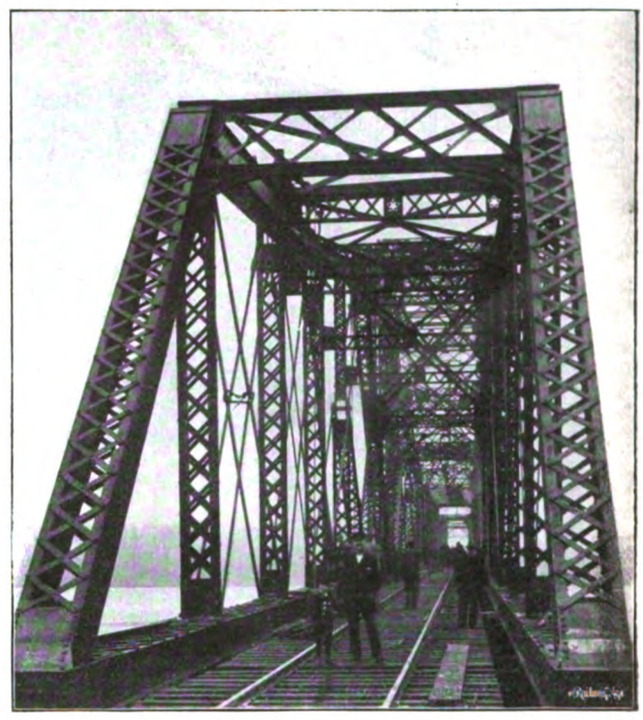
Labor Troubles.

The extensive strike of machinists on the Union Pacific system is maintained. At some of the shops a portion of the men remained at work and some others have been secured and the management assert that the machinery is being maintained in good order and that train service is not being delayed. The position of the company is thus stated by General Manager Dickinson: "The company has decided to inaugurate piecework over the entire system, even if it takes years to accomplish, and will not recede from this position. It will establish a scale of pay which will enable men to earn more by conscientious work than under the time system." The representatives of the International Association of Machinists on the other hand claim that the strike is progressing satisfactorily from their standpoint and that it "has settled down into a long-drawn-out contest and will be fought out on its merits." The company continues to offer to the strikers the privilege of returning to their old places but will not probably hold the door open after the places have been filled by new men.—Over 500 employes of the Southern Pacific shops at Houston, Tex., walked out on July 7 on the refusal of the company to grant an increase of 10 per cent. The company offered an advance from 6 to 10 cents per day, but it was declined.—The striking machinists and blacksmiths of the Texas & Pacific at Marshall, Tex., returned to work on July 8 after being out six weeks, having received some concessions.—About 100 machinists and their helpers in the Santa Fe shops at Cleburne, Tex., went on a strike on July 8.—Several hundred employes of the Canadian Northern Railway at Winnipeg, Man., members of the United Brotherhood of Railway Employes, struck on June 30, including freight clerks, freight handlers, switchmen, carmen and several classes of laborers. The machinists of the company had already been out nearly six weeks and the walk-out resulted from failure to settle their strike. On July 7 the trainmen, including conductors, presented a schedule and demanded recognition inside of 36 hours. The management is bringing in new men and is said to have declared that the road will spend $1,000,000 before it will recognize any organization.—The boilermakers' strike on the Great Northern is said to have been settled by a compromise, the company agreeing to advance wages to $3.25 per day.—Striking boilermakers on the Chicago & Northwestern system returned to work on July 7, after a brief intermission, receiving an advance stated to be from 10 to 15 per cent.—All molders and their helpers at the Niles Tool Works, Hamilton, O., stopped work on July 8 on account of the discharge of some men.—The strike of the boilermakers and machinists at the Iowa Central shops, Marshalltown, Ia., inaugurated on June 30, continues.—The Railway Clerks' Union at Chicago this week decided that it would not aid the striking freight handlers in any way. The action was in answer to a deputation of strikers requesting aid. The railway clerks of several Chicago roads have submitted requests for an increase in pay, but the requests were submitted as from individuals and not from organizations.

On July 8 the New York Central entertained a party of about fifty newspaper men from Buffalo and vicinity at Ontario Beach.

