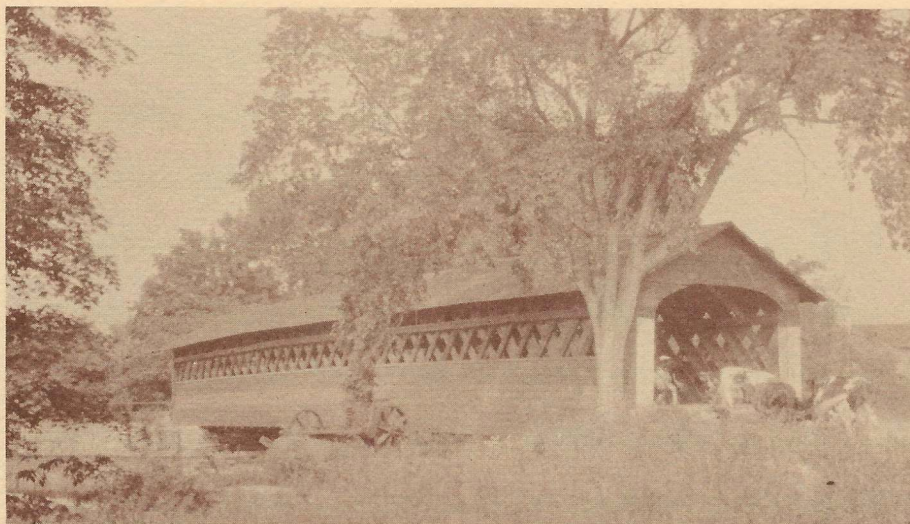
From photograph by L. B. Puffer

Vermont at any time. Probably it is that fact which is responsible for the widespread notion that covered wooden bridges belong exclusively to Vermont. The numerous rivers and streams with which the Green Mountain State abounds dictated the necessity for an unusually large number of bridges. As construction material wood was not a choice but rather a dictated condition. Iron was not available on account of the heavy costs involved. In addition to the fact that practically no structural iron was produced in the State, so that all the iron used would have to be imported into the State, there was the cost of transportation, which frequently involved long hauls from the railroads to the construction sites. On the other hand excellent timber was abundant locally. And there were few towns, if any, in which competent craftsmen to build good bridges could not be found.

Apparently covered wooden bridges originated in Switzerland in the middle of the eighteenth century. Covered or roofed bridges were built very much earlier than that, of course. Notable examples are the famous Rialto bridge in Venice and the equally famous Bridge of Sighs in London. These were of stone and wood in combination. Bridges constructed wholly of wood date from remote antiquity. Caesar's engineers spanned the Rhine and other rivers with wooden bridges. The famous Trajan's Bridge over the Danube was mainly wood. It had timber arches and some writers have claimed that it was more than three thousand feet long.

It is easy to understand how it should have come to pass that throughout the United States millions of people always associate covered bridges with the Vermont landscape exclusively. There is a widely prevalent impression that the covered wooden bridges are indigenous to Vermont and peculiar to it. This is far from being true. Covered wooden bridges are found in New York, New Jersey, Pennsylvania, Massachusetts, Connecticut, Maine, West Virginia, Ohio, and other States.

There are more of the old bridges in Vermont than in any other State today. It is doubtful whether any other State ever had as many as



BRIDGE AT PAPER MILL VILLAGE

From photograph by L. B. Puffer

In modern times the seventeenth century was marked by the erection of numerous wooden bridges in many parts of Europe. This extended bridge building was incidental to the tremendous extension of the highway systems of the principal European nations in that century. The bridges were mostly of the arch type of construction and were not covered. They were radically different from the covered bridges of this country. The covered bridges built by the Grubenmann brothers in Switzerland in the eighteenth century bore some resemblance to our Vermont bridges in construction and in general appearance. While there is no evidence to suggest or to support a theory that New England inventiveness and skill did not originate our covered bridges but merely adapted ideas and plans of Swiss bridge builders, it is possible, and even probable, that our bridge builders knew of the bridges built by the Swiss.

