1882.

# ILLUSTRATED PAMPHLET

—OF—

# WROUGHT IRON BRIDGES,

—BUILT BY—

## Wrought Iron Bridge Co.,

CANTON, - OHIO.

---

**F. R. STEWART, Civil and Contracting Engineer,**

**AGENT FOR WEST VIRGINIA, VIRGINIA AND WESTERN PENNA.**

**PLANS AND ESTIMATES FURNISHED. DIFFICULT FOUNDATIONS A SPECIALTY.**

**PLEASE NOTIFY ME OF ANY BRIDGE LETTINGS IN YOUR COUNTY.**

Office, MANNINGTON, W. VA.

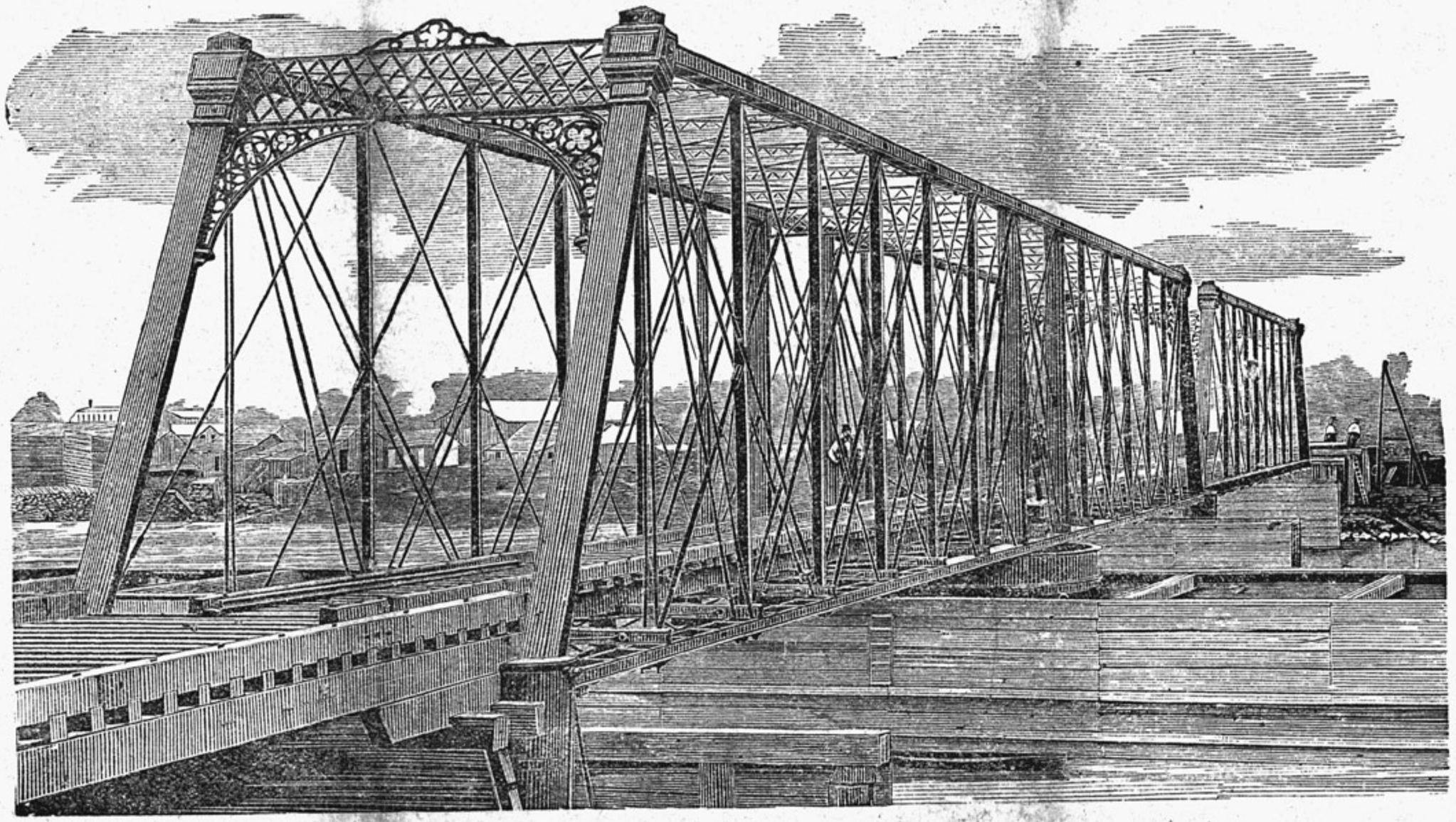
CASSIDY, PRINTER, CANTON, OHIO.

KNOWING that, as a rule, the cost of Iron Bridges, for a term of years, is less than the cost of building, repairing and replacing wooden bridges, and believing the only reason so many bridges are still built of wood to be that those who are charged with the duty of contracting for them are not aware how little difference there really is in the first cost of a good Iron Bridge and a well built wooden one, *of equal strength*, we are at all times pleased at an opportunity to quote prices to officers of Counties, Cities and Townships, even if they have no intention of buying an Iron Bridge, so that they may intelligently compare the cost of the different constructions.

To enable us to name prices intelligently we need information upon the following points:

Number of Spans and length of each Span.
Width of Roadway, and number and width of Footways or Sidewalks.
Kind of Lumber to be used for Joist and Planking, and its value.
Name of nearest R. R. Station, and distance of bridge site from Station.
Depth of water at ordinary level, and height of floor above water.

Also strength or capacity of bridge required, if any particular strength has been determined on; or a general statement as to the nature of travel over the bridge; whether on a country road, a well-ballasted turnpike, or located in a village or city, and subject to very heavy loads.

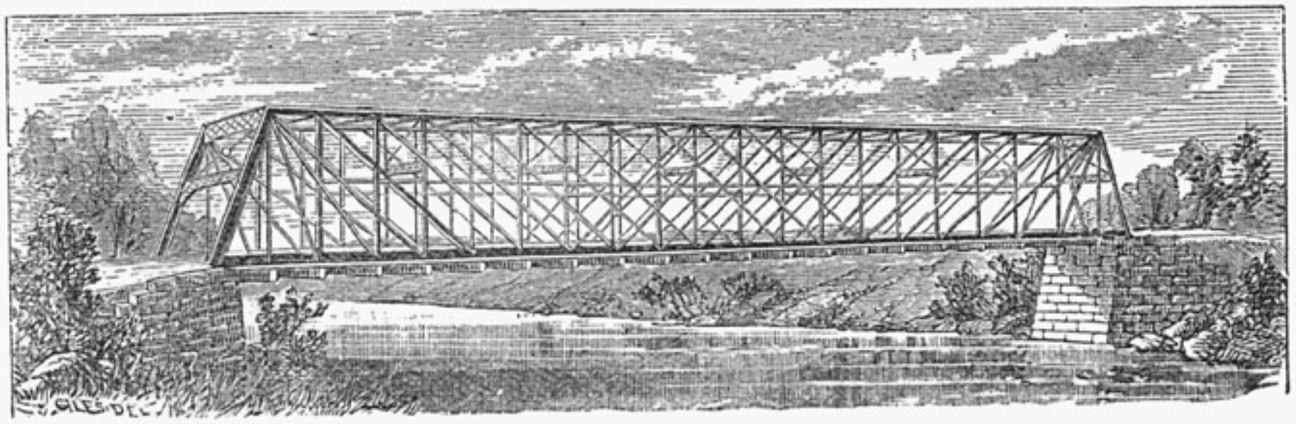


192 FOOT SWING AND 160 FOOT RAILWAY BRIDGE, ON IRON PIERS, EAST SAGINAW, MICHIGAN.

# Officers for 1882.

| | | |
|---|---|---|
| *C. AULTMAN, President,* | *C. AULTMAN,* | |
| *A. HURFORD, Vice-President,* | *A. HURFORD,* | |
| *C. H. JACKSON, Treasurer and Secretary,* | *D. HAMMOND,* | *Directors.* |
| *E. J. LANDOR, Engineer.* | *A. J. DOUDS,* | |
| | *JOB ABBOTT,* | |

# Wrought Iron Bridge Co., Canton, O.



301 FOOT SPAN, 18 FOOT ROADWAY, AT AURORA, IND.

THE construction of durable Iron Highway Bridges instead of perishable wooden structures—securing, as it does, an ornamental and permanent improvement to the public highways, and avoiding their frequent obstruction for the repair or rebuilding of wooden bridges failing from decay, storm or fire—has become an imperative *public want*, wherever trial has been made of properly designed and constructed work.

The only objections to the adoption of Iron Bridges have arisen from the construction by unscrupulous and inexperienced bridge builders of *light and inferior work*, *badly designed and poorly built* of inferior material, and there is no case of failure of Iron Bridges which cannot be clearly shown to have resulted from some of these causes. Iron of proper quality, and rightly used, *has never yet failed* to meet all the requirements of a first-class bridge material, but it must be properly used to give good results; and it is on the ground of their extensive experience in its practical use, and their facilities for ascertaining its quality and manufacturing it into the strongest designs for work, that this Company desire to call the careful attention of the public to its record and facilities.

**Experience.**—During the past 18 years this firm have erected nearly 4,300 spans, varying in length from 20 to 300

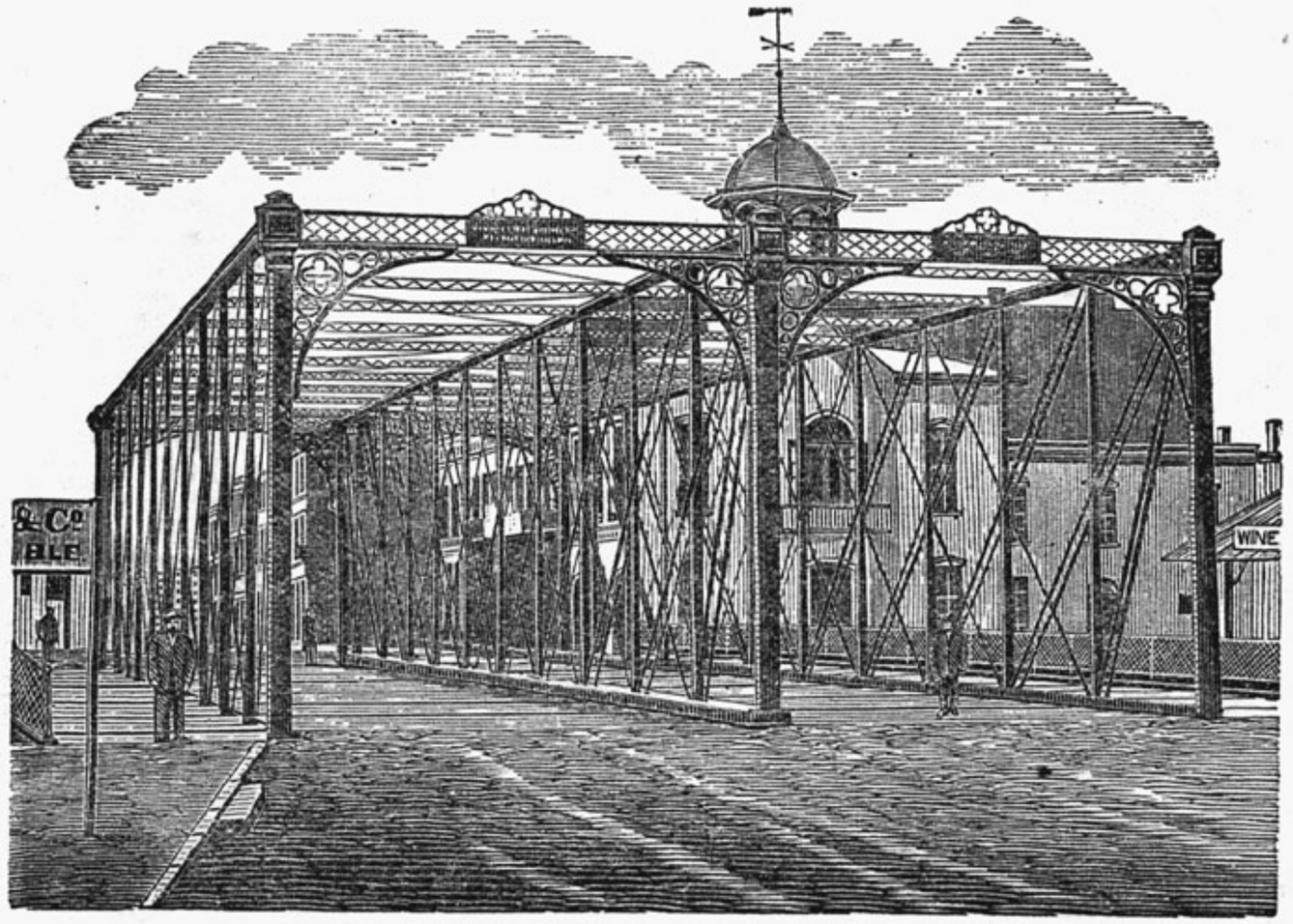
feet, and in width from 6 to 120 feet, aggregating over 50 miles in length, and having an aggregate floor surface of about 94 acres. This work has been erected in 26 different States, Canada and Mexico, and includes nearly all forms of Truss, Arch, Swing and Plate Bridges and Iron Piers, as will be seen from the list of work given on the following pages, giving us the benefit of the most extensive practical experience in Highway Bridge work of any firm in the country.

