

TWENTIETH ANNUAL REPORT

OF THE

RAILROAD AND WAREHOUSE COMMISSION

OF ILLINOIS.

RAILROADS, FOR THE YEAR ENDING JUNE 30, 1890.
GRAIN INSPECTION, OCTOBER 31, 1890.
OFFICE, DECEMBER 1, 1890.

COMMISSIONERS:

JOHN R. WHEELER, CHICAGO, *Chairman.*

ISAAC N. PHILLIPS, BLOOMINGTON.

W. L. CRIM, FRANKFORT.

J. H. PADDOCK, SPRINGFIELD, *Secretary.*

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STATE OF ILLINOIS,
RAILROAD AND WAREHOUSE COMMISSION,
SPRINGFIELD, December 1, 1890.

To His Excellency, HON. JOS. W. FIFER, Governor of Illinois:

In this, the twentieth annual report of the Railroad and Warehouse Commission of Illinois, for the year 1890, we shall attempt to confine our discussions to those topics which we deem of practical importance arising in the field covered by our duties. We are glad to be able to open this report with a reiteration in substance of what we said one year ago, namely: That there is a continued tendency toward better equipment of railroads, improved road-beds, and safer structures, and, generally, toward a condition of greater safety, convenience and comfort for the traveling public, as well as one of greater speed and efficiency in transportation of freights. Much remains to do, no doubt, to bring the railroad service of the State to a condition of ideal perfection. Some of our roads, indeed, can never, under independent management, perhaps under any management to which they are likely to pass, take rank as perfectly safe highways, nor offer to the public more than second or third-class accommodations. Yet these weaker roads, with all their defects, perform important functions for the public; and none of them could be dispensed with without serious inconvenience to their patrons. When a road is once built, even though not justified as an investment for capital, and doomed to go from the hands of one receiver to those of another, people along the line, none the less learn to depend upon it; and the whole industrial and social economy of large neighborhoods of people is at once adapted to the great fact of rail transportation, imperfect though it be.

It is this state of dependence upon rail highways, into which communities of people so inevitably fall, which renders a judicious regulation of railways by law so necessary to the public welfare. If the people become dependent even upon the weakest road which happens to penetrate to their neighborhood, how much more is this so in the case of the better and stronger roads. Of these stronger roads this State has a large mileage; and of

the better class of Illinois roads it may be said, without boasting, that in equipment, structures, and management they do not suffer in comparison with the very best in the United States.

PHYSICAL INSPECTION OF ROADS.

The Commissioners, accompanied by Secretary James H. Paddock and Consulting Engineer Chas. Hansel, have inspected the following railroads: Cairo, Vincennes & Chicago ("Big Four Route"); Chicago and Ohio River; Chicago, Santa Fe and California; Grand Tower and Carbondale; Illinois Central; Indiana and Illinois Southern; Jacksonville Southeastern; Mobile and Ohio; Peoria, Decatur and Evansville; Peoria and Pekin Union; St. Louis, Alton and Springfield; St. Louis, Alton and Terre Haute; Toledo, Peoria and Western; Terre Haute and Indianapolis (Vandalia); Terre Haute and Peoria; Wabash, and Wabash, Chester and Western.

CAIRO, VINCENNES AND CHICAGO.

This road extends from Tilton southwardly through the eastern portion of the State to Cairo, and was formerly a part of the Wabash, St. Louis and Pacific Railway. During the Wabash management the property was permitted to deteriorate until its physical condition was very bad. Shortly before our inspection was made the management of this line had been transferred to the "Big Four". About one hundred miles of the road is laid with sixty-pound steel rail. We found a considerable force employed in reconstructing bridges and road-bed, which, if continued, would greatly improve the road. We found the two trestle bridges south of Tunnel Hill in bad condition. As these bridges are very high, being from sixty-five to ninety-four feet from creek bed, special examination was made. The examination revealed faulty construction and decayed timber, and a general condition so bad that it was deemed necessary to order new bridges in their place. The management was requested to renew these bridges as soon as possible; and though we have not been officially notified of the fact, we learn through outside sources that the bridges have been replaced. At Carmi station a portion of the main track is used jointly with the Louisville and Nashville Railway, the south switch turning out of main track being a short distance from depot where all trains stop. The north junction, however, is about fifteen hundred feet from station. As operated at that time it presented a constant element of danger from collisions, as the trains of both roads approach the junction under full headway, expecting to find clear track. To protect this point we ordered both companies to join in the construction and operation of a high semaphore signal.

CHICAGO AND OHIO RIVER.

This road extends from a junction with the Chicago and Eastern Illinois, at Sidell, to Olney, eighty-six miles south. The original gauge of this track was three feet, which has since been changed to standard gauge. The rails are iron and very light, ranging from thirty to fifty pounds. But thirty-seven men were engaged in maintenance of way, a force inadequate to keep the work in good condition. The schedule time for trains is, however, very slow and no accidents have occurred. For the year ending June 30, 1889, the books of this company showed a net deficit of \$689.89, with no interest paid on bonds. There seems to be no immediate prospect of improvement in this road and it continues to furnish reasonable accommodations for such business as is offered.

CHICAGO, SANTA FE AND CALIFORNIA.

This line extends in Illinois from Chicago to the Mississippi at Ft. Madison, two hundred and thirty-five and one-half miles, with a branch from Ancona to Pekin, fifty-seven and nine-tenths miles, including track of Toledo, Peoria and Western Ry. from Eureka to Pekin Junction, five and one-half miles. The line from Chicago to Pekin was formerly operated under the title of the C., P. and S. W. Ry., and is laid with steel weighing seventy-one pounds per yard. The rail from Ancona is new. There are three hundred and thirty-five bridges between Chicago and Ft. Madison, and seventy-four between Ancona and Pekin. The most important structure spans the Illinois river one hundred and thirty-one and one-half miles from Chicago. The principal structure over the river proper consists of one draw four hundred and fifty nine and three-tenths feet long, and three fixed spans one hundred and fifty-three feet each. The east approach is of pile and trestle bents, of sixteen-foot span, five thousand, five hundred and ninety-two feet in length. The west approach is composed of three pile and two hundred and thirty-five trestle bents three thousand, eight hundred and three feet long. Total length of bridge, ten thousand, one hundred and sixty-four and three-tenths feet. The entire structure seems to be in good repair and extra precautions are provided for the guidance of enginemen approaching draw by a system of home and distant signals operated by bridge-tender. Considerable improvement is being made in the condition of the track, the regular track force being one man per mile, which force is increased by temporary extra gangs.

GRAND TOWER AND CARBONDALE.

This line extends twenty-six and two-tenths miles from Carbondale to Grand Tower. The business of this road is principally in coal. The line is laid with fifty-six pound steel rails,

the oldest being seven years in service. There are but few bridges on this line and the physical condition is in keeping with the traffic.

ILLINOIS CENTRAL.

This line shows marked improvement, and with the new steel which is being laid and other general betterments, the addition of new motive power and coaches, bids fair to make this road one of the finest in the State.

INDIANA AND ILLINOIS SOUTHERN.

This line extends from Effingham east, crossing the Wabash river at Riverdale, fifty-three miles. The original gauge was three feet, and was changed in 1887 to standard gauge. The original rails are still in service and are very light, being but thirty-five pounds per yard, and are now very much worn. Many of the short narrow gauge ties remain in track. The joints are partly bolted and ties are not full spiked, and the general condition is very bad. The only important bridge spans the Embarrass river. This bridge is a new through iron truss.

JACKSONVILLE SOUTHEASTERN.

The title of the company operating this line is the Chicago, Peoria and St. Louis. The main line, first operated as the J. S. E. Line, extended from Jacksonville to Centralia. This line has been extended to Drivers under the title of Louisville and St. Louis. The Litchfield, Carrollton and Western, extending from Barnett to Columbiana, was added to the J. S. E. system. The line of the P., P. & J., extending from Pekin to Jacksonville, and the S. & N. W., extending from Havana to Springfield, were purchased of the Wabash and added to the J. S. E. system. The J. S. E. line is also operating the St. Louis and Chicago Railroad, from Springfield to Mt. Olive, and have extended the line to East St. Louis. As will be observed, the system known as the J. S. E. Line is made up of a number of dependent roads; and while its corporate name is not the J. S. E., for commercial reasons it chooses to operate under that title. Only a portion of this road has been inspected, being that part extending from Pekin via Springfield to St. Louis. Considerable new steel has been laid between Havana and Pekin, and some renewals in rails have been made between Havana and Springfield. Since the leasing of the St. Louis and Chicago line, the section force has been increased and considerable improvement has been made. This line is now finished to East St. Louis and the Santa Fe trains are running from Chicago to St. Louis via Pekin, using this line from Pekin.

MOBILE AND OHIO.

This line extends from Cairo to East St. Louis, distance one hundred and fifty-two miles. As originally constructed it was intended for a narrow gauge, and as all laws of gravity seemed to have been suspended when narrow gauge roads were built, the present grades and alignment present a great hindrance to operation. The gauge was changed to standard gauge in 1886, and new steel, weighing sixty pounds per yard, was laid. Considerable work was performed previous to our first inspection during September, 1889, but owing to continuous mild weather, with heavy rain during the following winter, the road bed was considerably damaged and it was necessary to maintain temporary surface by shimming. A second inspection was made during August of this year, when we found a large force of men at work shouldering embankments for ballast, ditching and filling. A force with steam shovel were engaged in cleaning out cuts and filling in openings where renewals of bridges were necessary. The entire line was busy with general improvement, which bids fair to place it in better condition than ever, before the winter closes down work.

PEORIA, DECATUR AND EVANSVILLE.

This line extends from Pekin to Grayville, on Wabash river, two hundred and three and six-tenths miles. When inspected the rail was fifty-six pound steel, and twenty-six miles old iron. The track force is not sufficient to maintain the track properly, and more cross ties should be put in. We have advised the management that these renewals must be made and the general physical condition of the road improved.

PEORIA AND PEKIN UNION.

This road is used for a terminal and switching road at Peoria with a line extending to Pekin. The general condition of the road is good. The bridge crossing the Illinois river at Lower Peoria has been the subject of special examination and report. On Feb. 3, 1890, an accident occurred there of so serious a nature that it was deemed advisable to send Mr. Chas. Hansel, Consulting Engineer, to make a special examination and report. It was found that the Superintendent of the P. & P. U. Ry. had employed an expert from the Detroit Bridge Co. to make examination of the bridge, in December of 1889, with the view of learning if the bridge was sufficient to maintain the increased traffic. No written report had been made up to the time of the accident, but no defect was reported to your Commission or the railway company. On the evening of February 3, a train of the "Big Four" (which company uses this bridge), composed of coal and grain cars, and pulled by an engine of the consolidated type, pulled out from the junction, and receiving ad-

vance signal moved onto the bridge. The engine had reached the first pier when the shore span fell from under the tender, pulling the engine back and precipitating it to the river bottom. The head brakeman and fireman were caught between tender and boiler and instantly killed. The engineer was held by the legs with his head above water, and although great effort was made to release him, he died in that position. The shore end of the span remained on the abutment. The engine standing with her rear drivers on the bottom of the river and the front trucks resting against the pier near the coping, thus standing nearly vertical with the tender at right angles to axis of engine. As the lower chord at point of fracture was buried under the wreck it was impossible to determine the cause of failure. The fractures presented to inspection showed clean and new. The main structure is made up of four fixed spans of one hundred and fifty feet each, one span of one hundred and twenty-five feet and a draw of three hundred feet. The fixed spans are of the type known as "Post's Patent Diagonal Truss", a combination of wood, iron and steel. The span which failed was the shortest. It was reconstructed in January, 1881, by Rust and Coolidge, bridge builders of Chicago, to a calculated moving load of three thousand pounds per lineal foot. Compression members (top chords and struts) and track stringers are of white pine; tensile members (bottom chords, suspension bars and counter bars), lateral rods, floor beams and hangers of iron; pins of steel, and top chord housed with corrugated iron. Mr. Hansel reported that the timber showed sound, but the iron and steel presented a low grade of metal and recommended that the different members be subjected to test by machine and analysis to determine upon the condition of the remaining structure. Samples were sent to the Pittsburgh Testing Laboratory and showed as follows: Carbon, 0.270%; manganese, 0.530%; phosphorus, 0.165%; sulphur, 0.128%, and silicon, 0.055%. Phosphorus makes steel brittle and hard, and the same is true to a less degree with silicon. Modern specifications for steel to be used in such work would be phosphorus, .07 to .08%; sulphur, .03 to .04%, and silicon, less than .02%. By comparison with the results obtained it will be seen that the ratio was greater in the specimen tested. In the testing machine the steel fell below the general requirements in elongation, reduction of area and character of fracture, showing a remarkably poor piece of steel. The iron was defective in tensile strength and in bending cold. Iron subject to tensile strain should be tough, ductile, of uniform texture and capable of bearing or sustaining not less than fifty thousand pounds per square inch of sectional area. When tested in large and long lengths it should have an elastic limit of not less than twenty-six thousand pounds per square inch. The reduction of breaking area should average .25% of the original area, and the elongation of the bar before rupture should be at least .15%; and when cold, a round bar one and one-half inches in diameter

must bend through one hundred and eighty degrees without fracture. The specimens fell far below the standard, and a copy of Mr. Hansel's report was furnished the management of the P. & P. U. Co. with instructions to make such renewals as Mr. Hansel deemed necessary, and that in operating, no greater moving load will be allowed than will strain to exceed two thousand pounds per foot on any span; and that all trains must be held to a speed not to exceed six miles per hour. General Superintendent M. S. Connors, advises by letter that a bridge is being built at King Bridge Company's works, and that it is hoped to have it in place soon.

ST. LOUIS, ALTON AND SPRINGFIELD.

This line was formerly operated by the Wabash, and extended from Bates to Grafton. After the sale to the St. Louis, Alton and Springfield Company, a branch line was built from Newbern to Alton, thirteen and four-tenths miles. Between Newbern and Elsay the line was temporarily built over the hill, necessitating heavy grades, curvature and extensive bridging. The completed line contemplated a tunnel, which was commenced and abandoned after considerable work had been done. The building of this line required many high and extensive bridges, and at the time the road was taken from the Wabash management the physical condition was poor, and little had been done to renew the structures and roadbed. Complaint was made that some of the bridges were dangerous for traffic. Mr. Chas. Hansel was ordered to make a thorough examination of the entire line, and make special report on each bridge. This examination was made by him. The general officers accompanied him, and a stop was made at each bridge, where the timber was carefully examined by boring and prodding. Mr. Hansel's report, which is on file in this office, describes in detail each bridge, and the kind and number of members necessary to renew in order that the bridges might be safe for traffic. We find from his report that there are one hundred and nine bridges on this line, having a total length of fifteen thousand one hundred and sixty-two feet. The repairs indicated as necessary on bridges between Newbern and Elsay would involve a considerable expense, and the company was given the choice of making such repairs or abandoning the track. They chose to abandon the track, which was taken up between Jan. 1, 1890, and Sept. 16, 1890. This removal abandoned four thousand two hundred and eighty-one lineal feet of dangerous bridging, and is generally satisfactory. In order to connect with Elsay and Grafton, it was necessary to build from Piasa, on the Alton branch, up the river to Elsay, distant five miles. This line is now completed. The Alton branch is laid with fifty-six pound steel, the original line being iron of same weight. The road needs sixty thousand cross ties and general repairs. The report made by Mr. Hansel was sent the management, with instructions to comply with recommendations contained therein. The road is now in the hands of a receiver, who

is authorized to issue \$300,000 in receiver's certificates. This money is intended for the rebuilding of the road and relaying fifty-one miles with sixty pound steel. Considerable improvement has been made in this line, yet much remains to be done.

ST. LOUIS, ALTON AND TERRE HAUTE.

This line extends from East St. Louis to Eldorado, with branch from Pinckneyville to Pellonia, opposite Paducah, and from Belleville to East Carondelet. The line is laid with sixty pound Edgar Thompson steel. There are no bridges of importance. The maximum grade is seventy-eight feet per mile. Considerable improvement has been made on this line during the past season.

TOLEDO, PEORIA & WESTERN.

This line extends from Hamilton and Warsaw to State Line, with branch from LaHarpe to Iowa Junction. When this road was taken from the Wabash system the physical condition was poor. Soon after the new company commenced operating the road the Chatsworth wreck occurred. This was a severe blow to the new company. A meeting of the directors was held at once, when it was determined to advance funds to meet the payment of claims amounting to over \$300,000. As there were no funds in the treasury, this advance was made by the directors, which was highly creditable to them. Since that time the road has been making steady improvements, filling in trestles and renewing bridges. The combination draw bridge crossing the Illinois river at Peoria was replaced this season by a new bridge of iron and steel. This bridge consists of two through fixed spans, one hundred and forty eight feet and eight and one-half inches from center to center of end pins, and one draw two hundred and eighty five feet and six inches from center to center of end pins. The old piers were fitted with new seats, and the entire structure is now first-class. This bridge cost \$48,605.30, and was opened for traffic November 9, 1890. A new bridge for Spoon River is now building, which will cost \$9,000. These two streams are the only important ones crossed by this line. These improvements were carried on, notwithstanding the books of the company showed a net deficit of \$16,883.99 for year ending June 30, 1889.

VANDALIA LINE.

This road extends from East St. Louis to Terre Haute; line in Illinois, one hundred and fifty-eight and three-tenths miles. The track is ballasted throughout, forty-two miles of rock ballast on west end, the rest gravel. From East St. Louis east twenty-two miles the rail is seventy-pound steel. All main track turnouts have point switches and spring frogs, and the entire line is full bolted and spiked. All necessary highway signs, whistling posts, mile posts,

cattle guards and cross and line fences are in place. Cross fences are whitewashed and switch stands clean and well kept. Fifteen hundred feet of wooden bridges have been replaced by earth with stone culverts.

The business is nearly all through. The heavy power and long trains necessitate close attention to maintenance of way, and the fact that no person was injured by derailment or collision during the year ending June 30, 1889, is evidence of careful and intelligent supervision. The road is in every way first-class.

WABASH.

That portion of this road which extends from Effingham to Bement, and from Bement to Springfield was inspected. The track from Decatur to Bement is an example of the most finished work on this road. All the traffic to Toledo and Chicago from St. Louis, Keokuk, Quincy, Hannibal and intermediate stations passes over this twenty miles of track. It is well tied and ballasted and laid with heavy steel. All traffic is operated under the absolute station block system. All switches and frogs are of the most approved pattern, and the track is first-class throughout. The line from Bement to Effingham, sixty-two miles, has been greatly improved and is sufficient for the traffic. The line from Decatur to Springfield is an example of track which, while not equal to the best portions of the road, is much better than the branch lines, and bids fair to equal the best.

WABASH, CHESTER AND WESTERN.

This road extends from Tamaroa on the Illinois Central, to Chester, 40.7 miles. The track is laid with sixty pound steel, ties are good, and although there is no ballast the surface and line are good. There are no bridges of importance, and the accommodations seem to be sufficient for the business offered.

IMPROVEMENTS.

During the past year many notable buildings and bridges have been constructed for the convenience of traffic and the safety and comfort of passengers. The finest station building in the west has been finished this year, namely, the Grand Central Station in Chicago, on the corner of Harrison street and Fifth avenue. This station is intended for the use of the Chicago and Northern Pacific Railroad, the Wisconsin Central lines, and the Chicago, St. Paul and Kansas City Railroad. The building has a frontage of two hundred and twenty-six feet on Harrison street, and eight hundred and thirty-seven on Fifth avenue. A portion of the building is seven, and the remainder four stories in height, with a tower two hundred and twelve and one-half feet high above the sidewalk. Facing upon Harrison

street is a very large carriage court one hundred and seventeen feet deep and one hundred and forty-nine feet wide. The train shed is five hundred and sixty-two feet from out to out, having a clear width of one hundred and nineteen feet. The depot tracks and station yard switches are controlled by a twenty-four lever electro-pneumatic signaling and switch machine. No expense has been spared to make this the finest station in Chicago, complete in all its appointments and grand in its design.

The St. Louis Merchants' bridge, which was opened May 3, 1890, is worthy of mention, it being the second bridge connecting Illinois with Missouri at St. Louis. This bridge was designed by Messrs. Morrison & Corthell, and built under the supervision of E. L. Corthell, of Chicago. The east approach to the bridge is made on wooden trestle bents. The Chicago and Alton, "Bee Line," and Wabash Railroads are spanned by a truss one hundred and seventy-five feet in length with a forty foot girder.

The style of the three spans of the main bridge is a double intersection pin connected truss, with horizontal bottom chord and a curved top chord. The entire structure is of steel, except pedestals and ornamental parts, which are of cast iron, and nuts, swivels and clevises, which are of wrought iron. The entire bridge and approaches is built for double track. The cost of this bridge is about \$4,000,000, the company having an authorized capital stock of \$2,000,000, and an authorized issue of first mortgage bonds of \$2,000,000. Owing to the delay in completing terminals in St. Louis, the bridge is not open for regular traffic. The terminals on Illinois' shore are being completed, and it is expected that arrangements will soon be completed to accept all business offered.

CLASSIFICATION OF ROADS.

We have recently completed a re-classification of the railroads in Illinois. For a time we had in contemplation the making of three classes of roads, A, B and C.; but upon an examination of the tabulated statistics for the year ending June 30, 1890, we concluded that no reason existed for making a third class which had not existed at the time the former classifications were made; and on full reflection, we finally determined to adhere to the division of roads into two classes. Some of the roads which were formerly classed as "B" roads have been in the new classification, put into the "A" class. The number of such roads is not great and the classification as it now stands leaves the roads in the State about equally divided in number between classes "A" and "B." This classification of roads is not in many cases very important. There are few class "B" roads which do not at some points on the line come into competition with roads of class "A," and wherever they do so, they are, of course, under the necessity induced by competition, of making their rates conform to the lower rates of the class

"A" roads; and since the law requires the roads to base their rates upon distances, the competing rates fixed at these points must of course influence the rates at intermediate points so that frequently in the case of a "B" road which penetrates territory which is also penetrated by one or more "A" roads, the rates are by the necessities of the situation almost equalized. However, there are some weaker roads, which have a hard struggle for existence, and which are enabled by being classed "B" to get a slightly increased revenue. The difference, however, in our schedule of rates for "A" and "B" roads does not exceed five per cent. and that only upon certain articles and classes. This is a much less difference, we note, than the difference made in the tariffs of other states between their different classes of roads.

It sometimes happens that the same company operates several different lines of road, some of which lines yield much greater revenues than other lines operated by the same company, but in nearly all such cases the company makes one report for all its lines so that the Commission have no basis upon which it could make any difference in the classification of the different lines of the same company. We see nothing in the law which would prevent us from doing this provided the accounts of the companies were kept in such a way as to furnish us a basis for separate line classification. This is a measure which we have not so fully considered as to enable us to express a definite opinion as to its utility, though we have the matter under consideration and may act upon it soon.

IMPROVED COUPLINGS, BRAKES AND OTHER RAILWAY APPLIANCES.

We stated in our report of last year that we were engaged in making certain investigations covering the subject of improved safety appliances for railroads so far as the same relate to the safety of the traveling public, and of the lives and limbs of railway employes. This investigation we have continued during the past year, and the more the subject has been examined the greater has its importance seemed to the Commissioners, and the more difficult has it seemed to treat the subject in a fitting manner in a report of this kind. The only object, perhaps, of our discussing the subject at all is to throw such light upon it by giving information to your Excellency, and through you to the General Assembly of the State, as may lead to wise legislation in the direction of requiring the use of better equipments to the end that human life may be preserved. When it is considered that in round numbers two thousand railway employes were killed and over twenty thousand were injured in the United States during the year ending June 30, 1889, the dangerous nature of railway employment becomes apparent, the same being one death for every three hundred and fifty-seven employed in operation and one injured for every thirty-five men so employed. These figures embrace the entire country. We speak

particularly of employés of railroads for the reason that while safety appliances are calculated in a considerable degree to increase the safety of passengers they have a more direct reference to the safety of those who operate trains.

We know it will be said, as it has often been said, that the running of railroad trains is a hazardous calling, known to be such by all men, and that when a man enters upon such a hazardous calling he does so with his eyes open, and takes the risk of maiming and killing, which is well known to be incident to the employment. It is also said that the scale of wages is adapted to the hazard of the business and that men elect to take the chances for the increased pay when they enter upon the business of railroading.

This may be all true enough, looking at the matter from a cold legal standpoint, but it ought not to still the voice of the public conscience nor answer the demands of humanity. Those who enter upon these dangerous callings are almost always young men, many of them boys, to whom the prospect of a dangerous occupation has few terrors but rather tends to stimulate their natural confidence and buoyancy of spirit. The solicitude of the law for the protection of such should rather be increased than diminished because they are brave of heart in the consciousness of youth and strength. Whatever can be legally done, without oppressing or crippling railway companies, for the protection of such should be done in obedience to the dictates of humanity, no less than in furtherance of good railroad practice, which will tend, incidentally, strongly to insure the safety and welfare of the traveling public, whose interest in the matter, though less urgent than that of railroad employés, is not by any means to be overlooked.

Those who make the laws are in but very rare cases railway experts. Few of the law-makers have had any personal experience which enables them to know what may be done in a practical way to diminish the terrible fatality of railway service. In no field has the ingenuity of this inventive age been more active than in devising improved railway machinery. So many appliances are offered to the public that it would be confusing to the mind of any but a practical expert to attempt to say what is practicable and what is not with reference to the equipment of railroads. The roads can not, of course, adopt every new untried device which is offered them, but in certain fields practical tests have been made, such as in the matter of couplings, train brakes, heating and lighting of coaches and the like, which put these matters beyond the domain of mere experiment, and show conclusively that better things are within reach.

In view of the character of this subject, we determined that the best method of getting needed information before your Excellency and the General Assembly on which desired action might be based, would be to cause a competent expert to review the whole subject of safety railway appliances. We accordingly, on

the 23d day of July, 1890, directed Mr. Chas. Hansel, our consulting engineer, who is one eminently qualified by experience and study to treat this theme, to prepare for us a comprehensive report upon this most important subject. The report of Mr. Hansel, prepared in pursuance of such request, we herewith transmit to your Excellency, and make the same a part of this report. It will be found printed in full in this cover, and speaks so well for itself, that we need not occupy space in any exposition of its contents, but would rather refer to it as a whole as containing matter which will prove of great interest to those who recommend and pass laws for the public good.

Before leaving this subject we, however, feel constrained to here emphasize the great necessity of hastening as much as possible the universal introduction of two appliances which have particular relation to the safety of trainmen, and the practicability of which has been fully demonstrated, namely: Continuous train brakes, and automatic couplers for freight trains and cars. Of the two thousand railway employés killed in the United States in the past year, three hundred were killed in the coupling and uncoupling of cars, and four hundred and ninety-three were killed by falling from trains and engines, and of the injured, six thousand seven hundred and fifty-seven were injured in the coupling and uncoupling of cars, and two thousand and eleven in falling from trains and engines. Thus we have in the United States in one year seven thousand and fifty-seven persons killed and injured in the act of coupling and uncoupling cars alone, and two thousand five hundred and four killed and injured in falling from trains. Those thus killed and injured in falling from trains, no doubt, in most cases came to their injuries while engaged in setting brakes upon the tops of freight trains, a most hazardous business, the necessity of which would be entirely dispensed with if train power brakes were used on freights which could be operated from the locomotive instead of hand brakes which must be set separately by men running from car to car.

Experience has fully demonstrated the efficiency of automatic couplers and of train brakes in actual practice upon passenger trains, which latter trains are now nearly all equipped with the improved couplers and brakes. No reason is perceived why freight trains could not be equipped in the same way. The first expense would no doubt be considerable, but we firmly believe when all phases of the question are considered, that in the end it would be economy for the companies to equip their freight trains as to couplers and brakes in the same manner that all first-class companies long since equipped their passenger trains. The transition period between the two systems will necessarily be fraught with much danger and should be made as short as possible when once it is determined to enforce this large and salutary reform.

It is not our purpose to recommend particular patents or appliances, but rather to endeavor to give information through

the medium of this report to the legal functionaries of the State. Hence with the observations above made, and, referring again to the able paper of Mr. Hansel, we submit this subject for your candid consideration.

CROSSINGS AND CROSSING EQUIPMENTS.

In our report for the year 1889, we briefly called attention to the subject of interlocking and signaling devices, and spoke with approval of their introduction at the various crossings in this State. We then said, "Inasmuch as such interlocking systems can at present be introduced only by the mutual agreement of the companies controlling the crossing tracks, and the difficulty of arriving at such agreement often prevents the introduction of interlocking machines where the public good really requires them, we think it advisable that a law be enacted under which some proper tribunal would be designated to hear the cases where there is disagreement between the crossing roads, and with power to make such order covering the case, as may be found under all circumstances to be for the public good."

Our observation and experience since that report was submitted have fully confirmed our expressed conviction that additional legislation is necessary to compel the proper interlocking of crossings. The number of grade crossings in this State is very large. There are two hundred and thirty-one stations where roads cross, not including crossings in the cities of Chicago, East St. Louis and other railroad centers where tracks are concentrated. We have no reliable data for fixing with certainty the number of crossings in the large cities, but consider that a conservative estimate would place the total number of grade crossings in the State at not less than seven hundred. Of this large number only thirty-four have been equipped with interlocking and signaling devices. Those crossings that have been so equipped and are now operated under permits issued by the Commission are shown, together with the style of each machine, by the following table:

CROSSINGS EQUIPPED WITH INTERLOCKING AND SIGNALING DEVICES.

File number.	LOCATION.	CROSSING OF	No. of levers or wheels.	Date of issuing permit.....	By Whom Erected.	Style of Machine.
1	Herculesh.	Michigan Central with South Chicago & Southern	4	Sept. 19, 1889	Union S. & S. Co.	Wheel
2	Bloom.	Chicago & Eastern Illinois with Michigan Central	4	April 5, 1889	"	"
3	1 Turner Je	Egion, Joliet & Eastern with Chicago & Northwestern	8	Feb. 27, 1889	"	"
4	Joliet.	Egion, Joliet & Eastern with Chicago & Northwestern	10	"	"	"
5	Perru.	Chicago, Rock Island & Pacific with Chicago, Burlington & Quincy	4	May 16, 1889	"	"
6	Bloom.	Egion, Joliet & Eastern with Chicago & Eastern Illinois	4	April 5, 1889	"	"
7	Washington H.	Chicago, St. Louis & Northern with Chicago, Rock Island & Pacific.	10	Feb. 27, 1889	"	Saxby & Farmer
8	Rockford.	Chicago, Madison & Northern with Chicago & Iowa.	15	"	"	"
9	1 Mazon Bridge	Chicago & Alton with Egion, Joliet & Eastern.	13	July 30, 1889	"	"
10	Matteson.	Illinois Central with Chicago & Alton and Chicago, Santa Fe & California.	9	Jan. 17, 1890	Nat. S. & Sig. Co.	Randolph.
11	Coal Oly.	Illinois Central with Chicago & Eastern Illinois.	7	Dec. 5, 1889	"	"
12	Kensington	Chicago, Madison & Northern with Atchison, Topeka & Santa Fe and Chicago, St. Louis & Pittsburg and Union Stock Yard Tracks.	54	"	Union S. & S. Co.	Saxby & Farmer
13	Ash St. (Chic.).	Waukegan & Northwestern with Chicago & Northwestern.	13	Jan. 3, 1890	"	"
14	Barrington	Waukegan & Northwestern with Chicago, Milwaukee & St. Paul.	8	"	"	"
15	Leifhton	Waukegan & Northwestern with Wisconsin Central.	6	"	"	"
16	Spaulding	Waukegan & Northwestern with Chicago, Milwaukee & St. Paul.	8	"	"	"
17	Clybourn Je	Chicago & Northwestern with Chicago, Milwaukee & St. Paul.	32	"	"	"
18	Grayland	Chicago & Northwestern with Chicago, Milwaukee & St. Paul.	10	"	"	"
19	Rondout.	Egion, Joliet & Eastern with Chicago, Milwaukee & St. Paul.	6	"	"	"
20	Blue Island	Chicago & Calumet Terminal with Chicago & Grand Trunk.	7	Mar. 25, 1890	"	Horizontal L.
21	Montrose.	Chicago & Northwestern with Chicago, Milwaukee & St. Paul.	15	Feb. 12, 1890	"	Saxby & Farmer
22	Johnstone.	Chicago & Calumet Terminal with Wabash Railroad	6	Mar. 29, 1890	"	"
23	Chicago, 49th st.	Chicago & Western Indiana Double Track Junction.	33	"	"	"
24	Chicago, 79th st.	Chicago & Western Indiana with Chicago, Rock Island & Pacific	6	"	"	"
25	Colonia.	Chicago, Rock Island & Pacific with Chicago, Burlington & Quincy.	6	April 17, 1890	"	Horizontal L.
26	Dwight.	Chicago & Alton with Indiana, Illinois & Iowa.	6	"	"	"
27	Summit.	Chicago & Calumet Terminal with Chicago & Alton.	6	"	"	"
28	Bridgeport	Chicago, Madison & Northern, Chicago & Alton, and Atchison, Topeka & Santa Fe.	36	"	"	"
29	Gardner.	Chicago & Alton and Kankakee & Seneca.	6	"	"	Horizontal L.
30	Gal a.	Chicago, Burlington & Quincy with Rock Island & Peoria.	16	May 24, 1890	"	Saxby & Farmer
31	Jacksonvill - Je.	Chicago & Alton with Jacksonville Southeastern.	7	"	"	Horizontal L.
32	Washington H.	Chicago, Rock Island & Pacific with Chicago, St. Louis & Pittsburgh.	25	Nov. 12, 1890	"	"
33	Matteson.	Illinois Central with Michigan Central.	11	Sept. 29, 1890	Johnson Sig. Co.	Saxby & Farmer
34	Tower Hill	Cleveland, Cincinnati, Chicago & St. Louis with Ohio & Mississippi.	12	Dec. 2, 1890	Union S. & S. Co.	Saxby & Farmer

Total number machines, 31. Total number levers or wheels, 452. Permits were never granted for Nos. 1 and 5, devices not put in. Nos. 19 and 24 include two crossings in each case.

This leaves the approximate number of six hundred and sixty-six crossings unequipped with any devices for the protection of life and property at said crossings; and we have reason to believe that the employes of roads do frequently, either through negligence or purposely, disregard the statute which requires that all trains shall come to a full stop before passing over the crossing of another road, unless authorized to do so by a permit of the Commission, which can only be given when the crossing is properly interlocked.

THE JACKSONVILLE DISASTER.

The recent appalling disaster at the crossing of the Chicago and Alton and Wabash roads, at Jacksonville, Illinois, though happening after the date of this report, is thought of so much importance that it should be mentioned here and considered in connection with the topic of needed legislation. We have been at some pains to collect the facts surrounding this accident, so far as the same might guide us in our duties with reference to matters of this kind. Our function in the premises can, of course, be no more than the recommendation of such measures for the consideration of your Excellency and the General Assembly as may hereafter tend to prevent what, in this case, seems a needless loss of human life.

The facts of the Jacksonville disaster are in brief these: On the night of Dec. 5, 1890, the Kansas City limited express on the Chicago and Alton road had made its regular stop at the Jacksonville station, and was standing with the chair car of the train immediately across the track of the Wabash road. The train was about thirty minutes late. Had it been on time it would have been out of the way, and the crossing would have been clear. It is the custom, we believe, of the Alton road to stop its west bound trains across the Wabash track at this place, the depot being so located as to render that necessary. While this is in itself bad practice, we realize that in the case of joint depots at the junction of roads it is not uncommon for the location to be such that trains stop across the tracks of other crossing roads; and, so long as the employes of both companies obey the law, there is no need of any resulting accident. The law expressly directs each engineer in charge of a train to come to a full stop within eight hundred feet of any railroad crossing, and ascertain that the track is clear before proceeding with his train. Had this injunction of the statute been obeyed by the Wabash engineer, he would not have proceeded until the crossing was cleared by the express train of the Chicago and Alton. It, however, appears clearly from the evidence that the Wabash engineer made little or no effort to comply with the law, notwithstanding his testimony to the contrary. The engineer of the Alton train heard the train approaching upon the Wabash road, which train was loaded with coal, and realizing from the rate of speed the train was making

that it was probably not under the control of the engineer, attempted to pull his train off the crossing, but succeeded only in pulling up one car length, bringing the middle of the sleeping car "Matterhorn" immediately across the Wabash track, at which juncture the Wabash locomotive crashed through the sleeper, instantly killing two men and injuring others, one so severely that he soon afterwards died. The clean manner in which the locomotive cut through the sleeping car makes it very evident that the Wabash train must have been proceeding at a high rate of speed; and such a rate of speed at this point of crossing cannot be at all reconciled with the Wabash engineer's statement that he shut the steam off of his locomotive one and a half miles before reaching the Alton crossing. There is between the point designated by him as the one at which he shut off steam and the Alton crossing a sharp up-grade near three-quarters of a mile in length. It is scarcely conceivable that the train, although a heavy one, would by its own momentum have climbed this grade and struck the Alton train with such velocity had the steam been shut off at the point stated, even though no brakes had been set; and when the testimony of the engineer, that he called three times for brakes, and that of the Wabash brakemen, that they answered said call by setting brakes as fast as they could, are remembered and considered in connection with the great force of the blow upon the Alton train, the incredible character of the testimony reaches the limits of the impossible. The case looks much to us as though the Wabash engineer was either wholly inattentive, or else intended to run the crossing without stopping, relying upon the fact that the Alton had no train due to be at the Jacksonville crossing at that time, and that the hour was late enough so the infraction of law was not likely to be observed and reported.

We have on file all the evidence taken in regard to said disaster, and we have obtained a profile of the Wabash road showing grades as they affect the question of stopping this train. Had the engineer given the signals as he states, and the brakemen obeyed them as they state, they would, we think, have set every brake on the train before it arrived at the crossing; and besides, unless the train was going at an almost incredible rate of speed, it would have required few brakes to stop it; provided the engineer ceased to work steam as he states.

We have thus commented upon this accident in this connection because it peculiarly points the necessity, that crossings such as that at Jacksonville, (and there are hundreds of them in the State) should in the interest of safety and humanity, be equipped with interlocking devices, which is the point of our present discussion. The law as it stands confers no adequate power upon this Commission to compel the interlocking of crossings. A majority of the Commission are of the opinion that it does not even authorize them to compel the putting in of interlocking plants at new crossings, and an opinion of the majority of the

the Commission to that effect will be found in the appendix, and is here referred to as a general expose of the views of the Commissioners as to their powers under the crossing act.

We therefore urgently present to your Excellency the necessity of recommending the passage of a law by the General Assembly requiring that all crossings in this State be equipped with interlocking devices such as may be approved by the Commission. These interlocking devices are of different cost, the cheapest kind that is effective for a plain crossing costs about \$2,500. The original cost, however, is of less consequence than the annual cost of operating and maintaining such devices, there being required the services of two men to relieve each other so that one man can be always in the tower to operate the machine. The salary of these men may be estimated at from \$40 to \$45 per month apiece. The cost of maintaining the apparatus would not be great; and it might probably be safely said that an original cost of \$2,500, and a subsequent annual outlay of \$1,200 per year will be required to equip each plain crossing in the State, to be borne by the two companies either equally or in different proportion as may be determined upon the equities of each case. In neighborhoods where more complicated and expensive machinery would be required, the cost would be much greater. Such are those crossings in large cities where there is a complication of tracks. A single interlocking device in such a place may often cost from twenty-five to forty thousand dollars; but generally in such cases the cost is paid by a number of roads, and is therefore not as heavy upon each road as a statement of the same would seem at first to indicate. It is probable, too, that companies equipping all their crossings at one time, could get considerably better terms than are above stated, because they would be in that case buying a large number of machines at one purchase.

Inasmuch as there are some crossings of small roads which run but few trains, and which, therefore, do not present the same dangers which are presented by those roads which run numerous trains, a law may be thought sufficient which would vest in the Commission a discretion over the question as to what crossings should be interlocked. There may be cases, too, where it would be inequitable to require the expense of the interlocking to be borne equally between the companies. One company may run many trains and carry an immense traffic in passengers and freights, while another company which crosses this line may run not more than two or three trains per day. There are such cases that we know of, and it may be doubted whether in such a case it would be fair to require the weaker company to pay as much of the cost as the stronger one. Should this view of the case be taken by your Excellency, or by the General Assembly, the necessity will be apparent of fixing some tribunal, (which would probably be the Railway Commission) to fix in each individual case the amount to be paid by each of said companies toward equipping the crossing with in-

terlocking. That additional legislation should be had upon this question, does not, in the mind of the present Commissioners, admit of any doubt.

Had the crossing at Jacksonville been equipped with an interlocking plant which would have ditched the Wabash train at the derail point, it is highly improbable that the engineer of that train would have come up to the crossing with any such reckless rate of speed as that at which he was running. If the safety of others was not a consideration that would deter him, the safety of his own neck would have been quite certain to have influenced him differently, and he would have, almost certainly, approached this crossing "under control." It may be that the customary distance of three hundred feet for the derailing point would not have been sufficient to stop the Wabash train at the great rate of speed at which it was evidently proceeding; but the engineer never would have approached the crossing at any such rate of speed had he known that a derailing switch was open to throw his train from the track. We earnestly commend this subject to your attention.

REFRIGERATOR CARS.

A subject which has not received the attention of the General Assembly is that of refrigerator cars. The statute of this State provides that this Commission shall make "a schedule of reasonable maximum rates of charges for the transportation of passengers and freights," etc. It frequently happens that shippers desire to have carried articles which are perishable, and which, particularly in the summer time, require to be carried in cars of a particular construction which will guard against the heat. These cars are generally furnished by a company different from the carrying company, and this company charges a sum for the use of its facilities over and above the freights allowed by the schedule of the Commission for the simple "transportation" of the freight. It is claimed that an extra service is performed with reference to this freight over and above what is taken into consideration in fixing the schedule of maximum rates. Just how far the Commission have, under the statute, power over the question of what are reasonable charges for this extra service rendered by those who furnish refrigerator cars, or cars of some peculiar construction required for the transportation of perishable freights, may be regarded as a question of some difficulty. It would seem it might, without straining the law, be held that as the general progress of carrying appliances brings into use new and improved methods of carrying for freights in transit, that a new and increased duty attaches to the carriers to provide themselves with such improved facilities, where the same are not so expensive as to render the requirement unreasonable. It would not seem just that railroad companies and transportation companies, alone should reap the pecuniary benefits arising from the general progress of discovery. The community, as a

whole, surely has some right in those improvements which in this age are constantly leading to higher and better forms of commercial activity. We are not at this time prepared to make a recommendation upon this subject, but it is one which we think may well be mentioned here for the serious consideration of your Excellency and of the General Assembly.

A COMMON SEAL NEEDED.

We think the law should be so amended as to provide that this Commission may keep and use a common seal for the authentication of its proceedings, and that provisions should be made for the authentication of its reports and papers by copies certified to by the Secretary of the Commission under the seal of the Commission, substantially in the manner that is now provided in the case of records of courts. It sometimes occurs that it is important to prove the action of the Railroad Commission in court. Outside of the provision of the statute as to the admission in evidence of the schedules of said Commission, there is no way which our proceedings could be proven, except by carrying the record books of the Commission into court and taking the Secretary along as a witness to their correctness. All this we think could be obviated by providing that the Commission may keep a seal and may authenticate its proceedings by the use thereof. We recommend that a law be passed to the effect suggested.

LIVE STOCK RATES.

We have the honor to report to your Excellency that we have adopted and published, as provided by law, a new schedule of maximum rates to be charged for the transportation of live stock by the roads of this State. This new schedule is to go into effect January 1, 1891, and the same is based upon weight, the freights under it to be computed at so many cents per hundred pounds of live stock actually transported.

In submitting this new tariff of maximum rates of freight upon live stock, based upon weight as distinguished from the car-load basis, the Commission deem it proper to recount the history of the investigation and discussion which has been had touching the relative merits of these two systems.

While hundred-weight rates upon live stock have never been formally adopted by the Commission, freights have in fact been computed by the roads upon the hundred-weight basis since January 1, 1889. When the present members of the Commission came into office they found the freights upon live stock then being computed upon the hundred-weight basis, as it had been some time before their accession to office.

There had previously been extensive preparation for the change made by the roads of the State in the way of experimental weighing, and in procuring statistics upon which it was pro-

posed by the roads to inaugurate the weighing system. Many of the shippers of the State had, however, filed a formal protest, or complaint before the Commission objecting to the proposed change. This protest or complaint, it appears from the record, after some preliminary meetings, came up for final hearing before the Commission at Springfield, on June 30, 1887.

The record kept by the then Secretary of the Commission, which is the source of our information upon this subject, recites that the leading railroads of the State were, at this meeting, represented by their officials, in most cases by their general managers, and that the shippers were represented, as the record further recites, by "one hundred delegates."

The record further recites that after the meeting had been called to order and the object thereof stated, a request was made on behalf of the shippers that time be granted in which to hold a preliminary meeting with the railroad officials before proceeding with the hearing; that such time was granted and the Commission adjourned until the afternoon. The record further shows that in the afternoon the parties again all came before the Commission, and it was then stated that the companies and the shippers had come to a satisfactory agreement among themselves; and the shippers thereupon withdrew their protest and asked that the matter be dropped without further present action by the Commission, which was accordingly done.

Such, in brief, is the history of the subject, so far as official action by the Commission is concerned. The present Board found the weighing system in full operation, under some arrangement made with the "one hundred shippers" who attended that meeting at Springfield as delegates, the exact terms of which arrangement were not made a matter of record before the Commission and are in fact unknown to the present Commissioners.

In view of the manner in which the weighing system was thus originally begun, and particularly in view of the fact that, at its inception as an experiment, it had the sanction of a large, if not a representative body of the shippers of the State, the present Commissioners have not felt at liberty to act with haste in the premises, nor to arbitrarily change the practice thus entered upon. We believed it prudent to wait until such time as substantial results and fair conclusions could be arrived at from actual experience with the weighing system. That time has now, we think, arrived; though it cannot be said our data was sufficient on which to have acted intelligently at a much earlier time. Those who have upon them, and duly measure, the responsibility of binding action, can rarely keep pace with the flippant advice of those, who, wholly without responsibility, are ready to direct with great confidence, and without reflection, the gravest affairs of the world from the standpoint of the smallest possible information.

The old Commissioners' schedule of maximum live stock rates, which became practically a dead letter by the tacit consent of our predecessors, was highly unsatisfactory and illogical. Though the amount of freights it took from shippers was not seriously complained of, it had been outgrown and needed revision. Adopted when stock cars were of a uniform length of twenty-eight feet, it took no account of the widely varying sizes of new cars. The managers of roads, in their intense competition for stock shipments, began years ago, to increase the size of their stock cars; and now these cars range all the way from twenty-eight to thirty-six feet in length; there being now, perhaps, more cars of thirty-five feet length than of twenty-eight feet, on which latter the car-lot rates were originally based. Under the old schedule, however, a car was a car, whether long or short. We are aware some roads actually added something to the Commissioners' rates for the longer cars; but this was without any recorded authority from the Commission; and we understand that the only decision ever made by the Commission, though unrecorded, was that the length of the car could not be considered in fixing the freight; that a car was a car, whatever the size.

So, if, on the one hand, the railroad could get no more for a long car, the shipper on the other hand could get no reduction for a short one, provided the Commissioners' tariff was observed. The inequality and injustice of such a tariff is obvious, and no doubt greatly assisted the old schedule to go into that state of "innocuous desuetude" where the present Commissioners found it upon their accession to office.

The objections then, to the old car-lot rates, may be summarized as follows:

1. That under them freights were paid unequally by the shippers.

2. That they created a demand for the longest cars only, shippers being unwilling to take small cars when long ones could be had under the Commissioners' tariff at the same rates.

3. That they held out a constant temptation for shippers to overcrowd cars, the freight depending entirely on the car, and not on the amount carried in it.

Such, briefly, was the situation of matters when the present Board came into office in March, 1889. Complaints had already begun to come in to the effect that the roads were charging more freight under their new system of hundred-weight rates than were charged under the old car-load system. It was further alleged that annoying delays were occasioned to shippers of stock who, it was said, were compelled to wait an unreasonable length of time for the weighing to be done at the scales in Chicago, thereby delaying shippers in getting their stock upon the market, and also further delaying them in getting their settle-

ments with the commission men, who frequently had to wait for the freight bills to be made out, before rendering their accounts and settling with the shippers.

These complaints have been extensively investigated by the present Commissioners in a period extending for several months, and much testimony has been taken from the shippers of the State and from some officials of the companies. Much of this testimony was taken down and is on file, and much of it was not preserved in writing. Of course, there has not been full agreement among all the shippers who have testified; but the general expressions of shippers to the Commission have been to the effect that if rates by the hundred-weight were fixed at a point where they would not increase the revenue previously charged by car loads, and if a better system of weighing were adopted more accurate and expeditious than the present, they would not object to hundred-weight rates as such. In other words, the principal sentiment among shippers, as recorded in their testimony before us, seems to be that a system that bases the freight upon the amount in weight actually transported, is in itself fair. In this view the Commission entirely concur.

We have been convinced, however, by the testimony taken, that the rates upon live stock were slightly raised to the domestic shippers by the several roads of the State when the hundred-weight system was put in operation. We are further of the opinion that such live stock rates were amply high under the old system; and we have endeavored, in the distance tariff now published, to reduce the rates to what we think fair, taking into consideration the low price at which live stock is selling, and all other facts which should legitimately enter into the problem. The rates now fixed will certainly prove to be no higher on the average than the old car-load rates in force before the change was made, and with which shippers have almost universally expressed themselves as satisfied.

It is, of course, not possible to adopt a tariff upon the basis of weight which will, upon each individual car, yield the exact freight revenue that would be realized from the former car-load rates. Upon an exceptionally heavy load of stock the shipper will undoubtedly pay more freight than he would if his freight were computed simply upon the car; but upon the other hand, when he ships a lighter load he will pay less than he would have paid; and the freight will, in every case, be according to the service. The Commission have endeavored, upon a very full study of the question, and particularly of the statistics they have obtained, to hit upon what will prove a fair rate, and express the hope that the same may prove satisfactory alike to shippers and to the companies.

With reference to the complaints as to the inaccuracy of weighing and delays in getting stock upon the market and

making settlements, occasioned by the new system, the Commission is satisfied, from the evidence before them, that accurate weights cannot be obtained upon the track scales now largely in use; and, while the hundreds of freight bills that have been exhibited to the Commission appear to show that on the average the weights on actual shipments have been quite low enough, as ascertained by comparing the freight weights with the yard weights, and making necessary deductions for filling, yet it is desirable that a system of weighing should be used in which shippers can have perfect confidence, and which can be relied upon to wrong neither party to the transaction. If a shipper happens to get weights at one time several hundreds or even thousands of pounds too small, that fact is itself proof of looseness and inaccuracy, and that at another time the error may be the other way. Hence, the desirability of adopting an accurate system of weighing; one which, while ascertaining the weight accurately, will, at the same time, avoid the delays complained of, which the Commission are satisfied at the present time, in the case of most roads, are quite vexatious to shippers and not at all necessary under a proper plan of weighing.

We are clearly of opinion that the best way to get the weight of the live stock shipped, if the method were practicable, would be to weigh at the point of shipment, before loading the stock in the cars. The billing could then be made upon actual weight instead of arbitrarily putting in the bill a nominal weight which must be corrected at the destination upon the true weight being ascertained. This method would necessitate the putting in of scales at so many points, and at so great expense, that it was thought it would work an undue hardship to the roads; although if at all feasible, we are convinced it would be the proper plan. It would also fail in practice at many points where stock is shipped in small quantities, but at which no agent is kept, there being no need of an agent for other purposes. To compel the roads at such points to put in cattle scales, and also to keep there agents, whose sole business would be to weigh and bill a few cars of hogs and cattle each year, would amount to compelling the roads to lose money on the business of such points. This would not be just; and, being unjust, it would not be lawful. Besides, reasonable freight rates cannot in the end be gotten by means that would oppress or cripple railroads. A man cannot get his wagon out of the mud by cutting the hamstring of his horse, even though the horse be a balky one.

A plan of weighing which we deem both just and practicable is for the several roads to put in at the stock yards a series of scales upon a platform of the height of a car floor, alongside of which platform the trains can be drawn up to discharge the stock. There should be a scale for each car, so arranged that the gates of the pens enclosing the scales' opening, will form chutes, through which the stock from each car will pass on to

the corresponding scale. Then, upon the opposite side of the scale from the car should be another gate, through which each car of stock when weighed could pass off into a pen, and thence into the yards as desired. Care should be taken to arrange the scale gates so that stock would not need to be headed about and driven back through the same gate at which they pass onto the scale. Fat stock, particularly cattle, and especially in hot weather, are greatly injured by any handling that worries and frets them. Hence, facilities should be used which will obtain the weight quickly, and then allow the stock to pass on in the same direction to the pen.

There is no reason why scales of the kind described would not weigh accurately. The results would be greatly better than can be gotten by the present method of catching the weight as the cars pass over track scales, in which process unequal heights of couplers often throw part of the weight of one car upon the wheels of its supporting neighbor, to say nothing of the disturbing influences of wind and weather. Then, too, with chute scales of the kind described there would be no waiting for the stock cars to be again passed over the scales to get the weights of empty cars for deduction, before the freight bills could be made out.

All things considered, scales of the kind described, we think, should be put in and used by the several roads. We think the roads themselves would profit by the use of such scales; for hundreds of freight bills have been exhibited to us which prove, when freight and yard weights are compared, that the weighers, perhaps in their anxiety to satisfy shippers and vindicate the system used, have actually made weights too low.

The Illinois Central and the C. & E. I. companies have in use scales which in most particulars correspond with those here recommended; and, as a result of their use, we have heard few complaints, either of inaccurate weights or of delays arising against these companies.

It is proper to observe before leaving this subject of live stock scales, that the railroad companies have contended with justice that it would be a hardship to require them at large expense to fit up facilities for weighing, such as we have recommended, unless some assurance were given that the weighing system would be continued, provided it proves, in other respects, efficient and satisfactory. The companies generally have expressed a readiness, if the hundred-weight system were adopted and legalized, to put in chute scales and all necessary facilities to make weights accurate and satisfactory. The uncertainty being now removed, it will be in order for these expressions to be put speedily into practice.

In consideration, therefore, of what we deem the inherent fairness of the weighing system, and the further fact that we believe the inconveniences and drawbacks brought to our notice in connection with the system are susceptible of being almost

entirely removed, we have concluded to put in force a schedule of hundred-weight rates upon live stock, which will not, in the matter of freights, in any degree increase the burdens of shippers as they existed before the weighing experiment was commenced. We think our schedule will diminish rather than increase the former car-lot rates; but when we say this we, of course, have in view the average of rates taking the State over. Some roads may give better rates than others, and particular sections of the State, owing to local causes, have perhaps been accustomed to have better rates than others. Our field is the entire State, and our tariff is strictly a distance tariff, such as we think the law requires. We could not undertake to preserve the existing relative conditions in all places. If some who have been particularly favored heretofore do not find themselves benefited by this comprehensive and uniform tariff, they should remember there are many others who were less fortunate who will reap benefit from the new order. Other things being equal, "equality is equity," and this equity we have sought to establish.

We may add that the Inter-State Commerce Commission, after a hearing had at Jefferson City, Mo., upon this subject rendered an opinion approving of the hundred-weight system of computing freights upon live stock. Our action is therefore in harmony with the views of the National Commission on this subject and we have little doubt that the system will ere long become universal. All other freights are now based upon weights and there is surely the same reason for weighing live stock that there is for weighing other freights, provided the annoyances above commented upon are removed, which we think can easily be done.

We, however, have adopted this hundred-weight tariff with the understanding and upon the condition that the railroads of the State will make arrangements within a reasonable time whereby accurate weights may be obtained without unreasonable delays.

Should the roads fail to make such arrangements as will effect the object here stated, then the Commission may feel at liberty to return to a car-load tariff corresponding in amount of revenue yielded to the rates allowed in the tariff we have adopted.

We are not unaware that the system is even yet in an experimental stage, but have a strong belief that, with a tariff such as now proposed, and with such weighing facilities as the principal roads have proposed to adopt, shippers as well as railroad companies will like the system better than the old one. To pay in exact proportion to the extent of the services rendered, is certainly in itself equitable.

Should it be found on further actual practice, that those features of the weighing system which have not given satisfaction to shippers are not remediable, or being so, the roads

fail or refuse to put in force the proper remedy, it will then be in the power of the Commission to adopt a more satisfactory system.

UNIFORM CLASSIFICATION.

In the last annual report the Commission referred to the disadvantages resulting from the use of varying classifications upon freight carried within the limits of our State.

The Official Classification, so called, applies on all freight originating east of Illinois and destined to points within this State; in other words, it governs on all through shipments from the east as far west as the Mississippi river; while the Western Classification which is used by the roads extending westward from Chicago and St. Paul, applies on business from all points in this State to the territory west thereof.

Thus, on all goods manufactured at eastern points and handled by dealers in Chicago or other distributing centers in Illinois, the Western Classification is applied when such articles are re-sold for delivery to points in trans-Mississippi states.

The same is true of commodities manufactured in this State and sold in competition with similar articles produced east of Illinois and forwarded to western destination. In all such instances wherein the Official Classification rates articles lower than does the Western, dealers in this State are at a disadvantage both as compared with competitors in the east and with those located at Mississippi river cities. For example, the Official Classification rates hardware third-class, while in the Western it is classified second. In Chicago and St. Louis respectively, are wholesale houses among the largest in the country engaged in the hardware business. Their supplies are obtained mainly in the east.

Manifestly, then, the Chicago houses are at a disadvantage compared with their competitors in St. Louis because the latter have their goods carried two hundred miles further westward than Chicago houses at third-class rates.

With Chicago houses the lower rating stops at that city, and when they re-ship, it must be at second-class rates; hence, on shipments to common points west such as Kansas City or Omaha the Chicago dealer, on his sales, is subject to second-class rates for a distance of two hundred miles more than is his competitor at St. Louis or other Mississippi river cities.

Furthermore, the same roads which charge Illinois houses second-class rates on their shipments join with eastern roads in carrying through Chicago, Peoria and other gateways, at third-class rates, as far as the Mississippi river. No sufficient remedy for such discriminations can be found except in the adoption by eastern and western roads of a uniform classification.

The illustration made of hardware may with like force be applied in the case of all articles which by the Official Classification are rated lower than in the Western.

The disabilities herein indicated are greater in the case of citizens of this State than in any other section north of the Ohio river for the reason that in Illinois there is an over-lapping of freight classifications. East of Illinois the Official governs alike on through business and on shipments carried locally in each state; and west of the Mississippi river the Western Classification is applied on through shipments to the Rocky mountains and beyond, whereas in this State three classifications are in use—the Official, Western and the one prescribed by the Commission. Clearly it would simplify matters and facilitate the transaction of business were the rules and classification for the transportation of all freight carried into, within or out of this State to be made uniform.

Entertaining this view the Commission did not hesitate to encourage all efforts put forth by the railroad companies or by other authorities to inaugurate uniformity in the classification of freight.

In furtherance thereof the delegation from this State to the convention of Inter-State and State Railroad Commissioners held in Washington, D. C., last May, introduced a resolution reading as follows:

“Resolved. That the public interests will be best subserved by the adoption of a classification which shall be uniform for our whole country.”

After a discussion which elicited much that was of interest, the proposition above recited was unanimously adopted.

The action thus taken is mentioned with cordial approval in the subsequent annual report of the Inter-State Commerce Commission.

Meantime a committee of traffic officers who, at the time of their appointment, were thought to fairly represent the railroads in the various sections of the country, had been authorized to unify the three leading freight classifications in use, namely: the Official, the Western and the Southern Railway and Steamship the latter being the one used by the carriers operating south of the Ohio river. That committee, at such intervals as their regular duties would permit, worked at the task assigned them for nearly two years. The result was the adoption by unanimous vote in May last of the unified classification the committee had succeeded in evolving.

Several weeks elapsed before corrected copies of the work performed could be laid before the interested roads; and it was not until late in the year that the roads most directly concerned began to vote upon the adoption of the committee's report. Meanwhile the demand for uniformity had grown so rapidly that the adoption of the report by the railroads apparently became a foregone conclusion.

The committee proposed that it be made effective January 1, 1891, but the changes contemplated are so radical, extensive and far-reaching that a later date must be substituted, and it is now believed that it will not be possible to make it generally operative much, if any, before mid-summer 1891.

It should not, however, be expected that with the adoption of the proposed uniform classification every shipper of freight will find himself specially benefited. In uniting three varying classifications, necessarily some advances will be made, because if the committee entrusted with the duty, had, in the new work, given each article the lowest rating shown in either existing classification no discretion or judgment would have been requisite, but simply a tabulation of the lowest designations.

Such a classification would, of course, have been rejected by the railroad companies. Uniformity could not be accepted by them at so great a sacrifice. Concessions had to be made, but those, it was believed, should not proceed solely from the carriers.

Shippers should be expected to contribute somewhat to the procurement of a boon so estimable and convenient as the adoption of a uniform classification of freight throughout the greater portion of the country. This fact, those who find the articles (few in number) in which they are especially interested have been advanced, should bear patiently in mind.

Furthermore it should be remembered that any work of this kind must necessarily be largely tentative. The report of the committee on uniformity in freight classification expressly states that their work is by no means perfect or complete, and they provide a machinery to improve the classification from time to time, and eventually mould it into acceptable shape. Thus, provision is made for a permanent board of traffic officers who shall meet at stated periods to make changes in and additions to the classification.

Representations will doubtless be made to that board by organizations and individuals desiring modifications of the classification, and requests thus presented, it is to be presumed, will be given due consideration, and Mr. J. R. Wheeler, a member of this Commission has been appointed to represent the business interests of Illinois before said board.

A beginning in the direction of uniformity had to be made. It could not be inaugurated by the Inter-State Commerce Commission as the statute creating that body now stands; hence, it had to originate with the railroad companies; and by their representatives it was concluded the movement could best be started in the way it was begun and carried on.

GRAIN INSPECTION AND REGISTRATION.

The largest volume of business ever transacted in a single year by the grain inspection department at Chicago is that shown in the reports of the Chief Inspector and Warehouse Registrar for the year ending October 31, 1890, exceeding, as it does, the hitherto phenomenal year of 1880 by over forty-eight million bushels.

The amount of grain stored in elevators, while it does not bear its usual ratio to the amount received, is still above the average for the past ten years.

The increase of business for the past two years, while it has had the natural effect of increasing the sum total of the department expenses, has reduced the cost of inspection per bushel to a point much below the average, and has made two reductions of the fees for inspection possible, one in 1889 from thirty-five cents to thirty cents per car and a further one recently made to twenty-five cents per car.

The position of the department in its relations to the public is one of peculiar difficulty and responsibility.

It stands as an arbitrator between buyer and seller, between producer and consumer, and practically fixes the value of the immense quantities of grain passing under its supervision. At times it is subjected to violent pressure in one direction from the receivers, and again in the contrary direction from eastern buyers, and to harsh, and often unmerited, criticism from both.

Under such conditions it is worthy of remark when the department is so conducted as to steer clear for any considerable time of Scylla on one side and Charybdis on the other and give satisfaction to both. Any failure to do this, however, is reflected with great accuracy in the office of the Commissioners, to whom any general complaint of deviation from the established standards in either direction is sure to come; and judging from the absence of such complaints, as well as the expressed favorable opinion of prominent grain merchants and others interested, we believe that the work of the department during the past year has been executed with unusual care and discretion, and the rules interpreted with commendable fairness and intelligence.

While no change of rules has been deemed advisable or necessary by us in adjusting differences of opinion between the department and the conflicting interests with which it has to deal, it has been our policy, as it has been the aim of the Chief Inspector, to secure such fair interpretation and impartial application of existing rules as to do exact justice to producer and shipper and at the same time to maintain the enviable reputation borne by the certificates of the department in the markets of this country and Europe. In this we believe we have been fairly successful.

The reputation of Chicago inspection, which has been of slow and steady growth, has practically changed the business meth-

ods of the grain trade wherever American cereals are consumed, and it is not too much to say that the pre-eminence of Chicago as a grain market is due in as great measure to the public confidence in the integrity and accuracy of the work of her inspectors as to her favorable location, her unsurpassed facilities or the push and enterprise of her citizens.

Large quantities of grain are annually diverted from other channels of transportation to those passing through Chicago in order to secure the advantages of "Chicago weights and inspection."

A sufficient evidence of the esteem in which the Chicago department is held by the trade, the confidence with which its decisions are accepted and the demand for its certificates as a basis for values in other markets, is found in the history of the state inspection established some two years ago in Joliet.

Under the same state supervision as Chicago, and governed by precisely the same rules, accurately interpreted and faithfully administered, it has thus far failed to realize the expectations of its promoters in attracting the grain to which they felt their facilities entitled them.

There is little question that much of the grain which now makes its laborious way in immense quantities over the burdened tracks and through the crowded yards of Chicago in order that it may reach its destination with its quality certified by an authority upon which the trade has learned to depend, might be handled more promptly and quite as economically by way of Joliet, if public confidence in the inspection at that point were as thoroughly established as the quality of the work done there would warrant.

There have been requests for the establishment of branches of the Chicago inspection at other points in the State upon direct eastern lines of transportation, the purpose being to secure the benefit of Chicago inspection without diverting the grain from its natural eastward channels.

While the establishment of branches at some of these points would no doubt be a benefit to the public, and certainly so to shippers along the lines of roads in question, there seems to be no warrant in the law for any extension of the Chicago system beyond the limits fixed by the statute, and there is no way in which other points in the State may secure state inspection of grain except through the formation of independent systems.

THE SITUATION AT EAST ST. LOUIS.

There are at East St. Louis a number of capacious elevators through which large quantities of grain annually pass.

No department of our own system of inspection having ever been established there, the work is done by the officials of the State of Missouri, sent over from St. Louis for that purpose.

It is, we think, a subject proper for legislative consideration whether or not the State of Illinois should, by proper enactment, assert its own jurisdiction over an important and extensive business which is thus transacted within the boundaries of the State.

PERIODICAL WEIGHING.

The present warehouse law, while it provides for the inspection of grain as a condition precedent to its storage in any elevator of Class "A", and for a system of reports by which the Warehouse Registrar may know just what receipts are issued and canceled, provides no means of arriving at the quantity of grain received and delivered except through the figures of the elevator weighman, and places within reach of the department no check whatever upon the accuracy of his work.

While we do not regard it in any sense probable, it is certainly possible for a warehouseman, under existing arrangements, by manipulating the figures of the weighman's tickets, to withdraw large quantities of grain without proper cancellation of receipts for the same. The Warehouse Registrar in his report recommends that such amendment be made to the law as shall provide for a balancing of the books and weighing of grain in store as often as once in each year, at the most convenient time, that his accounts may be verified by an actual inventory of the property under the supervision of the state officer. In this recommendation we most heartily concur.

BONDS OF WAREHOUSEMEN.

During the year it has come to our knowledge that the provision in the statute requiring the proprietor, lessee or manager of any warehouse of Class "A", before transacting any business in such warehouse, to give bonds in the sum of \$10,000 for the faithful performance of his duty to the public, was being so construed as to allow a firm managing or owning several different warehouses to operate them all under a single bond.

A careful study of the matter convinced us that such construction was subversive of the plain intent of the law, and we adopted an order requiring new bonds to be given, one for each separate warehouse.

We are pleased to note in the report of the Warehouse Registrar that this requirement of the Commission has in all cases been promptly complied with.

CLAIMS FOR DAMAGES ON ACCOUNT OF FAULTY INSPECTION.

A question of considerable importance has arisen, incident to the inspection of grain. It had long, we are informed, been the practice of this Commission to pay, from the funds of the inspection department, claims for damages arising from the faulty

inspection of grain. That is to say, under the former practice, where an inspector made a blunder in the inspection of grain whereby the owner or the party buying the grain on certificate was damaged, the Commission recognized the damage so arising as a valid claim against the inspection department, and paid it from the funds of that department, which funds are derived from inspection fees. The immediate predecessors of the present Commissioners, we are advised, doubted the power of the Commission to appropriate the funds of the inspection department to the purpose of paying claims. No express ruling was, however, placed on record so far as we are able to find. A particular claim of this nature is now pending before the present Commission, a formal decision of which has not been rendered, although the Commission has been of the opinion that they are not empowered to pay such claims from the funds arising from inspection. The case referred to is as follows:

Franklin, Edson & Co., of New York, claim the sum of \$1,156.70, required, they say, to make them whole on a certain cargo of wheat purchased by them in Chicago on certificates as "No. 2 red winter," and which on its arrival in New York proved to be in fact of a quality much inferior to that named in the certificate. Proofs were submitted to us which convinced us that the inspection was faulty. The inspector at fault was an old employé of the department, and had, until this occurrence, been regarded as competent and reliable. He has since left the force. The decisive question arising upon the facts is, has this Commission any power under the statute to devote the funds of the inspection department to the payment of damages arising from erroneous inspection? We are convinced that the answer to this question must be found in the statute wherein our duties are prescribed, and whence all the powers of the Commission are derived. Since it has been strenuously urged upon us that to deny this claim, and to refuse to become guarantors for the correctness of our inspection, will seriously discredit Chicago inspection in the markets of the world, we think it proper to state the law as we understand it, for your information and that of the General Assembly.

Section 14 of the act in relation to warehouses contains three provisions which, construed together, seem to us decisive of this question. It is first provided that each inspector shall give a bond in the penal sum of \$5,000, with sureties, the condition of which bond shall be:

"That he will faithfully and strictly discharge the duties of his said office of inspector according to law and the rules and regulations prescribing his duties: and that he will *pay all damages to any person or persons who may be injured* by reason of his neglect, refusal or failure to comply with the law and the rules and regulations aforesaid."

It is next provided that the Commission

"Shall have power to fix the rate of charges for the inspection of grain, and the manner in which the same shall be collected, which charges shall

be regulated in such a manner as will, in the judgment of the Commissioners, produce sufficient revenue to meet the necessary expenses of the service of inspection, and no more."

Finally it is provided at the end of said section 14, that

"All necessary expenses incident to the inspection of grain, and to the office of Registrar, economically administered, including the rent of suitable offices, shall be deemed expenses of the inspection service, and shall be included in the estimate of expenses of such inspection services; and shall be paid from the funds collected for the same."

These provisions seem to leave the case in little doubt. The Commission has no funds at its disposal, except those accruing from inspection fees. We are commanded to fix those fees so as to produce "sufficient revenue to meet the necessary expenses of the service of inspection, and no more." Then, as if to leave no doubt as to what the term "necessary expenses" should embrace, it was further specified that "all *necessary expenses incident to the inspection of grain*, and to the office of Registrar, economically administered, including the rent of suitable offices, shall be deemed expenses of the inspection service."

It is a familiar legal maxim that the naming expressly of certain things, in an act such as this, has the effect of excluding other things which are not named. When telling us what should be "included in the estimate of expenses" and "paid from funds collected for the same," the legislature failed to mention damages arising from erroneous inspection. Unless, therefore, such damages may be said to be a "necessary expense incident to the inspection of grain," they are not authorized to be paid from the funds of the department. These two clauses of the statute, if standing alone, would, therefore, seem to be decisive of the question. Damages of this kind can hardly be called a "necessary expense incident to the inspection of grain."

But all possibility that the legislature intended to include such damages as an "expense" of the department is rebutted, it seems to us, by the fact that in the clause of the statute first quoted above, express provision is made for the payment of such damages by the inspector and his sureties. The condition, prescribed by statute for the bond of the inspector, is exclusively for the protection of "any person or persons who may be injured." It is a noticeable, and it would seem, decisive fact that the bond is not for the protection of the inspection fund in case the Commission should pay such damages, but runs entirely to third parties who may be injured. Should the Commission step in and pay this inspector's liability, it is doubtful if the language of the bond, as prescribed by the statute, would admit the Commission to reimburse the department funds by a suit against the inspector's sureties. That the inspector and his sureties in this case are liable to Franklin, Edson & Co., upon this bond, provided they can prove their case in court, admits of no question. This bond was taken to meet just such a case as this and for no other purpose.

Much has been urged upon the score of public policy. We have been exhorted to adopt a rule for such cases that will invite the confidence of the public, etc. To this we can only say the Commission is not at liberty to set up any policy unless that policy finds warrant in the statute. We do not control the general policy of the State touching such questions. We can exercise the powers given us by statute, and no others, and it is a rule too well settled to require the citation of authorities that the powers of a commission, such as this, cannot be extended beyond what is expressly granted, or necessarily implied in the carrying out of the objects of the law. If we are to levy sufficient inspection fees for damages and apply the funds so raised to that purpose, it seems to us the legislature ought to say so. As the case stands, the legislature has, in effect, said exactly the contrary. It has said that bonds shall be taken with sureties from inspectors conditioned for the payment of damages to persons injured, and that the revenue raised from inspection fees shall be confined to the amount needed for the "necessary expenses" of the department. No bond is provided to indemnify the State in case it pays these damages. If it be our duty under the law to pay such damages out of fees collected, then the taking of bonds from inspectors for the protection of persons dealing with the department, is a mere idle ceremony, having, it seems, no purpose at all.

Such is the view the Commission were constrained to take of the law as it now stands; but they have made no formal ruling upon this claim, owing to the urgent representations made that a ruling of the kind above indicated would be injurious to the service. In this view your efficient Chief Inspector, Hon. P. Bird Price, seems from his report, which we print herewith, to concur. The claim of Franklin, Edson & Co. has therefore been referred to the Attorney General for his opinion upon the question as to whether the Commission has power under the statute to devote the funds of the inspection department to the payment of claims of this kind. We are daily expecting the opinion of the Attorney General upon that question, and had it been delivered before the time for our report to go into your hands, the necessity of mentioning this subject might possibly have been avoided, as the Commission would very cheerfully acquiesce in any construction the Attorney General of the State might give to the statute. Since, however, some action of the legislature may become necessary in case the opinion of the Attorney General should be adverse to the claim, we have thought proper to thus set forth the state of the law and our views thereon, in our report to your Excellency. When the Attorney General's opinion is received we will take measures to advise your Excellency and the General Assembly if thought necessary, as to the then status of the case, to the end that legislation may be had empowering the Commission to pay such claims

if they are deemed a legitimate expense of the inspection service, and are not, in the opinion of his honor, the Attorney General, already sufficiently provided for in the statute as it now stands.

TABULATED STATISTICS.

In the body of this report will be found seventeen tables which give tabulated information on the subjects indicated in their titles. These titles are as follows:

- Table I. Classification of Railroads and Mileage.
- Table II. A. Capital Stock, Bonds and Equipment Trust Obligations for Mileage Owned.
- Table II. B. Capital Stock, Funded Debt and Current Liabilities for Mileage Operated.
- Table III. Income Account, whole line.
- Table IV. Total Earnings from Operations in Illinois.
- Table V. Total Earnings and Income in Illinois.
- Table VI. Operating Expenses in Illinois.
- Table VII. Operating Expenses, Taxes and Average Earnings Per Mile of Road in Illinois.
- Table VIII. Passenger and Freight Traffic in Illinois.
- Table IX. Classified Freight Traffic in Illinois.
- Table X. Employés and Salaries, whole Line and in Illinois.
- Table XI. Average Daily Compensation of Employés.
- Table XII. Description of Equipment, whole line.
- Table XIII. Rails, Ties, Ballast, Bridges, etc., in Illinois.
- Table XIV. Consumption of Fuel by Locomotives, whole line.
- Table XV. Accidents in Illinois.
- Table XVI. Taxes Paid in Illinois in 1888, 1889 and 1890.
- Table XVII. Income Account Leased Lines, whole line.

Further along in this report will be found in full the tables above mentioned, a summary of which is as follows:

TABLE I. CLASSIFICATION OF RAILROADS AND MILEAGE.

