THE PITTSBURGH BRIDGE COMPANY

NELSON & BUCHANAN,



SPECIFICATIONS

For the Superstructure of a Wrought Iron Highway Bridge.

GENERAL DESCRIPTION.
The center line of the bridge will be at an angle of
The Superstructure to consist of OUL Spans, 132 feet, inches long, c. to c. of end pins, and
to have Roadway, feet wide in clear, between Trusses. The Trusses to be 20 feet high c. to c. of chords, and each Truss to be divided into panels 14 feet 9
inches long.
Number of sidewalks, Width of sidewalks,
PROPORTION OF PARTS.
The Bridge to be proportioned to carry a load of 100 pounds per lucal foot of floor surface
This load considered as a moving load, gradually covering the span, starting from either end; and the maximum strains caused by the above moving load and the WEIGHT of the structure, shall be taken to proportion all parts. All parts shall be so proportioned, that the maximum load shall not cause a greater strain in tension than
per square inch, net section of the member strained. Nor in compression a greater strain than that determined by the following formulæ:
$\frac{10,000}{1+\frac{1^2}{36,000\mathrm{r}^2}}$ for posts with square bearings. $\frac{10,000}{1+\frac{1^2}{24,000\mathrm{r}^2}}$ for posts with one pin and one square bearing.

L representing the length of post in inches, and r the least radius of gyration of the section.

_ for posts with pin bearings.

Rolling Load per Panel Bridge Weight per Panel

GENERA	L	DESCRIPTION.
	-	

Top Chord.	Top chord to be made of two channel bars eight melies
	deep with plate 14" in width, riveted to top
	flanges with 1/4 rivets, spaced about apart. Lower flanges of channels to be
	connected by plates, spaced about apart, or latticed. Pins and pin
	bearings to conform throughout with the requirements of strain sheet. The connection of top chord and end
	post shall be as shown on plan

End Posts.

The end posts will be composed of 2 — inch channel bars constructed in the same manner as the top chords,


Lower chords to be eye bars, having die forged heads bored to exact length in pairs. Eye bar heads to be so proportioned that if tested to breaking the bar will part in the body and not in the pin hole.

Upper and Lower Chord Pins to be accurately turned to size, to match the holes of the several parts of the Trusses through which they pass.

Pins.

Lower Chords.

Intermediate Posts.	Intermediate posts to be made of two channel bars, latticed, or of angle bars latticed, as	
	specified on strain sheet.	
Diagonals.	Diagonals to be eye bars having die forged or turned eye heads drilled to neat lengths and made of best	
	re-rolled iron, as per strain sheet.	
Counters.	Counters to be eye bars with sleeve nut adjustment.	
Suspenders.	Suspension Rods to have turned eye at upper end, and either turned eye for pin at lower end or upset end	
	and nut and thread adjustment at floor beam.	
Iron Floor Beams.	Iron Floor Beams to be either solid rolled I beams or built beam made of angle bar and plate properly	
	stiffened, as per strain diagram.	
End Portals.	Portal Struts to be made either of T bar or of angle iron latticed.	
Top Struts.	Intermediate Top Struts to be made of solid rolled I beams, or of angle bars, or of two channel bars latticed,	
	as specified on strain sheet.	
Lateral Rods.	Lateral Rods to have upset ends with nuts, or with eyes at ends and sleeve-nut adjustment.	
Rivets	The pitch of the rivets (except in latticed members,) shall in no case exceed six inches, nor be less than	
	three times the diameter of rivets. Rivet holes must be accurately punched, and rivets when driven must com-	
	pletely fill the holes.	
	MATERIAL.	
All iron used in the wor	k to be wrought iron, to be tough, fibrous and of that quality best suited to the purpose for which it is used.	
	Ult. Tensile Strength of Iron 50,000 lbs. per sq. in.	
	" Compressive " " 40,000 " "	
	" Shearing " " 36,000 " "	
	PAINTING.	
All iron work to be thor	roughly cleaned and painted before leaving the shops and to have or coat of paint, after erection.	
	FLOOR.	
	1 lumber 12 inches deep, and 3 inches thick, spaced about 22 apart.	
	lumber 212 inches thick and 6 to 12 inches wide, laid as director	
Sidewalk joist	Sidewalk floor Hub plank 2 × 10" Rue	
Wheel Guards 21/7		
CONSTRUCTION.		
	constructed in a thorough and workmanlike manner, and the details of construction to be of such character as to	
	and durability to the bridge.	
Capan	sion vollers to be provided.	



Clear Span between Faces of Masonry, 132 Length of Span center to center of End Pins, Width of Roadway, Height of Truss, c. to c. of Pins, 4-21/4 21/4"LS Portal Bracing,