**Quality of Material.**—We were the first Highway Bridge firm to put in testing machinery for ascertaining the actual strength of iron used in construction, and are the *only firm in this special business* practically applying tests to material received and work built at their shops. All iron is specially manufactured for us under the most rigid specifications as to strength and quality, and *every car-load is carefully tested* immediately upon receipt from the rolling mills, and if found unsatisfactory is returned to them. We offer every facility for testing the iron, and finished iron work, at our shops before shipment, to parties purchasing our bridges; and give their engineer personal supervision of the manufacture, when desired, as was done in the construction of the 6-171 foot spans for Sterling, Ill., and 301 foot span at Aurora, Ind.

**Facilities.**—The works are the largest in extent, and are provided with the most complete machinery of any Highway Bridge Works in the country, as we shall be pleased to prove to anyone who will inspect them, so that our facilities for acurate and reliable work are unrivaled. We have recently added to our outfit the latest improved forms of pneumatic riveting machinery, and have also increased our facilities for steam forging.

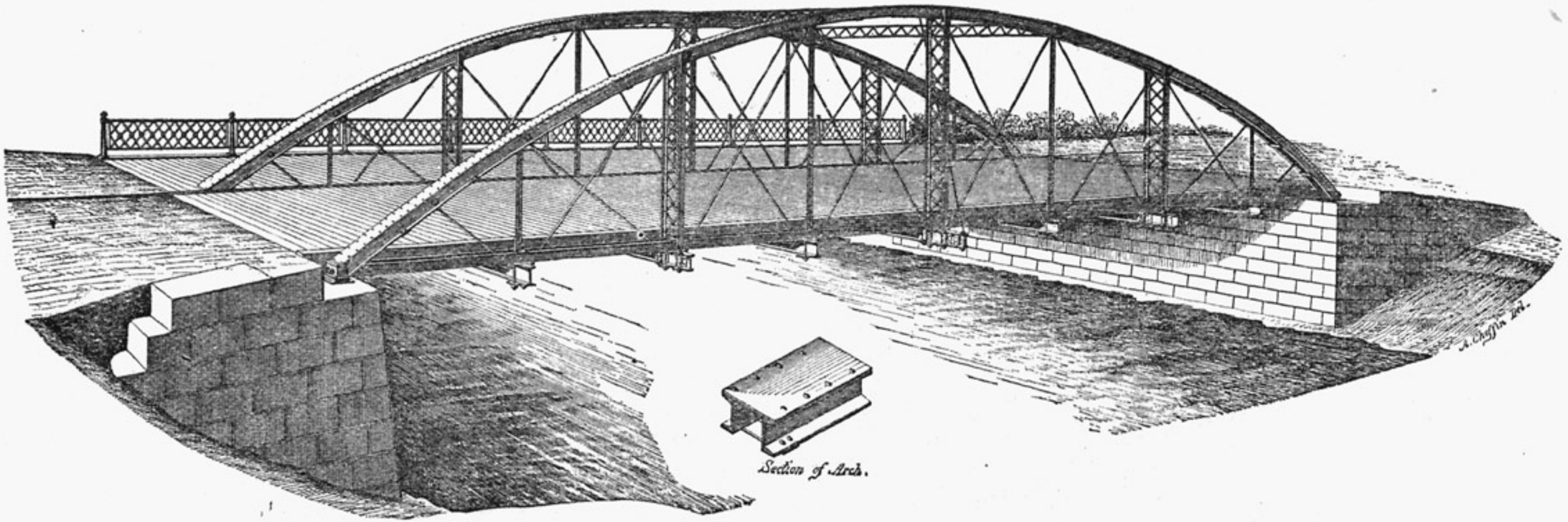
**Erection.**—We have had less accidents in the erection of our work, during the past 18 years, than any other firm doing a large amount of work, having had but four accidents in the erection of nearly 4,800 spans during that time. Our foremen are trained by long experience to meet any emergency that can arise in erection, and parties purchasing bridges of us can depend on having no failures in the completion of work when wanted.

**Rapid Construction.**—Our extensive facilities for construction enable us to complete work in much shorter time than other Iron Highway Bridge firms. We have turned out a complete 60 foot Truss span from the iron as it came from the mills in 7 hours, and have completed 100 to 140 foot spans at points from 100 to 300 miles distant from our works in 8 to 15 days. We received the first iron for the 301 foot span built by us at Aurora, Ind., which weighed more than 180 tons, on Oct. 10th, 1878, and had all the iron work ready for shipment Oct. 31st, 1878. The first iron for the 8-155 foot spans built by us at Northampton, Mass., was received at our works Aug. 18th, 1877; we raised the first span Sept. 25th, and had the bridge ready for travel Oct. 29th, 1877; and the 350 foot bridge, 38 foot wide, built at New Philadelphia, O., was completed for travel in 40 days from the receipt of the contract.




SQUARE END, HIGH TRUSS BRIDGE, ATLANTA, GA.

THE above bridge was erected by us in 1873, and has two 23 foot roadways, and two 10 foot walks, being specially designed to bridge the full width of Broad St., and although built by the City Engineer's orders, much lighter than we recommended, has given entire satisfastion. Other good examples of wide spans erected by us are referred to in the list of bridges given on pages seventeen to twenty-four of this pamphlet.

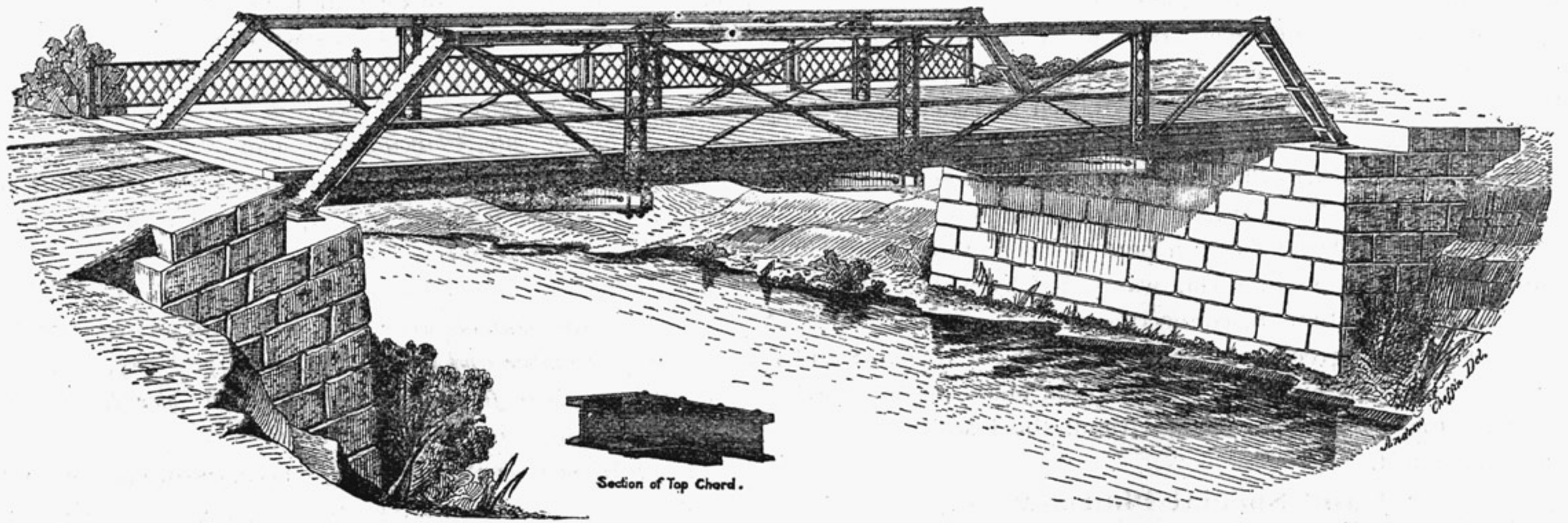



## PLATE AND CHANNEL ARCH BRIDGE.

THIS plan is specially adapted to spans of 90 to 140 feet, and with some modifications can be advantageously used down to 50 or up to 200 feet and over. It is built with eye bar chords, planed arch sections, drilled posts, turned chord pins, and iron floor beams suspended at panel points, thus making the mechanical work as exact as in Truss Bridges. The whole bridge is accessible for painting on both outside and inside surfaces.

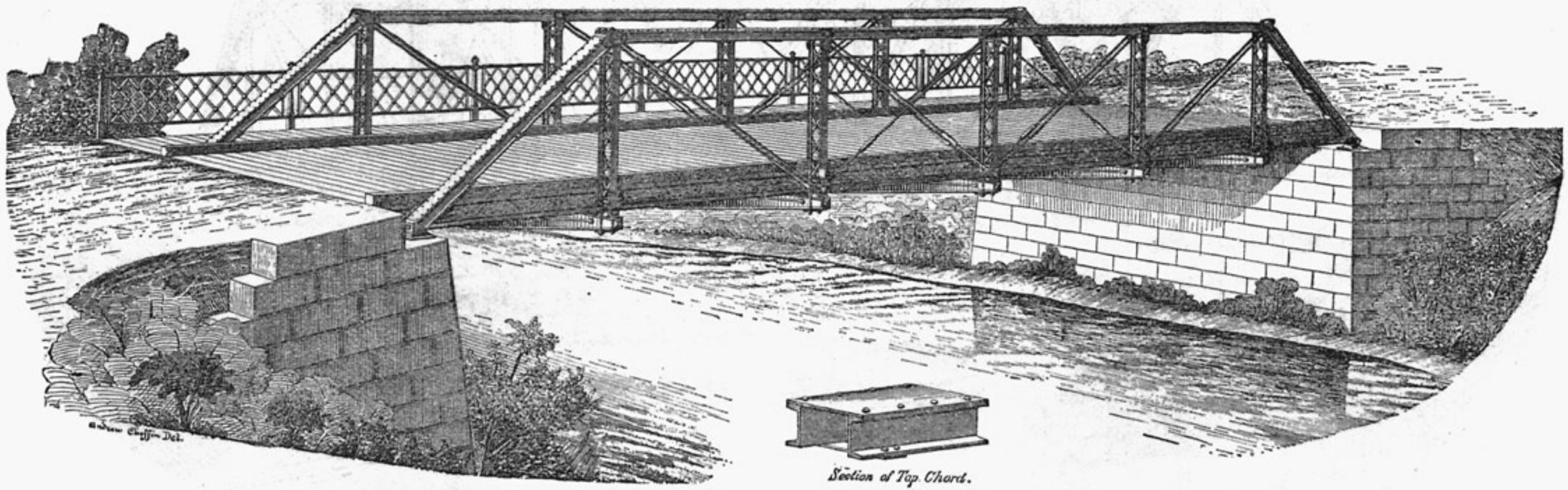
The Lattice Posts. whether made of Star, Angles or Tees, are covered by patents *owned exclusively by this Company*, and all other makers or users will be held liable for damages.