The railway mileage in the state of Illinois on June 30, 1890, was as follows:

	Miles.	Miles.
Main line.....	10,163.46	
Second, third and fourth tracks.....	925.77	
Sidings, etc.....	2,928.34	
Total.....		14,017.57

The following is a comparison with the mileage as reported for the year ending June 30, 1889:

YEAR.	Main Line.	Second, third and fourth tracks.	Sidings, Etc.	Total.
1889.....	9,936.63	755.67	2,804.68	13,496.98
1890.....	10,163.46	925.77	2,928.34	14,017.57
Increase.....	226.83	170.10	123.66	520.59
Per cent. of increase.....	2.28	22.51	4.41	3.78

The length of new road built during the year ending June 30, 1890, was 222.65 miles, an increase over the new road built during the period covered by our last report of 151.24 miles, or 212 per cent.

In this connection it may of interest to state that Illinois has the largest railway mileage of any state in the union. In the report of the Inter-State Commerce Commission for the year 1889, the proportion of the railway mileage in Illinois to the total mileage in the United States was 6.23 per cent., and the number of square miles per mile of railway was given as 5.76.

TABLE II-A. CAPITAL STOCK, BONDS AND EQUIPMENT TRUST OBLIGATIONS FOR MILEAGE OWNED.

This table shows the railway capital of the railroads in Illinois to be as follows:

Capital stock	\$817,488,296 90	
Bonds	920,683,061 73	
Equipment trust obligations.....	1,440,505 41	
Total		\$1,769,620,864 04
Capital stock per mile of road.....	\$25,573 37	
Bonds per mile of road	27,540 44	
Equipment trust obligations per mile of road.....	644 08	
Total		53,757 89

These figures shows an increase of railway capital over the report of last year of \$198,144,498.08.

This table also shows the number of stockholders in Illinois to be 1,399; number elsewhere, 30,398; and amount of stock held in Illinois, \$32,480,885.00, or 3.83 per cent. of the total capital stock.

TABLE II-B. CAPITAL STOCK, FUNDED DEBT AND CURRENT LIABILITIES FOR MILEAGE OPERATED.

This table shows the capital stock, funded debt and current liabilities for mileage *operated* to be as follows:

Capital stock.....	\$930,781,536 78	
Funded debt.....	997,407,939 64	
Current liabilities	27,505,798 37	
Total		\$1,955,698,274 79
Total amount per mile of road operated.....		52,783 18

As compared with last year these figures show a decrease in the current liabilities of \$2,092,484.65.

TABLE III. INCOME ACCOUNT—WHOLE LINE.

This table shows the following facts:

Gross earnings from operation	\$262,091,753 14
Operating expenses	170,329,077 53
Income from operation	91,697,726 74
Income from other sources	6,383,641 57
Total income	98,081,368 31
Total deductions from income	29,828,907 44
Net income (41 roads)	29,591,581 84
Net deficit (21 roads)	1,384,172 13

This table also shows that during the year there were 12 operating railroad corporations paid dividends, amounting to \$19,127,823.20. In 1889, 11 corporations paid dividends amounting to \$16,978,464.66. The increase in the amount of dividends paid during 1890 over that of 1889, is \$2,149,358.54, or 12.66 per cent.

The following tables show the names of the operating railroads paying dividends, and the comparative rates and amounts paid during the years 1889 and 1890.

Name of Company.	1889.	Percent. on Com. Stock.	Percent. on Pref. Stock.
Chicago and Alton.....	\$1,407,360 00	8	8
Chicago and Eastern Illinois.....	267,912 00	.....	6
Chicago and Northwestern.....	3,444,504 00	7	6
Chicago, Burlington and Quincy.....	3,055,684 00	4	.....
Chicago, Milwaukee and St. Paul.....	972,490 50	.....	4.5
Chicago, Rock Island and Pacific.....	2,307,707 00	5	.....
Illinois Central.....	2,200,000 00	5.5	.....
Lake Shore and Michigan Southern.....	2,473,325 00	5	.....
Michigan Central.....	749,528 16	.....	4
Rock Island and Peoria.....	75,000 00	5	.....
St. Louis, Alton and Terre Haute.....	24,684 00	.....	1
Total.....	\$16,978,464 66	.....	.....

Name of Company.	1890.	Percent. on Com. Stock.	Percent. on Pref. Stock.
Chicago and Alton.....	\$1,407,728 00	8	8
Chicago and Eastern Illinois.....	133,956 00	.....	3
Chicago and Northwestern.....	3,444,979 00	6	7
Chicago, Burlington and Quincy.....	3,437,667 00	4.5	.....
Chicago, Milwaukee and St. Paul.....	1,296,829 00	.....	2.5
Chicago, Rock Island and Pacific.....	1,846,229 00	4	3.5
Clev., Cin., Chicago and St. Louis.....	1,320,000 00	4	5
Illinois Central.....	2,400,000 00	6	.....
Lake Erie and Western.....	355,200 00	.....	3
Lake Shore and Michigan Southern.....	2,473,325 00	5	.....
Michigan Central.....	936,910 20	5	.....
Rock Island and Peoria.....	75,000 00	5	.....
Total.....	\$19,127,823 20	.....	.....

LEASED OR SUBSIDIARY LINES PAYING DIVIDENDS.

In addition to the dividends paid by operating railroads, as shown in Table III., the following leased or subsidiary lines paid dividends during the year out of the net income from lease of road. See Table XVII.

Name of Company.	Amount paid.	Rate per cent. on Com. Stock.	Rate per cent. on Pref. Stock.
Joliet and Chicago.....	\$105,000 00	7	.....
Mississippi River Bridge.....	21,000 00	7	.....
Chicago and Western Indiana.....	150,000 00	3	.....
Peoria and Bureau Valley.....	135,000 00	10	.....
Joliet and Northern Indiana.....	24,000 00	8	.....
Pittsburgh, Ft. Wayne and Chicago.....	2,240,146 00	7	7
Belleville and Southern Illinois.....	92,437 50	.....	7½

Table III. also shows that the Centralia and Chester, Fulton County Narrow Gauge, and St. Louis and Peoria roads failed to earn enough to pay their operating expenses.

TABLE IV. TOTAL EARNINGS FROM OPERATIONS IN ILLINOIS.

The total earnings from operation for the year are shown in the following table:

Passenger department—		
From passengers.....	\$14,211,044 93	
From mails.....	1,579,848 98	
From express and extra baggage.....	1,479,541 07	
From other sources.....	193,431 79	
Total.....		\$17,463,866 77
Freight department—		
From freights.....	\$43,856,706 08	
From other sources.....	276,891 23	
Total.....		\$44,133,597 31
From miscellaneous sources.....		1,892,789 23
Total earnings from operation in Illinois.....		\$63,490,253 31

In the passenger department these figures show an increase of \$28,974.76 in the receipts from passengers; a decrease of \$35,994.93 in the receipts from mails; a decrease of \$38,892.30 in the receipts from express and baggage; an increase of \$15,093.27 in the receipts from other sources, or a net decrease in the passenger department of \$30,819.20 as compared with the business of last year.

In the freight department these figures show an increase over the business of last year of \$152,905.37 in the receipts from other sources; an increase of \$4,274,609.54 in the receipts from freights, or a net increase in the freight department of \$4,427,514.91.

The receipts from miscellaneous sources show a gain over the business of last year of \$364,076.23; the total increase in the earnings from operation in Illinois over the business of last year is \$4,760,771.97.

The following table shows the earnings of the passenger and freight departments in Illinois for the last four years:

	Passenger.	Freight.
1887.....	\$15,385,945 66	\$38,524,367 55
1888.....	17,627,983 37	39,652,094 45
1889.....	17,494,685 97	39,706,082 40
1890.....	17,463,866 77	44,133,597 31

TABLE V. TOTAL EARNINGS AND INCOME IN ILLINOIS.

The total earnings and income in Illinois for the year are indicated in the following table:

Total earnings from operation.....	\$63,490,253 31
Interest on bonds owned.....	482,365 60
Dividends on stocks owned.....	323,582 68
Miscellaneous income, less expense.....	1,175,293 22
Total earnings and income in Illinois.....	\$65,471,494 81

This is an increase over the total earnings and income in Illinois of last year of \$2,301,398.62.

The following table shows the total income in Illinois for the last four years:

1887.....	\$56,860,287 34
1888.....	61,333,515 45
1889.....	63,170,096 19
1890.....	65,471,494 81

TABLE VI. OPERATING EXPENSES IN ILLINOIS.

The operating expenses in Illinois for the year was \$40,059,-894.30, divided as follows:

	Chargeable to Pas. Traffic.	Chargeable to Frt. Traffic.
Maintenance of way and structure.....	\$2,990,609 62	\$5,452,657 91
Maintenance of equipment.....	1,811,827 79	4,590,129 18
Conducting transportation.....	6,420,423 68	11,497,094 27
General expenses.....	1,614,385 31	2,682,766 63
Total.....	\$12,837,246 31	\$27,222,647 99

This is an increase in the operating expenses over last year of \$767,869.87, or less than 2 per cent.

The operating expenses in Illinois for the last four years are as follows:

1887.....	\$33,010,187 83
1888.....	38,870,930 54
1889.....	39,292,024 43
1890.....	40,059,894 30

TABLE VII. OPERATING EXPENSES, TAXES AND AVERAGE EARNINGS PER MILE OF ROAD IN ILLINOIS.

This table shows the following facts:

Percentage of operating expenses to earnings.....	63.09
Average passenger earnings per mile of road operated.....	\$1,367 31
Average passenger earnings per train mile.....	765
Average freight earnings per mile of road operated.....	4,196 85
Average freight earnings per train mile.....	1,418
Average gross transportation earnings, including mail, express, baggage, etc., per mile of road operated.....	6,062 73
Average expenses per mile of road operated.....	3,825 37
Net earnings per mile of road operated.....	2,237 41

Only those roads which have made complete detailed reports are taken into consideration in arriving at the above averages.

In last year's report certain average earnings, expenses, etc., per mile of road were given, and for the purpose of comparison with those of this year they are herewith repeated below:

Percentage of operating expenses to earnings.....	66.90
Average passenger earnings per mile of road operated.....	\$1,403 11
Average passenger earnings per train mile.....	74
Average freight earnings per mile of road operated.....	3,898 58
Average freight earnings per train mile.....	1.37
Average gross transportation earnings, including mail, express, baggage, etc., per mile of road operated.....	5,784 46
Average expenses per mile of road operated.....	3,870 70
Net earnings per mile of road operated.....	1,913 76

TABLE VIII. PASSENGER AND FREIGHT TRAFFIC IN ILLINOIS.

The following important facts are shown in this table:

Passenger traffic—	
Number of passengers carried earning revenue.....	24,910,820
Number of passengers carried one mile.....	554,960,062
Average distance carried—miles.....	25.12
Average amount received from each passenger—cents.....	52.9
Average receipts per passenger per mile—cents.....	2.066
Estimated cost of carrying one passenger one mile—cents.....	1.90
Freight traffic—	
Number of tons carried earning revenue.....	48,364,653
Number of tons carried one mile.....	4,271,377,794
Average distance haul of one ton—miles.....	102.45
Average amount received for each ton—cents.....	85.23
Average receipts per ton per mile—cents.....	0.832
Estimated cost of carrying one ton one mile—cents.....	0.517

Owing to the failure of several of the roads which do a large passenger and freight business to furnish the necessary data it is impossible to give estimates and averages which would apply

to all the roads in the State, and in arriving at the above averages and estimates only those roads which have made complete detailed reports are taken into consideration.

In this connection it may be interesting to show the passenger and freight traffic as reported in last year's report, and for the purpose of comparison with that of this year it is here given as follows:

Passenger traffic—	
Number of passengers carried earning revenue.....	23,755,656
Number of passengers carried one mile.....	586,610,364
Average distance carried—mile.....	26.25
Average amount received from each passenger—cents.....	53.5
Average receipts per passenger per mile—cents.....	2.038
Estimated cost of carrying one passenger one mile—cents.....	1.721
Freight traffic—	
Number of tons carried earning revenue.....	44,931,095
Number of tons carried one mile.....	3,829,299,316
Average distance haul of one ton—miles.....	98.43
Average amount received for each ton—cents.....	82.3
Average receipts per ton per mile—cents.....	0.836
Estimated cost of carrying one ton one mile.....	0.513

TABLE IX. CLASSIFIED FREIGHT TRAFFIC IN ILLINOIS.

This table shows that the railroads carried in Illinois during the year 50,796,636 tons of freight, an increase over the business of last year of 3,857,507 tons, or 8.21 per cent.

The following is a classified comparison of the tonnage carried in Illinois in the years 1889 and 1890:

	1889. Tons.	1890. Tons.
Products of agriculture	9,985,424	11,006,271
Products of animals.....	3,453,918	4,120,451
Products of mines.....	14,360,114	14,944,966
Lumber.....	3,099,581	3,176,001
Merchandise.....	3,749,310	3,189,436
Manufactures.....	4,323,346	5,584,588
Ice.....	506,682	642,737
Miscellaneous	7,460,754	8,132,186
Totals	46,939,129	50,796,636

TABLE X. EMPLOYÉS AND SALARIES, WHOLE LINE AND IN ILLINOIS.

This table shows that during the year there were 182,680 employés on the entire lines of the railroads doing business in Illinois, whose yearly compensation was \$107,705,205.49. It also shows that of the total number of employés there were in Illinois 57,435, whose aggregate yearly compensation was \$33,991,986.16.

Compared with last year these figures show an increase of 4,460 employés in Illinois, and an increase in the amount of compensation paid them of \$2,388,162.01.

The following table shows the division of the 182,680 employés above referred to:

General officers.....	838
General office clerks.....	5,526
Station agents.....	6,631
Other station men.....	17,768
Engineers.....	8,538
Firemen.....	8,829
Conductors.....	6,011
Other train men.....	13,035
Machinists.....	6,474
Carpenters.....	8,747
Other shopmen.....	24,155
Section foremen.....	7,480
Other trackmen.....	35,784
Switchmen, flagmen and watchmen.....	10,561
Telegraph operators and dispatchers.....	5,507
Employés, account floating equipment.....	413
All other employés and laborers.....	16,383
Total.....	182,680

TABLE XI. AVERAGE DAILY COMPENSATION OF EMPLOYÉS.

This table shows the average daily compensation of the employés as enumerated in table X. An examination of the same will show that the compensation of the same class of employés varies widely on different roads.

TABLE XII. DESCRIPTION OF EQUIPMENT, WHOLE LINE.

Particular attention is called to this important table. In it will be found the number of locomotives owned by the roads classed as passenger, freight and switching; the number of cars owned, classed as cars in passenger, freight and company's service; the number of cars contributed to fast freight line service and the number of cars leased. It also shows what portion of the equipment is fitted with train brakes and automatic couplers. A summary of this table is as follows:

CLASS OF EQUIPMENT.	Number.	Number fitted with train brake.	Number fitted with automatic coupler.
Locomotives—			
Passenger.....	1,746	.....	.....
Freight.....	3,970	.....	.....
Switching.....	1,240	.....	.....
Totals.....	6,956	4,383	.....
Cars—			
Passenger service.....	4,771	4,660	4,494
Freight service.....	207,142	11,481	16,549
Company's service.....	5,792	52	9
Fast freight line service.....	17,510	250	1,102
Totals.....	235,215	16,443	22,154
Total cars and locomotives owned.....	242,171	20,826	22,154
Cars and locomotives leased.....	19,125	.....	.....
Total equipment.....	261,296	20,826	22,154

The foregoing shows the following facts in regard to safety appliances:

Of the locomotives 63 per cent. are equipped with train brakes, of the cars in passenger service 97.67 per cent. are equipped with train brakes, and 94.19 per cent. with automatic couplers; of the cars in freight service 5.54 per cent. are equipped with train brakes, and 7.99 per cent. with automatic couplers, and of cars in company's service less than one per cent. are equipped with safety appliances.

It would seem appropriate in this connection to show what kind of couplers are in use, and the number of each kind used. The following is such a statement:

Style of Coupler.	No. used.
Ames.....	647
Ames-Janney.....	3,773
Blackstone.....	132
Cowell.....	190
Dowling.....	60
Gould.....	1,601
Hinson.....	501
Janney.....	10,345
Janney-Miller.....	21
Keystone.....	10
Loraine.....	10
M. C. B.....	1,292
McCree.....	158
Miller.....	3,373
Skinner.....	9
Schroyer.....	18
Thurmond.....	1
Unclassified.....	13
Total.....	22,154

TABLE XIII. RAILS, TIES, BALLAST, BRIDGES, ETC., IN ILLINOIS.

The following facts are shown in this table:

Iron rails on road in Illinois, miles.....	1,181.27
Steel rails on road in Illinois, miles.....	8,982.19
Tons steel rails relaid during year in Illinois.....	74,555.11
Ties relaid during year in Illinois.....	3,112,780
Number of stations in Illinois.....	2,459
Length of road unfenced in Illinois, miles.....	1,477.70
Ballast in Illinois—	
Miles of stone.....	891.80
Miles of sand or gravel.....	4,412.08
Miles of cinders.....	560.64
Miles of earth.....	4,043.83
Miles of slag.....	81.83
Unclassified.....	173.92
Bridges in Illinois—	
Number of stone.....	1,020
Number of iron.....	621
Number of wooden.....	1,399
Number of combination.....	148
Trestles in Illinois—	
Number.....	9,237
Aggregate length in feet.....	772,527

TABLE XIV. CONSUMPTION OF FUEL BY LOCOMOTIVES—WHOLE LINE.

This table gives a detailed statement of the fuel consumed by the different classes of locomotives, the number of miles run by such locomotives, and the average pounds consumed per mile. From it will be seen that the locomotives on the lines of the roads reporting this information consumed 9,556,663 tons of fuel in running 252,958,280 miles, or an average of 75.55 pounds per mile.

This table also shows that the cost of coal at distributing points ranged from 60 cents to \$2.75 per ton, and the cost of wood ranged from 91 cents to \$4 per cord.

TABLE XV. ACCIDENTS IN ILLINOIS.

A summary of this table, and a comparison of the same with the accidents as shown in last year's report, is as follows:

	1890.		1889.	
	Killed.	Injured.	Killed.	Injured.
Passengers	27	136	25	116
Employés.....	176	1,059	172	1,188
Others	365	369	360	402
Totals	568	1,564	557	1,706

From the above it will be seen that during the year there was an increase of 11 in the number of persons killed, and a decrease in the number injured of 142.

The following is a division of the kind of accidents during the year:

	Killed.	Injured.
Coupling and uncoupling cars	39	433
Falling from trains and engines	37	162
Overhead obstructions.....	7	14
Collisions	17	95
Deraillments	16	52
Other train accidents.....	102	152
At highway crossings.....	53	70
At stations.....	25	57
Other causes.....	272	529
Totals	568	1,564

TABLE XVI. TAXES PAID IN ILLINOIS IN 1888, 1889 AND 1890.

The amount of taxes paid by the railroads in Illinois during the year is shown by this table to be \$3,021,904.49, an increase over the amount paid last year of \$195,915.77. This table also gives a comparison of the taxes paid in Illinois in the years 1888, 1889 and 1890.

The following railroads making reports for the year ending June 30, 1890, were in the hands of receivers:

Chicago and Atlantic.

St. Louis and Chicago.

The Indianapolis, Decatur and Western Railway was in the hands of trustees.

For the above summary of statistics, together with the fuller tables printed elsewhere, we take occasion here to acknowledge our indebtedness to the untiring efficiency of our Secretary, Mr. James H. Paddock, whose labors during the past year have been invaluable to the Commission, and daily grow more efficient with his increasing experience. In the preparation of statistics, as well as in his other important labors, Mr. Paddock has been ably assisted by our stenographer, Mr. F. C. Dodds, to whom we also here make due acknowledgment.

APPROPRIATIONS.

It only remains to submit our financial statement, which will be found below. We have not, during the past year, been under the necessity of expending any of the funds appropriated for "suits and investigations," for counsel fees; and the unexpended balance of this fund, as indeed that of other funds, will be found to be somewhat larger than last year. From this it would not be safe to conclude that smaller appropriations for the next two years might safely be made. An emergency is liable at any time to arise which would require all, or more, than the amount that was appropriated by the last General Assembly. It has been sufficiently demonstrated that if more funds are appropriated than are needed the Commission may be safely trusted not to expend the surplus needlessly, simply because it is at hand, but will see that such surplus remains in the treasury and lapses unexpended at the time fixed by the statute. We therefore ask that appropriations be made for the use of the Commission in the same amount and for the same purposes, as those made by the last General Assembly.

In this connection we would add that in our judgment an additional appropriation, placed at our disposal, for the purpose of enabling us to employ at a liberal salary, a competent and experienced civil engineer to be designated as the "Consulting Engineer" of the Commission, would be an expenditure wisely made. There is enough work to keep an expert of this kind fully employed under the direction of the Commission. His chief business would be the inspection of railroads, bridges, viaducts and other structures, and through his labors a complete record of the physical condition of all structures and the progress of all betterments could be kept in the office of the Commission. Mr. Chas. Hansel, who has for the past year and a half sustained the relation of "Consulting Engineer" to the present Commissioners, and so designated by us, is, as explained in our last

report, not upon the Commissioners' pay-roll, but has been paid by the job for the work actually done under our direction. We think such an expert might with profit be added to the regular force of the office.

The financial statement above alluded to is as follows:

FINANCIAL STATEMENT.

OFFICE EXPENSES.		
Unexpended appropriation December 1, 1889.....		\$3,309 31
Appropriation for year ending June 30, 1891.....		4,000 00
Total		\$7,309 31
Secretary's salary	\$1,500 00	
Janitor's salary	600 00	
Printing and binding.....	373 15	
Postage stamps	100 00	
Railway periodicals, law books and newspapers	46 05	
Express, freight and drayage	180 56	
Telegraph.....	132 80	
Telephone	48 00	
Labor	8 00	
Stationery and typewriter supplies	34 60	
Furniture, repairs and supplies.....	81 65	
Ice.....	30 00	
Washing towels for office	12 00	
Total.....		\$3,146 81
Unexpended balance December 3, 1890		\$4,162 50
SUITS AND INVESTIGATIONS.		
Unexpended appropriation December 1, 1889		\$4,512 88
Appropriation for year ending June 30, 1891.....		5,000 00
Total		\$9,512 88
Suits, investigations and expenses.....	\$4,922 63	
Clerk hire and stenographer.....	1,500 00	
Total		3,422 63
Unexpended balance December 3, 1890		\$6,090 25
RAILROAD MAPS.		
Unexpended appropriation December 1, 1889		\$1,200 00
Appropriation for year ending June 30, 1891.....		1,200 00
Total		\$2,400 00
Expended for maps.....	\$1,017 50	
Total		1,017 50
Unexpended balance December 1, 1890.....		\$1,382 50
SCHEDULES AND CLASSIFICATION.		
Unexpended appropriation December 1, 1890		\$2,875 50

Respectfully submitted,

JOHN R. WHEELER,
ISAAC N. PHILLIPS,
W. L. CRIM,
Commissioners.

STATISTICAL TABLES.

EXPLANATORY NOTES.

In the following statistical tables the principal operating road in an operating system and those which operate on their own account appear in alphabetical order; all subordinate roads are grouped under the roads to which they are leased or otherwise controlled, and are indented.

Chicago & Calumet Terminal—Embraces but one month's business—a switching business.

Chicago & Northern Pacific—Leased to the Wisconsin Central Company and the Wisconsin Central Railroad Company on April 1, 1890, and the operations, etc., are included in the report of the Wisconsin Central lines.

Chicago, Rock Island & Pacific—Report for the lines east of the Missouri river.

Grand Tower & Cape Girardeau—Report for the seven months ending June 30, 1890.

Ohio, Indiana & Western—Report for the six months ending December 31, 1889, at which time the road was sold under order of the U. S. Court and reorganized as the Peoria and Eastern Railway Company.

Pawnee—Report for the six months ending June 30, 1890.

Peoria & Eastern—Report for the six months ending June 30, 1890.

St. Louis & Chicago—Includes reports of the St. Louis & Chicago Railroad and the St. Louis & Chicago Railway.

St. Louis & Peoria—Report for the eight months ending June 30, 1890.

Terre Haute & Peoria—The mileage in Indiana is so small that no division of its accounts is kept as between Indiana and Illinois, and it has submitted its report of operations, etc., as being wholly within the State of Illinois.

COMPARATIVE TABLES.

TABLE I.—Classification of Railroads and

NAME OF COMPANY.	1		2
	DATE OF FILING REPORT. (OPERATING OR FINANCIAL.)		HOW OPERATED.
1 Atchison, Topeka & Santa Fe *	Dec. 8, 1890	O. & F.	A. T. & S. Fe R. R. Co.
2 Chicago, Santa Fe & California.	Dec. 8, 1890	F.	" "
3 Atch., Top. & Santa Fe in Chi.	Dec. 8, 1890	F.	" "
4 Miss. R. R. R. & Toll Bridge Co	Dec. 8, 1890	F.	" "
5 Baltimore & Ohio	Nov. 21, 1890	O. & F.	B. & O. R. R. Co.
6 Baltimore & Ohio & Chicago.	Nov. 21, 1890	F.	" "
7 Belt Railway of Chicago	Sept. 6, 1890	O. & F.	Belt Ry. Co. of Chicago
8 Centralia & Chester.	Nov. 29, 1890	O. & F.	C. & C. R. R. Co.
9 Chicago & Alton	Sept. 17, 1890	O. & F.	C. & A. R. R. Co.
10 Joliet & Chicago.	Sept. 17, 1890	F.	" "
11 Mississippi River Bridge Co.	Sept. 17, 1890	F.	" "
12 Chicago & Atlantic.	Nov. 8, 1890	O. & F.	Volney T. Malott, receiver
13 Chicago & Calumet Terminal (6)	Nov. 11, 1890	O. & F.	C. & C. T. Ry. Co.
14 Chicago & Eastern Illinois	Sept. 17, 1890	O. & F.	C. & E. I. R. R. Co.
15 Chicago & Western Indiana	Sept. 6, 1890	F.	(2)
16 Evansville, Terre Haute & Chi.	Oct. 13, 1890	F.	C. & E. I. R. R. Co.
17 Chicago & Grand Trunk	Sept. 15, 1890	O. & F.	C. & G. T. Ry. Co.
18 Grand Trunk Junction.	Sept. 15, 1890	F.	" "
19 Chicago & Illinois Southern	Aug. 28, 1890	F.	Danville Elevator Co.
20 Chicago & Iowa	Oct. 31, 1890	O. & F.	C. & I. R. R. Co.
21 Chicago & Northwestern (1)	Sept. 4, 1890	O. & F.	C. & N. W. Ry. Co.
22 Chicago & Northern Pacific	Nov. 11, 1890	F.	Northern Pacific R. R. Co.
23 Chicago & Ohio River.	Nov. 11, 1890	O. & F.	C. & O. R. R. R. Co.
24 Chicago, Burlington & Northern.	Oct. 23, 1890	O. & F.	C. B. & N. R. R. Co.
25 Chicago, Burlington & Quincy	Nov. 3, 1890	O. & F.	C. B. & Q. R. R. Co.
26 Galesburg & Rio	Nov. 3, 1890	F.	" "
27 Illinois Valley & Northern	Nov. 3, 1890	F.	" "
28 St. Louis, Rock Island & Chicago.	Nov. 3, 1890	F.	" "
29 Chicago, Milwaukee & St. Paul	Oct. 31, 1890	O. & F.	C., M. & St. P. Ry. Co.
30 Chicago, Peoria & St. Louis.	Dec. 11, 1890	O. & F.	C., P. & St. L. Ry. Co.
31 Jacksonville Southeastern	Dec. 11, 1890	F.	" "
32 Litchfield, Carrollton & Western.	Dec. 11, 1890	F.	" "
33 Louisville & St. Louis.	Dec. 11, 1890	F.	" "
34 Chicago, Rock Island & Pacific.	Oct. 13, 1890	O. & F.	C., R. I. & P. Ry. Co.
35 Peoria & Bureau Valley	Sept. 15, 1890	F.	" "
36 Chicago, St. Louis & Pittsburgh.	Oct. 2, 1890	O. & F.	C., St. L. & P. R. R. Co.
37 Englewood Connecting.	Nov. 1, 1890	F.	" "
38 Chicago, St. Paul & Kansas City.	Sept. 8, 1890	O. & F.	C., St. P. & K. C. Ry. Co.
39 Cleveland, Cin., Chicago & St. L.	Oct. 24, 1890	O. & F.	C. C., C. & St. L. Ry. Co.
40 Cairo, Vincennes & Chicago.	"	"	"
41 Cin., Lafayette & Chicago.	"	"	"
42 Kankakee & Seneca	Oct. 21, 1890	O. & F.	"
43 Peoria & Eastern	Oct. 24, 1890	O. & F.	"
44 DePue, Ladd & Eastern (5)	Nov. 5, 1890	F.	C. B. & Q. R. R. Co.
45 East St. Louis & Carondelet	Sept. 29, 1890	O. & F.	E. St. L. & Car. Ry. Co.
46 East St. Louis Connecting.	Oct. 6, 1890	O. & F.	E. St. L. Con. Ry. Co.
47 Electric City & Illinois	Oct. 5, 1890	F.	Under construction
48 Elgin, Joliet & Eastern	Nov. 17, 1890	O. & F.	E., J. & E. Ry. Co.
49 Gardner, Coal City & Northern.	Nov. 17, 1890	F.	" "
50 Waukegan & Southwestern	Nov. 17, 1890	F.	" "
51 Fulton County Narrow Gauge	Dec. 10, 1890	O. & F.	F. C. N. G. Ry. Co.
52 Fulton County Extension.	Dec. 10, 1890	F.	" "
53 Grand Tower & Carbondale.	Nov. 8, 1890	O. & F.	G. T. & C. R. R. Co.
54 Grand Tower & Cape Girardeau.	Nov. 18, 1890	O. & F.	G. T. & C. G. R. R. Co.
55 Illinois Central	Oct. 22, 1890	O. & F.	I. C. R. R. Co.
56 Chicago, Havana & Western.	Oct. 22, 1890	F.	" "
57 Chicago, Madison & Northern	Oct. 22, 1890	F.	" "
58 Chicago & Springfield	Oct. 22, 1890	F.	" "
59 Dunleith & Dubuque Bridge Co.	Oct. 22, 1890	F.	" "
60 Kankakee & Southwestern.	Oct. 22, 1890	F.	" "
61 Mound City	Oct. 22, 1890	F.	" "
62 Rantoul	Oct. 22, 1890	F.	" "
63 South Chicago.	Oct. 22, 1890	F.	" "
64 St. Charles Air Line.	Oct. 22, 1890	F.	" "
65 Indiana & Illinois Southern	Dec. 10, 1890	O. & F.	I. & I. S. R. R. Co.
66 Indianapolis, Decatur & Western	Nov. 17, 1890	O. & F.	I. D. & W. Ry. Co.
67 Indiana, Illinois & Iowa	Nov. 8, 1890	O. & F.	I. I. & I. R. R. Co.
68 Iowa Central.	Sept. 10, 1890	O. & F.	Ia. Central Ry. Co.
69 Keithsburg Bridge Co	"	"	"
70 Peoria Terminal.	"	"	"
71 Lake Erie & Western.	Sept. 26, 1890	O. & F.	L. E. & W. R. R. Co.

Mileage for year ending June 30, 1890.

3		4		5		6		7		8		9	
LENGTH OF LINE OPERATED—IN MILES.				LENGTH OF LINE OWNED—IN MILES.				Second, third and fourth tracks in Illinois.		Yard tracks, sidings and spurs in Illinois.		New road built during year in Illinois.	
Whole Line.		In Illinois.		Whole Line.		In Illinois.							
515.27		294.79											1
				490.97		278.30				70.00			2
						2.12				35.88			3
				.61		.51							4
271.00		14.31				5.91		5.90		21.55			5
				262.60									6
21.31		21.31											7
8.00		8.00		8.00		8.00				.13		8.00	8
848.68		586.06		548.86		548.86		41.03		122.77			9
				37.20		37.20		40.30		33.01			10
				1.30		.68							11
208.40		19.90											12
32.00		27.00		32.00		27.00				4.00		19.71	13
435.75		202.55		351.46		180.08		32.92		69.59			14
				48.58		48.58		39.61		57.99			15
				48.58		5.48							16
335.27		30.05		326.50		21.88				16.40			17
				3.90		3.90		3.90		17.25			18
				.41		.41							19
104.00		104.00		104.00		104.00				20.00			20
4,254.92		586.28		4,258.38		594.28		158.41		246.33		8.00	21
18.07		18.07		18.07		18.07		14.73		30.72			22
86.00		86.00		86.00		86.00				5.24			23
371.11		110.18		349.17		93.57				17.35			24
5,138.82		1,230.71		4,663.33		847.05		222.56		312.02			25
				12.45		12.45				.65			26
				58.74		58.74				7.22			27
				283.82		283.82				58.28			28
5,685.92		339.15		5,656.83		318.08		28.03		163.64		.30	29
315.20		315.20		118.10		146.10				10.55		(7) 28.00	30
				112.30		112.30				6.30			31
				51.60		51.60				1.56			32
				16.40		16.40				.76			33
3,354.98		236.40		1,185.80		189.70		168.10		125.20			34
				46.70		46.70				10.70			35
636.05		28.00		580.52		28.00		11.73		38.40			36
2.35		2.35		2.35		2.35				.73		2.35	37
862.68		172.16		815.67		146.73				18.19			38
1,296.90		477.70		761.30									39
				267.00		261.00		2.75		117.63			40
				56.30		29.90							41
42.08		42.08		42.08		42.08				5.39			42
350.45		131.52		341.43		122.50				27.11			43
				3.50		3.50				.50		3.50	44
12.01		12.01		12.01		12.01				4.38			45
9.20		9.20		1.80		1.80				8.80			46
				1.50		1.50						1.50	47
172.28		150.98		103.10		81.80				22.60			48
				33.58		33.58				7.54			49
				35.60		35.60				5.40		35.60	50
61.00		61.00		31.00		31.00				2.40			51
				30.00		30.00				.61			52
32.90		32.90		26.20		26.20				6.00			53
28.80		28.80		28.80		28.80				2.00		28.80	54
2,279.22		1,285.28		1,609.43		705.50		111.75		197.99			55
				131.62		131.62				12.10			56
				222.14		130.83				29.14			57
				111.47		111.47				17.76			58
				.59		.17							59
				131.26		131.26				12.99			60
				2.87		2.87							61
				74.43		66.21				4.51			62
				4.76		4.76		4.76		3.22			63
				.76		.76		.76					64
90.00		56.00		90.00		56.00				2.00			65
152.51		75.76		152.51		75.76				7.93			66
169.09		68.95		118.19		68.95				8.13			67
488.89		93.25		503.02		88.65				11.90			68
				2.57		1.10							69
				4.00		4.00							70
585.84		121.02		582.07		118.60				17.56			71

Table I—

NAME OF COMPANY.	1	2
	DATE OF FILING REPORT. (OPERATING OR FINANCIAL.)	HOW OPERATED.
72 Lake Shore & Michigan Southern .	Sept. 13, 1890 O. & F.	L. S. & M. S. Ry. Co.
73 Liverpool Coal.	Oct. 7, 1890	Used as switch, C., B. & Q. R. R.
74 Louisville & Nashville .	Oct. 27, 1890 O. & F.	L. & N. R. R. Co.
75 Southeast and St. Louis .	Oct. 27, 1890	" " " " " "
76 Louisville, Evansville & St. L. Con.	Oct. 31, 1890 O. & F.	L., E. & St. L. Con. R. R. Co.
77 Louisville, New Albany & Chicago.	Dec. 12, 1890 O. & F.	L., N. A. & C. Ry. Co.
78 Michigan Central .	Sept. 19, 1890 O. & F.	M. C. R. R. Co.
79 Joliet & Northern Indiana .	Oct. 6, 1890	" " " " " "
80 Mobile & Ohio.	Sept. 5, 1890 O. & F.	M. & O. R. R. Co.
81 St. Louis & Cairo .	Sept. 5, 1890	" " " " " "
82 Nat'l Stock Yards Co. (East St. L.).	Nov. 12, 1890	Used as switch
83 New York, Chicago & St. Louis .	Oct. 2, 1890 O. & F.	N. Y., C. & St. L. R. R. Co.
84 Chicago & State Line .	Sept. 24, 1890	" " " " " "
85 Ohio & Mississippi .	Oct. 7, 1890 O. & F.	O. & M. Ry. Co.
86 Ohio, Indiana & Western .	Nov. 1, 1890 O. & F.	O., I. & W. Ry. Co.
87 Pawnee .	Dec. 9, 1890 O. & F.	P. R. R. Co.
88 Pennsylvania Co .	Oct. 2, 1890	Penn. Company .
89 Calumet River .	Nov. 1, 1890	" " " " " "
90 Pittsburgh, t. Wayne & Chicago	Oct. 24, 1890 O. & F.	" " " " " "
91 South Chicago & Southern .	Oct. 15, 1890 O. & F.	" " " " " "
92 Peoria & Pekin Union .	Dec. 13, 1890 O. & F.	P. & P. U. Ry. Co.
93 Peoria, Decatur & Evansville .	Oct. 31, 1890 O. & F.	P., D. & E. Ry. Co.
94 Quincy, Omaha & Kansas City .	Nov. 12, 1890 O. & F.	Q., O. & K. C. Ry. Co.
95 Rock Island & Peoria.	Oct. 9, 1890 O. & F.	R. I. & P. Ry. Co.
96 St. Louis, Alton & Springfield.	Dec. 6, 1890 O. & F.	St. L., A. & S. R. R. Co.
97 Alton Terminal .	" " " " " "	" " " " " "
98 St. Louis, Alton & Terre Haute.	Sept. 22, 1890 O. & F.	St. L., A. & T. H. R. R. Co.
99 Belleville & Carondelet .	Oct. 21, 1890	" " " " " "
100 Belleville & Eldorado .	Oct. 21, 1890	" " " " " "
101 Belleville & Southern Illinois .	Oct. 21, 1890	" " " " " "
102 Chicago, St. Louis & Paducah .	Oct. 21, 1890	" " " " " "
103 St. Louis Southern.	Oct. 17, 1890	" " " " " "
104 Carbondale & Shawneetown .	Oct. 17, 1890	" " " " " "
105 St. Louis & Chicago.	Nov. 14, 1890 O. & F.	R. J. Cavett, receiver.
106 St. Louis & Peoria .	Nov. 25, 1890 O. & F.	St. L. & P. R. R. Co.
107 Terminal R. R. Ass'n of St. Louis.	Oct. 21, 1890 O. & F.	T. R. R. Ass'n of St. Louis.
108 Terre Haute & Indianapolis.	Oct. 22, 1890 O. & F.	T. H. & I. R. R. Co.
109 St. Louis, Vandalia & Terre Haute	Nov. 13, 1890	" " " " " "
110 Terre Haute & Peoria.	Nov. 13, 1890 O. & F.	T. H. & P. R. R. Co.
111 Toledo, Peoria & Western .	Sept. 6, 1890 O. & F.	T., P. & W. Ry. Co.
112 Toledo, St. Louis & Kansas City .	Nov. 14, 1890 O. & F.	T., St. L. & K. C. R. R. Co.
113 Union Stock Yards & Transit Co.	July 11, 1890	For switching ears to St'ck Y'ds.
114 Wabash.	Sept. 13, 1890 O. & F.	Wabash R. R. Co.
115 Wabash, Chester & Western .	Sept. 1, 1890 O. & F.	W., C. & W. R. R. Co.
116 Wisconsin Central Lines.	Sept. 25, 1890 O. & F.	(4) Wisconsin Central Lines .
117 Chicago & Wisconsin .	Sept. 25, 1890	" " " " " "
Total.		

(1). Includes 8 miles Junction Railway, not yet in operation.

(2). Operated by C. & E. I., Wabash, C. & Atlantic, C. & G. T., L., N. A. & C., A., T. & S. Fe and Belt.

(3). Includes mileage of Champaign & Sidney R. R.—11.70 miles belonging to Purchasing Committee.

(4). From April 1, 1890, operated by Northern Pacific R. R. Co.

(5). Owned by Chicago, Wilmington & Vermilion Coal Co., and connects mines with C., B. & Q. R. R.

(6). Operated one month prior to June 30, 1890.

(7). Still in hands of contractor.

(8). Not yet in operation.

(9). Unofficial.

Continued.

3		4		5		6		7		8		9	
LENGTH OF LINE OPERATED—IN MILES.		LENGTH OF LINE OWNED—IN MILES.		LENGTH OF LINE OWNED—IN MILES.		LENGTH OF LINE OWNED—IN MILES.		Second, third and fourth tracks in Illinois.	Yard tracks, sidings and spurs in Illinois.	New road built during year in Illinois.			
Whole Line.	In Illinois.	Whole Line.	In Illinois.	Whole Line.	In Illinois.	Whole Line.	In Illinois.						
1,445.36	14.02	1,086.82	14.02	14.02	14.02	55.23						72	
.....	.....	2.50	2.50	.....	.....	.50						73	
208.00	179.97	.....	.....	.....	.....	.....						74	
.....	.....	208.00	179.97	.....	.....	40.07						75	
(9) 296.74	93.80	(9) 297.51	163.53	.....	.....	17.62				(8) 64.35		76	
537.07	19.86	510.46	.....	.....	.....	.....				.....		77	
1,608.27	49.07	270.07	6.07	6.07	6.07	40.65				.....		78	
.....	.....	45.00	29.00	.....	.....	16.92				.....		79	
160.60	160.60	.....	.....	.....	.....	.....				.....		80	
.....	.....	160.60	160.60	.....	.....	36.27				.....		81	
.....	.....	.....	.....	.....	.....	15.00				.....		82	
523.02	18.86	502.56	.....	.....	.....	.....				.....		83	
.....	.....	9.96	9.96	.....	.....	1.31				.....		84	
628.48	375.52	628.48	375.52	.....	.....	.....				.....		85	
350.45	131.52	.....	.....	.....	.....	.....				.....		86	
6.61	6.61	4.11	4.11	.....	.....	.50				4.11		87	
480.14	26.57	.....	.....	.....	.....	.....				.....		88	
.....	.....	4.43	4.43	.....	.....	.....				4.43		89	
.....	.....	469.89	16.32	.....	.....	14.34				.....		90	
.....	.....	10.25	10.25	.....	.....	.....				.....		91	
18.01	18.01	18.01	18.01	.....	.....	2.00				.....		92	
256.63	213.25	233.28	192.92	.....	.....	.....				.....		93	
137.53	2.02	134.51	.....	.....	.....	.....				.....		94	
113.00	113.00	113.00	113.00	.....	.....	11.98				.....		95	
96.00	96.00	81.00	81.00	.....	.....	18.16				.....		96	
.....	.....	2.00	2.00	.....	.....	.....				.....		97	
239.04	239.04	207.40	198.40	.....	.....	13.30				.....		98	
.....	.....	17.20	17.20	.....	.....	2.78				.....		99	
.....	.....	50.20	50.20	.....	.....	3.40				.....		100	
.....	.....	56.40	56.40	.....	.....	11.10				.....		101	
.....	.....	53.50	53.50	.....	.....	7.10				.....		102	
.....	.....	29.74	29.74	.....	.....	3.89				.....		103	
.....	.....	17.50	17.50	.....	.....	.50				.....		104	
52.75	52.75	51.25	51.25	.....	.....	3.97				.....		105	
14.00	14.00	14.00	14.00	.....	.....	1.00				14.00		106	
3.20	1.88	3.20	1.88	.....	.....	.....				.....		107	
158.30	158.30	.....	.....	.....	.....	10.85				.....		108	
.....	.....	158.30	158.30	.....	.....	.....				.....		109	
172.89	165.94	144.74	144.74	.....	.....	46.11				.....		110	
247.10	247.10	230.10	230.10	.....	.....	13.07				.....		111	
450.72	179.49	450.72	179.49	.....	.....	36.10				.....		112	
.....	.....	50.00	50.00	.....	.....	23.90				.....		113	
1,921.00	731.00	1,443.40	(3) 671.30	.....	.....	85.00				.....		114	
42.26	42.26	42.26	42.26	.....	.....	163.20				.....		115	
867.06	60.26	233.37	.....	.....	.....	2.88				.....		116	
.....	.....	49.36	49.36	.....	.....	.....				.....		117	
.....	.....	.....	.....	.....	.....	7.96				.....		117	
.....	.....	.....	10,163.46	.....	.....	925.77				2,928.34		222.65	

TABLE II, A.—Capital Stock, Bonds and Equipment Trust
Ending June

NAME OF COMPANY.	CAPITAL STOCK.		BONDS.	
	Amount outstanding.	Amount per mile of road.	Amount outstanding.	Amount per mile of road.
	1	2	3	4
1 Atchison, Topeka & Santa Fe				
2 Chicago, Santa Fe & California...	\$15,000,000 00	\$30,551 76	\$17,583,000 00	\$35,812 78
3 Atch. Top. & Santa Fe in Chi'go.	5,000,000 00	2,463,054 18	6,773,000 00	3,336,453 20
4 Miss. River R. R. & Toll Brdg. Co.	1,000,000 00	\$1,639,344 00	650,000 00	\$1,065,574 00
5 Baltimore & Ohio (4)				
6 Baltimore & Ohio & Chicago	1,503,450 00	5,725 25	7,744,000 00	29,489 72
9 Chicago & Alton	17,594,500 00	32,056 44	10,360,950 00	18,877 21
10 Joliet & Chicago	1,500,000 00	40,322 58		
11 Mississippi River Bridge Co.	300,000 00	230,769 23	626,000 00	481,538 46
12 Chicago & Atlantic	In hands of	Receiver.		
13 Chicago & Calumet Terminal	5,000,000 00	156,250 00	1,752,000 00	54,750 00
14 Chicago & Eastern Illinois	10,663,000 00	30,339 15	14,273,000 00	40,610 59
15 Chicago & Western Indiana	5,000,000 00	102,923 01	8,592,666 67	176,876 63
16 Evansville, Terre Haute & Chi'go.	581,370 00	11,967 27	1,250,000 00	25,730 75
17 Chicago & Grand Trunk	6,600,000 00	20,214 40	12,000,000 00	36,753 44
18 Grand Trunk Junction	500,000 00	128,205 13	3,291,200 00	843,897 43
19 Chicago & Illinois Southern	500 00			
20 Chicago & Iowa	1,428,000 00	13,730 70	2,150,000 00	20,673 00
21 Chicago & Northwestern	66,282,820 53	15,594 56	104,985,500 00	24,700 26
22 Chicago & Northern Pacific	30,000,000 00	1,660,210 29	19,549,000 00	1,081,848 37
23 Chicago & Ohio River	438,800 00	5,102 32	868,300 00	10,096 51
24 Chicago, Burlington & Northern...	9,289,500 00	26,604 52	12,800,500 00	36,659 79
25 Chicago, Burlington & Quincy	76,394,505 00	16,381 96	(2)106,319,288 70	22,799 00
26 Galesburg and Rio	240,000 00	19,656 01	243,800 00	19,967 23
27 Illinois Valley & Northern	1,500,000 00	25,536 26	1,163,200 00	19,802 51
28 St. Louis, Rock Island & Chicago.	3,000,000 00	10,570 07	2,500,000 00	8,808 39
29 Chicago, Milwaukee & St. Paul	61,708,861 00	10,908 73	125,693,000 00	22,219 69
30 Chicago, Peoria & St. Louis	2,500,000 00	21,168 50	2,095,000 00	17,739 20
31 Jacksonville Southeastern	1,000,000 00	8,904 71	1,420,000 00	12,644 70
32 Litchfield, Carrollton & Western.	598,800 00	11,604 65	422,000 00	8,178 29
33 Louisville & St. Louis	1,000,000 00	60,975 60	247,000 00	15,060 97
34 Chicago, Rock Island & Pacific	46,156,000 00	38,923 93	21,500,000 00	18,131 22
35 Peoria & Bureau Valley	1,500,000 00	32,120 00		
36 Chicago, St. Louis & Pittsburg	26,748,044 87	46,076 01	19,585,300 00	33,737 51
37 Englewood Connecting	98,500 00	41,914 89		
38 Chicago, St. Paul & Kansas City	14,892,900 00	18,258 50	30,108,750 00	36,912 90
39 Cleveland, Cinc., Chicago & St. L.	30,500,000 00	28,131 34	26,963,750 00	24,869 71
42 Kankakee & Seneca	10,000 00	237 64	650 000 00	15,446 76
43 Peoria & Eastern	10,000,000 00	29,288 58	13,430,000 00	39,334 56
44 DePue, Ladd & Eastern	30,000 00	8,571 42		
45 East St. Louis & Carondelet	420,000 00	34,970 85	200,000 00	16,652 78
46 East St. Louis Connecting	20,000 00	11,111 10		
47 Electric City & Illinois (under con).	2,500 00			
48 Elgin, Joliet & Eastern	4,000,000 00	40,399 96	3,427,000 00	34,612 66
49 Gardner, Coal City & Northern	1,000,000 00	31,328 32	850,000 00	26,629 07
50 Waukegan & Southwestern	1,000,000 00	28,089 89	850,000 00	23,876 40
51 Fulton County Narrow Gauge	375,515.77	12,113 41	171,000 00	5,516 12
52 Fulton County Extension	260,900 00	8,696 66	313,000 00	10,433 33
53 Grand Tower & Carbondale	50,000 00	1,908 39		
54 Grand Tower & Cape Girardeau	350,000 00	12,152 77	350,000 00	12,152 77
55 Illinois Central	40,000,000 00	24,853 52	34,084,000 00	21,177 68
57 Chicago, Madison & Northern			2,500,000 00	11,254 16
63 South Chicago			200,000 00	42,016 80
65 Indiana & Illinois Southern	1,400,000 00	15,555 00	1,239,000 00	13,766 00
66 Indianapolis, Decatur & Western	1,000,000 00	6,577 37	4,218,950 00	31,599 70
67 Indiana, Illinois & Iowa	3,597,800 00	30,440 81	1,246,000 00	10,542 34
68 Iowa Central	13,479,503 44	26,796 88	5,916,956 21	11,762 74
71 Lake Erie & Western	23,680,000 00	40,682 00	5,920,000 00	10,171 00
72 Lake Shore & Michigan Southern	50,000,000 00	58,197 05	46,266,000 00	45,393 52
73 Liverpool Coal	25,000 00	10,000 00		
74 Louisville & Nashville (4)				
75 Southeast & St. Louis	1,000,000 00	4,807 69	6,500,000 00	31,249 98
76 Louisville, Evansville & St. L., Con.	5,086,000 00	14,154 54	7,890,375 00	21,959 19
77 Louisville, New Albany & Chicago.	5,900,000 00	11,558 20	10,000,000 00	19,599 17
78 Michigan Central	18,738,204 00	69,382 77	10,000,000 00	37,027 43

Obligations for Mileage Owned—Whole Line—for year
30, 1890.

5	6	7	8	9	10	11	
EQUIPMENT TRUST OBLIGATIONS.		SUMMARY.		No. of stock-holders in Illinois.....	No. elsewhere..	Amount of stock held in Illinois.	
Amount outstanding.	Amount per mile of road.	Total Capital Stock, Bonds and Equipment Trust Obligations.	Total amount per mile of road.				
		\$32,583,000 00	\$66,364 54	2	7	\$800	1
		11,773,000 00	5,799,507 38	2	7	800	2
		1,650,000 00	2,704,918 00	3	3	999,700 4	3
		9,247,450 00	35,214 97	3	6	1,250 6	4
		27,955,450 00	50,933 65	76	1,695	3,029,000 9	5
		1,500,000 00	40,322 58	2	141	190,400 10	6
		926,000 00	712,307 69	1	.....	300,000 11	7
		6,752,000 00	211,000 00	5	.....	5,000,000 12	8
		24,936,000 00	70,949 74	113	415	783,100 13	9
		13,592,666 67	279,799 64	5	5	2,000,100 14	10
		1,831,370 00	37,698 02	16	234	423,000 15	11
		18,600,000 00	56,967 84	1	282	2,000 16	12
		3,791,200 00	972,102 56	2	3	4,000 17	13
		500 00	Less than a mile in length	4	1	400 18	14
		3,578,000 00	34,403 70	7	1	700 19	15
		171,268,320 53	40,294 82	113	3,344	1,965,600 20	16
		49,549,000 00	2,742,058 66	5	4	1,400 21	17
		1,307,100 00	15,198 83	7	177	700 22	18
		22,090,000 00	63,264 31	13	177	3,299,300 23	19
		182,713,793 70	39,180 96	.....	.....	..... 24	20
		483,800 00	39,623 24	4	2	400 25	21
		2,663,200 00	45,338 77	4	1	400 26	22
		5,500,000 00	19,378 46	4	2	400 27	23
		187,401,861 00	33,128 42	37	3,011	858,400 28	24
		4,595,000 00	38,907 70	5	.....	2,500,000 29	25
		2,420,000 00	21,549 41	.....	.....	..... 30	26
		1,020,800 00	19,782 94	.....	.....	..... 31	27
		1,247,000 00	76,036 57	.....	.....	..... 32	28
		67,656,000 00	57,055 15	108	3,705	1,926,700 33	29
		1,500,000 00	32,120 00	20	159	119,900 34	30
\$553,200 00	\$952 94	46,886,544 87	80,766 46	1	730	10,500 35	31
		98,500 00	41,914 89	4	2	400 36	32
		45,091,650 00	55,171 40	2	350	19,500 37	33
		57,463,750 00	53,001 05	1,153	15	135,600 38	34
		660,000 00	15,684 40	1	1	5,000 39	35
		23,430,000 00	68,623 14	5	5	21,200 40	36
		30,000 00	8,571 42	3	2	25,000 41	37
		620,000 00	51,623 63	8	6	11,500 42	38
		20,000 00	11,111 10	4	3	19,700 43	39
		2,500 00	.....	5	5	..... 44	40
		7,427,000 00	75,012 62	5	8	5,000 45	41
		1,850,000 00	57,957 39	4	8	1,500 46	42
		1,850,000 00	51,966 29	5	1	2,500 47	43
		546,515 77	17,629 53	22	.....	375,515 48	44
		573,900 00	19,129 99	13	.....	260,900 49	45
		50,000 00	1,908 39	3	4	3,000 50	46
		709,000 00	24,305 54	4	5	51,500 51	47
		74,084,000 00	46,081 20	101	3,744	1,109,000 52	48
		2,500,000 00	11,254 16	.....	.....	..... 53	49
		200,000 00	42,016 80	.....	.....	..... 54	50
39,545 00	439 38	2,678,545 00	29,760 38	4	11	318,000 55	51
		5,218,950 00	38,157 07	2	98	200 56	52
52,419 40	443 51	4,896,219 40	41,426 66	3	7	300 57	53
108,561 43	215 82	19,505,021 08	38,775 44	5	1,013	80,600 58	54
		29,600,000 00	50,853 00	5	577	51,000 59	55
		96,266,000 00	103,590 57	21	3,263	296,150 60	56
		25,000 00	10,000 00	5	.....	25,000 61	57
		7,500,000 00	36,057 67	.....	.....	..... 62	58
		12,976,384 00	36,113 73	6	107	36,200 63	59
		15,900,000 00	31,148 37	8	206	160,000 64	60
		28,738,204 00	106,410 20	9	1,338	127,000 65	61

Table II, A.—

NAME OF COMPANY.	1	2	3	4
	CAPITAL STOCK.		BONDS.	
	Amount outstanding.	Amount per mile of road.	Amount outstanding.	Amount per mile of road.
79 Joliet & Northern Indiana	\$300,000 00	\$6,666 66	\$800,000 00	\$17,777 77
80 Mobile & Ohio (4).....	.....	.....	.....	.....
81 St. Louis & Cairo.....	6,500,000 00	40,473 22	4,000,000 00	24,906 60
83 New York, Chicago & St. Louis.....	30,000,000 00	59,694 36	19,784,000 00	39,366 44
84 Chicago & State Line.....	1,500,000 00	15,060 24	.....	.....
85 Ohio & Mississippi	24,092,692 15	38,334 86	15,842,000 00	25,206 85
87 Pawnee	29,600 00	7,201 94	.....	.....
88 Pennsylvania Co. (4).....	.....	.....	.....	.....
89 Calumet River.....	65,500 00	14,785 50	65,000 00	14,672 50
90 Pittsburgh, Ft. Wayne & Chicago	32,090,785 71	68,278 26	12,410,000 00	26,404 26
91 South Chicago & Southern.....	123,000 00	12,000 00	123,000 00	12,000 00
92 Peoria & Pekin Union.....	1,000,000 00	55,524 70	2,994,000 00	166,240 97
93 Peoria, Decatur & Evansville.....	8,380,000 00	35,922 50	4,845,000 00	20,769 03
94 Quincy, Omaha & Kansas City.....	1,623,240 00	12,067 80	1,739,240 00	12,930 19
95 Rock Island & Peoria.....	1,500,000 00	13,274 33	600,000 00	5,309 73
96 St. Louis, Alton & Springfield.....	1,500,000 00	18,072 28	818,692 94	9,863 77
98 St. Louis, Alton & Terre Haute.....	4,768,400 00	23,035 75	8,057,000 00	38,922 71
99 Belleville & Carondelet.....	500,000 00	29,069 76	485,000 00	28,197 67
100 Belleville & Eldorado.....	1,000,000 00	19,920 31	550,000 00	9,960 15
101 Belleville & Southern Illinois.....	1,705,000 00	30,230 49	1,022,000 00	18,120 56
102 Chicago, St. Louis & Paducah.....	1,000,000 00	18,691 59	2,000,000 00	37,383 18
103 St. Louis Southern.....	500,000 00	16,812 37	1,075,000 00	36,146 60
104 Carbondale & Shawneetown.....	356,600 00	20,377 14	250,000 00	14,285 71
105 St. Louis & Chicago.....	2,800,000 00	52,830 18	1,400,000 00	26,415 10
106 St. Louis & Peoria.....	280,000 00	20,000 00	182,000 00	13,000 00
107 Terminal Railroad Assn. of St. L. (1)	10,681,200 00	3,337,875 10	10,000,000 00	3,125,000 00
108 Terre Haute & Indianapolis (4).....	.....	.....	.....	.....
109 St. Louis, Vandalia & Terre Haute	3,924,058 10	24,782 48	4,499,000 00	28,413 54
110 Terre Haute & Peoria.....	5,400,000 00	37,500 00	1,800,000 00	12,500 00
111 Toledo, Peoria & Western.....	4,500,000 00	19,556 71	4,800,000 00	20,860 50
112 Toledo, St. Louis & Kansas City.....	17,055,000 00	37,900 00	9,800,000 00	20,000 00
114 Wabash.....	52,000,000 00	33,661 31	78,000,000 00	50,492 00
115 Wabash, Chester & Western.....	250,000 00	5,915 76	300,000 00	7,098 91
116 Wisconsin Central Co.....	3,618,237 33	15,504 30	11,209,642 21	48,033 77
117 Chicago & Wisconsin.....	1,500,000 00	30,388 97	1,500,000 00	30,388 97
Total	\$847,488,296 90	\$25,573 37	\$920,683,061 73	\$27,540 44

(1). Includes stock and bonds of the St. Louis Bridge Co. and stock of the Tunnel Railroad of St. Louis.

(2). Includes \$6,330,780.84 contingent liabilities of leased lines.

(3). These figures are on the basis of one mile.

(4). Inserted to show proper relation of road following.

Continued.

5	6	7	8	9	10	11
EQUIPMENT TRUST OBLIGATIONS.		SUMMARY.		No. of stockholders in Illinois.....	No. elsewhere..	Amount of stock held in Illinois.
Amount outstanding.	Amount per mile of road.	Total Capital Stock, Bonds and Equipment Trust Obligations.	Total amount per mile of road.			
		\$1,100,000 00	\$24,444 43			79
		10,500,000 00	65,379 82	6	6	\$600 80
		49,784,000 00	99,060 80	2	1,276	6,000 83
		1,500,000 00	15,060 24	2	4	500 84
\$504,000 00	\$801 93	40,438,692 15	64,343 64	6	773	148,000 85
		29,600 00	7,201 94	56		29,600 87
						88
		130,500 00	29,458 00	3	3	300 89
		44,500,785 71	94,682 52	22	2,444	212,200 90
		246,000 00	24,000 00	5	3	500 91
		3,994,000 00	221,765 67			92
57,000 00	244 34	13,282,000 00	56,935 87			93
		3,362,480 00	24,997 99	29	70	409,720 94
		2,100,000 00	18,584 06	15	110	979,500 95
63,321 94	762 92	2,382,014 88	28,698 97	3	2	1,000,000 96
		12,825,400 00	61,958 46	11	189	2,600 98
		985,000 00	57,267 43	4	2	499,700 99
		1,550,000 00	29,880 46	19	24	258,100 100
		2,727,000 00	48,351 05	2	52	186,700 101
		3,000,000 00	56,074 77	6	3	899,800 102
		1,575,003 00	52,958 97	5	24	8,300 103
		606,600 00	34,662 85	94	26	50,800 104
		4,200,000 00	79,245 28			105
71,457 64	5,104 11	533,457 64	38,104 11	3		1,500 106
		20,681,200 00	6,462,875 10			107
						108
		8,423,058 10	53,196 02	185	87	342,150 109
		7,200,000 00	50,000 00	4	64	400 110
		9,300,000 00	40,417 21	12	262	560,000 111
		26,855,000 00	57,900 00	3	63	300 112
		130,000,000 00	84,153 31			Not known. 114
		550,000 00	13,014 67	5		233,100 115
		14,827,879 54	63,538 07			116
		3,000,000 00	60,777,94	3	3	300 117
\$1,449,505 41	\$644 08	\$1,769,620,864 04	\$53,757 89	1,399	30,398	\$32,480,885

66	Indianapolis, Decatur & Western	1,000,000 00	6,557 371	4,218,950 00	31,599 70	171,261 60	1,122 95	5,390,000 00	39,280 02
67	Indiana, Illinois & Iowa	3,597,800 00	20,440 81	1,298,419 40	10,985 85	49,691 21	120 45	4,945,910 61	41,847 11
68	Indiana, Illinois & Iowa	14,079,503 44	27,847 41	6,616,517 64	13,086 59	328,110 83	648 95	21,622,941 21	41,589 95
69	Lake Erie & Western	23,680,000 00	10,682 00	5,920,000 00	10,171 00	188,946 21	324 61	29,788,946 21	51,177 67
70	Lake Shore & Michigan Southern	50,000,000 00	58,197 05	46,295,000 00	45,393 52	.....	.....	96,295,000 00	103,500 50
71	Louisville & Nashville (3)	1,000,000 00	4,807 68	6,500,000 00	31,219 98	.....	.....	7,500,000 00	46,057 07
72	Louisville, Evansville & St. L. Consol.	5,086,009 00	17,600 47	7,800,375 00	27,305 17	321,511 24	1,112 61	13,977,895 22	46,018 25
73	Louisville, Evansville & St. L. Consol.	5,900,000 00	11,558 26	10,000,000 00	10,500 17	883,623 16	1,731 03	16,783,623 16	32,879 40
74	Michigan Central	43,730,523 00	27,620 81	44,684,444 02	28,623 15	.....	.....	88,114,973 02	67,457 96
75	Mobile & Ohio	6,500,000 00	40,473 22	4,000,000 00	24,905 60	.....	.....	10,500,000 00	67,379 82
76	New York, Chicago & St. Louis	30,000,000 00	58,531 30	19,784,000 00	58,601 42	.....	.....	49,784,000 00	67,135 72
77	Ohio & Mississippi	21,092,692 15	58,331 90	16,346,000 00	26,068 78	531,005 83	843 31	49,838,697 98	65,186 95
78	Peoria	25,600 00	7,291 94	.....	.....	.....	.....	29,000 00	7,201 94
79	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
80	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
81	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
82	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
83	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
84	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
85	Peoria & Vincennes
86	Peoria & Vincennes
87	Peoria & Vincennes
88	Peoria & Vincennes
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90	Peoria & Vincennes
91	Peoria & Vincennes
92	Peoria & Vincennes
93	Peoria & Vincennes
94	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
95	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
96	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
97	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
98	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
99	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
100	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
101	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
102	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
103	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
104	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
105	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
106	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
107	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
108	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
109	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
110	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
111	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
112	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
113	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
114	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
115	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
116	Peoria & Vincennes .....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		\$430,784,536 78	\$24,786 66	\$997,407,439 64	\$26,489 72	\$27,505,798 37	\$1,506 80	\$1,955,698,274 79	\$52,783 18

(1) Includes stock and bonds of St. Louis Bridge Co. and stock of Tunnel Railroad of St. Louis.

(2) Represents stock, bonds, etc., of B. & O. & C. R. R.

(3) Represents stock, bonds, etc., of S. E. & St. L. Ry.

(4) Includes \$4,330,780.84 contingent liabilities of leased lines.

(5) Represents stocks, bonds, etc., of C., S. Fe & C. R. R., A., T. & S. Fe R. R. in Chicago, and Miss. River R. R. & Toll Bridge Co.

TABLE III. *Income Account—Whole Line,*

NAME OF COMPANY.	1	2
	Gross earnings from operation.	Operating expenses.
1 Atchison, Topeka & Santa Fe.....	\$4,564,391 92	\$3,013,960 10
5 Baltimore & Ohio.....	2,588,523 18	2,141,558 08
7 Belt Railway of Chicago.....	643,719 58	409,942 18
8 Centralia & Chester.....	5,186 89	5,992 80
9 Chicago & Alton.....	8,063,498 50	4,870,785 96
12 Chicago & Atlantic.....	2,678,926 65	1,912,953 37
13 Chicago & Calumet Terminal.....	5,040 69	4,628 62
14 Chicago & Eastern Illinois.....	2,911,722 65	1,632,442 20
17 Chicago & Grand Trunk.....	3,956,315 43	2,872,120 19
20 Chicago & Iowa.....	476,533 10	254,290 47
21 Chicago & Northwestern.....	27,433,180 94	17,055,856 33
23 Chicago & Ohio River.....	70,319 26	60,534 29
24 Chicago, Burlington & Northern.....	1,942,340 49	1,225,004 55
25 Chicago, Burlington & Quincy.....	28,238,424 92	17,306,244 80
29 Chicago, Milwaukee & St. Paul.....	26,473,486 44	16,410,829 33
30 Chicago, Peoria & St. Louis.....	683,196 03	493,600 42
34 Chicago, Rock Island & Pacific.....	17,915,916 32	12,004,405 14
36 Chicago, St. Louis & Pittsburgh.....	6,483,726 69	4,769,374 50
37 Englewood Connecting.....	3,124 78	1,899 93
38 Chicago, St. Paul & Kansas City.....	4,225,664 81	3,178,885 34
39 Cleveland, Cincinnati, Chicago & St. Louis.....	11,131,259 76	7,131,484 57
42 Kankakee & Seneca.....	63,881 95	62,565 97
43 Peoria & Eastern.....	719,142 01	497,802 18
45 East St. Louis & Carondelet.....	89,481 78	55,288 06
46 East St. Louis Connecting.....	149,703 82	140,693 17
48 Elgin, Joliet & Eastern.....	459,172 59	297,845 07
51 Fulton County Narrow Gauge.....	47,059 43	47,763 69
53 Grand Tower & Carbondale.....	83,788 30	66,464 54
54 Grand Tower & Cape Girardeau.....	14,018 55	13,575 25
55 Illinois Central.....	14,365,231 38	8,772,998 18
56 Indiana & Illinois Southern.....	83,713 36	61,171 24
66 Indianapolis, Decatur & Western.....	436,397 25	321,669 16
67 Indiana, Illinois & Iowa.....	326,887 38	255,349 81
68 Iowa Central.....	1,604,366 69	1,176,348 35
71 Lake Erie & Western.....	2,500,097 86	1,453,903 17
72 Lake Shore & Michigan Southern.....	20,462,638 87	13,357,872 29
74 Louisville & Nashville.....	1,175,540 40	778,991 87
76 Louisville, Evansville & St. Louis, Consolidated.....	1,145,063 97	707,608 13
77 Louisville, New Albany & Chicago.....	2,583,610 50	1,648,061 27
78 Michigan Central.....	14,340,498 45	10,068,789 74
80 Mobile & Ohio.....	727,094 91	538,400 69
83 New York, Chicago & St. Louis.....	5,548,086 78	4,220,762 49
85 Ohio & Mississippi.....	4,214,746 65	2,770,311 48
86 Ohio, Indiana & Western.....	771,896 22	622,727 87
87 Pawnee.....	3,274 80	2,604 39
88 Pennsylvania Co. (Op. Pittsburgh, Ft. Wayne & Chicago).....	11,650,600 73	7,285,455 98
88 Pennsylvania Co. (Op. South Chicago & Southern).....	28,193 15	22,402 57
92 Peoria & Pekin Union.....	462,663 80	276,498 01
93 Peoria, Decatur & Evansville.....	778,912 00	416,233 30
94 Quincy, Omaha & Kansas City.....	247,442 29	170,645 36
95 Rock Island & Peoria.....	656,026 00	309,784 82
96 St. Louis, Alton & Springfield.....	115,711 93	107,527 05
98 St. Louis, Alton & Terre Haute.....	1,207,302 80	649,116 09
105 St. Louis & Chicago.....	62,710 60	50,954 37
106 St. Louis & Peoria.....	9,009 24	12,550 20
107 Terminal Railroad Association of St. Louis.....	1,739,443 96	685,236 14
108 Terre Haute & Indianapolis.....	1,832,991 26	1,174,240 98
110 Terre Haute & Peoria.....	340,277 73	246,725 17
111 Toledo, Peoria & Western.....	904,980 50	653,591 91
112 Toledo, St. Louis & Kansas City.....	1,460,049 88	953,697 79
114 Wabash.....	13,352,872 40	9,673,221 18
115 Wabash, Chester & Western.....	61,327 26	46,677 60
116 Wisconsin Central Lines.....	4,780,344 67	2,770,157 18
Totals.....	\$262,091,753 14	\$170,399,077 53

(4) Deficit from operation.

for year ending June 30, 1890.

3	4	5	6	7	8	
INCOME FROM OTHER SOURCES.						
Income from operation.	Interest on bonds owned.	Dividends on stocks owned.	Miscellaneous income less expenses.	Total income from other sources.	Total income.	
\$1,550,491 83			\$3,285 83	\$3,285 85	\$1,553,717 66	1
446,965 10					446,965 10	5
233,777 40					233,777 40	7
(1) 805 91					(1) 805 91	8
3,192,712 54	\$233,290 00	\$32,062 00	7,949 28	273,271 28	3,465,983 82	9
765,973 2		30,000 00	1,349 83	31,349 83	797,323 11	12
412 07					412 07	13
1,279,280 45	742 67	26,061 85	5,187 57	31,992 09	1,311,272 54	14
1,084,195 24			100,175 51	100,175 51	1,184,370 75	17
222,242 63					222,242 63	20
10,377,324 61	458 34	285,243 00	124,178 36	409,879 70	10,787,204 31	21
9,784 97					9,784 97	23
717,335 94					717,335 94	24
10,932,180 12	752,435 50		291,443 43	1,043,878 93	11,976,059 05	25
10,062,657 11	32,400 97	58,151 00	116,677 64	207,229 61	10,269,886 72	29
189,595 61			65,853 79	65,853 79	255,449 40	30
5,911,511 18	4,890 00	52,110 00	1,436,606 79	1,493,606 79	7,405,117 97	34
1,714,352 19			12,013 24	12,013 24	1,726,365 43	36
1,224 85					1,224 85	37
1,046,779 47					1,046,779 47	38
3,999,775 19	36,820 00	19,899 52	390 00	57,109 52	4,056,884 71	39
1,315 98					1,315 98	42
221,339 83					221,339 83	43
25,193 72			75 00	75 00	25,268 72	45
9,010 65			3,382 75	3,382 75	12,393 40	46
161,327 52			85,766 67	85,766 67	247,094 19	48
(1) 704 26					(1) 704 26	51
17,323 76					17,323 76	53
443 30					443 30	54
5,592,233 20	529,289 47	181,380 32	69,832 47	780,502 26	6,372,735 46	55
22,542 12					22,542 12	65
114,728 09					114,728 09	66
71,537 57					71,537 57	67
428,018 34			471 50	471 50	428,489 84	68
1,046,194 69					1,046,194 69	71
7,104,766 58	45,290 00	217,193 75	286,581 50	549,065 25	7,653,831 83	72
396,548 53					396,548 53	74
437,455 84			24,348 43	24,348 43	461,804 27	76
935,549 23		30,000 00		30,000 00	965,549 23	77
4,271,708 71	460 00	42,015 50	12,385 20	54,810 70	4,326,519 41	78
188,694 22					188,694 22	80
1,327,324 29			8,993 29	8,993 29	1,336,317 58	83
1,444,435 17			711 90	711 90	1,445,147 07	85
149,168 35					149,168 35	86
670 41					670 41	87
4,367,144 75			145,179 81	145,179 81	4,512,324 56	88
5,790 58					5,790 58	88
186,165 79					186,165 79	92
362,678 70					362,678 70	93
76,796 93			29,525 72	29,525 72	106,322 65	94
346,241 18		640 00	4,000 00	4,640 00	350,881 18	95
8,184 88					8,184 88	96
558,186 71			444,301 57	444,301 57	1,002,488 28	98
11,755 63					11,755 63	105
(1) 3,540 96					(1) 3,540 96	106
1,054,207 82			185,912 50	185,912 50	1,240,120 32	107
658,750 28					658,750 28	108
93,552 56					93,552 56	110
251,388 59			33,850 00	33,850 00	285,238 59	111
506,352 09					506,352 09	112
3,079,651 22		51,000 00	221,434 51	272,434 51	3,352,085 73	114
14,649 66					14,649 66	115
1,810,187 49			23 59	23 59	1,810,211 08	116
\$91,697,726 74	\$1,636,076 95	\$1,025,726 94	\$3,721,837 68	\$6,383,641 57	\$98,081,306 31	

TABLE III. *Income Account—Whole Line,*

NAME OF COMPANY.	9	10
	DEDUCTIONS	
	Interest on funded debt, <i>accrued.</i>	Interest on interest bearing current liabilities <i>accrued</i> not otherwise provided for.
1 Atchison, Topeka & Santa Fe.....	\$901,480 00	
5 Baltimore & Ohio.....	464,640 00	828,016 28
7 Belt Railway of Chicago.....		
8 Centralia & Chester.....		
9 Chicago & Alton.....	821,296 88	
12 Chicago & Atlantic.....	13,605 36	
13 Chicago & Calumet Terminal.....	7,300 00	
14 Chicago & Eastern Illinois.....	768,662 83	2,851 45
17 Chicago & Grand Trunk.....	659,979 97	50,958 66
20 Chicago & Iowa.....	172,000 00	
21 Chicago & Northwestern.....	5,803,688 38	
23 Chicago & Ohio River.....	14,270 00	
24 Chicago, Burlington & Northern.....	695,075 00	
25 Chicago, Burlington & Quincy.....	5,532,620 17	
29 Chicago, Milwaukee & St. Paul.....	7,214,154 84	
30 Chicago, Peoria & St. Louis.....	75,000 00	280 00
34 Chicago, Rock Island & Pacific.....	2,677,225 00	
36 Chicago, St. Louis & Pittsburgh.....	1,095,782 79	
37 Englewood Connecting.....		
38 Chicago, St. Paul & Kansas City.....	54,589 79	
39 Cleveland, Cincinnati, Chicago & St. Louis.....	1,439,081 02	
42 Kankakee & Seneca.....	39,000 00	
43 Peoria & Eastern.....	296,100 00	
45 East St. Louis & Carondelet.....	14,000 00	
46 East St. Louis Connecting.....		14,656 96
48 Elgin, Joliet & Eastern.....	171,350 00	
51 Fulton County Narrow Gauge.....	33,880 00	
53 Grand Tower & Carbondale.....		
54 Grand Tower & Cape Girardeau.....	21,000 00	
55 Illinois Central.....	1,461,925 00	63,631 59
65 Indiana & Illinois Southern.....		1,846 73
66 Indianapolis, Decatur & Western.....	132,880 00	795 83
67 Indiana, Illinois & Iowa.....	51,430 00	
68 Iowa Central.....	296,796 76	4,784 97
71 Lake Erie & Western.....	296,000 00	
72 Lake Shore & Michigan Southern.....	3,234,765 00	
74 Louisville & Nashville.....	390,000 00	
76 Louisville, Evansville & St. Louis, (Consolidated).....	329,618 38	
77 Louisville, New Albany & Chicago.....	579,767 93	46,722 29
78 Michigan Central.....	1,073,800 00	
80 Mobile & Ohio.....	160,000 00	
83 New York, Chicago & St. Louis.....	786,660 00	
85 Ohio & Mississippi.....	1,054,245 31	921 12
86 Ohio, Indiana & Western.....	282,099 28	
87 Pawnee.....		
88 Pennsylvania Co., (Op. Pittsburgh, Ft. Wayne & Chicago).....		
88 Pennsylvania Co., (Op. South Chicago & Southern).....		
92 Peoria & Pekin Union.....	157,155 00	
93 Peoria, Decatur & Evansville.....	275,157 50	11,034 02
94 Quincy, Omaha & Kansas City.....	61,275 28	
95 Rock Island and Peoria.....	42,000 00	
96 St. Louis, Alton & Springfield.....	469,000 00	
98 St. Louis, Alton & Terre Haute.....	84,000 00	
103 St. Louis & Chicago.....	6,066 67	
106 St. Louis & Peoria.....	168,750 00	
107 Terminal Railroad Association of St. Louis.....		
108 Terre Haute & Indianapolis.....	90,000 00	
110 Terre Haute & Peoria.....	180,210 00	12,128 97
111 Toledo, Peoria & Western.....		

for year ending June 30, 1890.—Continued.