* * *



HENRY BRIDGE

From photograph owned by the late Mrs. B. T. Henry

Timothy Palmer, one of the earliest and most important of the pioneer bridge builders of America, was born in Newburyport, Massachusetts, in 1751 and died in 1821. He designed and built bridges over the Merrimac and Piscataqua rivers in the closing decade of the eighteenth century, 1792-1794. He designed and built over the Schuylkill river, at Philadelphia, a famous bridge that was for seventy years regarded as one of the masterpieces of bridge-building. Called the Permanent Bridge, it had three spans, one hundred and fifty feet, one hundred and ninety-five feet, and one hundred and fifty feet, an overall length of 495 feet. Built of wood in 1804-1806, it lasted until 1875, when it was destroyed by fire. It was a covered bridge and an early contemporary account of the bridge said: "This is now the only *covered* wooden bridge in any country, except that at Wittingen, in Switzerland."

The statement is of interest because it indicates some knowledge of the existence of covered bridges in other countries, or at least of one in Switzerland. The statement was inaccurate in its reference to the covered bridge at Wittingen, which was destroyed in 1799, before the Palmer bridge at Philadelphia was built. It is probable that the statement was inaccurate in at least one other respect: it is believed that there were several other covered wooden bridges in this country when the statement was published. Another noteworthy covered wooden bridge designed and built by Timothy Palmer was that at Easton, Pennsylvania, bridging the Delaware. It was completed in 1807 and cost \$61,000.00. It lasted until 1895, when it was taken down, not because it was unsafe, but because it was inadequate. It was still in good condition when it was taken down and fit for much longer service. It had stood and met all requirements for eighty-eight years.



HENRY BRIDGE

From photograph by L. B. Puffer

Palmer was our first builder of covered bridges, it is believed. He was a self-taught man so far as the art of bridge building was concerned. He insisted that bridges should be covered to protect them from the weather. It is not certain, but highly probable, that he was the first of our American bridge builders to advocate this and practice it. He said that the life of wooden bridges would be extended from fifteen to forty years. Time has proved that he was right and that his estimate was conservative.

Another early American bridge builder was Louis Wernwag, who built many important bridges. He was born in Germany in 1770 and came to the United States at an early age. He died at Harper's Ferry, Virginia, in 1843. He built upwards of thirty bridges of major importance, most of them in Pennsylvania and others in adjoining States. The largest and most famous of his bridges was the one over the Schuylkill at Philadelphia, popularly known as "The Colossus." This was in many respects the most spectacular piece of bridgework ever undertaken in this country up to that time. Built in 1812, it had five parallel arched trusses and a span of three hundred and forty feet. It was built entirely of wood and was destroyed by fire in 1838. Several of Wernwag's later bridges were for railroads.

Theodore Burr, the third of the great trio of bridge designers and builders, was born in Connecticut, probably in 1771, though this writer has not discovered conclusive evidence of the date. He died in Pennsylvania in 1822. He devised, and patented in 1817, a combination of truss and arch, called the "Burr Truss." He built many long bridges, the amount of his work being the more impressive in view of his comparatively short life. He built a bridge over the Hudson river at Waterford in 1804-1805 that lasted in use until 1905, when it was destroyed by fire. It had lasted one hundred years and for many years toward the close had carried heavy interurban trolley traffic. This bridge was in four spans of from one hundred and fifty-four to one hundred and eighty feet.



RED BRIDGE

From Water Color by James H. White, owned by Museum

Burr built a bridge over the Delaware at Trenton, New Jersey, in 1806. He also built a bridge over the Susquehanna at Harrisburg, Pennsylvania, in 1816. This bridge had twelve wooden arch spans. In 1808 he made an unsuccessful attempt to build a wooden suspension bridge over the Mohawk at Schenectady. Burr is the only one of the trio of bridge builders who exercised any direct influence upon bridge building in Vermont. The Burr Truss, or a close imitation, or adaptation, of it featured a few of our covered bridges. Notable among these is the old double track, three truss bridge across the Lamoille river at Cambridge, built in 1845.

