

was passed on May 2, 1821, the main line, 16 miles long, being opened for traffic on Sept. 5, 1826. The branch, however, was not opened till Feb. 11, 1836. Carriers provided their own horses and rolling stock, with which they worked for hire. Passing places remain here and there, at some of which were formerly depots where coal, manure, etc., could be received. Locomotives were not used, chiefly owing to the line being made largely alongside a highway, but without larger blocks it could not have carried even the lightest engines satisfactorily. The rails and chairs, though of the same pattern as the original ones of the Liverpool & Manchester (1830), are less well supported than those were, yet the latter were found too weak even for 8-ton engines.

In 1852 the Stratford & Moreton passed into the possession of the Oxford, Worcester & Wolverhampton, now part of the Great Western. They connected it with their line at Moreton the following year, and until 1859 ran a horse coach on it for passengers, besides doing goods traffic, also by animal power. The coach made two trips each way daily in summer and one in winter. It was simply an old railroad carriage fitted with a box for the driver and seats on each side of him for outside passengers. They had to duck their heads, or take off their hats, at the only tunnel—a very short one. Down the inclines, which were taken at a good speed, the horse traveled on a little platform in front of the coach. Since August, 1859, when the first steam railroad entered Stratford from Honeybourne, the old tramroad has been entirely disused as to the $\frac{9}{16}$ miles or so between Stratford and the junction at Langdon road with the Shipston branch. The other part, from Moreton to Shipston, was rebuilt as a locomotive line by the Great Western a few years ago, and is worked at slow speeds with mixed trains.

Chelsea, London, S. W.

TECHNICAL.

Manufacturing and Business.

Bickford Drill & Tool Co., Cincinnati, Ohio, has just received an order for three large multiple spindle drills from the Baltimore & Ohio R. R. for its Mount Clare shops.

Sidney A. Stephens, for many years traveling representative of the Rhode Island Locomotive Works, has been appointed Agent for the Brooks Locomotive Works for the Dominion of Canada, with office at 22 St. John street, Montreal.

C. L. Sullivan has resigned as Superintendent of the Cloud Steel Truck Co., and has opened an office at 1515 Old Colony Building, Chicago. He will engage in the sale of railroad supplies and the "Handy" car which was described in our issue of Feb. 1.

Chicago rabbetted grain doors, made by the Chicago Grain Door Co., are specified on the following box cars, the orders for which were noted in the *Railroad Gazette* at the time the contracts were let: Cleveland, Cincinnati, Chicago & St. Louis, 2,200; Chicago, Rock Island & Pacific, 1,500; Northern Pacific, 3,000; Atchison, Topeka & Santa Fe, 2,000, and Rio Grande Western, 100.

E. R. Miner & Co., 29 Broadway, New York, have designed and built for the Citizens Electric Light, Power & Railroad Co., Mansfield, Ohio, a number of combination gondola, flat and hopper bottom cars, the hoppers being so adjusted that ballast can be swung fast or slow. They have also just sold to the Dover Construction Co., Canal Dover, Ohio, 10 hopper dump cars, and have sent 10 logging cars to the Wilson Cypress Co., of Florida.

F. L. Dodgson, Chief Engineer of the Pneumatic Railway Signal Co., of Rochester, N. Y., sailed for England last week, where he will stay some time in consultation with the British Pneumatic Signal Co., proprietor of Mr. Dodgson's interlocking devices in the United Kingdom. Low-pressure pneumatic interlocking is to be at once put in at Basingstoke, on the London & Southwestern 48 miles from London. We learn (not, however, from Mr. Dodgson) that another English railroad has ordered a large interlocking plant from this company. The international company is to open an office in Paris, which will be in charge of Mr. W. J. Becker, who went to France last summer to exhibit this company's miniature pneumatic interlocking machine at the Paris Exposition.

Iron and Steel.

The American Bridge Co. is getting out about 20 bridges for the Erie R. R.

Last week the Ohio Works of the National Steel Co., at Youngstown, began a run of 130,000 tons of rails.

F. M. Jackson, General Manager of the Alabama Consolidated Coal & Iron Co., at Birmingham, has resigned, and the office has been abolished.

In 12 hours recently 524 tons of open-hearth billets were rolled at the new 40-in. mill of the new basic open-hearth plant at the Duquesne Steel Works.

The American Bridge Co. announces its sales during the month of January, 1901, as the largest of any month since the organization, aggregating over 60,000 tons.

A. E. Borie has been appointed General Sales Agent of Bethlehem Steel Co., with headquarters at South Bethlehem, Pa., the appointment dating from Feb. 1, 1901.

Track Tanks on the Lake Shore.

The Lake Shore is not doing anything at present in the way of increasing the number of its track tanks, but all road engines, both freight and passenger, as now built, are equipped with scoops. Of course, the plan is ultimately to avoid some freight train stops by using track tanks and scoops.