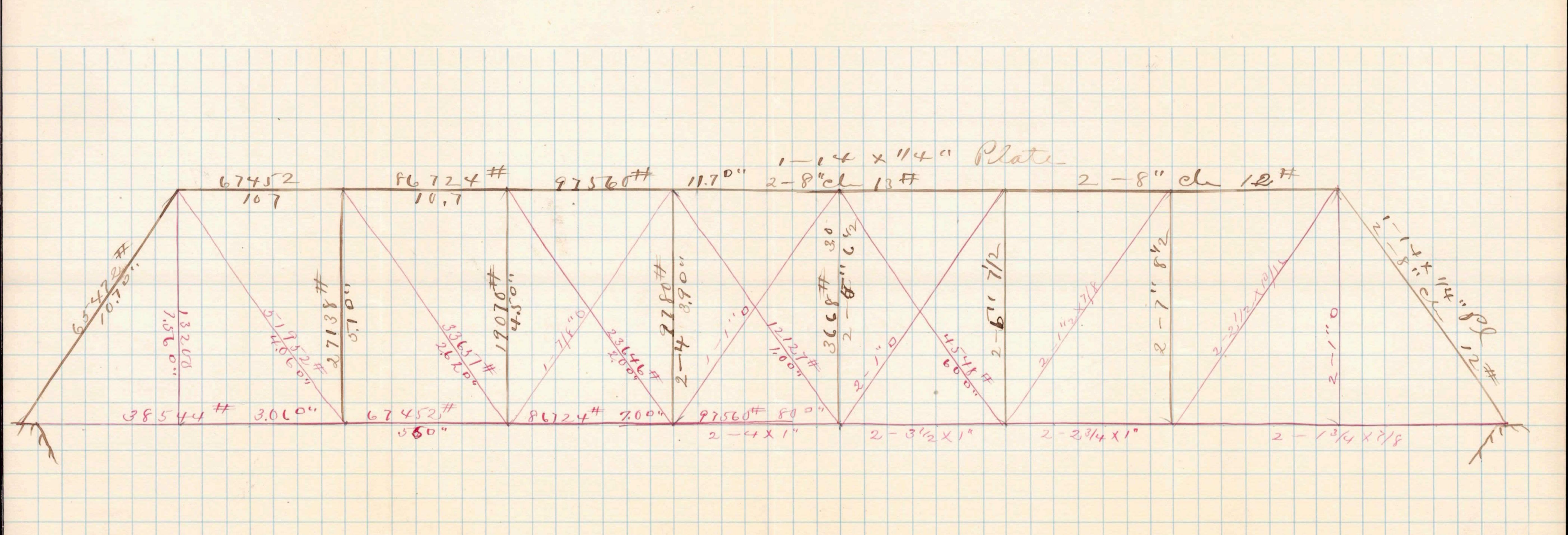
Pittsburgh Bridge Company.

NELSON & BUCHANAN, Agents, Chambersburg, Pa.

DIAGRAM OF STRAINS.

Top Lateral Struts, 4-2 X Z'' L J Top Lateral Ties, 1'4 1" 7/4 1" 3/4 Bottom Lateral Ties, 14/4 1'8 1" 7/8 + 3/4 Pins, 20 X1/4 - 4-3 X 2"LS

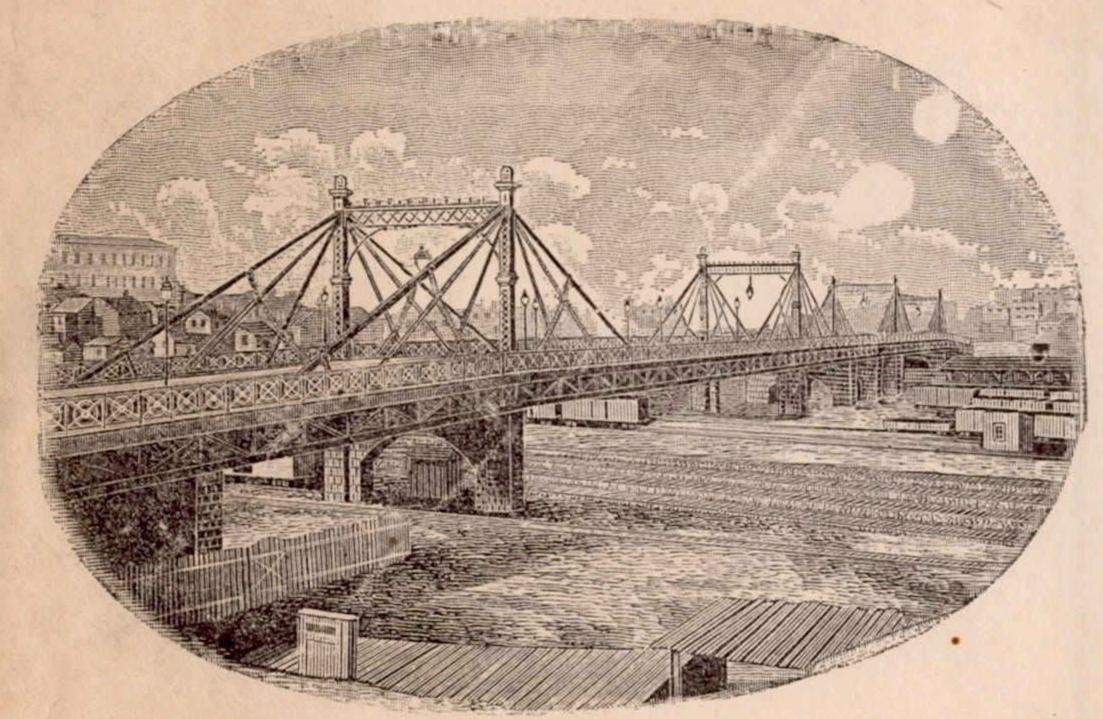
Floor Beams,



RETURN, IF NOT CALLED FOR IN 5 DAYS, TO

NELSON & BUCHANAN, Engineers and Contractors,

CHAMBERSBURG, PA.



THE PITTSBURGH BRIDGE COMPANY.

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