Mr. Charles A. Schott's article on *Terrestrial Magnetism in North America* has no special interest for railroad men. It discusses the magnetic needle and its variations, local, secular, diurnal, solar, lunar. The author hopes for another Arctic expedition and a complete magnetic survey of the region surrounding the pole. He fails entirely to discuss the theories of magnetism, or to clear up the question whether the earth's polarity is due to electrical conditions. He makes a brief reference to the effect of the sun-spot phenomena and to disturbances accompanying auroral lights and strong earth currents. These are the only reference to electrical causes of polarity. The paper furnishes little that has not been published before.

Mr. Berthold Stahl's paper on a *Method to Secure the Stability of a Quay Wall* explains how the cause of a landslide was remedied and the destruction of docks averted. The quay wall was built without providing proper drainage and the surface material, which rested upon a substratum of clay, slid down against the wall when the clay became soaked and slippery. This is a frequent consequence of the neglect to provide drainage for retaining walls.

The wall having been built upon a platform foundation resting upon piles the writer first sought to secure this pile foundation. This he accomplished by running long tie-rods to heavy timbers anchored some distance in shore in the substratum of clay. The rods were provided with nuts or turn buckles so that they could be tightened and made taut. To insure good drainage and remove the cause of the slide by keeping the clay substratum dry and stiff, the ditches containing these tie-rods were filled in with stone and holes were made in the wall and platform. The space inside of the wall was excavated and also filled in with broken brick. The quay wall was relieved from further lateral pressure by building a beton wall behind it to take up the whole pressure of the upper backing soil and transmit it to the piles as low as possible. Pipes were cemented into this wall to insure the escape of the water. The repairs seem to have been successful, and the paper affords a striking example of a failure due to lack of drainage in the presence of clay.

American Grain Elevators, by E. Lee Heidenreich, is a brief description of the several types of modern grain elevators, including storage, transfer, cleaning and terminal elevators. The writer describes the general methods of construction and gives several plates to illustrate the text. The final paragraphs of the paper present a digest of the main features of the paper, and suggest the improvement to be sought in elevator construction. The author says:

The principal requirements of a grain elevator, namely strength, tightness, light, and effective and accessible machinery, are such as to invite the attention of engineers; and before closing the writer wishes to say that the handling and storing of grain, both in the interior and at the lake and ocean terminals, presents a wide field for future discovery and improvements. Some of the immediate wants are: larger capacity cleaning machinery, adequate drying apparatus, automatic weighing machinery, fireproof bin construction, and pneumatic unloading of cars or vessels with a view of greater capacity per hour than can be obtained at present And last, but not least, a general use of electricity for driving isolated parts of machinery, or, perhaps, for transmitting power to every piece of machinery in the entire elevator.

The main principles which must be kept in view while making these improvements are rapidity and economy of construction, and a reduction of the labor employed in the handling of grain in American grain elevators of the future.

Foreign Railroad Notes.

One of the Russian railroads is shortly to be equipped with a rotary snow plow essentially the same in design as some of those which have come into such extensive use in this country during the past 10 years. It is being built by Messrs. Baumeister & Wain, of Copenhagen, Denmark, and is to be capable of developing 300 H. P.

The shops of the Hungarian State Railroads recently turned out their 500th locomotive, and celebrated the event with considerable display, 2,000 workmen in their Sunday clothes turning out to receive prominent men and to hear a speech from the Minister of Commerce, who is the responsible chief of the State Railroad system.

Some idea of the extent of the sleeping car service on the continent of Europe may be formed from the fact that the International Sleeping Car Company, which provides most of the cars—perhaps a larger proportion of the whole than the Pullman company in this country—had $1,092,000 of gross earnings last year. Its profits sufficed for a five-per-cent. dividend, amounting to $120,000.

TECHNICAL.

Manufacturing and Business.

The Jackson & Woodin Manufacturing Co., Berwick, Pa., have just completed a new car wheel plant supplied with the Whiting system of cupolas by the Detroit Foundry Equipment Co., of Detroit, Mich.