11	12	13	14	15	16	
FROM INCOME.						
Rental of leased lines.	Taxes.	Other deductions.	Total deductions from income.	Net income.	Net deficit.	
\$700,934 22	\$180,413 19		\$1,782,827 41		\$229,109 75	1
	78,672 00		871,328 28		424,363 18	5
100,005 00	28,000 00		128,005 00	\$105,772 40		7
					895 91	8
670,316 57	243,198 67	\$92,387 60	1,827,199 72	1,638,784 10		9
171,821 85	77,823 86		263,251 07	534,072 04		12
			7,360 00		6,887 93	13
200,060 74	98,927 26		1,070,502 28	240,770 26		14
164,560 00	123,421 54		998,920 17	185,450 58		17
	16,556 87	4,325 77	192,882 64	29,359 99		20
	758,043 04	202,570 00	6,764,301 42	4,022,902 89		21
	7,752 78		22,022 78		12,237 81	23
101,454 76	80,421 22	2,109 13	879,060 16		161,724 22	24
216,346 90	1,191,624 88	785,332 50	7,725,924 45	4,250,134 60		25
	830,046 55		8,044,201 39	2,225,685 33		29
20,769 05	16,737 61		112,786 66	142,662 74		30
2,000,885 74	742,128 34		5,420,239 08	1,984,878 89		34
55,103 88	190,818 88	192,017 02	1,533,722 57	192,642 86		36
	1,813 33		1,813 33		588 48	37
(1) 296,234 87	87,000 00		437,821 66	608,954 81		38
744,584 76	330,350 00	14,754 04	2,528,769 82	1,528,114 89		39
	6,496 59		45,496 59		44,180 61	42
23,054 67	9,000 00	110 67	238,265 34		16,925 51	43
	3,135 72		17,135 72	8,133 00		45
23,316 71	2,100 54		40,074 21		27,680 81	46
57,397 24	13,639 35	114 00	242,500 59	4,593 60		48
	2,589 81		36,469 81		37,174 07	51
5,499 98	5,030 60		10,530 58	6,793 18		53
		402 92	21,402 92		20,959 62	54
1,506,955 48	709,331 81	213,415 09	3,958,258 97	2,414,476 49		55
	7,257 30	75 00	9,179 03	13,363 09		65
	22,200 00	2,694 56	158,570 39		43,842 30	66
	11,055 52	2,100 00	64,585 52	6,952 05		67
42,935 16	59,357 23		403,874 12	24,615 72		68
	92,382 44	441,201 53	829,583 97	216,610 72		71
541,009 22	508,416 61	53,350 00	4,332,540 83	3,321,291 00		72
	42,929 70		342,929 70	53,618 83		74
17,590 90	45,486 34		392,695 62	69,108 65		76
152,914 05	84,277 40		865,681 67	101,867 56		77
456,233 92	315,162 35	962,886 52	2,808,082 79	1,518,436 62		78
	28,755 58	43,364 79	232,120 37		43,426 15	80
94,512 12	135,932 20		1,017,104 32	319,213 26		83
	142,161 39	62,303 53	1,259,631 35	185,515 72		85
22,793 26	31,354 35		336,246 89		187,078 54	86
181 00			181 00	489 41		87
3,137,633 73	355,183 83		3,492,817 56	1,019,507 00		88
1,123 33	4,067 25		5,790 58			88
	22,936 45		180,091 45	6,074 34		92
28,500 00	40,228 12	33,000 00	387,919 64		25,240 91	93
	12,110 01		73,385 29	32,937 36		94
	23,296 44		65,296 44	285,584 74		95
	8,655 21		8,655 21		470 33	96
341,318 77	36,921 65	157,748 26	984,988 68	17,499 60		98
	3,729 69		87,723 69		75,974 06	105
	800 00	274 50	7,141 17		10,682 13	107
718,108 77	81,079 05	62,245 70	1,030,183 52	209,336 80		106
549,897 38	(2) 54,520 60		549,897 38	108,852 90		108
	14,996 64		104,996 64		11,444 08	110
57,602 76	34,836 45		284,808 18	430 41		111

Table III—

		9	10
		DEDUCTIONS	
NAME OF COMPANY.		Interest on funded debt, <i>accrued.</i>	Interest on interest bear- ing current liabilities <i>accrued</i> not otherwise provided for.
112	Toledo, St. Louis & Kansas City		
114	Wabash	\$2,801,920 82	
115	Wabash, Chester & Western	15,000 00	
116	Wiscon-in Central Lines		
Totals		\$43,289,334 96	\$538,628 87

Continued.

11	12	13	14	15	16	
FROM INCOME.						
Rental of leased lines.	Taxes.	Other deductions.	Total deductions from income.	Net income.	Net deficit.	
.....	\$36,000 00	.....	\$36,000 00	\$470,352 09	.....	112
\$60,900 00	396,490 54	\$454,982 87	3,714,294 23	237,791 50	.....	114
.....	3,025 36	.....	18,025 36	.....	\$3,375 70	115
527,540 22	35,921 04	.....	562,861 26	1,247,349 82	.....	116
\$13,810,097 01	\$8,467,080 58	\$3,763,766 05	\$60,868,907 47	\$29,591,581 84	\$1,384,172 13	

- (1) Includes rent of equipment.
(2) Paid by lessor company.

TABLE III. *Income Account.—Whole Line,*

NAME OF COMPANY.	17	18	19	20	21
	DIVIDENDS DECLARED.				Other payments from net income.
	PREFERR'D STOCK		COMMON STOCK.		
	Amount.	Rate per cent.	Amount.	Rate per cent.	
1 Atchison, Topeka & Santa Fe					
5 Baltimore & Ohio					
7 Belt Railway of Chicago					
8 Centrala & Chester					
9 Chicago & Alton	\$278,360 00	8.	\$1,129,368 00	8.	
12 Chicago & Atlantic					
13 Chicago & Calumet Terminal					
14 Chicago & Eastern Illinois	133,956 00	3.			
17 Chicago & Grand Trunk					\$185,450 58
20 Chicago & Iowa					
21 Chicago & Northwestern	1,562,785 00	7.	1,882,194 00	6.	
23 Chicago & Ohio River					
24 Chicago, Burlington & Northern					
25 Chicago, Burlington & Quincy			3,437,667 00	4.5	
29 Chicago, Milwaukee & St. Paul	1,296,829 00	3.5 3.5			
30 Chicago, Peoria & St. Louis					
31 Chicago, Rock Island & Pacific			1,846,229 00	4.	
36 Chicago, St. Louis & Pittsburgh					
37 Englewood Connecting					
38 Chicago, St. Paul & Kansas City					
39 Cleveland, Cincinnati, Chicago & St. L.	500,000 00	5.	820,000 00	4.	
42 Kankakee & Seneca					15 55
43 Peoria & Eastern					
45 East St. Louis & Carondelet					4,000 00
46 East St. Louis Connecting					
48 Elgin, Joliet & Eastern					
51 Fulton County Narrow Gauge					
53 Grand Tower & Carbondale					
54 Grand Tower & Cape Girardeau					
55 Illinois Central			2,400,000 00	6.	
65 Indiana & Illinois Southern					
66 Indianapolis, Decatur & Western					
67 Indiana, Illinois & Iowa					81,586 75
68 Iowa Central					
71 Lake Erie & Western	355,200 00	3.			
72 Lake Shore & Michigan Southern			2,473,325 00	5.	
74 Louisville & Nashville					
76 Louisville, Evansville & St. L., Con.					
77 Louisville, New Albany & Chicago					
78 Michigan Central			936,910 20	5.	430,430 86
80 Mobile & Ohio					
83 New York, Chicago & St. Louis					99,954 25
85 Ohio & Mississippi					
86 Ohio, Indiana & Western					
87 Pawnee					
88 Penn. Co. (Op. Pitts., Ft. W. & Chi.)					
88 Penn. Co. (Op. So. Chi. & Southern)					
92 Peoria & Pekin Union					
93 Peoria, Decatur & Evansville					
94 Quincy, Omaha & Kansas City					
95 Rock Island & Peoria			75,000 00	5.	
96 St. Louis, Alton & Springfield					
98 St. Louis, Alton & Terre Haute					
105 St. Louis & Chicago					
106 St. Louis & Peoria					
107 Terminal Railroad Assoc. of St. Louis					
108 Terre Haute & Indianapolis					
110 Terre Haute & Peoria					

for year ending June 30, 1890.—Continued.

22	23	24	25	26	27	28	
Total payments from net income.	Surplus for year ending June 30, 1890	Deficit for year ending June 30, 1890	Surplus on June 30, 1889.	Deficit on June 30, 1889.	Balance surplus carried forward to next year.	Balance deficit carried forward to next year.	
		\$229,109 75		\$1,179,231 73		\$1,408,341 48	1
		424,363 18		3,941,726 23		4,366,689 41	5
	\$105,772 40			602,040 38		496,267 98	7
		805 91				805 91	8
\$1,407,728 00	231,056 10		\$2,493,242 14		(4)82,358,259 50		9
	(11)573,045 20	6,887 93				6,887 93	12
							13
133,956 00	106,814 26		55,101 39		(5)1,063,381 35		14
185,450 58							17
	29,359 99		45,952 65		75,312 64		20
3,444,979 00	577,923 89		5,042,579 52		(10)5,304,843 51		21
		12,237 81		17,750 33		29,988 14	23
		161,724 22		501,804 58		663,528 80	24
3,437,667 00	812,467 60		9,279,141 57		10,091,609 17		25
1,296,829 00	928,856 33		1,538,682 44		(10)2,419,514 55		29
					142,662 74		30
1,846,229 00	142,662 74			536,598 50		397,948 61	34
	138,649 89			933,408 18		740,765 32	36
	192,642 86					588 48	37
		588 48		(3)	608,954 81		38
1,320,000 00	608,954 81		449,538 52		(9) 633,717 40		39
15 55	208,114 89			244,259 50		288,455 66	42
		44,196 16				16,925 51	43
4,000 00	4,133 00		30,971 39		35,104 39		45
		27,680 81	64,320 81		36,640 03		46
	4,593 60		3,205 04		7,798 64		48
		37,174 07		29,979 19		67,153 26	51
	6,793 18		11,671 33		18,464 51		53
		20,959 62				20,959 62	54
2,400,000 00	14,476 49		5,890,527 10		5,905,003 59		55
	13,363 09		21,843 44		35,206 53		56
		43,842 30		70,472 66		114,314 96	66
81,586 75	24,615 72	138,589 28	391,640 28	2,898,176 44		2,972,811 14	67
			10,833,821 94	20,773 36	3,842 36		68
355,200 00	847,966 00				253,051 00		71
2,473,325 00	53,618 83		10,833,821 94	30,272 74	11,681,787 94		72
	69,108 65		(14) 807,423 47		23,346 09		74
	101,867 56		(13)1,135,985 06		876,532 12		76
1,367,341 06	151,095 56		7,125,828 38		1,237,852 62		77
		43,426 15		68,879 63	(6)6,879,181 34		78
99,954 25	(7) 225,304 76			1,182 71		112,365 78	80
	185,515 72		237,919 34		224,122 05		83
		187,078 54		327,467 12	423,435 06	514,546 06	85
	489 41			489 41			86
	1,019,507 00			403,828 69	615,678 31		88
				5,985 34		5,985 34	88
	6,074 34		70,690 81		76,765 15		92
		25,240 94	181,864 02		156,623 08		93
	32,937 36		16,228 34		49,165 70		94
75,000 00	210,584 74		435,678 21		646,262 98		95
		470 33	14,056 65		13,586 32		96
	17,499 60		(8) 283,938 97		301,438 57		98
		75,974 06		81,434 99		157,409 05	105
		10,682 13				10,682 13	106
	209,936 80			53,734 78	156,202 02		107
	108,852 90		16,339 68		125,192 58		108
		11,444 08		92,425 04		103,869 12	110

Table III—

NAME OF COMPANY.	17	18	19	20	21
	DIVIDENDS DECLARED.				Other payments from net income.
	PREFERR'D STOCK.		COMMON STOCK.		
	Amount.	Rate per cent.	Amount.	Rate per cent.	
111 Toledo, Peoria & Western.....
112 Toledo, St. Louis & Kansas City.....	(12)\$470,352 09
114 Wabash.....
115 Wabash, Chester & Western.....
116 Wisconsin Central Lines.....
Totals.....	\$4,127,130 00	.....	\$15,000,693 20	.....	\$1,271,790 08

(1) Less \$315,659.90 charged to income account C., St. P., M. & O. R. R.

(2) Includes \$133,862.56, balance improvement account.

(3) \$731,358.29 created during construction period, charged to cost of road.

(4) Surplus on June 30, 1890, less \$366,038.74 charged to permanent improvements.

(5) Includes \$901,465.70, increase in ledger value of other stocks owned.

(6) Less accrued interest, \$397,742.60, not heretofore deducted.

(7) Includes \$6,045.75 discount on bonds of company purchased.

(8) Difference between amount here reported and amount reported in last year's report as surplus on June 30, 1889, is caused by a change in the method of auditing taxes.

Continued.

22	23	24	25	26	27	28	
Total payments from net income.	Surplus for year ending June 30, 1889	Deficit for year ending June 30, 1890	Surplus on June 30, 1889.	Deficit on June 30, 1889.	Balance surplus carried forward to next year.	Balance deficit carried forward to next year.	
.....	(2)\$134,292 97	.....	.....	\$320,280 31	.....	\$185,987 34	111
\$470,352 09	.....	.....	.....	.....	.....	.....	112
.....	237,791 50	.....	.....	.....	\$237,791 50	.....	114
.....	.....	\$3,375 70	.....	75,286 79	.....	78,662 49	115
.....	1,247,349 82	.....	.....	.....	1,247,349 82	.....	116
\$20,399,613 28	\$9,584,089 56	\$1,597,411 66	\$46,478,192 55	\$12,436,999 22	\$53,966,169 38	\$12,761,279 12	

(9) Less net deductions for year, \$23,936.01.

(10) Less net deductions for year, \$48,024.22.

(11) Surplus to balance, \$38,973.16.

(12) Turned over to contractors.

(13) Does not include \$123,397.49, deductions for year.

(14) Includes \$384,501.85 additions during current year.

TABLE IV.—Total Earnings from Operation in Illinois, for year ending June 30, 1890.

NAME OF COMPANY.	PASSENGER DEPARTMENT.				
	1	2	3	4	5
	From passengers.	From mails.	From express and extra baggage.	From other sources.	Total passenger department.
1 Atchison, Topeka & Santa Fe	\$376,015 48	\$22,427 49	\$63,163 76	\$947 13	\$462,553 86
5 Baltimore and Ohio	30,959 72	3,261 02	2,478 35	231 65	36,980 74
7 Belt Railway of Chicago .....	.....	.....	.....	.....	.....
8 Centralia & Chester	2,096 86	261 92	219 67	.....	2,608 45
9 Chicago & Alton	1,702,941 03	130,993 09	145,886 42	.....	1,979,820 54
10 Chicago & Atlantic	33,504 24	1,334 26	3,591 09	.....	39,257 05
12 Chicago & Calumet Terminal .....	.....	.....	.....	827 46	.....
13 Chicago & Eastern Illinois	410,731 34	21,972 41	38,637 25	3,878 14	474,619 14
14 Chicago & Grand Trunk	126,898 36	4,118 62	16,898 70	120 00	148,035 68
17 Chicago & Iowa	116,274 13	15,836 32	24,999 96	.....	157,110 41
20 Chicago & Northwestern	873,736 90	89,839 20	67,871 60	2,565 14	1,025,163 84
21 Chicago & Ohio River	12,171 55	3,689 75	7,000 40	.....	16,163 13
23 Chicago, Burlington & Northern	87,953 46	8,431 03	7,000 40	155 17	103,540 06
24 Chicago, Burlington & Quincy	1,477,212 75	240,873 89	169,740 44	9,559 69	1,897,427 07
25 Chicago, Milwaukee & St. Paul	336,108 13	59,051 55	40,493 61	12,007 11	438,720 40
30 Chicago, Peoria and St. Louis	193,058 29	17,870 91	27,249 96	.....	238,176 16
34 Chicago, Rock Island & Pacific	(1)471,859 52	(1)40,352 89	(1)40,246 50	(1)11,995 20	(1)564,504 11
35 Chicago, St. Louis & Pittsburgh	59,876 59	11,383 02	6,838 88	470 12	78,068 61
37 Englewood Connecting .....	.....	.....	.....	.....	.....
38 Chicago, St. Paul & Kansas City	186,683 06	14,150 58	17,905 16	43,062 21	261,801 01
39 Cleveland Cincinnati Chicago & St. Louis	1,021,617 40	108,151 81	86,341 54	.....	1,216,110 75
42 Kankakee & Steeple	11,200 36	1,892 20	2,400 00	.....	15,552 56
43 Peoria & Eastern	74,008 65	8,003 30	7,402 62	.....	87,415 17
45 East St. Louis & Carondelet .....	.....	.....	.....	.....	.....
46 East St. Louis & Council Bluffs .....	.....	.....	.....	.....	.....
48 Elgin, Joliet & Eastern	14,357 93	227 76	3,500 00	.....	18,085 69
50 Fulton County Narrow Gauge	13,776 41	2,522 96	2,886 76	.....	19,470 13
53 Grand Tower & Carbondale	9,058 33	1,319 79	108 56	.....	10,486 68
54 Grand Tower & Cape Girardeau	7,982 63	1,376 74	109 00	.....	9,468 37
55 Illinois Central	1,805,922 19	188,269 85	207,913 11	67,480 27	2,362,527 32
62 Indiana Central	10,602 35	2,286 80	1,065 49	.....	13,954 64
66 Indianapolis, Decatur & Western	63,762 36	8,243 64	3,703 71	334 90	82,644 21

67	Indiana, Illinois & Iowa	6,259 03	2,902 32	2,710 44	11,880 79
68	Iowa Central	40,875 61	4,466 36	.....	48,541 01
69	Lake Erie & Western	13,470 27	9,170 27	.....	157,736 63
70	Lake Shore & Michigan Southern	19,590 86	19,590 86	.....	151,255 08
71	Louisville & Nashville	124,498 21	26,553 31	.....	349,793 16
72	Louisville, Evansville & St. Louis Consolidated	256,014 71	3,904 21	1,362 46	62,348 45
73	Louisville, New Albany & Chicago	51,354 22	2,787 27	.....	29,346 77
74	Michigan Central	21,927 55	3,498 72	.....	173,663 00
75	Mobile & Ohio	161,966 65	11,882 15	.....	158,842 84
76	New York, Chicago & St. Louis	121,983 46	11,827 28	.....	158,842 84
77	Ohio & Mississippi	13,578 23	75,309 66	.....	825,112 47
78	Ohio, Indiana & Western	677,317 27	8,632 36	2,878 79	116,092 55
79	Pawnee	100,673 39	.....	.....	80
80	Pennsylvania Co. (Op. Pittsburgh, Ft. Wayne & Chicago)	945 49	6,840 56	.....	102,753 33
81	Pennsylvania Co. (Op. South Chicago & Southern)	87,169 35	.....	1,524 13	13,737 91
82	Peoria & Pekin Union	15,757 91	.....	.....	16,005 86
83	Peoria, Decatur & Evansville	14,773 66	.....	.....	177,558 41
84	Quincy, Omaha & Kansas City	147,144 22	16,379 39	.....	3,178 03
85	Rock Island & Peoria	2,667 61	270 32	.....	128,506 10
86	St. Louis, Alton & Springfield	111,332 58	9,406 22	.....	42,078 14
87	St. Louis, Alton & Terre Haute	32,731 79	4,478 07	.....	255,807 34
88	St. Louis, Alton & Chicago	211,329 21	23,249 53	.....	53,588 97
89	St. Louis & Chicago	20,520 61	2,185 20	.....	.....
90	St. Louis & Peoria	179,861 87	12,500 00	.....	213,586 95
91	Terminal Railroad Association of St. Louis	441,472 08	175,757 30	.....	664,814 31
92	Terre Haute & Indianapolis	79,752 73	9,763 94	797 40	97,281 67
93	Terre Haute & Peoria	238,062 17	26,334 84	.....	247,884 56
94	Toledo, Peoria & Western	52,643 37	6,703 32	440 50	62,946 69
95	Toledo, St. Louis & Kansas City	1,059,120 89	117,649 37	.....	1,313,451 87
96	Wabash	17,198 66	2,856 43	.....	21,115 52
97	Wabash, Chester & Western	159,142 19	6,045 10	40 00	203,814 36
98	Wisconsin Central Lines	.....	.....	29,665 73	.....
Totals		\$14,211,044 93	\$1,579,848 98	\$1,479,541 07	\$17,463,866 77

(1) Estimated by office.

Table IV.—Total Earnings from Operation in Illinois—Continued.

NAME OF COMPANY.	FREIGHT DEPARTMENT.						From other sources—Miscellaneous.	Total earnings from operation.
	From freights.			Total freight department.				
	6	7	8	7	8	9		
1 Atchison, Topoka & Santa Fe	\$1,983,610.43	\$9,818.26	\$1,987,437.69			\$70,677.22	\$2,530,608.77	
2 Baltimore & Ohio	99,682.92	35	99,683.27				136,474.01	
7 Belt Railway of Chicago	622,251.43	21,478.15	643,719.58				643,719.58	
8 Centralia & Chester	2,378.44		2,378.44				5,188.60	
9 Chicago & Alton	4,016,918.68		4,016,918.68			37,049.58	6,034,188.80	
12 Chicago & Atlantic	140,276.76		140,276.76			7,891.05	187,324.80	
13 Chicago & Calumet Terminal	1,406,365.39	36,356.35	1,442,721.74			46,154.64	1,983,451.52	
14 Chicago & Eastern Illinois	284,865.64		284,865.64			22,745.99	432,701.32	
17 Chicago & Grand Trunk	236,676.70		236,676.70			16,366.73	476,533.10	
20 Chicago & Iowa	2,739,981.66	2,571.92	2,742,552.68			69.00	3,784,023.25	
21 Chicago & Northwest-rn	54,096.13		54,096.13			2,251.15	70,319.26	
23 Chicago & Ohio River	490,162.66		490,162.66			148,595.95	555,953.87	
24 Chicago, Burlington & Northern	4,731,200.96	2,335.96	4,733,536.92			8,815.79	6,777,221.98	
25 Chicago, Burlington & Quincy	1,030,539.94	9,733.82	1,040,273.76				1,487,069.55	
29 Chicago, Milwaukee & St. Paul	445,019.87		445,019.87				683,196.63	
30 Chicago, Peoria & St. Louis	611,331,350.92		611,331,350.92				1,393,794.38	
34 Chicago, Rock Island & Pacific	202,099.21		202,099.21				285,253.97	
36 Chicago, St. Louis & Pittsburg							3,124.78	
37 Englewood Connecting							3,124.78	
38 Chicago, St. Paul & Kansas City	1,010,543.53		1,010,543.53			28,391.39	1,306,735.35	
39 Cleveland, Cincinnati, Chicago & St. Louis	2,695,927.01	98,660.70	2,794,587.71			88,944.50	4,099,642.96	
42 Kankakee & Seneca	48,150.00		48,150.00			179.39	63,881.95	
43 Peoria & Eastern	167,159.04	380.77	167,539.81			11,639.65	257,093.26	
45 East St. Louis & Carondelet	68,842.13		68,842.13				80,481.78	
46 East St. Louis Connecting	149,703.82		149,703.82				149,703.82	
48 Elgin, Joliet & Eastern	422,707.25		422,707.25				440,792.94	
51 Fulton County Narrow Gauge	27,589.30		27,589.30				47,059.43	
53 Grand Tower & Carbondale	72,374.00		72,374.00			967.62	83,788.30	
54 Grand Tower & Cape Girardeau	11,550.18		11,550.18				14,018.55	
55 Illinois Central	6,079,589.60	9,155.47	6,088,745.07			757,334.14	9,175,606.73	
65 Indiana & Illinois Southern	35,636.06		35,636.06			1,237.31	50,228.01	
66 Indianapolis, Decatur & Western	133,863.30	1,691.11	135,554.41				218,198.62	

67	Indiana, Illinois & Iowa.....	181,756 97		181,756 97				193,637 76
68	Iowa Central.....	283,036 00		283,036 00		222 17		67
71	Lake Erie & Western.....	539,170 47		539,170 47		12,672 78		331,790 94
72	Lake Shore & Michigan Southern.....	205,582 96		205,582 96		1,545 68		509,519 94
74	Louisville & Nashville.....	604,307 52	22,129 24	626,436 76		6,416 37		380,530 96
76	Louisville, Evansville & St. Louis, Consolidated	121,938 84		121,938 84		9,696 37		1,019,546 96
77	Louisville, New Albany & Chicago.....	153,601 52		153,601 52		1,193 71		95,503 62
78	Michigan Central.....	335,205 86	1,451 39	336,657 25		1,750 02		508,869 76
80	Mobile & Ohio.....	506,525 45		506,525 45		350 85		797,091 91
83	New York, Chicago & St. Louis.....	184,397 35		184,397 35				166,731 32
85	Ohio & Mississippi.....	1,233,325 92		1,233,325 92				2,037,432 39
86	Ohio, Indiana & Western.....	160,864 39		160,864 39				276,456 94
87	Pawnee.....	2,265 24		2,265 24				3,274 80
88	Pennsylvania Co. (Op. Pittsburg, Ft. Wayne & Chicago)	260,722 37		260,722 37				306,963 92
88	Pennsylvania Co. (Op. South Chicago & Southern)	11,677 24		11,677 24		5,317 02		28,193 15
92	Peoria & Pekin Union.....	40,819 19		40,819 19		405,658 75		462,063 80
93	Peoria, Decatur & Evansville.....	387,280 30		387,280 30		87,256 49		662,075 20
94	Quincy, Omaha & Kansas City.....	6,556 29		6,556 29		43 36		9,777 68
95	Rock Island & Peoria.....	526,600 97		526,600 97		919 83		636,026 00
96	St. Louis, Alton & Springfield.....	72,884 57		72,884 57		739 22		115,711 93
98	St. Louis, Alton & Terre Haute.....	926,658 82		926,658 82		24,856 64		1,207,362 80
105	St. Louis & Chicago.....	36,006 15		36,006 15		3,115 48		62,710 60
105	St. Louis & Peoria.....	8,725 02		8,725 02		284 22		9,009 24
107	Terminal Railroad Association of St. Louis.....	595,643 13		595,643 13		6,520 00		815,750 08
108	Terre Haute & Indianapolis.....	1,163,661 39		1,163,661 39		4,515 56		1,832,991 26
110	Terre Haute & Peoria.....	240,161 04		240,161 04		2,835 02		340,277 73
111	Toledo, Peoria & Western.....	583,131 79	12,763 32	595,895 11		11,290 83		904,980 50
112	Toledo, St. Louis & Kansas City.....	371,451 50		371,451 50		3,616 77		438,014 96
114	Wabash.....	3,086,017 51	51,488 09	3,137,505 60				4,450,957 47
115	Wabash, Chester & Western.....	40,211 74		40,211 74				61,327 26
116	Wisconsin Central Lines.....	408,332 51	2,738 13	411,070 64		106 43		614,991 43
	Totals.....	\$43,856,706 08	\$276,891 23	\$44,133,597 31		\$1,862,789 23		\$63,490,253 31

(1) Estimated by office.

TABLE V. Total Earnings and Income in Illinois for year ending June 30, 1890.

NAME OF COMPANY.	1	2	3	4	5
	Gross earnings from operation.	Interest on bonds owned.	Dividends on stocks owned.	Miscellaneous income less expenses.	Total earnings and income in Illinois.
1 Atchison, Topeka & Santa Fe.....	\$2,520,668 77			\$2,033 10	\$2,522,701 87
5 Baltimore & Ohio.....	136,674 01				136,674 01
7 Belt Railway of Chicago.....	643,719 58				643,719 58
8 Centralia & Chester.....	5,186 89				5,186 89
9 Chicago & Alton.....	6,034,688 80	\$233,200 00		7,949 28	6,307,960 08
12 Chicago & Atlantic.....	187,524 86		2,100 00		189,719 35
13 Chicago & Calumet Terminal.....	4,251 62				4,251 62
14 Chicago & Eastern Illinois.....	1,963,495 52	536 80	26,461 85	1,093 50	1,991,187 67
17 Chicago & Grand Trunk.....	432,901 32			10,017 55	442,918 87
20 Chicago & Iowa.....	476,533 10				476,533 10
21 Chicago & Northwestern.....	3,784,023 25	63 22	29,827 70	26,646 24	3,840,560 41
23 Chicago & Ohio River.....	70,319 26				70,319 26
24 Chicago, Burlington & Northern.....	535,953 87				535,953 87
25 Chicago, Burlington & Quincy.....	6,777,221 98				6,777,221 98
29 Chicago, Milwaukee & St. Paul.....	1,487,809 95	1,820 93	3,238 00	6,557 28	1,499,455 25
30 Chicago, Peoria & St. Louis.....	683,196 03			62,853 70	746,049 73
34 Chicago, Rock Island & Pacific.....	1,930,794 38	(1) 529 58	(1) 5,643 51	(1) 153,584 51	(2) 2,101,531 98
35 Chicago, St. Louis & Pittsburgh.....	285,233 97				285,233 97
37 Englewood Connecting.....	3,124 78				3,124 78
38 Chicago, St. Paul & Kansas City.....	1,300,775 03				1,300,775 03
39 Cleveland, Cincinnati, Chicago & St. Louis.....	4,090,642 90	13,520 80	7,328 99	143 63	4,124,636 38
42 Kankakee & Seneca.....	63,881 95				63,881 95
43 Peoria & Eastern.....	257,033 26				257,033 26
45 East St. Louis & Carondelet.....	80,181 28				80,181 28
46 East St. Louis Connecting.....	147,703 82			75 00	153,566 78
48 Elgin, Joliet & Eastern.....	440,732 94			3,882 75	444,615 69
51 Fulton County Narrow Gauge.....	47,139 43			65,405 66	506,138 60
53 Grand Tower & Carbondale.....	83,788 30				83,788 30
54 Grand Tower & Cape Girardeau.....	14,018 35				14,018 35
55 Illinois Central.....	9,175,066 73	231,839 26	181,380 32	69,832 47	9,658,658 78
56 Indiana & Illinois Southern.....	50,228 01				50,228 01
60 Indianapolis, Decatur & Western.....	218,138 62				218,138 62
67 Indiana, Illinois & Iowa.....	133,637 76				133,637 76
68 Iowa Central.....	331,799 24				331,799 24
71 Lake Erie & Western.....	595,519 94				595,519 94
72 Lake Shore & Michigan Southern.....	380,530 96				380,530 96
74 Louisville & Nashville.....	1,019,546 20	674 82	5,429 84	77,968 90	1,019,546 20
76 Louisville, Evansville & St. Louis, Consolidated.....	130,896 64				130,896 64
77 Louisville, New Albany & Chicago.....	95,533 42			4,005 42	99,538 84
			1,100 00		96,638 84

78 Michigan Central.....	508,869 76	90 19	11,770 38	.....	.....	520,730 33	78
80 Mobile & Ohio.....	727,094 91	.....	.....	.....	.....	727,094 91	80
82 New York, Chicago & St. Louis.....	199,731 12	.....	.....	.....	.....	200,051 88	82
83 Ohio & Mississippi.....	2,059,442 30	.....	.....	.....	.....	2,059,867 76	83
86 Ohio, Indiana & Western.....	276,956 94	.....	.....	.....	.....	276,956 94	86
87 Pawnee.....	3,274 80	.....	.....	.....	.....	3,274 80	87
88 Pennsylvania Co. (Op. Pittsburgh, Ft. Wayne & Chic.)	366,993 92	.....	.....	.....	.....	437,277 36	88
88 Pennsylvania Co. (Op. South Chicago & Southern).....	28,193 15	.....	.....	.....	.....	28,193 15	88
92 Peoria & Pekin Union.....	462,683 80	.....	.....	.....	.....	462,683 80	92
93 Peoria, Decatur & Evansville.....	632,075 30	.....	.....	.....	.....	632,075 30	93
94 Quincy, Omaha & Kansas City.....	1,775 68	.....	640 00	.....	.....	1,775 68	94
95 Rock Island & Peoria.....	656,026 00	.....	.....	.....	.....	656,026 00	95
96 St. Louis, Alton & Springfield.....	105,711 93	.....	.....	.....	.....	115,711 93	96
98 St. Louis, Alton & Terre Haute.....	1,267,362 80	.....	.....	.....	.....	1,651,694 37	98
103 St. Louis & Chicago.....	62,710 00	.....	.....	.....	.....	62,710 00	103
106 St. Louis & Peoria.....	3,069 24	.....	.....	.....	.....	3,069 24	106
107 Terminal Railroad Association of St. Louis.....	815,750 08	.....	.....	.....	.....	806,121 53	107
108 Terre Haute & Indianapolis.....	1,852,991 26	.....	.....	.....	.....	1,852,991 26	108
110 Terre Haute & Peoria.....	340,277 75	.....	.....	.....	.....	340,277 75	110
111 Toledo, Peoria & Western.....	904,980 56	.....	.....	.....	.....	938,830 50	111
112 Toledo, St. Louis & Kansas City.....	458,014 96	.....	.....	.....	.....	438,014 96	112
114 Wabash.....	4,450,957 47	.....	17,000 00	.....	.....	4,541,768 97	114
115 Wabash, Chester & Western.....	61,327 26	.....	.....	.....	.....	61,327 26	115
116 Wisconsin Central Lines.....	614,991 43	.....	.....	.....	.....	614,993 17	116
Totals.....	\$63,490,233 31	\$182,365 60	\$523,582 08	.....	.....	\$1,175,293 22	
						\$65,471,494 81	

(1) Estimated by office.

TABLE VI.—Operating Expenses in Illinois for year ending June 30, 1890.

NAME OF COMPANY.	CHARGEABLE TO PASSENGER TRAFFIC.					Total.
	1	2	3	4	5	
	Maintenance of way and structures.	Maintenance of equipment.	Conducting transportation.	General expenses.		
1 Atchison, Topeka & Santa Fe.....	\$103,340 55	\$55,307 67	\$318,839 31	\$76,830 31	\$554,317 84	
5 Baltimore & Ohio.....	3,185 89	4,332 69	16,944 32	3,295 65	25,268 55	
7 Belt Railway of Chicago.....	.....	.....	.....	.....	.....
8 Centralia & Chester.....	962 33	56 30	2,005 92	.....	3,024 55
9 Chicago & Alton.....	280,284 62	170,721 23	554,150 43	196,314 02	1,201,470 36	
10 Chicago & Atlantic Terminal.....	6,970 24	2,568 93	19,646 81	5,752 81	34,938 82	
12 Chicago & Calumet Terminal.....	.....	.....	.....	.....	.....
13 Chicago & Eastern Illinois.....	78,863 29	43,050 24	222,535 08	47,403 60	381,852 21	
14 Chicago & Grand Trunk.....	11,813 63	16,485 82	56,981 89	14,212 33	99,493 67	
17 Chicago & Iowa.....	13,215 15	20,622 82	67,977 59	9,377 49	111,193 05	
20 Chicago & Northwestern.....	159,484 52	84,929 53	412,891 47	65,149 44	721,854 96	
21 Chicago & Ohio River.....	5,916 51	1,570 91	4,448 63	2,783 37	14,719 42	
23 Chicago, Burlington & Northern.....	24,674 92	12,110 49	80,601 25	26,627 26	144,013 92	
24 Chicago, Burlington & Quincy.....	288,891 77	255,607 01	750,813 33	144,227 33	1,439,539 44	
25 Chicago, Milwaukee & St. Paul.....	65,038 00	44,292 35	143,096 22	39,438 18	292,864 75	
29 Chicago, Peoria & St. Louis.....	32,848 01	22,220 88	52,553 93	15,777 37	123,400 09	
30 Chicago, Rock Island & Pacific.....	108,011 52 (1)	67,078 48 (1)	256,492 61 (1)	57,115 63 (1)	488,698 24	
34 Chicago, St. Louis & Pittsburgh.....	13,146 02	12,353 83	28,437 28	3,636 38	57,573 51	
37 Englewood Connecting.....	.....	.....	.....	.....	.....
38 Chicago, St. Paul & Kansas City.....	31,277 69	19,178 14	107,319 89	64,397 81	222,173 53	
39 Cleveland Cincinnati Chicago & St. Louis.....	183,637 65	152,662 77	411,501 63	116,607 86	870,409 91	
40 Peoria & Eastern.....	2,089 42	1,801 29	8,300 46	989 92	13,181 09	
42 Rankakee & Seneca.....	4,100 63	11,826 92	20,944 65	3,224 31	40,126 51	
43 Peoria & Eastern.....	.....	.....	.....	.....	.....
45 East St. Louis & Carondelet.....	.....	.....	.....	.....	.....
46 East St. Louis Connecting.....	.....	.....	.....	.....	.....
48 Erlin, Joliet & Eastern.....	7,719 27	1,748 85	13,011 69	4,020 82	26,100 63	
51 Fulton County Narrow Gauge.....	7,005 73	4,446 83	4,659 41	2,416 97	15,528 94	
53 Grand Tower & Carondela.....	7,231 67	2,209 98	6,269 16	602 77	16,253 58	
54 Grand Tower & Cape Girardeau.....	970 09	852 36	2,878 71	389 45	5,490 81	
55 Illinois Central.....	484,909 63	298,719 43	885,596 74	176,459 18	1,785,284 98	
56 Indiana & Illinois Southern.....	2,656 15	1,280 69	6,365 58	1,396 59	11,702 01	
57 Indianapolis, Decatur & Western.....	24,845 18	9,058 42	34,119 32	21,795 36	89,818 35	
59 Indiana, Illinois & Iowa.....	3,514 15	1,301 55	5,391 12	2,703 49	12,910 31	
68 Iowa Central.....	33,575 43	8,225 28	29,660 32	14,371 62	85,832 65	
71 Lake Erie & Western.....	28,126 96	16,013 51	65,733 85	13,899 34	123,773 66	

72 Lake Shore & Michigan Southern.....	24,384 11	15,182 92	47,872 85	8,179 95	95,618 93
74 Louisville & Nashville.....	57,498 73	28,073 56	92,470 21	35,349 44	213,301 94
76 Louisville, Evansville & St. Louis, Consolidated.....	11,152 70	5,672 67	20,035 04	6,503 30	45,363 71
77 Louisville, New Albany & Chicago.....	5,101 65	2,747 55	9,340 47	3,642 88	20,832 55
78 Michigan Central.....	30,043 12	24,909 31	66,986 12	14,546 52	136,485 07
80 Mobile & Ohio.....	47,421 47	13,901 93	74,023 48	20,549 05	155,895 93
83 New York, Chicago & St. Louis.....	3,510 04	1,354 74	5,957 60	1,799 85	12,622 23
85 Ohio & Mississippi.....	144,103 15	77,986 29	289,001 50	72,101 16	583,192 10
86 Ohio, Indiana & Western.....	32,013 01	16,510 86	41,851 22	11,573 75	101,948 84
87 Pawnee.....	75 24	149 86	352 24	93 75	651 09
88 Pennsylvania Co. (Operating Pittsburgh, Ft. Wayne & Chicago)	16,386 26	11,570 20	29,729 91	3,824 76	61,511 13
88 Pennsylvania Co. (Operating South Chicago & Southern).....	2,081 63	912 93	10,557 36	176 96	13,758 88
92 Peoria & Pekin Union.....	13,963 70	7,210 89	40,427 15	7,522 71	69,124 48
93 Peoria, Decatur & Evansville.....	45,439 84	14,025 94	48,384 00	17,535 87	125,419 65
94 Quincy, Omaha & Kansas City.....	92 61	713 70	713 70	460 07	1,705 41
95 Rock Island & Peoria.....	30,060 26	9,310 41	33,163 08	16,504 91	88,978 66
96 St. Louis, Alton & Springfield.....	5,568 33	3,025 55	11,410 47	6,877 43	26,881 78
98 St. Louis, Alton & Terre Haute.....	57,784 18	31,212 16	98,790 34	26,163 95	213,950 63
103 St. Louis & Chicago.....	6,229 53	1,691 62	13,340 06	6,853 46	28,114 67
106 St. Louis & Peoria.....	15,603 83	9,740 12	37,443 18	6,161 76	68,948 89
107 Terminal Railroad Association of St. Louis.....	84,578 27	44,097 34	228,133 15	37,036 38	393,841 11
108 Terre Haute & Indianapolis.....	14,163 82	4,980 34	21,041 07	17,497 06	61,681 59
110 Terre Haute & Peoria.....	57,961 92	23,896 71	90,448 63	31,313 33	203,620 59
111 Toledo, Peoria & Western.....	14,353 30	7,248 71	28,757 73	8,863 03	59,231 27
112 Toledo, St. Louis & Kansas City.....	223,015 82	168,188 21	443,692 86	102,938 11	989,733 90
114 Washash, Chester & Western.....	11,900 56	7,084 74	8,217 13	2,917 49	24,028 92
115 Washash, Chester & Western.....	8,430 50	7,355 60	84,831 53	16,071 56	60,059 19
116 Wisconsin Central Lines.....					
Totals.....	\$2,990,609 62	\$1,811,827 70	\$6,420,423 08	\$1,611,385 31	\$12,837,246 31

(1) Estimated by office.

Table VI.—Operating Expenses in Illinois—Continued.

NAME OF COMPANY.	CHARGEABLE TO FREIGHT TRAFFIC.										
	6	7	8	9	10	11					
	Maintenance of way and structures.	Maintenance of equipment.	Conducting transportation.	General expenses.	Total.	Grand total operating expenses in Ill.					
1 Atchison, Topeka & Santa Fe.....	\$212,985 45	\$201,638 35	\$605,599 74	\$163,142 36	\$1,243,335 90	\$1,797,653 74					
5 Baltimore & Ohio.....	9,557 68	14,798 08	50,832 98	9,616 46	84,806 70	113,074 25					
7 Belt Railway of Chicago.....	71,546 49	59,315 52	246,539 70	32,620 49	409,942 18	409,942 18					
8 Central & Chester.....	962 33	.....	3,005 92	.....	2,948 25	5,992 80					
9 Chicago & Alton.....	459,396 94	.....	1,040,985 06	267,579 43	2,185,545 90	3,337,016 26					
12 Chicago & Atlantic.....	15,490 87	9,883 91	62,827 93	10,765 20	98,997 91	133,006 73					
13 Chicago & Calumet Terminal.....	.....	596 73	9,221 33	1,446 09	3,895 26	13					
15 Chicago & Eastern, Illinois.....	108,668 39	122,580 01	496,928 93	62,796 37	714,973 70	1,106,825 91					
17 Chicago & Grand Trunk.....	21,000 74	27,979 08	150,750 28	17,688 25	187,718 35	287,212 02					
19 Chicago & Iowa.....	13,778 41	21,681 82	100,008 98	8,628 21	143,097 42	254,290 47					
20 Chicago & Northwestern.....	350,330 53	275,535 33	829,639 32	132,975 46	1,630,761 61	2,352,616 00					
21 Chicago & Ohio River.....	17,749 53	4,036 01	15,679 22	8,550 11	45,811 87	60,534 99					
24 Chicago, Burlington & Northern.....	33,862 72	24,313 23	127,953 41	33,646 80	219,813 27	363,626 17					
25 Chicago, Burlington & Quincy.....	546,994 02	481,373 68	1,413,974 43	271,617 13	2,718,959 31	4,153,198 75					
29 Chicago, Milwaukee & St. Paul.....	108,300 38	101,372 91	340,327 58	42,698 59	630,929 85	622,288 61					
30 Chicago, Peoria & St. Louis.....	108,300 38	166,692 75	157,651 86	42,233 83	370,200 33	493,400 32					
34 Chicago, Rock Island & Pacific.....	168,252 73 (1)	18,018 89 (1)	425,363 02 (1)	88,257 13 (1)	840,201 81 (1)	1,288,900 18					
36 Chicago, St. Louis & Pittsburgh.....	.....	38,736 42	84,061 17	6,557 47	152,278 96	209,522 47					
37 Englewood Connecting.....	80,722 10	.....	483,117 85	.....	1,890 49	1,890 49					
38 Chicago, St. Paul & Kansas City.....	302,118 64	72,864 12	483,145 47	12,830 32	731,817 19	953,600 72					
39 Cleveland, Cincinnati, Chicago & St. Louis.....	18,804 81	314,176 01	905,354 77	205,491 46	1,755,970 88	2,026,580 79					
42 Kankakee & Seneca.....	29,464 41	5,146 35	16,429 77	3,006 32	49,381 85	62,965 37					
43 Peoria & Eastern.....	13,019 84	25,647 85	79,061 53	12,664 88	127,838 67	177,365 38					
45 East St. Louis & Carondelet.....	27,350 65	7,118 74	27,785 91	7,360 37	55,288 66	55,288 66					
46 East St. Louis Connecting.....	53,544 90	25,064 42	81,351 19	6,944 00	140,663 17	140,663 17					
48 Elgin, Joliet & Eastern.....	.....	28,443 37	136,397 35	33,407 06	246,182 68	272,293 31					
51 Fulton County Narrow Gauge.....	11,011 50	4,112 49	9,318 52	4,761 94	32,534 75	47,703 69					
53 Grand Tower & Carbondale.....	13,439 22	8,331 68	27,261 54	1,125 12	56,210 96	66,461 51					
54 Grand Tower & Cape Girardeau.....	1,059 94	1,869 10	5,142 28	422 12	8,484 44	13,375 25					
55 Illinois Central.....	862,061 57	578,587 07	1,941,689 39	251,718 87	3,634,066 90	5,419,351 88					
56 Indiana & Illinois Southern.....	6,197 70	3,891 67	11,743 18	3,258 75	25,000 70	36,702 71					
60 Indianapolis, Decatur & Western.....	15,665 25	17,071 59	21,759 32	8,531 06	71,016 22	169,834 37					
67 Indiana, Illinois & Iowa.....	31,627 35	11,477 71	65,669 36	27,000 34	135,122 36	148,632 67					
68 Iowa Central.....	48,487 74	24,380 56	42,362 44	21,018 37	199,189 10	285,021 57					
71 Lake Erie & Western.....	33,582 04	30,708 21	90,166 86	18,471 70	172,531 81	296,395 47					

72 Lake Shore & Michigan Southern.....	48,726 77	61,252 02	113,220 51	238,327 88	333,946 81	72
73 Louisville & Nashville.....	94,183 75	90,250 06	230,058 19	462,227 71	675,619 65	74
74 Louisville, Evansville & St. L., Consolidated.	16,180 36	12,207 85	38,096 49	74,570 98	117,934 69	76
75 Louisville, New Albany & Chicago.....	5,753 00	5,775 53	22,571 19	40,144 97	60,977 52	77
76 Michigan Central.....	45,366 32	37,614 05	101,151 71	211,473 09	317,958 16	78
77 Mobile & Ohio.....	78,003 13	52,413 77	103,900 56	382,501 76	538,400 69	80
78 New York, Chicago & St. Louis.....	29,154 91	18,746 67	78,577 62	130,325 18	131,947 41	83
79 New York, Chicago & St. Louis.....	182,563 07	119,866 18	371,157 65	762,370 85	1,345,562 05	85
80 Ohio & Mississippi.....	27,753 14	29,692 87	54,411 86	121,473 83	223,424 67	86
81 Ohio, Indiana & Western.....	27,925 72	29,449 50	54,906 74	121,473 83	223,424 67	87
82 Pawnee.....	27,179 12	40,198 20	93,511 99	167,917 73	229,428 86	88
83 Pennsylvania Co. (Operating P., W. & C.).	1,278 21	4,532 07	6,723 20	8,645 69	22,462 57	88
84 Pennsylvania Co. (Op. S. Chicago & Southern)	1,260 11	21,632 70	121,281 58	207,373 53	276,498 01	92
85 Peoria & Pekin Union.....	44,351 65	50,132 45	114,082 52	228,378 65	353,798 30	93
86 Peoria, Decatur & Evansville.....	1,310 00	2,772 53	12,411 03	5,141 39	6,821 71	94
87 Quincy, Omaha & Kansas City.....	49,693 90	30,748 31	114,515 03	230,805 16	302,282 92	95
88 Rock Island & Peoria.....	77,601 69	3,076 66	31,251 31	87,045 27	107,127 05	96
89 St. Louis, Alton & Springfield.....	97,669 39	102,204 67	193,537 54	423,257 36	643,116 09	98
90 St. Louis, Alton & Terre Haute.....	4,106 88	2,222 01	10,477 89	22,840 30	50,451 97	100
91 St. Louis & Chicago.....	4,014 66	773 88	2,772 57	12,359 20	12,570 20	100
92 St. Louis & Peoria.....	49,473 57	30,254 32	129,454 99	273,669 16	342,318 63	107
93 Terminal Railroad Association of St. Louis ..	143,000 23	142,073 29	437,689 65	780,365 84	1,174,240 98	108
94 Terre Haute & Indianapolis.....	42,488 48	14,941 02	75,123 20	185,043 88	246,725 41	110
95 Terre Haute & Peoria.....	84,136 42	79,163 55	238,102 62	449,971 33	635,551 31	111
96 Toledo, Peoria & Western ..	39,646 76	28,133 60	120,441 22	226,878 06	286,169 33	112
97 Toledo, St. Louis & Kansas City.....	422,577 98	457,928 11	1,281,454 75	2,284,661 06	3,224,407 60	114
98 Wabash.....	8,148 79	4,016 45	7,902 44	22,048 68	46,077 60	115
99 Wabash, Chester & Western.....	31,668 60	20,084 77	76,346 79	141,518 82	208,208 01	116
100 Wisconsin Central Lines.....						
Totals.....	\$5,452,657 91	\$4,500,129 18	\$14,437,094 27	\$27,222,647 99	\$40,659,894 30	

(1) Estimated by office.

53	Grand Tower & Carbondale	66,464.54	79.32	5,030.60	275.33	.515	2,199.82	2,546.74	2,020.19	526.55
54	Grand Tower & Cape Girardeau	13,375.55	96.84		68.98	.189	401.04	486.75	15.39	15.39
55	Illinois Central	5,439.51	56.84	555,834.39	1,455.87	.693	4,743.56	7,159.21	4,228.41	2,930.80
56	Indiana & Illinois Southern	55.684	73.00	13,829.94	877.79	.487	6,418.81	930.15	679.68	2,550.47
57	Indianapolis, Decatur & Western	160,834.57	73.71	18,920.30	1,776.94	.871	2,636.97	2,806.34	2,109.31	770.81
66	Indiana, Illinois & Iowa	148,632.67	76.40	8,826.90	12,067.10	.561	2,636.97	2,806.34	2,145.40	600.94
67	Indiana	285,265.75	85.90	12,067.10	18,920.30	.450	4,480.45	3,557.82	3,056.24	501.58
68	Iowa (Central Western	296,265.47	85.15	12,067.10	18,920.30	.450	4,480.45	3,557.82	3,056.24	501.58
71	Lake Erie & Michigan Southern	333,946.81	88.12	48,069.91	8,262.63	.832	16,241.95	23,819.31	1,761.81	1,761.81
72	Lake Shore & Michigan Southern	675,619.65	66.25	37,282.93	658.30	.462	16,241.95	27,149.74	3,329.83	3,329.83
74	Louisville & Nashville	117,431.62	61.78	17,652.22	458.30	.462	3,282.44	5,651.63	1,906.48	1,906.48
76	Louisville, Evansville & St. Louis, Consol.	60,477.62	63.79	18,617.53	1,476.82	.855	1,390.00	4.75	1,257.30	1,777.85
77	Michigan (Central	317,458.16	63.38	18,617.53	3,361.66	1.147	6,831.17	10,379.58	3,068.61	1,741.95
80	Mobile & Ohio	588,400.69	73.90	28,755.58	759.54	.436	6,831.17	10,379.58	7,091.06	3,279.52
83	New York, Chicago & St. Louis	151,947.41	65.33	18,736.70	795.57	.887	9,793.41	1,262	3,352.44	1,174.93
85	Ohio & Mississippi	1,345,562.95	65.33	86,134.08	2,192.42	1.129	3,234.31	1,357	10,535.50	8,069.98
86	Ohio, Indiana & Western	223,624.67	80.67	14,453.28	918.84	.859	1,314.78	1,375	3,583.62	1,863.77
87	Pawnee	3,601.89	82.20		143.06		1,314.78	1,375	1,826.18	437.44
88	Pennsylvania Co. (Op. Pitts., Ft. W. & Chi.)	921,628.86	62.52	66,548.52	5,889.22	1.050	17,614.54	1,893	24,794.31	9,293.97
92	Peoria & Pekin Union	27,498.01	61.24	28,436.15	1,537.36	.567	1,139.24	819	2,750.55	490.98
93	Peoria, Decatur & Evansville	353,798.30	53.44	51,193.90	832.63	.629	1,862.38	1,440	1,659.67	1,445.62
94	Quincy, Omaha & Kansas City	6,821.71	69.76	1,206.57	1,137.32	1.016	4,669.17	2,234	5,865.51	2,744.46
95	Rock Island & Peoria	309,284.82	47.22	23,296.47	1,337.32	1.016	4,669.17	2,234	1,659.71	3,064.08
96	St. Louis, Alton & Springfield	107,627.05	92.06	8,555.21	1,290.69	.820	3,728.84	1,550	1,161.82	2,307.89
98	St. Louis, Alton & Terre Haute	619,416.00	53.77	36,931.56	1,070.14	.820	3,728.84	1,550	2,715.51	2,305.12
105	St. Louis & Chicago	50,954.37	81.10	3,729.69	389.01	.327	622.88	1,184	945.97	222.89
106	St. Louis & Peoria	72,350.29	114.00	36,457.94			623.21	1,290	807.84	
107	Terminal Railroad Association of St. Louis (d)	342,948.63	42.00							
108	Terre Haute & Indianapolis	1,174,549.38	44.96	(0)	32,341.70	1,060	7,350.89	1,330	11,573.22	4,161.40
110	Terre Haute & Peoria	246,725.17	72.30	14,890.64	463.14	.360	1,350.89	1,320	1,833.38	582.09
111	Toledo, Peoria & Western	953,351.91	72.22	31,853.45	963.42	.701	2,359.90	1,285	2,645.55	1,417.35
112	Toledo, St. Louis & Kansas City	286,199.33	95.00	13,787.79	249.69	.404	2,075.14	1,054	3,447.41	3,818.64
113	Wabash	3,224,497.60	72.44	171,262.60	1,654.01	.880	4,819.39	1,270	6,946.30	1,944.19
115	Wabash, Chester & Western	46,677.60	76.11	3,025.36	466.37	.359	351.53	1,236	1,101.53	346.65
116	Wisconsin Central lines	208,268.01	33.86	13,941.01	2,649.32	1.154	6,766.18	2,146	10,265.63	6,750.47
	Totals	\$40,653,891.30	63.69	\$3,020,496.96	\$1,367.31	.765	\$4,196.85	\$1,418	\$6,062.78	\$3,825.37
										\$2,237.41

(1) Paid by lessor company. (2) Estimated by office. (3) Switching road. (4) Transfer company.

TABLE VIII—Passenger and Freight Traffic in Illinois, for year ending June 30, 1890.

NAME OF COMPANY.	FREIGHT TRAFFIC.											
	PASSENGER TRAFFIC.						FREIGHT TRAFFIC.					
	1	2	3	4	5	6	7	8	9	10	11	12
1 Atchison, Topeka & Santa Fe.....	250,254	16,084,231	66.66	\$1,502	2,254	3,323	1,632,310	236,992,348	145.00	\$1,215	837	525
5 Baltimore & Ohio.....	96,761	1,354,654	14.00	320	2,540	1,543,315	29,532,832	14.30	.061	485	.....
8 Centraha & Chester.....	8,387	67,096	8.00	250	3,000	3,827	39,616	8.00	.073	842	973	
9 Chicago & Alton.....	1,519,323	79,821,049	52.51	1,125	2,133	3,498,884	437,919,754	125.16	1,148	917	488	
12 Chicago & Atlantic.....	21,280	1,771,427	6.00	120	1,891	125,514	1,757,196	14.00	1.00	511	396	
14 Chicago & Eastern Illinois.....	1,810,637	25,091,162	13.80	226	1,643	1,876,839	234,154,748	124.80	749	601	305	
17 Chicago & Grand Trunk.....	559,067	8,990,488	16.30	230	1,411	1,365,368	41,725,356	30.60	2.10	653	430	
20 Chicago & Iowa.....	191,414	5,076,263	26.00	600	2,290	721,427	37,756,672	52.00	4.10	785	632	
21 Chicago & Northwestern.....	1,684,698	40,358,734	24.36	518	3,496	1,835,284	280,531,635	151.00	1,480	980	581	
22 Chicago & Ohio River.....	26,970	399,117	14.80	451	3,496	61,490	2,084,011	33.90	879	2,395	2,198	
24 Chicago, Burlington & Northern.....	(1) 138,101	.....	.....	.....	.....	(2) 1,000,000	.....	.....	.....	.....	.....
25 Chicago, Burlington & Quincy.....	(3) 1,341,527	14,400,081	34.16	797	2,335	(3) 1,863,625	103,564,789	198.30	1,973	995	608	
29 Chicago, Milwaukee & St. Paul.....	421,834	7,400,081	19.37	484	2,501	522,266	585,401	68.09	881	1,229	.....
30 Chicago, Peoria & St. Louis.....	398,390	7,717,587	14.16	.....	.....	3,279,789	.....	.....	.....	.....	.....
34 Chicago, Rock Island & Pacific.....	55,102	2,584,888	46.91	1,086	2,316	178,390	33,198,200	186.10	1,132	609	459	
36 Chicago, St. Louis & Pittsburgh.....	113,408	9,785,029	86.30	1,646	1,910	821,234	130,969,981	159.40	1,230	770	560	
38 Chicago, St. Paul & Kansas City.....	1,283,356	43,793,222	33.90	792	2,336	2,427,690	400,368,156	164.90	1,110	673	439	
39 Cleveland, Cincinnati, Chicago & St. L.....	22,050	385,396	17.50	512	2,930	144,465	4,908,081	34.00	3.33	981	1,006	
42 Kanakake & Seneca.....	90,967	2,885,595	31.70	813	2,565	161,994	28,519,373	176.20	1,632	589	42	
43 Kanakake & Eastern.....	32,898	591,030	17.96	436	2,429	(4) 1,022,980	47,004,683	45.94	4.10	889	652	
48 Elgin, Joliet & Eastern.....	32,016	688,800	25.00	430	2,922	391,801	46,901,561	25.00	6.05	1,800	1,170	
51 Fulton County Narrow Gauge.....	26,252	319,172	12.14	345	4,838	43,002	4,228,429	13.87	237	941	.....
53 Grand Tow. r & Carbondale.....	3,982	67,967	17.06	498	2,922	43,002	4,228,429	13.87	237	941	.....
54 Grand Tower & Cape Girardeau.....	6,990,601	95,766,706	13.00	266	1,948	5,279,978	718,644,730	136.10	1,151	846	505	
55 Illinois Central.....	27,402	411,030	15.00	387	2,580	5,350	24,444,300	24.00	3.74	1,560	1,110	
56 Indiana & Illinois Southern.....	80,736	2,477,633	27.54	402	2,570	121,024	17,762,615	97.20	1,100	1,140	66	
66 Indiana, Decatur & Western.....	14,821	229,461	14.00	722	2,639	478,969	27,345,644	57.00	661	494	67	
67 Indiana, Illinois & Iowa.....	88,040	1,640,025	18.60	464	2,430	387,430	24,491,014	63.00	729	1,157	814	

71 Lake Erie & Western.....	296,269	5,413,322	26,24	.651	2,480	2,286	302,210	52,180,072	172,60	1,122	.650	330
72 Lake Shore & Michigan Southern.....	998,137	7,036,992	7,30	.180	1,741	1,338	2,717,318	28,356,308	10,40	.075	.726	841
73 Louisville & Nashville.....	287,535	11,860,135	41,26	1,029	2,530	1,450	822,213	66,704,182	81,27	.700	.865	1,000
76 Louisville, Evansville & St. Louis, (Consolidated).....	83,849	2,051,549	24,46	.618	2,619	2,114	146,541	9,784,716	66,77	.832	1,246	762
77 Louisville, New Albany & Chicago.....	23,407	968,954	19,86	.338	2,266	2,141	46,316	6,928,618	19,86	1,372	.917	578
78 Michigan Central.....	318,830	7,132,318	26,44	.418	2,046	1,913	1,863,354	40,822,665	22,00	.180	.821	518
80 Mobile & Ohio.....	196,822	5,069,016	32,30	.777	2,400	3,060	634,445	64,623,657	102,00	.892	.876	80
83 New York, Chicago & St. Louis.....	19,287	764,648	39,64	.707	1,783	1,637	111,045	35,214,963	317,00	1,063	.521	386
85 Ohio & Mississippi.....	578,569	29,697,863	90,29	1,170	3,327	2,004	1,197,369	111,054,711	92,75	1,030	1,110	.086
86 Ohio, Indiana & Western.....	117,846	4,949,564	42,00	.854	2,003	2,029	1,053,117	23,573,146	142,00	.370	.682	515
87 Pawnee.....	3,350						1,265					87
88 Penn. Co. (Op. P., Fr. W. & C.).....	143,578	3,989,894	27,78	.607	2,184	1,541	250,927	38,196,013	152,00	1,039	.683	439
88 Penn. Co. (Op. So. Chi. & Southern).....	222,530	943,908	4,24	.070	1,069	1,457	35,229	414,376	4,35	.122	2,818	2,086
92 Peoria & Pekin Union.....							157,610					92
93 Peoria, Decatur & Evansville.....	231,230	5,694,418	21,23	.636	2,025	2,248	399,707	33,876,417	109,38	1,282	1,173	.075
94 Quincy, Omaha & Kansas City.....							26,714					94
95 Rock Island & Peoria.....	180,022	4,340,872	21,11	.619	2,570	2,049	584,750	33,377,530	57,08	.900	1,577	.061
96 St. Louis, Alton & Springfield.....							81,743					96
98 St. Louis, Alton & Terre Haute.....	321,523	8,808,128	27,00	.657	2,399	2,429	1,485,943	82,437,493	55,56	.623	1,121	.527
105 St. Louis & Chicago.....	40,322	890,074	22,06	.507	2,298		66,665	1,899,884	28,52	.540	1,895	105
106 St. Louis & Peoria.....							33,028	462,392	14,00	.264	1,887	2,735
107 Terminal Railroad Asso. of St. Louis (S)	1,342,355			.134								107
108 Terre Haute & Indianapolis.....	364,282	18,838,798	52,00	1,210	2,343	2,091	1,577,652	138,453,010	87,76	.740	.840	.561
110 Terre Haute & Peoria.....	124,900	3,122,500	25,00	.640	2,500	2,800	261,692	40,195,316	68,43	.930	.530	.390
111 Toledo, Peoria & Western.....	432,611	9,604,059	22,33	.550	2,464	2,108	587,350	70,719,184	223,07	.902	1,451	1,119
112 Toledo, St. Louis & Kansas City.....	122,630	2,245,776	18,31	.429	2,344	2,637	317,150	476,732,444	269,30	1,171	.525	.321
114 Wabash.....	1,038,534	49,727,669	47,90	1,019	2,130	1,890	2,277,453	1,569,450	21,96	1,355	.647	.479
115 Wabash, Chester & Western.....	39,518	692,557	15,24	.435	4,087	4,087	72,834	1,569,450	21,96	.552	2,514	1,378
116 Wisconsin Central Lines.....	296,550	8,623,139	41,74	.770	1,823	1,292	779,061	42,973,623	55,11	.523	.950	.329
Totals.....	24,910,820	554,960,062	25,12	\$0.529	2,066	1,900	48,364,653	4,271,377,794	102,45	\$0.853	.832	.517

(1) Estimated by office on mileage basis. (2) Estimated by company. (3) Estimated by office. (4) Includes 133,635 tons of freight transferred in cars, and not included in detail tonnage. (5) Transfer Co.

TABLE IX.—Classified Freight Traffic in Illinois in Tons, for year ending June 30, 1890.

NAME OF COMPANY.	PRODUCTS OF AGRICULTURE.										PRODUCTS OF ANIMALS.					13
	1	2	3	4	5	6	7	8	9	10	11	12	Hides and leather....			
	Grain.....	Flour.....	Other mill products..	Hay.....	Tobacco....	Cotton.....	Fruit and vegetables..	Live stock...	Dressed meats....	Other packing house products...	Poultry, game and fish.....	Wool.....				
1 Atelison, Topeka & Santa Fe.....	538,422	8,516	3,994	3,994	3,994	3,994	5,056	279,130	13,606	.....	.....	10,519	.....	1
5 Baltimore & Ohio.....	200,361	43,390	6,355	6,262	740	.....	48	50,176	.....	.....	.....	.....	.....	5
8 Centralia & Chester.....	357,283	41,019	31,197	18,316	.....	12,249	9,104	156,647	15,080	3,460	.....	1,010	.....	2
9 Chicago & Alton.....	25,659	2,205	8,242	22,185	1,098	2,503	18,853	1,565	.....	8,602	.....	.....	.....	8
12 Chicago & Eastern Illinois.....	128,125	13,377	15,795	571	6,473	25,877	25,877	37,936	2,257	17,011	2,096	66	661	14		
14 Chicago & Grand Trunk.....	264,292	27,636	19,289	17,341	2,333	6,225	101,415	190,970	106,194	158,397	532	2,829	5,603	17		
17 Chicago & Northwestern.....	430,949	33,830	23,617	1,100	1,100	925	216	5,461	11,648	37,979	6,871	4,818	12,706	21		
21 Chicago & Ohio River.....	29,960	132	216	1,100	1,100	925	216	5,461	.....	75	950	15	36	23	
22 Chicago, Milwaukee & St. Paul.....	113,927	4,143	4,143	5,393	773	.....	4,221	36,143	.....	12,557	.....	4,910	11,622	24
26 Chicago, Rock Island & Pacific.....	932,955	44,272	40,363	45,583	3,299	.....	40,800	321,636	62,890	1,341	.....	.....	.....	34
31 Chicago, St. Louis & Pittsburg.....	25,532	3,288	5,015	1,451	529	3,299	2,384	5,197	4,078	2,021	233	83	998	36		
36 Chicago, St. Louis & Kansas City.....	304,770	53,944	15,133	2,040	90	21,009	21,009	115,165	3,022	7,021	769	.....	8,400	38	
38 Cleveland, Cincinnati, Chicago & St. Louis.....	322,176	66,016	36,297	24,358	14,512	29,559	24,197	143,568	15,012	16,105	6,296	4,993	8,418	39		
40 Kanakake & Seneca.....	41,096	7,074	2,181	1,982	251	10	1,257	1,384	1,144	2,621	162	2,078	162	42		
42 Peoria & Eastern.....	59,577	2,590	3,076	486	317	326	358	6,463	321	451	141	156	480	43		
43 Elgin, Joliet & Eastern Gauge.....	32,141	1,859	888	1,726	476	92	577	2,031	.....	602	36	.....	48	48
48 Grand Tower & Cape Girardeau.....	1,020,380	1,238	80	30	.....	470	151	72	385	30	.....	.....	26	51
51 Grand Tower & Carbondale.....	100	377	80	30	.....	70	62	41	.....	70	3	.....	10	53
54 Illinois Central.....	1,020,380	90,883	47,093	75,295	9,001	31,993	111,246	283,390	174	102,256	4,765	1,592	8,012	55		
55 Indiana & Illinois Southern.....	1,020,380	650	213	615	.....	.....	.....	9,583	.....	.....	.....	.....	.....	65
60 Indianapolis, Decatur & Western.....	231,329	25,953	5,861	3,128	47	8,594	2,331	7,886	13,616	25,686	522	1,062	9,283	67		
67 Iowa Central.....	85,904	3,085	2,968	2,492	.....	.....	.....	27,113	50	650	141	4	10	71
71 Lake Erie & Western.....	353,439	26,282	37,919	4,514	1,946	439	55,028	176,856	125,918	1,815	76,639	2,635	15,948	68		
72 Lake Shore & Michigan Southern.....	195,237	60,959	37,919	8,173	6,906	233	7,205	18,230	23,578	.....	.....	.....	.....	72
74 Louisville, Evansville & St. Louis.....	91,184	6,476	262	1,120	525	267	274	2,862	754	.....	.....	.....	.....	74
76 Louisville, New Albany & Chicago.....	3,297	6,476	262	1,120	525	267	274	2,862	754	.....	.....	.....	.....	76
77 Louisville, New Albany & Chicago.....	3,297	6,476	262	1,120	525	267	274	2,862	754	.....	.....	.....	.....	77
78 Michigan Central.....	314,594	25,015	34,707	4,311	1,392	15,021	36,818	120,810	54,297	155,661	32,656	2,721	15,575	78		

85	Ohio & Mississippi	15,730	793	15,452	4,541	1,869	9,144	21,022	401	39,987	20,117	2,023	85
86	Ohio, Indiana & Western	2,527	793	2,958	991	2,064	1,965	1,919	2,611	39,413	827	386	86
87	Pawnee							33	2			14	87
88	Pennsylvania Co. (Op. P., Ft. W. & Chi.)	4,784	1,560	13,667	2,730	5,068	10,328	6,403	557	351	986	983	88
88	Pennsylvania Co. (Op. So. Chi. & Southern)	789	1	3,627	2,305	5,891	8,794	26,612	30	436	330	330	88
92	Peoria & Pekin Union	209		(2)						16	3	32	92
93	Peoria, Decatur & Evansville	497	75	3,162	318	1,043		946	623	552	26,334	911	93
94	Quincy, Omaha & Kansas City		50	417				2,696	280	430	1,232	4,816	94
95	Rock Island & Peoria	6,312	369	2,848	148	1,001	1,805	6,671	5,942	2,121	1,485	733	95
96	St. Louis, Alton & Springfield			21,206	2,000	5,050	471	10,040	6,550	11,400	21,583	9,700	96
98	St. Louis, Alton & Terre Haute	441	3,336	2,760	857	10,447		1,580	63	61	305		98
105	St. Louis & Chicago												105
106	St. Louis & Peoria												106
108	Terre Haute & Indianapolis	11,392	7,104	38,887	27,439	22,696	25,324	39,334	8,968	12,116	12,608	3,247	108
110	Terre Haute & Peoria	735		3,246	5,474			2,658	1,023	829		1,301	110
111	Toledo, Peoria & Western	13,946	8,690	781	2,083	4,942	3,290	9,363	6,658	1,718	16,342	4,943	111
112	Toledo, St. Louis & Kansas City	1,536	678	2,647	5,722	20,405		8,234	613	370	492	839	112
114	Wabash	18,798	11,412	17,520	11,008	6,263	7,473	30,535	5,007	3,014	10,143	6,044	114
115	Wabash, Chester & Western			1,210		1,994		6,522	67	118	345		115
116	Wisconsin Central Lines	14,783		11,756	55,224	10,797	21,250	6,852	2,263	2,312	1,654	3,394	116
	Totals	722,110	214,330	906,817	497,748	598,866	448,834	823,544	232,092	527,637	318,123	150,277	114,637

(1) Includes iron and steel rails.

(2) Iron scrap.

(3) Includes all manufactures.

Table IX.—Classified Freight Traffic in Illinois—Continued.