We also build the Column and Channel Arch Bridge, of which we erected over 12 *miles*, from 1870 to 1879, in spans of all lengths, from 50 to 265 feet, (the latter being the longest Bow-string Arch bridge in this country) which is admitted to be the strongest form of arch ever built.




## LOW TRUSS, HALF SLOPE END POSTS.

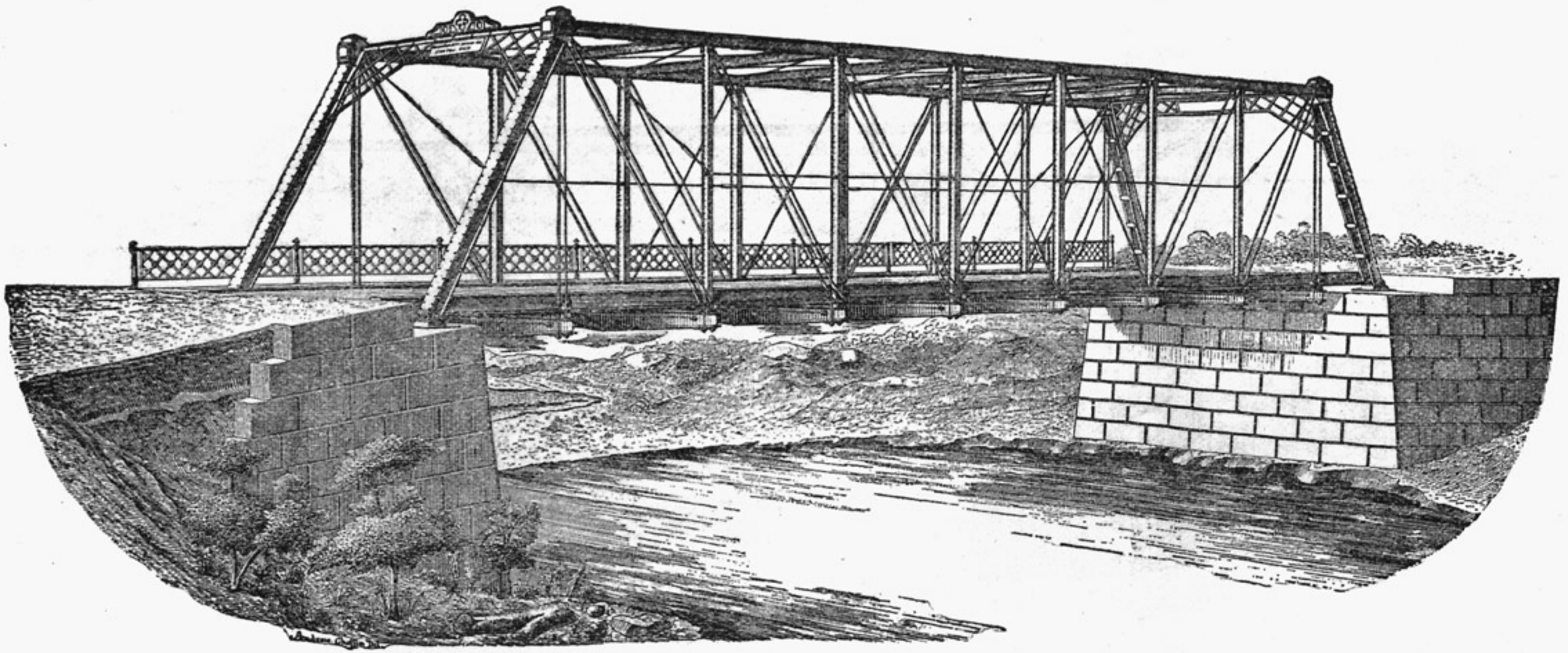
THIS plan is specially designed for spans of 20 to 65 feet, and has been very extensively adopted all over the United States, we having erected over 850 spans in the last six years. The half-slope of the end posts avoids the raking appearance of end post in the ordinary plan, with post sloping a full panel length, besides giving good side protection at the ends of bridges; and the wide Lattice Post made with our patent Beaded Tee (*which is owned exclusively by this Co., all other users being infringers, and liable for damage*), gives perfect lateral bracing to the girders, and is much neater in appearance than the cross or side braces formerly used for lateral bracing.



*Section of Top Chord.*

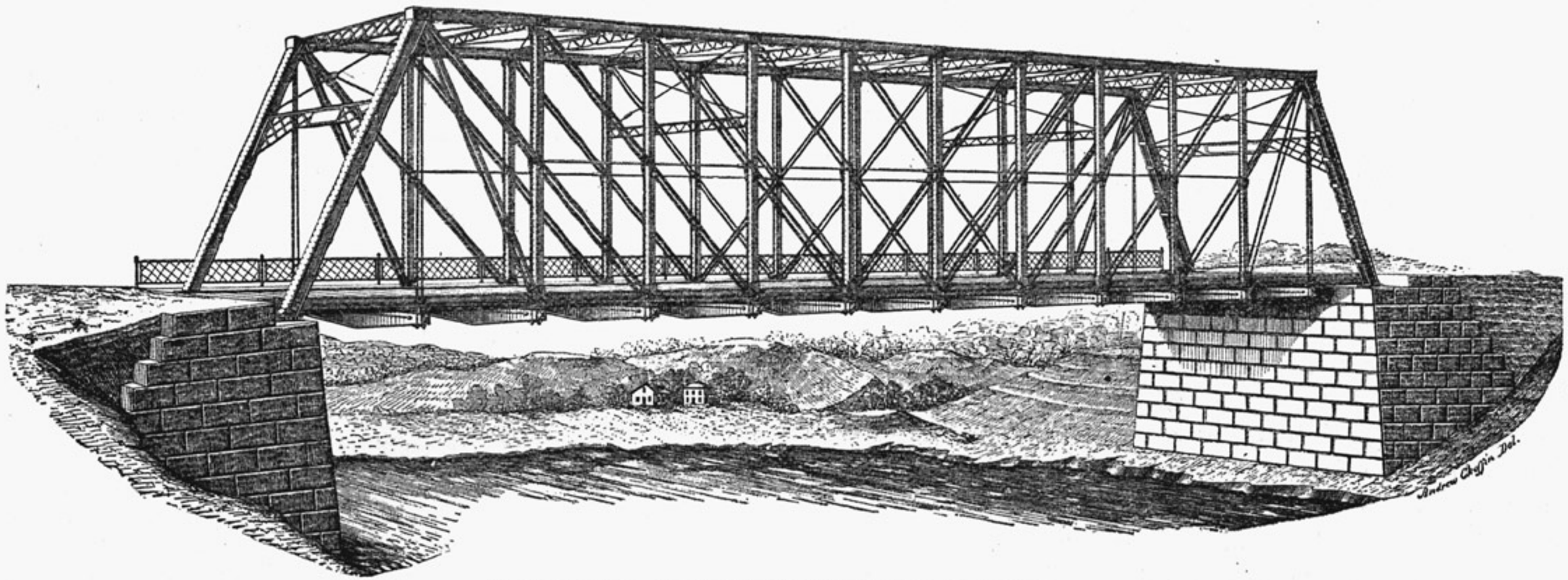
## LOW TRUSS.

THIS plan is designed for spans of 57 to 80 feet, and in its present improved form as built by us, is unequaled for economy, stiffness and finished appearance. We have built over 600 spans in the United States and Canada, in the past seven years, all of which have given perfect satisfaction. The Lattice Post at the corners of span acts both as suspender for Floor Beam and side brace for the girder, and prevents any side motion of the corners, besides filling out the girders in appearance and avoiding the open appearance at the ends, noticed in ordinary Low Trusses with end suspension rods. We furnish either solid rolled or plate floor beams, as preferred.



SINGLE INTERSECTION PRATT TRUSS.

THIS plan is designed for spans of 80 to 135 feet, being specially adapted to spans of 80 to 120 feet, of any ordinary width, and for 120 to 135 feet spans with 14 to 16 foot roadways. It is the design now almost universally adopted for both railway and highway bridges of moderate spans. The modification shown on next page is known as the double intersection "Pratt" or "Whipple" truss, and is more economical for long spans.



## DOUBLE INTERSECTION TRUSS.

THIS plan is designed for spans of 135 to 275 feet, and is also specially adapted to spans of 100 to 135 feet with wide or double roadways for heavy traffic, where deep girders are desirable to avoid a squatty end view. We have built over 300 spans on this plan during the past nine years, for every kind of highway and railway work, and can guarantee satisfaction with it in every requirement of a first-class highway bridge.

The upper chords are made continuous to secure perfect alignment; *all details* are of wrought iron; the intermediate posts are held by center rod to increase their stiffness; the wind bracing is made unusually strong by the Double

**Practical Trial and Tests.**—In all the above work there has *never been a single case of failure or accident*, under long continued usage for road travel or extremely severe trial tests. The 4-200 foot Arch spans built by us for common highway traffic, at Parker, Pa., have been satisfactorily used for the past five years as a Narrow Guage *Railroad Bridge*, by the Parker & Karns City Railway. The 115 foot span built for the B. C. R. & N. R. W., at Vinton, Iowa, on our regular Highway Truss plan, has given perfect satisfaction. The 140 foot span built at Atlanta, Ga., was tested by a dead load of over 100 tons of stone, in connection with a moving load of over 100 tons of green lumber drawn over on wagons; and the 155 foot spans built at Northampton, Mass., were loaded with 132 tons of sand per span, without the least perceptible injurious effect.

**General and Special Plans.**—We give on the following pages a few examples of our general plans of Truss and Arch Bridges; some one of these designs will be found suitable for nearly all locations. *We give special attention to the subject of Special Designs*, which can often be used in particular locations instead of the ordinary standard plans of construction, with a material saving in cost, and advise parties to consult us as to general plan of work *before deciding on spans or substructure*, as we can often reduce the whole cost.

*In such cases parties will oblige us by sending plan and profile of bridge site, showing the character of river bed, depth of water, and height of extreme high water, and skew of bridge if not square with the stream, together with a general statement as to the requirements of travel; whether located in or near a town or city, distance from nearest railway station; kind and probable cost of lumber for joists and flooring; width of roadway; number and width of footways, if any, and the capacity per square foot of floor surface, or per lineal foot of bridge, if any has been decided upon.*

**Purchasers of Bridges,** who have any option, will find it somewhat to their advantage to place contracts so that shop work may be done in the winter or spring, and the bridges erected early in the season, as then the rolling mills, the railroads and our own shops are most slack of work, and lower prices can be obtained.