The following companies have been chartered in Illinois: The McArthur Bros. Co., of Chicago; capital stock, $250,000; to construct railroads, canals, sewers, and buildings; incorporators, Henry W. Magee, George E. Wissler and Arthur F. McArthur. The William Goldie & Sons Co., Chicago; capital stock, $40,000; to construct buildings and bridges; incorporators, Henry W. Magee, George E. Wissler and William Goldie, Jr.

The South Milwaukee Malleable Iron Co., of South Milwaukee, Wis., has suffered a loss through the partial burning of its plant. The new works of the Bucyrus Steam Shovel & Dredge Company, adjoining the burned works, were in great danger, but were saved.

The Department of Railways and Canals, Ottawa, has awarded a contract to the Central Bridge Works, Peterborough, Ont., which amounts to nearly $50,000, for the construction of 1,300 lin. ft. of steel pipe, with angle plates and flanges in connection with the Sault Ste. Marie Canal.

The Heath Rail Joint Co. is contemplating removing its manufacturing plant from West Superior to Pittsburgh. The company was manufacturing rail joints at the works of the West Superior Iron & Steel Co. When that company suspended it was decided to move their machinery to a more central manufacturing point, and the company has about settled upon Pittsburgh as its objective point.

This joint is now in use on 52 railroads and the company recently completed an order for five miles of its improved pressed steel joints for the St. Paul & Duluth.

Articles of incorporation have been filed at Albany, N. Y., for the Extension Car Step Co. The capitalization of the corporation is $100,000. The officers are: President, C. W. Hackett; Vice-President, A. C. Salisbury; Secretary and Treasurer, I. J. Griffiths.

A number of residents of Elmira, N. Y., including District Attorney Charles H. Knipp and Wm. R. Compton, have organized a stock company for the purpose of manufacturing the O'Dell railroad switch. The switch is the invention of A. P. O'Dell, of Bradford, Pa.

The Bothwell Compressed Air Improvement & Construction Co. has been formed under the laws of the State of New York, with offices in Vanderbilt Buildings, New York City.

The company will engage in the manufacture under its patent of air-brakes, steering apparatus and other devices in which compressed air is used. The directors and officers of the company are as follows: W. T. Bothwell, Jersey City, N. J., President; Geo. W. Waite, Jersey City, Vice-President; Fremont Wilson, New York, Secretary and Treasurer; Jas. R. Naylor, Brooklyn, N. Y., General Manager; A. R. Boluss, Jersey City, Chief Engineer, and J. W. Rosencranse, Brooklyn, N. Y., Superintendent of Construction.

The Bloomsburg Car Co. is building 100 sectional frame houses, 16 × 18 ft., to be shipped to South America.

Iron and Steel.

The Bessemer steel works of the Colorodo Fuel & Iron Co. will start up Aug. 15, having a month's orders for rails. By that time the company hopes to get other orders. The merchant bar mills are closed for lack of orders.

The Carpenter Steel Co., of Reading, Pa., announce that by reason of new contracts it will put in operation 12 new crucible furnaces this week and give employment to many new hands.

New Stations and Shops.

The Oswego Railway Spring Co.'s works, at Oswego, N. Y., are being enlarged by the addition of a new building, 125 × 75 ft. in size. The new building will be devoted to the manufacture of elliptical springs for locomotives, passenger and street cars, and when this department is completed and in use, about Aug 20, the entire plant will have a capacity of about 30 tons of springs a day.

Work on the buildings for the Great Northern shops, at Spokane, Wash., is practically completed. The roundhouse is also complete. It will take six months to fit out the repair shops with machinery, work on which will be begun within a short time. The building contractors were Ashenfelter & McKenzie.

The Berlin Iron Bridge Co., of East Berlin, Conn., has received the contract for the new power station for the Atlantic Improvement Co., Astoria, L. I. There will be two buildings, a boiler-house 62 ft. wide and 85 ft. long, with a dynamo-room 70 ft. wide and 130 ft. long. The dynamo-room is controlled by a traveling crane, to be furnished by the same firm.

Air Resistances of Curved Surfaces.