	NAME OF COMPANY.										37				
	57	28	29	30	31	32	PRODUCTS OF MINES.			33		34	35	36	37
							Anthra- cite coal.	Bitumin- ous coal.	Coke.....							Ores .....	Stone, sand, and other like articles...	Salt.....
1	Aetehison, Topeka & Santa Fe.....	3,218	340,549	13,766	131,614	3,199	87,855	117,657	1,000,000	11,000,000	1,643,310	1			
2	Baltimore & Ohio.....	15	300,112	190,925	95,050	45	65,611	48,378	176,330	1,543,315	5				
3	Centuria & Chester.....	79,521	857,447	165,000	125,421	7,256	130,218	175,086	1,008,716	3,498,881	8				
4	Chicago & Alton.....	7,208	7,639	2,251	7,892	5,971	10,559	14,301	1,900	3,125,514	9				
5	Chicago & Atlantic.....	4,412	1,109,012	7,737	53,763	5,971	222,577	35,969	57,154	1,876,839	12				
6	Chicago & Eastern Illinois.....	21,462	2,918	6,798	7,737	5,344	46,526	111,365	139,717	1,365,368	14				
7	Chicago & Grand Trunk.....	193,714	370,772	131,383	369,152	31,320	335,750	489,613	298,331	4,135,750	20				
8	Chicago & Iowa.....	20	3,692	.....	36	525	15,984	3,630	1,000,000	11,000,000	21				
9	Chicago & Northwestern.....	18,267	38,331	2,980	19,170	4,261	75,322	47,798	70,408	522,240	22				
10	Chicago, Burlington & Northern Chicago, Burlington & Quincy	89,943	145,733	23,683	263,895	40,382	168,313	376,817	31,412	3,778,789	34				
11	Chicago, Peoria & St. Louis.....	5,679	1,682	16,115	7,352	.....	14,083	3,907	535,401	522,240	30				
12	Chicago, Rock Island & Pacific.....	36,571	36,671	10,192	3,618	22,108	39,163	65,310	29,457	3,178,300	31				
13	Chicago, St. Paul & Kansas City.....	36,520	429,240	37,370	24,341	126,558	268,126	417,354	29,804	821,500	32				
14	Cleveland, Cincinnati, Chicago & St. Louis.....	714	13,343	2,751	3,718	2,530	7,835	20,619	3,789	114,465	33				
15	Kankakee & Seneca.....	352	17,162	3,562	2,105	329	15,381	23,081	3,721	101,461	34				
16	Peoria & Eastern.....	24,010	373,881	126,483	128,980	666	11,143	3,685	16,610	880,345	35				
17	Elgin, Joliet & Eastern.....	.....	26,749	.....	896	102	2,697	704	779	381,561	36				
18	Fulton County Narrow Gauge.....	.....	278,316	.....	2,472	101	12,229	2,268	316	301,867	37				
19	Grand Tower & Carbonade.....	.....	31,650	17,081	188	100	3,215	2,180	869	5,273,978	38				
20	Grand Tower & Cape Girardeau.....	78,002	1,365,546	17,081	121,204	51,908	443,392	101,494	667,918	5,273,978	39				
21	Illinois Central.....	.....	632,800	.....	678	323	5,412	20,067	9,132	121,624	40				
22	Indiana & Illinois Southern.....	331	11,276	2,192	4,707	.....	14,065	13,612	15,011	478,969	41				
23	Indianapolis, Decatur & Western.....	33,655	36,432	15	1,189	269	8,213	13,612	15,649	387,930	42				
24	Indiana, Illinois & Iowa.....	6,330	126,105	337	16,126	4,388	7,623	14,176	27,198	392,210	43				
25	Iowa Central.....	.....	19,782	.....	330,573	2,448	66,066	169,769	126,656	2,717,918	44				
26	Lake Erie & Western.....	69,249	34,717	4,943	330,573	2,448	66,066	169,769	126,656	2,717,918	45				
27	Lake Shore & Michigan Southern.....	.....	166,620	2,907	10,937	7,440	53,133	20,881	291,115	822,249	46				
28	Louisville & Nashville.....	.....	225,635	1,261	10,937	7,440	53,133	20,881	291,115	822,249	47				
29	Louisville, Evansville & St. Louis, Consolidat'd	.....	225,635	1,261	10,937	7,440	53,133	20,881	291,115	822,249	48				

77	Louisville, New Albany & Chicago	3,019	1,791	3,154	46,316	77
78	Michigan Central	7,814	74,514	297,463	1,823,354	78
79	Mobile & Ohio	81,881	251,085	886	634,445	80
83	New York, Chicago & St. Louis	10,327	221	10,363	111,045	83
85	Ohio & Mississippi	40,019	115,173	24,810	1,197,360	85
86	Ohio, Indiana & Western	14,944	132	8,109	165,117	86
87	Pawnee	30	36	7	1,265	87
88	Pennsylvania Co. (Op. Pitts., Ft. Wayne & Chil.)	13,146	2,574	32,463	250,327	88
88	Pennsylvania Co. (Op. South Chi. & Southern)	13,540	1,250	22,208	195,229	88
92	Peoria & Pekin Union	109	1,130	1,104	157,610	92
93	Peoria, Decatur & Evansville	36,369	6,137	21,618	369,707	93
94	Quincy, Omaha & Kansas City	2,911	10,794	3,262	26,714	94
95	Rock Island & Peoria	21,257	14,031	33,593	584,750	95
96	St. Louis, Alton & Springfield	38,672	89,279	45,975	1,485,918	96
98	St. Louis, Alton & Terre Haute	7,064	1,571	2,576	66,645	105
106	St. Louis & Chicago	139	127	33	628	106
108	Terre Haute & Indianapolis	51,200	63,783	202,277	1,377,652	108
110	Terre Haute & Peoria	21,040	9,101	18,652	261,692	110
111	Toledo, Peoria & Western	27,324	19,249	12,790	587,350	111
112	Toledo, St. Louis & Kansas City	61,656	29,533	8,244	317,550	112
114	Wabash	189,506	149,023	251,400	2,277,453	114
115	Wabash, Chester & Western	2,772	2,156	377	72,834	115
116	Wisconsin Central Lines	109,615	87,878	17,051	779,661	116
	Totals	3,176,001	3,189,436	8,132,186	50,796,636	

(1) Estimated by company.

(2) Estimated by office.

(3) Includes all products of mines.

TABLE X.—Number of Employés and Salaries, for year ending June 30, 1890—Whole Line and in Illinois.

NAME OF COMPANY.	1	2	3	4	5	6	7	8	9	10	11	12	13
	General officers	General office clerks	Station agents	Other station men..	Enginemén	Firemen	Conductors	Other trainmen.....	Machinists	Carpenters	Other shopmen.....	Section foremen....	Other trackmen.....
1 Atchison, Topeka & Santa Fe	16	146	106	284	136	142	121	275	75	33	430	125	1,092
5 Baltimore & Ohio	5	36	34	263	80	82	60	130	67	152	37	58	255
7 Belt Railway of Chicago.....	9	19	32	1	37	35	27	71	16	16	16	6	48
8 Centralia & Chester	2	1	1	1	1	1	1	1	1	1	1	1	1
9 Chicago & Alton	2	78	130	530	157	138	161	363	201	226	404	166	976
12 Chicago & Atlantic	9	43	64	338	92	92	50	151	36	62	135	59	150
14 C. leago & Eastern	11	61	87	120	82	82	54	115	61	61	255	78	322
15 Chicago & Eastern Illinois	9	11	8	67	4	4	4	4	9	9	9	10	325
16 Chicago & Western Indiana	15	125	68	349	148	136	119	183	242	168	122	78	326
17 Chicago & Iowa	4	11	20	18	14	16	10	23	16	16	20	17	60
20 Chicago & Grand Trunk	29	421	667	2,121	1,016	1,109	657	1,365	527	1,103	2,255	729	3,464
21 Chicago & Northwestern	5	19	19	49	2	2	2	2	7	1	1	12	27
23 Chicago & Ohio River	17	81	50	49	58	58	49	94	79	37	148	36	197
24 Chicago, Burlington & Northern	115	914	693	1,501	884	887	579	1,244	859	1,351	4,421	866	4,251
25 Chicago, Burlington & Quincy	50	368	856	992	853	861	651	1,353	424	829	2,248	1,256	3,425
30 Chicago, Milwaukee & St. Paul	11	23	53	25	24	24	19	51	25	52	50	51	211
31 Chicago, Peoria & St. Louis	12	346	435	1,021	553	553	375	847	769	686	1,571	554	2,352
34 Chicago, Rock Island & Pacific	38	118	143	564	233	232	159	381	164	168	737	247	669
36 Chicago, St. Louis & Pittsburgh	15	201	143	236	145	144	102	193	119	117	275	143	558
38 Chicago, St. Paul & Kansas City	35	471	341	1,070	328	338	324	694	267	229	1,506	253	1,394
39 Cleveland, Cincinnati, Chi. & St. Louis	1	2	6	2	2	2	2	4	4	4	4	7	18
42 Kankakee & Seneca	15	44	63	50	53	55	32	85	37	37	312	56	190
43 Peoria and Eastern	6	3	3	1	3	3	3	9	6	2	2	2	10
45 East St. Louis & Carondelet	3	1	1	1	1	12	12	4	6	4	15	3	35
46 East St. Louis & Eastern	11	18	24	11	17	17	13	29	7	10	25	25	115
48 Elgin, Joliet & Eastern	3	1	6	1	2	2	2	3	2	2	7	8	24
51 Fulton County Narrow Gauge	3	1	4	1	5	5	3	10	5	2	7	4	20
53 Grand Tower & Carbondale	1	1	1	1	1	1	1	1	1	1	1	1	1
54 Grand Tower & Cape Girardeau	34	205	416	1,012	488	537	381	855	251	218	1,343	378	2,136
55 Illinois Central	3	3	14	.....	3	3	3	3	2	4	7	13	39
65 Indiana & Illinois Southern	3	3	3	.....	3	3	3	3	2	4	7	13	39

66	Indianapolis, Decatur & Western	6	10	39	25	15	16	101	26	15	26	55	25	66
67	Indiana, Illinois & Iowa	8	17	16	10	10	10	6	9	5	9	8	20	92
68	Iowa Central	8	41	99	53	51	54	38	44	49	44	157	20	55
69	Lake Erie & Western	20	39	113	160	87	88	60	128	81	81	146	73	67
70	Lake Shore & Michigan Southern	18	272	253	2,646	637	661	384	808	485	737	1,042	98	253
71	Louisville & Nashville	2	5	27	107	45	49	29	91	62	85	364	292	366
72	Louisville, Evansville & St. L. Consol.	11	53	54	121	89	47	58	90	62	56	105	33	71
73	Louisville, New Albany & Chicago	18	71	121	129	92	94	54	128	52	90	237	52	76
74	Louisville, New Albany & Chicago	18	71	121	129	92	94	54	128	52	90	237	52	76
75	Michigan Central	21	248	226	841	488	510	291	713	217	363	723	383	433
76	Mobile & Ohio	9	24	23	49	36	40	17	44	23	17	54	94	77
77	Mobile & Ohio	9	24	23	49	36	40	17	44	23	17	54	94	77
78	Michigan Central	21	248	226	841	488	510	291	713	217	363	723	383	433
79	New York, Chicago & St. Louis	14	98	101	343	154	154	103	158	96	54	471	101	138
80	New York, Chicago & St. Louis	14	98	101	343	154	154	103	158	96	54	471	101	138
81	Ohio & Mississippi	16	104	121	253	125	125	129	241	136	293	314	112	824
82	Ohio & Mississippi	16	104	121	253	125	125	129	241	136	293	314	112	824
83	Pawnee	1	1	1	1	1	1	1	1	1	1	1	1	1
84	Pawnee	1	1	1	1	1	1	1	1	1	1	1	1	1
85	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
86	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
87	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
88	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
89	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
90	Pennsylvania Co. (Op. P., Ft. W. & C.)	36	126	131	997	336	368	309	797	227	549	1,766	138	1,460
91	Peoria & Pekin Union	4	5	3	37	26	31	1	9	11	27	29	2	6
92	Peoria & Pekin Union	4	5	3	37	26	31	1	9	11	27	29	2	6
93	Peoria, Decatur & Evansville	12	41	49	54	27	35	14	38	30	33	54	41	100
94	Peoria, Decatur & Evansville	12	41	49	54	27	35	14	38	30	33	54	41	100
95	Quincy, Omaha & Kansas City	7	5	22	6	7	8	9	9	2	12	4	23	75
96	Rock Island & Peoria	5	7	25	14	13	13	8	14	12	21	30	19	90
97	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
98	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
99	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
100	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
101	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
102	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
103	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
104	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
105	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
106	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
107	St. Louis, Alton & Springfield	5	4	18	14	4	4	4	8	1	7	95	10	60
108	Terminal R. R. Association of St. Louis	7	5	2	2	9	1	1	3	1	1	1	6	18
109	Terminal R. R. Association of St. Louis	7	5	2	2	9	1	1	3	1	1	1	6	18
110	Terre Haute & Indianapolis	7	60	21	30	60	60	15	178	40	31	40	27	63
111	Terre Haute & Indianapolis	7	60	21	30	60	60	15	178	40	31	40	27	63
112	Terre Haute & Indianapolis	7	60	21	30	60	60	15	178	40	31	40	27	63
113	Terre Haute & Indianapolis	7	60	21	30	60	60	15	178	40	31	40	27	63
114	Terre Haute & Indianapolis	7	60	21	30	60	60	15	178	40	31	40	27	63
115	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
116	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
117	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
118	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
119	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
120	Toledo, Peoria & Western	5	7	45	41	30	30	20	48	16	34	56	40	120
121	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
122	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
123	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
124	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
125	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
126	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
127	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
128	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
129	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
130	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
131	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
132	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
133	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
134	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
135	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
136	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
137	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
138	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
139	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
140	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
141	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
142	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
143	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
144	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
145	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
146	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
147	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
148	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
149	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
150	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
151	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
152	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
153	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
154	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
155	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
156	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
157	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
158	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
159	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
160	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
161	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
162	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
163	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
164	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
165	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
166	Wabash, St. Louis & Kansas City	11	58	100	76	68	76	56	115	23	33	216	311	360
167	Wabash, St. Louis & Kansas City	11	58	10										

Table X—Continued.

	NAME OF COMPANY.														IN ILLINOIS.	
	14	15	16	17	18	19	20	21	WHOLE LINE.		Grand total....		Total yearly compensation			
	Switchmen, flagmen and watchmen.....	Telegraph operators and dispatchers ...	Employèe — account floating equipment	All other employèe and laborers	Grand total....	Grand total....	Grand total....	Total yearly compensation	Total yearly compensation	Grand total....	Grand total....	Total yearly compensation	Total yearly compensation			
1	181	94	.....	210	3,466	\$2,672,856 60	1,707	\$1,590,076 81	1,5	1,707	1,590,076 81	1,707	1,5		
2	166	71	.....	441	1,917	1,178,304 90	1,101	62,214 50	7	1,101	62,214 50	1,101	7		
3	12	14	.....	67	492	283,228 41	492	283,228 41	8	492	283,228 41	492	8		
4	.....	.....	.....	.....	15	5,393 76	16	5,393 76	9	16	5,393 76	16	9
5	288	97	.....	213	4,263	2,869,571 04	3,367	2,236,127 88	10	3,367	2,236,127 88	3,367	10		
6	.....	.....	.....	81	1,706	1,027,100 00	1,119	71,897 00	11	1,119	71,897 00	1,119	11
7	91	54	.....	100	1,671	981,434 91	1,170	677,476 67	12	1,170	677,476 67	1,170	12		
8	126	29	.....	8	370	234,235 66	370	234,235 66	13	370	234,235 66	370	13		
9	153	106	.....	256	2,564	1,554,044 32	2,531	1,42,089 48	14	2,531	1,42,089 48	2,531	14		
10	6	17	.....	6	265	155,907 88	265	155,907 88	15	265	155,907 88	265	15		
11	1,094	449	3	1,303	18,333	11,293,930 41	6,836	4,334,229 18	16	6,836	4,334,229 18	6,836	16			
12	.....	.....	.....	5	72	35,764 72	72	35,764 72	17	72	35,764 72	72	17
13	48	65	.....	89	1,285	773,525 28	226	121,753 32	18	226	121,753 32	226	18		
14	1,114	574	.....	805	11,593,871 78	9,630	5,212,741 31	25	9,630	5,212,741 31	9,630	25			
15	1,074	782	.....	3,412	19,467	11,953,165 26	1,095	671,707 88	26	1,095	671,707 88	1,095	26		
16	7	33	.....	33	640	350,733 10	640	350,733 10	27	640	350,733 10	640	27		
17	567	247	.....	376	11,892	7,071,133 72	3,317	2,115,235 56	28	3,317	2,115,235 56	3,317	28		
18	199	158	.....	243	4,523	2,669,805 41	1,999	117,475 40	29	1,999	117,475 40	1,999	29		
19	.....	.....	.....	2	4	1,530 40	4	1,530 40	30	4	1,530 40	4	30
20	75	93	.....	83	2,612	1,761,240 00	616	34,329 50	31	616	34,329 50	616	31		
21	579	296	.....	446	8,501	4,491,340 11	3,131	1,654,160 56	32	3,131	1,654,160 56	3,131	32		
22	.....	.....	.....	.....	47	23,435 70	47	23,435 70	33	47	23,435 70	47	33
23	13	1	.....	123	1,296	700,577 74	426	(1) 250,709 16	34	426	(1) 250,709 16	426	34		
24	.....	.....	.....	.....	5	35,161 00	55	35,161 00	35	55	35,161 00	55	35
25	48	9	.....	10	165	112,176 78	165	112,176 78	36	165	112,176 78	165	36		
26	38	13	.....	7	337	219,247 85	347	203,509 15	37	347	203,509 15	347	37		
27	.....	.....	.....	4	7	26,804 42	57	26,804 42	38	57	26,804 42	57	38
28	.....	.....	.....	4	96	48,104 00	96	48,104 00	39	96	48,104 00	96	39
29	9	.....	.....	25	55	16,228 31	55	16,228 31	40	55	16,228 31	55	40	
30	452	254	1,633	10,680	6,219,981 84	6,649	3,916,185 74	41	6,649	3,916,185 74	6,649	41			
31	4	1	3	107	33,270 00	107	33,270 00	42	107	33,270 00	107	42			
32	43	43			
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63	74	74			
64	75	75			
65	76	76			

66	Indianapolis, Decatur & Western.....	8	9	34	411	294,322 50	198	91,968 86
67	Indiana, Illinois & Iowa.....	22	29	87	1,131	139,610 92	162	89,521 41
68	Lova Central.....	92	47	130	1,771	679,557 32	195	105,144 59
69	Lake Erie & Western.....	1,363	451	354	13,667	1,006,589 72	157	70,329 00
70	Lake Shore & Michigan Southern.....	4	22	95	1,283	7,767,022 80	1,333	757,284 72
71	Louisville & Nashville.....	52	3	6	1,013	681,144 96	1,181	71,886 92
72	Louisville, Evansville & St. Louis, (Consolidated).....	93	56	106	1,868	503,331 37	214	71,886 92
73	Louisville, New Albany & Chicago.....	548	277	2,356	9,331	1,652,477 04	214	190,722 76
74	Michigan Central.....	26	104	76	742	5,510,800 07	672	467,110 92
75	Mobile & Ohio.....	397	131	320	3,316	2,214,730 69	712	472,346 60
76	New York Chicago & St. Louis.....	105	68	594	3,569	1,808,769 20	555	367,873 11
77	Ohio & Mississippi.....	271	235	639	8,445	5,054,371 87	2,127	1,079,739 60
78	Pennsylvania Co. (Op. Pittsburgh, Ft. Wayne & Chi.).....	146	18	52	22	5	5	1,310 00
79	Pennsylvania Co. (Op. South Chicago & Southern).....	92	32	1	464	212,630 88	295	158,981 19
80	Peoria & Pekin Union.....	5	3	16	583	212,630 41	464	10,626 88
81	Peoria, Decatur & Evansville.....	3	5	1	210	270,825 48	496	212,630 41
82	Quincy, Omaha & Kansas City.....	8	2	25	217	109,109 00	317	239,238 43
83	Rock Island and Peoria.....	39	17	60	331	180,382 00	7	3,273 27
84	St. Louis, Alton & Springfield.....	1	1	2	867	62,552 00	131	189,582 00
85	St. Louis & Chicago.....	1	1	2	53	440,541 59	867	62,552 00
86	St. Louis & Peoria.....	1	1	2	27	31,045 32	53	440,541 59
87	Terminal Railroad Association of St. Louis.....	150	22	50	845	10,311 04	30	31,045 32
88	Terre Haute & Indianapolis.....	56	64	15	1,129	681,633 69	261	106,553 00
89	Terre Haute & Peoria.....	1	8	7	271	620,679 98	1,119	620,679 98
90	Toledo, Peoria & Western.....	41	32	78	627	132,383 64	211	132,383 64
91	(2) Toledo, St. Louis & Kansas City.....	532	48	21	888	381,168 19	621	377,098 19
92	Wabash.....	115	278	736	8,697	5,736,554 98	2,869	1,912,181 99
93	Wabash, Chester & Western.....	130	70	128	62	30,821 48	62	50,821 48
94	Wisconsin Central Lines.....	10,561	5,507	413	2,897	1,846,319 44	291	158,369 17
	Totals.....				182,680	\$107,705,265 49	57,435	\$33,491,986 16

(1) Includes six months' salaries paid by Peoria & Eastern Ry. Co., and six months' salaries paid by Ohio, Indiana & Western Ry. Co.

(2) Does not include contractor's employes, to whom monthly allowance is made to cover cost of maintenance.

(3) Salaries for eight months.

(4) Salaries for six months.

TABLE XI.—Average Daily Compensation of Employés, for year ending June 30, 1890.

NAME OF COMPANY.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		General office clerks	Station agents	Other station men	Enginemn	Firemen	Conductors	Other trainmen	Machinists	Carpenters	Other shopmen	Section foremen	Other trackmen	Switchmen, flagmen and watchmen	Telegraph operators and dispatchers	Employes—Account floating equipment	All other employes and laborers
1	Atchison, Topeka & Santa Fe	\$1 99	\$1 65	\$1 64	\$4 42	\$2 52	\$2 85	\$1 78	\$2 07	\$2 08	\$1 64	\$1 66	\$1 50	\$2 01	\$1 75	.....	\$1 87
5	Baltimore & Ohio	2 93	2 22	1 75	4 07	3 34	3 55	2 32	2 30	1 73	1 99	1 55	1 14	2 77	1 89	.....	1 33
7	Belt Railway of Chicago	1 79	1 85	1 58	2 33	1 64	2 74	2 07	1 58	2 17	1 64	1 39	1 30	1 01	1 18	.....	1 08
8	Centralia & Chester	2 50	2 00	.....	2 50	83	.....	.....	.....	2 50	1 00	1 00	1 00	.....	.....	.....	.....
9	Chicago & Alton	2 93	1 75	1 71	5 98	3 43	2 97	1 85	1 88	2 06	1 85	1 81	1 45	2 02	1 91	.....	75
12	Chicago & Atlantic	2 55	1 98	1 66	3 85	2 09	3 01	1 37	2 33	1 84	1 81	1 76	1 22	.....	.....	.....	.....
14	Chicago & Eastern Illinois	2 33	1 65	1 61	3 63	2 06	3 01	1 37	2 33	2 02	1 40	1 77	1 17	.....	.....	.....	.....
15	Chicago and Western Indiana	2 12	2 38	1 67	3 20	1 91	2 38	.....	.....	2 37	.....	1 82	1 33	.....	.....	.....	.....
17	Chicago & Grand Trunk	1 57	1 96	1 62	3 75	1 91	3 00	1 58	1 81	1 89	1 34	1 50	1 10	.....	.....	.....	.....
20	Chicago & Iowa	2 02	1 90	1 62	3 45	1 91	3 07	1 96	1 72	2 44	1 70	1 82	1 13	.....	.....	.....	.....
21	Chicago & Northwestern	2 55	2 05	1 67	3 45	1 91	3 07	1 96	1 72	2 44	1 70	1 82	1 13	.....	.....	.....	.....
23	Chicago & Ohio River	.....	.....	.....	3 13	1 56	3 00	1 54	1 81	1 89	1 34	1 50	1 10	.....	.....	.....	.....
25	Chicago, Burlington & Northern	2 79	1 77	1 61	3 37	1 37	2 83	1 66	1 84	2 33	1 83	1 52	1 01	.....	.....	.....	.....
26	Chicago, Burlington & Quincy	2 58	1 45	1 50	3 57	2 04	3 05	1 84	2 03	1 81	1 64	1 63	1 03	.....	.....	.....	.....
29	Chicago, Milwaukee & St. Paul	2 41	2 22	1 88	3 58	2 21	3 12	1 89	2 61	2 32	1 75	1 99	1 27	.....	.....	.....	.....
34	Chicago, Rock Island & Pacific	2 95	2 02	1 68	3 95	2 26	3 18	1 89	2 06	2 00	1 68	1 79	1 14	.....	.....	.....	.....
36	Chicago, St. Louis & Pittsburgh	2 53	1 85	1 58	3 11	1 62	2 79	1 86	2 24	2 05	1 44	1 49	1 23	.....	.....	.....	.....
37	Englewood Connecting	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
38	Chicago, St. Paul & Kansas City	2 23	1 63	1 51	3 70	2 10	2 86	1 68	2 40	2 00	1 97	1 48	1 16	.....	.....	.....	.....
39	Cleveland, Cincinnati, Chicago & St. Louis	1 60	1 63	1 15	3 60	2 10	3 10	1 65	2 15	2 00	1 57	1 75	1 50	.....	.....	.....	.....
42	Cleveland, Cincinnati, Chicago & St. Louis	1 50	1 15	1 20	3 70	2 30	3 00	1 02	2 10	2 00	1 45	1 75	1 30	.....	.....	.....	.....
43	Kankakee & Seneca	1 98	1 58	1 61	3 33	1 70	3 30	1 05	2 10	2 00	1 45	1 66	1 05	.....	.....	.....	.....
45	Peoria & Eastern	.....	.....	.....	66	3 25	2 00	2 30	.....	.....	.....	.....	.....	.....	.....	.....	.....
46	East St. Louis & Carondelet	2 28	1 72	1 42	3 15	2 00	3 40	2 30	2 10	2 00	1 45	1 66	1 05	.....	.....	.....	.....
48	East St. Louis Connecting	.....	.....	.....	3 45	2 00	3 45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
49	Elgin, Joliet & Eastern	.....	.....	.....	1 70	1 98	3 45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
51	Fulton, Joliet & Eastern	.....	.....	.....	1 70	1 98	3 45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
52	Fulton County Narrow Gauge	2 51	1 42	1 70	3 46	1 31	1 97	1 15	2 10	2 00	1 65	1 31	1 01	.....	.....	.....	.....
53	Grand Tower & Carondelet	.....	.....	.....	2 46	1 31	1 97	1 15	2 10	2 00	1 65	1 31	1 01	.....	.....	.....	.....
54	Grand Tower & Cape Girardeau	3 19	1 35	1 34	3 68	1 97	2 55	1 15	2 69	2 92	1 93	1 72	1 10	.....	.....	.....	.....
57	Ill. Col. Central	1 59	1 37	1 34	3 68	1 97	2 55	1 15	2 69	2 92	1 93	1 72	1 10	.....	.....	.....	.....
62	Indiana & Illinois Southern	2 36	1 10	1 79	3 67	1 80	2 63	1 80	2 00	2 00	1 52	1 50	1 16	.....	.....	.....	.....
66	Indianapolis, Decatur & Western	1 98	1 39	1 47	3 55	1 71	2 62	1 13	1 63	1 57	1 55	1 61	1 31	.....	.....	.....	.....

67	Indiana, Illinois & Iowa.....	5	.....	108	.....	2	175	.....	6	44	56	.....	67	
68	Iowa Central.....	863	47	627	.....	.....	1,637	.....	2	15	37	.....	68	
69	Iowa Central & Western.....	1,791	657	57	277	.....	2,722	.....	3	35	7	.....	69		
71	Lake Erie & Western.....	7,371	1,417	4,138	.....	50	15,104	.....	290	20	502	.....	71		
72	Lake Shore & Michigan Southern.....	7,110	1,20	350	.....	.....	555	.....	12	6	17	.....	72	
74	Louisville & Nashville.....	517	133	46	910	.....	1,006	.....	1	14	15	.....	74		
76	Louisville, Evansville & St. Louis, Consolidated.....	1,758	449	81	1,070	.....	3,445	.....	1	35	30	.....	76		
77	Louisville, New Albany & Chicago.....	4,211	2,970	1,322	514	32	9,113	.....	7	274	49	.....	77			
78	Michigan Central.....	1,144	50	18	.....	.....	2,584	.....	26	28	54	.....	78	
80	(U. Mobile & Ohio.....	8,364	1,121	648	208	.....	5,491	150	4	77	1	.....	80			
83	New York Chicago & St. Louis.....	1,877	289	108	250	.....	2,545	.....	.....	66	27	.....	83	
85	Ohio & Mississippi.....	4,628	450	2,242	2,435	.....	9,755	1,621	4	162	6	.....	85			
87	Pawnee.....	25	3	15	40	172	14	87				
88	Pennsylvania Co. (Op. Pittsb'g, Ft. W. & Chi.).....	3	.....	.....	156	.....	156	.....	.....	.....	.....	.....	88
88	Pennsylvania Co. (Op. S. Chicago & Southern).....	1,300	129	92	346	.....	1,867	.....	6	11	108	.....	88		
92	Peoria & Pekin Union.....	42	20	46	29	.....	1,337	.....	.....	57	17	.....	92	
93	Peoria, Decatur & Evansville.....	194	30	30	147	.....	401	.....	.....	6	2	.....	93	
94	Quincy, Ottumwa & Kansas City.....	15	20	.....	20	.....	55	.....	.....	2	.....	.....	94
95	Rock Island & Peoria.....	238	154	23	1,117	13	1,575	.....	.....	15	27	.....	95		
96	St. Louis, Alton & Springfield.....	20	3	.....	17	.....	40	.....	.....	1	43	.....	96
98	St. Louis, Alton & Terre Haute.....	.....	.....	.....	.....	.....	200	.....	.....	.....	.....	.....	98
105	St. Louis & Chicago.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	105
106	St. Louis & Peoria.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106
107	Terminal Railroad Association of St. Louis.....	805	83	299	455	.....	25	.....	.....	4	.....	.....	107
108	Terre Haute & Indianapolis.....	96	11	21	64	.....	1,612	.....	105	27	16	.....	108		
110	Terre Haute & Peoria.....	412	125	266	.....	8	293	.....	.....	10	18	.....	110	
111	Toledo, Peoria & Western.....	1,013	398	279	300	.....	837	58	.....	16	10	.....	111		
112	Toledo, St. Louis & Kansas City.....	6,104	3,546	1,553	.....	100	1,860	.....	.....	32	3	.....	112	
114	Wabash, St. Louis & Kansas City.....	29	2	5	23	.....	39	.....	.....	201	74	.....	114	
115	Wabash, Chester & Western.....	737	445	117	.....	.....	832	.....	.....	1	4	.....	115
116	Wisconsin Central Lines.....	.....	.....	.....	.....	.....	.....	.....	.....	60	65	.....	116
Totals.....		113,891	24,972	22,888	36,737	32	2,120	6,502	207,142	11,481	16,549	817	130	3,560	1,285	5,792	52	9

TABLE XIII.—*Rails, Ties, Ballast, Bridges, etc., in Illinois, for year ending June 30, 1890.*

NAME OF COMPANY.	1		2		3		4		5		6		7		8	
	RAILS.		Iron.		Steel.		Tons laid during year		Ties.		Average number per mile		Number of stations		Length of road unfenced...	
	Number of miles—main line...		Tons laid during year		Number of miles main line.....		Tons laid during year		Number laid during year		Average number per mile		Number of stations		Length of road unfenced...	
	Number of miles—main line...	Tons laid during year	Number of miles main line.....	Tons laid during year	Number of miles main line.....	Tons laid during year	Number laid during year	Average number per mile	Number of stations	Length of road unfenced...						
1	13.03		265.27	981.25	35,498	2,992	61									
2			2.12													
3			.51													
4			5.91	2.09	2,400	3,000										
5			8.00		3,000	3,000										
6			542.95	4,085.32	298,261	3,000										
7	5.91		37.20	46.19	29,448	3,000										
8																
9																
10			68													
11			27.00		75,600	2,800	1		12.00							
12			168.72	1,013.47	55,888	3,000	55		3.57							
13	11.36		48.58	622.70	35,585	3,000	30		18.78							
14			5.48		3,110	3,000										
15			21.88	1,133.00	15,720	2,610	15									
16			3.90		5,962	2,610	5									
17																
18			.41													
19			104.00	217.00	2,900	2,900	20									
20	26.40		567.88	3,100.22	196,540	3,800	152		5.00							
21			18.07			3,000	24									
22						3,000										
23			43.57		14,845	3,000	19		58.50							
24	86.00		601.02	6,229.50	4,125	3,000	15		32.64							
25					245,216	3,000	180		82.04							
26	245.46		12.21		3,000	3,000	3									
27			58.41	15.90	3,077	3,000	15									
28	15.27		298.55		125,977	3,000	65		70.50							
29	34.20		283.88	4,503.75	81,096	2,640	118									

112 Toledo, St. Louis & Kansas City	179.49	1,502.00	51,561	2,640	41	8.00	112
113 Union Stock Yards & Transit Co.	50.00	.....	28,413	3,000	187	237.50	113
114 Wabash	625.10	2,613.77	10,290	2,700	17	32.00	114
115 Wabash, Chester & Western	27.43	150.00	.....	.....	.....	.....	115
116 Wisconsin Central Lines*	14.83	.....	20,469	23,000	15	.....	116
117 Chicago & Wisconsin	49.36	210.00	.....	.....	.....	.....	117
Totals	8,982.19	74,555.11	3,112,789	.....	2,459	1,477.70	
	1,181.27	.....	.....	.....	.....	.....

Table XIII.—Continued.

NAME OF COMPANY.	9	10	11	12	13	14	15	16	17	18	19
	BALLAST.						BRIDGES.			TRETTLES AND PILE.	
	Miles of stone	Miles of sand and gravel	Miles of cinders	Miles of earth	Miles of slag	No. of stone	No. of iron	No. of wooden	No. of combination	Number	Aggregate length in feet
St. Louis, Alton & Terre Haute	5.50			8.90			1			7	2,189
Belleville & Carondelet				17.30					3	25	2,250
Belleville & Eldorado				50.20						98	9,865
Belleville & Southern Illinois			1.50	54.90			1			55	3,312
Chicago, St. Louis & Paducah	7.00		.75	45.75					13	87	10,372
St. Louis Southern				29.74					3	43	8,761
Carbondale & Shawneetown				17.50						23	1,550
St. Louis & Chicago			4.00	47.25						35	7,278
St. Louis & Peoria				14.00				22			165
Terminal R. R. Ass'n of St. Louis			1.09								107
Terre Haute & Indianapolis*											108
St. Louis, Vandalia & Terre Haute	38.20	119.60	.50			1		4		144	12,990
Terre Haute & Peoria				144.74			1	7	10	104	109
Terre Haute & Western		2.00	3.00	255.70		6	22	51	4	329	17,204
Toledo, St. Louis & Kansas City		84.80		94.69				8		157	31,658
Wabash, Chester & Western	41.75	275.25	90.50	260.50		14	28	6		1,235	57,368
Wisconsin Central Lines*				42.26					1	64	7,184
Chicago & Wisconsin		45.66		3.70						42	2,798
Totals	891.80	4,412.08	500.14	4,043.83	81.83	1,020	621	1,399	148	9,237	772,527

(1) Includes 62 piling. (2) Includes 6.90 miles of mixed ballast. (3) Includes line of proprietary companies. (4) Includes line leased from St. L., A. & T. H. R. R. Co. (5) Includes gravel ballast. (6) Includes one steel bridge. (7) Includes cinders and earth. (8) Includes slack. (9) Includes burnt clay. (10) Includes rails laid on J. S., E., L., C. & W., and L. & St. L. R. R.'s. (11) Includes ties laid on J. S., E., L., C. & W., and L. & St. L. R. R.'s. (12) Includes bridges and trestles on J. S., E., L., C. & W., and L. & St. L. R. R.'s. *Inserted to show relation of routes following.

TABLE XIV.—Consumption of Fuel by Locomotives, whole line, for year ending June 30, 1890.

	NAME OF COMPANY.						
	PASSENGER.						
	COAL—TONS.		WOOD—CORDS.		Total fuel consumed—tons.	Miles run.	Average pounds consumed per mile.
	Bituminous.		Hard.	Soft.			
1	2	3	4	5	6		
1	39,044.00	746.00		39,541.00	991,913.00	70.00	
5	42,296.00		270.00	42,431.00	1,115,473.00	76.00	
9	74,891.00	1,928.00		76,176.00	2,164,355.00	70.39	
10	29,671.00	325.00		29,996.00	818,531.00	73.30	
12	21,323.00	380.00		21,583.00	785,237.00	55.00	
14	41,854.05			41,854.05	1,296,414.00	64.57	
17	218,162.00	3,750.00	5,648.00	223,506.00	6,880,622.00	64.97	
21					619,113.00		
21	128,867.75	2,345.00		130,461.08			
25	292,721.00		9,138.00	297,290.00	7,451,427.00	74.00	
29	57,222.00	1,047.00		57,920.00	2,197,822.00	52.70	
36	53,588.00	1,175.00		55,938.00	1,351,393.00	82.80	
38	102,825.25			102,825.25	3,452,680.00	69.00	
39	102,912.00			102,912.00	2,531,317.00	72.10	
42	10,529.00			10,529.00	350,990.00	60.00	
43	925.00	29.50		945.00	32,631.00	57.91	
48	711.00	24.00		727.00	38,186.00	38.07	
51	1,165.00			1,165.00	20,272.00	115.00	
53	487.00			487.00	10,498.00	94.00	
55	115,636.04	3,623.11		118,051.81	3,452,400.00	53.74	
62	960.00			960.00	55,946.00	34.00	
65	4,888.00			4,888.00	265,246.00	37.00	
66	878.00			878.00	23,889.00	73.50	
67	10,207.00	307.70		10,412.00	439,917.00	47.34	
68	20,590.00	948.00		21,222.00	1,050,100.00	39.00	
71	114,354.00	788.00		115,142.00	4,190,128.00	54.95	
72	10,932.50		129.75	11,019.00	327,555.00	66.75	
74	15,450.00		80.00	15,490.00	586,546.00	53.00	
76	30,242.00			30,242.00	635,555.00	65.45	
77	144,408.75	563.85		144,408.75	4,273,296.00	67.50	
78					4,273,296.00	67.50	
80	5,862.00			5,862.00	279,629.00	42.00	

Table XIV.—Continued.

NAME OF COMPANY.	1	2	3	4	5	6
	PASSENGER.					
	COAL—TONS.	WOOD—CORDS.		Total fuel consumed—tons.	Miles run.	Average pounds consumed per mile.
Bituminous.	Hard.	Soft.				
83 New York, Chicago & St. Louis	12,676.50		174.03	12,763.50	468,956.00	54.40
85 Ohio & Mississippi	10,653.00	135.00		10,743.00	1,677,836.00	85
86 Ohio, Indiana & Western	76,803.00	2,167.63		78,248.00	3,576,623.00	86
88 Pennsylvania Co. (Op. P. Ft. W. & C.)	685.45	17.63		698.05	2,633,730.00	88
88 Pennsylvania Co. (Op. South Chi. & Southern)	6,196.00	72.00	145.00	6,413.00	27,753.00	88
93 Peoria, Decatur & Evansville	2,304.00	24.00		2,352.00	331,879.00	93
94 Quincy, Omaha & Kansas City	3,312.00	50.00		3,358.75	86,156.00	94
95 Rock Island & Peoria	7,987.00		221.00	8,429.00	126,372.00	95
98 St. Louis, Alton & Terre Haute	2,098.00			2,098.00	309,445.00	98
105 St. Louis & Chicago	20,408.00	720.00		20,888.00	625,779.00	105
108 Terre Haut. & Indianapolis	4,617.00	55.00		4,672.00	299,873.00	108
110 Terre Haute & Peoria	7,416.00		318.00	7,500.00	318,894.00	110
111 Toledo, Peoria & Western	11,188.00			11,188.00	447,511.00	111
112 Toledo, St. Louis & Kansas City	126,336.00			121,627.00	4,561,802.00	112
114 Wabash	891.76			891.76	47,902.00	114
115 Wabash, Chester & Western	50,949.25	1,918.37		52,228.25	1,608,628.00	115
116 Wisconsin Central Lines					60,358,350.00	116
Totals	1,936,123.30	26,478.79	16,153.78	1,965,426.19	60,358,350.00	.....

(1) East of Missouri River.

TABLE XIV.—Consumption of Fuel by Locomotives, Whole Line, for year ending June 30, 1890.—Continued.

	FREIGHT.													
	NAME OF COMPANY.											Average pounds consumed per ton-mile.		
	7	8	9	10	11	12	COAL—TONS.		WOOD—CORDS.		Total fuel consumed—tons.		Miles run.	
Bituminous.		Hard.		Soft.										
1	112,071.00	1,970.00		113,384.00	2,289,515.00	99.00								
5	38,820.00		757.00	39,199.00	1,506,511.00	131.00								1
8	480.00			480.00	19,957.00	48.00								5
9	166,333.00	3,192.00		168,461.00	3,583,214.00	94.03								8
10	78,821.00	689.00		79,190.00	1,463,999.00	108.50								9
11	69,937.00	773.00		63,452.00	1,222,706.00	108.80								12
12	117,651.00			117,055.00	2,518,282.00	91.87								17
13	665,020.00	8,211.00	12,290.00	676,611.00	14,731,227.00	91.86								21
21	1,700.00	23.00		1,776.00	85,827.00	41.39								23
22					853,057.00									24
23	520,008.75	6,203.00		521,784.08	13,377,935.00	74.00								25
24	487,898.00		15,230.00	495,483.00	3,403,524.00	67.98								26
30	114,467.00	1,829.00		115,680.00	3,073,316.00	107.50								38
38	161,147.75	2,371.43		165,890.00	5,493,675.00	93.50								39
39	255,921.25			256,321.25	2,263,000.00	74.70								42
40	973.00	19.00		985.00	26,039.00	35.50								43
42	16,415.50			16,415.50	351,139.00	91.00								45
43	12,733.00	290.00		12,926.00	284,397.00	66.98								48
51	1,247.00	48.00		1,279.00	38,186.00	51								51
53	2,163.00			2,163.00	36,540.00	122.00								53
54					69,540.00									54
55	368,946.52	10,938.12		376,259.62	7,931,397.00	94.87								55
56	2,908.00			2,908.00	55,069.00	105.00								65
57	7,456.00			7,456.00	167,473.00	89.00								66
66	7,856.00			7,856.00	201,322.00	78.04								67
67	49,614.50	1,110.50		50,485.00	1,175,835.00	85.70								68
68	61,257.00	1,290.00		62,107.00	1,292,293.00	95.00								71
71	363,601.00	1,488.00		365,089.00	9,268,196.00	78.80								72
72	25,889.50		246.25	26,053.66	560,441.00	92.39								74
74	27,799.00		129.00	27,862.00	550,586.00	65.00								76
76	69,980.00			70,803.73	1,349,473.00	104.93								77
77	315,507.75	1,235.60		315,507.75	6,836,655.00	92.53								78
80	22,638.00			22,638.00	471,180.00	96.00								80

Table XIV.—Continued.

NAME OF COMPANY.	FREIGHT.											
	7	8	9	10	11	12						
	COAL—TONS.		WOOD—CORDS.		TOTAL FUEL CONSUMED—TONS.		MILES RUN.		AVERAGE POUNDS CONSUMED PER MILE.			
Bituminous.		Hard.	Soft.									
83 New York, Chicago & St. Louis.....	297,853.10	.....	1,506.04	208,606.10	4,658,343.00	102.80					
84 Ohio & Mississippi.....	.....	.....	.....	.....	1,927,181.00	.....					
85 Ohio, Indiana & Western.....	20,492.00	178.00	.....	21,111.00	1,927,181.00	.....					
86 Pennsylvania Co. (Operating P., W. & C.).....	238,654.00	4,319.67	.....	211,164.00	4,371,532.00	120.00					
87 Pennsylvania Co. (Op. S. Chicago & Southern).....	(4) 631.10	3.63	.....	.....	.....	.....		
88 Peoria & Pekin Union.....	739.00	.....	.....	739.00	8,883.00	138.94					
89 Peoria, Decatur & Evansville.....	14,077.00	81.00	161.00	14,319.00	36,420.00	88.00						
90 Quincy, Omaha & Kansas City.....	4,702.00	42.00	.....	4,832.00	324,482.00	88.00					
91 Rock Island & Peoria.....	12,657.00	145.00	.....	13,014.00	112,696.00	86.00					
92 St. Louis, Alton & Terre Haute.....	23,414.00	.....	361.00	24,166.00	500,382.00	96.70					
93 St. Louis & Chicago.....	1,371.00	.....	.....	1,371.00	28,170.00	93.78					
94 St. Louis & Peoria.....	605.00	.....	.....	605.00	6,776.00	179.00					
95 Terre Haute & Indianapolis.....	40,740.00	1,613.00	.....	41,835.00	6,776.00	95.50					
96 Terre Haute & Peoria.....	8,691.00	125.00	.....	8,824.00	876,584.00	96.50					
97 Toledo, Peoria & Western.....	23,367.00	.....	657.00	23,696.00	141,103.00	123.50					
98 Toledo, St. Louis & Kansas City.....	68,193.00	.....	.....	68,193.00	377,296.00	82.69					
99 Wabash.....	352,123.00	8,227.00	.....	360,350.00	1,227,408.00	111.00					
100 Wabash, Chester & Western.....	855.56	.....	.....	855.56	7,735,077.00	93.20					
101 Wisconsin Central Lines.....	96,737.50	2,834.37	.....	98,627.50	32,526.00	52.23					
Totals.....	5,316,928.78	59,346.32	31,214.29	5,380,393.25	109,485,306.00	82.00						

(1) Includes fuel consumed by switching and construction locomotives.

(2) Includes miles run by switching and construction locomotives.

(3) East of Missouri River.

(4) Includes fuel consumed by locomotives in mixed trains.

Table XIV.—Continued.

NAME OF COMPANY.	COAL—TONS.				WOOD—CORDS.		Total fuel consumed—tons.	Miles run.	Average pounds consumed per sumed per mile.
	Anthracite.	Bituminous.	Wood—CORDS.						
			Hard.	Soft.					
13	14	15	16	17	18	19			
SWITCHING.									
1	Atchison, Topeka & Santa Fe.....	19,336.00	493.00	.....	19,665.00	788,697.00	50.00	
5	Baltimore & Ohio.....	16,461.00	.....	.....	16,461.00	397,739.00	83.00
7	Great Railway of Chicago.....	32,380.00	.....	.....	32,685.00	971,179.00	67.00
9	Chicago & Alton.....	34,729.00	1,237.00	174.00	35,554.00	1,389,576.00	51.17		
11	Chicago & Atlantic.....	10,516.00	.....	.....	10,516.00	538,582.00	39.10
12	Chicago & Eastern Illinois.....	20,120.00	236.00	.....	20,317.00	472,638.00	102.90	
13	Chicago & Grand Trunk.....	17,457.00	.....	.....	17,457.00	968,217.00	36.68
17	Chicago & Northwestern.....	174,510.00	1,831.00	2,688.00	177,118.00	6,403,391.00	55.32		
21	Chicago, Wilmington & Quincy.....	193,222.50	1,020.00	.....	194,402.50	.....	.....
23	Chicago, Milwaukee & St. Paul.....	165,875.00	.....	5,178.00	168,464.00	4,593,181.00	74.00	
30	Chicago, St. Louis & Pittsburgh.....	47,305.00	.....	.....	47,305.00	1,433,913.00	66.78
38	Chicago, St. Paul & Kansas City.....	16,690.50	317.87	.....	17,002.00	430,206.00	77.80	
39	Cleveland, Cincinnati, Chicago & St. Louis.....	71,064.75	.....	.....	71,064.75	3,073,978.00	47.30
42	Kankakee & Seneca.....	6,555.00	.....	.....	6,555.00	6,823.00	162.70
43	East St. Louis & Carondelet.....	2,735.00	132.00	.....	2,865.00	104,462.00	54.00	
45	Elgin, Joliet & Eastern.....	2,312.00	61.00	.....	2,383.00	81,716.00	63.21	
48	Illinois Central.....	46,389.72	3,038.03	.....	49,996.18	2,557,558.00	39.10	
55	Indianapolis, Decatur & Western.....	2,019.00	.....	.....	2,019.00	77,543.00	52.00
60	Indiana, Illinois & Iowa.....	4,544.00	.....	.....	4,544.00	162,321.00	55.96
68	Iowa Central.....	5,236.50	81.20	.....	5,322.00	223,203.00	47.68	
71	Lake Erie & Western.....	13,588.00	489.00	.....	13,914.00	543,530.00	50.00	
72	Lake Shore & Michigan Southern.....	64,738.00	383.00	.....	65,121.00	4,438,128.00	29.34	
74	Louisville & Nashville.....	8,176.00	.....	75.00	8,226.00	350,252.00	46.69	
76	Louisville, Evansville & St. Louis, Consol.....	3,474.00	.....	36.00	3,492.00	166,100.00	42.00	
78	Louisville, New Albany & Chicago.....	12,220.00	231.00	.....	12,374.00	415,510.00	59.56	
78	Michigan Central.....	54,549.50	.....	.....	54,549.50	3,714,512.00	26.70
80	Mobile & Ohio.....	4,312.00	.....	.....	4,312.00	206,838.00	42.00
83	New York, Chicago & St. Louis.....	28,334.70	.....	449.01	28,559.20	1,210,026.00	48.00	
85	Ohio & Mississippi.....	.....	.....	.....	.....	904,625.00	.....	

Table XIV.—Continued.

NAME OF COMPANY.	13	14	15	16	17	18	19
	SWITCHING.						
	COAL—TONS.		WOOD—CORDS.		Total fuel consumed—tons.	Miles run.	Average pounds consumed per mile.
Anthracite.	Bituminous.	Hard.	Soft.				
86 Ohio, Indiana & Western.....	4,020.00	98.00	.....	4,085.00	232,200.00	35.00
88 Pennsylvania Co. (Op. Pitts., Ft. W. & Chi.)....	63,670.04	1,230.00	.....	64,490.04	2,527,015.00	51.04
92 Peoria & Pekin Union.....	9,770.00	.....	.....	9,770.00	488,500.00	40.00
93 Peoria, Decatur & Evansville.....	1,132.00	.....	.....	1,132.00	107,932.00	21.00
94 Quincy, Omaha & Kansas City.....	1,000.00	22.00	.....	1,022.00	15,700.00	31.00
95 Rock Island & Peoria.....	1,420.00	15.00	.....	1,435.00	71,748.00	39.57
96 St. Louis, Alton & Terre Haute.....	3,357.00	.....	116.00	3,783.00	151,163.00	50.00
107 Terminal Railroad Association of St. Louis.....	28,237.00	475.00	.....	28,653.00	.....	.....
108 Terre Haute & Indianapolis.....	4,948.00	290.00	.....	5,141.00	213,756.00	48.11
110 Terre Haute & Peoria.....	1,057.00	15.00	.....	1,072.00	21,008.00	100.55
111 Toledo, Peoria & Western.....	567.00	.....	34.00	584.00	29,491.00	39.61
112 Toledo, St. Louis & Kansas City.....	9,913.00	.....	.....	9,913.00	514,139.00	38.00
114 Wabash.....	68,802.00	1,646.00	.....	70,448.00	(1) 2,862,904.00	50.30
116 Wisconsin Central Lines.....	11,547.00	578.87	.....	11,953.00	520,632.00	45.00
Totals.....	1,581.00	1,187,110.31	14,762.37	8,750.04	1,204,482.77	44,274,728.00	.....

(1) Includes fuel used by construction locomotives.

Table XIV.—Continued.

	NAME OF COMPANY.	CONSTRUCTION.											
		20		21		22		23		24		25	
		COAL—TONS.		WOOD—CORDS.		Total fuel consumed—tons.		Miles run.		Average pounds consumed per mile.			
		Bituminous.	Hard.	Hard.	Soft.								
1	Atchison, Topeka & Santa Fe.....	7,244.00	93.00			7,306.00	206,924.00	49.00					
9	Chicago & Alton.....	5,194.00	161.12			5,301.00	181,951.00	58.42					
12	Chicago & Atlantic.....	4,546.00				4,335.00	150,793.00	55.40					
14	Chicago & Eastern Illinois.....	2,535.00	26.00			2,563.00	43,792.00	102.80					
17	Chicago & Grand Trunk.....	2,812.15				2,812.15	35,511.00	60.16					
21	Chicago & Northwestern.....	21,249.00	420.00	594.00		21,836.00	811,160.00	53.81					
24	Chicago, Burlington & Northern						22,812.00						
25	Chicago, Burlington & Quincy	8,000.00	115.00			8,136.64							
29	Chicago, Milwaukee & St. Paul.....	29,272.00	80.00	914.00		29,729.00	794,277.00	74.00					
36	Chicago, St. Louis & Pittsburgh.....	3,976.50	73.56			4,029.00	171,183.50	47.00					
38	Chicago, St. Paul & Kansas City.....	4,038.50				4,185.60	73,634.00	105.04					
39	Cleveland, Cincinnati, Chicago & St. Louis.....	6,777.00				6,777.00	234,219.00	57.80					
42	Kankakee & Seneca.....	5.00				5.00	300.00	36.70					
43	Peoria & Eastern.....	44.50				44.50	1,539.00	57.80					
48	Elgin, Joliet & Eastern.....	3,016.00	53.00			3,061.00	45,969.00	132.93					
55	Illinois Central.....	7,883.77	667.02			8,328.51	490,360.00	33.97					
66	Indianapolis, Decatur & Western.....	222.00				222.00	5,488.00	51.00					
67	Indiana, Illinois & Iowa.....	208.00				208.00	7,863.00	82.90					
71	Lake Erie & Western.....	3,119.00	140.00			3,212.33	104,360.00	60.00					
72	Lake Shore & Michigan Southern.....	13,349.00	47.00			13,396.00	62,315.00	38.69					
74	Louisville & Nashville.....	2,130.00		14.00		2,139.00	66,123.00	64.44					
76	Louisville, Evansville & St. Louis, Consolidat'd.....	2,166.00				2,173.00	83,266.00	52.00					
77	Louisville, New Albany & Chicago.....	1,392.00	55.75			1,429.16	55,680.00	51.33					
78	Michigan Central.....					(1)	573,363.00						
80	Mobile & Ohio.....	1,503.00				1,503.00	63,493.00	46.00					
83	New York, Chicago & St. Louis.....	8,763.30		80.00		8,803.30	215,825.00	81.60					
85	Ohio & Mississippi.....						131,663.00						
86	Ohio, Indiana & Western.....	575.00	18.00			587.00	29,957.00	43.00					
88	Pennsylvania Co. (Op. Pitts., Ft. Wayne & Chi.....	6,372.50	315.25			6,582.50	317,132.00	41.51					
88	Pennsylvania Co. (Op. South Chi. & Southern)	6,98.40	4.00			100.63	5,338.00	37.61					
93	Peoria, Decatur & Evansville.....	638.00			11.00	649.00	16,286.00	78.00					

Table XIV.—Continued.

NAME OF COMPANY.	20	21	22	23	24	25
	CONSTRUCTION.					
	COAL—TONS.	WOOD—CORDS.		Total fuel consumed—tons.	Miles run.	Average pounds consumed per mile.
Bituminous.	Hard.	Soft.				
94 Quincy, Omaha, & Kansas City.....	540.00			540.00	4,320.00	250.00
95 Rock Island & Peoria.....	460.00	6.00		466.01	13,893.00	67.62
98 St. Louis, Alton & Terre Haute.....	672.00		24.00	720.00	31,931.00	45.00
108 Terre Haute & Indianapolis.....	1,029.00	59.00		1,069.00	48,452.00	44.10
111 Toledo, Peoria & Western.....	178.00		6.00	181.00	8,385.00	43.17
112 Toledo, St. Louis & Kansas City.....	11,727.00			11,727.00	351,822.00	67.00
116 Wisconsin Central Lines.....	4,852.50	326.00		5,069.50	261,730.00	39.00
Totals.....	166,277.62	2,659.70	1,657.09	169,006.53	6,513,933.00	.....

(d). Fuel included in that used in freight service.

Table XIV.—Continued.

NAME OF COMPANY.	26	27	28	29	30	
	Grand total fuel consumed.—Tons.	Grand total miles run.....	Average pounds consumed per mile....	Average cost coal per ton at distributing point.....	Average cost wood per cord at distributing point.....	
1 Atchison, Topeka & Santa Fe	179,896.00	4,366,959.00	82.00	\$2 75	\$1 61	1
5 Baltimore & Ohio	158,091.00	3,019,723.00	105.00	1 50	1 03	5
7 Belt Railway of Chicago.....	32,685.00	971,179.00	67.00	1 85	3 25	7
8 Centralia & Chester	480.00	19,957.00	48.00	.....	.....	8
9 Chicago & Alton	285,492.00	7,318,616.00	78.02	1 80	4 00	9
12 Chicago & Atlantic	124,348.00	2,977,898.00	83.51	1 69	1 09	12
14 Chicago & Eastern Illinois.....	111,705.00	2,526,673.00	88.40	1 11	2 18	14
17 Chicago & Grand Trunk	179,190.10	4,906,454.00	73.04	2 05	.....	17
21 Chicago & Northwestern	1,099,064.00	28,826,000.00	76.25	1 83	2 61	21
23 Chicago & Ohio River	1,776.00	85,827.00	41.39	1 15	1 30	23
24 Chicago, Burlington & Northern....	(1)61,986.00	1,495,052.00	83.00	2 52	1 75	24
25 Chicago, Burlington & Quincy.....	757,784.30	(2)13,391,531.00	(4)97.85	1 38	2 48	25
29 Chicago, Milwaukee & St. Paul.....	990,966.00	26,682,178.00	74.00	1 98	2 59	29
34 Chicago, Rock Island & Pacific.....	(3)589,951.00	18,927,423.00	62.34	.....	.....	34
36 Chicago, St. Louis & Pittsburgh.....	(2)235,581.00	7,208,212.00	62.56	1 80	3 00	36
38 Chicago, St. Paul & Kansas City.....	212,760.49	4,936,799.00	98.28	1 80	2 65	38
39 Cleveland, Cin., Chicago & St. L.....	(6)438,318.25	12,174,082.00	71.00	(6)1.58	1 91	39
42 Kankakee & Seneca	2,457.00	58,479.00	89.60	1 45	1 84	42
43 Peoria & Eastern	(7)27,189.00	703,659.00	77.27	1 45	2 00	43
45 East St. Louis & Carondelet.....	2,823.00	104,462.00	54.00	1 20	2 70	45
48 Elgin, Joliet & Eastern.....	19,505.00	444,653.00	87.73	1 43	2 75	48
51 Fulton County Narrow Gauge.....	2,006.00	76,372.00	52.53	1 02	2 00	51
53 Grand Tower & Carbondale.....	3,328.00	56,812.00	117.00	1 00	.....	53
54 Grand Tower & Cape Girardeau.....	1,219.00	25,313.00	92.00	1 00	.....	54
55 Illinois Central	552,015.55	14,931,515.00	74.02	1 06	2 29	*55
65 Indiana & Illinois Southern.....	3,808.00	111,015.00	90	.....	.....	65
66 Indianapolis, Decatur & Western....	14,585.00	515,750.00	56.00	1 45	.....	66
67 Indiana, Illinois & Iowa.....	13,486.00	395,405.00	68.21	.....	.....	67
68 Iowa Central	66,119.00	1,838,955.00	71.91	1 44	1 79	68
71 Lake Erie & Western.....	100,455.33	2,990,283.00	65.90	1 64	2 15	71
72 Lake Shore & Michigan Southern....	558,748.00	18,586,767.00	60.12	1 35	.....	72
74 Louisville & Nashville.....	47,437.66	1,304,371.00	72.26	1 00	1 92	74
76 Louisville, Evansville & St. Louis, (Consolidated).....	49,017.00	1,686,498.00	58.06	70	1 00	76
77 Louisville, New Albany & Chicago..	115,224.79	2,756,218.00	83.61	1 53	2 40	77
78 Michigan Central.....	514,466.00	15,397,796.00	66.82	2 11	.....	78
80 Mobile & Ohio.....	34,315.00	1,023,140.00	67.00	97	.....	80
83 New York, Chicago & St. Louis.....	258,732.10	5,953,150.00	86.90	1 63	1 26	83
85 Ohio & Mississippi.....	(4)178,589.00	4,671,635.00	78.70	1 91	91	85
86 Ohio, Indiana & Western.....	36,526.00	961,762.00	72.00	1 40	2 00	86
87 Pawnee	197.00	7,000.00	56.28	.....	.....	87
88 Penn. Co. (Op. P., Fr. W. & C.).....	390,884.75	9,849,409.00	79.37	1 33	2 52	90
88 Penn. Co. (Op. So. Chi. & Southern)	1,415.95	41,980.00	67.43	1 38	2 31	91
92 Peoria & Pekin Union.....	10,500.00	525,000.00	40.00	1 08	.....	92
93 Peoria, Decatur & Evansville.....	22,513.00	780,899.00	57.00	88	1 25	93
94 Quincy, Omaha & Kansas City.....	8,360.00	218,872.00	76.00	1 75	1 20	94
95 Rock Island & Peoria.....	18,272.36	447,721.00	81.62	1 56	3 59	95
96 St. Louis, Alton & Springfield	5,300.00	.....	.....	.....	.....	96

(1) Cannot give amount of fuel consumed by the different classes of locomotives.

(2) Includes fuel consumed by Englewood Connecting R'y Co.

(3) Does not include mileage of switching and construction engines.

(4) Applies to passenger and freight locomotives only.

(5) Includes 1.695 cords of hard wood.

(6) Lump coal. Nut, \$1.16; slack, 45 cents.

(7) Includes 300 cords of hard wood.

* Cost of anthracite coal, \$8.26 per ton.

Table XIV.—Continued.

		26	27	28	29	30
NAME OF COMPANY.		Grand total fuel consumed.—Tons.....	Grand total miles run.....	Average pounds consumed per mile....	Average cost per ton at distributing point.....	Average cost wood per cord at distributing point.....
98	St. Louis, Alton & Terre Haute.....	37,104.00	992,977.00	74.73	76	98
105	St. Louis & Chicago.....	3,469.00	90,783.00	76.42	1 00	105
106	St. Louis & Peoria.....	605.00	6,776.00	179.00	60	106
107	Terminal Railroad Asso. of St. L.....	28,653.00	(1).....	.....	1 27	3 25
108	Terre Haute & Indianapolis.....	68,953.00	1,764,571.00	78.10	1 03	108
110	Terre Haute & Peoria.....	14,568.00	572,044.00	78.31	1 55	2 00
111	Toledo, Peoria & Western.....	32,051.00	934,066.00	68.63	1 14	111
112	Toledo, St. Louis & Kansas City..	101,021.00	2,540,990.00	79.50	1 00	112
114	Wabash.....	560,425.00	15,099,843.00	74.20	1 32	1 22
115	Wabash, Chester & Western.....	1,747.32	80,428.00	43.43	73	115
116	Wisconsin Central Lines.....	167,858.25	4,776,348.00	70.00	2 30	2 15
Totals.....		9,556,663.14	252,958,280.00	75.55		

(1) Cannot give miles run by switching locomotives.

Table XV.—Continued.

NAME OF COMPANY.	1	2	3	4	5	6	7	8	9	10	11	12
	PASSENGERS.			EMPLOYEES.			OTHERS.			TOTAL.		
	Killed..	Injured.	Total...	Killed..	Injured.	Total...	Killed..	Injured.	Total...	Killed..	Injured.	Total...
71 Lake Erie & Western	1	1	11	10	3	3	3	7	3	4	11	15
72 Lake Shore & Michigan Southern	1	1	11	11	15	20	8	7	15	17	18	35
74 Louisville & Nashville	1	1	26	26	12	28	7	5	12	10	32	42
76 Louisville, Evansville & St. Louis Consold	1	1	1	2	2	3	1	1	2	2	4	6
77 Louisville, New Albany & Chicago	1	1	1	1	1	1	1	1	2	2	4	6
78 Michigan Central	1	1	15	15	7	16	3	3	5	5	18	23
80 Mobile & Ohio	1	1	16	16	6	16	3	3	6	6	19	23
83 New York, Chicago & St. Louis	1	1	38	38	41	41	1	2	3	4	40	44
85 Ohio & Mississippi	5	5	59	59	63	63	8	8	15	12	21	26
86 Ohio, Indiana & Western	1	1	7	7	3	7	3	3	4	4	11	15
88 Penn. Co. (Op. Pittsburgh Ft. Wayne & Chi.)	1	1	10	10	14	14	1	1	14	12	18	23
92 Peoria & Pekin Union	2	2	49	49	54	54	7	7	8	6	18	23
93 Peoria, Decatur & Evansville	2	2	15	15	2	15	2	1	3	2	6	8
94 Quincy, Omaha & Kansas City	1	1	3	3	4	4	1	1	1	2	3	5
95 Rock Island & Peoria	1	1	3	3	6	6	1	1	8	11	4	9
98 St. Louis, Alton & Terre Haute	1	1	3	3	3	3	1	1	1	1	4	5
103 St. Louis & Chicago	1	1	3	3	6	6	1	1	8	11	4	9
105 St. Louis & Peoria	1	1	3	3	5	5	1	1	1	1	4	5
107 Terminal Railroad Association of St. Louis	1	1	3	3	5	5	1	1	9	9	9	10
108 Terre Haute & Indianapolis	1	1	29	29	31	31	3	4	10	8	37	45
110 Terre Haute & Peoria	1	1	9	9	10	10	1	1	5	5	14	16
111 Toledo, Peoria & Western	1	1	21	21	21	21	3	3	3	3	23	26
112 Toledo, St. Louis & Kansas City	1	1	21	21	22	22	1	1	3	3	5	6
114 Wabash	9	9	107	107	111	111	22	45	67	29	158	187
116 Wisconsin Central Lines	1	1	8	8	8	8	1	1	1	1	9	9
Totals	27	136	163	176	1,059	1,235	365	389	734	568	1,564	2,132

Table XV.—Continued.

NAME OF COMPANY.	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	KIND OF ACCIDENT.																		
	COUPLING AND UNCOUPLING.	FALLING FROM TRAINS AND ENGINES.	OVER-HEAD STRUCTURES.	COLLISIONS.	DE-RAILMENTS.	OTHER TRAIN ACCIDENTS.	AT HIGHWAY CROSSINGS.	AT STATIONS.	OTHER CAUSES.										
Indiana, Illinois & Iowa	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Iowa Central	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lake Erie & Western	7	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lake Shore & Michigan Southern	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Louisville & Nashville	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Louisville, Evansville & St. Louis, (Consolidated)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Louisville, New Albany & Chicago	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Michigan Central	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mobile & Ohio	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
New York, Chicago & St. Louis	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ohio & Mississippi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ohio, Indiana & Western	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ohio, Indiana & Western	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Peoria & Pekin Union	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Peoria, Decatur & Evansville	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Peoria, Omaha & Kansas City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Island and Peoria	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Island and Peoria	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Louis, Alton & Terre Haute	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Louis & Chicago	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Louis & Peoria	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Terminal Railroad Association of St. Louis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Terre Haute & Indianapolis	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Terre Haute & Peoria	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Terre Haute & Peoria	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Toledo, Peoria & Western	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Toledo, St. Louis & Kansas City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wabash	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wisconsin Central Lines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	39	433	37	162	7	14	17	95	16	52	102	152	53	70	25	57	272	529	

TABLE XVI.—*Taxes paid in Illinois in 1888, 1889 and 1890, for years ending June 30.*

NAME OF COMPANY.	1	2	3	
	1888.	1889.	1890.	
1 Atchison, Topeka & S. Fe. (Form. C., S. F. & C.)	\$34,038 88	\$57,355 86	\$112,197 79	1
5 Baltimore & Ohio	15,890 48	4,151 43	14,512 28	5
7 Belt Railway of Chicago	25,800 00	27,000 00	28,000 00	7
9 Chicago & Alton	190,878 57	200,081 00	185,403 13	9
12 Chicago & Atlantic	39,655 50	24,842 31	31,055 29	12
14 Chicago & Eastern Illinois	61,757 09	66,910 00	74,075 82	14
17 Chicago & Grand Trunk	38,923 98	39,379 14	41,140 57	17
20 Chicago & Iowa	17,640 89	16,729 38	16,556 87	20
21 Chicago & Northwestern	186,338 31	210,213 00	188,485 86	21
23 Chicago & Ohio River	7,110 00	7,280 00	7,752 78	23
Chicago & Western	1,353 80			
24 Chicago, Burlington & Northern	20,526 66	22,193 73	20,884 01	24
25 Chicago, Burlington & Quincy	310,065 55	286,445 77	295,403 11	25
26 Galesburg and Rio	1,632 63	1,525 87	1,485 25	26
27 Illinois Valley & Northern		5,812 30	8,389 46	27
28 St. Louis, Rock Island & Chicago	53,867 71	48,214 53	50,455 14	28
29 Chicago, Milwaukee & St. Paul	87,151 33	91,084 40	90,608 40	29
30 Chicago, Peoria & St. Louis	(110,598 26	(2)12,322 12	16,737 61	30
34 Chicago, Rock Island & Pacific	144,860 02	143,203 90	148,505 77	34
36 Chicago, St. Louis & Pittsburgh	36,131 70	47,528 89	49,224 24	36
37 Englewood Connecting			1,813 33	37
38 Chicago, St. Paul & Kansas City	1,276 62	19,693 41	22,681 31	38
39 Cleveland, Cincinnati, Chi. & St. Louis	118,119 21	117,850 15	135,471 88	39
42 Kankakee & Seneca	6,218 21	6,600 44	6,496 59	42
44 DePue, Ladd & Eastern			150 15	44
45 East St. Louis & Carondelet	4,098 24	4,349 22	3,155 72	45
46 East St. Louis Connecting	10,315 97	1,458 83	2,100 54	46
48 Elgin, Joliet & Eastern		7,492 75	17,524 86	48
51 Fuiton County Narrow Gauge	1,934 54	1,931 98	2,589 81	51
53 Grand Tower & Carbondale	5,485 26	4,948 45	5,030 60	53
Illinois & St. Louis Railroad and Coal	7,355 40			
55 Illinois Central	486,909 13	507,403 42	555,634 39	55
65 Indiana & Illinois Southern	8,615 31	5,445 06	5,814 41	65
Indiana, Bloomington & Western	18,627 60			
66 Indianapolis, Decatur & Western	13,968 68	13,547 49	13,592 30	66
67 Indiana, Illinois & Iowa	10,134 34	10,098 12	8,826 94	67
68 Iowa Central	17,555 21	12,071 37	12,067 10	68
Joliet, Aurora & Northern	2,191 05			
71 Lake Erie & Western	7,984 06	15,559 44	18,062 88	71
72 Lake Shore & Michigan Southern	45,168 87	46,089 95	48,069 91	72
74 Louisville & Nashville	34,595 26	32,633 36	37,232 93	74
76 Louisville, Evansville & St. L. Consol.	9,583 37	16,828 72	17,652 22	76
77 Louisville, New Albany & Chicago		45 07	14,513 90	77
78 Michigan Central	23,299 64	25,905 75	18,617 55	78
80 Mobile & Ohio	29,938 15	32,362 80	28,755 58	80
83 New York, Chicago & St. Louis	15,206 63	17,348 55	18,756 70	83
85 Ohio & Mississippi	83,723 82	80,630 08	86,134 08	85
86 Ohio, Indiana & Western	13,305 43	31,483 47	14,453 28	86
88 Pennsylvania Co. (Op. Calumet River)			1,257 38	88
88 Pennsylvania Co. (Op. P., Ft. W. & C.)	63,070 12	69,209 80	66,548 52	88
88 Pennsylvania Co. (Op. So. Chi. & Southern)		3,872 72	4,667 25	88
92 Peoria & Pekin Union	20,072 08	22,184 29	22,936 45	92
93 Peoria, Decatur & Evansville	32,946 23	35,128 85	34,193 90	93
94 Quincy, Omaha & Kansas City			1,206 57	94
95 Rock Island & Peoria	22,933 06	22,008 83	23,296 44	95
96 St. Louis, Alton & Springfield		6,052 50	8,655 21	96
98 St. Louis, Alton & Terre Haute	38,271 37	34,742 53	36,921 65	98
St. Louis & Central Illinois	5,935 58			

Table XVI—Continued.

	NAME OF COMPANY.	1	2	3	
		1888.	1889.	1890.	
105	St. Louis & Chicago	\$1,712 83	\$1,750 00	\$3,729 69	105
106	St. Louis & Peoria			800 00	106
	St. Louis Bridge & Tunnel		54,101 19		
107	Terminal R. R. Association of St. Louis			36,457 54	107
108	Terre Haute & Indianapolis	(3)57,103 38	(3)54,517 90	(3)52,341 70	108
110	Terre Haute & Peoria	16,053 85	15,239 93	14,996 64	110
111	Toledo, Peoria & Western	34,308 29	34,451 22	34,836 45	111
112	Toledo, St. Louis & Kansas City	13,071 02	11,152 93	13,787 79	112
114	Wabash			171,202 60	114
115	Wabash, Chester & Western	3,177 81	2,490 18	3,025 36	115
	Wabash, St. Louis & Pacific	173,229 12	123,175 10		
	Wabash Western	2,326 50	1,778 00		
116	Wisconsin Central Lines	4,969 93	9,726 44	13,941 01	116
	Totals	\$2,739,612 53	\$2,825,988 72	\$3,021,904 49	

(1) Jacksonville Southeastern in 1888.

(2) Louisville & St. Louis in 1889.

(3) Paid by lessor company.

Table XVII—Continued.

NAME OF COMPANY.	1	2	3	4	5	6	7	8
	Income from lease of road.....	Income from other sources.....	Total income.....	DEDUCTIONS FROM INCOME.				Net income.....
				Salaries and maintenance of organization.....	Interest on funded debt.	Other deductions.....	Total deductions from income.....	
98 St. Louis, Alton & Terre Haute—(1)	\$30,000 00	\$32 86	\$30,032 86	\$2 00	\$20,100 00		\$20,102 00	\$930 86
99 Belleville & Carondelet.....	17,350 80	50 62	17,401 42		15,100 00		15,100 00	2,001 42
100 Belleville & Eldorado.....	185,170 57	46 66	185,217 23	3,617 25	81,920 00		90,537 25	94,679 98
101 Chicago, St. Louis & Paducah.....	50,000 00		50,000 00		50,000 00	\$5,000 00	50,000 00	
102 St. Louis Southern.....	47,940 19		47,940 19	565 67	22,000 00	23,910 11	46,415 78	1,524 41
103 Carbondale & Shawneetown.....	10,000 00		10,000 00		10,000 00		10,000 00	
104 Terre Haute & Indianapolis—(1)	549,897 37	127,006 32	676,903 69	100 00	314,930 00	54,665 60	369,635 60	307,268 09
105 St. Louis, Vandalia & Terre Haute.....	\$6,191,670 12	\$607,607 57	\$6,799,277 69	\$31,622 58	\$2,304,360 58	\$296,803 06	\$3,292,786 22	\$3,697,444 23
Totals.....								

(1) Inserted to show relation of roads following.

Table XVII—Continued.

NAME OF COMPANY.	9	10	11	12	13	14	15	16	17
	Net deficit.....	DIVIDENDS DECLARED.			Rate per cent.	Other payments from net income..	Total payments from net income..	Surplus for year ending June 30, 1890	Deficit for year ending June 30, 1890...
		Common stock	Rate per cent.	Preferred stock.....					
9 Chicago & Alton—(1)		\$105,000 00	7						9
10 Joliet & Chicago.....		21,000 00	7		\$12,000 00		\$33,000 00		10
11 Mississippi River Bridge.....									11
14 Chicago & Eastern Illinois—(1)									14
15 Chicago & Western Indiana.....		150,000 00	3				150,000 00	\$122,410 50	15
16 Evansville, Terre Haute & Chicago.....							1,831 49		16
34 Chicago, Rock Island & Pacific—(1)									34
35 Peoria, Rock Island & Pacific.....									35
36 Chicago, St. Louis & Pittsburg—(1)		135,000 00	9				135,000 00	\$11,063 80	36
37 Englewood Connecting.....									37
48 Elgin, Joliet & Eastern—(1)								1,224 85	48
49 Gardner, Coal City & Northern.....									49
50 Waukegan & Southwestern.....	\$15,312 96							26,500 00	50
51 Illinois Central—(1)									51
52 Chicago, Havana & Western.....	80,792 30								52
53 Kaintoul.....	29,820 83								53
54 South Chicago.....								13,591 83	54
78 Michigan Central—(1)									78
79 Joliet & Northern Indiana.....		24,000 00	8				24,000 00	8,012 60	79
83 New York, Chicago & St. Louis—(1)									83
84 Chicago & State Line.....								100 00	84
88 Pennsylvania Co.—(1)									88
90 Pittsburg, Ft. Wayne & Chicago.....		1,380,000 00	7	\$860,146 00	7		2,240,146 00	441,342 40	90
91 South Chicago & Southern.....	5,026 67								91

Table XVII—Continued.

NAME OF COMPANY.	9	10				11	12		13	14	15	16	17.
		DIVIDENDS DECLARED.					Rate per cent .	Preferred stock					
		Common stock		Rate per cent .									
	Net deficit.....								Other payments from net income..	Total payments from net income..	Surplus for year ending June 30, 1890	Deficit for year ending June 30, 1890...	
98 St. Louis, Alton & Terre Haute—(1)											\$930 86	98	
99 Belleville & Carondelet.....											2,001 42	99	
100 Belleville & Eldorado.....											2,252 48	100	
101 Belleville & Southern Illinois.....						7%	\$92,437 50			\$92,437 50	1,524 41	101	
102 St. Louis Southern.....												102	
108 Terre Haute & Indianapolis—(1)												108	
109 St. Louis, Vandalla & Terre Haute.....											397,208 09	109	
Totals	\$130,952 76	\$1,815,000 00					\$952,583 50		\$12,000 00	\$2,074,583 50	\$328,924 53	\$142,016 56	

(1) Inserted to show relation of roads following.