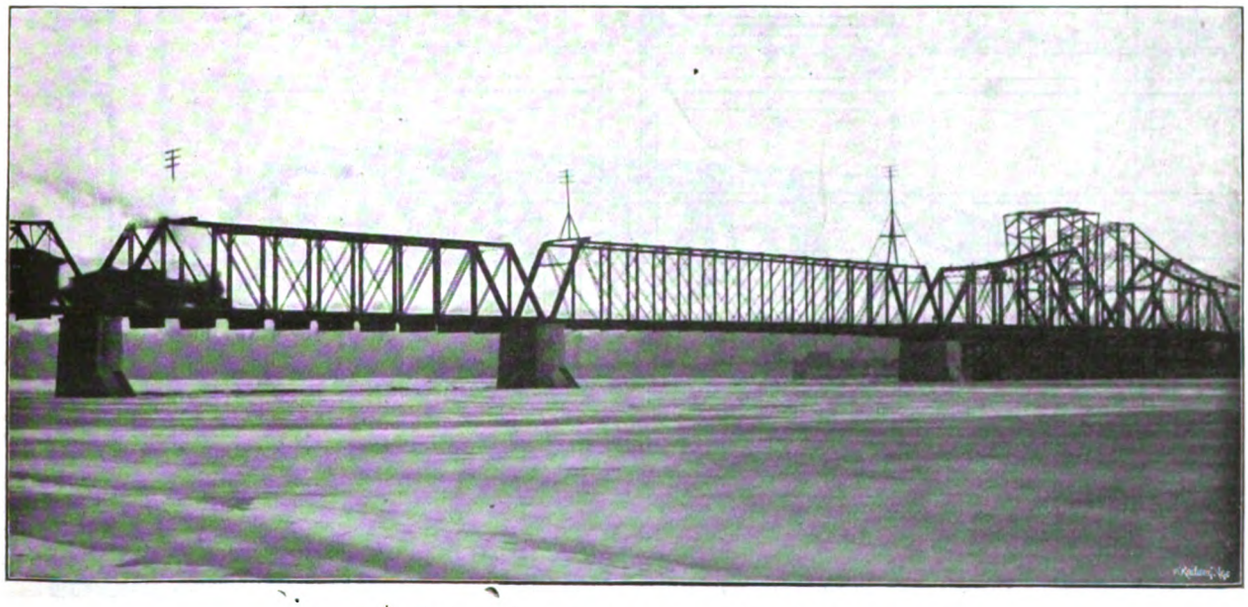
AN IMPORTANT BRIDGE RENEWAL.

At La Crosse, Wis., over the channels of the Mississippi and Black rivers, one of the most important pieces of bridge replacement work of the year is in progress on the Chicago Milwaukee & St. Paul. Here the main line of the road to



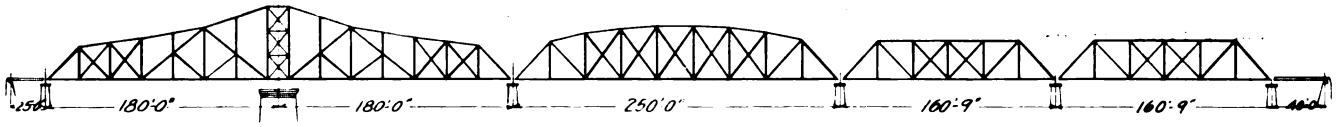
LACROSSE BRIDGE RENEWAL—BRIDGE OVER MAIN CHANNEL.

Minneapolis and Saint Paul crosses four channels of considerable width, and in the original construction this portion of the road for a distance of 7,500 feet consisted of a continuous line of pile trestles and bridge work. Since, however, short portions of the trestles have been filled in, reducing the bridging to the structures over the four channels mentioned.

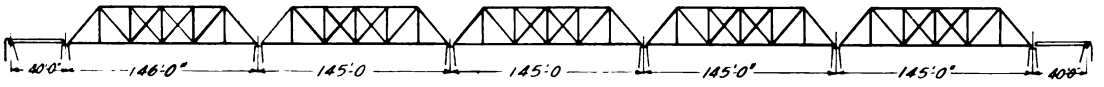


LACROSSE BRIDGE RENEWAL—PROGRESS OF WORK OVER MISSISSIPPI RIVER.

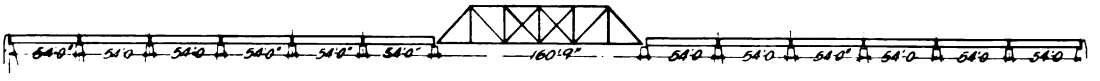
From La Crosse west these when replaced will consist of a bridge over Black River, including a 307-foot draw and nine deck girder spans of 64 feet each; a bridge over French Slough, consisting of one 160-foot Pratt truss and 12 deck girder spans 54 feet in length; a bridge of five 145-foot Pratt trusses and two 40-foot deck girders over the east channel