A very elaborate paper on the resistance to air currents of both stationary and moving bodies with curved surfaces was recently prepared by Prof. Georg Wellner, of the Royal Technical College, at Brünn, Austria, and appeared in several successive numbers of the *Zeitschrift* of the Austrian Engineers and Architects' Society, beginning with the issue of June 23 of this year. Professor Wellner's investigations, which, in the main, were experimental in character, were prompted by the increasing attention latterly given to the problem of aerial navigation and the generally appreciated lack of data on the magnitude and direction of air resistances encountered by surfaces exposed to air currents at very slight angles. To those more particularly interested in the subject, therefore, the large number of tabulated results of measurements which he has given together with the descriptions of the experimental apparatus employed and the conclusions at which he has arrived, will prove of value and are desirable for reference. The part of the work done by him, which will probably appeal more especially to most of the readers of the *Railroad Gazette* is that relating to the air resistances of surfaces in motion, the investigations of this branch of the subject having been made on a nine mile section of the railroad between Brünn and Strelitz which had been placed at his disposal by the railroad company. An elaborate series of measurements was there made, the recording instruments being carried on the several trains running over the line at different speeds and on different days with varying atmospheric conditions. Painstaking care seems to have been used in the gathering of the data and the working out of the several values, and the contribution as a whole can undoubtedly claim to be one of the most thorough and comprehensive ones that has yet been made to the subject. For obvious reasons, however, we cannot undertake to enter into it here in even the most superficial manner, but must content ourselves with simply this reference to its treatment in our Austrian contemporary.

Silk from Wood-Pulp.

The manufacture of silk from wood-pulp would, at first sight, appear to be mythical, but it is a fact that the work is now being accomplished, and that a mill for the manufacture of the silk is in full operation at Besançon. The process is that of M. Chardonnet, and is described in detail in a recent report of the United States Consul at St. Etienne. It may be summarized as follows: The wood-pulp, such as employed in paper-making, after being carefully purified by acid and dried in alcohol, is dissolved in a mixture of pure ether and alcohol, thus forming a viscous collodion, like that used in photography. This collodion is placed in a vessel where, under air pressure, it is first of all forced through a filtering apparatus, and then into a horizontal tube, having a number of glass exit tubes of very small bore. From these tubes the collodion issues in threads so fine that six of them must be combined to make a strand of the necessary consistency for weaving. On its exit the thread passes through a vessel of water, which frees it from its surplus ether and alcohol, and thus helps it to become a solid. It is also subsequently passed through a bath of ammonia to deprive it of its highly inflammable property.—*Chambers' Journal, London, July.*

Prince Edward Island Tunnel.

Engineers left Ottawa last week to resume work and complete the submarine drillings started last summer in connection with the proposed tunnel under the Northumberland Straits, to connect Prince Edward Island with the mainland.

Electric Water Power Installation at Chur, Switzerland.

One of the latest electric water power plants in Switzerland, in which country, by the way, power installations of this class have been developed more than in any other, is that at the small town of Chur, at the junction of the Rabinsa and Plessur rivers. The water is taken from the former, and the power, about 500 H. P., is used both for electric lighting and for driving electric motors. The head of water available is about 190 ft., the river Rabinsa being dammed naturally by a huge mass of rock. The power station contains two turbines coupled to a common shaft. Ordinarily, however, only one of the wheels is in operation.

The extent of the electric distributing system, and the distance of the power station from the town made the use of a high-tension, alternating current desirable, and the proposed dynamo equipment, therefore, was to consist of five 100-H. P. generators, and capable of supplying a current of 33 ampères and 2,000 volts. Three such generators are now in place. The transmission cables run overhead from the station to the outskirts of the town, being carried on oil insulators, and within the town they are laid underground. The converters are located in the cellars of the various buildings supplied with current, the secondary current having a voltage of 120. Each arc lamp has its own converter, by means of which the 2,000-volt current is brought down directly to one of 40 volts.

Completion of the Stewart Avenue (Chicago) Interlocking Plant.