Springs.

Following is the text of a circular of inquiry from the Master Car Builders' Committee on revision of the present recommended practice for springs, including designs for springs for 100,000-lb. cars:

The Committee finds that the present recommended practice requires revision, especially in the springs for the heavier cars. The present dimensions given for springs C, D, E and F on M. C. B. Sheet J do not provide for sufficient material to enable springmakers to comply with specifications. It will, therefore, be necessary to redesign these springs in such a manner that they will contain the material required to meet the specifications as to height under given loads without overstraining the material, and without exceeding the limits in dimensions demanded by the construction of the modern freight trucks. To enable the Committee to make these modifications intelligently, as well as to recommend springs for 100,000-lb. cars, the assistance of the members of the Association in the line of furnishing data of construction of trucks, weight of cars, and style of springs now in use, etc., is solicited. The information desired as to construction of trucks is shown on the attached cuts [not reproduced here] which represent some of the more prominent makes, but which may also be used for giving the dimensions of any other makes of similar types. Please fill in the dimensions A, B and C for the different capacities of cars given in the tables. Dimensions B represent maximum height between truck box and top casting on pedestal trucks, and between spring seat and bolster on bolster trucks, with load of empty car. Other information desired is as follows:

1. Average empty weight of 60,000, 80,000 and 100,000-lb. cars, including trucks?
2. Detail specification of springs used, including weight of springs without spring caps.
3. The approximate number of such springs in service?
4. Have such springs been entirely satisfactory?
5. If not satisfactory, do they break, or take permanent set?

Please forward replies as early as possible, but not later than April 1, to Charles Lindstrom, Mechanical Engineer, Chicago & Alton Ry., Bloomington, Ill.

C. & N. W. Suburban Terminal.

The Chicago & Northwestern is preparing elaborate plans for a new suburban station at its Chicago terminals. This will be south of the present station and alongside the River, leaving the present station exclusively for through trains. The plans will also include new train sheds and storage yards and the proposed terminal improvements are estimated to cost over a million dollars.

A Street Car Explosion.

Last week some of the heating apparatus on a cable car in New York city exploded during the early morning hours when the car was crowded with passengers. Two or three persons were injured, but we have not heard that any were seriously injured. The car was lighted with Pintsch gas, and, of course, the story was at once started that a gas receiver had blown up. Inspection reveals the fact that the tanks under the car were not ruptured, and furthermore that none of the connections were broken. The tanks were still carrying 165 lbs. pressure of gas, and all the lighting apparatus was in working order. The lamps were somewhat burned and smoked, but could be lighted. None of the gas that had been supplied to the car the night before had leaked off. This seems conclusive.

THE SCRAP HEAP.

Traffic Notes.

The steamship "Para," from Southern American ports, arrived at San Francisco this week with 500 tons of freight which would have gone, in the usual course, to the Eastern States and Europe via the Panama Railroad, but, owing to the disagreement between that road and the Pacific Mail Steamship Company, it has been brought to San Francisco to be sent East over the Southern Pacific.

Chicago papers report that the railroads northwest of that city have agreed to discontinue giving passes to city officials and employees. According to the report this agreement will deprive of free rides a large number of policemen, firemen, city hall employees and post-office employees in Chicago and St. Paul. Half-rate tickets which have been granted to these classes under some circumstances, are also withdrawn.

There has been some demand, chiefly from the Southern Pacific, that passenger rates through the Washington gateway to the Pacific Coast from New England and Eastern points be changed so as to conform with those charged through Albany and other Northern gateways; but at a meeting of representatives of all the passenger associations held in New York this week it was decided that no change shall be made. The New England railroads objected, pointed out that there was already a short route to New Orleans via Albany and Cincinnati.

New York Freight and Transportation Bureau.

This is the name of a new organization just formed "to promote harmonious relations between shippers and carriers, and protect their interests." The Bureau has been incorporated. The office is at 127 Duane street, and the Commissioner is W. L. McCarty; W. W. Kugler is secretary, and the chairman of the Freight Rate Committee is Thomas M. McCarthy, of Austin, Nichols & Co., wholesale grocers.

Superposed Turrets for Battleships.

The Naval Board which consists of the Chiefs of Bureaus of Ordnance, Equipment, Construction and Steam Engineering, augmented by several other officers, last week decided in favor of adopting Rear Admiral O'Neill's plan of superposed turrets for all five of the battleships recently ordered, instead of for only three of them as at first planned. It is understood that the decision was not unanimous.

Intra-State Commerce Outside the State.