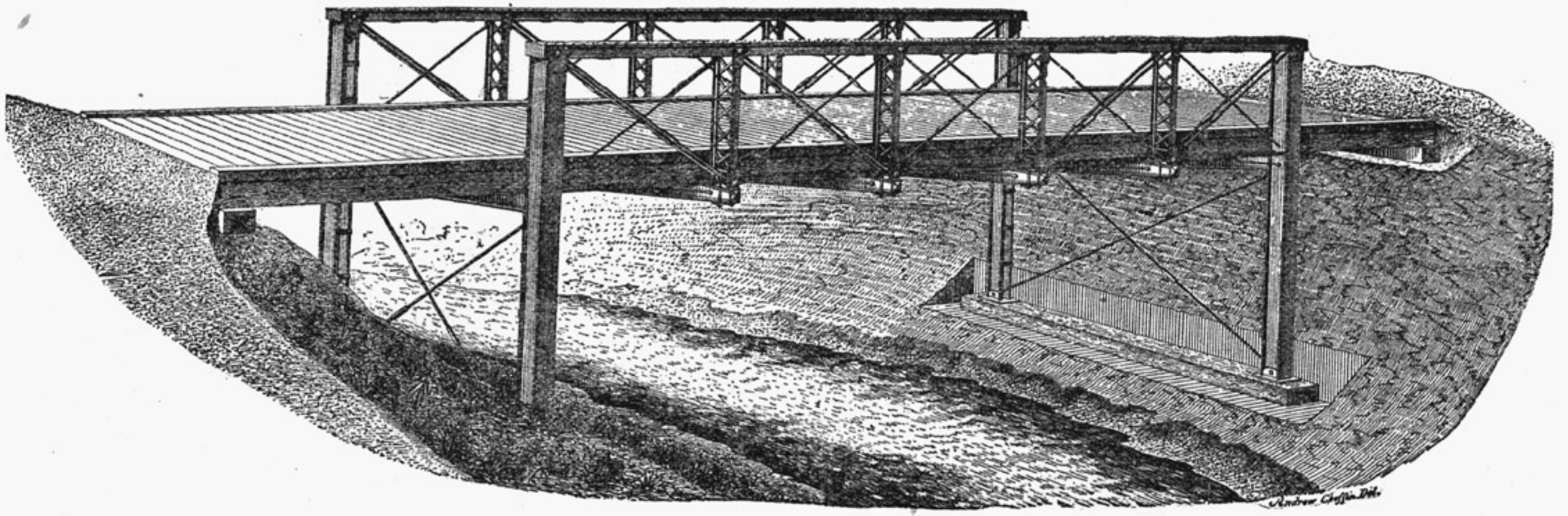
Wrought Lattice Girders between the end posts and by double Struts at intervals, between the intermediate posts; both the floor beams and lateral struts in the longer spans are held in the center by rods, to increase their stiffness; the diagonal and counter ties are secured in brackets on the posts 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.

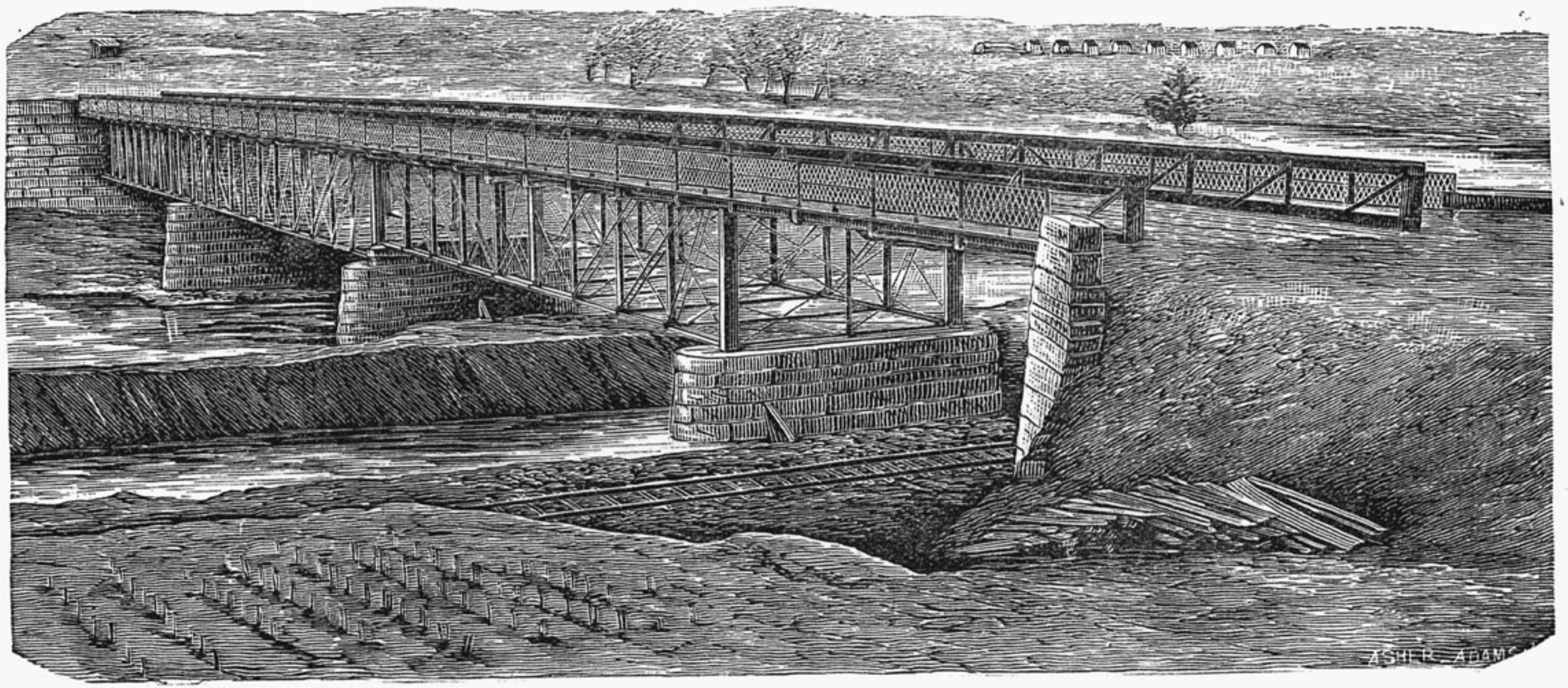
**Iron and Paved Flooring.**—We have in some instances, where the heavy traffic warranted the expense, dispensed with the wood joist and flooring, ordinarily used on iron bridges, and substituted iron joists carrying buckled plate and concrete flooring. We put on an iron floor with Asphalt pavement on 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 450 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.



LOW TRUSS WITH ABUTMENT POSTS.

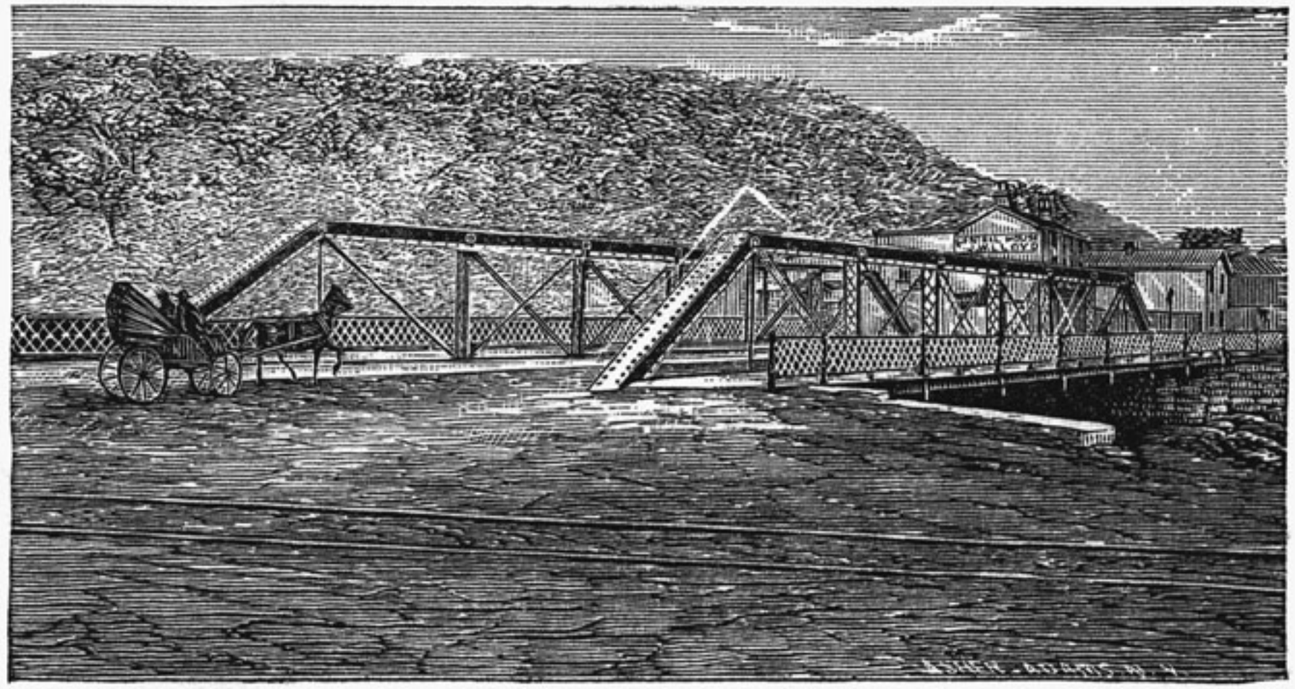
THIS plan is designed for spans of 20 to 80 feet, in localities where masonry is expensive and there is little danger from high water and ice, and the large number erected by us in the past three years, in Indiana, Illinois and Canada, have proved very satisfactory. The abutment posts set on wood sills, either bedded in the earth or set on piles, below water level, making a complete and durable structure.

**Iron Columns for Piers and Abutments,** from 2 to 6 feet in diameter, filled with concrete and set on stone or timber foundations, have been extensively used by us in Michigan, Iowa and California, with good results, and are much cheaper and about as durable as masonry, in many locations where masonry is expensive. They are specially adapted for center piers of swing bridges.



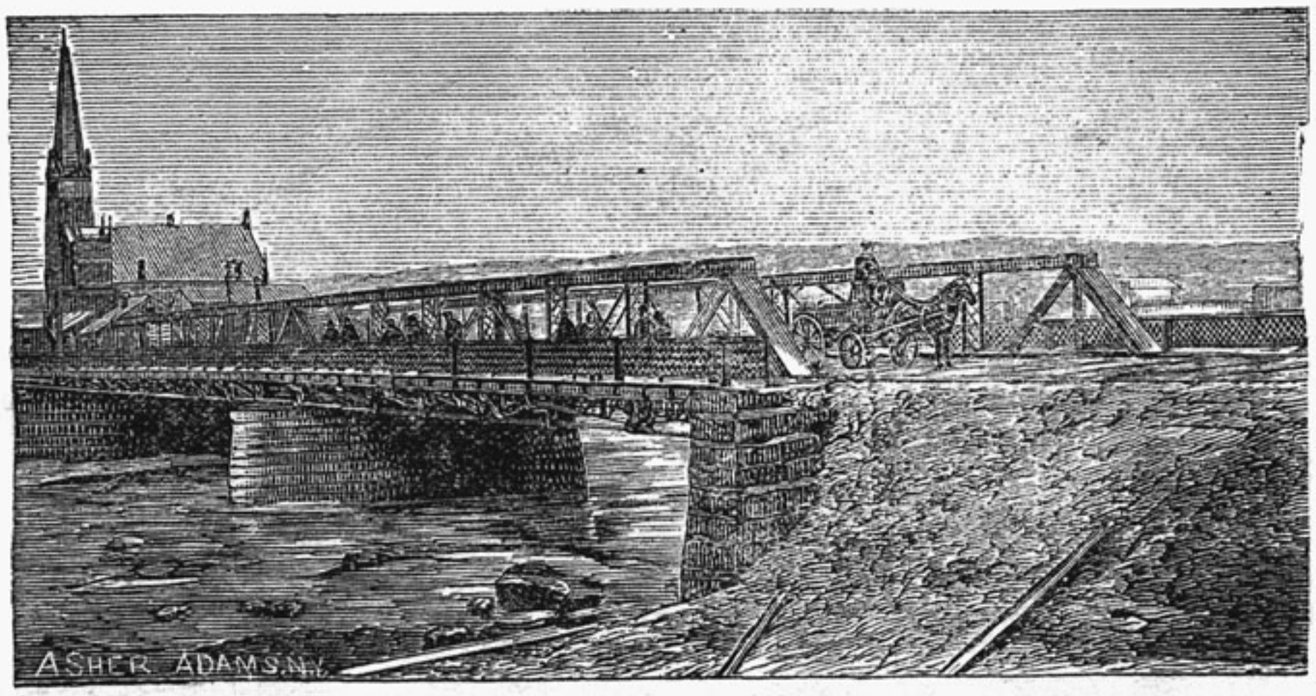
PARTIAL DECK TRUSS BRIDGE, COLUMBUS, OHIO.