One of the most complicated interlocking plants in the world was put into operation in Chicago last Sunday at the Stewart avenue, the Canal and Sixteenth street and the "St. Charles Air Line" crossings, and one of the most dangerous railroad crossings becomes as safe as such grade crossings can be made with existing safety appliances. At this crossing tracks of the Chicago & Western Indiana, the Chicago & Alton, the Pittsburgh, Ft. Wayne & Chicago, the Illinois Central, and the Atchison, Topeka & Santa Fe all cross and all have transfer tracks and portions of yards near by. On the tracks of the Western Indiana run the trains of the Louisville, New Albany & Chicago, the Chicago & Grand Trunk, the Chicago & Erie, the Chicago & Eastern Illinois, and the Wabash railroads. To give an idea of the number of trains that use this crossing and adjacent switches during 24 hours is impossible, as there are no figures available, but it is safe to say that there is scarcely a minute during the whole time when a train is not in sight. Several years were occupied in designing the plant, much of the work of which was done by Messrs. E. L. Corthell and J. F. Wallace. The work of installing it has occupied more than a year, having been begun on June 4, 1892, and completed a few weeks ago. The system used is the Westinghouse elec-

tro-pneumatic and the apparatus was installed by the Union Switch & Signal Company.

The plan of the tracks and scheme of interlocking was illustrated in the *Railroad Gazette* Jan. 29, 1892. and some of the data given with the illustration is sufficiently interesting to be repeated here. There are 84 signals, 37 signal switches, 22 double slips and 22 movable frogs, all of them worked from a machine having 48 working levers and six spare spaces occupying a floor space 5 ft. × 24 ft. There is about 10,000 ft. of detector bar, the largest amount ever worked from one machine. With a mechanical machine, according to American practice, a machine of 187 working levers occupying a floor space of 14 ft. × 77 ft. would be required; and if the English practice were followed a machine of 243 working levers and a floor space 17 ft. × 93 ft. would be necessary. An interesting feature of this plant is the illuminating of each signal by electricity, the current for which is supplied from the power house.

At 9 o'clock Sunday morning the first connection with the switches and signals was begun and the last one was completed at 10:30, the work of connecting occupying only an hour and a half. The plant was put in operation officially at 12 o'clock noon, and no difficulties were experienced.

THE SCRAP HEAP.

Notes.

The entire 189 miles of the Pittsburgh Division of the Pittsburgh, Fort Wayne & Chicago is now operated under the block signal system.

The Southern Pacific has subscribed $50,000 to the midwinter fair which it is proposed to hold in San Francisco the coming winter. A considerable number of exhibitors at the World's Fair have agreed to support this California fair.

The Burlington's offer of free transportation to the World's Fair to the employees on the Iowa Division is conditioned on the journey being taken "while travel is light." The Pennsylvania's trains for carrying its employees to Chicago are loaded with 500 or 600 passengers each.

The Illinois Railroad Commissioners have approved interlocking signals at a crossing of the Illinois Central and the Lake Shore & Michigan Southern, and of the Illinois Central and the Elgin, Joliet & Eastern; also of the signals at Alvan at the crossing of the Chicago & Eastern Illinois and the Illinois Central.

On the night of Aug. 2 a freight train of the Lake Shore & Michigan Southern was boarded by about 60 tramps, at Tolleston, Ind., and the trainmen were terrorized. One of the tramps was shot by a companion while on the train. Seven of them were captured. On the night of the 5th, at Delphos, O., a passenger train of the Pennsylvania was boarded by 25 tramps, of whom a few were captured. They said they wanted nothing but free transportation eastward. The Fitchburg road has been arresting considerable numbers of vagrants in the vicinity of Boston.

South American Notes.

The Central Argentine Railroad is commencing work on a branch line from Victoria Station to San Antonio de Areco, a distance of 23 miles. This will connect the northern section of the Central Argentine with the Pergamino line, shortening the journey from Buenos Ayres to Córdoba by 14 hours.

A movement is said to be on foot in Buenos Ayres to hold an international exhibition in that city. Such a measure might be turned to great advantage by our manufacturers, particularly after the completion of the Trans-Andine Railroad.