* * *

The most potent influence in the designing and construction of our Vermont covered bridges was a man named Ithiel Town, a Connecticut architect. Town, who was born in 1784 and died in 1844 at New Haven was not a bridge builder. So far as we know he never built a bridge. He did not even design a bridge for erection at any particular place. An architect by profession, he interested himself in bridge designing to the extent of devising a new type of truss, called the plank lattice truss. In 1820 he secured a patent for this type of truss which is still called the Town Lattice Truss.

Town granted permits to use his design and to build bridges embracing his patented idea of plank lattices, to whoever would pay him a royalty in accordance with a stipulated scale. He furnished designs and specifications for which he demanded and collected one dollar per foot of span, if the money was paid in advance, before construction was started; two dollars per foot if paid after construction was started.

It should be observed in passing, by way of explanation, that it was quite a common practice at that time for inventor-patentees to grant the right to manufacture the patented article to local craftsmen who agreed to



BRIDGE AT NORTH POWNAL

From photograph by H. Lee Hull

a stipulated royalty payment. There are several articles in the museum in Bennington that illustrate this practice. One Blaisdale in 1874 patented a "dripolator" for making coffee and made considerable money from his invention. He sold to tinsmiths all over New England small brass plates bearing his name and title of his patent. These plates cost the tinsmith fifteen cents. Thus on every "Dripolator" made the patentee got fifteen cents. But he was not himself a manufacturer.

The new plank lattice truss bridges sprang into popular favor from the first. Hard pressed town and county officials welcomed them because they were economical in construction. Town lattice truss bridges required no heavy framing timbers. The entire bridge could be constructed of planks. These were easier to handle and involved less labor expense. Because of the simpler design and construction Town type bridges could be made by any handy man able to do rough carpentry. Built of planks held together by wooden pins, called "trunnels," a corruption of "tree nails," their great merit was that they did not require the costly framing and heavy timbers common to earlier types of bridges. Town lattice truss bridges crowded other types from the market, in very large measure. Because of the simplicity of construction, local officials, such as selectmen and highway commissioners, commonly employed local men to erect bridges in general conformity to the standard Town design, modified according to the whim or thought of the official or of some foreman, using the patented lattice truss, of course. It is this fact that makes it impossible to tell by whom many of our covered bridges were built.

More often than not local records do not record by whom the bridges were built. Very often there are no definite dates. In cases where bridges were built by contract there were definite records made and in some cases these have been preserved. In many instances the date of building a bridge is determined, not from formal records, but from casual allusions or references in contemporary letters, and the like.



POWNAL BRIDGE

From photograph supplied by R. S. Allen

The story of what happened to the three covered bridges that once served the town of Bennington well but no longer exist will explain in part at least something that tourist visitors do not always understand. Why, they ask, have the people of Vermont permitted so many of the old bridges to disappear? The development of our highway system in accordance with the requirements of motorized transportation, replacing the too narrow covered wooden bridges with wider structures of concrete or steel, has been the most destructive force. Even on side roads, where motorized transportation is not great enough to be a problem, it must be admitted that local authorities have sometimes sacrificed good and sound covered bridges for no good reason, simply because they mistakenly assumed that bridges of steel or of concrete would be stronger, more durable and cheaper to maintain in good repair.

Actually the old wooden bridges, properly maintained, have shown greater durability than any other type of bridge. The collapse of a covered wooden bridge under a load, or from inherent weakness, has rarely occurred, if ever at all. Next to the inexorable demands of progress causing replacement of the covered wooden bridges by others better suited to the age, floods have been responsible for the disappearance of many of the old wooden bridges. Many were swept away in the great flood of 1927, for example. It must be remembered, however, that the flood was equally disastrous to all other types of bridges. Steel and iron and concrete bridges possessed no superiority, no capacity for greater resistance to the force of the flood waters. When foundations are swept away the superstructures fall with a crash, no matter of what material constructed.