LIST OF
RAILROAD OFFICIALS.

ATCHISON, TOPEKA & SANTA FE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Geo. C. Magoun.....	Boston, Mass.....
President.....	Allen Manvel.....	Chicago, Ill.....
Assistant to President.....	J. D. Springer.....	Chicago, Ill.....
Vice-President, 1st.....	J. W. Reinhart.....	Boston, Mass.....
Vice-President, 2d.....	A. A. Robinson.....	Topeka, Kas.....
Secretary and Treasurer.....	E. Wilder.....	Topeka, Kas.....
Assistant Treasurer.....	Geo. L. Goodwin.....	Boston, Mass.....
Assistant Secretary.....	L. C. Denning.....	Topeka, Kas.....
General Solicitor.....	Geo. R. Peck.....	Topeka, Kas.....
General Counsel.....	Jno. J. McCook.....	New York, N. Y.....
Comptroller.....	Jas. P. Whitehead.....	Boston, Mass.....
Assistant General Auditor.....	W. K. Gillett.....	Topeka, Kas.....
Auditor.....	H. C. Clements.....	Topeka, Kas.....
Freight and Traffic Manager.....	J. A. Hanley.....	Chicago, Ill.....
Assistant Freight and Traffic Manager.....	W. B. Biddle.....	Chicago, Ill.....
General Freight Agent.....	F. C. Gav.....	Topeka, Kas.....
Assistant General Freight Agent.....	J. G. Miller.....	Chicago Ill.....
Assistant General Freight Agent.....	A. P. Tanner.....	Topeka, Kas.....
Assistant General Freight Agent.....	Chas. R. Hudson.....	Topeka, Kas.....
Assistant General Freight Agent.....	O. H. Brown.....	Topeka, Kas.....
General Passenger Agent.....	Geo. T. Nicholson.....	Topeka, Kas.....
General Ticket Agent.....	Jno. J. Byrne.....	Chicago, Ill.....
General Baggage Agent.....	P. Walsh.....	Topeka, Kan.....
Superintendent of Telegraph.....	R. B. Gemmel.....	Topeka, Kas.....
Land Commissioner.....	Jas. E. Frost.....	Topeka, Kas.....

CHICAGO, SANTA FE & CALIFORNIA RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	A. Manvel.....	Chicago, Ill.....
1st Vice-President.....	J. D. Springer.....	Chicago, Ill.....
Secretary and Treasurer.....	D. L. Gallup.....	Chicago, Ill.....
Assistant Treasurer.....	Geo. L. Goodwin.....	Boston, Mass.....
General Solicitor.....	Geo. R. Peck.....	Topeka, Kas.....
Comptroller.....	J. P. Whitehead.....	Boston, Mass.....
General Auditor.....	J. W. Reinhart.....	Boston, Mass.....
Acting Auditor.....	S. L. Crim.....	Chicago, Ill.....
Assistant General Freight Agent.....	J. G. Miller.....	Topeka, Kas.....
Assistant General Passenger Agent.....	J. J. Byrne.....	Topeka, Kas.....
General Superintendent.....	C. O. Wheeler.....	Topeka, Kas.....
Manager of Elevator.....	Charles Counselman.....	Topeka, Kas.....

ATCHISON, TOPEKA & SANTA FE RAILROAD COMPANY IN CHICAGO.

OFFICERS.

Title.	Name.	Location of Office.
President	A. Manvel.....	Chicago, Ill.....
Vice-President	S. B. French.....	“ “
Secretary and Treasurer.....	D. L. Gallup.....	“ “
Assistant Treasurer.....	C. S. Tuckerman.....	Boston, Mass.....
Comptroller.....	J. P. Whitehead.....	“ “
General Auditor.....	J. W. Reinhart.....	“ “
Acting Auditor.....	S. L. Crim.....	Chicago, Ill.....

THE MISSISSIPPI RIVER RAILROAD AND TOLL BRIDGE COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	A. Manvel.....	Chicago, Ill.....
Secretary	D. L. Gallup.....	“ “
Treasurer	D. L. Gallup.....	“ “
Assistant Treasurer.....	G. L. Goodwin.....	Boston, Mass.....
Assistant Secretary.....	C. S. Tuckerman.....	“ “
Comptroller	J. P. Whitehead.....	“ “
Auditor General.....	J. W. Reinhart.....	“ “
Acting Auditor.....	S. L. Crim.....	Chicago, Ill.....
Chief Engineer.....	A. A. Robinson.....	Topeka, Kas.....

THE BALTIMORE & OHIO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Attorney or General Counsel.....	John K. Cowen.....	Baltimore, Md.....
Auditor, General.....	W. i. Thelin.....	“ “
General Manager.....	J. T. O'Dell.....	“ “
Chief Engineer.....	H. T. Douglas.....	“ “
Traffic Manager.....	Frank Harriott.....	“ “
General Freight Agent	C. S. Wright.....	Pittsburgh, Pa.....
General Passenger Agent.....	C. O. Scull.....	Baltimore, Md.....
Assistant General Passenger Agent	L. S. Allen.....	Chicago, Ill.....
Division Superintendent.....	F. H. Britton.....	“ “
Superintendent of Telegraph.....	Chas. Selden.....	Baltimore, Md.....
General Baggage Agent.....	B. E. Peddicord.....	“ “
Agent in Illinois, for transfer of stock...	P. C. Sneed.....	Chicago, Ill.....

BALTIMORE & OHIO & CHICAGO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Orland Smith.....	Baltimore, Md.
Secretary and Treasurer.....	P. C. Sneed	Chicago, Ill.

BELT RAILWAY CO. OF CHICAGO.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	Volney T. Malott.....	Chicago, Ill.
President	Volney T. Malott.....	"
Vice-President.....	B. Thomas	"
Secretary.....	M. J. Clark	"
Treasurer	J. E. Murphy.....	"
General Solicitor.....	Chas. M. Osborn.....	"
Auditor	M. J. Clark.....	"
General Manager.....	B. Thomas.....	"

CENTRALIA & CHESTER RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	T. B. Needles	Nashville, Ill.
Vice-President	C. E. Smith	New York, N. Y.
Secretary	S. L. Dwight	Centralia, Ill.
Treasurer	J. M. McCutcheon.....	Sparta, Ill.
Auditor	B. H. Rosborough.....	"
General Manager.....	J. M. McCutcheon.....	"
General Freight Agent.....	H. G. Borneman	"
General Passenger Agent.....	H. G. Borneman	"
Agent in Illinois, for transfer of stock...	S. L. Dwight.....	Centralia, Ill.

CHICAGO & ALTON RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	T. B. Blackstone	Chicago, Ill.
Vice-President	J. C. McMullin	"
Secretary and Treasurer	C. H. Foster	"
General Solicitor.....	Wm. Brown	"
Auditor General.....	Chauncey Kelsey.....	"
General Manager.....	C. H. Chappell	"
Chief Engineer	K. F. Booth	"
General Freight Agent	H. H. Courtright.....	"
General Passenger Agent	James Charlton	"
Division Superintendent	A. M. Richards.....	Bloomington, Ill. ...
Division Superintendent	M. K. Morley	Roodhouse, Ill.
Superintendent of Telegraph	H. V. Miller	Bloomington, Ill. ...
Superintendent of Transportation.....	T. M. Bates	"
General Baggage Agent.....	C. Huntington.....	Chicago, Ill.
Agent in Illinois, for transfer of stock....	C. H. Foster, Secretary	"

JOLIET & CHICAGO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	John B. Drake	Chicago, Ill.
Secretary	Chas. H. Foster	"
Agent in Illinois for transfer of stock	Chas. H. Foster, Secretary	"

MISSISSIPPI RIVER BRIDGE.

OFFICERS.

Title.	Name.	Location of Office.
President	James C. McMullin	Chicago, Ill.
Secretary and Treasurer	Chas. H. Foster	"
Agent in Illinois for transfer of stock	Chas. H. Foster	"

CHICAGO & ATLANTIC RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Receiver	Volney T. Ma'ott	Chicago, Ill.
Attorneys or General Counsel	Baker & Daniels	Indianapolis, Ind..
Assistant Attorney or General Counsel	John A. Henry	Chicago, Ill.
Auditor	J. D. Kershaw	"
General Agent for Receiver	L. G. Cannon	"
General Freight Agent	G. G. Cochran	"
General Passenger Agent	F. C. McDonald	"
General Ticket Agent	F. C. McDonald	"
Superintendent	C. L. Mayne	Huntington, Ind..
Master Mechanic	J. H. Berry	"
Paymaster	H. D. Hamilton	Chicago, Ill.
General Baggage Agent	F. C. McDonald	"

CHICAGO & CALUMET TERMINAL RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	David S. Wegg	Chicago, Ill.
Secretary	Henry S. Boutell	"
Treasurer	David S. Wegg	"

CHICAGO & EASTERN ILLINOIS RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	H. H. Porter.....	Chicago, Ill.....
President and General Manager.....	Geo. W. Saul.....	Chicago, Ill.....
Vice-President.....	O. S. Lyford.....	Chicago, Ill.....
2d Vice-President and Treasurer.....	C. W. Hillard.....	Chicago, Ill.....
Secretary and Auditor.....	H. A. Rubidge.....	Chicago, Ill.....
Assistant Treasurer.....	A. R. Flower.....	New York, N. Y.....
Cashier and Paymaster.....	A. S. Cullum.....	Chicago, Ill.....
Chief Engineer and Sup't of Maintenance	H. F. Baldwin.....	Chicago, Ill.....
General Solicitor.....	W. H. Lyford.....	Chicago, Ill.....
General Traffic Manager.....	G. J. Grammer.....	Evansville, Ind.....
General Freight Agent.....	F. V. Davis.....	Chicago, Ill.....
General Passenger and Ticket Agent.....	Wm. Hill.....	Chicago, Ill.....
Ass't General Passenger and Ticket Ag't	Chas. L. Stone.....	Chicago, Ill.....
Ass't General Freight Agent.....	H. E. Felton.....	Chicago, Ill.....
General Superintendent.....	D. R. Paterson.....	Chicago, Ill.....
Superintendent of Transportation.....	T. W. Burrows.....	Danville, Ill.....
General Master Mechanic.....	Allen Cooke.....	Chicago, Ill.....
General Baggage Agent.....	F. R. Wheeler.....	Evansville, Ind.....
Purchasing Agent.....	Robert Spencer.....	Chicago, Ill.....
Agent in Illinois, for transfer of stock...	H. A. Rubidge, Sec'y.....	Chicago, Ill.....

CHICAGO & WESTERN INDIANA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Volney T. Malott.....	Chicago, Ill.....
President.....	Volney T. Malott.....	Chicago, Ill.....
Vice-President.....	B. Thomas.....	Chicago, Ill.....
Secretary.....	M. J. Clark.....	Chicago, Ill.....
Treasurer.....	John E. Murphy.....	Chicago, Ill.....
General Solicitor.....	Chas. M. Osborn.....	Chicago, Ill.....
Auditor.....	M. J. Clark.....	Chicago, Ill.....
General Manager.....	B. Thomas.....	Chicago, Ill.....

EVANSVILLE, TERRE HAUTE & CHICAGO RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	C. W. Hillard.....	Chicago, Ill.....
Secretary.....	S. H. Spooner.....	Chicago, Ill.....
Treasurer.....	C. W. Hillard.....	Chicago, Ill.....

CHICAGO & GRAND TRUNK RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Sir Joseph Hickson.....	Montreal, Prov. Q.
President.....	Sir Joseph Hickson.....	" "
Vice-President.....	L. J. Seargeant.....	" "
Secretary.....	Charles Percy.....	" "
Treasurer.....	James H. Muir.....	Detroit, Mich.....
Chief Engineer.....	Geo. Masson.....	" "
General Solicitor.....	E. W. Meddaugh.....	" "
General Manager.....	W. J. Spicer.....	" "
Traffic Manager.....	Geo. B. Reeve.....	Chicago, Ill.....
Ass't General Freight Agent.....	David Brown.....	" "
General Passenger and Ticket Agent.....	W. E. Davis.....	" "
Superintendent.....	A. B. Atwater.....	Detroit, Mich.....
Ass't Superintendent.....	A. R. McIntyre.....	Battle Creek, Mich.....
Mechanical Superintendent.....	Herbert Roberts.....	Detroit, Mich.....
General Storekeeper.....	Jno. S. Lorimer.....	" "
General Baggage Agent.....	J. E. Quick.....	" "
Agent in Illinois, for transfer of stock.....	F. A. Howe.....	Chicago, Ill.....

GRAND TRUNK JUNCTION RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Sir Joseph Hickson.....	Montreal, Prov. Q.
President.....	Sir Joseph Hickson.....	" "
Vice-President.....	F. A. Howe.....	Chicago, Ill.....
Secretary.....	Charles Percy.....	Montreal, Prov. Q.
Treasurer.....	James H. Muir.....	Detroit, Mich.....
General Solicitor.....	E. W. Meddaugh.....	" "
General Manager.....	W. J. Spicer.....	" "
Agent in Illinois, for transfer of stock.....	F. A. Howe.....	Chicago, Ill.....

CHICAGO & ILLINOIS SOUTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of office.
President.....	John S. Hannah.....	Chicago, Ill.....
Vice-President.....	Wm. P. Harvey.....	Baltimore, Md.....
Secretary.....	Geo. M. Patch.....	Chicago, Ill.....
Treasurer.....	Geo. S. McReynolds.....	" "

CHICAGO & IOWA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of office.
President	F. H. Head	Chicago, Ill.
First Vice-President	J. C. Peasley	" "
Second Vice-President	G. B. Harris	" "
Secretary	L. O. Goddard	" "
Treasurer	J. C. Peasley	" "
Assistant Treasurer	F. Clark	Rochelle, Ill.
Assistant Attorney or Counsel	M. D. Hathaway	" "
Auditor, General	Jno. L. Lathrop	Chicago, Ill.
Auditor	F. Clark	Rochelle, Ill.
General Freight and Passenger Agent	H. D. Judson	" "
General Superintendent	H. D. Judson	" "
General Baggage Agent	E. A. Sudd	Chicago, Ill.
Agent in Illinois, for transfer of stock	L. O. Goddard	" "

CHICAGO & NORTHWESTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	Albert Keep	Chicago, Ill.
President	Marvin Hughitt	" "
Vice-President	Martin L. Sykes	New York, N. Y.
Second Vice-President	Marshall M. Kirkman	Chicago, Ill.
Third Vice-President	William H. Newman	" "
Secretary	Martin L. Sykes	New York, N. Y.
Treasurer	Martin L. Sykes	" "
Assistant Treasurers	S. O. Howe and J. B. Redfield	New York, N. Y., and Chicago, Ill., Chicago, Ill.
Chief Engineer	John E. Blunt	" "
General Counsel	William C. Goudy	" "
General Attorney	William B. Keep	" "
Auditor	Joseph B. Redfield	" "
General Manager	John M. Whitman	" "
General Freight Agent	Hiram R. McCullough	" "
General Passenger Agent	William A. Thrall	" "
General Ticket Agent	William A. Thrall	" "
General Superintendent	Sherburne Sanborn	" "
Division Superintendent, in Illinois	William A. Gardner	" "
Division Superintendent, in Illinois	Otto Miller	" "
Superintendent of Telegraph	Geo. H. Thayer	" "
General Baggage Agent	Nathaniel A. Phillips	" "
Land Commissioner	Charles E. Simmons	" "
Agent in Illinois, for transfer of stock	J. B. Redfield, Ass't Secretary	" "

CHICAGO & NORTHERN PACIFIC RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	David S. Wegg.....	Chicago, Ill.....
Vice-President.....	James B. Williams.....	New York, N. Y.....
Secretary.....	Henry S. Boutell.....	Chicago, Ill.....
Treasurer.....	Geo. S. Barter.....	New York, N. Y.....
Assistant Treasurer.....	Conway W. Hillman.....	Chicago, Ill.....
Cashier.....	William E. Dunscombe.....	".....
Chief Engineer.....	Willis S. Jones.....	".....
General Solicitor.....	Henry S. Boutell.....	".....
Attorney.....	Kemper K. Knapp.....	".....
Auditor, General.....	James A. Barker.....	St. Paul, Minn.....
Auditor.....	Thomas J. Hyman.....	Chicago, Ill.....
General Manager.....	Andrew A. Allen.....	".....
Traffic Manager.....	Henry A. Hawley.....	".....
General Superintendent.....	John T. McBride.....	".....
Agent in Illinois, for transfer of stock.....	Henry S. Boutell, Secy.....	".....

CHICAGO & OHIO RIVER RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Albert N. Parlin.....	Boston, Mass.....
President.....	Albert N. Parlin.....	".....
Vice-President.....	Austin Corbin.....	New York, N. Y.....
Secretary and Treasurer.....	E. R. Reynolds.....	".....
General Solicitor.....	C. W. Fairbanks.....	Indianapolis, Ind.....
Auditor.....	J. L. Hamar.....	Kansas, Ill.....
General Manager.....	J. D. Livingston.....	".....
General Freight Agent.....	F. N. Boyer.....	Olney, Ill.....
General Passenger Agent.....	J. D. Livingston.....	Kansas, Ill.....
Ass't General Ticket Agent.....	J. D. Livingston.....	".....
General Superintendent.....	Wm. A. Bell.....	".....
Superintendent of Telegraph.....	C. E. Achuff.....	".....

CHICAGO, BURLINGTON & NORTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	J. Murray Forbes.....	Boston, Mass.....
President.....	J. Murray Forbes.....	".....
Vice-President.....	Geo. B. Harris.....	St. Paul, Minn.....
Secretary.....	F. B. Beaumont.....	Boston, Mass.....
Treasurer.....	J. Murray Forbes.....	".....
Cashier.....	F. Dabney.....	St. Paul, Minn.....
Chief Engineer.....	S. D. Purdy.....	LaCrosse, Wis.....
Attorney or General Counsel.....	Yound & Lightner.....	St. Paul, Minn.....
Auditor.....	N. B. Hinkley.....	St. Paul, Minn.....
General Freight Agent.....	W. J. C. Kenyon.....	".....
General Passenger Agent.....	W. J. C. Kenyon.....	".....
General Superintendent.....	J. R. Hastings.....	".....
Assistant Superintendent.....	D. Cunningham.....	LaCrosse, Wis.....
Assistant Superintendent.....	J. C. Howard.....	Minneapolis, Minn.....
Superintendent of Telegraph.....	P. H. Hough.....	LaCrosse, Wis.....
General Baggage Agent.....	E. A. Sadd.....	Chicago, Ill.....

CHICAGO, BURLINGTON & QUINCY RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	J. M. Forbes.....	Boston, Mass.....
President.....	C. E. Perkins.....	Burlington, Ia.....
Vice-President, 1st.....	J. C. Peasley.....	Chicago, Ill.....
Vice-President, 2d.....	Geo. B. Harris.....	.....
Secretary.....	T. S. Howland.....	Boston, Mass.....
Treasurer.....	J. C. Peasley.....	Chicago, Ill.....
Assistant Treasurer.....	E. E. Pratt.....	Boston, Mass.....
Cashier, Acting.....	W. J. Fabian.....	Chicago, Ill.....
Chief Engineer.....	E. J. Blake.....	.....
Attorney at Chicago.....	C. M. Dawes.....	.....
Attorney at Galesburg.....	O. F. Price.....	Galesburg, Ill.....
Comptroller, Acting.....	W. J. Ladd.....	Boston, Mass.....
Auditor, General.....	J. L. Lathrop.....	Chicago, Ill.....
Ass't General Auditor.....	C. A. turgis.....	.....
General Manager.....	G. B. Harris.....	.....
General Freight Agent.....	Thos. Miller.....	.....
General Passenger and Ticket Agent.....	P. S. Eustis.....	.....
Ass't General Ticket and Passenger Agt.....	L. Wakeley.....	.....
Ass't General Freight Agents.....	F. Rogers, E. R. Puffer, W. B. Hamblin.....	.....
General Superintendent.....	J. D. Besler.....	.....
Division Superintendent.....	L. E. Johnson.....	Aurora, Ill.....
Division Superintendent.....	E. M. Herr.....	Galesburg, Ill.....
Division Superintendent.....	W. B. Throop.....	Beardstown, Ill.....
General Supt. of Illinois Lines.....	F. C. Rice.....	Galesburg, Ill.....
Supt. of Freight Terminals at Chicago.....	C. G. Wilson.....	Chicago, Ill.....
Superintendent of Telegraph.....	W. W. Nichols.....	.....
General Baggage Agent.....	E. A. Sudd.....	.....
Land Commissioner.....	W. W. Baldwin.....	Burlington, Ia.....
Agent in Illinois, for transfer of stock.....	H. W. Weiss.....	Chicago, Ill.....

GALESBURG & RIO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	J. L. Lathrop.....	Chicago, Ill.....
Secretary.....	L. O. Goddard.....	.....

ILLINOIS VALLEY & NORTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	J. L. Lathrop.....	Chicago, Ill.....
Vice-President.....	J. C. Osgood.....	New York, N. Y.....
Secretary and Treasurer.....	H. W. Weiss.....	Chicago, Ill.....

ST. LOUIS, ROCK ISLAND & CHICAGO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	J. N. A. Griswold	New York, N. Y....
Vice-President	J. L. Lathrop	Chicago, Ill.
Secretary and Treasurer	L. O. Goddard .....	.....

CHICAGO, MILWAUKEE & ST. PAUL RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Roswell Miller	Chicago, Ill.
Vice-President, 1st	Frank S. Bond	New York, N. Y....
Vice-President, 3d	E. P. Ripley	Chicago, Ill.
President, Assistant to	J. F. Tucker .....	.....
Secretary	P. M. Myers	Milwaukee, Wis....
Treasurer	F. G. Ranney	Chicago, Ill.
Assistant Treasurer	Jno. McNab .....	.....
Cashier	D. J. Whittemore .....	.....
General Solicitor	J. Y. Fish .....	.....
General Counsel	Jno. W. Cary .....	.....
Comptroller	E. O. Sewall .....	.....
Auditor, General	J. P. Whaling .....	.....
Assistant General Auditor	W. N. D. Winne .....	.....
General Manager	A. J. Earling .....	.....
Freight Traffic Manager	A. C. Bird .....	.....
General Freight Agent	J. H. Hiland .....	.....
General Passenger Agent	A. V. H. Carpenter .....	.....
General Ticket Agent	A. V. H. Carpenter .....	.....
General Superintendent	W. G. Collins .....	.....
Superintendent of Telegraph	W. J. Fry	Milwaukee, Wis....
General Baggage Agent	W. D. Carriek .....	.....
Land Commissioner	H. G. Hangan .....	.....

CHICAGO, PEORIA & ST. LOUIS RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	William S. Hook	Jacksonville, Ill.
Vice-President	Isaac L. Morrison .....	.....
Secretary and Treasurer	Marcus Hook .....	.....
Cashier	Francis Hook .....	.....
Attorney or General Counsel	Isaac L. Morrison .....	.....
Auditor	Marcus Hook .....	.....
Assistant General Freight Agent	Edward A. Nixon .....	.....
General Freight Agent	W. C. Alvord	Peoria, Ill.
General Passenger Agent	Weston W. Kent	Jacksonville, Ill.
Superintendent	David W. Rider .....	.....
Agent in Illinois, for transfer of stock	Marcus Hook .....	.....

CHICAGO, ROCK ISLAND & PACIFIC RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	R. R. Cable.....	Chicago, Ill.
Vice-President, 1st	Benj. Brewster	New York, N. Y.
Vice-President, 2d	W. G. Purdy.....	Chicago, Ill.
Vice-President, 3d.....	H. A. Parker.....	"
Secretary and Treasurer.....	W. G. Purdy.....	"
Ass't Treasurers and Ass't Secretaries ..	J. R. Cowing, I. F. Phillips ..	New York, N. Y., and Chicago, Ill..
Cashier	F. E. Hayne.....	Chicago, Ill.
Assistant to President.....	A. Kimball	Davenport, Ia.
General Counsel.....	Thos. F. Withrow	Chicago, Ill.
General Attorney.....	Thos. S. Wright	"
General Attorney	M. A. Low	Topeka, Kas.
Auditor.....	F. W. Porter	Chicago, Ill.
General Manager.....	E. St. John	"
Traffic Manager	W. M. Sage	"
General Freight Agent	J. M. Johnson	"
Assistant General Freight Agent	H. Gower	"
General Passenger and Ticket Agent.....	John Sebastian	"
Ass't Gen'l Passenger and Ticket Agent.....	S. F. Boyd	Topeka, Kas.
Assistant General Passenger Agent.....	Geo. L. Rhodes.....	Chicago, Ill.
General Superintendent.....	H. F. Royce	"
General Superintendent.....	W. I. Allen	Topeka, Kas.
Division Superintendent.....	B. H. Chamberlain	Chicago, Ill.
Division Superintendent.....	John Givin.....	Des Moines, Ia.
Division Superintendent.....	C. L. Ewing	Trenton, Mo.
Division Superintendent.....	C. N. Gilmore.....	Des Moines, Ia.
Division Superintendent.....	W. H. Stillwell.....	Horton, Kan.
Division Superintendent.....	W. J. Lawrence.....	Colorado Springs Colo
Division Superintendent.....	C. H. Hubbell.....	Herington Kas.
General Baggage Agent.....	J. D. Marston.....	Chicago, Ill.
Land Commissioner.....	J. L. Drew	Davenport, Ia.
Agent in Illinois, for transfer of stock....	W. G. Purdy	Chicago, Ill.

PEORIA & BUREAU VALLEY RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Jas. B. Cowing.....	New York, N. Y.
Secretary	I. F. Phillips	Chicago, Ill.
Treasurer	Wm. A. Nash	New York, N. Y.
Agent in Illinois, for transfer of stock....	I. F. Phillips.....	Chicago, Ill.

CHICAGO, ST. LOUIS & PITTSBURGH RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Geo. B. Roberts.....	Philadelphia, Pa....
Vice-President, 1st.....	J. N. McCullough.....	Pittsburgh, Pa....
Vice-President, 2d.....	James McCrear.....	".....
Vice-President, 3d.....	Thos. D. Messler.....	".....
Secretary.....	S. B. Liggett.....	".....
Treasurer.....	Jno. E. Davidson.....	".....
Assistant Treasurer.....	M. C. Spencer.....	".....
Chief Engineer.....	M. J. Beckler.....	".....
General Counsel.....	J. T. Brooks.....	".....
Assistant Counsel.....	J. J. Brooks.....	".....
Comptroller.....	Thos. D. Messler.....	".....
Auditor Freight Receipts.....	A. McElvey.....	".....
Auditor Passenger Receipts.....	J. P. Farley.....	".....
General Manager.....	Joseph Wood.....	".....
Auditor Disbursements.....	James Instan.....	".....
Gen'l Supt. Transportation.....	E. B. Taylor.....	".....
Purchasing Agent.....	Wm. Mullins.....	".....
General Freight Agent.....	Wm. Stewart.....	".....
Ass't Gen'l Freight Agent.....	D. F. McCabe.....	Columbus, O.....
General Passenger and Ticket Agent.....	E. A. Ford.....	Pittsburgh, Pa....
Chief Ass't General Passenger Agent.....	Frank Van Dusen.....	".....
General Superintendent.....	J. F. Miller.....	Columbus, O.....
Division Superintendent.....	C. M. Bennett.....	Logansport, Ind..
Division Superintendent.....	F. G. Darlington.....	Indianapolis, Ind..
Division Superintendent.....	W. B. See s.....	Richmond, Ind....
Superintendent of Telegraph.....	E. C. Bradley.....	Pittsburgh, Pa....
General Baggage Agent.....	R. R. Bentley.....	".....

ENGLEWOOD CONNECTING RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Thos. D. Messler.....	Pittsburgh, Pa....
Secretary.....	S. B. Liggett.....	".....
Treasurer.....	Jno. E. Davidson.....	".....

CHICAGO, ST. PAUL & KANSAS CITY RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	A. B. Stickney	St. Paul, Minn.
Vice-President and Transfer Agent	Wm. Lewis Boyle	New York, N. Y.
Vice-President	C. W. Benson	St. Paul, Minn.
Secretary	M. C. Woodruff	Dubuque, Iowa
Treasurer	W. B. Bend	St. Paul, Minn.
Assistant Treasurer and Secretary	Jno. L. Platt	"
Attorneys or General Counsel	Lusk & Bunn	"
Auditor, General	M. C. Healion	"
General Manager	Jno. M. Egan	"
Traffic Manager	H. Fernstrom	Chicago, Ill.
General Freight Agent	P. C. Stohr	"
Assistant General Freight Agent	F. H. Tibbitts	"
General Passenger Agent	W. R. Busenbark	"
General Ticket Agent	W. R. Busenbark	"
Assistant General Passenger Agent	F. A. Lord	"
General Superintendent	C. Shields	St. Paul, Minn.
Division Superintendent	J. McGuire	"
Division Superintendent	B. F. Egan	Dubuque, Iowa
Division Superintendent	J. D. Ferrell	Chicago, Ill.
Assistant General Ticket Agent	C. A. Cairns	"
Superintendent of Telegraph	J. Berlingett	Des Moines, Iowa
General Baggage Agent	John Colley	Chicago, Ill.
Land Commissioner	J. C. Ford	St. Paul, Minn.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	M. E. Ingalls	Cincinnati, Ohio
Vice-President	J. D. Layng	New York, N. Y.
Secretary	E. F. Osborn	Cincinnati, Ohio
Treasurer	G. S. Russell	Cleveland, Ohio
Chief Engineer	W. C. Irwin	"
General Solicitor, Att'y or Gen'l Counsel	J. T. Dye (Ind. & Ill.) H. H. Poppleton (Ohio)	Indianapolis, Ind. Cleveland, Ohio
Auditor	P. A. Hewitt	"
General Manager	W. M. Green	Cincinnati, Ohio
Assistant General Manager	J. A. Barnard	Indianapolis, Ind.
Traffic Manager	©. G. Murray	Cincinnati, Ohio
Freight Traffic Manager	E. S. Washburne	"
General Freight Agent	Edgar Hill	"
General Passenger Agent	D. B. Martin	"
General Ticket Agent	John Egan	"
General Superintendent	E. A. Peck	Indianapolis, Ind.
Division Superintendent	J. W. Simmons	Mt. Carmel, Ill.
Division Superintendent	C. J. Stedwell	Cleveland, Ohio
Division Superintendent	J. O. Van Winkle	Indianapolis, Ind.
Division Superintendent	G. W. Bender	"
Division Superintendent	A. G. Wells	"
Superintendent of Telegraph	T. J. Higgins	"
General Baggage Agent	D. M. Calkins	Cleveland, Ohio

PEORIA & EASTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	J. A. Barnard	Indianapolis, Ind..
Secretary and Treasurer	W. W. Lynn	" ..

KANKAKEE & SENECA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	T. P. Bonfield	Kankakee, Ill
Secretary	E. F. O-born	Cincinnati, O
Treasurer	G. S. Russell	Cleveland, O
Auditor	P. A. Hewitt	"
Agent in Illinois, for transfer of stock	T. P. Bonfield	Kankakee, Ill.

The road is operated for this company by the C. C. C. & St. L. Ry. Co., and its officers and heads of departments are in charge.

DEPUE, LADD & EASTERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Albert L. Sweet	Chicago, Ill.
Vice President	Wm. S. Cherry	"
Secretary and Treasurer	Thomas A. Lemmon	"

EAST ST. LOUIS & CARONDELET RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Thomas D. Messler	Pittsburgh, Pa.
Secretary	S. B. Liggett	"
Treasurer	John E. Davidson	"
Cashier	Geo. K. Thomas	East St. Louis, Ill. ..
General Superintendent	Jos. Hill	St. Louis, Mo.
Assistant Superintendent	Geo. K. Thomas	East St. Louis, Ill. ..

EAST ST. LOUIS CONNECTING RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	John Scullin	St. Louis, Mo.
Vice-President	A. C. Church	" "
Secretary	S. C. Church	" "
Treasurer	H. L. Clark	" "
Cashier	Isaac A. Smith	" "
General Manager	C. H. Sharman	" "
General Freight Agent	W. S. Hodges	" "
General Agent	R. N. Bothner	East St. Louis, Ill. .
Division Superintendent	Chas. A. Haines	" "
Agent in Illinois, for transfer of stock....	S. C. Church	" "

ELECTRIC CITY & ILLINOIS RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	C. D. McLure	Venice, Ill.
Vice-President	L. M. Rumsey	" "
Secretary	J. H. Overall	" "
Treasurer	P. A. Fusz	St. Louis, Mo.
Assistant Secretary	John Greenough	" "
Chief Engineer	Robt. Ulone	" "
General Manager	H. W. Gays	" "
Agent in Illinois, for transfer of stock....	J. H. Overall	Venice, Ill.

ELGIN, JOLIET & EASTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Samuel Spencer	New York, N. Y.
Vice-President	Norman Williams	Chicago, Ill.
Secretary and Treasurer	F. D. Raymond	" "
General Solicitor	Arthur D. Wheeler	" "
Auditor	F. W. Sutton	" "
Traffic Manager	H. J. Page	" "
Superintendent	G. O. Clinton	Joliet, Ill.
Agent in Illinois, for transfer of stock....	F. D. Raymond	Chicago, Ill.

GARDNER, COAL CITY & NORTHERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Norman Williams.....	Chicago, Ill.
Vice-President	Samuel Spencer	New York, N. Y.
Secretary	Arthur D. Wheeler.....	Chicago, Ill.
Treasurer	F. D. Raymond.....	"
Attorneys or General Counsel.....	Williams, Holt & Wheeler	"
Auditor	F. W. Sutton	"

WAUKEGAN & SOUTHWESTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Chas. S. Holt.....	Chicago, Ill.
Secretary	Arthur D. Wheeler.....	"
Treasurer	F. D. Raymond.....	"
Attorneys or Counsel.....	Williams, Holt & Wheeler.....	"
Auditor	F. W. Sutton	"

FULTON COUNTY NARROW GAUGE RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	S. H. Mallory.....	Lewistown, Ill.
Vice-President	Henry Phelps.....	"
Secretary.....	D. J. Thayer.....	Chariton, Iowa.
Treasurer.....	F. R. Crocker	"
Auditor.....	Jno. D. Temple.....	Lewistown, Ill.
General Manager.....	S. H. Mallory.....	Chariton, Iowa
Gen'l Freight, Passenger and Ticket Agt.	A. C. Atherton	Lewistown, Ill.
Superintendent	A. C. Atherton	"

GRAND TOWER & CARBONDALE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	E. A. Hitchcock.....	St. Louis, Mo.....
Vice-President.....	O. L. Garrison.....	St. Louis, Mo.....
Secretary.....	J. D. Peters.....	Murphysboro, Ill..
Treasurer.....	O. L. Garrison.....	St. Louis, Mo.....
Attorney or General Counsel.....	W. W. Barr.....	Carbondale, Ill.....
Auditor.....	J. P. Foster.....	St. Louis, Mo.....
Traffic Manager.....	Robt. Bell.....	St. Louis, Mo.....
Superintendent.....	J. D. Peters.....	Murphysboro, Ill..

GRAND TOWER & CAPE GIRARDEAU RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	E. A. Hitchcock.....	St. Louis, Mo.....
Vice-President.....	W. W. Barr.....	Carbondale, Ill.....
Secretary.....	J. D. Peters.....	Murphysboro, Ill..
Treasurer.....	O. L. Garrison.....	St. Louis, Mo.....
Counsel.....	W. W. Barr.....	Carbondale, Ill.....
Auditor.....	J. P. Foster.....	St. Louis, Mo.....
Superintendent.....	J. D. Peters.....	Murphysboro, Ill..

ILLINOIS CENTRAL RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President.....	E. H. Harriman.....	New York, N. Y.....
Secretary.....	A. G. Hackstaff.....	Chicago, Ill.....
Treasurer.....	H. De Wolf.....	Chicago, Ill.....
Assistant Treasurer.....	E. T. H. Gibson.....	New York, N. Y.....
Local Treasurer.....	R. S. Charles.....	New Orleans, La....
Chief Engineer.....	L. T. Moore.....	Chicago, Ill.....
General Counsel.....	B. F. Ayer.....	Chicago, Ill.....
General Solicitor.....	Jas. Fentress.....	Chicago, Ill.....
Comptroller.....	J. C. Welling.....	Chicago, Ill.....
Auditor of Freight Receipts.....	F. Fairman.....	Chicago, Ill.....
Assistant Auditor of Freight Receipts.....	J. F. Tibus.....	Chicago, Ill.....
General Manager.....	C. A. Beck.....	Chicago, Ill.....
Auditor of Passenger Receipts.....	A. D. Joslin.....	Chicago, Ill.....
Auditor of Disbursements.....	Isaac Anderson.....	Chicago, Ill.....
Traffic Manager.....	T. J. Hudson.....	Chicago, Ill.....
Assistant Traffic Manager.....	M. C. Markham.....	Chicago, Ill.....
General Freight Agent.....	Horace Tucker.....	Chicago, Ill.....
General Passenger Agent.....	A. H. Hanson.....	Chicago, Ill.....
Assistant General Freight Agent.....	W. E. Keepers.....	Chicago, Ill.....
General Superintendent.....	A. W. Sullivan.....	Chicago, Ill.....
Division Superintendent.....	J. G. Hardigan.....	Cairo, Ill.....
Acting Division Superintendent.....	J. C. Jacobs.....	Amboy, Ill.....
Acting Division Superintendent.....	D. S. Bailey.....	Rockford, Ill.....
Acting Division Superintendent.....	G. W. Hatter.....	Springfield, Ill.....
Division Superintendent.....	H. L. Frisbie.....	Pontiac, Ill.....
Sup't of Telegraph (Northern lines).....	C. S. Jones.....	Chicago, Ill.....
Superintendent of Car Service.....	E. M. Horton.....	Chicago, Ill.....
Superintendent of Machinery.....	H. Schlacks.....	Chicago, Ill.....
General Baggage Agent.....	H. A. Winker.....	Chicago, Ill.....
Land Commissioner.....	L. P. Morehouse.....	Chicago, Ill.....
Agent in Illinois, for transfer of stock....	John Dunn, Assistant Sec'y ..	Chicago, Ill.....

CHICAGO, HAVANA & WESTERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman.....	New York, N. Y....
Secretary	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry De Wolf	"
Comptroller	J. C. Welling.....	"

CHICAGO, MADISON & NORTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman.....	New York, N. Y....
Secretary	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry De Wolf	"
Comptroller	J. C. Welling.....	"

CHICAGO & SPRINGFIELD RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman.....	New York, N. Y....
Secretary	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry De Wolf	"
Comptroller	J. C. Welling.....	"

KANKAKEE & SOUTHWESTERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman.....	New York, N. Y....
Secretary	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry De Wolf	"
Comptroller	J. C. Welling.....	"

RANTOUL RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman	New York, N. Y....
Secretary.....	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry DeWolf.....	"
Comptroller	J. C. Welling.....	"

SOUTH CHICAGO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Stuyvesant Fish.....	Chicago, Ill.....
Vice-President	E. H. Harriman	New York, N. Y....
Secretary.....	W. G. Bruen.....	Chicago, Ill.....
Treasurer	Henry DeWolf.....	"
Comptroller	J. C. Welling.....	"

INDIANA & ILLINOIS SOUTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	W. H. Alley.....	Chicago, Ill.....
Vice-President	John B. Lyon.....	"
Secretary.....	P. H. Blue.....	Sullivan, Ind.....
Treasurer.....	M. B. Wilson.....	"
Consulting Engineer,	A. B. Fitch.....	Terre Haute, Ind..
General Solicitor.....	John S. Cooper.....	Chicago, Ill.....
Assistant Solicitor	John T. Hays.....	Sullivan, Ind.....
Auditor	C. R. Hinkle.....	"
General Manager.....	P. H. Blue.....	"
General Freight, Passenger and Ticket Agent	F. E. Basler	"
Train Master.....	W. R. Battenfield.....	"
Road Master.....	James Hoskins.....	"
Master Mechanic.....	M. E. Hotchkiss.....	Palestine, Ill.....

INDIANAPOLIS, DECATUR & WESTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Henry B. Hammond	New York, N. Y....
Secretary and Treasurer.....	Thos. Batkins	"
General Solicitor.....	Robt. B. F. Pierce	Indianapolis, Ind..
Auditor	J. V. McNeal	"
General Freight Agent	Jno. S. Lazarus.....	"
General Ticket Agent.....	Jno. S. Lazarus.....	"
Superintendent.....	L. A. Boyd.....	"
General Baggage Agent.....	Jno. S. Lazarus.....	"

INDIANA, ILLINOIS & IOWA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	F. M. Drake	Centerville, Ia.
Vice-President.....	Geo. H. Holt	New York, N. Y....
Secretary and Treasurer.....	Jno. A. Drake	Chicago, Ill.
General Solicitor.....	H. K. Wheeler.....	Kankakee, Ill.
Auditor	M. J. Hartnett.....	"
General Manager.....	T. P. Shonts.....	Chicago, Ill.
Gen'l Freight and Passenger Agent.....	C. W. Cook.....	"
Superintendent.....	C. H. Smith.....	Kankakee, Ill.

IOWA CENTRAL RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Russell Sage.....	New York, N. Y....
President.....	Russell Sage.....	"
Vice-President.....	H. J. Morse.....	"
Secretary.....	Geo. R. Morse.....	"
Treasurer.....	E. H. Perkins.....	"
Assistant Treasurer.....	Geo. R. Morse.....	"
Local Treasurer.....	Seth Zug.....	Marshalltown, Ia..
Chief Engineer.....	G. E. Pruden.....	"
General Solicitor.....	A. C. Daly.....	"
Auditor.....	C. S. Benson.....	"
General Manager.....	C. H. Aekert.....	"
Traffic Manager.....	A. F. Banks.....	"
Assistant General Passenger Agent.....	T. P. Barry.....	"
Assistant General Freight Agent.....	Jas. Mahoney.....	"
Superintendent.....	J. H. Redmon.....	"
Superintendent of Telegraph.....	G. N. Gish.....	"

LAKE ERIE & WESTERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	Calvin S. Brice	New York, N. Y....
President	Calvin S. Brice	" "
Vice President	Nelson Robinson	" "
Secretary and Treasurer	L. M. Schwan	" "
Assistant Treasurer	A. D. Thomas	Indianapolis, Ind..
Chief Engineer	F. H. Perry	" "
Attorney or General Counsel	W. E. Hackedorn	" "
Assistant Attorney or General Counsel.	F. S. Foote	" "
Auditor	W. A. Wildhack	" "
General Manager	Geo. L. Bradbury	" "
Traffic Manager	H. C. Parker	" "
Assistant General Freight Agent	S. A. Weikel	" "
Assistant General Freight Agent	S. B. Sweet	" "
General Passenger Agent	C. F. Daly	" "
General Ticket Agent	C. F. Daly	" "
General Superintendent	D. S. Hill	" "
Master of Transportation and Superin-	O. W. Bell	" "
tendent of Telegraph	C. F. Daly	" "
General Baggage Agent	C. F. Daly	" "

LAKE SHORE & MICHIGAN SOUTHERN RAILWAY COM-
PANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	Wm. K. Vanderbilt	New York, N. Y....
President	John Newell	Cleveland, Ohio....
Vice-President	E. D. Worcester	New York, N. Y....
Secretary and Treasurer	E. D. Worcester	" "
Assistant Treasurer	D. W. Pardee	" "
Local Treasurer	N. Bartlett	Cleveland, Ohio....
Chief Engineer	G. H. Kimball	" "
Attorney or General Counsel	Geo. C. Greene	" "
Assistant Attorney or General Counsel..	O. G. Getyen-Danner	" "
Auditor, General	Cyrus P. Leland	" "
General Manager	John Newell	" "
General Freight Agent	John T. R. McKay	" "
Assistant General Freight Agent	James G. James	" "
Assistant General Passenger Agent	E. C. Luce	" "
General Passenger Agent	A. J. Smith	" "
General Ticket Agent	A. J. Smith	" "
Assistant General Ticket Agent	E. C. Luce	" "
General Superintendent	Phineas P. Wright	" "
Assistant General Superintendent	W. H. Canniff	" "
Division Superintendent	C. B. Couch	" "
Division Superintendent	Thomas Flesher, Jr.	" "
Division Superintendent	T. J. Charlesworth	Toledo, Ohio
Division Superintendent	A. G. Amnden	Chicago, Ill.
Division Superintendent	T. W. Niles	Youngstown, Ohio.
Division Superintendent	S. S. Hand	Detroit, Mich.
Division Superintendent	T. F. Whittelsey	Hillsdale, Mich. ..
Superintendent of Telegraph	Wm. Kline	Toledo, Ohio
General Baggage Agent	John L. Freeman	Cleveland, Ohio....

LOUISVILLE & NASHVILLE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Eckstein Norton.....	New York, N. Y....
Vice-President	Milton H. Smith	Louisville, Ky....
Vice-President, 2d	A. M. Quarrier	" "
Vice-President, 3d	E. B. Stahlman.....	Nashville, Tenn....
Secretary	J. H. Ellis	Louisville, Ky....
Treasurer	Wm. W. Thompson.....	" "
Assistant Treasurer.....	S. H. Edgar	" "
Cashier	G. W. Proctor	" "
Chief Attorney	Russel Houston.....	" "
Comptroller	Cushman Quarrier	" "
Assistant Comptroller.....	Charles Haydon.....	" "
General Manager.....	J. G. Metcalfe	" "
Chief Engineer.....	R. Montfort	" "
Traffic Manager.....	S. R. Knott	" "
General Freight Agent.....	John M. Culp	" "
Assistant General Freight Agent.....	P. J. McGovern.....	" "
General Passenger Agent.....	C. P. Atmore.....	" "
Assistant General Passenger Agent.....	J. A. Boyd.....	" "
General Baggage Agent.....	J. B. Browning	" "
Division Superintendent	B. F. Dickson	Evansville, Ind....

SOUTHEAST & ST. LOUIS RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	M. H. Smith	Louisville, Ky....
Secretary	J. H. Ellis	" "
Treasurer	W. W. Thompson	" "
Comptroller	C. Quarrier	" "
General Manager	J. G. Metcalfe	" "
Traffic Manager	S. R. Knott	" "
General Superintendent.....	B. F. Dickson	Evansville, Ind....

LOUISVILLE, EVANSVILLE & ST. LOUIS CONSOLIDATED RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	D. J. Mackey	Evansville, Ind....
Vice-President	Wm. Heilman	" "
Secretary and Treasurer	W. J. Lewis	" "
Chief Engineer	Theo. L. Dunn	New Albany, Ind....
Attorneys or General Counsel.....	Ingleheart & Taylor.....	Evansville, Ind....
Auditor	E. B. Cooke	" "
General Manager	Geo. F. Evans	Louisville, Ky....
General Traffic Manager	G. J. Grammer	Evansville, Ind....
General Passenger Agent	J. S. Odiorne	Louisville, Ky....
General Freight Agent	L. S. Parsons	" "
Superintendent of Transportation.....	Geo. K. Lowell	New Albany, Ind....
General Baggage Agent	F. R. Wheeler	Evansville, Ind....

LOUISVILLE, NEW ALBANY & CHICAGO RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Wm. L. Breyfogle.....	Chicago, Ill.....
Vice-President.....	Geo. F. Postelthwaite.....	Chicago, Ill.....
Vice-President.....	Hiram W. Hunt.....	Chicago, Ill.....
Secretary and Treasurer.....	W. H. Lewis.....	Chicago, Ill.....
Assistant Treasurer and Secretary.....	Jno. A. Hilton.....	New York, N. Y.....
Chief Engineer.....	Fer'd Hall.....	Chicago, Ill.....
General Solicitor.....	E. C. Field.....	Chicago, Ill.....
Auditor.....	H. H. Kendrick.....	Chicago, Ill.....
General Manager.....	W. F. Black.....	Chicago, Ill.....
Traffic Manager.....	W. H. McDoel.....	Chicago, Ill.....
General Freight Agent.....	R. M. Arnold.....	Chicago, Ill.....
General Passenger and Ticket Agent.....	James Barker.....	Chicago, Ill.....
Division Superintendent.....	J. B. Safford.....	Indianapolis, Ind.....
Division Superintendent.....	J. O. Ewan.....	Lafayette, Ind.....
Superintendent of Telegraph.....	F. G. McCurdy.....	Chicago, Ill.....
General Baggage Agent.....	James Barker.....	Chicago, Ill.....

MICHIGAN CENTRAL RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	H. B. Ledyard.....	Detroit, Mich.....
Vice-President.....	E. D. Worcester.....	New York, N. Y.....
Secretary.....	E. D. Worcester.....	New York, N. Y.....
Treasurer.....	Henry Pratt.....	New York, N. Y.....
Cashier.....	John E. Griffiths.....	Detroit, Mich.....
Chief Engineer.....	J. D. Hawks.....	Detroit, Mich.....
General Counsel.....	Ashley Pond.....	Detroit, Mich.....
General Attorney.....	Henry Russel.....	Detroit, Mich.....
Auditor.....	D. A. Waterman.....	Detroit, Mich.....
Assistant Auditor.....	A. J. Burt.....	Detroit, Mich.....
General Manager.....	H. B. Ledyard.....	Detroit, Mich.....
General Freight Agent.....	A. Mackay.....	Chicago, Ill.....
Assistant General Freight Agent.....	B. E. Hand.....	Chicago, Ill.....
General Passenger and Ticket Agent.....	O. W. Ruggles.....	Chicago, Ill.....
Ass't General Passenger and Ticket Ag't.....	G. E. King.....	Chicago, Ill.....
General Superintendent.....	E. C. Brown.....	Detroit, Mich.....
Assistant General Superintendent.....	Robt. Miller.....	Detroit, Mich.....
Division Superintendent.....	R. H. L. Hommedieu.....	Chicago, Ill.....
Division Superintendent.....	C. B. Bush.....	Jackson, Mich.....
Division Superintendent.....	W. J. Martin.....	Bay City, Mich.....
Division Superintendent.....	D. S. Sutherland.....	Detroit, Mich.....
Superintendent of Telegraph.....	C. E. Torrey.....	Detroit, Mich.....
General Baggage Agent.....	C. P. Dearing.....	Detroit, Mich.....

JOLIET & NORTHERN INDIANA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	C. Vanderbilt	New York, N. Y....
Vice-President	H. B. Ledyard	Detroit, Mich.....
Secretary	E. D. Worcester	New York, N. Y....
Treasurer.....	Henry Pratt.....	.....

MOBILE & OHIO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Wm. Butler Duncan.....	New York, N. Y....
President.....	J. C. Clarke.....	Mobile, Ala.....
Vice-President.....	Jas. H. Fay.....	New York, N. Y....
Secretary and Treasurer.....	Henry Tacon.....	Mobile, Ala.....
Assistant Secretary.....	A. Mackintosh.....	New York, N. Y....
Cashier.....	C. M. Shepard.....	Mobile, Ala.....
General Solicitor.....	E. L. Russell.....	" ".....
Auditor, General.....	R. V. Taylor.....	" ".....
General Manager.....	J. C. Clarke.....	" ".....
Traffic Manager.....	H. S. Depew.....	St. Louis, Mo.....
General Passenger Agent.....	G. W. King.....	Mobile, Ala.....
General Freight Agent.....	J. T. Poe.....	St. Louis, Mo.....
General Superintendent.....	D. McLaren.....	Mobile, Ala.....
Division Superintendent.....	C. S. Clarke.....	" ".....
Division Superintendent.....	J. H. Seale.....	Jackson, Tenn.....
Division Superintendent.....	H. W. Clarke.....	Murphysboro, Ill..
Superintendent of Machinery.....	M. T. Carson.....	Jackson, Tenn.....
Superintendent of Telegraph.....	K. McKenzie.....	.....

NEW YORK, CHICAGO & ST. LOUIS RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Wm. K. Vanderbilt.....	New York, N. Y....
President.....	D. W. Caldwell.....	Cleveland, Ohio....
Secretary and Treasurer.....	Allyn Cox.....	New York, N. Y....
Assistant Treasurer.....	H. Hammersley.....	Cleveland, Ohio....
Attorney, General, or Counsel.....	Sam'l E. Williamson.....	" ".....
Auditor.....	James P. Curry.....	" ".....
General Passenger Agent.....	B. F. Horner.....	" ".....
General Freight Agent.....	S. B. Spriggs.....	" ".....
General Superintendent.....	Lewis Williams.....	" ".....
Division Superintendent.....	A. W. Johnston.....	" ".....
Division Superintendent.....	C. D. Gorham.....	Fort Wayne, Ind....
Superintendent of Telegraph.....	Geo. T. Williams.....	Cleveland, Ohio....

CHICAGO & STATE LINE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	John Newell.....	Chicago, Ill.....
Vice-President.....	James A. Roosevelt.....	New York, N. Y....
Secretary	James P. Curry.....	Cleveland, Ohio....
Treasurer	H. Hammersley.....	" "
Auditor	James P. Curry.....	" "
Agent in Illinois, for transfer of stock....	W. G. Purdy.....	Chicago, Ill.....

OHIO & MISSISSIPPI RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	J. F. Barnard.....	Cincinnati, Ohio....
Secretary	E. P. Cutter.....	" "
Treasurer	Robt. Reid.....	" "
Chief Engineer	C. C. Chandler.....	" "
General Solicitors.....	Ramsey, Maxwell & Ramsey	" "
Auditor	E. P. Cutter.....	" "
General Manager	J. F. Barnard.....	" "
General Passenger Agent.....	W. B. Shattuc.....	" "
General Freight Agent.....	Wm. Duncan.....	St. Louis, Mo.....
Superintendent	C. C. F. Bent.....	Cincinnati, Ohio....
Assistant Superintendent.....	C. M. Stanton.....	Springfield, Ill....
Superintendent of Telegraph.....	A. Hayward.....	Cincinnati, Ohio....
General Baggage Agent.....	W. I. Robinson.....	" "
Agent in Illinois, for transfer of stock....	F. W. Tracy.....	Springfield, Ill....

PAWNEE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	John White	Pawnee, Ill.....
President	John White	" "
Vice-President.....	H. B. Davis.....	" "
Secretary	C. E. Clayton.....	" "
Treasurer	H. B. Davis.....	" "
Chief Engineer.....	Joseph E. Burtie.....	" "
Attorneys or General Counsel.....	Conkling & Grout.....	Springfield, Ill....
Auditor	C. E. Clayton.....	Pawnee, Ill.....
General Manager.....	H. B. Davis.....	" "
General Freight Agent.....	H. E. Farman.....	" "
General Ticket Agent.....	H. E. Farman.....	" "
Superintendent of Express	H. E. Farman.....	" "

PENNSYLVANIA COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	George B. Roberts	Philadelphia, Pa. ...
Vice-President, 1st	J. N. McCullough	Pittsburgh, Pa.
Vice-President, 2d	James McCrea	"
Vice-President, 3d	Thomas D. Messler	"
Secretary	S. B. Liggett	"
Assistant Secretary	S. W. White	Philadelphia, Pa. ...
Treasurer	John E. Davidson	Pittsburgh, Pa.
Assistant Treasurer	J. P. Henderson	"
Chief Engineer	Thomas Rodd	"
General Counsel	J. F. Brooks	"
Assistant Counsel	J. J. Brooks	"
Comptroller	Thomas D. Messler	"
Auditor of Freight Receipts	A. McElvey	"
Auditor of Passenger Receipts	J. P. Farley	"
Auditor of Disbursements	James Instan	"
Assistant Comptroller	John W. Renner	"
General Manager	Joseph Wood	"
Purchasing Agent	William Mullins	"
General Freight Agent	William Stewart	"
Assistant General Freight Agent	L. C. Cole	"
General Passenger and Ticket Agent	E. A. Ford	"
Assistant General Passenger Agent	F. VanDusen	"
General Supt of Transportation	E. B. Taylor	"
General Superintendent	Charles Watts	"
Division Superintendent, W. division	C. D. Law	Ft. Wayne, Ind.
Superintendent of Telegraph	E. C. Bradley	Pittsburgh, Pa.
General Baggage Agent	R. R. Bentley	"

CALUMET RIVER RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Thomas D. Messler	Pittsburgh, Pa.
Secretary	S. B. Liggett	"
Treasurer	John E. Davidson	"

PITTSBURGH, FT. WAYNE & CHICAGO RAILWAY
COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Louis H. Meyer	New York, N. Y.
Secretary and Treasurer	John J. Haley	Pittsburgh, Pa.
Attorney or General Counsel	Chas. W. Cass	New York, N. Y.

SOUTH CHICAGO & SOUTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	T. D. Messler	Pittsburgh, Pa.
Secretary	S. B. Liggett	"
Treasurer	Jno. E. Davidson	"

PEORIA & PEKIN UNION RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Jos. Ramsey, Jr.	Cincinnati, Ohio. . .
Vice-President	Wm. S. Hook	Jacksonville, Ill. . .
Secretary and Treasurer	H. K. Pinkney	Peoria, Ill.
Chief Engineer	Jas. E. Palmer	"
General Solicitors	Stevens & Horton	"
Auditor	P. T. Dwight	"
General Superintendent	M. S. Connors	"
General Freight Agent	M. S. Connors	"
Superintendent of Telegraph	J. H. Morrison	"
Agent in Illinois, for transfer of stock ...	H. K. Pinkney, Secy.	"

PEORIA, DECATUR & EVANSVILLE RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	D. J. Mackey	Evansville, Ind.
Vice-President	Wm. Heilman	"
Secretary and Treasurer	W. J. Lewis	"
Chief Engineer	T. A. Allen	"
Attorney or General Counsel	J. S. Stevens	Peoria, Ill.
Auditor	E. B. Cooke	Evansville, Ind.
General Manager	Geo. W. Saul	Chicago, Ill.
General Traffic Manager	G. J. Grammer	Evansville, Ind.
General Freight Agent	E. O. Hopkins	"
Assistant General Passenger Agent	S. D. McLeich	"
Superintendent	R. B. Starbuck	Mattcon, Ill.
Superintendent of Telegraph	R. B. Starbuck	"
General Baggage Agent	F. R. Wheeler	Evansville, Ind.

QUINCY, OMAHA & KANSAS CITY RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	Chas. H. Bull.....	Quincy, Ill.....
President.....	Chas. H. Bull.....	".....
Vice-President and General Manager....	Amos Green.....	".....
Secretary.....	C. H. Spencer.....	".....
Treasurer.....	E. J. Parker.....	".....
General Solicitor.....	William McFadon.....	".....
Auditor.....	John M. Savin.....	".....
Traffic Manager.....	J. H. Best.....	".....
Superintendent of Transportation.....	C. E. Soule.....	".....
Superintendent of Telegraph.....	A. B. Cowan.....	".....
Agents in Illinois, for transfer of stock...	L. and C. H. Bull.....	".....

ROCK ISLAND & PEORIA RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	R. R. Cable.....	Rock Island, Ill....
Vice-President.....	A. Kimball.....	Davenport, Iowa...
Secretary and Treasurer.....	H. B. Sudlow.....	Rock Island, Ill....
Cashier.....	R. Slaymaker.....	".....
Chief Engineer.....	J. Elder.....	Peoria, Ill.....
Auditor.....	R. H. Hudson.....	Rock Island, Ill....
General Freight, Passenger and Ticket Agent.....	R. Stockhouse.....	".....
General Superintendent.....	H. B. Sudlow.....	".....
Superintendent of Telegraph.....	H. P. Greenough.....	".....
Agent in Illinois, for transfer of stock...	H. B. Sudlow.....	".....

ST. LOUIS, ALTON & SPRINGFIELD RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Vice-President.....	Chas. E. Kimball.....	New York, N. Y....
Secretary.....	Joseph Dickson.....	Springfield, Ill....
Treasurer.....	Chas. E. Kimball.....	".....
Cashier.....	D. S. Mitchell.....	".....
Chief Engineer.....	H. C. Swift.....	".....
Attorney or General Counsel.....	Joseph Dickson.....	".....
Auditor.....	D. S. Mitchell.....	".....
General Manager.....	H. A. Fisher.....	".....
General Freight and Passenger Agent...	F. E. Fisher.....	".....
Superintendent of Telegraph.....	H. A. Fisher.....	".....

ST. LOUIS, ALTON & TERRE HAUTE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	Geo. Foster Peabody.....	New York, N. Y.....
President	Geo. W. Parker.....	St. Louis, Mo.....
Secretary	E. F. Leonard.....	Springfield, Ill.....
Treasurer.....	Geo. W. Parker.....	St. Louis, Mo.....
Cashier	Henry T. Nash.....	".....
Auditor	Henry T. Nash.....	".....
General Manager.....	Geo. W. Parker.....	".....
General Freight, Passenger, Ticket and Baggage Agent.....	Geo. E. Lacy.....	".....
Superintendent.....	W. S. Wilson.....	Pinckneyville, Ill.....
Superintendent of Telegraph.....	W. S. Wilson.....	".....
Agent in Illinois, for transfer of stock....	E. F. Leonard.....	Springfield, Ill.....

BELLEVILLE & CARONDELET RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	M. T. Stookey.....	Belleville, Ill.....
Secretary.....	Henry T. Nash.....	St. Louis, Mo.....
Treasurer.....	Geo. W. Parker.....	".....
Agent in Illinois, for transfer of stock....	E. F. Leonard.....	Springfield, Ill.....

BELLEVILLE & ELDORADO RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	E. F. Leonard.....	Springfield, Ill.....
Secretary.....	Henry T. Nash.....	St. Louis, Mo.....
Treasurer.....	R. Fulton Cutting.....	New York, N. Y.....
Agent in Illinois, for transfer of stock....	E. F. Leonard.....	Springfield, Ill.....

BELLEVILLE & SOUTHERN ILLINOIS RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Thos. Denny.....	New York, N. Y.....
Secretary.....	E. F. Leonard.....	Springfield, Ill.....
Assistant Secretary.....	H. A. Crosby.....	New York, N. Y.....
Treasurer.....	J. K. Gapen.....	".....
Agent in Illinois, for transfer of stock....	E. F. Leonard.....	Springfield, Ill.....

CHICAGO, ST. LOUIS & PADUCAH RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	W. K. Murphy	Pinckneyville, Ill..
Secretary and Treasurer	Henry T. Nash	S. Louis, Mo.
Assistant Secretary	Henry A. Crosby	New York, N. Y.
Agent in Illinois, for transfer of stock...	E. F. Leonard	Springfield, Ill.

ST. LOUIS SOUTHERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Ephraim C. Davies	Cincinnati, O.
Vice-President	C. W. Fairbanks	Indianapolis, Ind..
Secretary	C. H. Bosworth	Springfield, Ill.
Treasurer	John E. McGettigan	Indianapolis, Ind..

CARBONDALE & SHAWNEETOWN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	John E. McGettigan	Indianapolis, Ind..
President	John E. McGettigan	Indianapolis, Ind..
Secretary and Treasurer	C. H. Bosworth	Springfield, Ill.

ST. LOUIS & CHICAGO RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Receiver	R. J. Cavett	Springfield, Ill.
Attorney or General Counsel	Frank H. Jones	" "
Auditor	C. H. Bosworth	" "
General Manager	C. H. Bosworth	" "
General Freight Agent	C. H. Bosworth	" "
General Passenger Agent	C. H. Bosworth	" "

ST. LOUIS & PEORIA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Giles E. Taintor	New York, N. Y.
Secretary	A. J. Moorshead	Springfield, Ill.
General Manager	A. J. Moorshead	" "

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Wm. Taussig.....	St. Louis, Mo.....
Vice-President.....	John F. Barnard.....	“ “.....
Secretary.....	James Hanna.....	“ “.....
Treasurer.....	A. H. Cal-p.....	New York, N. Y.....
Assistant Treasurer.....	James Hanna.....	St. Louis, Mo.....
Cashier.....	Fred. C. Daal.....	“ “.....
Chief Engineer.....	Wm. Taussig.....	“ “.....
Attorney or General Counsel.....	S. M. Brockinridge.....	“ “.....
Auditor.....	James Hanna.....	“ “.....
Assistant Auditor.....	Emil Ulric.....	“ “.....
General Manager.....	Wm. Taussig.....	“ “.....
General Passenger Agent.....	V. W. Fisher.....	“ “.....
General Freight Agent.....	Wm. G. Broughton.....	“ “.....
General Superintendent.....	Frank Stillwell.....	“ “.....
Superintendent of Telegraph.....	E. A. Chenery.....	“ “.....
General Baggage Agent.....	W. M. Steele.....	“ “.....

TERRE HAUTE & INDIANAPOLIS RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President and General Manager.....	William R. McKeen.....	Terre Haute, Ind..
Vice-President.....	John G. Williams.....	“ “.....
Secretary.....	Geo. E. Farrington.....	“ “.....
Treasurer.....	J. W. Cruft.....	“ “.....
Chief Engineer.....	A. J. Gibbons.....	“ “.....
General Counsel.....	John G. Williams.....	“ “.....
Auditor.....	W. S. Roney.....	“ “.....
Assistant General Manager.....	Jos. Hill.....	St. Louis, Mo.....
General Freight Agent.....	H. W. Hibbard.....	“ “.....
General Passenger Agent.....	E. A. Ford.....	Pittsburgh, Pa.....
Ass't General Passenger Agents.....	J. M. Chesbrough.....	St. Louis, Mo.....
	H. R. Dering.....	Indianapolis, Ind..
Superintendent of Transportation.....	N. K. Elliott.....	Terre Haute, Ind..
Assistant Superintendent.....	E. R. Darlon.....	St. Louis, Mo.....
Superintendent of Telegraph.....	R. B. Woolsey.....	Terre Haute, Ind..
General Baggage Agent.....	R. R. Bentley.....	Pittsburgh, Pa.....

ST. LOUIS, VANDALIA & TERRE HAUTE RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President.....	Thos. D. Messler.....	Pittsburgh, Pa.....
Secretary.....	S. B. Liggett.....	“ “.....
Treasurer.....	John E. Davidson.....	“ “.....
Assistant Secretary.....	C. D. Hoiles.....	Greenville, Ill.....

TERRE HAUTE & PEORIA RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	C. W. Fairbanks	Indianapolis, Ind..
President	C. W. Fairbanks	" " "
Secretary	F. J. Richman	" " "
Treasurer	I. H. Burgoon	Decatur, Ill.
Cashier	F. M. Hobart	" " "
General Solicitor	E. Jacoby	Indianapolis, Ind..
Auditor	W. M. Strange	Decatur, Ill.
General Manager	I. H. Burgoon	" " "
General Freight, Passenger and Ticket Agent	A. Stevens	" " "
Superintendent of Telegraph	I. H. Burgoon	" " "

TOLEDO, PEORIA & WESTERN RAILWAY COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Executive Committee...	Charles Moran	New York, N. Y.
President	E. F. Leonard	Peoria, Ill.
Vice-President	E. N. Armstrong	" " "
Secretary	E. D. Usner	" " "
Treasurer	E. F. Leonard	" " "
General Solicitor	Walter S. Horton	" " "
Auditor	E. D. Usner	" " "
General Manager	E. F. Leonard	" " "
General Freight Agent	H. D. Gould	" " "
Assistant General Freight Agent	Daniel Mowat	" " "
General Passenger, Ticket and Baggage Agent	H. D. Gould	" " "
General Superintendent	E. N. Armstrong	" " "
Superintendent of Telegraph	C. B. Plantz	" " "
Agent in Illinois, for transfer of stock	E. D. Usner	" " "

TOLEDO, ST. LOUIS & KANSAS CITY RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	S. R. Callaway	New York, N. Y.
Secretary and Treasurer	Isaac W. White	" " "
Chief Engineer	A. L. Mills	Toledo, Ohio
General Solicitor	Clarence Brown	" " "
Auditor	D. D. Davis	" " "
General Manager	S. R. Callaway	" " "
General Freight Agent	W. S. Weed	" " "
Assistant General Freight Agent	D. F. Jennings	St. Louis, Mo.
General Passenger Agent	C. C. Jennings	Toledo, Ohio
Superintendent	C. N. Pratt	Frankfort, Ind.
Superintendent of Telegraph	N. McKinnon	Toledo, Ohio

WABASH RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board	O. D. Ashley	New York, N. Y....
President	O. D. Ashley	"
Vice-President	Edgar T. Wells	"
Vice-President	James F. How	St. Louis, Mo
Secretary	J. C. Otteson	New York, N. Y....
Treasurer	F. L. O'Leary	St. Louis, Mo
Chief Engineer	W. S. Lincoln	"
General Solicitor	W. H. Blodgett	"
Auditor	D. B. Howard	"
Assistant Auditor	E. B. Pryor	"
General Manager	C. M. Hays	"
Traffic Manager	Wm. Knight	"
General Freight Agent	S. B. Knight	"
Assistant General Freight Agent	J. D. Lund	"
General Passenger Agent	F. Chandler	"
General Ticket Agent	F. Chandler	"
Assistant General Ticket and Passenger Agent	C. S. Crane	"
General Superintendent	H. L. Magee	"
Division Superintendent	E. A. Gould	Peru, Ind.
Division Superintendent	J. S. Goodrich	Chicago, Ill.
Division Superintendent	F. H. McGuigan	Kansas City, Mo... ..
Superintendent of Telegraph	G. C. Kinsman	Decatur, Ill.
General Baggage Agent	S. H. Overholt	St. Louis, Mo....

WABASH, CHESTER & WESTERN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President	Nathan Cole	St. Louis, Mo....
Vice-President	C. B. Cole	Chester, Ill.
Secretary	H. C. Cole	"
Treasurer	C. B. Cole	"
Auditor	C. E. Kingsbury	"
General Manager	C. B. Cole	"
General Fr't, Passenger and Ticket Ag't	C. E. Kingsbury	"
General Superintendent	J. R. Hawkins	"
Agent in Illinois, for transfer of stock	H. C. Cole, Sec'y	"

WISCONSIN CENTRAL LINES.

OFFICERS.

Title.	Name.	Location of Office.
Local Treasurer	R. W. Maguire	Milwaukee, Wis....
Chief Engineer	F. W. Fratt	"
General Solicitor	D. S. Wegg	"
Assistant Attorney	Howard Morris	"
Auditor	T. J. Hyman	"
General Manager	R. S. Ainslie	"
Traffic Manager	H. C. Barlow	Chicago, Ill.
General Freight Agent	J. B. Cavanaugh	"
General Passenger Agent	Louis Eekstien	"
Division Superintendent	A. R. Horn	St. Paul, Minn
Division Superintendent	M. B. Cutler	Stevens Point, Wis.
Division Superintendent	E. R. Knowlton	Waukesha, Wis.
Superintendent of Telegraph	O. C. Green	St. Paul, Minn....

CHICAGO & WISCONSIN RAILROAD COMPANY.

OFFICERS.

Title.	Name.	Location of Office.
President and Treasurer.....	Chas. L. Colby.....	Milwaukee, Wis....
Vice-President and Secretary.....	Edwin H. Abbott.....	.....

LIST OF RAILROADS INCORPORATED FOR YEAR END- ING JUNE 30, 1890.

The Chicago and Blue Island Railroad Co. From the village of Blue Island, in Cook county, Ill., to the city of Chicago, in Cook county, Ill. Office, Chicago, Ill. Capital stock, \$50,000. Directors, Charles S. Harmon, Frank O. Young, William Hansbrough, Blue Island, Ill.; Charles C. Collins, Chicago, Ill., and Austin Wissall, Morgan Park, Ill. Filed, July 9, 1889.

East St. Louis and St. Louis Electric Railway Co. From a point in the Illinois and St. Louis Bridge, where the same is intersected by the boundary line between the states of Illinois and Missouri, thence eastwardly to and through the city of East St. Louis, Ill., thence to the National Stock Yards, in the county of St. Clair, Ill., and thence to some eligible and convenient point in St. Clair county. Office, East St. Louis, Ill. Capital stock, \$100,000. Directors, Charles C. Carroll and Henry C. Latham, Springfield, Ill.; S. A. Barton, Chicago, Ill., and D. R. Powell and E. C. Lackland, St. Louis, Mo. Filed, July 30, 1889.

Streator and Seneca Railroad Co. From Streator, LaSalle county, Ill., to Seneca, LaSalle county, Ill. Office, Chicago, Ill. Capital stock, \$600,000. Directors, George H. Harlow, John J. Allen, Charles C. Whitacre, Russell H. Stevens and Lawson A. Gilbert, all of Chicago, Ill. Filed August 10, 1889.

Fort Wayne, Wilmington and Western Railway Co. From a point in Will county, Ill., thence westerly through Washington, Peotone and Wilmington in said county to Blodgett Station in said county, on the Atchison, Topeka and Santa Fe Railroad. Office, Wilmington, Ill. Capital stock, \$2,000,000. Directors, Edmund Allen and M. N. M. Stuart, of Wilmington, Ill.; Charles Smith, Channahon, Ill.; Michael Collins, Peotone, Ill., and David Willard, Wesley, Ill. Filed, August 22, 1889.

The Perry, Pittsfield and Southern Railroad Co. From Perry, Pike county, Ill., to Pittsfield in said county, with branches from Pittsfield to Nebo, in said county, and from Pittsfield to a point in said county on the Mississippi river, opposite Louisiana, Mo. Office, Pittsfield, Ill. Capital stock, \$500,000. Directors, Clark P. Chapman, Pittsfield, Ill.; Asabel Hinman, Perry, Ill.; Eden M. Seeley, Pittsfield, Ill.; George W. Witham, Perry, Ill., and Edward F. Binns and George Barber, Pittsfield, Ill. Filed, August 26, 1889.

The Illinois Elevated Railway Co. From a point within the corporate limits of the city of Chicago, Cook county, Ill., in a northerly direction to the line of said county, and again from a point within the corporate limits of Chicago, Ill., in a westerly direction to the line of said county, and again from a point within the corporate limits of Chicago, Ill., in a southerly direction to the line of said county, and again from a point within the corporate limits of Chicago, Ill., in a southwesterly direction to the line of said county, together with necessary branches or loop lines. Office, Chicago, Ill. Capital stock, \$10,000,000. Directors, Michael W. Ryan, John Tyler, Edward C. Donnellan, Willam W. Bell and Paul Brown, all of Chicago, Ill. Filed, August 28, 1889.

The Perry, Pittsfield and Southern Railroad Co. From Perry, Pike county, Ill., to Pittsfield in said county, with branch from Pittsfield to Nebo in said county, and from Pittsfield to a point in said county on the Mississippi river opposite Louisiana, Mo. Office, Pittsfield, Ill. Capital stock, \$100,000. Directors, Clark P. Chapman, Pittsfield, Ill.; Asabel Hinman, Perry, Ill.; Eden M. Seeley, Pittsfield, Ill.; George W. Witham, Perry, Ill., and Edward F. Binns and George Barber, Pittsfield, Ill. Filed, August 31, 1889.

Chicago and Kenosha Railway Co. From such terminus within the city of Chicago, Ill., as may be selected by said corporation to a point on the Illinois State line in Lake county. Office, Chicago, Ill. Capital stock, \$100,000. Directors, Adams A. Goodrich, Jerseyville, Ill., and Frank H. McCulloch, Frank H. Bowen, Harry P. Young and James C. Hutchins, Chicago, Ill. Filed, Sept. 20, 1889.

Joliet and Blue Island Railway Co. From a point at or near Joliet, Will county, Ill., to a point at or near the village of Blue Island, Cook county, Ill. Office, Chicago, Ill. Capital stock, \$100,000. Directors, Adams A. Goodrich, Jerseyville, Ill., and Frank H. McCulloch, Frank H. Bowen, Harry P. Young and James C. Hutchins, Chicago, Ill. Filed, Sept. 20, 1889.

Calumet and Blue Island Railway Co. From such terminus within the City of Chicago, Ill., as may be selected by said corporation, to a point at or near the village of Blue Island, Cook county, Ill. Office, Chicago, Ill. Capital stock, \$200,000. Directors, Adams A. Goodrich, Jerseyville, Ill., and Frank H. McCulloch, Frank H. Bowen, Harry P. Young and James C. Hutchins, Chicago, Ill. Filed, Sept. 20, 1889.