The following table of gross receipts of eight principal Argentine roads from Jan. 1 to July 8 for 1893 and 1892 respectively demonstrates a gratifying increase of prosperity for that debt-ridden country:

	1893.	1892.	Increase
Buenos Ayres Great Southern	$5,209,188	$4,740,598	$468,590
Buenos Ayres Western	2,871,645	2,170,505	701,140
Buenos Ayres & Rosario	1,591,239	1,349,211	242,028
Central Argentine	1,723,242	1,377,849	345 393
Buenos Ayres & Ensenada	337,520	302,569	34,951
Buenos Ayres & Pacific	2,064,757	1,666,175	398,582
Córdoba Central	1,543,076	1,475,668	67,408
Córdoba & Rosario	585 968	407,332	178,636

The project for the proposed grand central station in Buenos Ayres is apparently taking a definite shape. The plan which has now been laid before the government is substantially that which was favored by President Pelligrini's administration. The government is asked to cede 70 acres of land adjoining the Madua Docks, between the foot of Calle Cuyo and Calle Belgrano; the terminus and works to be forever free from all national and municipal taxes; all materials to be imported free of duty; all railroads to be allowed access to the terminus; a tunnel 1,300 yards long to be built from Plaza Constitucion to the foot of Calle Brazil; an embankment for the tracks of the Rosario Railroad to be built along the river for a distance of 3,400 meters, the embankment to be protected by a breakwater from the mouth of Maldonado Arroya to the gas house. The estimated cost of these improvements is:

Branch line, Caballito to Barracas	£140,000
Tunnel	320,000
Embankment and breakwater	413,000
Grand central station	390,000
Total	£1,263,000

It is reported that work will be commenced in October upon the Guadalajara & Western Railroad of Mexico, for which a concession was granted to Messrs. L. Niendorff, William Dick and A. L. Clark. This road will form a continuous line from San Luis Potosí to Chamela, on the Pacific coast, passing through Cocula, which will be the end of Section 1. The total length of the line will be 509 miles, and is estimated to cost $25,000,000.

The total number of immigrants arriving in Argentine direct from Europe in the last 36 years amounts to 1,355,000; of these 817,000 were Italians. Spaniards come next, with 239,000, followed by Frenchmen to the number of 141,000. In 1892 upward of 11,000 emigrants settled in Argentine.

Minnesota State Elevator.

The following bids have been received by the Minnesota Railroad & Warehouse Commission for the erection of the state grain elevator at Duluth: Butler Bros., St. Paul, $209,000; Heidenrich Co., Chicago, $242,000; Metcalf-McDonald Co., Chicago, $239,000; J. T. Moulton & Son, Chicago, $237,000; F. H. O'Neill, St. Louis, $198,700; Barnett & Record Co., Minneapolis, $229,500, and Honstein Bros., Minneapolis, $238,000.

The bids are for the entire work, including grading of site and dredging of the slip alongside of dock. The contract has not yet been awarded.

Opening of the Corinth Canal.

The Corinth ship canal was opened by the King of Greece on Aug. 7, in the presence of all the members of the royal family, the cabinet ministers, the foreign diplomatic representatives, the principal military and civil officials and a crowd of citizens.

The first sod of the canal across the Isthmus of Corinth was turned by the King of Greece in April, 1882. The isthmus is about three and three-quarters miles in breadth. In the middle of the isthmus is a ridge 120 to 180 ft. high, which is approached on each side by a plain from the seashore. The canal is 68 ft. wide at the bottom, 80 ft. at the water line and 26 ft. deep. Items concerning its construction were printed in the *Railroad Gazette* Feb. 3 and March 10 last.

Dredging Gladstone Harbor.

The Racine Dredge Co., of Racine, Wis., has the contract for dredging a 19-ft. channel from the "Soo" docks at Gladstone, Mich., to the main channel in the Little Bay Du Noc. The work aggregates 80,000 yards and is already well under way.

Calumet and Pullman Electric Railroads, Chicago

About two years ago the Calumet Electric Street Railway Co. began building its line at South Chicago, and during the two years has continued building so steadily that at the present time it has over 40 miles of track extending through South Chicago, and west and north to Jackson Park, making connections at Sixty third street with the South Side Rapid Transit road, and at Sixty-seventh street with the Chicago City cable system. The electric system also extends west and south from South Chicago to West Pullman, where extensive manufactories are now being erected. Last week extensions of the Pullman and Calumet lines were completed to a junction at Ninety seventh street and Stony Island avenue, and the two roads are to be operated as one line. Cars began running over the extensions last Monday, and now Pullman has street car connections with all the adjacent Chicago suburbs and with the car lines of the city. The combination of the two lines makes a very extensive electric street railroad system. The Calumet line is laid with 78-lb. Johnson girder steel rails on oak ties. It is equipped with overhead trolley system of wires. The engineering work was done under the direct supervision of Mr. John Dougherty, of New York City. The Pullman double deck cars are to be run on the Pullman line and the Calumet connecting line, they being similar to those running on the Brookline division of the Boston Electric street road.