Mention of one other matter may be helpful to many of our visitors. They find discrepancies between the bridges themselves and many of the pictures of them painted by artists or photographs of them. Formerly it was the general practice to enclose the bridges by boarding up the sides, leaving a few diamond-shaped openings which served both to let in light and to act as vents, preventing the lifting of the superstructure by air pressure.

Sometimes the boarding was carried to within a foot or so of the top, revealing the latticed truss-work. Frequently, too, boards that were ripped off by gales, or by vandals, were suffered to remain off. In many cases the local authorities permitted bridges from which boarding had been removed by accident or design to go without boarding at the sides. It is thus that many bridges are seen nowadays and it must be admitted that the open lattice work is more pleasing to the eye.

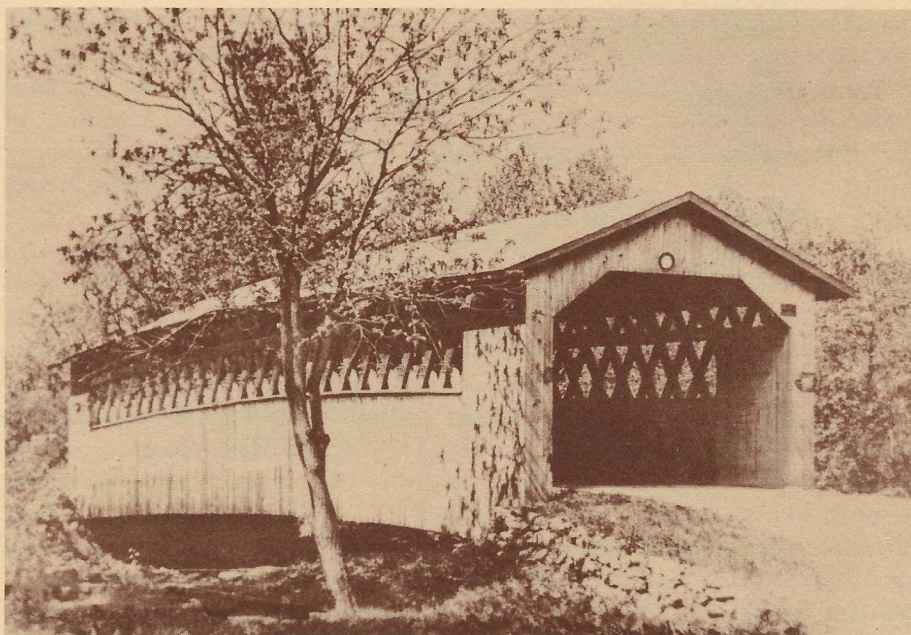
At the risk of being accused of heresy unbecoming a Vermonter, this writer does not think that our covered wooden bridges can be called beautiful without abuse and misuse of that word. It would be hard to name a covered wooden bridge that for gracefulness and beauty bears comparison with any of thousands of bridges of steel and other thousands of stone. Inherent beauty is not an attribute of our old bridges. It is impossible to deny and not easy to define their charm. They add to the landscape a note or touch of color and romance, giving charm to the picture. They are, in this respect, like the red barns and silos and the little white meeting houses. They accent the association of the natural landscape with man and his ways of life. It is quite possible to recognize that a covered wooden bridge, or a meeting house or a school may be without grace of design, and to find it charming and lovely, nevertheless, as a component of a landscape or of a painting. Our covered wooden bridges can not be called beautiful, but they are lovely and charming in their natural setting.

* * *

Of the three covered bridges now standing in the town the oldest is believed to be (A) anciently called Robinson Bridge and more recently Silk Bridge. From 1790 onward, if not from an earlier date, there always was a bridge at this point. When the present bridge was built, or by whom, is not known. It is probable that it was built around 1840 and that Benjamin F. Sears was the builder. His son, Charles F. Sears, who himself built the covered bridge at Bennington Falls, once told the present writer that he believed his father built Robinson Bridge, or was employed on its building. Construction details are as follows: It is ninety feet long. It has a roadbed surface fifteen feet wide. It is of the Town lattice truss type, constructed of three by ten planks, with chords of eight planks as usual.