Ava, Grand Tower and Cairo Railroad Co. From the village of Ava, Jackson county, Ill., to the city of Cairo, Alexander county, Ill., and passing through the town of Grand Tower, in Jackson county, and passing through the town of Thebes in Alexander county, and passing through the county of Union. Office, Ava, Ill. Capital stock, \$1,000,000. Directors, Johnston Husband, Wm. E. Talbott, Murry Dean, Whitney Gilbreath, Don E. Detrich, John Conner and Samuel H. Douglas, all of Ava, Ill. Filed, Oct. 16, 1889.

Chicago Central Railway Co. From the city of Chicago, Cook county, Ill., to a point on the west boundary line of the State of Illinois at or near the south boundary line of Adams county, and also from the city of Chicago to a point on the south boundary line of Iroquois county. Office, Chicago, Ill. Capital stock, \$1,000,000. Directors, Milton R. Wood, Charles W. Needham, Erwin E. Wood, William L. Moss and Edwin L. Waugh, all of Chicago, Ill. Filed, Oct. 18, 1889.

Chicago and Central Southern Railroad Co. From a point to be hereafter selected on the State line between the states of Indiana and Illinois, in Edgar county, Ill., through the counties of Edgar, Vermilion, Iroquois, Kankakee, Will and Cook, to such terminus in the city of Chicago as may be selected. Office, Chicago, Ill. Capital stock, \$4,000,000. Directors, Benjamin T. Lewis, LaGrange, Ill.; B. D. Harris, Frederick S. Winston and James F. Meagher, Chicago, Ill., and Frank P. Crandon, Evanston, Ill. Filed, Oct. 26, 1889.

The St. Louis, Indianapolis and Eastern Railroad Company of Illinois. From East St. Louis, St. Clair county, Ill., in an easterly direction through the counties of St. Clair, Madison, Clinton, Bond, Fayette, Marion, Clay, Effingham, Jasper and Crawford, to the center of the Wabash river, at a point near the village of Palestine, Ill., a distance of about 148 miles; also to purchase, own, operate and maintain as a part of said main line of railroad a railroad commencing at the city of Effingham, Effingham county, Ill., and running southeasterly to a connection with said main line near the city of Newton, Jasper county, Ill., being a distance of about 22 miles. Office, Chicago, Ill. Capital stock, \$6,800,000. Directors, Horatio H. Gardner, Thomas B. Rice, John Prindiville, John L. Stockton and Ira C. Wood, all of Chicago, Ill. Filed, Oct. 30, 1889.

Chicago and State Line Terminal Railway Co. From the Indiana State line between the south line of the town of Thornton, Cook county, Ill., and Lake Michigan, northwesterly to and through the city of Chicago, Cook county, Ill. Office, Chicago, Ill. Capital stock, \$3,000,000. Directors, Charles E. Rand, Theo. Emery, John Emmet Phillips, Joseph McH. Holmes and Charles H. Pringle, all of Chicago, Ill. Filed, Nov. 2, 1889.

Chicago and Northern Pacific Railroad Co.—

1st. From the southwest corner of Harrison street and Fifth avenue in the city of Chicago, Cook county, Ill., westerly and southwesterly through the city of LaSalle to the Mississippi river.

2d. From a point in the vicinity of the intersection of Crawford avenue and West Randolph street in the city of Chicago, westerly to the Mississippi river.

3d. From some convenient point on route number two in the town of Proviso, southerly and southwesterly to the city of East St. Louis.

4th. From a point in the vicinity of the intersection of Crawford avenue and West Randolph street in the city of Chicago, southerly to the southern limits of Cook county, with a branch easterly to Lake Michigan and a branch westerly to the west limits of Cook county.

5th. From some convenient point on route number one in the west division of the city of Chicago, southerly to the Ohio river, with branches from three convenient points in Cook county easterly to the eastern boundary of the State of Illinois.

6th. From some convenient point in Macon county on route number three southerly to the Ohio river.

7th. From some convenient point on route number one in the town of Cicero, southerly to the southern limits of Cook county.

8th. From some convenient point on route number one between Crawford avenue in the city of Chicago and the west limits of the town of Cicero, southwesterly to the western limits of Cook county. Office, Chicago, Ill. Capital stock, \$30,000,000. Directors, James L. High, Alfred D. Eddy, Chauncey W. Martyu, James E. Rogers and David Eichberg, all of Chicago, Ill. Filed, Nov. 23, 1889.

Belleville and East St. Louis Railway Co. From Belleville, Ill., to East St. Louis, Ill. Office, Belleville, Ill. Capital stock, \$500,000. Directors, Julius Kohl, Belleville, Ill.; Henry Seiter and James D. Baker, Lebanon, Ill.; Herman G. Weber, Belleville, Ill.; J. L. Wiggins, East St. Louis, Ill.; Joseph Fuess, Belleville, Ill.; Henry D. Sexton, East St. Louis, Ill., and Charles P. Knispel, Belleville, Ill. Filed, Nov. 27, 1889.

Belleville Terminal Railway Co. From a point within or adjoining the city of Belleville, Ill., around said city of Belleville so as to connect all the railways within said city with one another. Office, Belleville, Ill. Capital stock, \$100,000. Directors, Julius Kohl, Belleville, Ill.; Henry Seiter and James D. Baker, Lebanon, Ill.; Herman G. Weber, Belleville, Ill.; J. L. Wiggins, East St. Louis, Ill.; Joseph Fuess, Belleville, Ill.; Henry D. Sexton, East St. Louis, Ill., and Charles P. Knispel, Belleville, Ill. Filed, Nov. 27, 1889.

St. Louis and Illinois Central Railway Co. From Eureka, Woodford county, Ill., southerly through the counties of Woodford, McLean, Tazewell, Logan, Sangamon, Montgomery, Macoupin and Madison to Alhambra, Madison county, Ill., with necessary side tracks. Office, Springfield, Ill. Capital stock, \$2,800,000. Directors, Robert McWilliams, Litchfield, Ill.; J. M. Stark, Pawnee, Ill.; H. R. Phinney, Alton, Ill.; H. W. Dana, Lincoln, Ill.; John E. Risley, New York, N. Y.; Tracey E. Roberts, Brooklyn, N. Y., and Frank C. Hollins, New York, N. Y. Filed, Nov. 27, 1889.

Chicago and Southeastern Railroad Company. From Chicago, Ill., to a point on the Indiana State line in the township of Thornton, Cook county, Ill. Office, Chicago, Ill. Capital stock, \$100,000. Directors, Adams A.

Goodrich, Jerseyville, Ill.: Eugene E. Prussing, Highland Park, Ill., and James C. Hutchins, Frank H. McCulloch and Frank H. Bowen, Chicago, Ill. Filed, Dec. 5, 1889.

St. Louis and Eastern Railway Co. From a point on the Mississippi river opposite St. Louis, Mo., in Madison county, Ill., to a point on the Illinois State line in Crawford county, Ill., with such lateral branches and spurs as may be necessary. Office, East St. Louis, Ill. Capital stock, \$200,000. Directors, H. R. Durkee and J. S. Brewer, Chicago, Ill.: E. C. Springer, Edwardsville, Ill.: William F. Nedringhaus, George O. Carpenter, Jr., and William E. Guy, St. Louis, Mo., and C. E. Bradish, Alton, Ill. Filed, Dec. 16, 1889.

St. Louis and Belleville Railway Co. From the city of Belleville, St. Clair county, Ill., to the city of St. Louis, Mo. Office, Belleville, Ill. Capital stock, \$300,000. Directors, D. P. Alexander, Wichita, Kansas; George Knobeloch, Carrie T. Alexander and Fred. Holdner, Belleville, Ill., and John D. Alexander, Wichita, Kansas. Filed, Dec. 18, 1889.

Alton, Venice and East St. Louis Railroad Co. From the city of Alton, Madison county, Ill., by Venice, to the city of East St. Louis, St. Clair county, Ill. Office, Alton, Ill. Capital stock, \$300,000. Directors, Henry D. Sexton, East St. Louis, Ill.: William E. Smith, Z. B. Job, H. J. Bowman, John N. Drummond and A. E. Mills, Alton, Ill.: T. J. Irish, Nameoki, Ill.: Frank McCambridge, Venice, Ill., and John Weding, Nameoki, Ill. Filed, Jan. 9, 1890.

The Jacksonville, Louisville and St. Louis Railway Co. From the city of Jacksonville, Morgan county, Ill., through the counties of Morgan, Sangamon, Macoupin, Montgomery, Bond, Clinton and Marion to the city of Centralia, Marion county, Ill. Office, Jacksonville, Ill. Capital stock, \$1,500,000. Directors, J. Henry Dunn, Germantown, Pa.; William Elliott, Chestnut Hill, Pa., and Isaac L. Morrison, William S. Hook and Marcus Hook, Jacksonville, Ill. Filed, Jan. 18, 1890.

The St. Louis, Chester and Grand Tower Railroad Co. From East St. Louis, St. Clair county, Ill., in a southeasterly direction through the counties of St. Clair, Monroe, Randolph and Jackson and the town of Chester to the town of Grand Tower. Office, East St. Louis, Ill. Capital stock, \$1,500,000. Directors, William Carson, Jr., S. Dwight Eaton, William D. Eaton and Walter B. Eaton, Burlington, Ia.; Thomas N. Chase, East St. Louis, Ill.; H. M. Pollard, St. Louis, Mo., and E. Reynolds. Filed, Jan. 23, 1890.

The North and South Railroad Company of Illinois. From Eureka, Woodford county, Ill., southerly through the counties of Woodford, McLean, Tazewell, Logan, Sangamon, Montgomery, Macoupin and Madison to Alhambra, Madison county, Ill. Office, Springfield, Ill. Capital stock, \$2,800,000. Directors, C. H. Bosworth, Springfield, Ill.: J. M. Stark, Pawnee, Ill.; John W. Bunn, Springfield, Ill.: David D. Withers, New York, N. Y., and Gerald L. Hoyt, New York, N. Y. Filed, Jan. 23, 1890.

St. Louis, Venice and Alton Railroad Co. From the city of Alton, Madison county, Ill., to a point in the city of East St. Louis, Ill., opposite St. Louis, Mo. Office, East St. Louis, Ill. Capital stock, \$500,000. Directors, John H. Overall and Alfred Carr, St. Louis, Mo.; Jerome Winstanley, Geo. W. Locke and Jas. K. Ewing, East St. Louis, Ill.; E. E. Rutledge, Alton, Ill., and H. M. Needles, Belleville, Ill. Filed, January 31, 1890.

The Peoria and Eastern Railway Co. From Pekin, Ill., through the counties of Tazewell, McLean, DeWitt, Piatt, Champaign and Vermilion to the boundary line between the States of Illinois and Indiana, with an extension through the counties of Vermilion, Warren, Fountain, Montgomery, Boone, Hendricks and Marion, to Indianapolis, Ind. Office, Danville, Ill. Capital stock, \$10,000,000. Directors, John Alfred Barnard, Indianapolis, Ind.; John A. Glover, Urbana, Ill., and Edmond L. Stewart, Danville, Ill. Filed, February 21, 1890.

Chicago, Blue Island and State Line Railway Co. From a point on the Illinois and Indiana State line in Cook county, Ill., northerly to and into

the city of Chicago, Ill. Office, Chicago, Ill. Capital stock, \$5,000,000. Directors, William Shingleton, William Black, Walter I. Pratt, Chas. H. Pringle and D. J. Evans, all of Chicago, Ill. Filed, February 27, 1890.

Chicago, Harvey and State Line Railway Co. From a point on the boundary line between the States of Illinois and Indiana, northerly to and into the city of Chicago, Ill. Office, Chicago, Ill. Capital stock, \$3,000,000. Directors, William Shingleton, William Black, Walter I. Pratt, Chas. H. Pringle and D. J. Evans, all of Chicago, Ill. Filed, February 27, 1890.

Chicago and Evanston Elevated Rapid Transit Co. From a convenient terminus at or near the point where North Clark street, in the city of Chicago, Ill. meets the Chicago river, thence in a northerly and north-westerly direction to a terminus at or near the place where Chicago avenue intersects Center street in the township of Evanston. Office, Chicago, Ill. Capital stock, \$12,000,000. Directors, John Cudahy, George F. Baldwin, Jacob A. Wolford, E. Partridge, Charles Dennehy, Thos. C. Dennehy, Fridolin Madlener and C. W. Partridge. Filed, March 8, 1890.

St. Louis, Chester and Grand Tower Railroad Co. From East St. Louis, Ill., through the counties of St. Clair, Monroe, Randolph and Jackson to Grand Tower, Ill. Office, East St. Louis, Ill. Capital stock, \$1,500,000. Directors, S. Dwight Eaton, Burlington, Ia.; H. M. Pollard, St. Louis, Mo.; Thos. M. Chase, East St. Louis, Ill.; William F. Barrett, Chicago, Ill. and M. C. Brown, East St. Louis, Ill. Filed, March 17, 1890.

St. Clair, Madison and St. Louis Belt Railroad Co. From a point in or near the city of Belleville, St. Clair county, Ill., to a point on the Mississippi river at or near the city of Alton, Madison county, Ill., and to a point on the boundary line between the States of Illinois and Missouri, and thence to St. Louis, Mo. Office, East St. Louis, Ill. Capital stock, \$300,000. Directors, H. M. Hill, East St. Louis, Ill., George S. Drake and Alvat Mansur, St. Louis, Mo., and F. M. Horner and John McIntyre, East St. Louis, Ill. Filed, March 28, 1890.

Cass Street, Lake View and Evanston Elevated Road Company. From within the city of Chicago, Cook county, Ill., to the village of Evanston in said county. Office, Chicago, Ill. Capital stock, \$6,000,000. Directors, L. R. Hall, Chicago, Ill., Samuel W. Jackson, Chicago, Ill., and Hervey, H. Anderson, Ravenswood, Ill. Filed, April 4, 1890.

Manufacturers Railroad Company. From the Indiana State line in the town of Thornton, Cook county, Ill., to Blue Island and Chicago in said county. Office, Chicago, Ill. Capital stock, \$150,000. Directors, Nathan G. Moore, Oak Park, Ill., and John P. Wilson, Houston C. Adcock, Alfred E. Spink and William B. McIlvaine, Chicago, Ill. Filed, April 10, 1890.

Springfield and Hillsboro Railroad Co. From Springfield through the counties of Sangamon, Christian and Montgomery to a point on the Toledo, St. Louis and Kansas City Railroad south of Hillsboro, Montgomery county, Ill. Office, Springfield, Ill. Capital stock, \$500,000. Directors, J. M. Stark, Pawnee, Ill.; J. R. Booth and C. W. Phillips, Springfield, Ill.; W. S. Weber, Zenobia, Ill., and Wm. H. Vigal, New City, Ill. Filed, April 12, 1890.

The Chicago and Eastern Railway Co. From the city of Chicago, Cook county, Ill., in an easterly direction through said county to a point on the State line between the States of Illinois and Indiana in said county, where the Indiana & Northern Railway shall intersect said State line. Office, Chicago, Ill. Capital stock, \$100,000. Directors, George G. Hadley, John E. Martin and George H. Ketcham, Toledo, O.; Thomas C. Louchs, Elgin, Ill., and Linnaeus E. Overman, Nelson C. Jennings and Christopher Whalen, Chicago, Ill. Filed, April 16, 1890.

Forsyth Elevated Railroad Co. From a point on the State line between the States of Illinois and Indiana in Cook county, Ill., northerly to, and into the city of Chicago, Ill. Office, Chicago, Ill. Capital stock, \$2,500,000. Directors, R. Clark Forsyth, Jacob Forsyth, John J. Forsyth, George W. F. Forsyth and Oliver O. Forsyth, all of Sheffield, Ind. Filed, April 24 1890.

The Chicago and Western Rapid Transit Railway Co. From and within the city of Chicago, Cook county, Ill., the main line to commence at some point east of Fifth avenue and between Madison and Harrison streets, and thence west to the present and future city limits; a branch to commence at the main line at a point between Canal and Carpenter streets and thence north to the present and future city limits; a branch to commence at main line between Ashland avenue and Wood street and thence north to a point 400 feet north or south of Milwaukee avenue: thence northwest to a point 400 feet north of North avenue: thence west to the present or future city limits. Office, Chicago, Ill. Capital stock, \$8,000,000. Directors, E. Louis Kuhns, Harry A. Ritter, Alexander F. Shuman, Percy L. Shuman and Joseph H. Defrees, all of Chicago, Ill. Filed, April 25, 1890.

Forsyth Elevated Railroad Co. From a point on the State line between the States of Illinois and Indiana in Cook county, Ill., northerly to, and into the city of Chicago, Ill. Office, Chicago, Ill. Capital stock, \$5,000,000. Directors, Jacob Forsyth, John J. Forsyth, George W. Forsyth and Oliver O. Forsyth, Sheffield, Ind., and Henry F. Moore, Chicago, Ill. Filed, April 26, 1890.

The Milwaukee Avenue Alley Railroad Co. From a point on the east line of Canal street, Chicago, Ill., between Madison and Fulton streets, thence northerly to a point between Fulton and Kinzie streets, thence northwesterly to Lawrence avenue in said city. Office, Chicago, Ill. Capital stock, \$5,000,000. Directors, August Meyer, John M. Krause, Edward Weissert, Andrew C. Lausten and Ferdinand Hanssen, all of Chicago, Ill. Filed, May 9, 1890.

New York, St. Louis and Kansas City Railway Co. From a connection with the New York, Wheeling, St. Louis and Chicago Railway Co. of Indiana at a point on the boundary between the States of Illinois and Indiana in Sullivan and Crawford counties, thence to East St. Louis, Ill. Office, East St. Louis, Ill. Capital stock, \$4,000,000. Directors, J. E. Williams, E. C. Rice and G. H. Ten Broek, St. Louis, Mo.; Alexander Flannigan and Benjamin H. Canby, East St. Louis Ill., and Thomas Cratty and Josiah Cratty, Chicago, Ill. Filed, May 15, 1890.

The Calumet Electric Street Railway Co. It is intended to construct and operate the said railway in, on, upon, over, along and across any and all of the streets and alleys within the present or future limits of the City of Chicago, Cook county, Ill., and to the boundary line between the States of Illinois and Indiana, and to such other place or places in Cook county as the said company may determine. Office, Chicago, Ill. Capital stock, \$50,000. Directors, Nathaniel K. Fairbank, Joel D. Harvey, William V. Jacobs, Otho S. Gaither and Samuel E. Gross, all of Chicago, Ill. Filed, May 16, 1890.

The Chicago Arcade Rapid Transit Railway Co. From and within the city of Chicago, Cook county, Ill., the main line to commence at some point east of Fifth avenue, between Madison and Harrison streets, thence west to the present and future city limits; a branch to commence at main line between Ashland avenue and Wood street and thence north to a point 400 feet north or south of Milwaukee avenue: thence northwest to a point 400 feet north of North avenue: thence west to the present and future city limits; a branch to commence at the first named branch at a point between Chicago avenue and Augusta street and extend west to present and future city limits, and such other branches as may be deemed necessary or proper by said company. Office, Chicago, Ill. Capital stock, \$8,000,000. Directors, E. Louis Kuhns, Harry A. Ritter, Alexander F. Shuman, Percy L. Shuman and Joseph H. Defrees, all of Chicago, Ill. Filed, May 21, 1890.

Quincy, Keokuk and Chicago Railroad Co. From Quincy, Adams county, Ill., to Niota, Hancock county, Ill. and to operate a road from Keokuk, Iowa, to Hamilton, Hancock county, Ill. Office, Quincy Ill. Capital stock, \$1,500,000. Directors, George W. Kretzinger, Charles Gibson and C.

R. Arnold, Chicago, Ill.; C. A. McLaughlin, Galesburg, Ill.; Samuel S. Gray, Hamilton, Ill.; William Hill and James F. Crawford, Warsaw, Ill.; James M. Bishop, Quincy, Ill., and A. C. Reed, Chicago, Ill. Filed, June 4, 1890.

Little Wabash Railway Co. From Effingham, Effingham county, Ill., to Carmi, White county, Ill. Office, Clay City, Ill. Capital stock, \$1,500,000. Directors, Edward Austin, Effingham, Ill.; Theron Gould, Georgetown, Ill. C. E. Hitts, Sailor Springs, Ill.; John B. Hutchens, Burnt Prairie, Ill.; J. I. McCauley and Israel Mills., Clay City, Ill.; Luther Yohe, Mt. Erie, Ill.; Nathaniel Holderly, Carmi, Ill., and James Price. Filed, June 30, 1890.

The Atlantic, Mexican and Pacific Railway Co. of Illinois. From a point on the Wabash river at or near Merom, Crawford county, Ill., westwardly through the counties of Crawford, Jasper, Effingham, Clay, Fayette, Marion, Bond, Clinton, Madison and St. Clair to or near East St. Louis, Ill.; also a line commencing at some point on the above line in Crawford county, thence southwestwardly through the counties of Crawford, Jasper, Richland, Clay, Wayne, Marion, Jefferson, Washington, Perry and Randolph to a point at or near Chester, Ill. Office, Robinson, Ill. Capital stock, \$5,600,000. Directors, A. Dale Owen, Philadelphia, Pa.; Henry Follett, London, England; Marchial Minkler, Detroit, Mich.; William H. McCourtie, Kalamazoo, Mich., and B. F. Bush, Grand Blanc, Mich. Filed, June 30, 1890.

GRAIN INSPECTION DEPARTMENT.

TWENTIETH ANNUAL REPORT.

Showing the transactions of the Department from November 1, 1889, to October 31, 1890.

OFFICE OF CHIEF INSPECTOR OF GRAIN,
CHICAGO, November 1, 1890.

Hon. John R. Wheeler, Chairman Railroad and Warehouse Commission, Springfield, Illinois:

DEAR SIR:—It gives me pleasure to announce, in submitting this, the twentieth annual report of this office for the consideration of your honorable board, that the year just closed has been the most prosperous one in the history of the department.

The record of 1880, which for ten years has stood out prominently upon the face of our reports, now falls into the second place.

In 1880, 270,524 cars and 1,622 canal boats brought to the city 138,896,368 bushels of grain. This number of cars has never until now been reached, although in 1888 and also in 1889 the number of bushels—owing to the increased size of the cars in use—was greater.

The record for the year just closed, however, shows receipts of 272,956 cars and 610 canal boats, containing 204,506,701 bushels of grain; being an increase of 2,432 cars and 65,610,333 bushels over 1880, and an increase over last year,—which was the largest ever before known in actual volume of grain—of 30,836,254 bushels.

THE WORK OF THE DEPARTMENT.

The relations of the department to the trade and to the general public have been unusually satisfactory during the year.

The number of appeals from the decisions of the inspectors has fallen off about one-half, and there has been a noticeable absence of criticism and complaint.

These facts, as well as the many commendations which have come to me from country shippers, board of trade men and eastern buyers warrant me in the belief that the work of the inspectors on the tracks and in the elevators has been done with unusual care, fidelity and accuracy.

This is more noteworthy from the fact that in some respects the work has been attended with more difficulty and inconvenience to the men and with greater proportionate expense to the department than ever before.

The evident improvement in the work of the department is due in a great measure to the wisdom, vigilance and discretion of our supervising

inspectors whose constant attention to the work upon the tracks has resulted in a higher standard of efficiency and to a greater devotion of the men to the work in hand.

Their detection of any deviation from the established lines and their prompt correction of all errors have not only resulted in more exact justice to shippers, but have almost entirely done away with complaints of unevenness of grading.

The inculcation of a spirit of self-reliance in our inspectors and a stimulation of their professional pride by a judicious system of promotions and a rigid discipline in all matters involving neglect of duty or disobedience of orders have also tended largely to the improvement of the service.

Each man has been made to realize that his retention in his position or his promotion to a higher one depends entirely upon his own qualifications and his fidelity to duty, and not in any degree upon the personal or political influence he may be able to command.

The character of the service required of an inspector and the very delicate and responsible nature of his duties require that he should be absolutely free from apprehension as to the tenure of his office, and that he should, as far as possible, be divested of every interest or association that would divert his mind from the constant study and application necessary to substantial success in his profession.

DEPARTMENT EXPENSES.

That the necessity for larger expenses should keep pace with the increase of business during the past two years is but natural; and to the members of your honorable board who have been familiar with the necessities of the department as they arose, it will be a matter of congratulation that our expenses have been confined to so narrow a limit.

The letting of contracts for a year's supply of our printing, stationery, blank books and certificates at the lowest bidder has effected a saving of several hundred dollars in our annual expense, and has served to offset in some degree the expansion necessary to meet the demands of the trade.

A distinguishing feature of Chicago business methods is dispatch, and it is a matter of frequent remark that in no other grain market of the country are returns from sales as promptly remitted as here.

The rule among our commission men is that sales shall be made and proceeds remitted the day the grain arrives.

In order to effect this very desirable object it is essential that the bulk of the work on the tracks shall be done so early in the day that notices of the inspection and samples of the grain may be delivered on 'Change in time for that day's session, and that the work of the office shall be practically over by the time for closing the afternoon mails.

This necessitates a complete telephone service and a much larger force of men upon the tracks and in the office than would be required to do the work if it could be distributed throughout the day.

A source of further increase of expenditure consequent upon present business methods was laid before your honorable board in my report for 1889, and need not be recounted here.

I allude to the large proportion of grain transferred at junction points from western to eastern cars and carried on "through bills of lading" from initial points to the seaboard.

This grain, which does not pass through Chicago elevators, is almost all sold on Chicago certificates; and our inspectors, in order to reach it, are obliged to visit every day from ten to twenty of these junction points at long distances from our regular inspection stations and from each other. This special inspection requires the services of three and often four track inspectors.

As an indication of the extent to which this method of transportation is carried it may be of interest to note that during last year but 46 per cent. of the grain passing through the hands of the department went to the elevators.

The work of the office has been very largely increased also in the matter of certificates. But a few years ago certificates were called for on but a small per centage of the cars inspected, and it was no unusual thing to place thirty to fifty cars upon one certificate.

Now separate certificates, and, in a majority of cases, duplicates are required upon most of the cars inspected.

Yet, notwithstanding the circumstances above noted, our entire expense including every expenditure of every kind for inspection, registration and appeals amounts to but forty-one one-hundredths of a mill per bushel of grain inspected—a point reached but once in the last ten years.

REDUCTION OF FEES.

When, a year ago, your honorable board reduced the fees for inspection on arrival from thirty-five to thirty cents per car, I took occasion to say, "In regard to the reduction of fees for inspection on arrival from thirty-five cents to thirty cents, wisely made by your honorable board and which goes into effect at the date of this report, I can only repeat in substance what I said in my letter recommending the same, that while owing to the unusually large receipts during the past two years, the surplus fund of the department is larger than necessary to pay the natural deficit in its expenses during the winter, and may, therefore, properly be returned to the country shippers in the form of a reduction of fees, yet thirty cents per car is inadequate to the maintenance of the department upon a basis of thorough efficiency; and I am convinced that within a year, (or a year and a half at the farthest) it will be found necessary to restore the old rate."

While I see no reason in the general situation to change the views then expressed, still the receipts of grain have been so large that our surplus has slightly increased (notwithstanding the reduction in rates); and as it is now larger than is necessary for the ordinary exigencies of the department, I respectfully recommend that the shippers be given the benefit of the unnecessary surplus by a reduction of the rate, on and after December 1, to twenty-five cents per car.

SIZES OF CARS.

In all comparisons of the earlier with the later reports of the department it is necessary to take into careful account the average loading of the cars which has increased since 1877 within a fraction of 75 per cent.

In 1877 the average contents of each car was 416 bushels; in 1878, 451; in 1879, 460; in 1880, 491; in 1881, 520; in 1882, 559; in 1883, 572; in 1884, 601; in 1885, 608; in 1886, 641; in 1887, 673; in 1888, 685; in 1889, 684; in 1890, 727.

From the above figures it will be seen that, at our present loading, the rate of twenty-five cents per car herein recommended, would be equivalent to a rate of but fourteen and one-half cents per car if the average loading of 1877 prevailed.

IN CONCLUSION.

I am glad to be able to say that during the year the members of our force have, as a rule, discharged their duties conscientiously and faithfully.

I wish also to acknowledge the hearty and cordial cooperation with which your honorable board has invariably met every recommendation for the improvement of the service, the maintenance of discipline or the preservation of the rights of the trade and the public.

CLAIMS FOR DAMAGES.

A question of great importance to the trade and one about which great diversity of opinion exists is that of the liability of the department for errors of inspection.

The unanimous opinion of the trade is that the injured party should look to the department for prompt settlement as it looked to the Board of Trade when that body had control of the inspection, and that reimbursement of the department funds should be a matter of adjustment between the Railroad and Warehouse Commission and the inspector.

In the earlier years of the department—in fact, during more than half of its existence, successive boards of Railroad and Warehouse Commissioners took this view of the matter. Claims were promptly paid as soon as substantiated and the amounts assessed against the inspector who made the error when the liability could be clearly fixed, and treated as an expense of the department when it could not.

Later boards, however, have held that there was no sufficient warrant in the law for such use of the department funds, and that the only recourse of the injured party lay in a suit upon the inspector's bond.

Without discussing the relative correctness of these conflicting opinions I beg leave to suggest that your honorable board make some recommendation to the General Assembly soon to convene, looking to a clearer provision of the law on this subject.

As a rule the amounts involved in any one of these claims is small,—so small that the costs of a suit upon the bonds of an inspector would be practically prohibitory, while the time and trouble involved in its collection would be so great that the injured party would prefer the loss to the remedy.

Then, again, in a large proportion of these claims while the loss and the error are clearly proven it is impossible to fix the error upon a particular inspector, or, having done so, to prove his negligence.

Inasmuch as the department collects the fees for inspection, the trade looks to it for a prompt adjustment of its losses, and rightfully so.

It expects us to make good any grade we affix to its grain, and, without this, public confidence in our certificates must be weakened.

My suggestion is that your honorable board recommend an amendment to the law by which just claims may be promptly paid from the funds of the department, leaving it to the Commission to assess the amounts, or such portion of them as may be deemed best for purposes of discipline, against the inspectors.

Very respectfully submitted,

P. BIRD PRICE,

Chief Inspector.

EXHIBIT A-1.

Inspection on Arrival—By Months.

MONTHS.	WINTER WHEAT.												TOTAL CARS.			
	White.			Turkish.			Long Red.		Red Winter.							
	2	3	4	1	2	3	1	2	1	2	3	4		Not grad'd.		
November, 1889	11	5	.....	.....	.....	.....	.....	.....	.....	71	832	337	36	1,292
December, 1889	12	6	.....	.....	.....	.....	.....	.....	.....	73	403	176	31	702
January, 1890	2	10	2	.....	.....	.....	.....	.....	.....	50	370	135	1	572
February, 1890	12	5	.....	.....	.....	.....	.....	.....	.....	34	310	97	6	466
March, 1890	23	18	.....	.....	.....	.....	.....	.....	.....	28	475	180	7	734
April, 1890	2	5	3	.....	.....	.....	.....	.....	.....	42	343	123	10	529
May, 1890	15	17	7	.....	.....	.....	.....	.....	.....	228	386	117	18	791
June, 1890	6	19	7	.....	.....	.....	.....	.....	.....	107	209	49	7	406
July, 1890	2	12	7	3	.....	.....	.....	.....	.....	1	493	661	204	3,003
August, 1890	6	26	11	.....	1,415	651	.....	.....	.....	2	645	820	308	3,971
September, 1890	7	11	8	.....	777	175	.....	.....	.....	1	507	426	134	2,113
October, 1890	8	23	13	.....	406	144	.....	.....	.....	.....	304	313	96	1,345
Total cars	48	181	92	3	3,055	1,110	2	4	2,582	5,548	1,956	343	14,924
Total estimated bushels													8,999,172			

EXHIBIT A-2.

Inspection on Arrival—By Months.

MONTHS.	SPRING WHEAT.								MIXED WHEAT.		TOTAL CARS.	
	Colorado.		Hard.	2	3	4	Not grad'd	White.				
	2	3	2					2	3			
November, 1889	2,718	785	328	28	3	181	2	5	4,051
December, 1889	2	1,556	557	237	10	.....	107	.....	3	2,472
January, 1890	470	327	264	6	.....	90	.....	1	1,158
February, 1890	4	162	87	138	13	.....	50	.....	2	456
March, 1890	19	163	169	14	.....	35	.....	28	428
April, 1890	217	228	134	12	.....	27	.....	4	622
May, 1890	706	312	123	16	1	19	3	4	1,184
June, 1890	447	154	81	10	1	14	.....	5	712
July, 1890	153	103	65	14	.....	7	.....	8	350
August, 1890	1	113	288	118	23	.....	18	1	8	570
September, 1890	361	757	120	12	8	28	5	9	1,301
October, 1890	13	.....	.....	507	798	104	29	3	39	3	6	1,505
Total cars	14	7	4	7,429	4,559	1,881	187	16	615	14	83	14,809
Total estimated bushels											8,929,827	

EXHIBIT A—3.

Inspection on Arrival—By Months.

MONTHS.	CORN.									TOTAL CARS.
	Yellow.			White.		2	3	4	Not Graded.	
	1	2	3	2	3					
November, 1889	1,023	871	191	79	2,327	2,708	814	122	8,135	
December, 1889	306	2,446	57	200	1,092	5,896	1,585	139	11,721	
January, 1890	88	1,640	29	200	997	3,887	1,673	144	8,658	
February, 1890	146	1,423	41	243	887	3,323	1,736	193	7,992	
March, 1890	1	843	2,000	182	325	5,338	6,920	1,178	54	16,841
April, 1890	598	1,499	176	433	2,663	4,673	812	40	10,894	
May, 1890	1	2,578	2,240	653	751	5,584	2,732	1,028	28	15,595
June, 1890	2,180	1,578	676	460	5,643	3,293	1,317	115	15,262	
July, 1890	2,141	1,238	643	393	5,327	2,621	1,175	176	13,714	
August, 1890	2,479	1,086	427	287	4,761	2,130	1,068	19	12,257	
September, 1890	2,477	1,288	466	413	5,774	3,139	980	21	14,558	
October, 1890	2,298	1,292	422	403	3,874	2,642	840	64	11,835	
Total cars	217,157	18,601	3,963	4,187	44,267	43,964	14,206	1,115	147,462	
Total estimated bushels										91,278,978

EXHIBIT A—4.

Inspection on Arrival—By Months.

MONTHS.	OATS.					TOTAL CARS.	RYE.				TOTAL CARS.	
	White.			2	3		Not Graded.	1	2	3		Not Graded.
	1	2	3									
November, 1889	1,075	1,824	561	292	18	3,770	5	354	135	13	507	
December, 1889	1,156	2,008	817	322	8	4,311	5	401	150	2	558	
January, 1890	1,187	1,861	831	217	6	4,132	....	348	118	2	468
February, 1890	1,302	2,115	800	229	7	4,453	....	281	65	1	347
March, 1890	1,190	1,766	774	225	6	3,961	....	167	47	2	216
April, 1890	1,815	2,638	1,050	337	14	5,854	1	189	83	3	276	
May, 1890	1	4,143	4,708	2,214	519	11,628	....	329	197	3	529
June, 1890	2,179	2,420	870	323	24	5,816	....	237	137	21	395
July, 1890	1,893	1,990	664	336	39	4,922	....	190	63	3	256
August, 1890	3,932	2,894	1,185	463	24	8,498	1	472	94	4	571	
September, 1890	3,274	2,486	1,059	426	56	7,301	....	381	70	5	456
October, 1890	1	2,833	2,856	897	463	7,151	....	328	67	14	409
Total cars	225,999	29,566	11,722	4,182	326	71,797	12	3,677	1,226	73	4,988	
Total estimated bushels	72,945,752						3,012,752					

EXHIBIT A-5.

Inspection on Arrival—By Months.

MONTHS.	BARLEY.										TOTAL CARS.	GRAND TOTAL. Cars of all kinds of Grain.
	Bay Brew-ing.		Cheva-lier.		2	3	4	5	Not Grad-ed.	TOTAL CARS.		
	2	3	2	3								
November, 1889					4	1,265	610	70	19	1,968	19,723	
December, 1889					1	781	531	68	6	1,387	21,151	
January, 1890						1,000	459	51	5	1,515	16,503	
February, 1890						939	400	39	17	1,395	15,109	
March, 1890						613	326	20	16	975	23,155	
April, 1890						644	295	28	20	987	19,162	
May, 1890						478	370	35	15	898	30,625	
June, 1890					2	182	198	35	5	422	23,013	
July, 1890					3	26	32	13	1	75	21,320	
August, 1890					12	962	222	11	7	1,214	27,081	
September, 1890	1		1		31	3,308	678	36	49	4,104	29,833	
October, 1890	1	2			30	3,001	839	66	97	4,036	26,281	
Total cars	2	2	1		83	13,190	4,960	472	257	18,976	272,956	
Total estimated bushels											13,378,080	198,544,561

EXHIBIT B-1.

Inspection on Arrival—By Railroads.

RAILROADS.	WINTER WHEAT.													TOTAL CARS.
	White.			Turkish.			Long Red.		Red Winter.				Not Grad'd	
	2	3	4	1	2	3	1	2	1	2	3	4		
C., B. & Q.	1	15	6	1	152	104		1		317	631	139	16	1,383
C., R. I. & P.	3	5	11	1	304	162		2		179	313	165	17	1,162
C. & A.	5	14	8		209	91				402	467	197	41	1,434
Ill. Cent.	2	5	3		132	62				128	463	114	24	933
Galena Div. C. & N. W.					2					13	25	4		46
Wis. Div. C. & N. W.	23	29	25					1		89	416	30	1	614
Wabash		2	9		195	67				95	417	216	60	1,061
C. & E. I.		1	1					1		24	68	47	14	156
C., M. & St. P.	7	67	19		39	12				219	478	178	7	1,026
Wis. Cent.		2									3			5
C., St. P. & K. C.		6	4		286	42		1		61	45	54	11	510
A., T. & S. Fe.	1	5	5	1	1,542	421				268	862	324	83	3,512
Through and special	6	30	1		194	147				787	1,360	488	69	3,082
Total cars	48	181	92	3	3,055	1,110		2	4	2,582	5,548	1,956	343	14,924

EXHIBIT B-2.

Inspection on Arrival—By Railroads.

RAILROADS.	SPRING WHEAT.										MIXED WHEAT.		TOTAL CARS.
	Colo- rado Wheat.		Hard				Not Grad- ed.	White.					
	2	3	2	2	3	4		2	3	2	3		
C., B. & Q.....	2	...	2	312	1,039	839	76	3	389	6	36	2,704	
C., R. I. & P.....	...	...	...	296	215	151	12	1	58	...	5	738
C. & A.....	...	...	...	...	1	8	...	...	5	...	...	14
Ill. Cent.....	...	...	...	100	162	16	11	...	...	...	...	294
Galena Div. C. & N. W.....	...	...	...	169	922	323	15	3	42	...	4	1,481
Wis. Div. C. & N. W.....	...	...	...	278	169	41	1	2	10	...	...	501
Wabash.....	...	...	...	3	4	2	...	...	...	...	...	2
C. & E. I.....	...	...	...	...	...	...	...	...	...	...	...	9
C., M. & St. P.....	1	1	...	2,761	993	257	34	2	46	5	30	4,100	
Wis. Cent.....	8	2	...	4	46	7	...	...	...	...	...	70
C., St. P. & K. C.....	1	4	1	237	346	109	5	4	28	...	...	727
A., T. & S. Fe.....	2	...	...	3	15	26	10	...	16	1	1	74
Through and special.....	...	...	1	3,266	653	150	30	1	21	2	1	4,095
Total cars.....	14	7	4	7,429	4,559	1,881	187	16	615	14	83	14,809	

EXHIBIT B-3.

Inspection on Arrival—By Railroads.

RAILROADS.	CORN.										TOTAL CARS.
	Yellow.			White.			2	3	4	Not Grad- ed.	
	1	2	3	2	3						
C., B. & Q.....	1	3,821	4,506	829	666	9,004	12,017	1,861	52	32,757	
C., R. I. & P.....	1	2,213	1,713	361	230	10,309	7,935	986	96	23,844	
C. & A.....	...	859	929	475	281	2,585	1,460	848	42	7,479	
Ill. Cent.....	...	2,953	1,941	672	618	2,588	1,679	1,876	27	12,584	
Gal. Div. C. & N. W.....	...	1,618	1,408	59	143	3,209	3,160	668	21	10,286	
Wis. Div. C. & N. W.....	...	8	2	6	2	1	1	1	...	21	
Waba-h.....	...	806	756	219	455	535	778	1,305	123	4,977	
C. & E. I.....	...	14	24	18	25	9	41	126	57	314	
C., M. & St. P.....	...	1,271	732	112	88	4,152	2,587	482	46	9,470	
Wis. Cent.....	...	...	...	...	...	...	1	...	...	1
C., St. P. & K. C.....	...	703	474	151	108	4,014	2,691	286	31	8,458	
A., T. & S. Fe.....	...	1,058	1,082	449	293	5,843	4,117	645	47	13,534	
Through and special.....	...	1,833	5,034	612	1,278	2,018	7,497	5,122	343	23,737	
Total cars.....	2	17,157	18,601	3,963	4,187	44,267	43,964	14,206	1,115	147,462	

EXHIBIT B—4.

Inspection on Arrival—By Railroads.

RAILROADS.	OATS.					TOTAL CARS.	RYE.				TOTAL CARS.	
	White.			2	3		Not Graded	1	2	3		Not Graded
	1	2	3									
C. B. & Q.	4,542	2,700	1,610	417	37	9,326	880	342	20	1,242		
C. R. I. & P.	1 3,446	5,491	548	486	71	10,043	1 396	221	14	632		
C. & A.	372	691	496	75	19	1,653	98	30	2	130		
Ill. Cent.	1,655	2,002	1,555	402	18	5,632	293	71	...	364		
Gal. Div. C. & N. W.	1 2,975	3,934	1,051	473	48	8,482	2 453	116	1	572		
Wis. Div. C. & N. W.	1,517	744	186	60	10	2,517	231	22	2	255		
Wabash	140	429	193	124	8	894	56	36	3	89		
C. & E. I.	4	60	35	46	6	151	10	8	...	20		
C. M. & St. P.	6,484	4,598	1,365	517	47	13,011	9 642	132	5	788		
Wis. Cent.	81	1	10	...	...	92	5	2	1	8
C., St. & K. C.	814	1,314	566	258	5	2,957	99	69	...	168		
A., T. & S. Fe.	719	765	750	186	14	2,434	64	30	1	95		
Through and special.	3,331	6,737	3,366	1,128	43	14,605	450	153	22	625		
Total cars.	2 25,999	29,566	11,722	4,182	326	71,797	12 3,677	1,226	73	4,988		

EXHIBIT B—5.

Inspection on Arrival—By Railroads.

RAILROADS.	BARLEY.								Total cars.	Grand total cars of all kinds of grain	
	Bay Brew- ing.		Chev- alier.		2	3	4	5			Not graded
	2	3	2	3							
C. B. & Q.	17	653	302	43	6	1,021	48,433
C. R. I. & P.	24	1,213	637	108	31	2,013	38,432
C. & A.	1	5	5	...	...	11	10,721
Ill. Central	837	1,111	69	8	2,025	21,832
Gal. Div. C. & N. W.	9	3,559	906	46	17	4,537	25,404
Mo. Div. C. & N. W.	3	2,628	382	48	110	3,171	7,079
Wabash	2	7	...	...	9	7,039
C. & E. I.	2	...	2	645
C. M. & St. P.	3	3,617	1,008	78	73	4,779	33,174
Wis. Central	2	2	1	...	...	113	29	3	...	149	325
C., St. P. & K. C.	1	310	177	3	...	491	13,311
A., T. & S. Fe.	6	5	...	...	11	19,660
Through and special.	25	256	391	73	12	757	46,901
Total cars.	2	2	1	...	83	13,199	4,900	472	257	18,976	272,956

EXHIBIT C.

Inspection on Arrival—By Canal and Lake—Bushels.

MONTHS.	WINTER WHEAT.					Total bush-els.	SPRING WHEAT.		
	Turkish.	Red Winter.					2	3	Total bush-els.
	3	2	3	4	Not graded				
November, 1889		4,296		5,000		9,296			
December, 1889		7,964	7,400			15,364			
March, 1890							61,966	61,966	
April, 1890			53,102	400		53,502	17,526	17,526	
May, 1890			18,800			18,800	97,869	97,869	
June, 1890							104,994	24,873	
July, 1890							16,250	9,079	
August, 1890	8,000					8,000		58,100	
September, 1890	7,500		7,471			14,971			
October, 1890			3,641		3,300	6,941			
Total bushels ..	15,500	12,260	90,414	5,400	3,300	126,874	298,605	92,052	
								390,657	

*Exhibit C—Continued.**Inspection on Arrival—By Canal and Lake—Bushels.*

MONTHS.	CORN.								
	Yellow.		White.		2	3	4	Not graded	Total bush-els.
	2	3	2	3					
November, 1889					84,150	16,500			100,650
December, 1889						4,500			4,500
March, 1890						75,411			75,411
April, 1890		3,500			149,891	203,954	19,900		377,245
May, 1890			5,700			227,800	900		234,400
June, 1890	31,511	23,035	4,200		354,717	52,000	1,800		467,263
July, 1890		42,402			371,143	128,528	27,264		569,337
August, 1890	44,777	8,100			348,509	169,553	76,029	6,705	653,673
September, 1890	80,536	68,500			498,762	187,700			835,498
October, 1890	10,100	8,500		6,100	262,400	102,565		5,000	394,665
Total bushels.	166,924	154,037	9,900	6,100	2,069,572	1,168,511	125,893	11,705	3,712,642

Exhibit C—Continued.

Inspection on Arrival—By Canal and Lake—Bushels.

MONTHS.	OATS.				RYE.			Grand total bush-els.	
	White.		2	3	Total bush-els.	2	3		Total bush-els.
	2	2							
November, 1889		35,500	17,000	2,000	54,500	.....	5,585	5,585	170,031
December, 1889									81,830
March, 1890	18,970	5,347	70,222		94,539				187,476
April, 1890		66,000	1,600	8,600	76,200	13,300		13,300	618,116
May, 1890	395,427	130,500	119,393		645,320	19,550	125	19,675	1,048,062
June, 1890	316,432	74,450	16,500		407,382	22,490		22,490	922,464
July, 1890	175,519	12,700	12,800		201,019	11,259		11,259	839,715
August, 1890	71,500	18,600		1,700	91,800				753,473
September, 1890	23,130	30,200	21,500		74,830	68		68	925,367
October, 1890		14,000			14,000				415,606
Total bushels	1,000,978	387,297	259,015	12,300	1,659,590	66,667	5,710	72,377	5,962,140
Total number of boats									610

EXHIBIT D.

Inspection from Store.

	Winter wheat.	Spring wheat.	Corn.	Oats.	Rye.	Barley.	Total.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
November, 1889..	585,821	95,583	3,843,186	2,030,714	247,754	337,123	7,140,181
December, 1889..	128,802	221,976	650,160	329,276	123,233	120,326	1,573,773
January, 1890....	157,391	313,978	231,438	3-7,297	71,782	160,792	1,322,678
February, 1890..	161,385	482,496	323,229	162,056	14,244	113,126	1,256,536
March, 1890.....	396,540	299,033	1,541,851	189,506	83,726	98,100	2,608,756
April, 1890.....	253,670	431,864	8,595,147	1,451,870	245,850	127,863	11,106,264
May, 1890.....	143,448	131,822	6,467,687	3,736,412	277,580	117,985	10,874,934
June, 1890.....	270,353	153,731	7,233,948	3,810,929	303,305	82,304	11,854,570
July, 1890.....	421,397	817,931	8,286,837	1,210,394	114,454	1,720	10,852,733
August, 1890.....	787,529	321,521	6,262,793	986,034	26,223	4,459	8,388,559
September, 1890..	236,441	587,889	7,394,220	1,405,709	67,904	82,281	9,774,444
October, 1890....	565,691	232,647	6,455,038	1,139,646	90,198	507,760	8,990,980
Total.....	4,108,468	4,090,471	57,285,534	16,839,843	1,666,253	1,753,839	85,744,408

EXHIBIT E.
Financial Statement.

	Inspection Fees Earned.	Commissions paid Rail- roads and Elevators.	Total Cash Received.	Disburse- ments for Expenses.	Bank Balance.
November, 1889...	\$9,540 70	\$736 66	\$14,023 01	\$10,831 04	\$59,728 80
December, 1889...	7,108 88	442 52	9,489 48	10,168 82	59,049 46
January, 1890.....	5,607 62	257 73	7,088 32	9,920 78	56,217 00
February, 1890.....	5,129 53	187 69	5,231 04	10,228 73	51,219 31
March, 1890.....	8,105 95	176 64	4,977 31	9,662 20	46,534 42
April, 1890.....	11,482 52	373 10	8,441 13	9,483 70	45,491 85
May, 1890.....	14,964 56	517 02	10,973 14	9,402 51	47,062 48
June, 1890.....	13,144 00	640 85	13,810 71	9,641 25	51,231 94
July, 1890.....	12,225 22	628 92	12,950 94	10,100 91	54,081 97
August, 1890.....	12,531 08	561 14	11,680 85	9,940 83	55,821 99
September, 1890..	14,189 14	556 80	11,823 87	9,887 63	57,758 23
October, 1890.....	12,622 69	641 72	13,432 51	9,897 92	61,202 82
Totals	\$126,651 89	\$5,720 79	\$123,922 31	\$119,166 32	.....

P. Bird Price, Chief Inspector,

IN ACCOUNT WITH ILLINOIS STATE GRAIN INSPECTION DEPARTMENT.

November 1, 1889..	To balance on hand as per last report.....	\$56,536 83	
October 31, 1890....	To cash received during the year as shown above.	123,922 31	
October 31, 1890....	By expense Inspection Department.....		\$99,868 36
October 31, 1890....	By expense Registration Office.....		14,566 31
October 31, 1890....	By expense Committee of Appeals.....		4,731 65
	By balance on hand.....		61,202 82
	Total.....	\$180,459 14	\$180,459 14

EXHIBIT F.

INSPECTION ON ARRIVAL.—Comparative Statement of Inspection from 1880 to 1890, inclusive.

Year.	Cars, Number.	Boats, Number.	Winter wheat, Bushels.	Spring wheat, Bushels.	Corn, Bushels.	Oats, Bushels.	Rye, Bushels.	Barley, Bushels.	Total, Bushels.
1880	270,524	1,022	5,887,500	17,312,968	91,185,379	18,873,400	1,645,545	3,991,576	138,886,368
1881	227,119	950	1,682,311	18,398,187	76,017,132	22,612,368	1,224,843	4,177,762	124,109,603
1882	171,218	607	11,157,238	9,508,301	45,775,863	25,060,350	1,688,307	5,803,804	99,083,953
1883	235,213	477	6,953,031	13,010,095	72,258,580	33,392,184	4,980,000	6,824,316	137,418,846
1884	210,822	351	7,483,624	16,782,273	54,600,598	30,593,860	3,752,180	6,755,837	128,618,362
1885	212,270	460	5,354,848	24,024,672	54,709,685	38,881,040	1,798,951	8,462,764	131,779,960
1886	201,103	450	5,506,084	10,644,844	68,477,686	42,534,082	1,104,386	10,262,360	131,529,452
1887	189,129	503	5,639,573	17,667,973	50,700,475	45,974,724	1,852,324	9,462,000	130,297,069
1888	211,318	341	7,265,135	10,191,034	66,391,548	52,617,987	2,357,792	8,521,344	147,344,840
1889	243,883	362	13,693,136	4,634,590	84,273,590	58,768,172	2,570,410	9,296,163	173,670,447
1890	272,356	610	9,126,046	3,320,484	94,391,620	74,605,312	3,085,129	13,378,080	204,506,701

EXHIBIT G.

INSPECTION FROM STORE—Comparative Statement of Out-Inspection from 1881 to 1890, inclusive.

Year.	Winter wheat. Bushels.	Spring wheat. Bushels.	Corn. Bushels.	Oats. Bushels.	Rye. Bushels.	Barley. Bushels.	Total. Bushels.	Combined totals of in and out- inspection. Bushels.
1881	1,719,720	13,675,941	60,285,410	9,421,724	705,241	776,858	86,584,894	210,694,497
1882	9,429,565	7,434,783	38,157,208	5,626,482	1,091,137	1,236,391	62,975,366	158,668,139
1883	5,201,303	5,854,521	52,391,148	6,415,397	3,190,923	744,086	73,797,578	211,216,444
1884	4,441,460	12,996,124	30,667,783	6,621,698	2,837,022	1,266,691	58,830,778	187,479,140
1885	1,501,665	7,715,039	31,661,591	3,665,637	738,209	296,790	45,578,922	177,358,882
1886	2,648,956	10,500,918	41,645,620	4,763,724	635,174	1,052,913	61,249,365	192,778,757
1887	6,019,271	17,642,628	39,843,323	10,153,370	394,948	1,044,871	75,098,411	295,395,480
1888	3,060,541	6,365,799	46,754,284	14,818,254	516,942	1,157,523	72,673,344	217,890,263
1889	9,136,010	3,637,232	66,517,282	20,668,131	1,778,321	1,399,573	103,156,949	276,827,396
1890	4,108,468	4,090,471	57,285,534	16,839,843	1,666,253	1,753,839	85,744,468	290,251,109

RULES

GOVERNING THE INSPECTION OF GRAIN IN THE CITY OF CHICAGO, STATE OF ILLINOIS.

IN FORCE DECEMBER 1, 1890.

RULE 1.—WINTER WHEAT.

No. 1 White Winter Wheat—shall be pure White Winter Wheat, or Red and White mixed: sound, plump, and well cleaned.

No. 2 White Winter Wheat—shall be White Winter Wheat, or Red and White mixed: sound and reasonably clean.

No. 3 White Winter Wheat—shall include White Winter Wheat, or Red and White mixed, not clean and plump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel.

No. 4 White Winter Wheat—shall include White Winter Wheat, damp, musty, or from any cause so badly damaged as to render it unfit for No. 3.

No. 1 Long Red Winter Wheat—shall be pure Red Winter Wheat of the long-berried varieties: sound, plump, and well cleaned.

No. 2 Long Red Winter Wheat—shall be of the same varieties as No. 1, sound and reasonably clean.

Turkish Red Winter Wheat—The grades of Nos. 1, 2 and 3 Turkish Red Winter Wheat shall correspond with the grades of Nos. 1, 2 and 3 Red Winter Wheat, except that they shall be of the Turkish variety.

In case of mixture of Turkish Red Winter Wheat with Red Winter Wheat, it shall be graded according to the quality thereof, and classed as Turkish Wheat.

No. 1 Red Winter Wheat—shall be pure Red Winter Wheat of both light and dark colors, of the shorter-berried varieties: sound, plump, and well cleaned.

No. 2 Red Winter Wheat—shall be Red Winter Wheat of both light and dark colors; sound and reasonably clean.

No. 3 Red Winter Wheat—shall include Red Winter Wheat not clean and plump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel.

No. 4 Red Winter Wheat—shall include Red Winter Wheat, damp, musty, or from any cause so badly damaged as to render it unfit for No. 3.

In case of the mixture of Red and White Winter Wheat, it shall be graded according to the quality thereof, and classed as White Winter Wheat.

No. 1 Colorado Wheat—shall be sound, plump and well cleaned.

No. 2 Colorado Wheat—shall be sound, reasonably clean, and of good milling quality.

No. 3 Colorado Wheat—shall include Colorado Wheat, not clean and plump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel.

RULE 2.—SPRING WHEAT.

No. 1 Hard Spring Wheat—shall be sound, plump, and well cleaned.

No. 2 Hard Spring Wheat—shall be sound, reasonably clean, and of good milling quality.

No. 1 Spring Wheat—shall be sound, plump, and well cleaned.

No. 2 Spring Wheat—shall be sound, reasonably clean, and of good milling quality.

No. 3 Spring Wheat—shall include all inferior, shrunken or dirty Spring Wheat, weighing not less than fifty-three pounds to the measured bushel.

No. 4 Spring Wheat—shall include Spring Wheat damp, musty, grown, badly bleached, or for any cause which renders it unfit for No. 3.

White Spring Wheat—The grades of Nos. 1, 2 and 3 White Spring Wheat shall correspond with the grades of Nos. 1, 2 and 3 Spring Wheat, except that they shall be of the White variety, or shall contain 5 per cent., or more, of such White Wheat.

Black Sea and Flinty Pffe Wheat—shall in no case be inspected higher than No. 2, and Rice Wheat no higher than No. 4.

RULE 2½.—MIXED WHEAT.

The grades of Nos. 2 and 3 Mixed Wheat shall be equal in quality to the grades of Nos. 2 and 3 Red Winter Wheat, except that they shall include mixtures of Spring and Winter Wheat.

RULE 3.—CORN.

No. 1 Yellow Corn—shall be yellow, sound, dry, plump and well cleaned.

No. 2 Yellow Corn—shall be three-fourths yellow, dry, reasonably clean, but not plump enough for No. 1.

No. 3 Yellow Corn—shall be three-fourths yellow, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 1 White Corn—shall be sound, dry, plump, and well cleaned.

No. 2 White Corn—shall be seven-eighths white, dry, reasonably clean, but not plump enough for No. 1.

No. 3 White Corn—shall be seven-eighths white, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 1 Corn—shall be Mixed Corn, of choice quality, sound, dry, and well cleaned.

No. 2 Corn—shall be Mixed Corn, dry, reasonably clean, but not good enough for No. 1.

No. 3 Corn—shall be Mixed Corn, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 4 Corn—shall include all Corn not wet or in heating condition that is unfit to grade No. 3.

RULE 4.—OATS.

No. 1 White Oats—shall be white, sound, clean, and reasonably free from other grain.

No. 2 White Oats—shall be seven-eighths white, sweet, reasonably clean, and reasonably free from other grain.

No. 3 White Oats—shall be seven-eighths white, but not sufficiently sound and clean for No. 2.

No. 1 Oats—shall be Mixed Oats, sound, clean, and reasonably free from other grain.

No. 2 Oats—shall be sweet, reasonably clean, and reasonably free from other grain.

No. 3 Oats—shall be all Oats that are damp, unsound, dirty, or from any other cause unfit for No. 2.

RULE 5.—RYE.

No. 1 Rye—shall be sound, plump and well cleaned.

No. 2 Rye—shall be sound, reasonably clean, and reasonably free from other grain.

No. 3 Rye—All Rye damp, musty, dirty, or from any cause unfit for No. 2, shall be graded as No. 3.

RULE 6.—BARLEY.

No. 1 Barley—shall be plump, bright, clean, and free from other grain.

No. 2 Barley—shall be sound, of healthy color, not plump enough for No. 1, reasonably clean and reasonably free from other grain.

No. 3 Barley—shall include slightly shrunken and otherwise slightly damaged Barley, not good enough for No. 2.

No. 4 Barley—shall include all Barley fit for malting purposes, not good enough for No. 3.

No. 5 Barley—shall include all Barley which is badly damaged, or from any cause unfit for malting purposes, except that Barley which has been chemically treated shall not be graded at all.

Scotch Barley—The grades of Nos. 1, 2 and 3 Scotch Barley shall correspond in all respects with the grades of Nos. 1, 2 and 3 Barley, except that they shall be of the Scotch variety.

Bay Brewing Barley—The grades of Nos. 1, 2 and 3 Bay Brewing Barley shall conform in all respects to the grades of Nos. 1, 2 and 3 Barley, except that they shall be of the Bay Brewing variety grown in the territories and on the Pacific Coast.

Chevalier Barley—The grades of Nos. 1, 2 and 3, Chevalier Barley shall conform in all respects to the grades of Nos. 1, 2 and 3 Barley, except that they shall be of the Chevalier variety grown in the territories and on the Pacific Coast.

RULE 7.

The word "new" shall be inserted in each certificate of inspection of a newly harvested crop of Oats until the 15th of August; of Rye until the 1st day of September; of Wheat until the 1st day of November, and of Barley until the 1st day of May of each year. This change shall be construed as establishing a new grade for the time specified, to conform in every particular to the existing grades of grain, excepting the distinctions of "new" and "old."

RULE 8.

All grain that is warm, or that is in a heating condition, or is otherwise unfit for warehousing, shall not be graded.

RULE 9.

All inspectors shall make their reasons for grading grain, when necessary fully known by notations on their books. The weight alone shall not determine the grade.

RULE 10.

Each inspector is required to ascertain the weight per measured bushel of each lot of wheat inspected by him, and note the same on his book.

RULE I.—HOURS OF SERVICE.

Assistant Inspectors and Helpers will be at their posts and ready for business at the railroad tracks, or at the elevators to which they are assigned, from 7 o'clock A. M. until 6 o'clock P. M. of each day, from the 15th day of March to the 15th day of November, and from 8 o'clock A. M. until 5 o'clock P. M. during the remainder of the year.

RULE II.—EARLIER HOURS.

When the receipts are large and the interests of the trade require an earlier inspection, all Assistant Inspectors and Helpers assigned to duty on the track will begin work at as early an hour as practicable.

RULE III.—EVENING WORK.

Inspectors stationed at elevators will, when necessary to complete the cargo or shipment upon which they may be engaged, remain on duty as late in the evening as they can see to inspect grain safely.

RULE IV.—WET WEATHER AND DARKNESS.

No Inspector stationed at an elevator is authorized to inspect out of store after dark or in wet weather, except on receipt, personally, or through the office of the Chief Inspector, of an order written upon the printed blanks, furnished by the Department, filled and signed by the owner of the grain, or his authorized agent, relieving such inspector of all responsibility for damage which may be caused by such wet weather, or loss by such errors as are liable to occur by reason of darkness; but in every case the Inspector must be personally present when the grain is actually delivered on board, making his report of the inspection after such actual delivery.

The Chief Inspector of Grain is hereby authorized to collect on and after November 1, 1889, on all grain inspected under his direction as follows:

For in-inspection, 25 cents per car-load; 10 cents per wagon or cart load; 40 cents per 1,000 bushels from canal boats; $\frac{1}{4}$ of 1 cent per bushel from bags.

For out-inspection, 50 cents per 1,000 bushels to vessels; 35 cents per car-load to cars; 35 cents per car-load to teams; or 10 cents per wagon load to teams.

P. BIRD PRICE, *Chief Inspector.*

EXTRACT FROM THE RULES

PRESCRIBED BY THE BOARD OF RAILROAD AND WAREHOUSE COMMISSIONERS
FOR THE ADMINISTRATION OF THE DEPARTMENTS OF GRAIN INSPEC-
TION AND WAREHOUSE REGISTRATION IN THE CITY OF CHI-
CAGO, AND IN FORCE FROM AND AFTER DEC. 3, 1887.

No claim for damages on account of error in the inspection of any lot of grain (except grain inspected from public warehouses in accordance with law) will be entertained or allowed by the Board of Railroad and Warehouse Commissioners, unless complaint of such inspection shall be made to the Chief Inspector before the grain in question shall be removed from the car in which it is inspected, or before it shall leave the jurisdiction of the Department.

Grain transferred from the car in which it was inspected to another, must be inspected after transfer, to entitle the owner to have any claim arising thereunder considered by the Board of Railroad and Warehouse Commissioners.

REPORT OF WAREHOUSE REGISTRAR.

OFFICE OF WAREHOUSE REGISTRAR,
CHICAGO, ILL., November 1, 1890.

Hon. John R. Wheeler, Chairman Railroad and Warehouse Commission, Springfield, Illinois:

DEAR SIR: I have the honor to submit the following report of the operations of this department during the year ending the 31st day of October, 1890, and to invite your attention to the information furnished by the tabular statements herewith presented for the consideration of your honorable board.

Exhibit "D" shows a comparative statement of the amount of grain received into store by the public warehouses of Chicago, from 1882 to 1890, both inclusive, and while it does not show a gain over the remarkably prosperous year of 1889, it establishes the fact of the continued popularity of our system of inspection and warehousing of grain, by showing an excess of receipts into store over the average, for the past eight years, of 16,898,472 bushels, and an excess of shipment out of store over average covering same period of 16,374,971 bushels.

As it frequently occurs that the managers of warehouses find themselves short on certain kinds and grades of grain, necessitating the purchase of a sufficient amount, which, with stocks in store, will satisfy outstanding receipts, and in other cases finding themselves in possession of an accumulation in excess of such an amount as to satisfy the receipts for certain grades, necessitating application to your honorable board through this office for permission to issue and have registered warehouse receipts for such overage, I desire to renew the recommendations in my reports for the years 1886-87-88-89 on the subject of an annual weighing over of all grain in store in public warehouses of class "A" as often as once during each year, at such times as when stocks in store are so low as to not seriously inconvenience the business of such warehouses.

On the 21st day of March last, your honorable board, through Secretary Paddock, instructed me to notify the proprietors of public warehouses, that in your opinion they should file separate bonds in the sum of \$10,000 for each warehouse operated by them, and that if they had not heretofore complied with this provision of the law they were requested to do so at once.

Following your instructions, on the 26th day of March I completed the notification to all proprietors controlling more than one elevator, and was immediately informed that the request was in the line of a greater security to the public and would be most cheerfully complied with.

I am pleased to say copies of the new bonds, certified by Henry Best, Clerk of the Circuit Court of Cook county, have been filed in this office by all firms affected by your order, in conformity with law.

CHANGE OF FIRMS.

The Munger Wheeler Elevator Co. changed to "City of Chicago Grain Elevators, Limited," under the management of P. B. Weare. The elevators controlled by this firm are Union, City, Fulton, Air Line, Galena, Iowa and St. Paul, with a total storage capacity of 5,590,000 bushels.

The Rock Island A. & B. Elevators, heretofore managed by Flint, Odell & Co., are now controlled, the "A" house by Chas. Counselman & Co., and the "B" house by C. B. Congdon & Co.

The National and St. Louis Elevators, operated by D. L. Seymour & Co., changed to National Elevator and Dock Co.

STORAGE CAPACITY.

Total storage capacity of Chicago elevators October 1, 1889, was 28,970,000 bushels. During the year covered by this report that amount has been decreased 630,000 bushels by the withdrawal of the Northwestern and Sibley "B" Elevators, which are now operated as cleaning houses, and not licensed as public warehouses.

The total storage capacity at this time of the twenty-five public warehouses being 28,340,000 bushels.

RECEIPTS.

Total amount of all kinds of grain received into store during the year, in warehouses of class "A," as presented in Exhibit "A"-7, was 83,521,433 bushels, from 125,502 cars, 439 canal boats, and 6 vessels.

The receipts for 1,372 cars, six canal boats and one vessel included in above totals were not presented for registration.

A comparison of receipts into store during the year with the preceding year, 1889, shows a decrease of 23,032 cars and twenty-six canal boats, aggregating a total decrease of 15,114,429 bushels.

SHIPMENTS.

Total amount of all kinds of grain shipped out of store during the year was 85,895,930 bushels. A decrease of 15,810,300 from the total of shipments during the year 1889.

INSPECTION.

Total number of cars graded by the Inspection Department during the year was 272,956, an increase of 23,073 cars over number inspected during the year 1889; 125,502 being the total number received into store, the remaining 147,454 cars was either sold on track or shipped to seaboard without transfer to elevators.

CAR AVERAGES.

The following will show the average number of bushels of each kind of grain received from cars during the year:

Wheat.....	603 bushels
Corn.....	619
Oats.....	1,016
Rye.....	604
Barley.....	647

APPEALS.

Your Committee of Appeals to which was referred 967 cases during the year sustained the inspection of the department in 451 cases, and raised the grade from that of the original inspection in 516 cases.

A decrease from total number of appeals taken during the year 1889, of 864 cases. This showing is proof of the continued and increased efficiency of the inspectors.

AMENDED RULES.

Upon my recommendation, your honorable board on the 17th day of January last, adopted the following, which has been in force since that date:

Amend rules for the government of the Committee of Appeals established by the Board of Railroad and Warehouse Commissioners, and in force from and after November 1, 1889, by inserting therein the following after Rule III.:

RULE IV.

1. When an appeal has been taken upon any car of grain, and the Committee of Appeals has been unable, after proper search, to find said car upon the day such appeal is taken, it shall be the duty of said committee to make diligent search for such car in the proper yards on the first business day thereafter, and if not then found, the appellant may withdraw the appeal and the deposit made thereon, but not before.

2. When it shall occur that the appellant gives a wrong number or other erroneous information to the committee in making an appeal, and the committee acting upon such information shall make search for cars so appealed upon, then the fees so deposited shall be forfeited exactly as if an adverse decision has been reached.

Change Rules IV and V to Rules V and VI, respectively.

GRAIN IN STORE.

The total amount of each kind of grain in store at this time is:

Wheat.....	4,847,364	bushels
Corn.....	1,568,191	"
Oats.....	778,165	"
Rye.....	318,726	"
Barley.....	598,521	"

Our relations with the managers of warehouses and patrons of this office continue to be pleasant and satisfactory. I ask for the employés who are competent and faithful, a continuance of your official favor.

Respectfully submitted,

J. W. BURST, *Warehouse Registrar.*

EXHIBIT A—1.

Receipts into Store—Winter Wheat by Rail.

Warehouses.	2 White.	3 White.	4 White.	2 Long Red.	1 Turk- ish Red.	2 Turk- ish Red.	3 Turk- ish Red.	1 Red.	2 Red.	3 Red.	4 Red.	N. G.	Total.
Central B.	542					67,466	23,974		79,639	62,212	2,984	1,170	237,987
C. B. and Q. C. and D.						70,818	28,659		124,949	44,215	5,215		273,856
City, Union and St. Paul		3,669				46,314	5,935	412	58,265	48,254	12,080		174,929
Iowa	1,542	425		380		44,166	5,761		41,018	8,130	2,592	675	104,679
Indiana		404	1,060			27,071	24,983		190,604	317,298	81,709	1,643	644,772
Arkoma		16,298							272,334	216,501	71,345		576,478
Armore		1,478				285,910	61,632		185,796	18,551	6,457	377	570,140
Santa Fe		1,106				439,516	137,784		161,085	238,365	28,553	1,189	1,007,080
Rock Island A.		589				68,213	7,968	727	215,540	27,459	6,873		336,488
Rock Island B.						2,108			10,024	2,969			15,101
National and St. Louis	1,019	2,459				145,510	41,594		126,620	187,706	13,918		518,826
St. Louis		795							5,591	23,872	38,824		72,348
Illinois River	3,716	15,190	5,140	124		41,196	7,932		4,823	142,309	36,276	3,142	260,329
Pacific B.									27,389	2,154	1,489		31,232
Totals	8,297	40,915	6,200	504	671	1,248,288	346,222	1,139	1,503,817	1,339,985	308,315	19,893	4,824,246

See Exhibit A—3.

Winter Wheat by Canal.

Warehouses.	2 Turk- ish Red.	3 Turk- ish Red.	3 Red.	4 Red.	N. G.	Total.
City				2,870		2,870
Indiana		3,940	17,213	2,087		23,240
Alton			6,705			6,705
St. Louis	4,348	2,776	37,665			44,789
Neely					3,300	3,300
Totals.....	4,348	6,716	61,583	4,957	3,300	80,904

Shipments—Winter Wheat.

Warehouses.	2 White.	3 White.	4 White.	2 Long Red.	1 Turk- ish Red.	2 Turk- ish Red.	3 Turk- ish Red.	1 Red.	2 Red.	3 Red.	4 Red.	N. G.	Total.
Central B.	756					53,560	21,522		49,009	66,658	4,932	1,170	197,251
C. B. & O., C. and D.						43,340	27,151		83,234	74,736	8,341		237,017
Union, St. Paul and City	1,542	3,069				6,943	1,327		27,139	55,960	16,593		104,834
Galena and Iowa		425	6,923			42,597	5,761			8,325	2,392	675	56,463
Indiana		16,298					24,490		91,274	433,417	111,423	2,357	712,865
Alton, Fe.		1,126							91,760	219,813	69,246		397,117
Santa Fe					671	384,708	134,055		53,637	372,237	28,798		975,172
Armour	1,478					148,399	53,769		59,678	70,631	6,457	377	336,789
Rock Island A.	533	569				76,711	7,968	727	34,039	41,504	15,649	11,622	183,552
Rock Island B.						2,108			12,069	2,969			17,746
National and St. Louis.		2,459				129,749	32,159		90,755	220,723	7,818		474,693
Pacific B.		3,425				382			2,864	32,062	4,420		39,728
Neely	3,716	15,645		124					52,690	37,281	39,161	8,550	141,531
Illinois River			3,813				7,336		4,823	185,535	25,738	1,692	248,298
Totals	8,025	44,020	10,736	124	671	873,527	315,738	727	649,371	1,822,110	341,084	26,423	4,093,156

EXHIBIT A—2.

Receipts into Store—Spring Wheat by Rail.

Warehouses.	2 Hard.....	2.....	3.....	4.....	N. G.....	3 White.....	3 Mixed.....	2 White.....	2 Mixed.....	Total.....
Central B.....		33,782	6,159	152						40,093
C., B. & Q., C and D.....		92,690	47,637	61,178	1,383	52,158	1,320			256,366
City and St. Paul.....		361,766	54,084	9,135		5,524	5,422			435,931
Air Line, Galena and Iowa.....		433,434	23,849	4,368	575	1,549				463,775
Indiana.....		63,980	3,607	6,433	2,002	1,045	1,594			78,661
Alton.....		1,165,116	105,823	24,990	7,277	8,059				1,311,265
Armour.....		1,312,919	65,886	15,493	568	16,855	473	1,737		1,443,931
Santa Fe.....	399	324,362	34,997						548	360,306
Rock Island A.....	922	175,839	12,808	1,689		2,088		567		193,913
Rock Island B.....		4,321	394	509		1,082				6,306
Nation'l & St. Louis.....		77,395				1,172				78,567
Neely.....		83,117	12,314	8,155	548	707	1,011		722	56,574
Pacific B.....		594,009	15,301							609,310
Illinois River.....		38,821	110,234	45,144	3,714	15,568	5,793	1,945		220,619
Totals.....	1,321	4,741,551	493,093	177,246	16,067	105,807	15,613	3,649	1,270	5,555,617

See Exhibit A—8.

Spring Wheat by Canal.

Warehouses.	2	3	Total.
Union.....	41,350		41,350
Alton.....	40,929	33,920	74,849
Armour.....	20,729		20,729
St. Louis.....	9,732		9,732
Totals.....	112,740	33,920	146,660

Shipments—Spring Wheat.

Warehouses.	2 Hard.....	2.....	3.....	4.....	N. G.....	2 White.....	3 White.....	3 Mixed.....	Total.
Central B.....		16,919	6,159	1,661					24,739
C., B. & Q., B. C. D.....		96,049	56,941	67,668	1,383		69,288	602	291,931
Union St. Paul & City.....		243,591	56,994	14,455	446		5,524	5,422	326,432
Galena & Iowa.....	532	124,405	21,787	6,200	575		1,549		155,048
Indiana.....			3,358	11,693	4,014		3,284	1,594	23,943
Alton.....	609	946,706	122,064	27,745			8,059		1,105,183
Santa Fe.....	399	308,752	34,997			508	2,737		344,148
Armour.....	495	1,193,653	71,150	24,904	568	508	53,352	473	1,345,103
Rock Island A.....	422	43,145	19,017	5,470		567	2,737		71,358
Rock Island B.....		4,321	394	509		567	1,082		6,306
National and St. Louis.....		25,612					1,172		26,784
Pacific.....		64,498	67,163	661			490		132,812
Neely.....		15,718	11,440	5,037	548		267	1,011	34,021
Illinois River.....	621	46,281	129,090	36,653	3,211	679	16,350	5,840	238,725
Totals.....	3,078	3,129,650	600,554	202,656	10,745	1,754	163,154	14,942	4,126,533

EXHIBIT A.—3.
Receipts Into Store—Corn by Rail.