THIS bridge was erected by us in 1876, and consists of two 155 ft. spans over the Scioto River, 125 foot span over the canal, and 65 foot span over the Hocking Valley R. R., all with 25 foot roadway, and two 5 foot footways. Another example of this special design was built by us in 1875, at Tonawanda, N. Y.



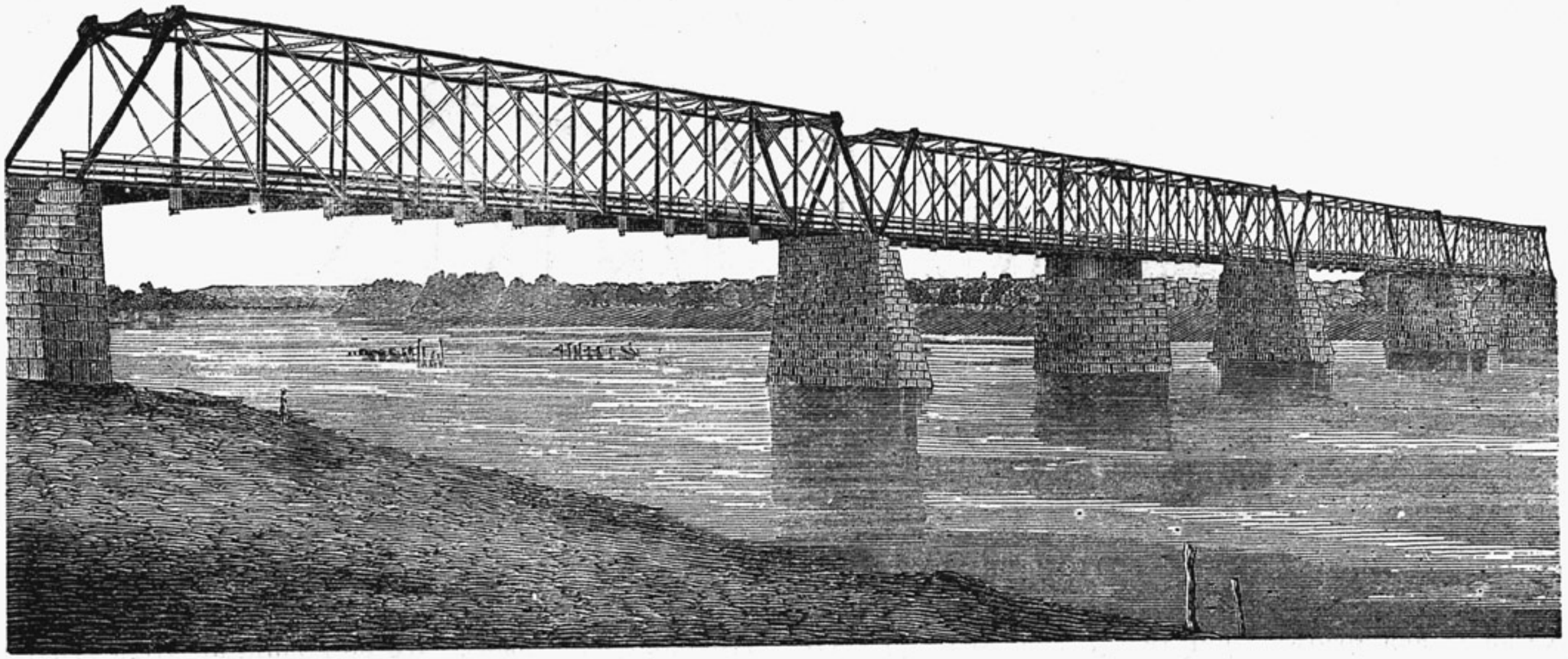
LOW TRUSS BRIDGE, 95 FOOT SPAN, AT SHARPSBURG, PA.,

ERECTED by us in 1875, has a clear roadway of 22 feet, and two 6 foot footways. It was specially designed to suit a skew of nearly 22 feet in its width, and with the exception of the Corner Brace Posts now used by us, is a good example of this plan of construction. The length of span is too great for economical results with a Low Truss, but the location made the use of a High Truss objectionable, and this special plan desirable.



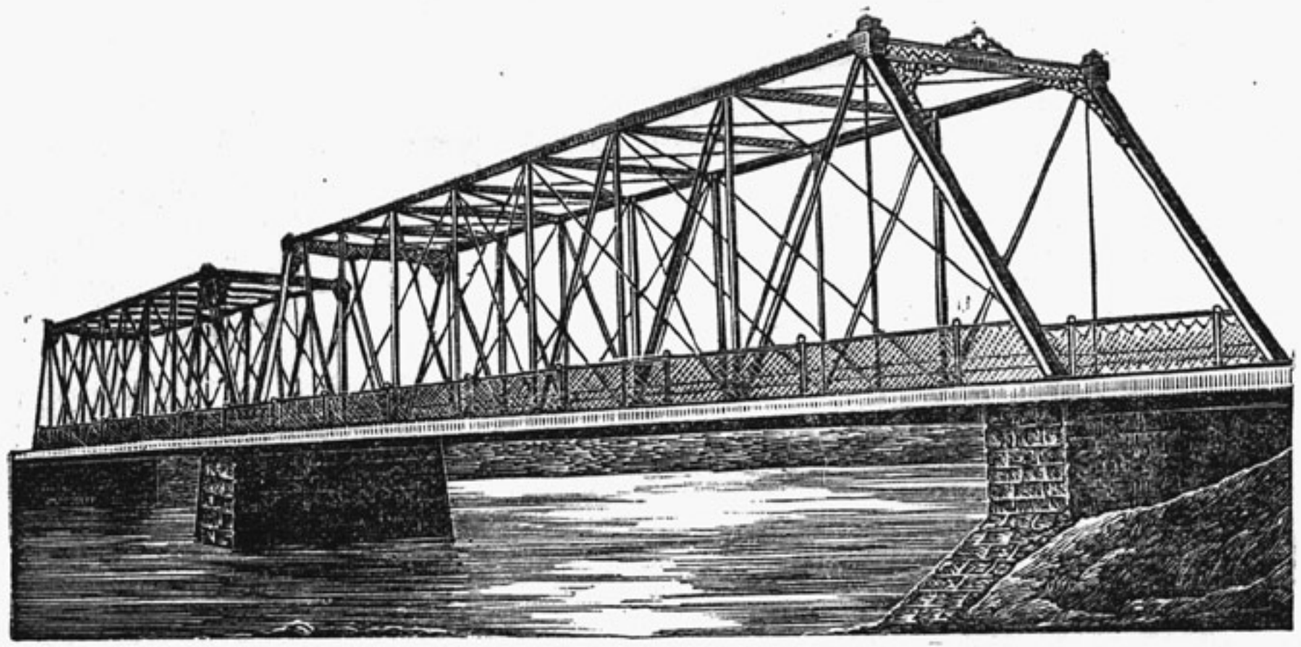

## LOW TRUSS BRIDGE, TWO 117 FOOT SPANS, AT NEW CASTLE, PA.,

ERECTED by us in 1875, has a very wide roadway, 32 feet in the clear, with two 8 foot footways, and is an extreme span for Low Truss, but the site being just in front of the Railway Station and near the centre of the city, with a large traffic to and fro, made the use of a High Truss Girder bridge objectionable. A special feature of this plan is the single Pier post with continuous upper chord, which obviates the open space between the spans, and which we now use extensively in two and three span bridges of both Low and High Trusses.



HIGH TRUSS AND SWING BRIDGE, AT LA SALLE ILL.,

ERECTED by us in 1874, and consists of three 175 foot spans, and 235 foot swing. The wood floor beams were used to reduce first cost, and were arranged to be replaced with iron when required, but are still sound. Our later improvements in center rod and top bracing will be seen by comparing the above with Double Intersection Truss on page 7, in which the horizontal centre rods and double end girders are shown.



SINGLE INTERSECTION TRUSS BRIDGE, TWO 110 FOOT SPANS, AT TIFFIN, OHIO,

HAS an 18 foot roadway and two 7 foot footways, and was erected by us in 1876. The wood cut gives a poor idea of the bridge, which is a fine example of moderate span, and worthy the examination of parties interested, being near the Railway Station, and close to several other bridges built by us in the same city, on both High and Low Truss and Arch plans. We now build all High Truss spans with horizontal rods for holding post centres, as shown on pages 6 and 7, instead of using the long counter-rods shown in this bridge, as they make a stiffer job; are more finished in detail, and are less liable to vibration from trotting than with long counter rods.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Double Int. Truss, Square Pier Ends, | 3—150 | 18 | | .....Shoales, Ind |
| Double Intersection Truss, | 153 | 16 | | ..... Rochester, " |
| do do do | 2—150 | 16 | | .....Nulltown, " |
| do do do | 2—150 | 16 | | ...Connersville, " |
| do do do | 173 | 16 | | Bloomingsburg, " |
| do do do | 175 | 16 | | ..... Geneva, " |
| do do do | 154 | 17 | | .....Newport, " |
| Column and Channel Arch, | 180 | 17 | | .....Lowell, Ills |
| Double Intersection Truss, | 4—152 | 18 | | .....Seneca, " |
| do do do | 6—171 | 18 | 2—5 | .....Sterling, " |
| do do do | 2—160 | 16 | | .....Wedron, " |
| do do do | 155 | 16 | | .....Ridott, " |
| do do do | 3—175 | 18 | | .....La Salle, " |
| do do do | 175 | 18 | | ..... Tuscola, Mich |
| Doub. Int. Truss, Railway, | 157 | 15 | | .....E. Saginaw, " |
| Swing Bridge, Railway, | 192 | 15 | | .....E. Saginaw, " |
| Swing Bridge, | 155 | 18 | | .....Manistee, ". |
| Column and Channel Arch, | 12—100 to 215 | 18 | 2—5 | ..... Lansing, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Double Intersection Truss, | 6—155 | 16 | | Columb's Junc. Iowa |
| do do do | 160 | 16 | | ..... Paris, " |
| do do do | 4—154 | 16 | | .....Rochester, " |
| do do do | 150 | 16 | | ...Webster city, " |
| Column and Channel Arch, | 2—150 | 17 | 2—4 | .....Iowa City, " |
| do do do do | 4—154 | 19 | | .....Keosauqua, " |
| do do do do | 2—155 | 18 | 2—5 | ..... .Nashua, " |
| Double Intersection Truss, | 155 | 16 | | .....Finchford, " |
| Column and Channel Arch, | 160 | 16 | | ..... Freeport, " |
| do do do do | 160 | 16 | | .....Rockford, " |
| do do do do | 160 | 16 | | ..... ..Floyd, " |
| do do do do | 2—154 | 18 | 2—5 | .Independence, " |
| Double Intersection Truss, | 2—159 | 18 | | .....Mankato, Minn |
| Swing Bridge, | 192 | 18 | | .....Mankato, " |
| Column and Channel Arch, | 190 | 17 | | .....Mankato, " |
| Double Intersection Truss, | 195 | 18 | | .....Mankato, " |
| do do do on Iron Piers, | 150 | 16 | | .....New Ulm, " |
| Double Intersection Truss, | 195 | 17 | | ... Janes Ford, " |
| do do do | 189 | 17 | | .....Rapidan, " |