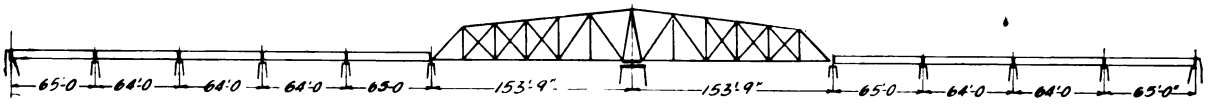
Main Channel



East Channel



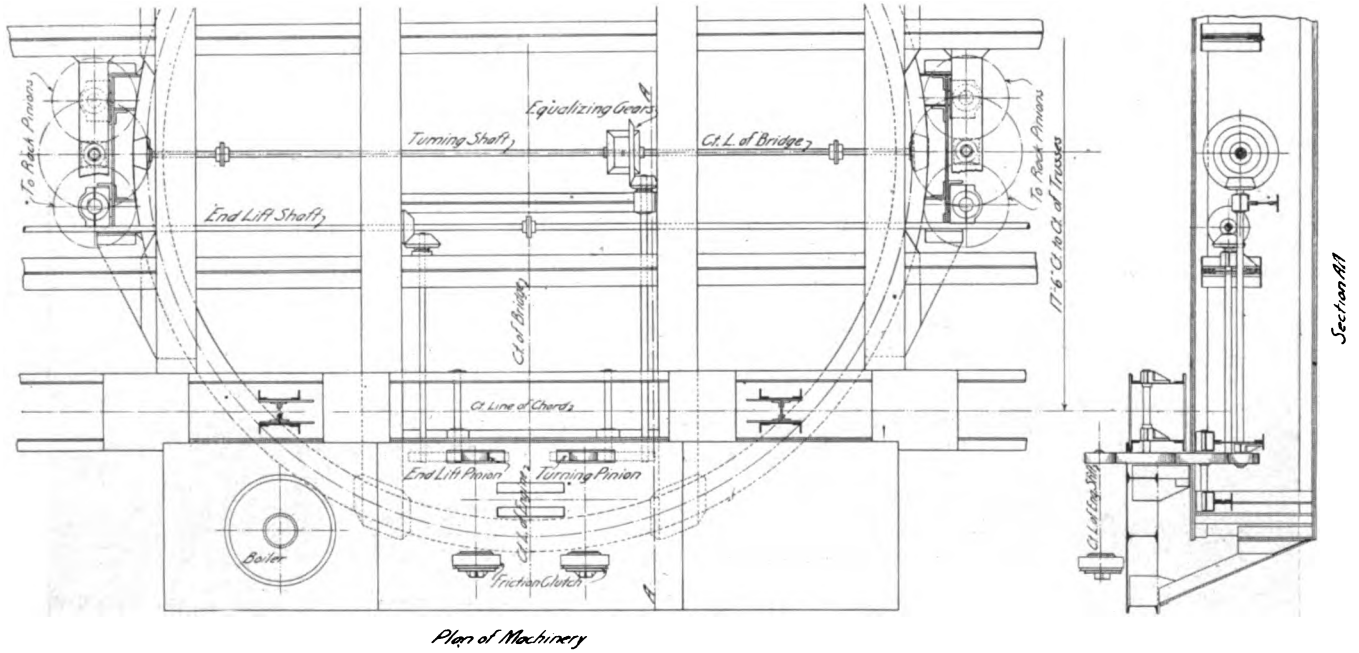
French Slough



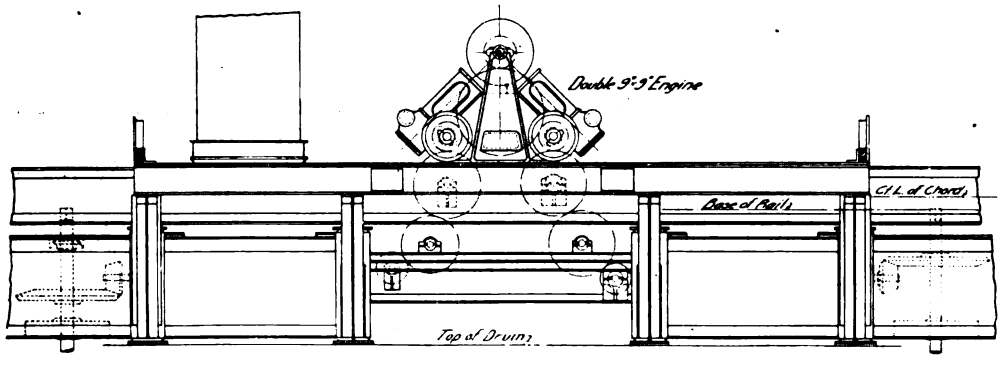
Black River

THE RAILWAY AGE

LACROSSE BRIDGE RENEWAL—GENERAL ELEVATION OF 8PANS.