Warehouses.	1 Yellow.	2 Yellow.	3 Yellow.	White.	2	3	4	N. G.	Total.
Central B.....		1,854,790	1,048,882	370,870	196,298	1,854,545	105,142	673	6,342,322
C. B. & Q., A. B. C. D. & Annex.....		1,780,815	1,236,739	354,090	131,548	4,577,185	116,959	.....	12,025,627
City & Union & St. Paul.....		564,121	203,721	112,343	55,136	3,012,060	46,362	1,799	5,357,414
Iowa & Galena.....		877,819	338,571	32,708	27,414	1,971,325	12,169	.....	4,140,529
Indiana.....		743,851	678,675	259,233	159,059	1,570,935	914,883	.....	4,157,117
Alton.....		21,508	6,801	10,155	12,755	244,858	6,852	.....	302,929
Armour.....		984,787	248,576	132,350	33,468	2,841,878	1,065,126	.....	5,279,207
Santa Fe.....		448,384	347,852	101,794	54,757	2,428,990	1,386,677	.....	4,770,739
Rock Island—A.....		960,029	413,436	97,785	45,448	4,343,043	21,436	.....	8,168,933
Rock Island—B.....	500	214,469	72,223	64,390	17,355	1,488,978	443,102	.....	2,301,017
National & St. Louis.....		242,319	228,478	98,141	46,152	494,597	7,063	.....	1,598,180
Pacific B.....		24,213	39,540	1,944	.....	81,616	.....	.....	263,586
Neely.....		12,457	.....	1,419	.....	337,071	46,169	2,981	498,823
Illinois River.....		.....	.....	1,429	.....	.....	.....	.....	1,429
Totals.....	500	8,674,562	4,864,038	1,637,751	779,390	25,282,638	13,655,405	5,453,045	55,564,832

See Exhibit A—8.

Corn—By Canal.

Warehouses..	2 Yellow...	3 Yellow..	2 White...	2	3	4	N. G.....	Total.
City and Union	27,574	22,563	443,976	160,065	.....	.....	2,070	656,248
Indiana	19,855	11,196	5,235	185,306	235,568	13,963	.....	471,123
Armour .....	.....	7,013	.....	.....	3,942	.....	.....	10,955
St. Louis	9,864	48,690	4,183	193,862	131,702	344	866	389,511
Neely .....	.....	.....	.....	.....	.....	.....	5,000	5,000
Totals	57,293	89,462	453,394	539,233	371,212	14,307	7,936	1,532,837

SHIPMENTS—*Corn.*

Warehouses.	Yellow.			White.		N. G.	Total.
	¹	²	³	²	³		
Central A and B.....							
C., B. & Q., A., B., C., D.....							
Union, St. Paul, City.....							
Galena & Iowa.....							
Indiana & Wabash.....							
Alfon.....							
Santa Fe.....							
Armour.....							
Rock Island A.....							
Rock Island B.....							
National and St. Louis.....							
Pacific.....							
Neely.....							
Illinois River.....							
Totals.....	500	8,884,280	4,908,213	1,659,482	707,127	13,389	57,383,561
				26,453,915	14,027,513		
						7,981	
							500,700
							3,311
							57,383,561
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
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							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
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							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
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							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
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							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
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							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
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							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
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							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,762
							3,974,330
							4,965,069
							348,308
							4,838,383
							5,621,573
							7,998,803
							2,400,069
							1,984,153
							500,700
							3,311
							673
							3,869
							3,965,

EXHIBIT A-4.

RECEIPTS INTO STORE—Oats by Rail.

Warehouses.	² White.	³ White.	2	3	N. G.	Total.
Central B.....	401,565	355,313	1,002,006	9,028	2,166	1,770,078
C., B. & Q., C and D.....	525,423	261,168	516,489	10,057		1,313,137
City, Union and St. Paul.....	525,545	251,033	201,624	4,502	1,364	984,068
Iowa and Galena.....	907,646	673,963	439,081	4,378		2,025,068
Indiana.....	43,384	95,254	279,113	8,893		426,644
Alton.....	39,659	178,137	31,581	4,169	770	254,316
Armour.....	1,444,014	1,036,008	361,218	13,405	888	2,855,533
Santa Fe.....	148,299	34,971	145,008	2,050		330,328
Rock Island A.....	1,137,305	1,655,861	173,493	5,121		2,971,780
Rock Island B.....	7,503	19,515				27,018
National and St. Louis.....	70,416	164,129	143,835	981		379,361
Pacific B.....	166,557	7,869	185,525			359,951
Neely.....	37,186	32,518	275,058	2,969	4,924	352,655
Totals.....	5,454,502	4,765,739	3,754,031	65,553	10,112	14,049,987

Oats by Canal.

Warehouses.	² White.	³ White.	2	3	N. G.	Total.
City and Union.....	61,964	112,064	102,843	11,626		288,497
Indiana.....		27,621				27,621
Alton.....	14,990	34,228	7,291			56,509
Armour.....		44,285			3,018	47,303
St. Louis.....	79,811	92,739	112,421	1,672		286,643
Neely.....	7,573					7,573
Totals.....	164,338	310,937	222,555	13,298	3,018	714,146

SHIPMENTS—Oats.

WAREHOUSES.	2 White.	3 White.	2	3	N. G.	Total.
Central B.....	433,080	391,719	1,098,413	13,872	2,166	1,879,250
C., B. & Q. C. & D.....	541,154	412,772	599,435	21,273		1,577,634
Union, St. Paul & City.....	613,129	297,646	252,090	24,067	495	1,287,427
Galena & Iowa.....	909,753	720,888	401,738	4,378		2,036,757
Indiana & Wabash.....	298,568	306,415	304,166	51,486		879,635
Alton.....	82,043	215,775	369,009	21,054	770	688,651
Santa Fe.....	293,375	109,485	148,505	2,050		463,415
Armour.....	1,584,513	1,156,916	410,099	13,405	3,906	3,168,839
Rock Island A.....	1,117,405	1,657,273	147,299	5,121		2,927,098
Rock Island B.....	7,503	20,187	1,777			29,467
National & St. Louis.....	145,614	223,083	242,794	2,653		614,144
Pacific.....	450,969	13,591	326,575	13,544		804,679
Neely.....	71,628	35,499	196,703	7,365	633	311,828
Sibly.....	114,394	8,892	87,958			211,244
Totals.....	6,483,128	5,670,141	4,526,561	183,268	7,970	16,871,068

EXHIBIT A—5.

RECEIPTS INTO STORE—*Rye by Rail.*

WAREHOUSES.	1	2	3	N. G.	Total.
Central B.		89,929	4,497		94,426
C. B. & Q. D.		227,528	38,662		266,190
City & Union & St. Paul.		108,262	4,657		112,919
Iowa.		102,516			102,516
Indiana.		28,122	15,299		43,421
Alton.		12,018	29,282		191,300
Armour.	532	167,534	1,130		169,196
Santa Fe.		38,183			38,183
Rock Island A.		104,856	9,112	239	114,207
Rock Island B.		12,989	6,673		19,662
National & St. Louis.		21,485	965		22,450
Pacific B.		154,628	8,954		163,582
Neely.		72,814	101,439	3,490	177,743
Totals.	532	1,290,864	220,670	3,729	1,515,795

Rye by Canal.

WAREHOUSES.	2
Union.	12,368
Armour.	2,095
St. Louis.	5,035
Total.	19,498

SHIPMENTS—*Rye.*

WAREHOUSES.	1	2	3	N. G.	Total.
Central B.		84,178	4,705		88,883
C. B. & Q. C. and D.		224,827	47,648		272,475
Union, St. Paul, N.-W. and City.		138,039	4,657		142,696
Iowa.		72,249	2,276		74,525
Indiana.		41,500	22,291		63,791
Alton.		165,423	20,886		186,309
Santa Fe.		65,140			65,140
Armour.	532	348,883	8,158		357,041
Rock Island A.		93,908	10,455	239	104,602
Rock Island B.		14,673	6,673		21,346
National & St. Louis.		19,073	965		20,038
Pacific B.		117,214	33,267		150,481
Neely.		20,686	119,534	1,500	141,720
Totals.	532	1,405,798	281,515	1,739	1,689,584

EXHIBIT A—6.

RECEIPTS INTO STORE—*Barley by Rail.*

WAREHOUSES.	2	3	4	5	N. G.	Total.
Central B.....		109,617	48,192	11,992		169,801
C. B. & Q., D.....	3,769	98,230	13,206	2,584		117,789
City, Union & St. Paul.....		658,747	126,395	7,129	2,918	795,189
Iowa & Galena.....	3,216	618,784	102,255	15,506		739,761
Indiana.....				295		295
Armour.....	1,098	68,135	35,993			105,226
Santa Fe.....						
Rock Island A.....	10,648	35,033	912			46,593
Rock Island B.....	2,238	2,562	1,946	1,301		8,047
Pacific B.....	25,328	1,436				26,764
Neely.....					1,541	1,541
Totals.....	46,297	1,592,544	328,899	38,807	4,459	2,011,006

SHIPMENTS—*Barley.*

WAREHOUSES.	2	3	4	5	N. G.	3 Bay Brew- ing.	Total.
Central B.....		67,606	48,736	14,049			130,391
C. B. & Q., D.....	2,460	26,118	8,471	2,584			39,633
St. Paul and City.....	1,216	539,122	117,219	7,937	3,010	600	669,110
Galena and Iowa.....	16,603	561,169	128,252	16,722			722,746
Indiana.....				295			295
Pacific B.....	21,407	1,436					22,843
Santa Fe.....		1,458	2,518				3,976
Neely.....					1,541		1,541
Armour.....	4,236	70,369	32,403				107,008
Rock Island B.....	2,238	7,628	8,423	1,906			20,195
Rock Island A.....	1,435	1,943	912				4,290
Totals.....	49,595	1,276,849	346,934	43,493	4,557	600	1,722,028

EXHIBIT A—7.

GRAND TOTALS.

Warehouses.	Receipts by rail.	Shipments.
Central B.....	8,654,707	8,754,160
C. B. & Q., A. C. D. & Annex.....	14,252,965	14,491,291
City, Union & St. Paul.....	7,860,480	8,484,261
Air Line, Galena & Iowa.....	7,576,328	6,989,889
Indiana.....	5,707,910	6,626,588
Alton.....	2,636,288	2,725,568
Armour.....	10,423,231	10,936,885
Santa Fe.....	6,506,636	6,690,244
Rock Island A.....	11,831,914	11,289,503
Rock Island B.....	2,377,151	2,555,134
National & St. Louis.....	2,597,334	3,119,812
Pacific B.....	1,454,425	1,399,976
Neely.....	1,099,684	1,131,041
Illinois River.....	482,377	490,334
Sibley.....		211,244
	83,521,433	85,895,930

Exhibit A—7.—Continued.
RECEIPTS—By Canal.

Warehouses.	Bushels.
City & Union.....	1,001,333
Indiana.....	521,984
Alton.....	138,063
St. Louis.....	735,710
Neely.....	15,873
Armour.....	81,082
Total.....	2,494,045

EXHIBIT A—8.

Showing the amount of Grain transferred from one Warehouse to another.

From.	To.	2 Red winter wheat.	2 Spring wheat.	2 Corn.	2 Rye.	3 Rye.
Alton.....	National.....	3,964				
Neely.....	Indiana.....	8,296				
Santa Fe.....	Illinois River.....		14,923			
Santa Fe.....	Alton.....		105,812			
Santa Fe.....	National.....		20,961			
Alton.....	St. Louis.....		4,985			
Alton.....	National.....		40,947			
Alton.....	Neely.....		4,871			
Wabash.....	Indiana.....			4,990		
Chi. Burlington & Quincy A. St. Paul.....	Neely.....			42,343		
City.....				67,067		
Rock Island A.....				14,449		
Chi. Burlington & Quincy D. Armour.....				15,539		
Pacific B.....					10,498	
Iowa.....					15,249	
Chi. Burlington & Quincy D. Rock Island A.....					5,000	2,998
						5,087
						6,773
Totals.....		12,260	192,499	144,388	30,747	14,853

NOTE—The amount of grain, as shown in this exhibit, is included in the receipts and shipments.

EXHIBIT A—9.

Showing the Number of Cars of each kind of Grain Received into the several Public Warehouses.

Warehouses.	Winter wheat.	Spring wheat.	Corn.	Oats.	Rye.	Barley.	Total.
Central B.....	419	81	9,717	1,798	178	254	12,447
C. B. & Q., A. B. C. D.....	463	432	18,570	1,212	440	142	21,259
City, Union & St. Paul.....	305	775	8,635	887	178	1,102	11,882
Air Line, Galena & Iowa.....	193	765	7,119	2,085	182	1,088	11,445
Indiana.....	1,074	132	7,983	415	72	1	9,627
Alton.....	805	1,631	428	205	256		3,325
Armour.....	1,024	2,569	8,429	2,937	299	153	15,411
Santa Fe.....	1,800	543	7,913	322	59		10,637
Rock Island A.....	515	290	13,317	2,829	200	69	17,229
Rock Island B.....	22	11	3,861	27	34	11	3,966
National & St. Louis.....	864	18	2,672	371	45		3,970
Pacific.....	56	983	448	373	270	29	2,159
Neely.....	130	89	484	360	219	2	1,284
Illinois River.....	483	395	2				880
Totals.....	8,156	8,714	89,528	13,821	2,432	2,851	125,502

EXHIBIT B.

Showing the Number of Cars, Canal Boats and Vessels from which Grain was received into the several Public Warehouses of Chicago during the year ending October 31, 1890, and the number of said Cars, Canal Boats and Vessels, Warehouse Receipts for the contents of which have not been Registered.

Names of Firms.	No. of warehouses.	Names of Warehouse.	NUMBER RECEIVED.			NUMBER NOT REGISTERED.		
			Cars	Canal boats..	Vessels	Cars	Canal boats..	Vessels
Central Elevator Co.	2	Central A, B and Annex	12,447			212		
Dole & Co.	5	C, B, & Q, A, B, C, D and Annex	21,259			64		
The City of Chicago Grain Elevators (limited)	7	City, Fulton, Union, St. Paul, Air Line, Galena and Iowa		174	2		3	
Chas. Counselman & Co.	1	Rock Island A.	23,317			392		
Congdon & Co.	1	Rock Island B.	17,220			135		
Chicago Elevator Co.	2	Wabash and Indiana	3,466			13		
National Elevator & Dock Co.	5	National & St. Louis	9,627	99		248	3	
Chicago & Pacific Elevator Co.	1	Pacific B.	3,970	136		16		
Chicago & Pacific Elevator Co.	1	Armour	2,159			55		
Armour Elevator Co.	1	Anna Fe.	15,411	12	1	109		
Samia Fe Elevator & Dock Co.	1	Alton and Annex	1,637			85		1
George A. Seaverns	2	Illinois River	3,325	16	3	13		
Illinois River Elevator Co.	1	Neely	1,830			6		
Illinois Trust & Savings Bank	1	.....	1,284	2		20		
Totals	27	.....	125,562	439	6	1,372	6	1

EXHIBIT C.

Showing the Number and Disposition of Appeals from the Decision of the Grain Inspection Department to the Committee of Appeals, during the year ending October 31, 1890.

Date.	INSPECTION SUSTAINED.						INSPECTION CHANGED.					
	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
November, 1889.....	45	2	6	1	.....	54	43	15	12	.....	.....	72
December, 1889.....	44	31	.....	.....	.....	75	34	45	1	.....	.....	84
January, 1890.....	26	28	.....	.....	.....	54	12	50	1	.....	.....	63
February, 1890.....	1	18	.....	.....	.....	19	4	17	.....	.....	.....	19
March, 1890.....	8	85	.....	.....	.....	93	9	75	13	.....	.....	97
April, 1890.....	4	16	3	.....	.....	23	6	30	10	.....	.....	46
May, 1890.....	27	2	4	.....	.....	33	26	3	7	.....	.....	36
June, 1890.....	7	6	1	.....	.....	16	12	12	2	.....	.....	29
July, 1890.....	17	.....	.....	1	.....	18	15	3	.....	.....	.....	19
August, 1890.....	22	.....	2	.....	.....	26	19	.....	2	.....	.....	25
September, 1890.....	11	1	1	.....	.....	14	12	.....	.....	.....	.....	15
October, 1890.....	19	.....	1	.....	.....	25	9	.....	2	.....	.....	11
Totals.....	233	190	18	2	8	451	204	250	51	6	5	516

NOTE—Included in above are 1 canal boat of wheat and 3 canal boats of corn changed and 1 canal boat of wheat sustained.

EXHIBIT D.

A Comparative Statement of the Amount of Grain Annually Received into Store by the Public Warehouses of Chicago, from 1882 to 1890, both inclusive, and of the Number of Cars, Canal Boats and Vessels from which such Grain was received; also, the number of Bushels shipped from the Public Warehouses during said time.

	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Bushels received.....	57,687,008	78,724,751	57,550,974	51,175,511	62,022,522	68,543,823	78,505,602	98,635,862	86,015,478
Bushels shipped.....	64,331,863	73,307,290	59,432,864	46,178,593	61,747,078	75,754,811	73,708,947	101,708,230	85,895,930
Number of cars.....	105,440	143,946	103,233	90,404	103,537	108,402	119,644	148,534	125,502
Number of canal boats.....	580	464	357	167	506	522	319	465	439
Number of vessels.....	18	10	1	.....	1	.....	1	.....	6

A Statement Comparing the Number of Cars Annually Inspected on Track, from 1882 to 1890, both inclusive, with the Number Received in Store during the same Years.

	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Inspected on track.....	171,218	235,243	210,822	212,270	201,103	189,130	211,818	249,883	272,956
Received into store.....	105,440	143,946	103,233	90,404	103,537	108,402	119,644	148,534	125,502
Inspected, but not stored.....	65,778	91,297	107,589	121,866	97,146	80,728	92,174	101,249	147,454

EXHIBIT E.

Storage Capacity of Chicago Elevators of Class A, at the date of this Report.

Names of Elevators.	Proprietors.	Grain received from—	Capacity— bushels.
Central A.....	Central Elevator Co.....	Illinois Central Railroad.....	1,000,000
Central B and annex.....	Dole & Co.....	Chicago, Burlington & Quincy Railroad.....	1,500,000
C., B. & Q., A.....	"	"	1,200,000
C., B. & Q., B.....	"	"	750,000
C., B. & Q., C.....	"	"	1,500,000
C., B. & Q., D. and annex.....	"	"	2,500,000
Union.....	The City of Chi. Grain El. (Ltd.).....	Chicago & Northwestern.....	700,000
City.....	"	"	900,000
Fulton.....	"	Chicago, Milwaukee & St. Paul.....	350,000
Air Line.....	"	Chicago, & Northwestern.....	650,000
Galena.....	"	"	670,000
Iowa.....	"	"	1,150,000
St. Paul.....	"	Chicago, Milwaukee & St. Paul.....	850,000
Wabash.....	The Chicago Elevator Co.....	Wabash, St. Louis & Pacific.....	1,500,000
Indiana.....	"	"	1,500,000
Rock Island A.....	Chas. Counselman & Co.....	Chicago, Rock Island & Pacific.....	1,400,000
Rock Island B.....	Congdon & Co.....	"	1,400,000
National.....	National Elevator and Dock Co.....	Chicago, Alton & St. Louis.....	1,400,000
St. Louis.....	"	"	850,000
Pacific B.....	Chicago & Pacific Elevator Co.....	Chicago, Milwaukee & St. Paul.....	800,000
Armour.....	Armour Elevator Co.....	"	1,000,000
Santa Fe.....	Santa Fe Elevator and Dock Co.....	"	2,500,000
Alton and annex.....	George A. Seaverns.....	"	1,500,000
Illinois River.....	Illinois River Elevator Co.....	Chicago, Milwaukee & St. Paul.....	1,500,000
Neely.....	Illinois Trust and Savings Bank.....	"	150,000
Total capacity.....			28,340,000

EXHIBIT F.

Showing the Amounts of the Different Kinds of Grain and the Total Amount in Store in the Public Warehouses of Chicago, at the close of Each Week during the Year ending October 31, 1890.

Date.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
1889.						
November 2.....	2,599,887	1,569,620	2,704,000	461,602	334,313	7,669,422
November 9.....	2,841,280	957,676	2,624,555	392,442	315,641	7,131,594
November 16.....	2,989,412	862,222	2,005,866	383,710	231,617	6,472,827
November 23.....	3,468,217	826,311	1,785,197	365,503	215,907	6,661,135
November 30.....	4,055,141	1,000,862	1,641,043	393,813	224,997	7,335,856
December 7.....	4,421,109	746,127	1,691,471	435,785	245,626	7,540,118
December 14.....	4,753,696	782,837	1,754,111	442,806	292,219	8,025,169
December 21.....	4,954,747	958,748	1,776,503	473,460	333,617	8,497,075
December 28.....	5,038,573	1,355,121	1,724,972	458,119	322,835	8,899,626
1890.						
January 4.....	5,104,104	1,780,639	1,708,571	487,465	320,242	9,401,021
January 11.....	5,236,033	2,165,592	1,754,292	520,344	310,554	9,986,815
January 18.....	5,175,828	2,246,048	1,652,033	529,815	299,404	9,903,128
January 25.....	5,043,360	2,329,417	1,502,887	562,287	276,526	9,714,477
February 1.....	5,066,177	2,482,958	1,509,413	591,756	256,287	9,906,591
February 8.....	4,988,822	2,486,292	1,501,730	609,527	225,072	9,811,443
February 15.....	4,868,826	2,576,916	1,501,538	626,672	244,675	9,818,627
February 22.....	4,695,096	2,739,840	1,461,408	683,061	285,800	9,865,295
March 1.....	4,621,661	3,192,911	1,469,021	759,676	302,461	10,345,730
March 8.....	4,426,256	3,912,635	1,455,834	689,964	300,646	10,785,335
March 15.....	4,297,957	4,703,116	1,465,585	696,691	309,851	11,473,200
March 22.....	4,259,068	6,294,888	1,461,639	698,067	290,690	13,004,343
March 29.....	4,230,260	8,315,044	1,471,688	700,867	266,634	14,984,493
April 5.....	4,185,183	8,957,319	1,440,397	698,048	240,220	15,521,167
April 12.....	4,125,446	8,729,863	1,379,626	638,694	210,879	15,084,508
April 19.....	4,163,098	6,551,501	1,025,278	578,434	163,024	12,481,335
April 26.....	4,147,418	5,535,027	655,023	496,044	156,873	10,990,385
May 3.....	4,027,632	4,590,299	860,264	507,673	139,519	10,125,387
May 10.....	4,020,603	3,788,379	796,072	405,937	136,204	9,147,195
May 17.....	4,125,448	3,350,059	826,594	341,458	125,323	8,768,882
May 24.....	4,366,012	3,581,850	1,237,483	340,384	116,984	9,642,713
May 31.....	4,520,852	4,624,475	2,218,302	372,700	71,175	11,807,504
June 7.....	4,574,333	6,258,505	2,015,062	337,270	32,205	13,217,275
June 14.....	4,674,197	6,788,344	1,366,888	380,759	22,676	13,232,864
June 21.....	4,721,728	6,520,017	1,233,536	333,994	20,317	12,829,592
June 28.....	4,628,299	6,083,407	987,080	250,449	3,032	11,952,267
July 5.....	4,163,201	5,593,304	801,222	229,145	3,691	10,790,563
July 12.....	3,888,309	5,056,419	442,711	227,182	3,691	9,618,312
July 19.....	4,011,756	4,637,350	383,027	232,837	3,691	9,268,661
July 26.....	4,029,734	4,059,845	249,529	259,973	5,929	8,605,010
August 2.....	4,224,256	4,122,709	291,185	205,648	6,153	8,849,951
August 9.....	4,424,344	4,013,009	483,459	239,854	18,378	9,179,044
August 16.....	4,403,107	3,684,653	596,699	250,089	20,068	8,954,616
August 23.....	4,302,407	2,430,713	882,760	268,353	29,627	8,913,860
August 30.....	4,400,230	2,976,637	1,095,512	296,050	84,715	8,853,144
September 6.....	4,482,808	2,750,969	1,155,438	298,732	87,847	8,775,794
September 13.....	4,610,321	3,123,275	1,188,346	321,714	113,668	9,357,324
September 20.....	4,822,119	2,896,765	997,907	331,611	171,997	9,130,399
September 27.....	4,902,561	2,726,954	936,411	336,212	251,856	9,153,994
October 4.....	4,824,132	2,605,656	1,189,972	323,629	365,563	9,308,952
October 11.....	4,708,838	2,066,204	1,059,260	318,697	419,156	8,571,665
October 18.....	4,622,990	2,031,511	753,002	305,660	493,548	8,206,711
October 25.....	4,836,076	2,184,862	660,296	292,596	530,801	8,504,581
November 1.....	4,847,364	1,568,191	778,165	318,726	598,521	8,110,967

APPENDIX.

No. I.

RAILWAY SAFETY APPLIANCES.

REPORT OF CHAS. HANSEL, CONSULTING ENGINEER, PREPARED
UNDER DIRECTION OF THE COMMISSION AND REFERRED
TO IN THEIR REPORT.

SPRINGFIELD, ILL., Sept. 29, 1890.

The Honorable Railroad and Warehouse Commission, Springfield, Ill.:

GENTLEMEN—I herewith respectfully transmit my report bearing upon safety appliances in railway operation in accordance with your instructions given under date of July 23, 1890, viz.:

“It is ordered that Chas. Hansel, consulting engineer, be requested to make a full and exhaustive examination of the latest railroad appliances, such as couplings, brakes, frogs and the like, having for their object the preservation of the lives and limbs of employes and the traveling public; and that he report to the Commission the result of such examination with his conclusions thereon.”

While the slow and old fashioned way of getting from point to point may be a better thing to have in the memory, the journey of to-day is barren of all save results, and the public interest now centers on questions of safety and speed.

Since the opening of the Liverpool and Manchester railroad in 1830 and the killing of the first passenger, Mr. Huskisson, contrary to the gloomy prediction of the coachman that “God in his anger against our great Stephenson would strew the land with shattered limbs,” the fatality incident to railway travel as compared with the old time coach, is greatly in favor of the railroad. To determine upon the best among the countless numbers of appliances for safety in railway travel would require the earnest thought and examination of a congress of railway experts.

The field for investigation answering to the above is so extensive that I could not hope to do justice to all the topics which naturally present themselves, in the time and space allotted to this report.

By examination of Table I, which has been compiled from statistics found in report of Inter-State Commerce Commission, and from the last report of your Commission, you will find that all accidents arising from coupling and uncoupling cars, falling from trains and engines, overhead obstructions, collisions, derailments, other train accidents, at highway crossings and at stations are enumerated, giving for the United States two thousand nine hundred and forty-nine killed, and fifteen thousand four hundred and twenty-nine injured, leaving unaccounted for the cause of killing two thousand eight hundred and seventy-four and injuring three thousand eight hundred and eighty.

Of this number two thousand two hundred and fifteen were neither passengers nor employes and were probably trespassers. The killing of five hundred and thirty-nine employes and one hundred and twenty passengers may be accounted for by defective track, rolling stock and bridge failures.

When we consider the ratio of the number of trainmen employed (138,323) to the number killed or injured (1,179 killed and 11,301 injured) the result is appalling, 1 death for every 117 trainmen and 1 injury for every 12 trainmen employed.

During the year there were carried 472,171,346 passengers in the United States, of which number 310 were killed and 2,146 injured, or one killed for 1,523,133 carried and one injured for each 220,024 carried.

When we consider the number of persons employed (704,743) as compared with the number of passengers carried, it is manifest that the work of the railroad employé is a dangerous calling and in considering safety appliances in railway operation we should look first to such devices as will tend to reduce the frightful results incident to it.

After careful examination of the various appliances and requirements for the safe operation of railways I have chosen for special report the following subjects:

1. Brakes.
2. Couplers.
3. Block signals.
4. Signals.
5. Interlocking.
6. Freight cars.
7. Maintenance of way.
8. Highway crossings.
9. Heating passenger cars.
10. Lighting passenger cars.

BRAKES.

For some years after the construction of the first railroad but little attention was given to the stopping of trains, the chief aim being the perfecting of the motive power.

The problem of how to stop was overlooked in the public interest of how to go. To-day the perfected air-brake for passenger service leaves but little to desire. The conditions incident to freight service presents many difficult points in operation, owing to the running of foreign cars with those owned by company, about 75 per cent. of the total number of freight cars hauled being foreign.

The improved equipment will naturally be put upon cars that remain at home and cars used in fast service for special freight, as stock, refrigerator cars and such, and cars operated on roads with sharp grades will be furnished with power brakes first; whereas roads using easy and uniform gradients will not change from hand to power brakes as soon.

Some of the requirements for perfect freight brakes are;

1. That all the brakes of the whole train shall be under the control of the engineer.
2. That the brakes be automatic; that is, self applied in case of accident separation of train.
3. That all the brakes of a train shall work uniformly in stopping.
4. That the full power of the brake action be available on the steepest grades.
5. That it be simple in construction, easily repaired and not expensive to apply or maintain.

A power brake fulfilling these requirements is now in use on the passenger equipment of the United States, and in most of the States, passenger trains are not permitted to be run without automatic train brakes.

The progress made in equipping freight cars is not so favorable, owing in great part to first cost. The first concerted action taken by railroads for the purpose of advancements toward the equipment of freight cars with automatic brakes was through the Society of Master Car Builders, representing the principal railroad companies of the United States, at their annual meeting in 1883, at which time they appointed a committee to report on "automatic freight car brakes," at the next annual meeting. The report of this

committee was meager and throw no new light on the practicability of automatic or power brakes for freight cars. This committee was discharged and a new one appointed and reported in 1885 upon (1) Buffer brakes, (2) Friction brakes, (3) Air-brakes, and (4) Electric brakes. The report favors air-brakes and the committee recommend experimental trials to prove the qualities of the several brakes in question. This recommendation was approved and the committee invited the manufacturers of automatic freight car brakes to a competitive test to be held at Burlington, Iowa, on December 14, 1885, and on May 14, 1886. That we may follow the workings of this test and gain knowledge from this most important trial which demonstrated not only the necessity, economy and life-saving results obtained by use of power brake, but threw new light upon the much vexed question of automatic couplers which is of co-equal importance, both from humane and economic view. I think it well to follow briefly the record of the tests.

Five companies entered into the contest of 1886, namely the Westinghouse Automatic Brake Co., The Eastern Vacuum Brake Co., The American Brake Co., The Widdifield and Button Brake Co., and the Rote Brake Co. These competitors may be classed as representing two types of brakes, the continuous or air-brake by the Eames and Westinghouse and the independent or buffer brakes by the other three companies.

The tests opened July 13th, and continued without interruption until August 3d, 1886. The rules governing the trial proved a severe test on the efficiency of the several styles of brakes and early in the contest, the Rote, Widdifield and Button brakes were shown to be inferior to the others and the results of all the tests was disappointing, although the Westinghouse seemed to more nearly meet the requirements. The committee of M. C. B. Society decided to give the several companies opportunity to improve upon the weak points brought out by the tests and a second trial was commenced May 9th, 1887, the brakes represented being the Westinghouse, Carpenter, Eames, and Hanscom. The tests continued to the 29th day of May, and while much valuable knowledge was given to all interested, the committee did not recommend the adoption of any form of brake and closed their report with the following conclusions, which in the light of the exhaustive tests then completed seemed proper.

“First—That the best type of brake for long freight trains is one operated by air and in which the valves are actuated by electricity.

Second—That this type of brake possesses four distinct advantages :

- (a) It stops the train in the shortest possible distance.
- (b) It abolishes shocks and their attending damage to equipment.
- (c) It releases instantaneously.
- (d) It can be graduated perfectly.”

Since this report was made I have witnessed many trials of brakes with remarkable results, and I am of the opinion that there is now a brake in the market which may be relied upon in any kind of freight service.

As the Westinghouse automatic brake is used to a greater extent than any other on the railroads of the United States—of 35,000 passenger cars in the United States, Canada and Mexico nearly all are equipped with this brake, also about 20,000 locomotives, and when orders now in shop are filled about 150,000 freight cars will have been equipped—I will include a brief description of its parts as best representing the most approved type of the most important of all safety appliances.

The diagram of parts as applied to engine and tender for either passenger or freight service is shown on plate numbered II, diagram showing application to freight service on plate III. (*Note*—As passenger cars must be equipped with air brakes on, special description is considered necessary in this report.)

The first appliance necessary, and upon which the whole system depends for its power is the *steam engine and pumps*, which produces the compressed air. This is placed on engineman's side of locomotive, in plain view of engineman. The compressed air is led from the air pump to the *main reservoir* and stored there at a pressure of 70 to 80 pounds per square

inch. The *engineer's brake valve*, a very ingenious piece of mechanism, is located in the cab convenient to the left hand of the engineman. This valve gives the engineman power to regulate the flow of air from main reservoir to *main brake pipe* for releasing the brakes, and to the atmosphere for applying brakes. An *auxiliary reservoir* is attached to bottom of tender, same as on passenger car, which is used to store a supply of air for the brake cylinder.

The *brake cylinder* is attached to bottom of car and connected with the foundation brake gear in such manner that when the piston is forced out by air pressure the brakes are applied.

Probably the greatest advance made in the construction of air brakes since its advent is in the construction of the *triple valve*.

The *triple valve*, which connects the brake pipe to the auxiliary reservoir and connects the latter to the brake cylinder, and is operated by a sudden variation of pressure in the brake pipe so as to admit air from the auxiliary reservoir to the brake cylinder, which applies the brakes, at the same time cutting off the communication from the brake pipe to the auxiliary reservoir, or to restore the supply from the brake pipe to the auxiliary reservoir, at the same time letting the air in the brake cylinder escape, which releases the brakes. It is the reduction of pressure in the train pipe which causes the brakes to be applied.

The couplings are attached to flexible hose and connect the brake pipe of the two cars.

The reservoir and brake cylinder are severally bolted together for freight services, making a cheaper form and avoiding the pipe connections.

The latest statistics give the number of locomotives in service in the United States to be 29,036, of which 17,995 are equipped with automatic train brake: of the 961,119 freight cars 93,475, or less than 10 per cent., are fitted with automatic train brake. At the close of the year 1887 but 50,000 freight cars were equipped with automatic train brake, showing an increase of 43,475 in two years. In following the distribution of cars thus equipped I find the Atchison, Topeka & Santa Fe leading with 20,000 cars, Union Pacific second with 12,902, and Southern Pacific third with 12,043. This important reform is making rapid progress and shows that the companies which are taking the lead are the greatest of the country, and their lead in such important matters of technical and financial importance will eventually be followed by minor corporations.

Why do these great corporations equip their cars with this system of brakes? Is it for the sole purpose of saving human life or lessening the possibility of injury to those whose duty requires them to be on top of cars in train?

There can be no doubt as to the crying need of such devices, from a humane point of view, and there is no question of the practicability of the air brakes, for if there were any doubt 86 prominent railroads of this country would not use it for standard. I think there is no question as to the economy of its use aside from the question of humanity. The price of a good air brake is about 45 dollars per car. With the automatic air brake broken grades may be utilized and momentum used in descending grades, and by a fluctuating schedule of speed to conform to profile, 15 to 20 per cent. in train load may be gained. The saving to rolling stock is considerable, and the frightful aggregate of accidents from collisions, breakaways, falls from moving trains, overhead obstructions and injuries from exposure may be saved.

Railroads doing business in this State report 196,477 freight cars in service, of which but 5,158 are equipped with train brake. The railway mileage of the United States, as reported by Inter-State Commerce Commission for year ending June 30, 1889, is 157,758.83. This is probably incorrect, as some lines operating wholly within a State decline to make official report to this Commission. The mileage reported officially is 149,948.66, giving Illinois 9,829.48, instead of 9,936.63, as reported officially to your Commission. Total freight cars in service reported by Inter-

State Commission is 961,119. Assigning 557 cars to each 100 miles operated within this State, we have 55,347 cars apportioned to Illinois. Official report from lines doing business in this State, gives 239,773 cars. Apportioning locomotives on basis of 19 for each 100 miles operated, gives 1,888; number reported owned by lines doing business in this State, 6,802.

Cost of equipping 1,888 locomotives with air, at \$450.00 each, \$849,600.00; cost of equipping 55,347 freight cars with air, at \$45.00 each, \$2,490,615.00. Total cost for equipping locomotives and freight cars, \$3,340,215.00, or about 8.5 per cent. of the total gross freight earnings of the lines in this State for the year ending June 30, 1889.

As much has been written and said concerning the great loss of life incident to railway employment in the United States as compared with the United Kingdom, some comparison of equipment may be pertinent.

The English freight car, called in England "goods wagon," is about 15.5 feet long, with four wheels, carries a load of eight tons and weighs five tons, being 1.6 to 1, while the American box car is about 34 feet long, carrying 50,000 to 60,000 pounds, and weighs 23,000 to 28,000 pounds, the proportion is 2.13 to 1. Only about 20 per cent. of the freight cars have brakes of any kind, and are coupled by heavy chains, which gives one foot of free slack between cars. The brakes are placed so that they cannot be worked while train is in motion. In rear of train is caboose with brake. This, with brake on engine and tender, is the only brake power that can be applied while the train is in motion. On long trains or steep grades brake vans are attached. Owing to the lowness of bridges and tunnels brakemen cannot walk over top of cars and apply brakes. This use of extra brake vans is expensive, but with its aid, and with the general uniform and low gradients of English roads, it is possible to move trains rapidly and with few accidents, and the casualties from falling from cars, overhead obstructions and coupling is brought to a minimum.

The coupling of cars with us is so closely allied with the use of brakes that the subjects might well be considered together. The conclusions concerning several appliances of which this report will make mention will be given in the addenda.

CAR COUPLERS.

There is probably no reform in the operation of railroads which is occupying the minds of railroad managers. State commissions and thinking men as the much discussed problem of a uniform, safe and reliable car coupler. The form of link and pin has been with us from the first, and is still held by many to be the best yet devised. The frightful fatality attending the business of coupling and uncoupling cars has called attention to the necessity of improvement, and the inventor's skill has for years been employed in an effort to produce a coupler that will answer the requirements under all conditions of traffic, and be sufficiently cheap to warrant changing from the old style.

During the year ending June 30, 1889, 300 employes were killed in coupling and uncoupling cars, and 6,759 were more or less mangled. Of this number, 21 were killed on lines in this State and 444 injured.

Not less than 10,000 applications have been made for patents on car couplers, and it is from this aggregation of ideas that we are called upon to select a type.

In this State, an act approved March 31, 1874, in force July 1, 1874, provides for automatic coupling, "or other coupling which will secure personal safety," for passenger cars only. No provision was made, nor at any time since has the subject of automatic couplers for freight cars been a subject of State legislation.

The Miller hook is used exclusively on passenger cars, and it is seldom, if ever, that one can find a passenger car which is not equipped with some form of automatic coupler. I do not understand that the coupling of pas-

senger cars was, or is, considered more dangerous than the coupling of freight cars, and whether this action of the legislature was intended for the protection of trainmen whose duty it is to couple or uncouple cars, or for the comfort of passengers. I am not advised.

The force of public opinion was brought to bear on the legislature of Massachusetts, which referred the subject of freight drawbars and couplers to the Board of Railroad Commissioners to report on same at next general court. The Board, after examination, recommended the Safford drawbar or some other form of automatic coupler. In 1884 an act of Massachusetts again ordered cars to be equipped with such forms of automatic coupler as may be recommended by the commissioners. The commissioners held meeting for examination of couplers Sept. 25, 1884, representatives of the commissions of Ohio, Iowa and Michigan being present. After making such tests as were possible, the commission adopted the Janney, Hilliard, Cowell, United States and Ames. Subsequent trial and use of these couplers shows that the Janney and Ames are best fitted for the purpose. The latest statistics showing 83,788 freight cars equipped with automatic couplers. Of this number Janney, 17,536; Hilliard, 1; Cowell, 61; United States, 425; Ames, 11,808. The Boston automatic coupler was added to their list in 1887, although it does not appear that it was used by any railroad.

In year 1888 there were 5,000 approved couplers in the State of Massachusetts, and out of a total of nine accidents in coupling and uncoupling, eight occurred in coupling old with approved style. The commission, seeing the difficulty of curing this evil through State legislation, recommended in their report to the Legislature that the Inter-State Commerce Commission be instructed to consider what can be done to prevent the loss of life, etc. This Legislature adopted this resolution and forwarded to Congress a memorial requesting federal legislation.

Connecticut ordered safety couplers on freight cars in 1882.

Michigan enacted law in 1886 authorizing use of Aikman, Ames, Blocker, Cowell, Marks, McCree and Perry, and in report of 1888 the Commissioner says, "It does not appear that the substitution of automatic for old style of coupling has as yet begun to furnish anticipated results in the decrease of coupling accidents." The Janney and Dowling couplers were added to the first list.

New York, in act, required that after July 1st, 1886, no coupler shall be used upon any new freight car unless same can be coupled or uncoupled without the necessity of going between cars, etc. In 1889 the Commission of New York also favored the putting of this matter within the jurisdiction of the Inter-State Commerce Commission.

It appears that in these States, where the Commissions are composed of intelligent men seeking for a remedy for this evil, that after trial extending over a period of years, and with the assistance of the Legislature of their respective States, they are dissatisfied with the results of their work, and appeal to Congress for legislation.

During this time the Society of Master Car Builders made this subject a matter of earnest examination, and at the 17th annual convention, held in Chicago, June, 1883, a committee was appointed to report on automatic freight car couplers at the next annual meeting. This committee submitted its report at the next annual meeting, making no selection, and concluding their report as follows: "In conclusion the committee will say that they realize the importance and magnitude of the work which has been given them, and they would therefore urge upon the members of the association the importance of thoroughly discussing the merits of car couplers."

This question was made a subject for consideration at a special meeting in 1885, at which time the following resolution was passed:

"*Resolved*, That it is the opinion of this convention that the independent action of State Legislatures enforcing the use of some form of automatic or safety coupler is already resulting in greater danger to employes coup-

ling cars than they were subject to before such action went into effect, and that any similar further action of Legislature will greatly increase the danger to employés."

A study of the requirements of an automatic freight coupler will present the following conditions:

1. That they be coupled and uncoupled without requiring men to go between the cars.
2. That whatever the relative heights of the couplers, they couple and uncouple equally well.
3. That free slack, as far as possible, be dispensed with to reduce damage to equipment and freight.
4. That cars be coupled easily and with a minimum of concussion to encourage careful handling of cars.
5. That they be simple and durable and at a minimum cost.
6. That the couplings at both ends of a car be alike.
7. That there be no loose parts to be lost.
8. That they couple on curves.
9. That they couple with certainty and remain so without danger of parting on road.
10. That they be such as act favorably with brakes.
11. That the coupling and uncoupling be unobstructed by inclement weather.
12. And most essential of all, that the coupling be universal, or readily coupled with all other couplers.

Is there a coupler now made which will meet these requirements? Very many people think this problem unsolved and probably unsolvable.

The M. C. B. society after throwing down the gauntlet in their resolution against State legislation, realized that they must take decided action. Railroad commissioners were invited to a trial of couplers held at Buffalo September, 1885, at which trial 42 makes of couplers were entered, 19 of which might be classed with loose link couplers, 2 as fixed link, 12 as hook couplers, coupling in vertical plane, 3 as loose coupling bar couplers, 3 hook couplers, coupling in a horizontal plane, 3 miscellaneous couplers. After testing these various designs the committee recommended two of the first class, three of the second, one of the third class, four of the fourth class and one of the fifth class for further trial.

At the 21st annual meeting of the Master Car Builders' Society, it was decided to submit the following recommendation for decision by letter ballot, that the Janney type of coupler be recommended as the standard form of coupling.

The result of this ballot showed that 474 votes were in favor of the adoption of the Janney type of coupler, and 194 against. The recommendation was therefore declared adopted.

Plan of Master Car Builders' standard automatic coupler and carrier iron is shown on Plate IV. Form of contour lines on inside of jaw is shown on Plate V.

During the year ending December 31, 1889, 40,000 cars were equipped with M. C. B. couplers, making a total in the United States of 56,050. The trunk line roads, the Chicago systems and the Richmond and Danville and Atlantic coast line in the south are the chief movers in this reform. Companies controlling 20,343 miles of railroad have made the M. C. B. type standard. It is in extensive use on 40,000 miles. Four companies alone have 25,000 cars equipped with M. C. B. couplers. When we consider that not more than 8,000 cars were equipped with M. C. B. couplers at the beginning of 1888, it is apparent that the adoption of a standard by the M. C. B. was a great incentive to its general use.

The Engineering News gives number of cars equipped with M. C. B. coupler prior to 1888 as 6,000, cars equipped during 1888 as 15,000, cars equipped during 1889, 30,000. This statement probably does not cover all cars so equipped, but is in itself sufficient evidence to indicate the great advance made in this work.

I have conferred with the general officers of many of the leading railroads, both in person and by letter, and have found few who criticised the M. C. B. type of coupler on practical grounds. The effect of the action of the M. C. B. upon the work of inventors is also very marked, in prescribing the lines of its standard the society only defined the contour of the jaw, and any style of coupler conforming to these lines which will interlock with the Janney will be accepted, the method of locking, etc. is left to be improved upon, and inventors, instead of wasting energy in devising a link or other than a vertical plane hook, are devoting their skill to the perfection of the M. C. B. type.

In order that any mechanical device intended for use upon railroads may receive the favor of railway managers, it must have more than the cause of humanity on its side. The question of expense and utility enter first, and notwithstanding public pressure has been brought upon railway officials through technical journals, public spirited men, commissioners of railroads and engineers who have had opportunity to become familiar with the facts. There must be an underlying current of economy to induce so rapid progress as has been shown to have been made during the past year. Railroad companies are ready to pay for improvements which will reduce operating expenses. Probably nothing has demonstrated the value of the close coupler more than the Burlington brake trials. It has long been thought necessary to have free slack in the coupling of cars. This free slack is the cause of breakage of many drawbars and draft rigging in stopping and starting trains, and in operating roads with broken gradients and also very dangerous to trainmen and live freight. During the brake trial it was found necessary to take up all the free slack by blocking the links. The severest pull on the engine comes immediately after all cars in the train have been started, and an engine will start more cars than it will pull. In ascending a grade of fifty feet per mile it was found that train could be started with greater ease with links blocked than with links loose. While the complete elimination of shocks and the attendant danger to life and injury to equipment is a matter of brakes and not of couplers, still the coupler is an important factor, and it is obvious that the close coupler is necessary to reduce the slack to a minimum. Knowing the conditions to be fulfilled by an automatic coupler as set forth hereinbefore, it will be seen that the M. C. B. type may be made to answer to the requirements as indicated in the first eleven conditions.

The cost of equipping a freight car with the M. C. B. coupler is about \$25 per car in place, being little if any more than the cost of the old draw gear. The saving in damage to equipment, while considerable, amounts to little as compared with the increased train loads that can be made by the use of automatic air brakes and couplers. The B. & O., and other roads of like character using broken grades, haul as many passenger cars as the maximum load on more level grades, but there will be found a considerable difference in train loads in freight traffic as between comparatively level grades and fluctuating grades. Why is this? Under a like condition, if a locomotive can pull the same load of passenger cars as over broken grades as the maximum pulled on comparatively level or uniform grades, the freight engine should do similar work in freight service. However, this is not done, and the reason is found principally in the fact that with the combined use of air brakes and close couplers the engineer of the passenger train uses the power of his engine almost continually and by variation in speed, and by using the momentum of his train stored on descending grades he is able to climb grades which would be difficult to surmount if the stored energy acquired on descending grades was not used to lift the train out of the sag. With freight train equipped with hand brakes and loose couplers the engineer dare not raise the speed sufficient to assist in equalizing the profile, and on gradients prescribing short breaks the danger of breakaways

and consequent delay necessitate the constant presence of brakemen on top of cars to equalize the strain on drawbars, and prevent, if possible, the sudden shocks which are liable to break drawbars, injure freight and knock down the stock. To limit the speed of trains to a fixed number of miles per hour, regardless of profile, will certainly reduce the train loads, and the time chart should be made to conform to profile as well as to other necessities of operation. I am of the opinion that this matter will receive greater attention when freight cars are equipped with train brakes and close couplers.

During the past ten years few reports of State Railroad Commissioners, Inter-State Commissioners, journals, gazettes, or of the many societies organized for the promotion of knowledge in railway practice have been without some mention of this question of safe couplers, and no society, excepting the M. C. B., has been bold enough to take decided action in the matter. Since their action in adopting the Janney type as their standard they have been criticised by makers and railway officials, one for adopting any type and the other for not adopting a special device instead of a type. At the March meeting of the New-England Railroad Club a paper was read denouncing the action of the M. C. B. on account of their not adopting a standard coupler, contending that a "standard freight car coupler is absolutely necessary for the most complete safety and economy." Admitting the economy but offering no method of relief. The adoption of a standard coupler by any body, State or National, would not insure its replacing all existing drawbars.

The adoption of a type, however, still leaves the field open for competitors, encourages the inventor to improve, and by the survival of the fittest will ultimately give us the ideal coupler, while in using the present M. C. B. type we will have universal interchangeability.

It is true that the breakages of the present form of M. C. B. type is excessive, caused partly by faulty construction, poor material and the necessity of coupling with the old style link and pin. The inventors' skill will no doubt rapidly improve the form, and when the necessity of coupling with link and pin no longer exists the knuckle breakage will be greatly diminished. The cost of furnishing links and pins for the old style drawbar is at the lowest calculation \$2 per year.

Why do links break? Is it caused from the lack of sufficient material to resist the strain necessary in steady pulling? The full resistance of a one and one-half inch link made from good iron is 175,000 pounds and the maximum pull of the average locomotive will not exceed 20,000 pounds. Even reducing the link to the resistance at the elastic limit, its strength will be five times greater than the dead pull of an engine. It is manifest that links are not broken by dead pull, but by jerks born of free slack. In the absence of free slack no such strain can occur so that a comparatively weak hook coupling without free slack will withstand the pulling strain.

The greatest trial to which the M. C. B. coupler is subjected is in switching and coupling. There is little danger of breaking in transit. When drilling in yards cars are punted or poled from lead tracks and crash against stationary cars with tremendous force. And again when coupling every new device is tested unofficially by switchmen who regardless of damage to equipment, will signal to the engineer, "Open her out Jim, and hit her hard, and see how this thing'll work."

A friction buffer manufactured by Westinghouse, is intended to take up a portion of this shock, but it has not been in use long enough to establish its utility. When a suitable buffer is found the expense of maintaining the M. C. B. coupler will be greatly reduced.

The recital of the action of the M. C. B. society leading up to the final conclusion and adoption of a standard type as well as the interest and action taken by the commissioners of the several states and other societies covering a period of years, demonstrates that the solving of this problem has brought into action the best skill of this country, men familiar with

the requirements and conscious of the need of reform from the dangers and expensive form of old style link and pin. Many men are still unconvinced that the proper type has yet been adopted by the M. C. B. but the majority believe in it, and the question now is how to put it into service. The transition period is a dangerous one. Will railway officials equip their freight cars as fast as renewals are needed or new cars built without the force of the law, and if legislation is necessary, shall it be state or national?

BLOCK SIGNALS.

If we have learned how to stop a train it is also very essential that we be advised when to stop.

During the year ending June 30, 1890, reports show 311 persons killed and 1,313 injured in collisions. Of this number 167 killed were employés and 107 passengers; 820 injured were employés and 445 passengers. This indicates that accidents from collisions present a more dangerous element to passengers than any other form and the traveling public is necessarily more interested in safety appliances tending to the safe handling of passenger trains than in any other safety appliance.

While the automatic air brake is a foremost factor of safety in the movement of trains it still fails to entirely overcome the errors of the train dispatcher, operator or trainmen. If the dispatcher's time spacing of trains was carried out as intended there would be but few collisions. However, so many chances present themselves in running that the schedule is not always maintained and it is necessary to change the time spacing for distance spacing in order to reduce the danger of collisions to the minimum.

In England the block system is in almost universal use, about 90 percent. of all the passenger trains of that country are worked by the absolute block system, and will doubtless be universal, as the board of trade under a recent act of parliament, has notified the companies that the use of this system will be *required* on all passenger lines.

The block system originated in England and grew out of the necessity of traffic. The original method was introduced about 1853. The plan then used was to divide the road into sections, whose length varied with the requirement of traffic or the profile of road and topographical features of the contiguous country, sections over which few trains travel being from two to five miles long. Where traffic was more dense sections did not exceed one mile. At the end of each section a tower or signal house is located, occupied day and night by a signalman who is also a telegraph operator, who was charged with the duty of keeping a vigilant look-out and wire the signalman in tower on either side when a train had passed his station. Two trains are not allowed between signal stations at the same time. Such universal use of the block system in England and the resultant safety from collisions is a powerful argument in its favor.

Some of the lines in the United States, realizing the importance of the block system, have introduced it on lines where traffic is heavy enough to warrant the expense. The original method is very expensive and unscientific, and great advancement has been made in England and the United States in the practice.

The protection of a train which for some reason has been compelled to stop between telegraphic stations is generally attempted by sending a man back along the track with a signal to warn approaching train. If the flagman who is sent back, as well as the engineman on following train, perform their duty, all is well. But extreme vigilance is necessary on the part of both, and if the weather be inclement or the signal be difficult to see on account of fog, collision is almost sure to follow.

It is true that much of the loss of life resulting from collision is due to negligence on the part of trainmen, and notwithstanding the carefully formulated rules provided for the guidance of trainmen, man is fallible and collisions do occur.

As early as 1841 one semaphore was in use at New Cross, England. Mr. Bourne, writing in 1839, says of the London and Birmingham: "Certain policemen are stationed at intervals along the line as signalmen, whose duty it is to remove obstructions, and to warn an approaching train of any obstacle to its progress. The signals made use of in the day time are small white and red flags, and at night, lamps similarly colored." But the policeman, with his flags and lanterns, could tell the engineman nothing till he came close to him, nor could he warn him that the train which had passed had not broken down between his station and the next. In order to guard against this the telegraph was called into aid, enabling the operators to communicate to each other announcing the passage of trains.

Various systems have been devised to operate the block signals automatically by the passage of trains, and the question of what is the best kind of block signaling and to what extent railroad companies will be willing to introduce what is certainly a great expense, is not yet determined.

The Sykes system is used to some extent in the United States, being the standard of the New York & Harlem R. R., the N. Y., N. H. & H. R. R., and the N. Y., L. E. & W. R. R. The Union Switch and Signal Company and the Hall Signal Company offer systems, each of great merit, differing greatly in method employed. The Union Switch and Signal Company provide two systems for the automatic block signals, one operated entirely by electricity and the other by combined rail circuit and compressed air. A gravity battery supplies the current which is carried through the rails, being connected at joints by wires connected to each end of the rail. The insulation between block sections is accomplished by placing a wooden washer between the angle bar and the rail. The sections may be of any length convenient to traffic to be controlled. At the termination of each section a semaphore signal with two blades is generally provided, the upper blade painted red, and when in horizontal position indicates danger, the lower painted green, being a signal to "proceed under caution." The lowering of the blade indicates that the danger which it indicated in horizontal position no longer exists. The normal position of all signals is horizontal. The unbroken current through the rails, through the mechanism of the machine on signal post maintains the signal at safety or inclined from the horizontal. When a train enters the block the current is taken up through the wheel and axle to the opposite rail. The current is broken and the upper blade moves to a horizontal position, indicating to following train that first block ahead is occupied. When the train leaves the first section, the current being again complete, the upper blade falls from horizontal position. The lower blade still remaining at "caution," horizontal indicating that train is in second section, train following proceed under caution. When train has passed into third section the first caution signal falls, and train following finding both signals down may proceed at full speed. The cessation or interruption of the currents, either by presence of train in block, broken rail, removal of rail by sectionmen, or from any of the various accidents which may arise to disturb the rails the signals are held at danger. The use of two blades is only practiced where blocks are short and it is desired to keep two clear sections between high speed trains. The use of this system of two blades on long sections would cause too much delay to traffic. The track circuit in perfect working order seems to cover all essential points in an automatic block system, and its use by the Pennsylvania R. R. at Pittsburgh and other points where traffic is dense seems to have given satisfaction.

The practice of sending flagmen back when train is delayed between stations should not be omitted, no matter what system of block signaling is used.

All signals used in the system just described are of the semaphore pattern, i. e., post and blade. This is the form generally adopted as standard for all form of block and switch signals.

The Hall system of block signaling differs materially from the Union Switch & Signal Co's. plan. In this system the wire circuit is used, and the signal instead of being of the semaphore pattern is of the disc pattern, inclosed in a case when indicating safety. The apparatus invented by T. S. Hall was first used on the New York and Harlem Railroads in 1871. This first device provided for the transmission of current by means of wires suspended on the telegraph poles and subjected to the usual danger of damage by storm, etc. The wire is now carried under ground to the signal posts. The device is rendered automatic by the aid of a track instrument which receives upon a lever the blows from passing wheels. Quoting from the description of their system found in their late catalogue: "The principle on which this signal is constructed and operated is that the first wheel entering a block section sets the signal at danger and at the same time breaks an electric circuit in such a way that under no possible contingency can the signal again show safety until the train passes out of the block section and operates the track instrument which restores the circuit. If a wire breaks or is grounded or two wires become crossed, the signal goes to danger. Likewise a failure of the battery or any failure of its parts, or the occurrence of any of the mishaps which experience has shown signal connections liable to, must always result in setting the signal at danger, etc."

This system it will be observed will allow a portion of a breakaway to pass out of a section setting the signal behind it, and leaving a portion of the train on track unprotected from following train. It also lacks the power of warning against broken rail or any disturbance of track which may be dangerous to traffic. It is claimed by those favoring wire circuit that it covers all the points claimed and that the breakaways should be protected by hand signal in hand of trainmen. I believe the Hall Signal Company favor the wire circuit on scientific principles and are prepared to furnish the rail circuit system if desired. The wire circuit is less expensive and it is contended that the cost of maintenance is less than by any system of rail circuits.

The station block system is in use on several railroads in this State, and where the stations are not too far apart the system seems to be satisfactory.

The U. S. & S. Co. are constructing a system of automatic block signaling for the C. B. & Q. out of Chicago. The general adoption of any system of block signaling in this State is considered too burdensome for the traffic, and it is only at points where the traffic is dense and accidents from collisions frequent that it will be used.

On the evening of September 19, a coal train on the Philadelphia and Reading broke in two. The train was made up of 150 cars, probably the short 4 wheeled cars in use on that road for local business. The break was about 100 cars from engine. Another train of same length was following ten minutes behind. Owing to lack of proper signals and negligence of trainmen the second section collided with the rear end of first train which had slackened speed after breaking away. The collision threw the cars over on to the second track in front of a passenger train, wrecking it and killing twenty-one and injuring thirty persons, five being employes. With air brakes, M. C. B. couplers this accident would have been in all probability averted, and with an absolute block system this accident could not occur.

The movement of trains at 12 minute intervals where traffic is dense, is not safe unless block systems are used.

SIGNALS.

The question of the adoption of a uniform code of signals has been the subject of much debate among men who are charged with the safe handling of persons and property.

The Time Convention, composed of general managers or officials of authority, have met from time to time and discussed the necessity of uniform train signals, have formulated a code of rules for general use, and in many ways promoted the general system of train signals.

Signals may be divided into classes as follows: The hand signal, train signals and semaphore or signals on fixed posts, indicating by position of arms, discs or globes, safety, caution or danger.

It is apparent that a uniform code for use of these signals is essential for safety. Trainmen change from one road to another, and unless all signals are used to express but one meaning on all roads there is liability to confusion and consequent danger.

The Time Convention has to a great extent succeeded in accomplishing this reform in hand signals.

The many combinations of fixed signals on trains necessary to indicate the class and position of train, make it necessary that trainmen be instructed alike, and I deem it necessary to good discipline that each trainman be provided with a book of rules showing a diagram of signals colored, showing position of signals on rear and of both passenger and freight by day and by night, locomotive running forward and running extra by day and by night. Locomotive running backward empty and running extra, locomotive running backward empty and carrying signals for following train, locomotive running forward carrying signals for train following, and locomotive running backward carrying signals for train following. Engine head light when on main track and siding-lights and flags should be shown in position on engine, tender or rear of train separately, under each of the conditions. Should also show by diagram color and position of all flags used as hand signals, also section men's signal, which is generally flag fixed to temporary post on enginemen's side of track. Car repairs signals should be included as well as the station order board, main track switch targets together with all other switch distant and semaphores whether fixed or movable. Also road crossing signs, station whistling posts, water tank highway crossings, whistling posts and public warning posts, slow order boards, yard limits and any other form of signal which the trainmen should understand. This handy volume will prove a means of education, and where tried has been gladly received by all trainmen.

INTERLOCKING, SIGNALING AND DERAILING.

The term interlocking as here used means the grouping of levers controlling the movements of switches, turnouts and signals, and so arranging them as to make it impossible for operator to give conflicting signals or routes. Signaling applies to the directing of traffic and derailing is used to prevent two trains colliding if for any reason the signal is passed when set against either of the trains.

The purpose of using this system of grouping levers under the control of an operator at a convenient point and arranging signals and derails to co-operate with same in their proper turn is: First, increased safety to life and property; second, increased facility in handling traffic at busy points and avoiding the necessity of stopping at grade crossings.

When we consider the many accidents which occur at crossings and the expense of stopping all trains before crossing at grade at the hundreds of grade crossings in this State, it will be easily understood that the matter of expense is the only item which deters railroad officials from equipping such crossings with an approved device which will be not only a feature of economy in operation of trains, but a factor of safety, speed and comfort to the traveling public. Sometime before the knowledge of its advantage was appreciated in the United States, England had perfected a machine which is now almost universally used there and is fast coming into service in the United States. As an evidence of its usefulness in England, Waterloo station, one of the busiest in England, is equipped with

an interlocking plant operated by 209 levers. From this tower the points and signals are moved to pass during seven hours of the day full 315 trains, and during the year 4,848,700 movements are made, or an average of 22 movements for each train. The Brighton signal box at London bridge is probably the largest in the world.

The first system of interlocking erected in this country was placed at East Newark, N. J., in 1874. This was an English machine known as the Saxby and Farmer type, a type which is now constructed by the U. S. & S. Co. and the Johnson Railroad Signal Company. Since 1874 the Union Switch and Signal Co. have erected up to January 1890, 551 interlocking machines, of which 52 are in Illinois. Of this number 6,046 are Saxby & Farmer levers, and since this report considerable work has been done. 19 machines have been erected in Illinois, comprising 277 levers, of which the Union S. & S. Co. built 18, working 266 levers, the Johnson S. & S. Co. putting in eleven levers. As the U. S. & S. Co. have been foremost in the construction of work in this State, I will give a brief description of the machine.

For a single crossing at grade six levers are generally used, two for moving four derail points located 300 feet each way from crossing, four levers operating four home signals, located 350 feet each way from crossing, and four distant signals operate 1,550 feet each way from crossing. The connection from derail to lever is generally made with pipe, and home and distant signals by wire. The levers are grouped in a tower and painted and numbered to correspond to movements they control, levers operating derails, black, home and distant signal levers half red and half green. The home signal is painted red on furthest face and has blade with square end. When in horizontal position it indicates danger, stop, the distant signal is a blade with fish tail and painted green on furthest face, and when in horizontal position indicates to engineer that he must proceed under control expecting to stop before reaching home signal. When blades incline from horizontal it is an indication that track is clear. Should an engineer disregard the signal to stop as indicated by home signal in horizontal position, and proceed toward crossing, he is derailed at open switch or "derail point," located 50 feet from home signal toward crossing. The operator in tower seeing a train approaching on number one track grasps the lever operating the derail points on that track and pulling it towards himself closes the points, giving continuous rail on number one, and through the mechanism of the machine moves a bar, locking the derail and signal levers on number two. The next movement is by moving the lever operating the signals on side from which train is approaching, the first half of the movement lowers the home signal and the final movement home lowers the distant signal also locks the signal lever operating signals on same track for traffic in opposite direction. The machine now has four levers in normal position locked, and two levers throw out from machine. The approaching train now has clear track and advance signals and is protected from collision with any train on track 2 by open derails and danger signals. The derail on number one which was closed cannot be opened until the distant signal, then the home signal, are moved to danger. The derail lever may then be put back home. All levers now stand in line, derails open and signals at danger. To guard against splitting of trains at facing point switches a thin iron bar, called a detector bar, 40 feet long is hinged to the outside of rail, moving in vertical plane. This bar is so hung that it cannot be moved lengthwise without at the same time being raised. This bar is long enough so that it cannot be raised between the trucks of a coach or car and is actuated by the first movement of the lever which controls the switch and unless track is free the detector bar cannot be lifted, consequently switch cannot be opened. All levers in a machine are pivoted upon a common center and each identical in construction and operation, the foundation being separate from tower. In front of the levers is a cast iron frame containing movable locking bars moving in horizontal position. A casting rectangular in form, called the "flop" is carried on bearings at each end under the locking bars. This "flop" is connected to a radial link by pivot block moving in link. During the movements of the lever the pivot block traveling in the radial link moves it verti-

cally, which through the universal joint turns the "flop" which, in turning strikes a "dog" or casting clamped to locking bar, drawing it sufficiently to lock all opposing levers and freeing the lever next in order to be moved.

The interlocking and signaling of most of the crossings and connections which have been put into operation in this State have been vastly more intricate than the simple crossing just described, but the method of construction and operation is only an enlargement of the plan, which must be conformed to.

The interlocking at Ash street, Chicago, operated by 54 levers: at Barrington, 13 levers: Clyburn Junction, 32 levers; Bridgeport, 36 levers, all of the Saxby & Farmer type, furnish examples of the complete manner in which every point is guarded and controlled.

The manual machine is the most generally used, but at points where the extent of system will warrant the expense the pneumatic machine is used. The finest example of this machine is at Pittsburgh, Pa. The power used is compressed air actuated by electricity, controlled by an operator who moves a small lever essentially the same as in manual machine, but requiring very little power.

The act which was approved in this State in 1887 providing for the passage of trains over grade crossings without stopping, when crossing is properly protected by interlocking and signals did not provide for the interlocking of draw bridges. I am satisfied that it is a matter of public safety and convenience, as well as a protection to railways to provide for the interlocking of draw bridges. Many draw bridges in this State are moved but seldom, and where they are moved often it is certainly better to protect the traffic against the possibility of engines running into an open draw. Records of such accidents, though infrequent, show disastrous results. The interlocking of the Bridgeport draw at Chicago with the complicated approaches thereto shows the complete manner in which this work can be performed.

FREIGHT CARS.

The record of accidents to employes falling from engines and cars during year ending shows that 2,504 persons were killed or injured. Of this number 493 were killed and 2,011 injured. While this fatality is chargeable to some extent to lack of proper brakes and couplers, which would do away with the necessity of men being on top of cars, it is also due to the improperly kept brake shafts, running boards, steps, side ladders, etc.

The Commissioners of the State of New York in their recommendations to the Legislature in their annual reports for years 1885, '86, and '87, ask that action be taken to compel railroads to protect trainmen from danger of slipping from the car roof by providing railing on roof along each side of car. No legislative action was taken. I am not advised that any State requires this protection to be provided.

During the meeting of the 13th annual convention of the M. C. B. society at Chicago in 1879, action was taken by the society fixing the standards for the kind and position of all brake shafts, fastenings for brake pawl, etc., position of running board at end of car, position and dimension of steps and ladders. These recommendations were adopted, and are as follows:

"That all brake shafts be placed on left hand corner of car, when a person is standing on the track facing the end of car. (Plates 6 and 7 show brake shaft in position as designated.)

"That the ratchet wheel and pawl be fastened to a suitable casting on the roof.

"That the running boards be not less than 18 inches wide and one inch thick, the ends of which to project 5 and one-half inches outside of the boarding. The projections to be supported by two braces of 2-inch by ¼-inch iron.

"That two good, substantial steps made of wrought iron, one-half inch by one and three-quarters inch be fastened, one to each side, at diagonal corners of the car.

"That each box and stock car have two ladders, not less than five steps in each ladder, made of five-eighths inch round iron, projecting three and one-half inches from siding, securely fastened to each end at diagonal corners with handle directly over the ladders on the roof."

The question of the proper form of dead blocks, and whether it is better to construct cars without end platforms has been a matter of considerable discussion. Car builders are about evenly divided in opinion as to the durability of platform in economic construction and its relation to the work of trainmen.

At the 20th annual convention of M. C. B., at Niagara Falls, in 1886, it was decided to test the matter upon a division by letter ballot and it was decided in 1887 that the standard dead block of the society would be as follows:

That when double dead blocks are used, that their vertical height and their width measured crosswise to the track, be each eight inches, that their thickness measured lengthwise be 6 inches; that they each consist of castings as represented by figures 22-24, Plate VIII.

That when a beam attached to the end sill is used for carrying the dead blocks that it be made 36 inches long, not less than 4 inches thick and 8 inches vertical depth. Plate VIII.

The parts pertaining to the equipment of a freight car which have been hereinabove described, together with brakes and couplers first mentioned comprise the principal features which have to do with the safety to trainmen, and it is necessary that these parts be kept in repair and be made to conform to the standard adopted by the principal railways of the United States through the action of their Master Car Builders.

A code of rules has been generally adopted governing the condition of, and repairs to freight cars for the interchange of traffic, which provides for the manner in which cars must be repaired and sent forward. When cars are received which will not pass a thorough inspection all repairs should look to uniformity, and if renewals are necessary, no parts but standard style should be put on.

Owing to the small percentage of cars being equipped with air brakes, the brakemen are compelled to be on cars when train is moving, and as it is a perilous business under the most favorable conditions of weather, when the weather is foul the danger to life is great, brakemen in the urgency of their call have not time to examine each step, ladder or hand-brake, and are often killed or mangled by the lack of proper attention of the car builder or inspector in allowing cars with defective equipment to be run in service.

My observation of the condition of freight cars in service convinces me that the inspection and repairs is not carefully performed.

The standards of the M. C. B. are generally good, and a rigid inspection by an officer of the Commission would prevent a great many of the accidents which occur from faulty repairs.

MAINTENANCE OF WAY.

Of all the many items which enter into the construction and maintenance of a perfect road I will not attempt to make mention. It is the first essential, both to passengers and employes in train service that the track—the channel of commerce—be perfect, and it is not only necessary that a Forth, East River or Eads bridge be built and maintained carefully, but that the little things insignificant in themselves receive equal attention. It was not the failure of an important structure which caused the fearful accident at Chatsworth nor a defective track or bridge which caused the Quincy disaster. It is only with the utmost vigilance and a

supply and use of proper materials that makes it possible for trains weighing four hundred tons and more, to attain the tremendous speed demanded by the public, and yet, carry nearly five hundred million passengers with safety to all but 2,456, and the evidence that it has been done is a high testimonial to the vigilance, care and skill of each of the 407,743 employes. Although this is a favorable report it is possible to make a still better showing by increased attention to details and by aid of improved appliances. Thanks to the skill of the American bridge engineer and builder, we have little to ask in the line of better bridges.

There has been no record kept of accidents from bridge failures, which leads me to suppose that the number from this cause is small. The construction and maintenance of pile and framed bent bridges and culverts is generally left to a bridge foreman who is generally unacquainted with strains in framed structures. The first building of these wooden structures of lesser importance as to dimension and cost, is comparatively well done, but the great cause of danger is in neglect to make proper repairs, clean away debris, weeds, etc., and general policing around the structures in dry season. One great cause of failure of small structures is insufficient water-way, causing floating drift to be lodged against the structures, damming up the water and causing displacement. Many framed bents rest upon mud sills placed two to three feet in ground which are very liable to be washed out by scouring in time of flood. Probably 75 per cent. in length of the bridges in this State are constructed of wood, and renewals on some of our strongest lines are being made of wood. It is unnecessary, I think, to reason why this is done. We know and admit that stone, iron or steel is better material of which to build. It then resolves itself into a question of first cost.

The rapid increase of weight in rolling stock has not been attended by the same advancement in bridges, excepting in new work. Structures which were built 10 or 15 years ago to sustain the traffic of that day yet remain with parts renewed, yet the general plan and dimensions of members remain the same. The result may prove disastrous, for it is difficult, nay impossible, to correctly judge of the character and minimum strength of any structure by superficial examination. As an example your attention is called to the failure of the west shore span of the Peoria & Pekin Union bridge, spanning the Illinois river at Peoria. On the evening of Feb. 3d, a train of the "Big Four" pulled by a consolidated engine and composed of gondola coal cars loaded, followed by grain cars, had reached the first river pier when the span suddenly fell, precipitating engine and tender to bottom and killing three men. The bridge was apparently in good condition and had been examined in December, 1889, by a bridge expert who found no apparent defect. The bridge was built for lighter traffic and besides the quality of iron and steel was found to be very poor. This accident caused other companies to be fearful of the safety of their bridges which had been built for some time and arrangements were at once made for renewals of some of the important structures.

It is not necessary to demonstrate by accident and death that any structure is weak. A careful examination, test of parts of material and calculation of strain sheets would develop weakness not otherwise apparent. Many of the railroads of this State have no complete record of the bridges on their line to show the kind, dimension and age. And I find no plans of any bridges, or any information concerning same in your office.

A very important safeguard to derail trains at bridge approach is the provision of some rerailing device. The Latimer device is used as standard on many lines in this State. It is manufactured in Chicago and has shown to be a successful device.

This subject is of such importance that the legislature of the State of New York enacted a law in 1887, providing that guard posts should be placed in the prolongation of the line of bridge trusses so that in case of derailment the post, and not the bridge truss, shall receive the blow of the derailed locomotive or car. In 1884 the railroad commission of the same state ordered drawings of all truss bridges, showing dimensions, floor

system, strain sheets, etc. This resulted in finding weak places in bridges. In many instances bridges were strengthened before strain sheets were sent in, showing the moral benefit of the law.

Many of the railroads of this State, owing in part to the meager earnings, and in part to an effort to pay interest on bonds and dividends on stock, starve the roadbed, and ties are permitted to remain long after they have served their full life. The average life of a first-class oak tie is seven years, making it necessary to renew 400 ties each year, or a total for main line in this State of 4,276,400 ties, while some of the best roads do make renewals at this rate, the total consumption will not reach more than one-third of this amount. The spiking is in many instances one-half or two-thirds done, this generally obtains where ties are poor, and poor ties coupled with half spiking gives results dangerous to traffic. Gauge, inspection of rails, elevating curves, joints, cattle guards, drainage, switches, frogs, crossings, etc., all need the most careful attention.

The question of accident to switchmen from being caught in frogs has called forth considerable discussion and some legislation in the different states. In Michigan, all railroads are compelled by law to fill all frogs so that the foot cannot be caught and held. This law was passed in 1880, and empowered the commissioner with the duty of prescribing the kind of filling to be used. The result seems to have proved satisfactory, for in 1885 but one accident occurred in that state from this cause, and in 1886 none occurred. The wisdom of the law seems to be vindicated by results.

That there is considerable danger from this source is evidenced by a letter written to the Hon. J. Hennessy, one of the commissioners of Missouri, by the switchmen and brakemen on the various St. Louis roads, in which they request that he assist them in securing them against the many fatal accidents caused by being trapped in frogs and between the guard rails and thus run down, the letter continues by saying, "We do not pretend to say that the companies are indifferent as to the safety of their employés, but we do know that no device is being generally used to keep the feet of the switchmen out of these dangerous gaps between the rails and the frogs. The blocks sometimes inserted in the frogs afford no protection whatever."

The lack of uniformity in the location of buildings, stand pipes, semaphore posts and platforms is a fruitful cause of accident to both passengers and trainmen. The high platform, while convenient in mounting to car steps, is often the cause of accident to persons, who for various reasons, unwisely attempt to board or leave a train while in motion. The height of platform at passenger stations should be level with top of rail, at two feet distance from rail, rising from thence toward building to allow for drainage. Movable step platforms should be provided and placed by porter or brakemen to assist passengers in boarding and leaving train. At freight station buildings platform may be raised to level of car floor. No building, pole or stand pipe should be placed nearer than seven feet from center of track. The practice of placing stand pipe between tracks having but 13 feet from center to center, should be condemned. A general order fixing the distance, would, I think, prove beneficial.