The Transatlantic Mail Service.

It was stated in the British House of Commons last week that the Government had decided to abandon as too costly the experiment that had been tried of forwarding the American mails to London by a special train. Hereafter, if a steamer arrives at Queenstown when the ordinary rail services cannot be availed of, her mails will be landed at that port, but they will be taken to Liverpool. The Postmaster-General added that he did not think this plan would make much difference to those concerned. The special train experiment had involved an expenditure of £150 every time that it had been tried, and special trains had been engaged about a dozen times a year.

A Railroad Project in Northern India.

One of the most promising of the proposed new railroads in India would appear to be a line projected by a company of merchants of Karachi, East India, to extend from that city to Delhi, the most important trade centre of Northern India. Mr. Jehangir H. Kothari, an influential merchant of Karachi, and an enthusiastic advocate of this road, has recently visited this country, on a tour around the world, and while in New York City had conferences with several bankers regarding the financial part of the project. He hopes to interest American capitalists in the project, and arrange with them for building the road, with such financial assistance as may be secured from the local merchants. Mr. Kothari has given us some particulars of the railroad. It will have for its western terminus Karachi, a town in East India and an important port on the Arabian Sea, near the northern boundary of Hindoostan, and about 600 miles northwest of Bombay.

A railroad is already built east of Karachi, via Kotri and Hyderabad, to Umrkot, some 200 miles, and this line it is proposed to take over and extend north-east about 500 miles, to Delhi.

The importance of this line lies in the fact that it gives a nearly direct route between Delhi and the northern and interior districts of India to a sea port on the north-western coast, as will be readily seen by a glance at the map of India. The present railroad traffic to these districts now makes long detours to reach Bombay or other coast towns. The new line would extend through the vast wheat and cotton growing plains of northern India, and would have tributary to it the trade of the Punjab and many large towns, as well as Delhi. A survey has been made by Mr. Horace Bell, who makes a favorable report upon the route, and estimates the cost per mile at 85,000 rupees, or about $28,000 per mile. A prospectus has been issued and further particulars of the enterprise will be furnished to those interested, by Mr. Kothari, who may be addressed at Karachi, India.

CAR BUILDING.

The Bloomsburg Car Co. is building 100 steel cars to be used in transporting cement.

The Boston & Maine has just received two new parlor cars from the Pullman Car Co., which completes the order of 15 vestibuled parlor cars ordered some time ago, together with 15 vestibuled sleeping cars, which have also been delivered.

BRIDGE BUILDING.

Allentown, Pa.—Bids have been received, but no contract as yet awarded, for a new iron 55-ft. bridge over the Sancon Creek, in Upper Sancon Township. There are seven bidders.

Belair, Md.—Plans for a new bridge over Deer Creek have been laid before the Board of County Commissioners.

Columbus, O.—Proposals for a plate girder bridge with a 70 ft. span over the canal on the Clickinger road will be received by the County Commissioners up to Aug. 24. Owing to the failure of the purchasers of $100,000 worth of bonds to take the bonds, no contracts can be made for the construction of the proposed new bridges at Westerville, over Big Darby Creek, and on East Broad street in this city for some weeks, and new proposals for the sale of the bonds will be asked by the County Commissioners, and the projects will have to wait till after the bonds are sold. Ironwork for the Front street viaduct over the Little Miami Railroad is arriving and the work of erecting it will commence at once.

Delaware County, Pa.—It has been decided by the County Commissioners to erect a new bridge at Shoemakerville, between Media and Chester. The total length of the structure will be 443 ft.