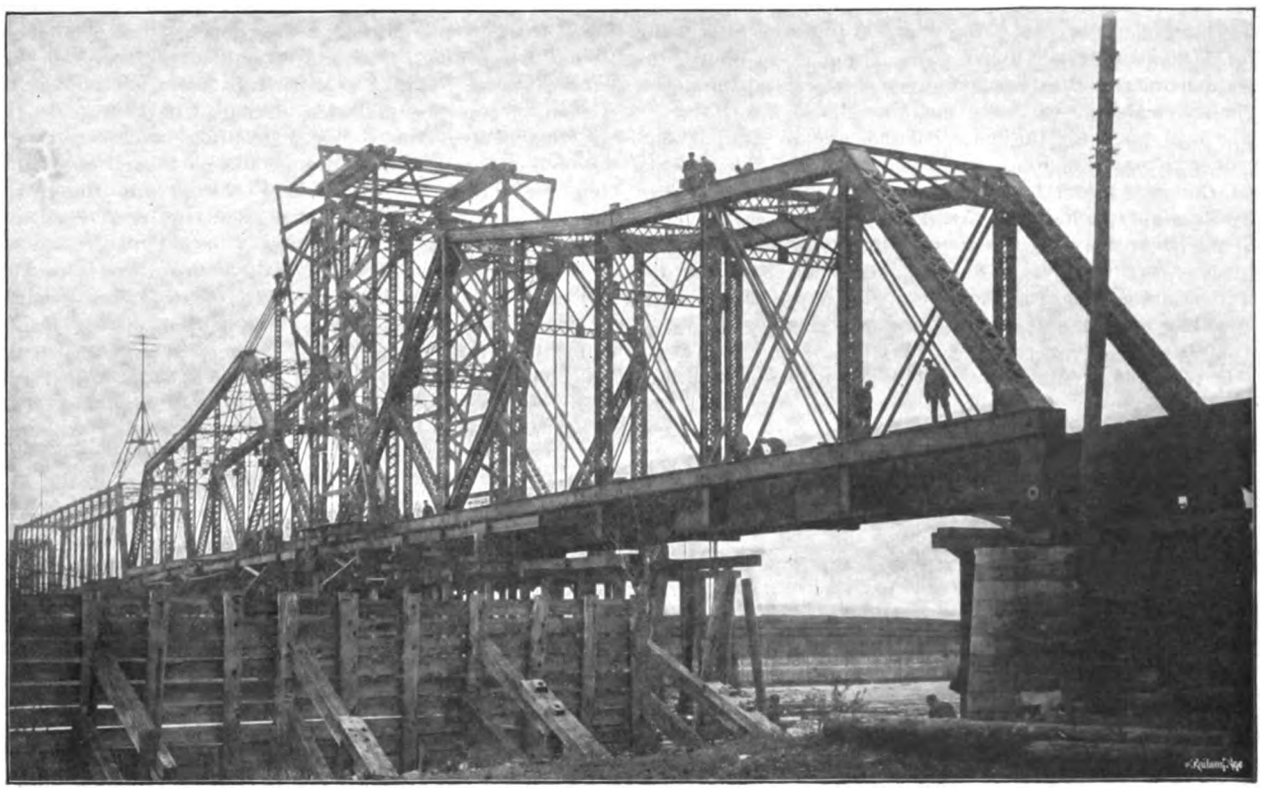
Plan of Machinery



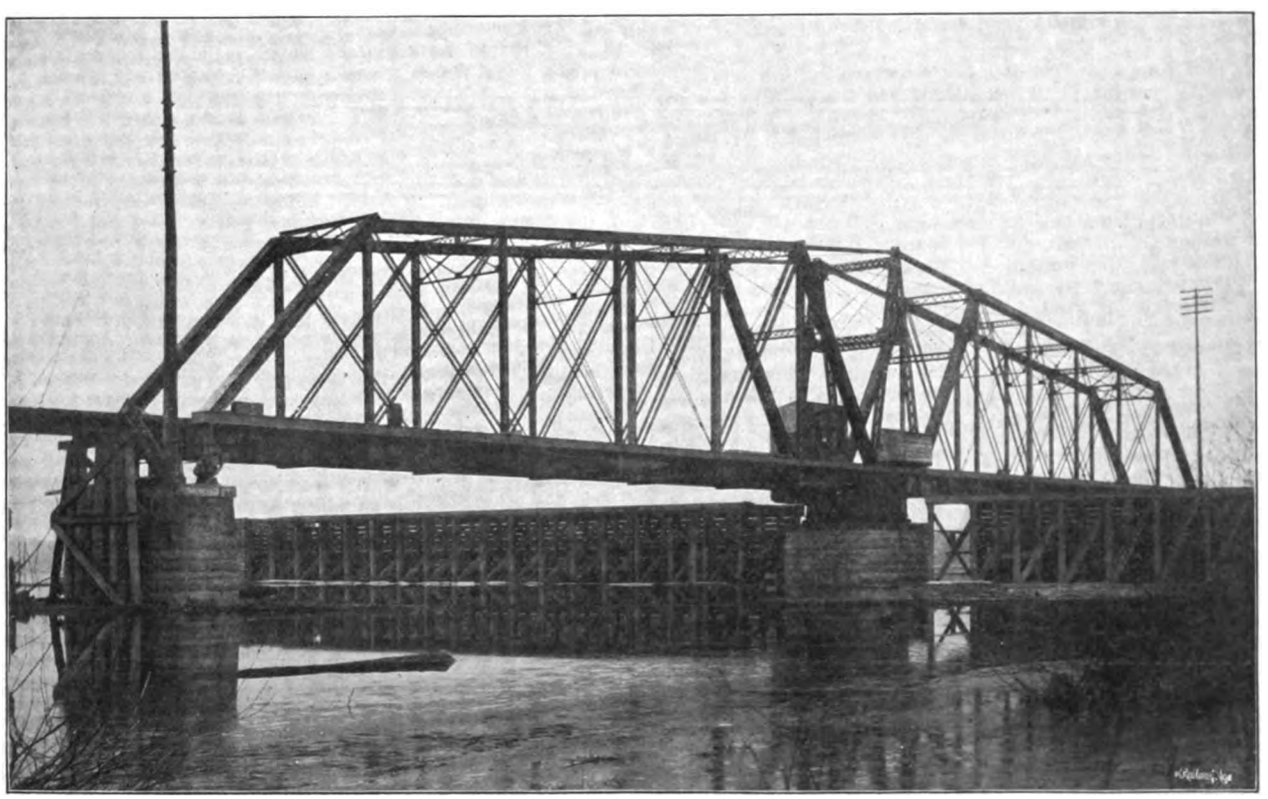
THE RAILWAY AGE

LACROSSE BRIDGE RENEWAL—DETAIL OF DRAW OPERATING MACHINERY.

of the Mississippi River; and over the main channel of the Mississippi a bridge consisting of one 25 and one 40 foot deck girder, two Pratt trusses 160 feet in length, one Pratt truss 247 feet and one drawspan 357 feet in length. The truss and drawspans are merely replacements, while the plate girder spans are new construction, displacing pile trestling. A summation of the work shows a bridge 883 feet in length over Black River, a fill 1,100 feet between Black River and French Slough, a bridge 809 feet in length at the latter point, an embankment 1,500 feet between French Slough and the east channel, an 805-foot bridge over the east channel and a 600-foot fill between this point and the main channel, where is the last of the bridges, 990 feet in length.



LACROSSE BRIDGE RENEWAL—DRAW SPAN OVER MAIN CHANNEL.



LACROSSE BRIDGE RENEWAL—DRAW SPAN OVER BLACK RIVER.

The old bridge was built in 1876 with the exception of

one 160-foot span over the main channel, which was replaced after an accident five years ago. The original construction was figured for a loading of two 65-ton engines followed by a trainload of 3,000 pounds per linear foot, while the new work is figured for two 177½-ton engines, followed by a trainload of 5,000 pounds per linear foot. From these figures the greater demands now being made upon bridges and the necessity for renewals can easily be understood.

The iron work for the main channel and for the 160-foot span over French Slough was furnished by the Phoenix Bridge Company; for the east channel it is being supplied by the Lassig branch of the American Bridge Company; for the Black River draw by the American Bridge Company, and the girder work at French Slough and Black River by the McClintic-Marshall Construction Company of Pittsburg. The total weight of the material in the superstructure will be about 3,000 tons.