In the United States Circuit Court at Little Rock Feb. 5 Judge Tribler rendered an opinion overruling the demurrer to the bill in the case of Kansas City Southern against the Arkansas Railroad Commissioners. The questions involved are the power of the State Railroad Commissioners to fix rates for the carriage of freight from one point in the state to another by a route passing for more than half the distance through another state or the Indian Territory. The Court held that such traffic is interstate and without the jurisdiction of the State Commission. The board is enjoined from enforcing its tariffs as to such shipments, and is prohibited from suing the railroad company for penalties.

This decision is on a question similar to that decided by Chief Justice Fuller in 1892, the question at that time being one of taxation. The decision was based on the effect that "in the carriage of freight and passengers between two points in one state the mere passage over soil of another state does not render that business foreign, which is otherwise domestic." The Lehigh Valley was taxed by the State of Pennsylvania on its gross earnings and on freight from Mauch Chunk to Philadelphia by way of Easton, Pa.; Phillipsburgh, N. J., and Trenton, N. J., and thence over the Pennsylvania road to Philadelphia, the road claimed that no tax should be collected on that traffic was interstate. The report of the case gives particulars of the way in which the business was conducted, from which it appears that the traffic in question was looked upon by the Court as though the Lehigh Valley ran its own engines through from Mauch Chunk to Philadelphia. The tax, however, was only for such part of the earnings as accrued on the line from Mauch Chunk to the New Jersey boundary (Phillipsburgh). At this distance it looks as though the Arkansas decision would be in conflict with that of the Supreme Court.

Combinations.

The air is filled with deals and combinations, and almost daily we hear of some railroad or industrial concern which has come under the management of the "mutuality of interests" combination. What the end of this extraordinary condition will be, and what will be the consequences is a problem in economics yet to be solved. The results up to this time have been apparently beneficial. A combination of a few but most powerful, capitalists controls nearly all of the principal railway systems in the country, and the same combination appears to have acquired the leading coal properties and has now started in on the industrials by absorbing the greatest steel and iron plants of the country. It is almost alarming to consider the power wielded by this great combination. And yet it represents the highest and most scientific of all that goes to make up the financial, commercial and industrial systems of the country. The power thus concentrated, if exercised for good, must be generally beneficial, but if exercised upon selfish and monopolistic principles, would be an evil to be regretted and lamented. We do not anticipate any harmful results, for many reasons, one of which is sufficient—the influence of public opinion, which is sufficient to all the combinations in the world.—*Hambleton's Circular*.

Steel and Iron Rates on German Railroads.

The German Association of Iron & Steel Manufacturers has asked the Prussian Minister of Railroads to reduce the rates on bar and rod iron, wire, wire nails, fencing wire, nuts and bolts, axes, etc., from the German, Dutch and Belgian ports. The Association claims that such a reduction is essential for the maintenance of the export trade in those articles.

Rules of Interchange.

Members of the Master Car Builders' Association having any suggestions to make as to the revision or modification of the Rules of Interchange, should communicate them to the office of the Secretary at as early a date as possible, in order that a proper compilation may be made for submission to the Arbitration Commission when it meets to prepare its report to the next convention on the revision of the Rules of Interchange.

Speed of Trains in France.

Last month, when M. Bandy was installed as President of the Civil Engineers' Society of France, he made an address in which he said something about recent improvements in train speed. From 1889 to 1900 there was an average gain in seven express trains on various roads of 20 per cent. in speed. The fastest train from Paris to Calais gained 28 minutes, or 23 per cent.; from Paris to Lille, 45 minutes, or 20 per cent.; from Paris to Nancy, 57 minutes, or 17 per cent.; from Paris to Marseilles, 2 hours and 50 minutes, or 20 per cent.; from Paris to Bordeaux, 1 hour and 52 minutes, or 22 per cent.; from Paris to Havre, 54 minutes, or 23 per cent.; from Paris to Rennes, 1 hour and 4 minutes, or 15 per cent.

The Grand Trunk at Portland.

The newspapers have recently said that the Grand Trunk Railway has made its Atlantic terminus at Portland instead of at Montreal; that is, that arrangements have been made for sailings from Portland which would practically take the Grand Trunk business away from Montreal. So far as we can ascertain the matter amounts to this: Arrangements have been made with the Dominion Steamship Company for sailings from Portland similar to the arrangements made between the Dominion Steamship Company and the Grand Trunk for sailings from Montreal and similar to the arrangements between the steamship company and other companies for sailings from Boston. The Grand Trunk sailings from Montreal will be weekly to Liverpool, but it is not supposed that this will have any effect whatever as regards diverting business from Montreal.

Proposed Municipal Electric Railroad in St. Louis.

The Board of Public Improvements of the city of St. Louis, Mo., in connection with a projected electric lighting plant to serve the city's pumping plants in the north part of the city, is making plans for an electric railroad which, it is believed, will be the first municipal electric line in this country. The city already owns a single track road built to connect its pumping station at Chain of Rocks on the bank of the Mississippi, and at Baden with the St. Louis, Keokuk & Northwestern line of the