Elmira, N. Y.—The Elmira Bridge Co. has shipped one of the two girders for the two track plate girder bridge of the New York Central Railroad at Oriskany, N. Y. The girder is 90 ft. long, 9½ ft. deep and weighs 35 tons.

Harrisburg, Pa.—An ordinance has been introduced in Common Council providing for the erection of an iron bridge over the canal at Market street. The estimated cost is $8,000.

Hichingbroke, Que.—The contract for building the McCurry bridge has been awarded to J. Johson.

Hull, Quebec.—Application has been made to the Dominion Government for power to construct the proposed new bridge over the Gatineau River, between Hull and Gatineau Point. Tenders for the stone piers and iron superstructure will be called for in a few weeks, and the work will be proceeded with this fall. To erect the stone piers will increase the cost of the bridge, but it is expected that the additional amounts will be made up by grants from East and West Templeton, L'Ange Gardien and other municipalities directly benefited by the bridge.

Narrows, N. B.—The plans of R. B. Rogers, Superintendent of Trent Valley Navigation, for the new iron bridge have been accepted, and tenders will be invited shortly.

Niagara Falls, Ont.—An iron bridge is to be built by the Niagara Falls Electric Railroad across Smeatons, Ravine, Queenstown.

Norristown, Pa.—The Grand Jury has recommended the erection of a bridge over a portion of the Perkiomen River at Landis' Mill.

Philadelphia.—The partial destruction of the Falls of Schuylkill Bridge on Sunday last probably only hastened the work of demolishing that structure, as bids had been received for that purpose. The erection of a new bridge at the site has been contemplated for some time by the Department of Public Works, and plans were prepared in December last for a new structure. These plans provide for a bridge with two decks, the upper one, 62 ft. above the river surface with a width of 71 ft. and a total length of roadway of 1,131 ft. The lower deck will be 22 ft. above the river. The main bridge will have three spans of 196 ft. The superstructure will be entirely of steel and the construction of the Pratt truss system. The total cost, exclusive of land damages, is estimated at $700,000, and the matter will probably come before the City Council next month.

St. Thomas, Ont.—James A. Bell, County Engineer, reports that a 30-ft. span bridge is to be built over Big Otter Creek, between Bayham and Middleton; that the Grange street bridge is to be rebuilt at a cost of $1,933, and the Port Burwell bridge at a cost of $1,860.

Windsor, Ont.—Plans are being prepared for the new bridge over the Michigan Central R. R. at this place. It will cost about $15,000.

Youngstown, O.—The bids opened for the Holton street viaduct superstructure were as follows: Wisconsin Iron & Bridge Works, $19,169 on draw and side spans, and $39,800 on viaduct; King Bridge Co., $52,600 on viaduct; Youngstown Bridge Co., $58,500; Detroit Bridge & Iron Works, $52,218. The award of the contract will not be made for some days. It is among the probabilities that a new bridge will be built at Spring Common, on the West Side, a movement of citizens being on foot to effect such an enterprise.

The Youngstown Bridge Co. is building three girders for a bridge at Duluth, each being 86 ft. long and weighing 30 tons.

RAILROAD LAW—NOTES OF DECISIONS.

Powers, Liabilities and Regulation of Railroads.

In Indiana the Supreme Court holds that the successor of a railroad company by purchase is liable for damages for breach of a covenant of the right-of-way deed to its predecessor, providing that the grantee should fence the road and forever maintain the same, put in cattle guards and wagon crossings whenever demanded, and make a wagon and stock passageway under the road.[1]

The Supreme Court of California holds that an action on a note by a bank against a railroad company is an action at law, and the court has no power to appoint a receiver for the railroad company, though it consents to such appointment, and though the complaint alleges that it is insolvent, that other creditors are threatening to sue, that defendant has no property out of which to satisfy such judgment, and that the action is brought in behalf of all other creditors willing to come in as plaintiffs.[2]

In Oregon it is held that a city, under a grant of exclusive power "to permit, allow and regulate" the laying of tracks for street cars, has not power to grant for a term of years the exclusive right to occupy its streets with street railroads.[3]

The Supreme Court of Illinois decides that a train designated as a "fast mail train," and used mainly for carrying the mail, but which also has cars for the use of passengers, is a "regular passenger train," within the