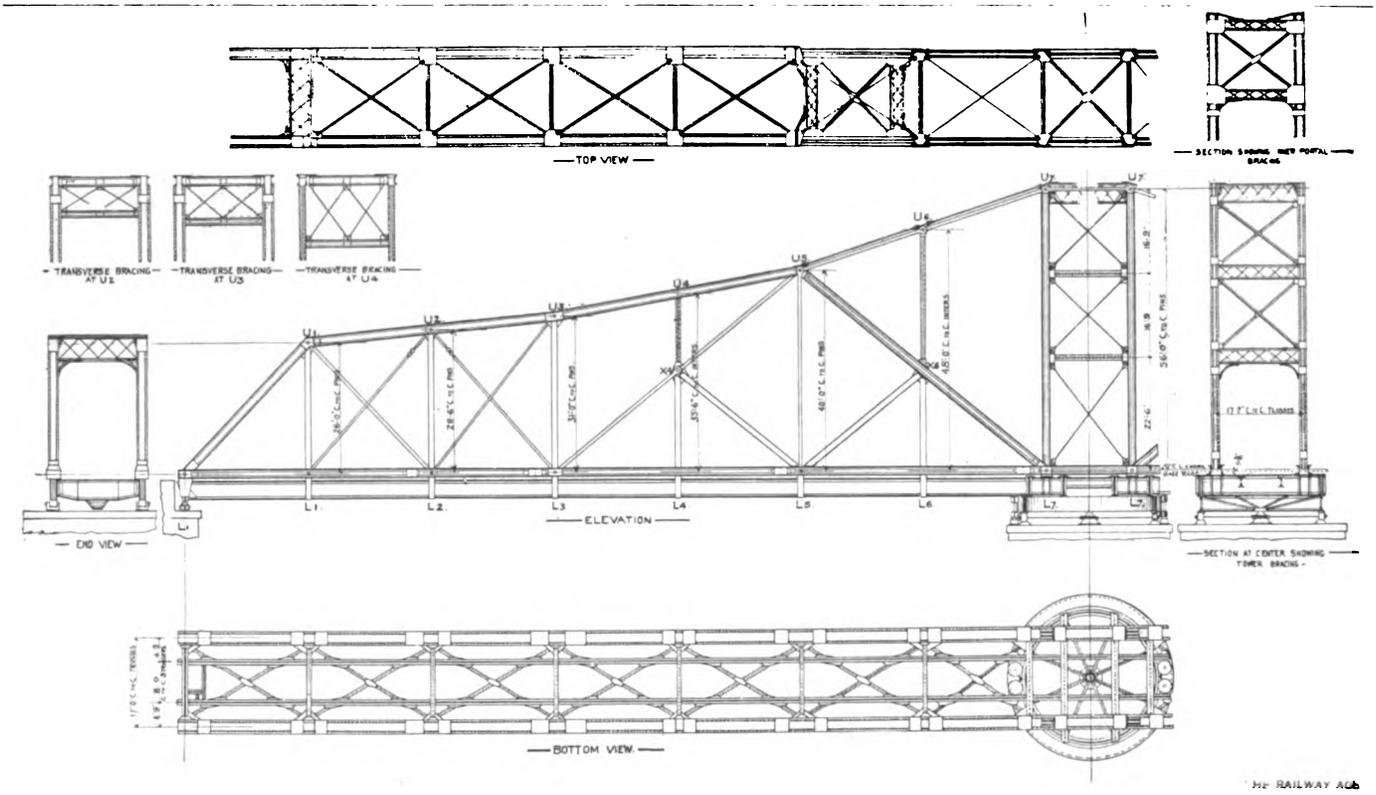
The work of erecting the bridges from the foundations up is being done by the railroad company. New substructures are being built only under the new work, all of the old masonry piers remaining, these being changed only in that they are cut down to fit the new iron work, and new copings of concrete 2 feet in thickness built on top of each. The concrete is mixed in the proportions of one part of cement to two parts of sand and five parts of broken stone, Atlas Portland cement being most largely used. The mixing was done by a plant consisting of a Ransome-Smith mixer belted to a 12-horsepower Fairbanks-Morse gasoline engine and with which about 100 cubic yards per day were mixed.

At Black River the masonry work consisted of two new abutments and seven piers, requiring 1,518 cubic yards, and at French Slough for the two abutments and 12 piers, 1,295 yards were used. In addition to these amounts some 539 yards were required for the new abutments at the Mississippi River and new copings for the remainder of the work, making in all a total of 3,352 yards. All of the new pier and abutment work is built on foundations of piles, of which at French Slough an average of 23 and at Black River an average of 24 were used for each pier. Under the two large abutments at the latter point a total of 115 piles were placed.