## SPANS--200 TO 300 FEET.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Double Intersection Truss, | 230 | 16 | | .....Avon, N. Y |
| Column and Channel Arch, | 4–200 | 18 | 1—6 | .....Parker, Pa |
| do do do do | 2—265 | 19 | 1—6 | .....Foxburg, " |
| Double Intersection Truss, | 256 | 18 | | Albrightsville, W. Va |
| do do do | 204 | 18 | | ..Marshall Co., " |
| do do do | 204 | 18 | | ..Moundsville, " |
| do do do | 204 | 18 | | ..Marshall Co., " |
| Column and Channel Arch, | 200 | 18 | | .....Columbus, Miss |
| Swing Bridge, | 200 | 18 | | .....Columbus, " |
| Double Intersection Truss, | 206 | 18 | | Croniers Sta'n, Ohio |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Swing Bridge, | 210 | 19 | 2—6 | .....Toledo, Ohio |
| Column and Channel Arch, | 215 | 18 | 2—5 | .....Lansing, Mich |
| do do do do | 237 | 18 | 1—6 | .....Ottawa, " |
| Double Intersection Truss, | 225 | 18 | 1—5 | ..... Yorkville, Ills |
| do do do | 220 | 18 | | ..... New Athens, " |
| Swing Bridge, | 235 | 18 | | ..... La Selle, " |
| Column and Channel Arch, | 200 | 14 | | ..... Booneville, Mo |
| do do do do | 225 | 18 | 1—5 | ..... London, Ont |
| Triple Intersection Truss, | 301 | 18 | | ..... Aurora, Ind |

# REFERENCES TO BRIDGES.

WE give below a partial list of the Bridges erected by us in different States, to which we invite examination of parties interested. We have hundreds of strong commendatory letters and testimonials, regarding our Bridges, but prefer to let the work speak for itself as to its merits:

## LOW TRUSS SPANS.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Low Truss, | 64 | 27 | | .....Worcester, Mass |
| do do | 64 | 22 | 2—5 | ....Ballardvale, " |
| do do Half Slope Posts, | 49 | 14 | | ....Ballardvale, " |
| do do | 70 | 20 | 2—6 | .....Dalton, " |
| do do | 86 | 16 | 2—5 | .....No. Adams, " |
| do do | 5—50 to 62 | 12to18 | 2—5 | ..... So. Adams, " |
| do do | 80 | 18 | 1—4 | .....Bondsville, " |
| do do | 80 | 16 | 1—4 | .....Bondsville, " |
| do do Half Slope Posts, | 43 | 16 | 1—4 | .....Bondsville, " |
| do do Half Slope Posts, | 29 | 18 | 1—4 | .....Bondsville, " |
| do do Square Pier Ends | 2--55 | 25 | 2—5 | .....Holyoke, " |
| do do Half Slope Posts, | 51 | 14 | 1—4 | .Williamsburg, " |
| do do | 77 | 16 | 1—5 | .....Florence, " |
| do do | 57 | 27 | 2—6 | .....Fall River, " |
| do do Square Pier Ends | 2--50 | 18 | 1—5 | .....Enfield, " |
| do do Square Pier Ends | 2--67 | 20 | 1—5 | .Northampton, " |
| Column and Channel Arches, | 5—56 to 84 | 16 | | .....Pittsfield, " |
| Low Truss, | 60 | 16 | | .....Amherst, " |
| do do | 61 | 20 | 2—5 | .....Wells River, Vt |
| do do | 74 | 18 | 2—4 | .....Ryegate, " |
| do do Half Slope Posts, | 43 | 20 | 2—5 | .....Newton, Conn |
| do do | 3—38 to 72 | 16 | | ...Middletown, " |
| do do | 54 | 32 | 2—7 | .....Bristol, " |
| do do | 2—70 | 18 | 1—5 | .....Stafford, " |
| do do Square Pier Ends and Paved Iron Flooring, | 2—35 | 22 | 2—5 | ....Thomaston, " |
| Low Truss, Half Slope Posts, | 4—45 | 20 | 2—6 | .....Biddeford, Maine |
| do do Square Pier Ends | 2—60 | 12 | | ..... Newfane, N. Y |
| do do Square Pier Ends | 2—44 | 16 | | ..... Taberg, " |
| do do | 5—36 to 53 | 18 | 1—5 | .....Oriskany, " |
| do do | 5—62 to 73 | 16 | | .....Orleans, " |
| do do | 64 and 80 | 16 | 2—5 | .....Jamestown, " |
| do do Half Slope Posts, | 48 | 16 | 1—5 | .....Jamestown, " |
| do do | 74 | 25 | 2—6 | New Hartford, " |
| do do Half Slope Posts, | 54 | 16 | 1—4 | New Hartford, " |
| do do | 61 | 14 | | .....Schuyler, " |
| do do Half Slope Posts, | 45 | 20 | 2—5 | .....Friendship, " |
| Plate and Channel Arches, | 30 and 51 | 18 | 1—5 | ... Ticonderoga, " |
| Low Truss, Half Slope Posts, | 30 | 14 | | .....Amherst, " |
| do do | 70 | 14 | | ..... Amherst, " |
| do do Half Slope Posts, | 39 | 14 | | ..... Alexander, " |
| do do Half Slope Posts, | 58 | 10 | | ..... Pittsfield, " |
| do do | 64 | 14 | | Shelby Centre, " |
| do do Half Slope Posts, | 52 | 16 | 1—3 | Shelby Centre, " |
| do do | 75 | 16 | | ..... Bergen, " |
| do do | 67 | 14 | | ..... Hunter, " |
| do do Half Slope Posts, | 30 | 14 | | ...Tannersville, " |
| do do Half Slope Posts, | 43 | 14 | | .....Roseboom, " |
| do do | 57 | 12 | | ..... Columbus, " |
| do do Half Slope Posts, | 37 | 18 | | ..... Constantia, " |
| do do Half Slope Posts, | 53 | 14 | 1—5 | ..... Spencer, " |
| do do Half Slope Posts, | 33 | 12 | | .. Cortlandville, " |
| do do Abutment Posts, | 65 | 14 | | ..... Alexander, " |

| Plan of Bridge. | | | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|---|---|
| Low Truss, | | | 60 | 16 | 1—5 | ... Middlebury, N. Y |
| do | do | Half Slope Posts, | 48 | 14 | | ... Middlebury, " |
| do | do | Half Slope Posts, | 39 | 26 | 2—7 | ..... Rome, " |
| do | do | Half Slope Posts, | 34 | 18 | 2—6 | ..... Rome, " |
| do | do | | 60 | 12 | | .....Alden, " |
| do | do | Half Slope Posts, | 58 | 14 | | .....Poestenkill, " |
| do | do | | 74 | 14 | | .....Toddsville, " |
| do | do | | 64 | 16 | | .....Belmont, " |
| do | do | | 75 | 14 | | Honeoyoe Falls, " |
| do | do | | 76 | 16 | | .....Phelps, " |
| do | do | Half Slope Posts, | 40 | 14 | | .....Pike, " |
| do | do | | 74 | 16 | | .....Vestal, " |
| do | do | | 78 | 12 | | .....Taylor, " |
| do | do | Half Slope Posts, | 50 | 13 | | ...Schenectady, " |
| do | do | 53 and | 69 | 14 | | .....Goldsboro, Pa |
| do | do | | 80 | 16 | 1—4 | .....Morganza, " |
| do | do | | 94 | 18 | | .... Monongahela, " |
| do | do | Iron Joists, | 79 | 16 | | ..... Corong, " |
| do | do | | 55 | 16 | | .....Spring Mills, " |
| do | do | 43 and | 48 | 13 | | .....North East, Md |
| do | do | | 64 | 16 | | ...Crawfordsville, " |
| Plate and Channel Arch, | | | 68 | 14 | | .....Frederick, " |
| Low Truss, Half Slope Posts, | | | 53 | 14 | | .....Principio, " |
| do | do | Half Slope Posts, 2— | 52 | 14 | | .....Elkton, " |
| do | do | 7—28 to | 78 | 14 | | ...Frederick Co., " |
| do | do | Half Slope Posts, | 64 | 12 | | .....Wheeling, W. V |
| do | do | 2— | 71 | 14 | | .....La Grange, " |
| do | do | 2— | 75 | 16 | | Middlebourne, " |
| do | do | | 76 | 17 | 1—5 | ...Mannington, " |
| do | do | Half Slope Posts, | 50 | 12 | | Kitzmillerville, " |
| do | do | | 75 | 12 | | Shallow Ford, Tenn |
| do | do | | 76 | 12 | | .....Cleveland, " |
| do | do | on Abutment Posts, | 30 | 12 | | .....Warsaw, Ky |
| do | do | on Abutment Posts, | 40 | 12 | | .....Warsaw, " |
| do | do | | 59 | 14 | | .....Foster, " |
| do | do | Half Slope Posts, | 30 | 12 | | .....Frankfort, " |
| do | do | Half Slope Posts, 2— | 21 | 12 | | ..... Cynthiana, " |
| do | do | Half Slope Posts, | 33 | 12 | | ..... Helena, " |