The bridge at Bennington Falls (B), was built in 1889 by Charles F. Sears. It is therefore sixty-four years old. It is of the Town lattice truss type of construction. It is one hundred and thirty feet long and the roadbed fifteen feet wide. In its construction three by ten planks were used throughout with chords of eight planks. Our photograph was taken in 1932 and was selected from a large number as being the best for use as an illustration in this little book. Recently, in the summer of 1952, the bridge has undergone extensive repairing and is now in excellent condition.

Henry Bridge (C) differs in some important respects from the two previously described. Like them, it is of the Town lattice truss type of construction. But unlike them it is triple latticed. It is a feature that calls for some explanatory discussion. Apparently the bridge was built with standard single lattice trusses. Unfortunately, we are unable to determine when that was. Because it was constructed after the Ithiel Town design, being a typical Town lattice truss bridge, we know that it could not have



McCAULEY BRIDGE

From photograph supplied by R. S. Allen

been built until some time after 1820, the year when Ithiel Town patented his design.

There had been some sort of a bridge there at a very early period, prior to the Revolution. It must have been an open bridge, made of timber. In all probability, it was of the simplest construction, tree trunks laid side by side with heavy planking spiked to them. About 1796-1798 a new bridge was built. In a deed from Joseph Hinsdill to Joseph Hinsdill, Jr., dated March 9, 1799, mention is made of the "Great River" and one of the boundary lines was the "North end of the new bridge by Wm. Henry, Jr." In 1802, in a deed to George Gay, the bridge is still referred to as "the new bridge." By 1814 it had ceased to be known as the "new bridge," apparently: in a deed from James Hinsdill to Daniel Hinsdill it is referred to as "the bridge which crosses the river near the dwelling house of Wm. Henry." For these details the writer is indebted to Mr. Hall Park McCullough.

The existing Henry Bridge is probably the third in the line of succession of bridges built at this spot. When it was built or by whom this writer has been unable to discover. Obviously, it must have been built some time after 1820, the year of Town's patent. As a guess it is suggested that it probably was built some time in the 1830-1840 decade. In May, 1866, the Burden Iron Company of Troy, N. Y., purchased from George Hinsdill at a cost of thirteen thousand five hundred dollars one hundred and twenty-five acres of land. This land contained the locally famous iron ore beds which the Burdens operated successfully for several years. Heavily laden wagons had to transport the ore over the Henry bridge to and from the ore beds to the furnace. It was for the purpose of strengthening the bridge

to make it capable of standing the new additional stresses and strains that important changes were made in its construction, including the resort to triple latticing.

The addition of two additional layers of lattice trusses did not strengthen the bridge at all, though that was the intention. Instead, it was an added weakness. This was made evident in the course of the extensive repairs to the old bridge in the summer of 1952. There is sound reason for believing that the bridge needed no reinforcement; that in its original form it would have proved adequate to the service required. It is more than likely that the Burdens and their superintendent underrated the strength and durability of the bridge. Be that how it may, careful examination of their work proves that they knew far less about bridges and bridge stresses than Ithiel Town and other self-taught bridge designers knew, less than the local bridge builders found in every part of Vermont knew. Otherwise they would not have supposed that mere addition of timber would result in added strength.

Scientific methods of calculating bridge stresses now familiar to designers and builders were entirely unknown to the designers and builders of the old covered wooden bridges. There was no science to govern their practice. The first theoretical treatise on the subject of calculating bridge stresses was the book by Squire Whipple, published in 1847. When this fact and its necessary implications are borne in mind, the achievements of our early bridge designers and builders are all the more remarkable.

* * *

Our neighbor to the south, Pownal, does not have a covered wooden bridge left. Prior to the flood of 1938 it had one. Formerly there were two in the town, each of them the object of very great interest. The one that spanned the Hoosic river at North Pownal was built in 1834 by Noel Barber. It was four years more than a century old when it was destroyed by raging flood waters in 1938. It was a two-span bridge of the Town lattice truss type of construction. The other bridge spanned the Hoosic river near Pownal Center. Originally it was a single span bridge, also of the Town lattice truss type, and its length was one hundred and fifty feet. It was taken down and replaced in 1944. At some time, said to have been at the opening of the century, two concrete piers were erected to make a three-span bridge of what had been a single span bridge. Apparently at that time also, but possibly earlier, an unusual feature was added in the form of cross bracing frames, composed of heavy six by seven braces and two by eight stretchers. Our illustrations from photographs of the two bridges will be of special interest to local residents of middle age and older.