The roadbed for the entire distance is being raised an average of 2 feet, and over the bridges the track is practically level with the exception of the main channel, where there is a grade of about .12 of 1 per cent. All of the work was carried on without interference in any way with traffic, the same general plan of erection being followed throughout. False work was first placed under the bridge and on top of this blocks were built up to the level of the old floor beams, when everything of the old structure was removed excepting these beams. The false work was made low enough, so that when the new beams were placed on it they would come up to the level of the floor of the bridge. The ties were then transferred to the new beams, the old floor removed, the remainder of the new structure erected and the false work taken down. Travelers and derrick cars were used to aid in the erection.

Expansion due to changes in temperature is provided for in the truss spans by segmental rollers on rail bearings and in the girder spans by a sliding motion on cast-iron plates. For the 145-foot spans 6-inch segmental rollers are used, for the 160-foot spans 8-inch and for the 247-foot 12-inch rollers.

On the plate girders double flanges are used at the top instead of the ordinary single flanges and cover plates. Angles for the top flanges are 8 by 8 inches and for the bottom 6 by 4 inches, and instead of using side plates in connection with the flanges, a somewhat new feature was adopted, in that the 4-inch arm of the bottom angle is riveted through the 8-inch arm of the top angle, which rests against the web plate. In this way this arm of the top angle is made to act in the same capacity as a side plate, simplifying the construction.



LACROSSE BRIDGE RENEWAL—DRAW SPAN OVER THE MAIN CHANNEL.

While some of the fixed spans are of large size, the swing bridges over Black River and the main channel of the Mississippi River present the most noteworthy features of the replacement. The work of erecting the draws was necessarily done during the winter months so as not to obstruct navigation by the pile false work required. At Black River the draw is 307 feet in length and is of the rim bearing continuous type. The drum is 19 feet in diameter and turns on a bearing of 18-inch rollers. At the ends of spans, the ordinary rail and end lifts employed by the Chicago Milwaukee & St. Paul are used. These consist of a cam arrangement operated on an eccentric shaft. This in turn is operated by a shaft running from an engine at the center of the bridge from which power is supplied, the arrangement in this case providing a vertical lift of 3 inches. The power for operating both the draw

and lifts is supplied by a 20-horsepower steam engine located in a small house over the drum and outside the truss.

Over the main channel the draw is 357 feet in length, of the partially continuous rim bearing type, and turns on a drum 26 feet in diameter, with a bearing on 18-inch cast-iron rollers. It is estimated that 90 seconds will be required to swing the bridge, steam to be used as power. A 36-inch upright boiler with two double reversing 9 by 9 inch Vulcan Iron Works engines will be utilized for swinging the bridge and operating the end and rail lifts. The lifts will be of the same type as those on the Black River draw, a vertical rise of 3½ inches instead of 3 inches being required. The power equipment will be placed at about the elevation of the bottom chord in a small house outside of the trusses and over the drum. Both engines are connected to a common crank shaft, which in turn is geared to two main shafts carrying friction clutches, the latter to be operated by a single lever. By means of this lever either of the main shafts can be thrown into gear. One of these will furnish power for operating the end and rail lifts and the other for turning the bridge. In the latter operation the power is taken through a chain of gears and an equalizer to four spur pinions, two on either side of the drum, which engage a rack on the bottom tread for turning. The operating machinery with connections is shown in accompanying illustrations.

The erection of the main draw began on February 3 and on March 3 it was ready to swing, though most of the rivets were yet to be placed, a force of 20 men being employed. At the present time nearly all of the replacement has been completed, including the two draws, the masonry work and most of the steel work, though portions of the latter are delayed because of late deliveries. The erection is in charge of Eugene Greenwald and the work is being done after plans by the engineering department of the Chicago Milwaukee & St. Paul under the supervision of C. F. Loweth, engineer of bridges and buildings, and J. J. Harding, assistant engineer.

Freight Handlers' Strike at Chicago.

A serious attempt to stop the entire freight traffic of all the railways centering at Chicago and handled from about 100 freight houses, was inaugurated on July 7 by the Freight Handlers' Union. Nearly 9,000 men stopped work on account of the failure of the roads to signify acceptance of a schedule of wages posted by the union in the various houses. The companies had signified their willingness to confer with committees of their own employes with a view to a wage revision, but declined to treat with representatives of the union as such. Most of the roads secured sufficient help from other employes and from new men to prevent a freight blockade, and some freight was diverted around the city and sent through without transshipment. Efforts to induce the teamsters' union to assist were fruitless, the teamsters, who had just settled a strike of their own, refusing to violate their contracts and officially indicating disapproval of the freight handlers' action in striking without the authority of the Chicago federation of labor. The State board of arbitration interested itself in mediating between the strikers' representatives and the general managers and had a good influence in advising the men to deal directly with their respective companies. As a result of a conference with the managers the following statement was submitted to the strikers on the morning of July 9:

To the Freight Handlers of Chicago, Gentlemen:—The result of my conference to-day with the managers of the various railroads regarding the differences between yourselves and the various railroads is that they will make you the following offer:

1. The railroads will pay the scale posted by them on July 1, 1902, and no more. They will carry out the other conditions posted in that offer—namely, the omission of work on Sundays and holidays.
2. They refuse to pay time and a half for overtime.
3. They will agree to the requests made by you in your wage schedule under articles 5 and 6, referring to advancement and seniority of freight handlers.
4. They will agree substantially to article 3 of your wage schedule regarding 10 hours' service constituting a day's work for freight handlers.
5. They will not compel any of their men to work on Labor Day.
6. They will not discriminate against any union men.
7. They will take back all their freight handlers now on a strike who apply for their positions on or before noon of Thursday, July 10.
8. They will take up and endeavor to adjust all matters relating to the classification of the various crafts employed in handling freight.
9. No man receiving a higher scale of wages shall suffer a reduction because of the new scale of July 1.
10. Any grievance committee from the freight handlers can meet the management of the railroads at any time.
11. There will be a 30-day probation period for new men working by the hour or the month.
12. There will be no discrimination against men for their failure to join any voluntary relief association.

FREDERICK W. JOB,
Chairman of the Illinois State Board of Arbitration.

The following is the scale of wages demanded by the Freight Handlers' Union and the scale offered by the railways:

	Demand.	Offer.
Check clerks, etc., per month	$64.00	$60, $62.50, $65.00
Delivery clerks, etc., per month	55.00	55.00
Seal clerks, etc., per month	55.00	55.00
Callers and sealers, hour	.20	hour .18½
Stevedores, per hour	.19	.18½
Weighmasters, per month	55.00	55.00
Truckers, per hour	.18	.17½

It will be seen that the differences are very small and few. The real contest is over the recognition of the union, its officers, represented by President Curran, standing out for all demands and urging the men to refuse the concessions offered by the managers, while many of the men were anxious to return to work before their places were filled. The only other point of serious difference is that regarding pay for overtime, the managers refusing to concede the rate of time and a half, as excessive. It is not given to any other class of railway employes, the practice being to pay a pro rata share of the regular wages.

Contrary to public expectations, the strike was not ended on Thursday, but is still in force. At meetings of three local unions held in the morning it was in every case voted to reject the terms offered by the managers and continue the strike. The radical element was strongly in the majority and no abatement from the terms first demanded was consented to. No considerable number of the strikers have returned to work, but most of the roads are managing to handle their freight without serious difficulty. The State board of arbitration still has hopes of bringing about a settlement.

Electric Railway Accidents.

The multiplication of electric railways and the efforts to run at high speed are producing an alarming increase in the number of accidents, especially collisions. On the Mountain Lake Railway near Gloversville, N. Y., on July 4, there was a head collision between two crowded cars in which 15 persons were killed and 29 were injured, some of these seriously. Going down a grade said to average 250 feet to the mile for 4 miles, a motorman lost control of his car, and while running at frightful velocity met an ascending car and both were hurled over on the incline.—On the Pennsylvania & Mahoning Valley electric railway between New Castle and Youngstown, O., two cars collided on a curve, killing two men and injuring several others. Both cars were crowded with Fourth of July excursionists. The accident is attributed to a misunderstanding of orders or signals.—A trolley car at Chestnut Hill near Philadelphia became unmanageable at the top of a grade and ran into another car, causing serious injuries to three persons.—In a head collision between two heavily loaded cars on the Hudson division of the Marlboro street railway near Marlboro, Mass., the motorman was killed and several passengers were injured.—In a wreck on the Broad Ripple road near Broad Ripple, Ind., one man was killed and one badly injured.—While running at high speed a Myrtle avenue trolley car in Brooklyn took fire, burning the motorman and five passengers, one it is feared fatally. Other passengers were injured in attempting to escape the flames which swept through the car.—The failure of the chain brake on a street car line in Boulder, Colo., caused a train to rush down hill at tremendous speed, overturning at a curve, killing one passenger and injuring 20 or more.—Two electric trains on a railway near Port Ceresio, Italy, were wrecked in a collision in which the cable reports 49 persons were killed or injured.

The canal committee of the New York Produce Exchange is endeavoring to have the question of rebuilding the Erie Canal so as to accommodate larger boats referred to the people. The committee has prepared a table showing grain shipments through both Canadian and American ports, and observes that the Canadian routes are getting more and more of the traffic.