| Plan of Bridge. | | | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|---|---|
| Low Truss, | | | 30 | 15 | | .....Rome, Ga |
| do | do | Square Pier Ends 2— | 63 | 16 | | .....Piqua, Ohio |
| do | do | 6— | 53 | 14 | | .....Kenton, " |
| do | do | Square Pier Ends 2— | 63 | 18 | 1—5 | .....Poland, " |
| do | do | | 65 | 14 | | .....Monroeville, " |
| do | do | | 65 | 14 | | ..... Bucyrus, " |
| do | do | Square Pier Ends 2— | 64 | 16 | | .....Greenfield, " |
| do | do | Square Pier Ends 2— | 82 | 14 | | .....Howard, " |
| do | do | Half Slope Posts, | 43 | 18 | 1—6 | .....Leetonia, " |
| do | do | Half Slope Posts, | 45 | 18 | | ..... Canton, " |
| do | do | | | | | .....Louisville, " |
| Swing Bridge, | | | 62 | 14 | | .....Newark, " |
| do | do | | 57 | 12 | | .....Newark, " |
| do | do | | 53 | 15 | | .....Newark, " |
| Low Truss, | | | 60 | 14 | | .....Robinson, " |
| do | do | Half Slope Posts, | 50 | 12 | | ..... Wooster, " |
| do | do | | 60 | 12 | | ..... Wooster, " |
| do | do | | 53 | 14 | | .....Ada, " |
| do | do | Half Slope Posts, | 44 | 18 | 1—5 | ..... Fostoria, " |
| do | do | Half Slope Posts, | 59 | 18 | | ..... Fostoria, " |
| do | do | Half Slope Posts, | 52 | 14 | | ..... Trenton, " |
| do | do | | 80 | 12 | | .....Orrville, " |
| do | do | Half Slope Posts, | 48 | 14 | | ... Cannonsburg, " |
| Swing Bridge, | | | 84 | 18 | 2—4 | Port Washington, " |
| do | do | | 84 | 18 | 2—4 | New Comerstown, " |
| Low Truss, | | | 64 | 16 | | ..... Hillsboro, " |
| do | do | Half Slope Posts, | 51 | 14 | 2—4 | Fredericksburg, " |
| do | do | | 63 | 16 | | ...Bellefontaine, " |
| do | do | Half Slope Posts, | 48 | 16 | | .....Plymouth, " |
| do | do | Half Slope Posts, | 31 | 20 | | ..... Akron, " |
| do | do | Half Slope Posts, | 40 | 16 | | ..... Bronson, " |
| do | do | Half Slope Posts, | 39 | 18 | | .....Fairfield, " |
| do | do | Half Slope Posts, | 48 | 14 | | ..... Limaville, " |
| do | do | Half Slope Posts, | 48 | 16 | | .....Plymouth, " |
| do | do | Half Slope Posts, | 5—24 to 42 | | 16 to 22 | ..... Huron, " |
| Low Truss, | | | 2—54 | 3—18 | 2—15 | ....Indianapolis, Ind |
| do | do | | 74 | 14 | | .....Romney, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Low Truss, on Abutment Posts, | 65 | 16 | | .....Crille, Ind |
| Plate Girder Bridge, | 40 | 90 | 2—15 | .... Indianapolis, " |
| do do do | 45 | 54 | 2—18 | .....Indianapolis, " |
| Low Truss, Half Slope Posts, | 32 | 12 | | ..... Earl Park, " |
| do do | 64 | 14 | | ..... Elwood, " |
| do do on Abutment Posts, | 70 | 12 | | .....Poplar Sta., " |
| do do on Abutment Posts, | 44 | 12 | | ..... Milton, " |
| do do on Abutment Posts, | 60 | 12 | | ..... Clarksville, " |
| do do Half Slope Posts, | 53 | 14 | | ..... Rosedale, " |
| do do on Abutment Posts, | 77 | 14 | | ..... Roseburg, " |
| do do Half Slope Posts, | 33 | 20 | | ..... Shelbyville, " |
| do do Half Slope Posts, | 53 | 14 | | ..... Mooresburg, " |
| do do | 77 | 35 | 2—6 | ..... Joliet, Ills |
| do do | 75 | 14 | | ..... ..... Lisle, " |
| do do | 80 | 12 | | .....Gardner, " |
| Plate and Channel Arch, | 75 | 12 | | ..... Earlville, " |
| do do do do | 70 | 12 | | .....Sheridan, " |
| Low Truss, on Abutment Posts, | 85 | 12 | | ..... Pipineau, " |
| do do on Abutment Posts, | 58 | 14 | | ..... Shelbyville, " |
| do do on Abutment Posts, | 44 | 12 | | ..... Joliet, " |
| do do on Abutment Posts, | 62 | 12 | | ..... Martinton, " |
| Swing Bridge, | 85 | 12 | | ..... Ottawa, " |
| do do | 80 | 16 | 2—5 | ..... Ottawa, " |
| do do | 72 | 16 | 2—5 | ..... Ottawa, " |
| Low Truss, Half Slope Posts, | 42 | 12 | | ..... Long Point, " |
| do do Half Slope Posts, | 40 | 12 | | ..... Northville, " |
| do do Half Slope Posts, | 35 | 14 | | ..... Westfield, " |
| do do on Abutment Posts, | 50 | 14 | | ..... Toulon, " |
| do do Half Slope Posts, | 40 | 12 | | ..... Freeland, " |
| do do | 46 | 12 | | ..... Lanark, " |
| do do | 50 | 12 | | .....East Galena, " |
| Single Intersection Truss, 2— | 76 | 14 | | ..... Plainfield, " |
| Low Truss, | 70 | 14 | | ..... Somonauk, " |
| do do | 59 | 14 | | ..... Plainfield, " |
| Single Intersection Truss, | 75 | 14 | | ..... Modena, " |
| Low Truss, on Abutment Posts, | 84 | 12 | | ..... Palestine, " |
| do do Half Slope Posts, | 55 | 12 | | ..... Aledo, " |
| do do | 65 | 12 | | ..... Aledo, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Low Truss, | 72 | 14 | | ..... Wilmington, Ills |
| do do Half Slope Posts, | 41 and 55 | 12 | | ..... Gilson, " |
| Low Truss, | 2—72 | 18 | 2—5 | .....Adrian, Mich |
| do do Half Slope Posts, | 30 | 20 | 1—6 | .....La Peer, " |
| do do Half Slope Posts 2— | 54 | 12 | | .....Du Plain, " |
| do do Half Slope Posts, | 54 | 16 | | .....Charlotte, " |
| do do | 76 | 12 | | ..... Catertown, " |
| Plate Girder Bridge, | 43 | 64 | 2—16 | ..... Pontiac, " |
| Low Truss, Half Slope Posts, | 25 | 14 | | ..... Odessa, " |
| do do on Abutment Posts, | 41 | 16 | | ... Trowbridge, " |
| do do | 60 | 14 | | .....Marengo, " |
| do do | 75 | 16 | | ..... Nashville, " |
| do do Half Slope Posts, | 50 | 12 | | ..... Walton, " |
| do do | 75 | 16 | 1—5 | .....St. Louis, " |
| do do | 63 | 14 | | ..... Memphis, " |
| do do Half Slope Posts, | 39 | 22 | 2—5 | Grand Rapids, " |
| do do Half Slope Posts, | 34 | 12 | | .. Silver Creek, " |
| do do Half Slope Posts, | 34 | 12 | | .....Pokagon, " |
| do do Half Slope Posts, | 50 | 12 | | .....Geneva, " |
| do do | 75 | 10 | | .Specth's Ferry, Wis |
| do do Half Slope Posts, | 40 | 12 | | .....Apple River, " |
| do do Half Slope Posts, | 50 | 12 | | ..... Blanchard, " |
| do do Half Slope Posts, | 40 | 12 | | .Blanchardville, " |
| do do Half Slope Posts, | 35 | 12 | | ..... Lancaster, " |
| do do | 70 | 12 | | ..... Wista, " |
| do do Half Slope Posts, | 40 | 12 | | ..... Albany, " |
| do do | 2—60 | 16 | | ..... Oskaloosa, Iowa |
| do do | 50 and 75 | 14 | | .....Fairfield, " |
| do do | 64 and 88 | 15 | | ..Ft. Atkinson, " |
| do do | 74 | 16 | | ..... Calmar, " |
| do do on Abutment Posts, | 45 | 14 | | ..... Mt. Zion, " |
| do do | 66 | 16 | | .... Greenwood, " |
| do do | 74 | 16 | | ..... Plymouth, " |
| do do Half Slope Posts, | 53 | 16 | | .....Dry Run, " |
| do do | 80 | 14 | | ... Crow Creek, " |
| do do on Abutment Posts, | 55 | 14 | | ..Independent, " |
| do do | 71 | 20 | | .... Cedar Falls, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Low Truss, | 60 | 16 | | .....Shellsburg, Iowa |
| do do | 64 | 16 | | ..... Wyoming, " |
| do do Half Slope Posts, | 40 | 16 | | Independence, " |
| do do | 60 | 14 | | ..... Casey, " |
| Column Arch, | 64 | 16 | | ..... Brandon, " |
| do do | 60 | 16 | | .....W. Liberty, " |
| do do | 64 | 16 | | ..... Rockwell, " |
| do do | 50 | 15 | | ..... Plymouth, " |
| do do | 75 | 14 | | ..... Elk City, Kan |
| Low Truss, | 85 | 12 | | ..... Holt, Mo |
| Plate Girder Bridge, | 39 | 42 | 2—7½ | .....Springfield, " |
| Low Truss, | 45 | 14 | | .....Gross John, Neb |
| Low Truss, | 84 | 12 | | .....Fall Creek, Va |
| do do | 63 | 12 | | .....Martinsville, " |
| do do Half Slope Posts, | 44 | 12 | | .....Martinsville, " |
| do do Half Slope Posts, | 50 | 16 | 1—5 | ... Boulder, Colorado |
| do do Half Slope Posts, | 46 | 12 | | .....Mapleton, Minn |
| do do | 50 | 14 | | .....Ramsey, " |
| do do Half Slope Posts, | 40 | 17 | | .....Rapidan, " |
| do do Half Deck, | 3—54 | 30 | 2—8 | ..... San Jose, Cal |
| Concreted Iron Piers, | 4—23 | 2 | | ..... San Jose, " |
| do do | 4—53 | 18 | 2—6 | .....Gananoque, Ont |
| do do Half Slope Posts, | 36 | 12 | 1—6 | ..... Mexico |
| do do | 2—60 | 13 | | ..... " |

## SPANS—80 TO 120 FEET.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Single Intersection Truss, | 113 | 6 | | .....Dalton, Mass |
| Column and Channel Arch, | 104 | 18 | 2—5 | .....Pittsfield, " |
| Single Intersection Truss, (Railway.) | 96 | 16 | | .....Worcester, " |
| Single Intersection Truss, | 90 | 18 | | .....Brattleboro, Vt |
| Column and Channel Arch, | 90 | 20 | | .....Bristol, Conn |
| do do do Arch, | 90 and 100 | 16 | | .....Plymouth, " |
| Column Arch, | 100 and 120 | 16 | | .....Ballston, N. Y |
| Single Intersection Truss | 100 to 120 | 18 | | ..... Salamanca, " |
| do do do | 2—92 | 16 | | ...Upper Lisle, " |
| do do do | 124 2—14 | | 2—7 | ..... Rome, " |
| Column and Channel Arch, | 116 | 20 | 2—6 | ..... Cohoes, " |
| Single Intersection Truss, | 94 and 125 | 16 | | ..... Ballston " |
| Single do do | 111 | 20 | 1—5 | .....Rome, " |
| do do do | 3—80 | 16 | | .....Olean, " |
| do do do | 2—90 | 18 | 1—6 | .....Messena, " |
| do do Truss, | 109 and 119 | 14 | | .....De Kalb, " |
| Single Intersection Truss, Half Deck, | 3—100 | 26 | 2—7 | ....Tonawanda, N. Y |
| Swing Bridge, | 100 | 12 | 2—4 | ..... Olcott, " |
| Single Intersection Truss, | 115 | 14 | | ..... Hunter, " |
| do do do | 103 | 16 | | ..... Amherst, " |
| do do do | 88 | 16 | | ..... Clarksville, " |
| do do do | 3—93 | 16 | | Raymondville, " |
| do do do | 91 | 16 | | ..... Mumford, " |
| Low Truss | 84 | 16 | | Pleasant Valley, " |
| Single Intersection Truss, | 117 | 16 | | .....Phelps, " |
| do do do | 107 | 16 | | ..... Getzville, " |
| do do do | 3—103 | 18 | | ..... York, Pa |
| do do do | 88 | 18 | 1—6 | .....Canonsburg, " |
| do do do | 71 | 14 | | .....Rockwood, " |
| Low Truss, | 2—117 | 32 | 2—8 | .....New Castle, " |
| do do | 95 | 22 | 2—6 | ..... Sharpsburg, " |
| Column and Channel Arch, | 2—96 | 16 | | .....Frederick, Md |
| Single Intersection Truss, | 104 | 14 | | ...Middle Creek, " |
| do do do | 100 | 14 | | ..... Tarrytown, " |
| do do do | 104 | 14 | | ...Frederick Co., " |