Our neighbor to the north, Arlington, has one fine and attractive covered bridge still standing. It had two until the devastating flood of 1927 swept away the bridge over the Battenkill on Roaring Branch, on U. S. Route 7. Known as McCauley Bridge, it was built in 1852. It stood for seventy-five years without noticeable weakening. To all appearances, it was strong enough and sound enough to give service for at least another seventy-five years. Its demolition had nothing to do with any weakness of the wooden structure. The rampaging torrents swept away the foundations upon which the superstructure rested, causing it to crash into the turbulent water. Quite frankly there were many who were glad to have the bridge

disappear and give place to one better adapted to motorized vehicular traffic.

Arlington Green Bridge, so called, is just off Route 313, west of West Arlington. It spans the Battenkill. Of the Town lattice truss type, it was built in 1852 with no special features. One of the shorter bridges, its length being only sixty-six feet, its setting is unusually attractive, making as lovely a scene as Vermont has to enchant the stranger. It has stood well the stresses and strains of a hundred years. Fortunately, there is not now, nor is there any likelihood of being in the near future, vehicular traffic in sufficient volume to make the old bridge to be regarded as either inadequate or hazardous. Traffic requirements are not likely to cause its removal. Meanwhile it remains proudly, a notably charming feature of a landscape of great beauty. Its role as an attraction to tourists makes it an economic asset to Bennington County.

Chiselville Bridge is on the gravel road leading from East Arlington to Sunderland. It is most often credited to Arlington, but is in fact situated within the town limits of Sunderland. It is built high in the air, some forty feet over the Battenkill's Roaring Branch. It is a favorite subject for the artists of Southern Vermont. Edwin B. Child's painting of the fine old bridge, in the Bennington Museum, is well known and deservedly popular.

This picturesque bridge was built early in 1870 by Daniel Oatman. It is therefore over eighty years old and there is no apparent reason why it should not last another fourscore years. An earlier bridge that spanned Roaring Branch was a little way farther down toward Arlington. It is not known to the present writer whether the former bridge was within the limits of Arlington or in Sunderland. It is known only that the bridge was swept away by a flood in 1869. Daniel Oatman undertook to build a new bridge that would be out of the way of freshets and floods. That is why he chose the site across the gorge, where the bridge is placed high above any level the river is likely to reach even at flood. The condition of the bridge after eighty-three years is testimony to the complete vindication of Daniel Oatman's judgment.

As of October, 1952, there were one hundred and twenty-two covered wooden bridges in Vermont, of which five were in Bennington County. There can be no sensible doubt that in a few years most of the ones now standing will disappear. The sober fact is that the covered wooden bridge is not adaptable to the needs of modern highway traffic. There are a few of the old bridges which can render service now and may be able to do so for many years to come. Off main travelled highways these few bridges, or some of them, are adequate for the light vehicular traffic of less used roads. The five bridges that remain standing in Bennington County would seem to belong to this category. They can be preserved and continued in use, and this should be adopted as part of our public policy.

GIFTS AND BEQUESTS

Gifts to the Museum Collection and Contributions to its Funds are earnestly solicited. Checks may be sent to the Historical Museum and Art Gallery, Bennington, Vermont. Gifts may be deducted from taxable income.

A suitable form for use in testamentary bequests is:

I give and bequeath to the Bennington Battle Monument and Historical Association, a Vermont corporation (here state the amount or give description of the gift), for the exclusive use and benefit of the Bennington Historical Museum and Art Gallery.

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Gifts of genealogies of New England families, and genealogical data, will be gratefully received and placed in our Genealogical Library.