| Plan of Bridge | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Single Intersection Truss, | 2—94 | 20 | | ...Wheeling, W. Va |
| do do do | 94 | 12 | | ..... Manington, " |
| Plate and Channel Arch, | 109 and 129 | 16 | | .....Piedmont, " |
| Single Intersection Truss, | 92 | 14 | | ..... Wetzel Co. " |
| do do do | 80 and 90 | 14 | | . Barboursville, " |
| do do do | 2—80 | 14 | | Washt'n Bottom " |
| Column Arch Bridge, | 90 | 14 | | ....Locust Creek, Ky |
| Single Intersection Truss, | 80 | 18 | 1—4 | .....Falmouth, " |
| do do do | 80 | 16 | | .....Falmouth, " |
| do do do | 102 | 16 | | ..... Kenton, Co. " |
| do do do | 84 | 12½ | | ..... Columbia, " |
| do do do | 105 | 14 | | ..... Carlisle, " |
| Column and Channel Arch, | 92 | 12 | | .....Dundee, Va |
| Column Arch Bridge, | 2—89 | 12 | | ..... Concord, N. C |
| Single Intersection Truss, | 4—100 | 18 | 1—5 | ..... Asheville, " |
| do do do | 4—100 | 18 | | Port Washington, O |
| do do do | 2—91 | 18 | 2—5 | ..... Newark, " |
| do do do | 110 | 20 | 1—6 | ..... Bridgeport, " |
| do do do | 108 | 18 | 2—5 | .....Alliance, " |
| Double do do | 2—107 | 2-17 | 2-7 | ..... Tiffin, " |
| Plate and Channel Arch, | 104 | 16 | | ..... Hillsboro, " |
| do do do do | 93 | 16 | | ..... Marion, " |
| Single Intersection Truss, | 78 | 16 | | ..... Dodsonsville, " |
| do do do | 90 | 16 | | ..... Millfield, " |
| do do do (Railway,) | 116 | 14 | | ..... Canton, " |
| Single Intersection Truss, | 104 | 14 | | ..... Greenville " |
| do do do | 90 | 16 | | ..... Fitchville, " |
| do do do | 90 | 16 | | ..... Peru, " |
| do do do | 2—106 | 15 | | ... New Albany, Ind |
| do do do | 2—94 2—12 | | 2—6 | .....Indianapolis, " |
| do do do | 84 | 18 | 2—6 | ..Columbia City, " |
| Double do do | 2—100 | 2—15 | | .... Indianapolis, " |
| Single Intersection Truss, | 90 | 16 | | .....Zionsville, " |
| do do do | 98 | 16 | | ... Dillsborough, " |
| do do do | 80 | 14 | | Darlingtonford, " |
| do do do | 80 | 16 | | .....Adams, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Single Intersection Truss, | 87 | 15 | | ..... Memphis, Ind |
| Single Intersection Truss, | 104 | 12 | | .....Winchester, Ind |
| do do do on Iron Piers, | 80 | 16 | | ..... Thorntown, " |
| Low Truss, on Abutment Posts, | 84 | 16 | | .....Hillsdale, " |
| Single Intersection Truss, | 100 | 12 | | ... Crothersville, " |
| do do do | 104 | 14 | | ..Columbia City, " |
| do do do | 2—95 | 18 | 2—6 | ..... Galena, Ills |
| do do do | 114 | 16 | | .....Freeport, " |
| do do do | 2—85 | 14 | | .....Gardener, " |
| do do do | 100 | 14 | | .....Hinsdale, " |
| do do do | 75 | 12 | | ..... Vienna, " |
| do do do | 104 | 16 | | ....Harrisonville, " |
| do do do | 85 | 12 | | .....Keithburg, " |
| Swing Bridge, | 80 | 16 | | ..... Ottawa, " |
| Single Intersection Truss, | 80 | 16 | | ..... Morrison, " |
| do do do | 80 | 14 | | .....Genessee, " |
| Low Truss, | 80 | 14 | | .... Mt. Pleasant, " |
| do do | 80 | 14 | | .....Morrison, " |
| do do | 80 | 12 | | ..... Richland, " |
| Single Intersection Truss, | 2—96 | 18 | 1—6 | .....Flushing, Mich |
| do do do | 105 | 12 | | ... Watertown, " |
| Column and Channel Arch, | 2—100 | 18 | 1—5 | ..... Otsego, " |
| Swing Bridge, | 110 | 16 | | ...Mt. Clemens, " |
| Single Intersection Truss, | 75 and 78 | 16 | 2—4 | .....Burlington, Wis |
| Single Intersection Truss, | 106 | 16 | | .....River Falls, " |
| do do do | 107 | 14 | | ..... Riverside, " |
| do do do | 2—113 | 18 | | ...Central City, Iowa |
| do do do | 3—85 | 17 | 1—5 | .....Shell Rock, " |
| do do do | 2—116 | 16 | | ..... Decorah, " |
| do do do | 2—100 | 16 | | ..... Zanesville, " |
| Plate and Channel Arch, | 95 | 16 | | .Cedar Valley, " |
| do do do do | 98 | 16 | | .....Mt. Zion, " |
| Single Intersection Truss, | 117 | 15 | | .....Bluffton, " |
| Plate and Channel Arch, | 112 | 16 | | .....Plymouth, " |
| Low Truss, | 80 | 14 | | ...Crow Creek, " |
| do do | 84 | 16 | | .....Jackson, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Low Truss, | 80 | 16 | | .....Chester, Iowa |
| Single Intersection Truss, | 2—102 | 16 | | Independence, Iowa |
| do do do | 96 | 16 | | Vernon Springs, " |
| do do do | 100 | 16 | | .....Finchford, " |
| do do do | 100 | 16 | | Buffalo Creek, " |
| do do do | 96 | 16 | | .Centre Grove, " |
| do do do | 98 | 16 | | .....Pine Mills, " |
| Column and Channel Arch, | 90 | 18 | 2—5 | ..... Hannibal, Mo |
| do do do Arch, | 85 and 100 | 14 | | .....Wheeling, " |
| Column Arch Bridge, | 80 | 14 | | ..... Richmond, " |
| Column Arch Bridge, | 85 | 12 | | ...Independence, Mo |
| Single Intersection Truss, | 90 | 16 | | Gr'd Meadow, Minn |
| Low Truss, on Iron Piers, | 80 | 14 | | .....Springfield, " |
| Single Intersection Truss, on Iron Piers, | 102 | 16 | | .....Iberia, " |
| Plate and Channel Arch | 4—84 | 18 | 1—5 | . Campbellsford, Ont |
| Double Intersection Truss, | 95 and 105 | 2-17 | 2—8 | .....Ottawa, " |
| Column Arch Bridge, | 100 | 12 | | .....Tecumseh, Neb |
| do do do | 4—80 | 15 | | ... Clay Centre, Kan |

## SPANS—120 TO 150 FEET.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Single Intersection Truss, | 130 | 12 | | .....Leeds, Mass |
| Double do do | 4—145 | 30 | 2—8 | .....Lawrence, " |
| Column and Channel Arch, | 135 | 18 | | .....Concord, N. H |
| Single Intersection Truss, | 94 and 125 | 16 | | .....Ballston, N. Y |
| Column and Channel Arch, | 137 | 18 | 2—5 | .....Huevelton, " |
| Double Intersection Truss, Square Pier Ends, | 105 and 132 | 16 | | .....Rosendale, " |
| Column and Channel Arch, | 125 | 14 | | ..... Lockport, " |
| Double Intersection Truss, | 123 | 17 | | ..... Bridgeville, Pa |
| Column and Channel Arch, | 140 | 18 | | .....Frederick, Md |
| Plate and Channel Arch, | 109 and 129 | 16 | | .... Piedmont, W. Va |
| Single Intersection Truss, | 120 | 12 | | ...Elk Centre, " |
| Column and Channel Arch, | 125 | 18 | | .. Chattanooga, Tenn |
| Double Intersection Truss, | 140 | 2-23 | 2-10 | ..... Atlanta, Ga |
| do do Truss, | 3—100 to 136 | 20 | 2—6 | New Philadelphia, O |
| Double Intersection Truss, | 5—145 | 18 | | ..... Junction, " |
| do do do | 2—131 | 18 | 2—5 | .....Sidney, " |
| Single do do | 2—125 | 16 | | .....Powell, " |
| Single Intersection Truss, | 2—123 | 18 | | ..... Bolivar, O |
| do do do | 125 | 16 | | .....Frankfort, " |
| do do do | 120 | 18 | | ..... Franklin, " |
| Double do do | 139 | 16 | | ..... Eastport, " |
| do do do | 149 | 14 | | .....Deerfield, " |
| do do do | 134 | 20 | 1—5 | ..... Aurora, Ind |
| Column and Channel Arch, | 114 and 120 | 16 | | .....Fountain, " |
| Column and Channel Arch, | 145 | 18 | | ...Indianapolis, " |
| Single Intersection Truss, | 3-120 | 12 | | .....Lafayette, " |
| do do do | 2—121 | 18 | | .....Denver, " |
| do do do | 120 | 20 | 1—5 | ..... Ft. Wayne, " |
| do do do | 120 | 16 | | ..... Galena, Ills |
| Column and Channel Arch, | 4—125 | 18 | 1—5 | .....Kankakee, Ills |
| Swing Bridge, | 135 | 16 | | ....Cheboygan, Mich |
| Double Intersection Truss, | 134 | 18 | 2—6 | .....Owosso, " |
| do do do | 140 | 18 | 2—5 | .....Corunna, " |
| Single Intersection Truss, | 5—100 to 130 | 18 | 1—5 | ..... Bay City, " |
| Single Intersection Truss, | 129 | 20 | 1—5 | .....Bay City, " |
| Column and Channel Arch, | 140 | 16 | | ..... Saranac, " |
| do do do do | 126 | 18 | | ..... Muir, " |

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Single Intersection Truss, | 122 | 16 | | Caledonia Tp, Mich |
| Single Intersection Truss, | 121 | 16 | | Ann Arbor, Mich |
| Column and Channel Arch, | 6—120 | 18 | 2—5 | Cedar Rapids, Iowa |
| do do do do | 2—145 | 18 | 2—5 | Independence, " |
| Single Intersection Truss, | 2—130 | 16 | | Ivanhoe, " |
| Column and Channel Arch, | 120 | 16 | | Coon Rapids, " |
| do do do do | 4—130 | 16 | | Ivanhoe, " |
| do do do do | 120 | 16 | | Mason City, " |
| do do do do | 137 | 16 | 1—5 | Rockford, " |
| do do do do | 135 | 16 | | Ionia, " |
| do do do do | 2—120 | 16 | 2—5 | Marble Rock, " |
| Single Intersection Truss, Railway, | 115 | 14 | | Vinton, " |
| Column and Channel Arch, | 149 | 16 | | Ozark, " |
| do do do do | 140 | 16 | | Ruggle's Ford, " |
| Single Intersection Truss, | 120 | 16 | | Ramsey, Minn |
| Double do do | 140 | 18 | 2—5 | Faribault, Minn |
| Single do do | 120 | 16 | | Lansing, " |
| Column and Channel Arch, | 123 | 16 | | Austin, " |
| Double Intersection Truss, | 140 | 14 | | Manderfield, " |
| do do do on Iron Piers, | 140 | 16 | | New Ulm, " |
| Column and Channel Arch, | 120 | 14 | | Georgia, Mo |
| Single Intersection Truss, | 120 | 16 | | Paris, Ky |
| Column and Channel Arch, | 139 | 16 | | Perrysville, Kan |
| do do do do | 129 | 16 | 1—5 | Abilene, " |
| do do do do | 128 | 14 | | Stranger, " |
| do do do do | 130 | 18 | 2—6 | Oconomowoc, " |
| Double Intersection Truss, | 2—125 | 18 | 2—6 | Peterboro, Ont |
| Single do do | 2—128 | 18 | 1—5 | London, " |
| do do do | 6—120 | 18 | 1—5 | Paris, " |

## SPANS--150 TO 200 FEET.

| Plan of Bridge. | Ft. Span. | Road. | Walk. | Location. |
|---|---|---|---|---|
| Double Intersection Truss, | 150 | 14 | | Huntington, Mass |
| do do do | 8—155 | 18 | | Northampton, " |
| do do do | 190 | 20 | 2—6 | Fisherville, N. H |
| Column and Channel Arch, | 2—158 | 18 | | Concord, " |
| Double Intersection Truss, | 168 | 17 | | Rosendale, N. Y |
| do do do | 150 | 18 | | Scio, " |
| Column and Channel Arch, | 175 | 17 | | Martinsville, " |
| Double Intersection Truss, | 162 | 20 | 2—7 | Oil City, Pa |
| do do Truss, | 3—183 to 192 | 22 | 2—7 | Reading, " |
| Column and Channel Arch, | 5—182 | 17 | 1—5 | Kittaning, " |
| do do do do | 166 2—20 | 2-12 | | York, " |
| Double Intersection Truss, | 150 | 16 | | Mid'lebourne, W. Va |
| do do do | 156 | 16 | | New Martinsville, " |
| do do do | 2—150 | 14 | | Barboursville, " |
| do do do | 152 | 14 | | Wash'ton Bottom, " |
| Column and Channel Arch, | 150 | 16 | | Boyd Station, Tenn |
| Double Intersection Truss, | 150 | 14 | | Columbus, Miss |
| do do do | 164 | 20 | 2—6 | Findlay, Ohio |
| do do do | 155 | 16 | | Frederick, " |
| do do do | 4—156 | 18 | | Chillicothe, " |
| Double Intersection Truss, Railway, | 164 | 14 | | Kent, " |
| Double Intersection Truss, | 185 | 20 | | Logan, " |
| Double Intersection Truss, | 4—122 to 177 | 20 | 1—5 | Circleville, " |
| Double Intersection Truss, | 185 | 16 | | Tiffin, " |
| do do do | 165 | 16 | | Willoughby, " |
| Swing Bridge, Railway, | 174 | 14 | | Cleveland, " |
| Double Int. Truss, Railway, | 164 | 14 | | Cleveland, " |
| do do do do | 155 | 14 | | Navarre, " |
| do do do do | 2—155 | 14 | | Coshocton, " |
| Double Intersection Truss, | 190 | 16 | | Derby, Ind |
| do do do | 2—150 | 16 | | Monticello, " |