HIGHWAY CROSSINGS.

The placing of whistling posts to warn enginemen of proximity to a public road is generally performed according to law, and the enginemen as a rule use the whistle to warn travel of the approach of train. Notwithstanding these precautions many people are killed at highway crossings. Of the 13,754 persons killed or mangled during the past year from causes unassigned, a large percentage were caught at highway crossings.

This fatality is not by any reason all chargeable to lack of proper precaution on the part of railroad officials, for in addition to the warning by whistle and bell a proper warning sign is generally provided in plain view of traveler on highway. People becoming familiar with the danger do not exercise due caution in crossing the railroad track, and probably this fatality will continue until they are barred out of the track when train is passing. However, there are many points which may be improved by removing trees and bushes, which in many cases obstruct the vision of highway travelers, who, in winter time, with heads muffled by wraps to guard against exposure, cannot depend wholly on the sense of hearing to warn them of danger.

The construction of sub or super ways for highways is without doubt the proper way to prevent accident from this cause. The State of Massachusetts co-operating with the railroads of the State have provided for the expending of five million of dollars in constructing sub and super ways. Many dangerous crossings have been eliminated by the railroads working with the county commissioners in this State, and it is the expressed desire of many of our railroad managers to provide these safeguards where it is possible to do so at reasonable expense.

When it is understood among railroad officials that the State is keeping watch over the many details pertaining to the safety of track, bridges, etc., by careful inspection and supervision, there will be a marked improvement, and many existing features known to be dangerous will be eliminated.

HEATING PASSENGER CARS.

The first appliance for heating passenger trains in this country was the simple wood stove, providing no protection to passengers in case of overturning, mashing and consequent burning in case fire was in use at the time, resulting in death or injury by burning. For some years the public submitted to this dangerous element, considering it a necessary evil. The wood stove was gradually replaced by a so-called safety stove, claimed to be perfectly safe, even though the car containing it was destroyed. The repetition of horrible deaths by burning, charged to the presence of the car stove, were chronicled in the newspapers from time to time, until in 1887 "the deadly car stove" was voiced against by travelers. The appalling horrors added to the Ashtabula disaster by the burning of living men, women and children, and their cries echoed through the press, seemed to arouse the public to take some action to provide against the recurrence of similar disasters. The winter of 1886 and 1887 brought a series of disasters. The Rio disaster on the St. Paul road in October, 1886, when 17 persons were burned to death: the Republic wreck, January 4, 1887, when 13 were held beneath timbers and slowly burned to death before friends helpless to assist and avert their agony, and the killing and burning of 30 more at White River, Vermont, added to already excited feelings against the car stove, seemed to indicate that the time had come when decided action must be taken to find a substitute. At that time the heating of cars by steam from the locomotives was in an experimental state, being little used except upon the elevated road in New York City. Public opinion, inflamed by the "Snyten Duyvil" disaster, was so strong against the use of the ordinary car stove used in Massachusetts that the legislature of that State enacted a law in 1882 providing that all cars owned or regularly used on any railroad in the State, and furnished with heating apparatus, are to be provided with such safeguards against fire as may be approved by the commissioners. And again in 1887 provided "that in no event shall a

common stove be allowed in any such car." New York took similar action, providing "that after May 1, 1888, all railroads doing business in that State must not heat their passenger cars or other than mixed trains by any stove or furnace, etc." The use of the present stove was allowed where cars were standing on sidings, etc. This did not restrict the use of the cooking stove.

The heating of cars by steam from locomotive is now an accomplished fact in the State of New York.

Michigan, in 1887, provided that on and after Nov. 1, 1888, that railroad companies must make effective provision against the burning of cars in which passengers are carried. The commissioners of Connecticut were authorized after Sept. 30, 1887, to order any system of heating which they deemed proper. But after trial and examination of the various systems offered do not in their report of 1889 recommend any system of steam heating, but are so far convinced that some system of continuous heating will be perfected that in a circular dated July 10, 1889, to officials of railroads operating in that State, they say "we recommend that you do not equip or purchase any cars equipped with any system of heating which cannot be readily adapted to the use of steam or hot air. We believe that some system of continuous heating will soon be perfected which can be prudently and safely adopted * * * *. Further experiment should be encouraged for the purpose of developing some system of train heating which will give a uniform temperature throughout the cars of our longest passenger trains, attended by the fewest possible elements of danger from fire, or from the explosion of steam in case of accident, collision or overturning of cars." Notwithstanding the commissioners' lack of faith in the success of any system of continuous steam heating, as now perfected, the most prominent railroads of their State have sufficient confidence to warrant them in equipping their passenger cars for steam heating, thus demonstrating their faith both in the economy and safety of its use.

The subject of safely heating was taken up by the railroad companies through their master car builders some time before the matter was made a subject of State legislation. The president of the M. C. B. in his annual address to the society convened June 12, 1883, said: "The present manner of warming passenger cars during extreme cold weather in our northern states is far from satisfactory. How to furnish heat without injury to passengers from fire, steam or hot water in case of accident is one of the problems yet to be solved; and as inventors have not as yet presented a device removing such liabilities, it is incumbent on all master car builders to study carefully how to arrange the available heaters to obtain the best results as to comfort and safety," and their committee in their report of same year say that "steam in all cases is preferable for heating cars * * * In case of derailment or collision, safety demands the heater to be placed outside of the cars."

During the winter of 1887-'88 tests were made of the various systems of continuous heating. The result shows that 18 different systems were on trial, comprising straight steam, indirect radiation, hot water, water and Baker heater pipes, steam and water circulation. Thirty-three railroads using the systems, represented by the 18 companies, report but two failures to give satisfaction, and the general result was very satisfactory. At the close of year 1888 the Martin system was in use on 141 locomotives and 416 cars, the Sewall on 205 locomotives and 295 cars, the McElroy on 90 locomotives and 120 cars; N. Y., L. E. & W. Ry., 102 locomotives and 336 cars; L. V. R. R. system, 50 locomotives and 50 cars; N. Y. Safety C. H. and L. Co., 44 locomotives and 93 cars; C., M. & St. P. Ry. system, 37 locomotives and 76 cars; B., C. & Nor. Ry. system, 28 locomotives and 65 cars; Emerson, 26 locomotives and 41 cars; Gold system, 20 locomotives and 6 cars; Standard C. H. & Vent Co., 3 locomotives and 16 cars; Penn. R. R. system, 1 locomotive and 6 cars; N. W. M. C. Heating and L. Co., 3 locomotives and 3 cars, and Erie Car Heating Co., 1 locomotive and 4 cars.

Many railroad companies have adopted steam heating systems of their own.

Many difficulties have developed themselves since the question of continuous heating was first discussed. The heating of cars while detached from engine, condensation, probable effect on steaming of locomotive, couplings, etc., have been considered, and the objections are to a great extent overcome. In all cases the necessary heat for cars where detached from locomotive is obtained by starting fire in stoves, which must be extinguished before car leaves station in train.

The fullest information concerning the general use of steam heat is very difficult to obtain, some roads using several different systems. The B. & O. uses 3 different systems, with a total of 107 cars equipped. The N. Y., L. E. & W. uses 5 systems on 572 cars, of which number 529 are heated by direct steam on a plan of their own devising. On 12 roads east of Chicago 1,955 cars are equipped with 15 different systems, and on none of these roads has there been shown to be any effect on locomotive by reason of drawing steam from it.

The coupler is not so serious a question as many will argue. While there are many devices for steam coupling, such as the Erie, a metallic, the Martin, Sewall, Gibbs and others, a type may be agreed upon by the railroad companies if the equipping of cars is made compulsory.

Plate IX. shows application of the system offered by the Safety Car Heating and Lighting Co.

In order to use the Baker heater and its water circulating pipes, with which most of the first-class roads have equipped their cars, it was found that a system of indirect steam would meet the requirements best and at the least cost. In this system the steam is conveyed from locomotives to steam jackets, which surround the pipe, as shown in diagram. In this system the steam in jacket and salt water in pipes do not come in contact, and the heat being applied at three points, the circulation is kept up and the water heated faster than if Baker heater was used. When car is detached from train a fire may be kept up in Baker heater, without in any way interfering with steam heating system. The condensation of steam is discharged through a trap.

Five railroads centering in Chicago use this system, which is used to some extent on 18 railroads, and by the Pullman and Wagner Sleeping Car Companies.

The Consolidated Car Heating Co. offer three ways of supplying continuous steam heat. The first system, called the McElroy commingler system, is illustrated in Plate X. This is also used with the Baker heater, but instead of heating water indirectly, steam is introduced into the water of the pipes through a device called a commingler, shown in right hand corner of Plate X. To prevent the disagreeable clacking noise noticeable where steam and water occupy same pipe, the vessel is filled with gravel. The heated water and steam run to the expansion drum, and passing round car returns through Baker heater to commingler to be again heated. This system seems to present many favorable features, and is the outgrowth of the Westinghouse and McElroy systems. Fire is applied to water coil in Baker heater when locomotive is not attached. Pipes may be emptied after car is through service, and steam may be blown through when car is wanted for service. The condensation will fill pipes; at the same time the car will be quickly warmed by radiation from live steam. This system may be used for direct steam or water circulation.

The Sewall drum system, as illustrated on Plate XI., is an example of indirect steam heating, using Baker heater and pipe circulation. The steam is admitted into the drum, shown in right hand corner of Plate XI. Through this drum is passed a coil of pipe connected with Baker heater. The steam surrounds this pipe, and heating the water starts the circulation through expansion drum, and from thence through pipes and back to drum.

The Gold Car Heating Company have equipped nearly 3,000 locomotives and cars, their system being used as standard on many railroads, while they use a system with a Baker heater as auxiliary. The plan they think best is illustrated in Plate XII. In the Storage Heat System, "four stor-

age heaters are used. Each heater is supplied with steam from the main supply pipe, to which it is connected near the end of the car." The heat is stored by a water cylinder hermetically sealed, owing to the large radiating surface in storage cylinders the temperature in the car is raised very quickly after steam is turned on. This system depends for its heat when detached from locomotive upon the heat stored in fluid contained in cylinders. While there is but little danger to passengers from scalding, should a car be wrecked and pipe broken, the steam vaporizing, when coming in contact with the air, will fill the car, obstruct the vision and frighten the occupants. To guard against the possibility of such an event, J. R. Droziski, of the Erie Car Heating Company, has invented an automatic steam shut-off, a diagram of which will be found on Plate XIII. The machine is placed upon the locomotive in the engineer's cab in a convenient place where it may be connected with the steam and air pipes and requires no additional attachment on cars. When it is necessary to use steam before air is pumped, the engineman grasps the handle, pressing the catch lever marked C, operating a lever B inside of handle A. When the handle A is released the lever B keeps the rubber gasket D one-sixteenth of an inch from seat. The gate is now open in main steam pipe. The automatic feature of this machine is accomplished by the use of air taken from the main air pipe and conducted to cylinder E. As soon as the pressure is let into cylinder E, the piston is forced up against seat E, at the same time releasing lever B, which returns to its normal position in handle. While the air pressure is on, the gate in main steam pipe is open. If for any reason the train is parted and air is broken, the gate in steam pipe is instantly closed by force of spring H.

"Steam," "hot water," "hot air" and electricity have been experimented with for the production of heat, practical results seem to favor indirect steam heating in connection with Baker heater, or storage heaters, direct steam with or without Baker heater, and the commingling of steam and water, in connection with the Baker heater and piping.

LIGHTING PASSENGER CARS.

The danger to life and property in the presence of the oil lamp generally used for lighting passenger trains, is not as great as many people believe. The oil being refined to such a degree as to prevent igniting while in a body. However, should one of these reservoirs containing oil be broken and the contents scattered over the cushions, carpet and wood-work of the car it then presents its best condition for combustion. While accidents resulting in death from this cause are rare, the expense of maintenance of oil lamps, as well as the desire to provide an attractive and efficient light which would be free from the dangerous qualities and general imperfections of the oil lamp has caused investigation to be made looking to improvement in the system of lighting passenger cars.

The use of common gas has not proven satisfactory, as under compression necessary to store a sufficient quantity for supply on a trip the gas losses too much of its illuminating power. The use of a refined gas in Germany attracted attention in the United States, and the results obtained from it seemed to warrant its introduction on our railroads. This system known as the Pintsch system has since been introduced on many of our railroads. The patentee, Mr. Julius Pintsch, perfected his plans in Germany during the year 1870. The gas used for this light is manufactured from crude petroleum, or the residual products of coil oil distillation. The gas is manufactured at terminal points and stored in powerful cylinders from which it is piped between the tracks, with convenient cocks at intervals from which a supply is drawn into the receiving cylinder, fixed under the body of the car. This cylinder is of iron, capable of sustaining a pressure of 250 pounds per square inch, and is charged to 150 pounds. The capacity of cylinder or tank is about 185 cubic feet. A pressure of 150 pounds would be many times too great to use at the burner, a regu-

lator is used which provides the gas at the burner at a pressure sufficient to produce a steady, mellow flame, and is so nicely adjusted as to furnish just enough, whether the flame is desired full or low.

The lamps are generally furnished with four burners inclosed in a glass globe which perfectly shields the flames from disturbing currents of air. A glass reflector is placed above the burners which distributes the flame and adds brilliancy to the illumination.

I have no record of any accident involving loss of life or injury to passengers through the use of this system, and it appears that the dangers incident to the presence of gas of any kind, stored on car which is liable to be set on fire from many causes, has been brought to a minimum. The only opportunity for adding to the danger of burning wreck, would be from the escape of gas from broken pipe. The pressure of gas in tank is so great that if the shell should be perforated the force of gas escaping would extinguish any flame that would be likely to reach the aperture. The explosion of tank is guarded against in its construction, the joints being made in such manner as to release the gas before pressure is raised to limit of resistance of shell.

This system has been in use 20 years, and since its introduction to the United States has been greatly improved. The system claims to furnish a better, safer and cheaper light than can possibly be furnished by oil lamps.

January 1st, 1890, this system was in use upon 33,500 passenger cars in Europe, United States, South America and Australia. Plate XIV shows the location of tank, regulator, pipes, lamps, etc., on a passenger car.

The Frost Dry Carburetter system which has been introduced on many of the trunk lines of the United States and made the standard on some lines, has equipped 633 passenger cars on lines east of Chicago. The gas for the light in the Carburetter system is manufactured at the lamp, or rather in Carburetter near lamp, by the forcing of air through a metal spiral filled with cotton wicking saturated with refined gasoline. The air is supplied from cylinder under car used as a reservoir, being supplied with air under compression from the main brake pipe. The gas is simply air carrying a certain amount of gasoline vapor. In this system there is no need for gas plants, as its carburetter with its air connection, is a gas generator.

The Carburetters are charged from top of cars, with only so much gasoline as the cotton wicking will absorb. The mechanism is so arranged as to prevent overcharging, and consequent presence of free oil.

Plate XV shows the Carburetter system as applied to passenger cars.

In order to determine if the pressure of gasoline absorbed in cotton wicking as held in carburetter would prove an element of danger in case of car being wrecked, trial tests were made at Altoona in June of this year.

It has been claimed by the rival system and some technical journals that a carburetter might be ruptured and a car flooded with volatile and inflammable gasoline; or that in case of fire the rapid vaporization of the gasoline in the carburetter would cause explosion. The tests at Altoona did not show these elements of danger.

A perfect light for passenger cars should meet the following requirements:

1. It should be safe.
2. It should ventilate the car perfectly.
3. It should furnish mellow and effective light to all parts of the car.
4. It should be simple in construction and operation.
5. It should be constructed, operated and maintained at minimum cost.

I think either of the systems described offer safety, better and more economical light than can possibly be furnished by oil lamps.

CONCLUSIONS.

1. That automatic train brakes should be provided on all cars and locomotive engines. With this provision, accidents from exposure, falling from train, overhead obstructions, etc., would be reduced to a minimum, and overhead crossings could be built at much less expense.

2. That the Master Car Builders' type of automatic car coupler is the best type in the market. That its universal use in connection with train brakes will prevent great loss of life.

3. That the absolute block system should be used on lines where traffic is dense.

4. That a code of uniform signals should be adopted, in which form and position governs by day and night.

5. That all railroad crossings at grades which may hereafter be constructed should be protected by a system of interlocking and signals. That a portion of existing railroad grade crossings should be protected in like manner each year until all are so protected.

6. That all freight cars be carefully inspected to provide against the damages to trainmen from defective parts.

7. That the Railroad and Warehouse Commission be furnished with complete statistics bearing on the physical condition of each railroad in the State. That each railroad in this State should furnish the Railroad and Warehouse Commission a certified copy of plan of each bridge exceeding a span of sixteen feet.

That the standard plans for minor structures be also furnished.

That a copy of the general rules governing the train and track force be also furnished.

That a careful inspection be made of each railroad in this State at least once each year.

8. That, where practicable, the grade of railroad and highway crossings be separated. That it is possible to remove many obstructions to vision at grade crossings at small expense.

9. That the heating of passenger cars by steam from the locomotive is practicable.

10. That the kerosene oil lamp should be superseded by a system of lighting which will reduce the danger of accident by burning.

ADDENDA.

In concluding my report upon the use of safety appliances in the operation of railroads, and summing up the results obtainable when the best appliance of its kind is put in service, the question naturally arises as to what is the best method of securing the results aimed at.

Opinions have been expressed by the Railroad Commissioners of some of the States, and the report of the Inter-State Commerce Commission for 1889 contains an exhaustive review on this subject of State and federal legislation. While the solution of the proper method will probably be arrived at through persons conversant with questions of legislation, there are certain mechanical and engineering features pertaining to the subject of which one unfamiliar with the subject may not be advised.

The business of conducting the railroad traffic in this State, if the extent of operated roads was limited by the boundary of the State would be comparatively simple. The business is not, however, confined to the limit of State control or the boundaries of the United States; it is international. Changes from established methods should be well considered before recommended, as the expense is an item which cannot be overlooked. Railway managers who have won position by faithful and intelligent labor, guarding alike the interests of the public and the property in their charge,

wisely hesitate to adopt new methods which have not been thoroughly tested by practice. Yet these same men, mindful of the welfare of those intrusted to their supervision and care, with the clear insight into the multifarious necessities of the safe and successful conduct of the business in their charge, are the first to acknowledge the necessity of guarding every point of danger. The necessity of improvement in the many devices of which my report treats, is evident to them, but without the co-operation of the directory the managers are powerless to move in the matter.

Uniformity must be the aim of any movement toward success. There is no question but what we have in the market a continuous air brake and car coupler which, if used in all traffic, will reduce the frightful fatalities and be an investment well made; but this cannot be controlled by independent State legislation.

I believe the result may be obtained by national legislation requiring the equipment of all new passenger and freight cars with an interchangeable form of automatic train brake and automatic close couplers, and when renewals are made all such renewals should be made in accordance with the standard adopted. The provisions of such an act should include any protection which is necessary in interstate business. Such an act needs no new officers to carry out its provisions. The several State commissioners should be charged with the duty of inspecting thoroughly the equipment of the several railroads within their respective States. Of such features of the railroad which are entirely within the State, I would respectfully call your attention to the necessary improvements indicated in my report of Maintenance of Way. The inspection of bridges, location of buildings, platforms, filling of frogs and guard rails and the protection of life at highway crossings, as well as the further extension of control of the interlocking and signaling. No provision is made for the inspection of interlocking plants after they have been accepted by your Commission and put into operation. Derails may be spiked, detector bars or other important parts of a plant may be removed, the system changed to admit of dangerous elements, and no knowledge of such change be in the hands of the commission. Inspection of these complicated plants should be made at regular intervals. I do not believe that changes would be authorized by any company through its superior officers without first consulting your Commission, but that changes are made is a fact, being of so frequent occurrence in Michigan that a special inspector has been appointed charged with the duty of looking after all subjects pertaining to the physical and mechanical operation of the railroads of that State.

So much material of interest is presented to me in making this report that volumes could be written. I trust that I have embodied in this report such features of safety appliances in the operation of railroads as will be of general information.

Respectfully submitted,

CHAS. HANSEL,

Consulting Engineer.

PLATE. I.

Railroad accidents for year ending June 30, 1889.

COMPARATIVE STATEMENT UNITED STATES AND ILLINOIS.

KINDS OF ACCIDENT.	UNITED STATES.											
	Employés.		Passengers.		Other persons.		Total United States.		Total Illinois.			
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
Coupling and uncoupling cars.....	300	6,757					300	6,757	21	444		
Falling from trains and engines.....	493	2,011					493	2,011				
Overhead obstructions.....	65	296					65	296				
Collisions.....	167	820	107	445	37	48	311	1,313	21	63		
Deraillments.....	125	655	28	389	59	69	182	1,113	7	30		
Other train accidents.....	189	1,016	26	237	522	515	737	1,778				
At highway crossings.....	24	45	3	16	410	684	437	695	35	64		
At stations.....	70	699	26	295	328	472	424	1,466				
Other causes.....	589	7,729	120	754	2,215	2,397	2,874	10,880	473	1,105		
Total for United States.....	1,972	20,028	310	2,146	3,541	4,135	5,823	26,309				
Total for Illinois.....	172	1,188	25	116	360	402			557	1,706		

ESTLINGHOUSE AUTOMATIC BE

PLAN

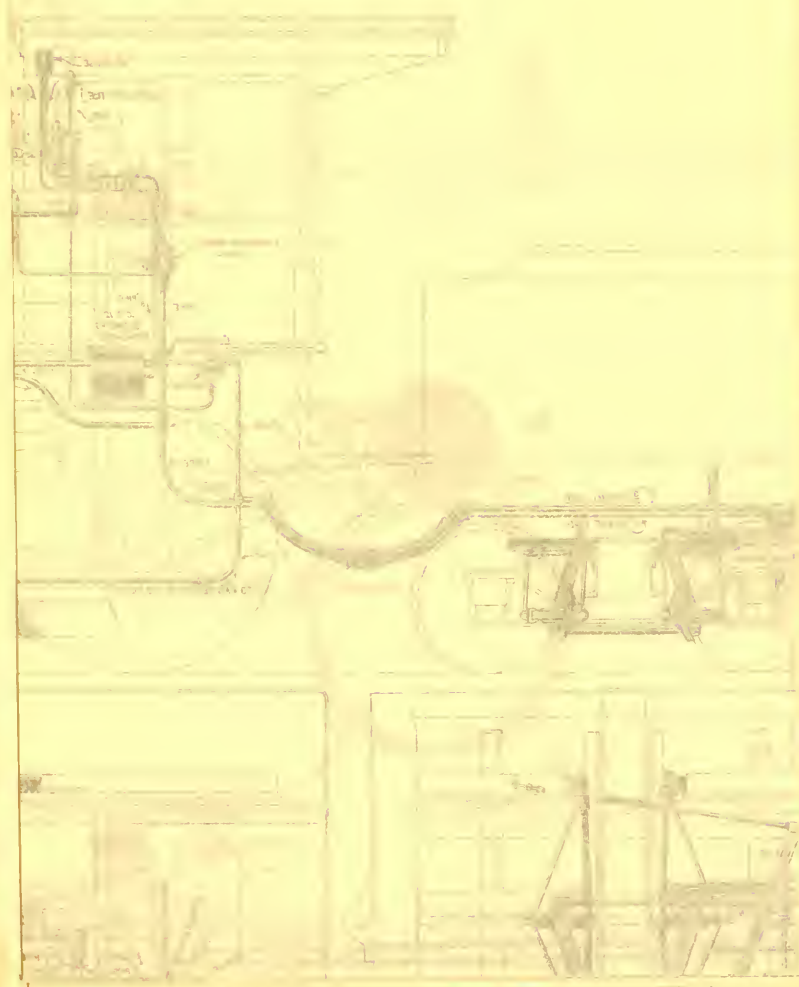
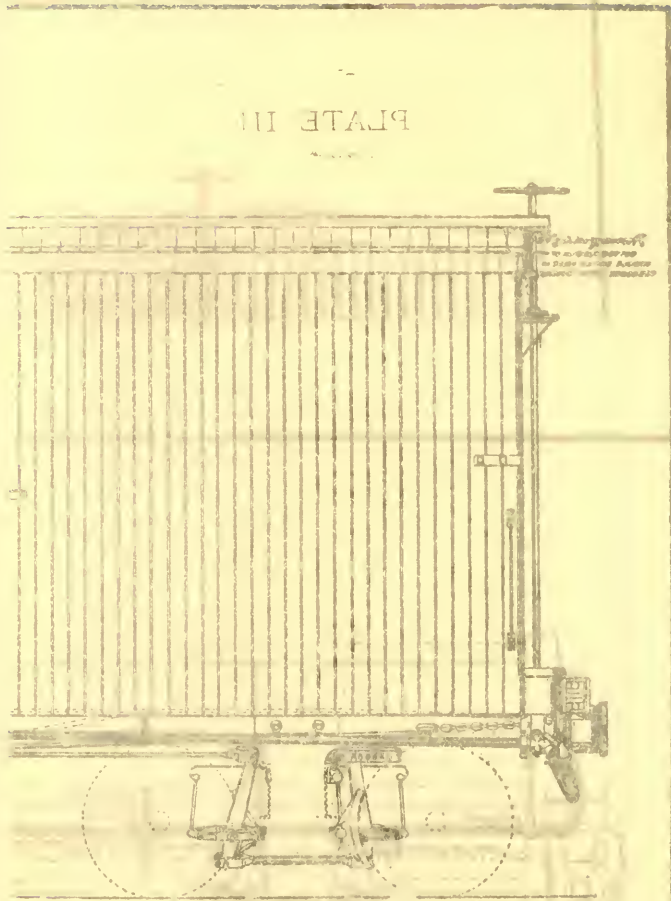


PLATE. I.
Railroad accidents for year ending June 30, 1889.
 COMPARATIVE STATEMENT UNITED STATES AND ILLINOIS.

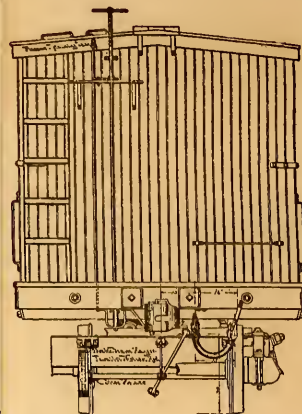
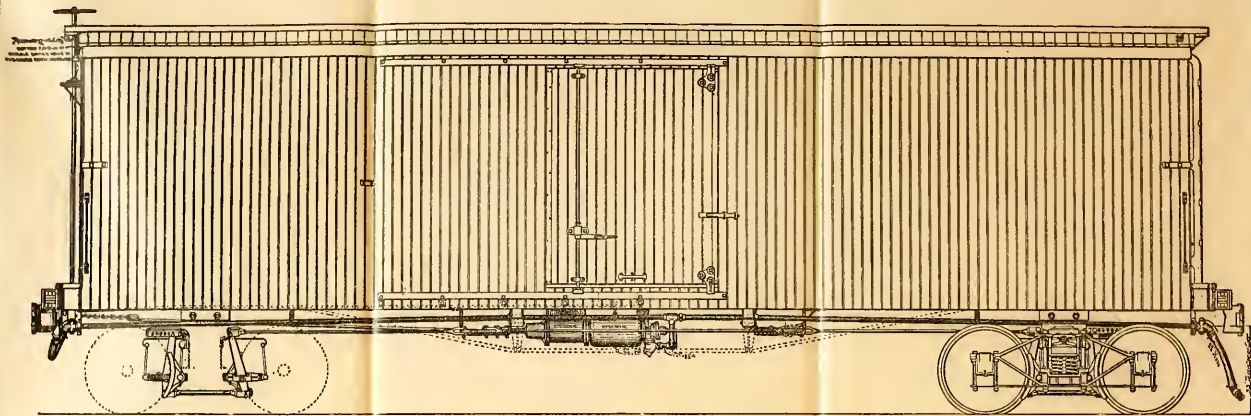
KINDS OF ACCIDENT.	UNITED STATES.									
	Employés.		Passengers.		Other persons.		Total United States.		Total Illinois.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Coupling and uncoupling cars.....	300	6,757					300	6,757	21	444
Falling from trains and engines.....	493	2,011				493	2,011			
Overhead obstructions.....	65	296				65	296			
Collisions.....	167	820	107	445	37	311	1,313	21	63	
Derailments.....	125	655	28	389	29	69	182	1,113	7	30
Other train accidents.....	189	1,016	26	217	522	515	737	1,778		
At highway crossings.....	24	45	3	16	410	634	437	695	35	64
At stations.....	70	699	26	295	328	472	424	1,406		
Other causes.....	539	7,729	120	754	2,215	2,397	2,874	10,880	473	1,105
Total for United States.....	1,972	20,028	310	2,146	3,541	4,135	5,823	26,309		
Total for Illinois.....	172	1,188	25	116	360	402			537	1,706

PLATE III

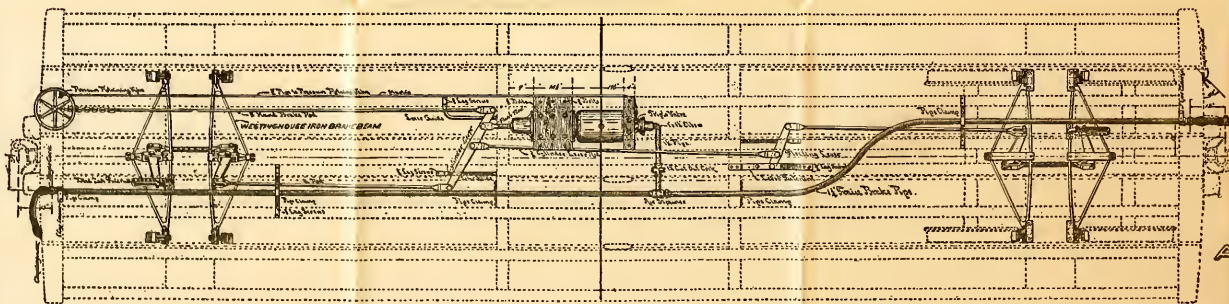


This figure shows a view of the machine as it is used in the printing office. The frame is of iron and the bars are of brass. The machine is used to print the letters of the alphabet on the paper. The letters are printed by the bars which are moved by the hand crank. The machine is used to print the letters of the alphabet on the paper. The letters are printed by the bars which are moved by the hand crank.

Col
Fol
Ovi
Col
Del
Ovi
Act
Act
Oth



The relative angle of leaves down, must be maintained when attaching brake rigging to cars
 Pipes to be bent where practicable, and drawn out with stress after bending
 All connections to be perfectly tight, and tested under pressure with soap suds
 All pipes to be securely fastened to car timbers to prevent shaking and loosening of joints
 Use cracked sparingly at joints, and put in outside of pipe that screws into fitting
 Never use it on inside of fitting, or to screw pipe into Tight Valve and fittings with welding of bolts.



THE
 WESTINGHOUSE
 QUICK ACTION
 AUTOMATIC BRAKE
 FREIGHT EQUIPMENT CARS

1876

...

...

...

1876

Col
Fal
Ov
Col
Det
OH
Att
OIL

...

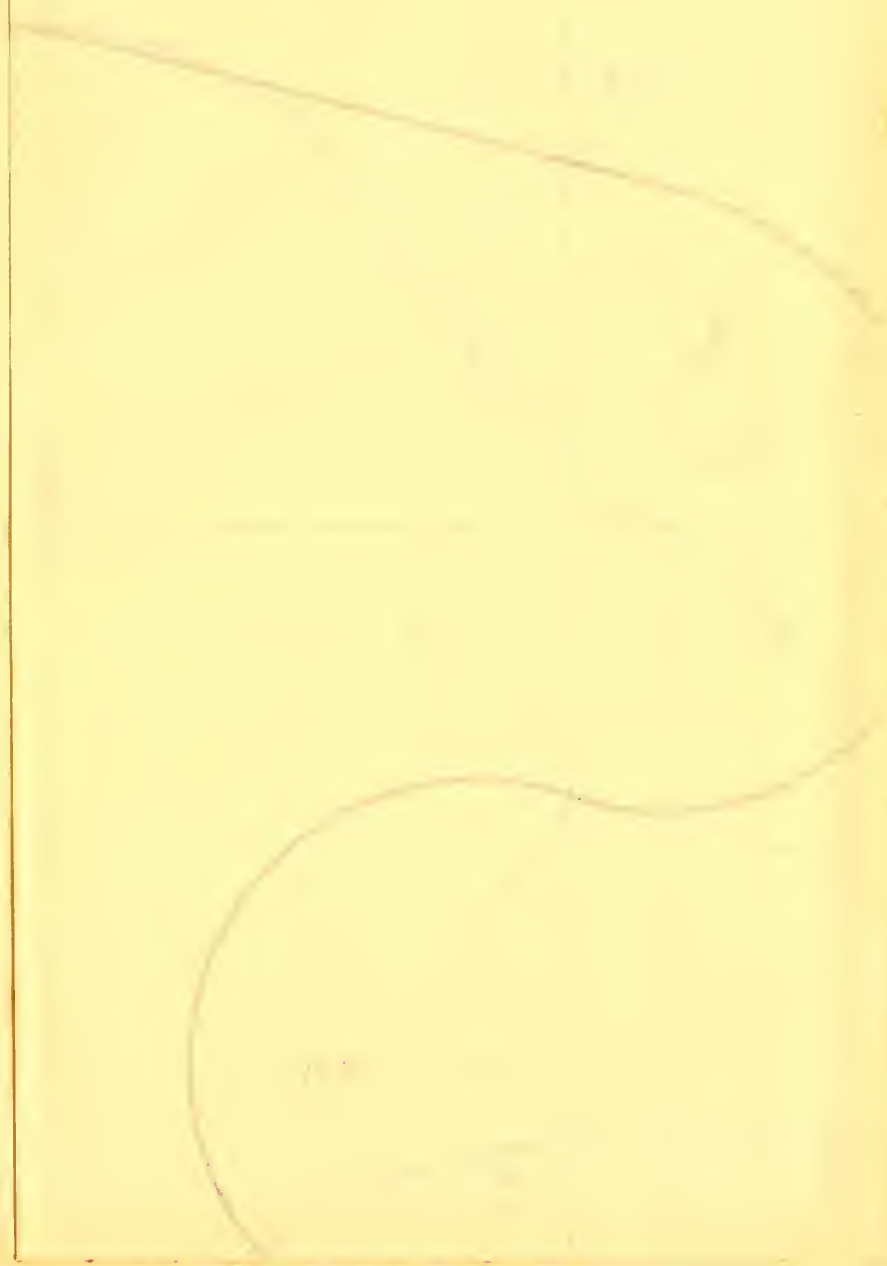


PLATE IV.

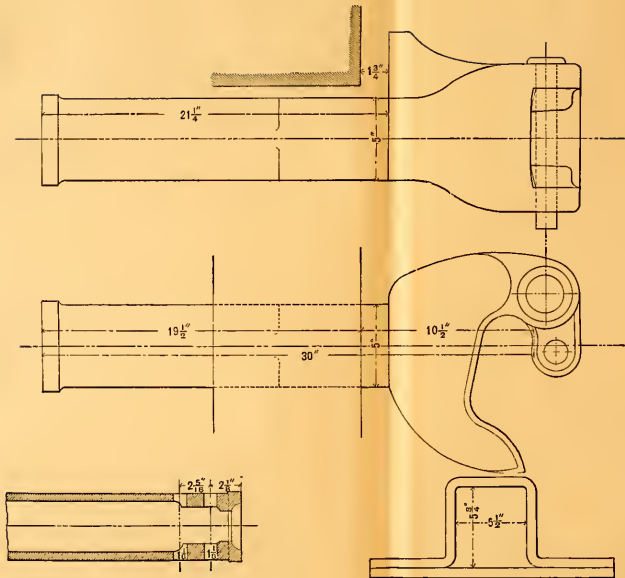




PLATE VI.

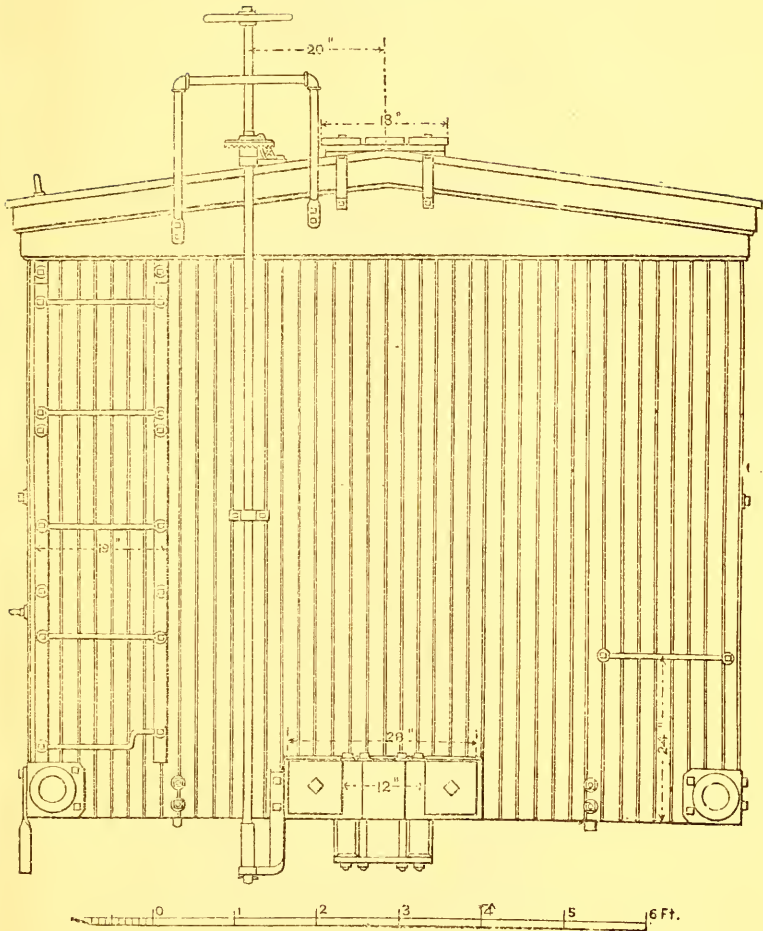


PLATE VII.

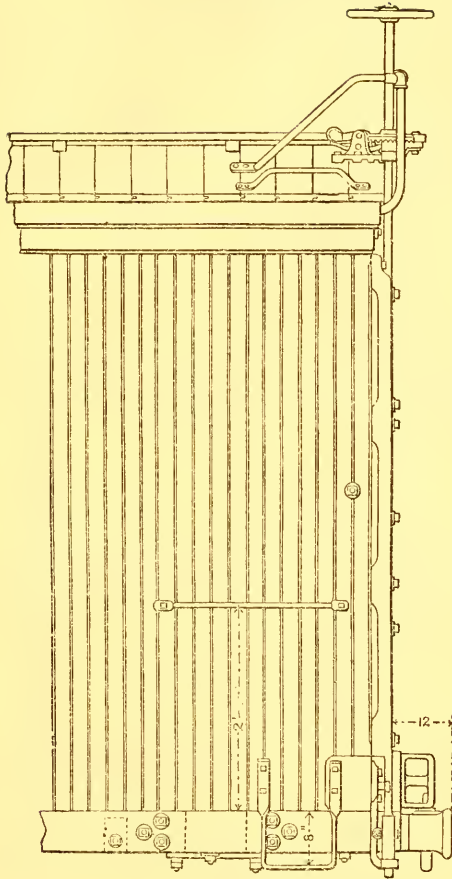
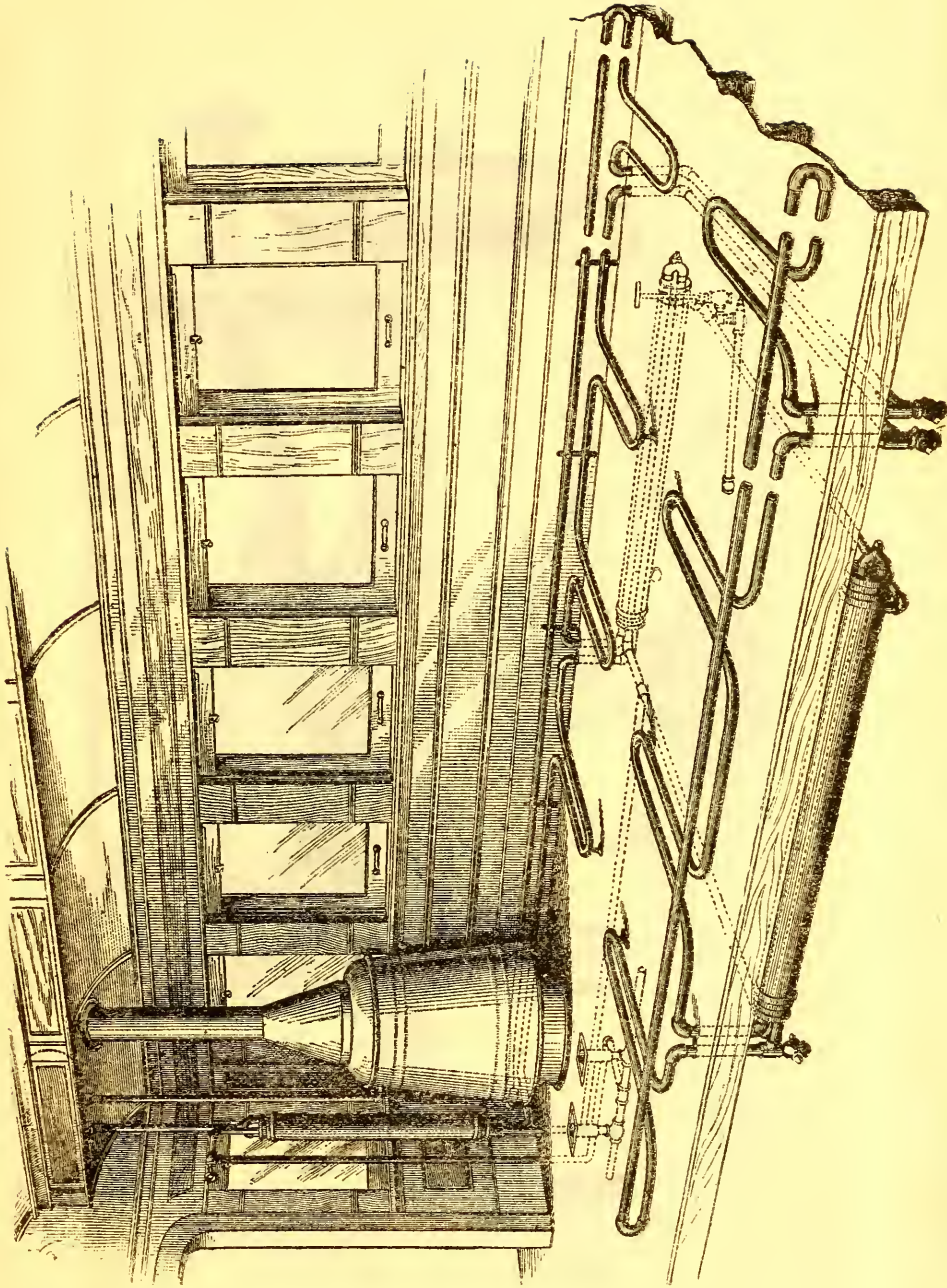


PLATE IX.



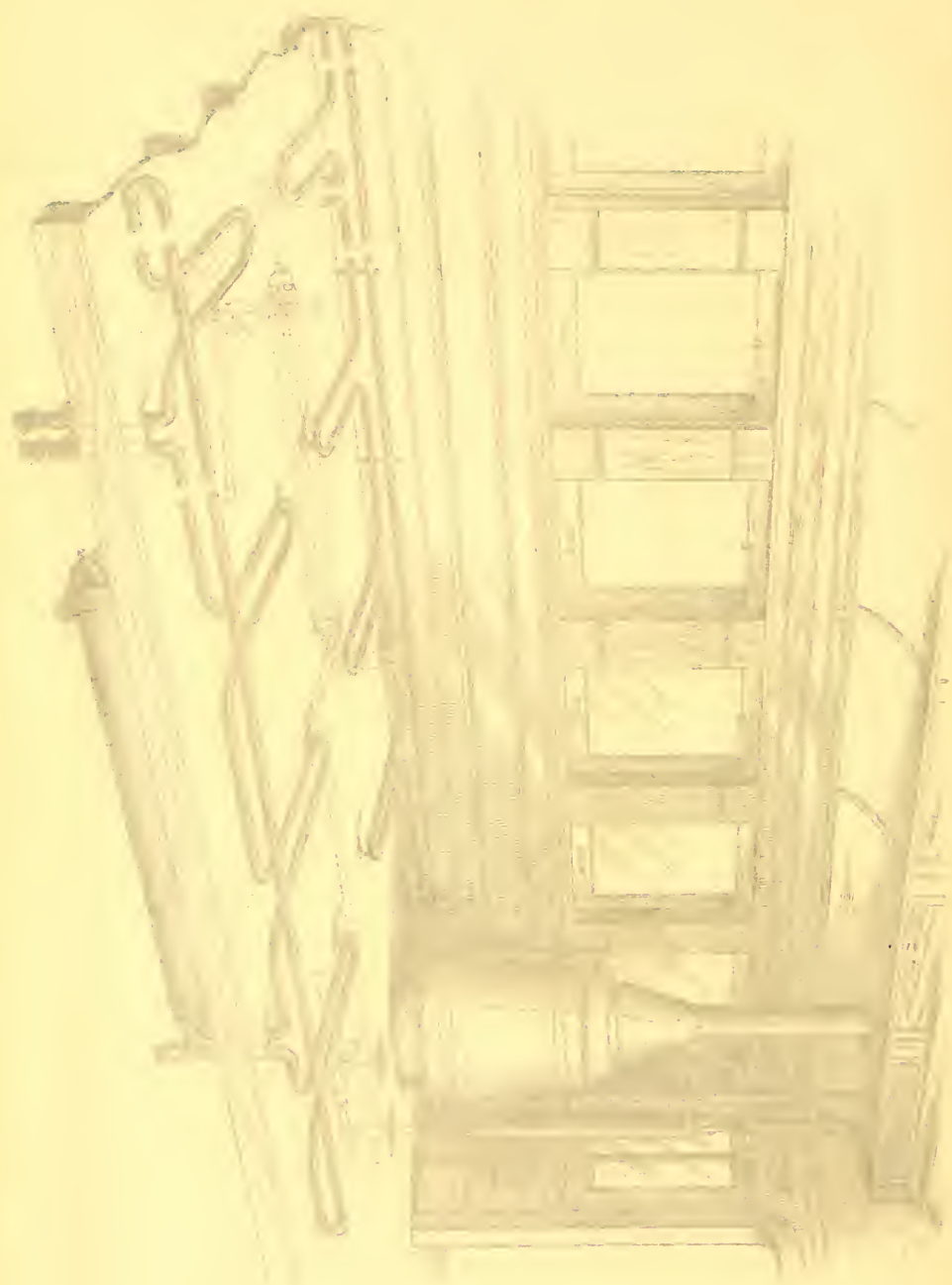
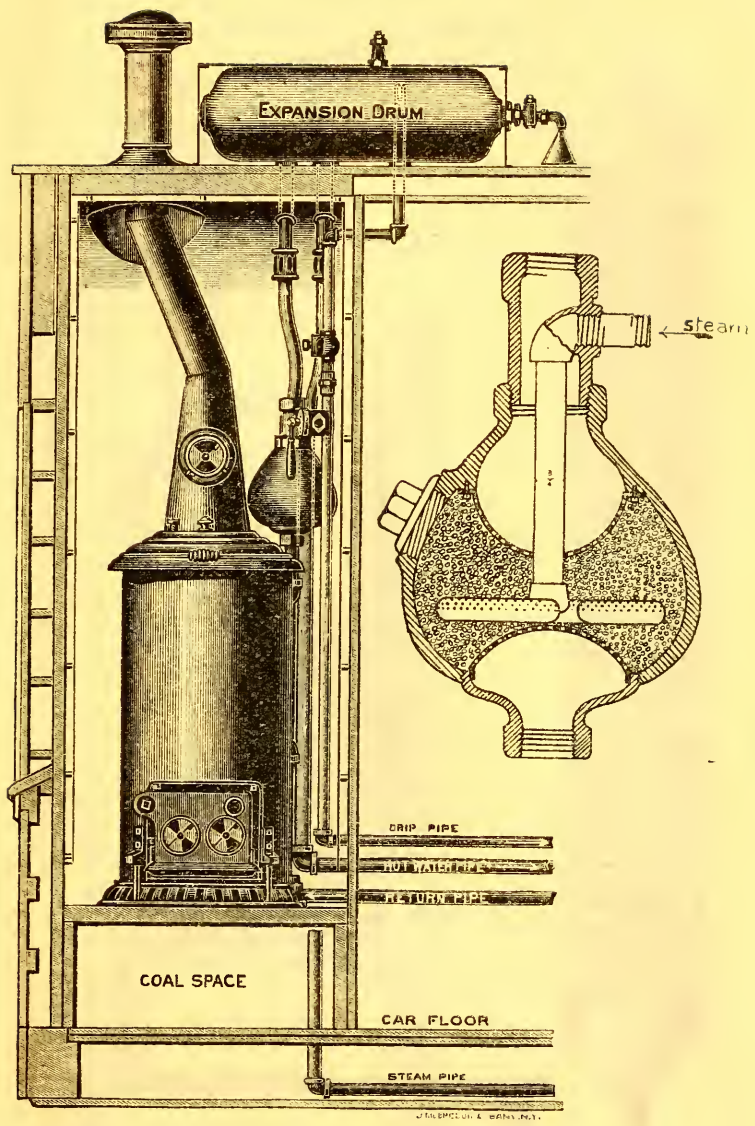


PLATE X.



COMINGLER SYSTEM.

W. E. SPENCER & SONS, N.Y.

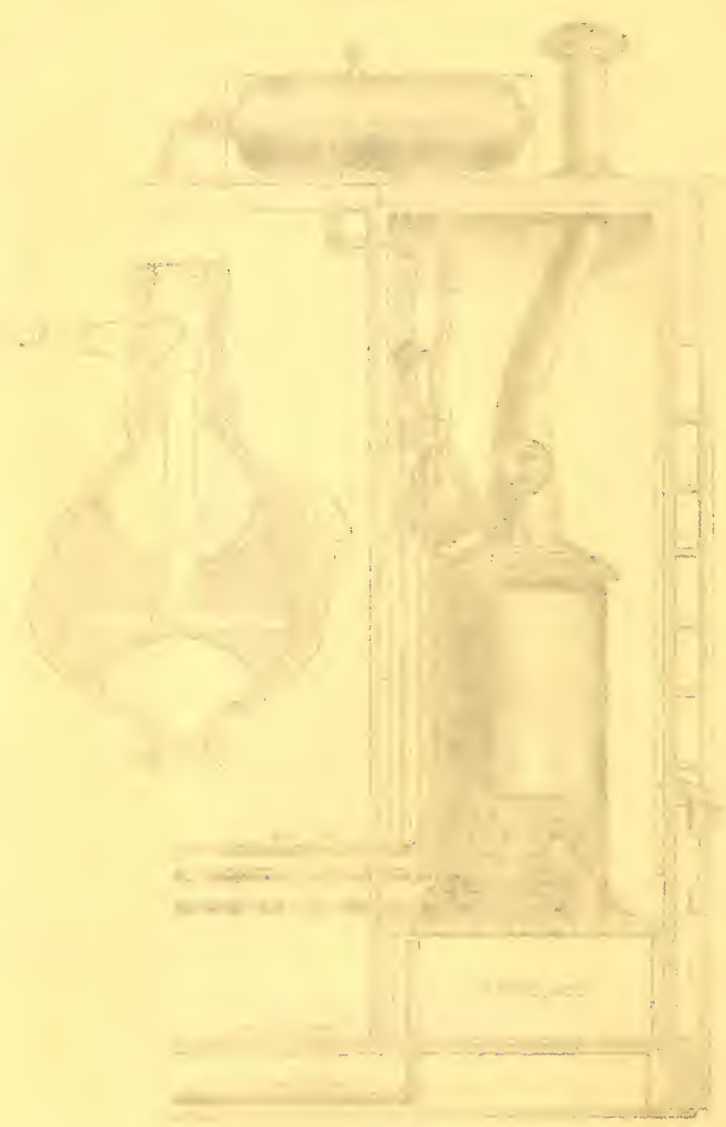
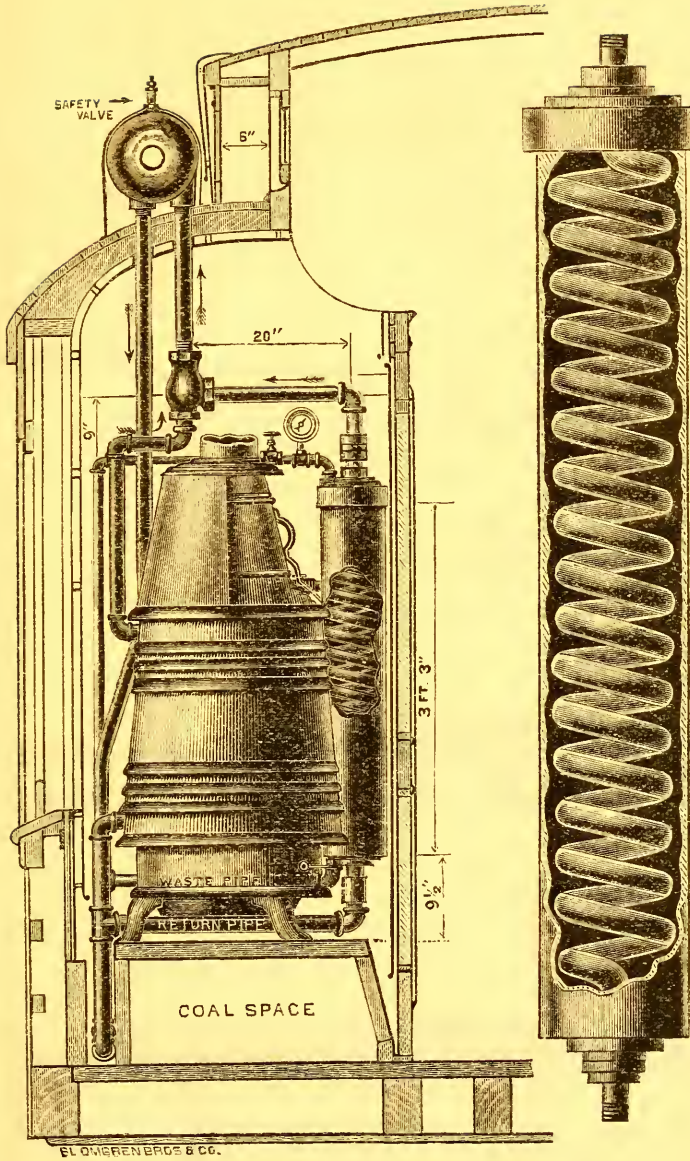


Fig. 1. Steam Engine

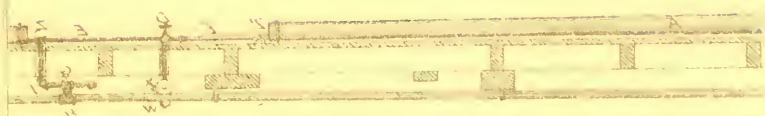
PLATE XI.



COIL DRUM SYSTEM.



PLATE



LONGITUDINAL

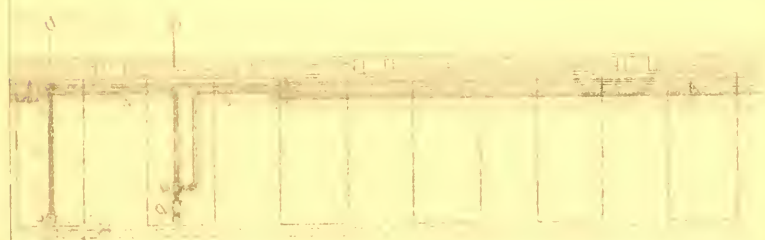
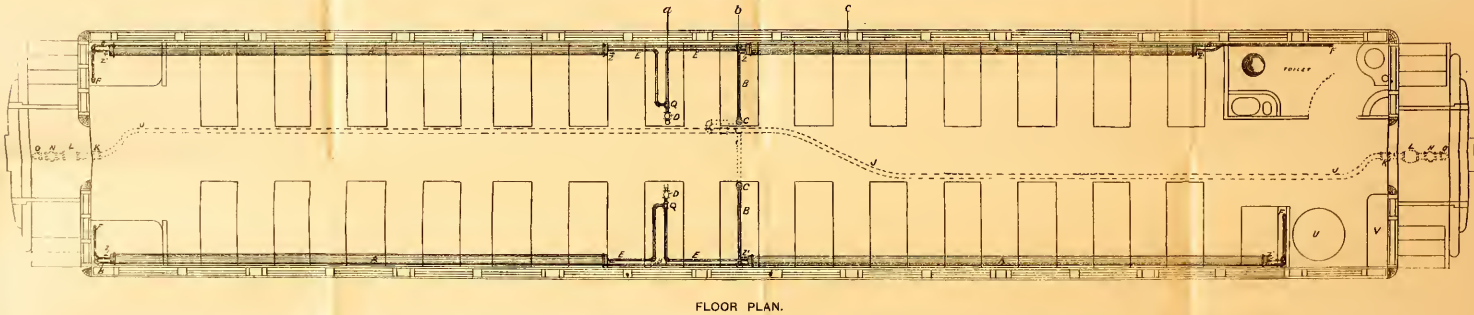
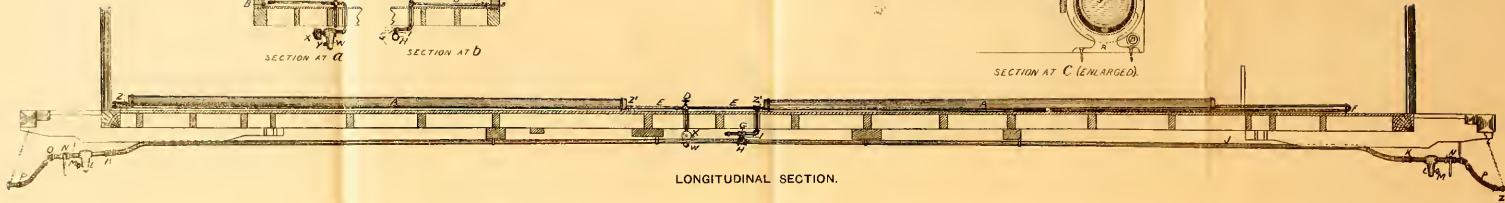
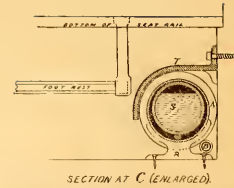
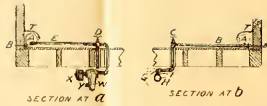




PLATE XII.



GOLD CAR HEATING CO.'S STORAGE HEATER SYSTEM OF WARMING PASSENGER CARS.



PLATE XIII.

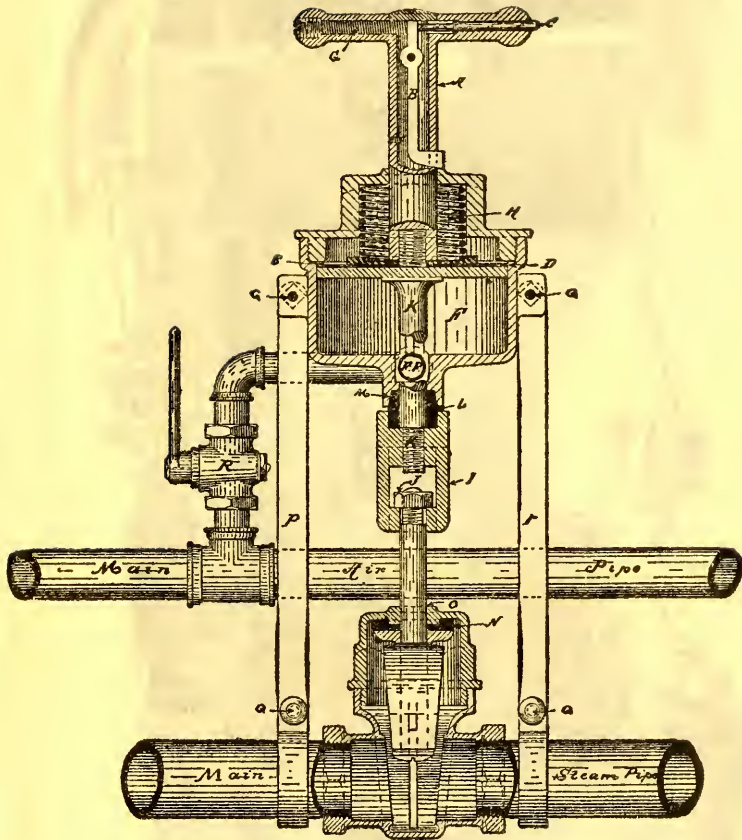


PLATE XIII

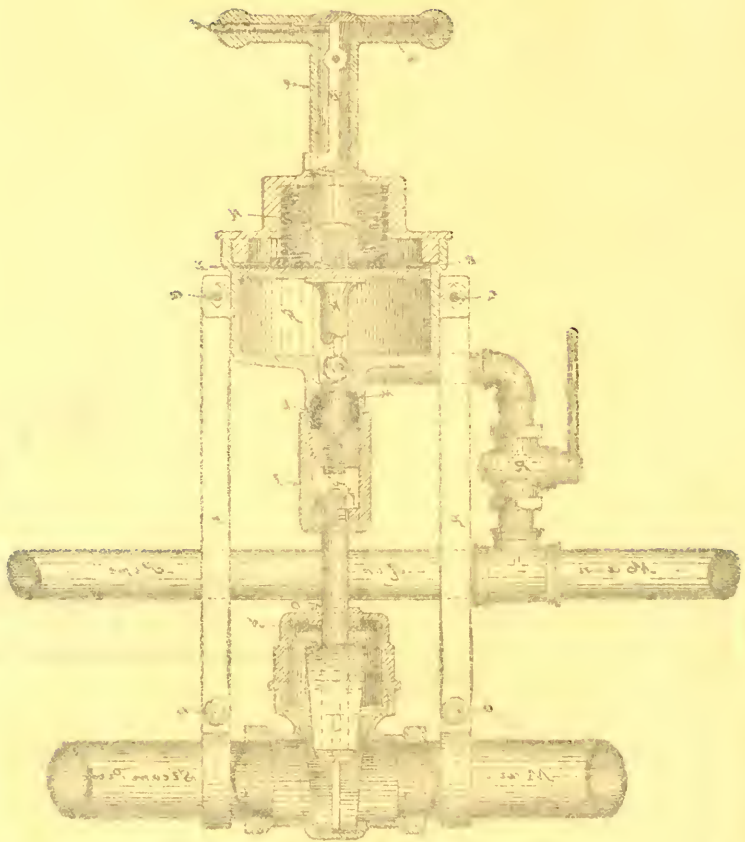


PLATE XIV.

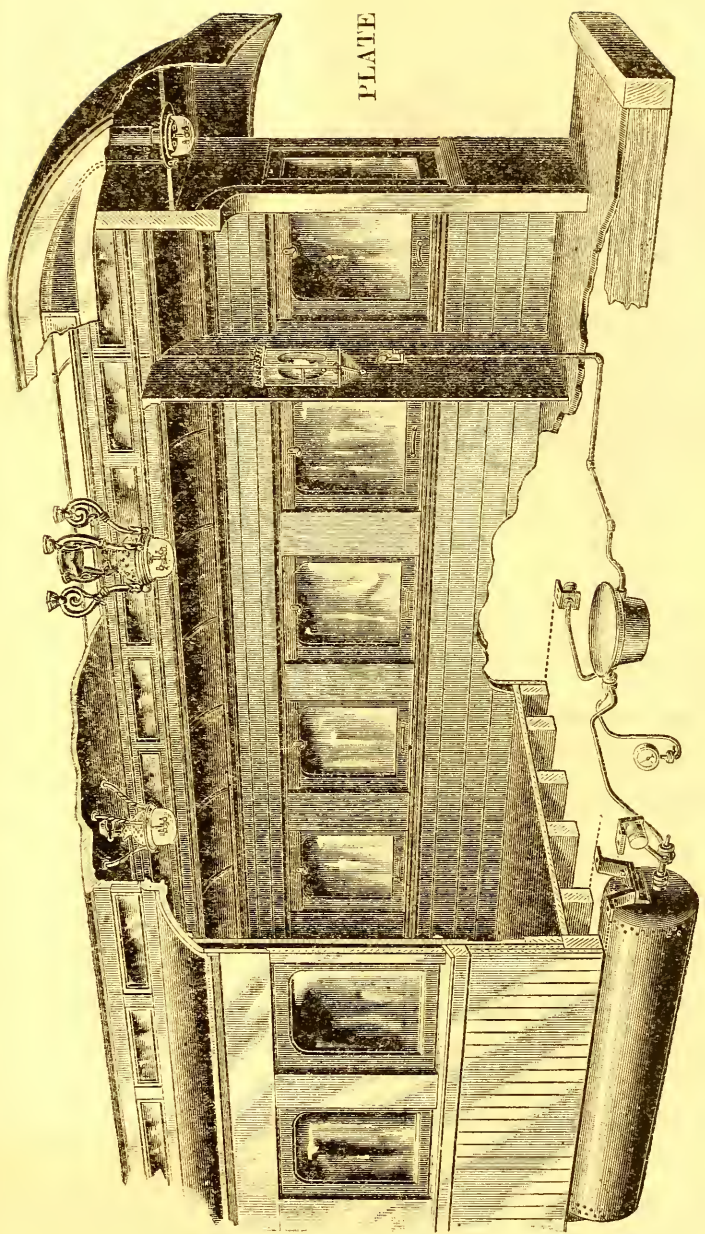
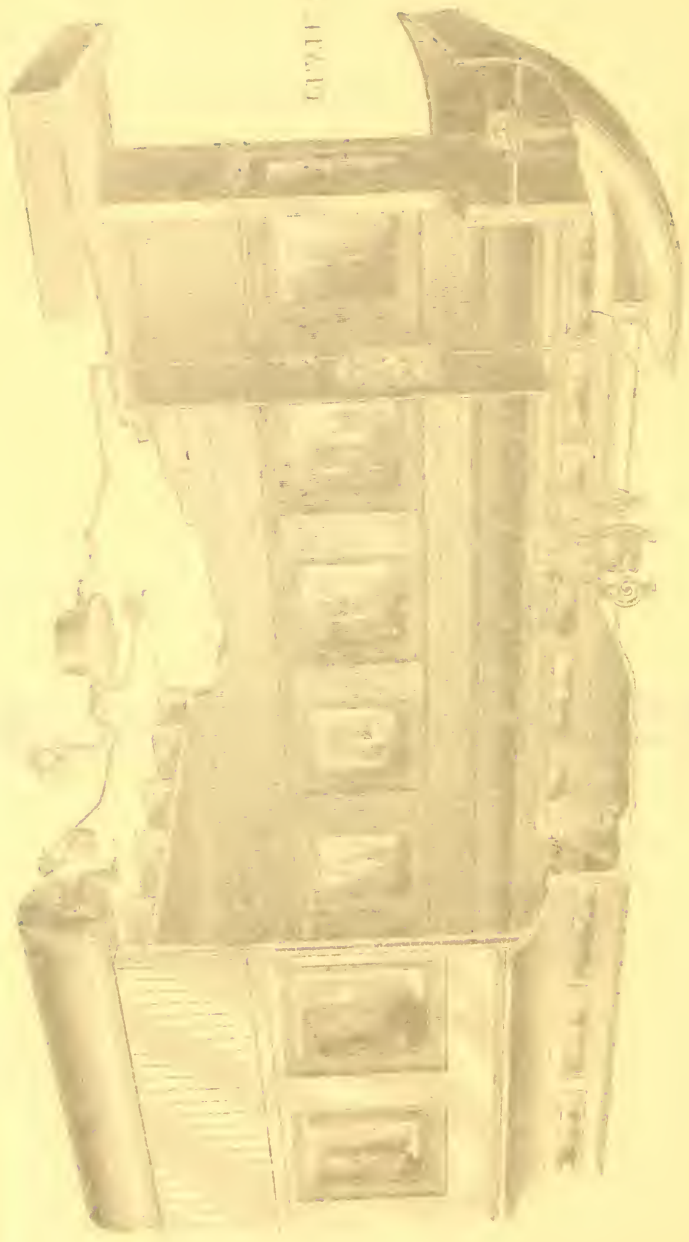
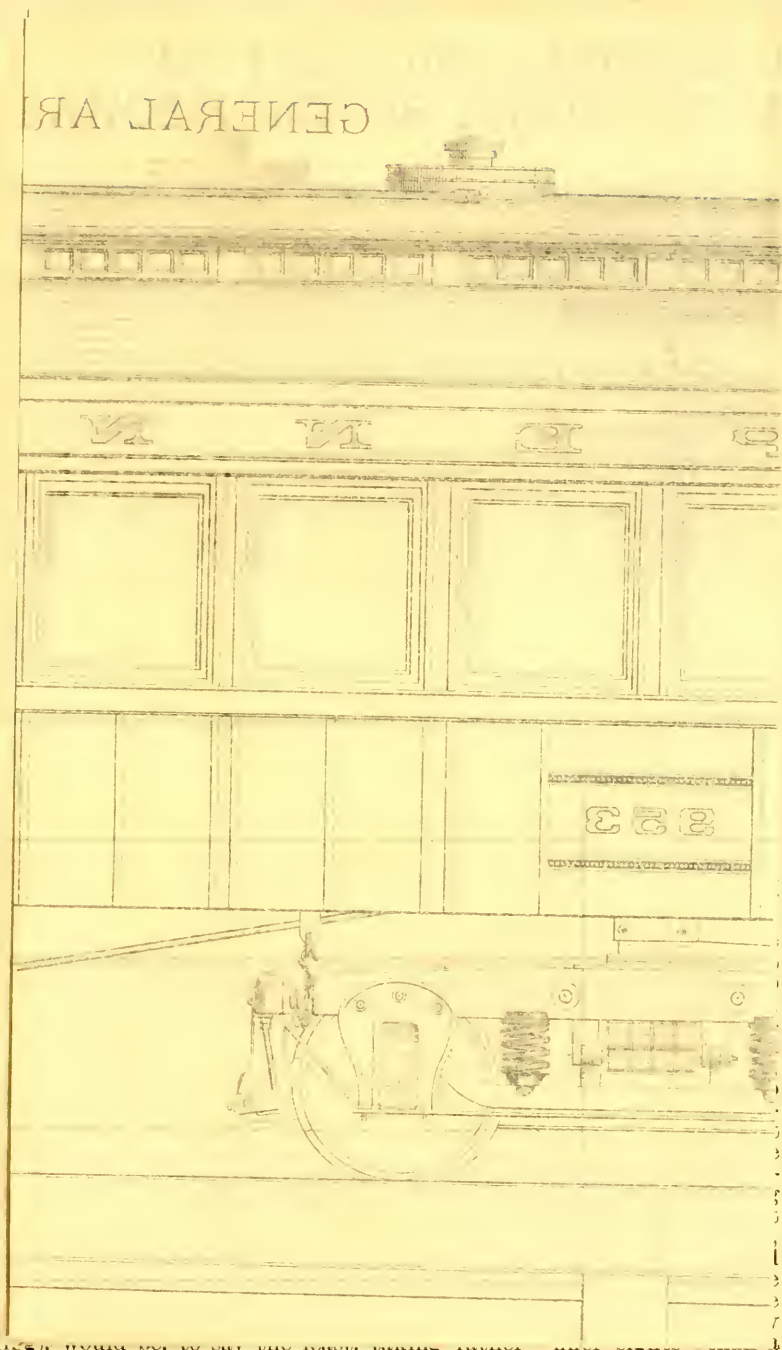


PLATE 100



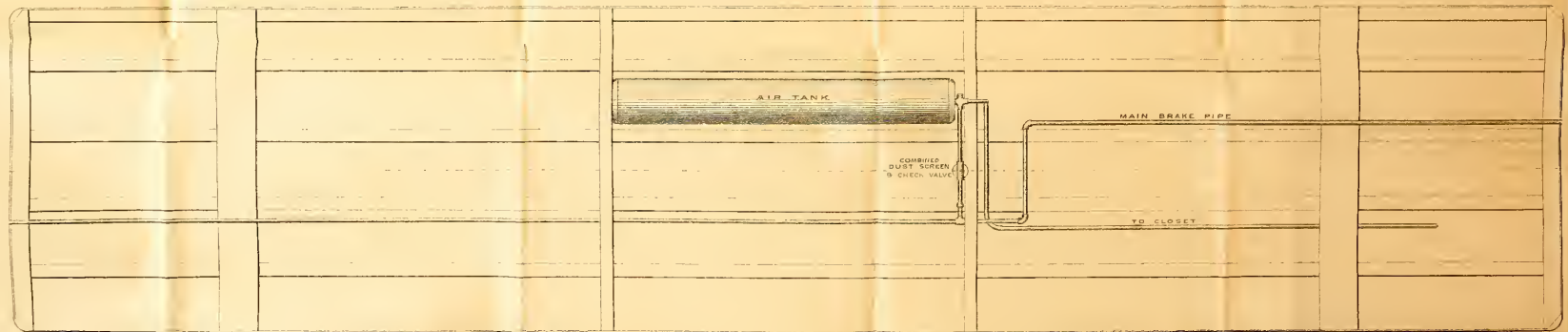
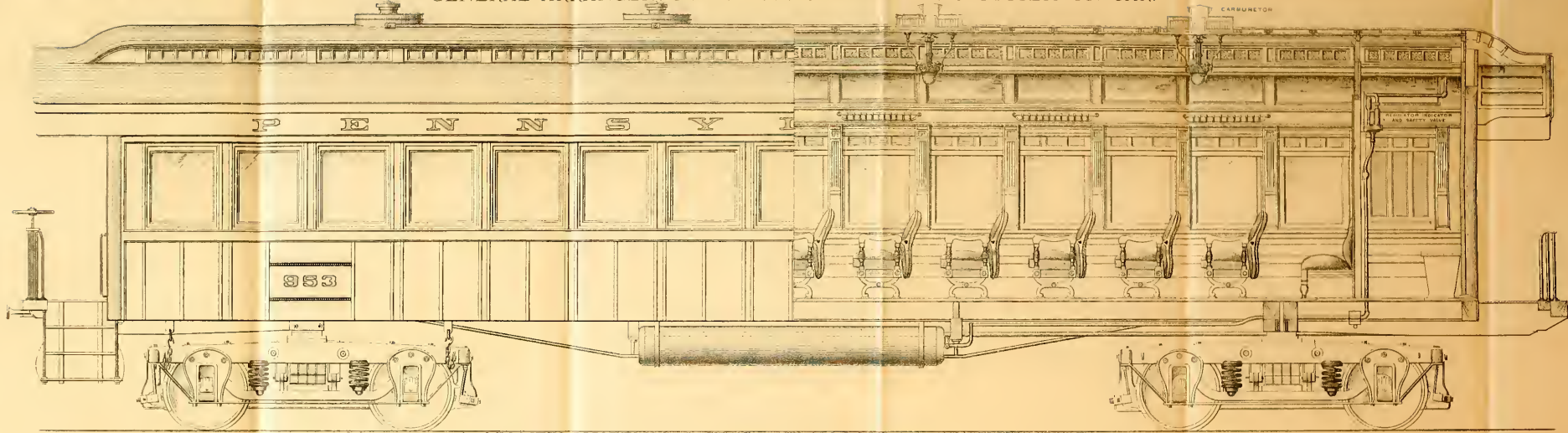


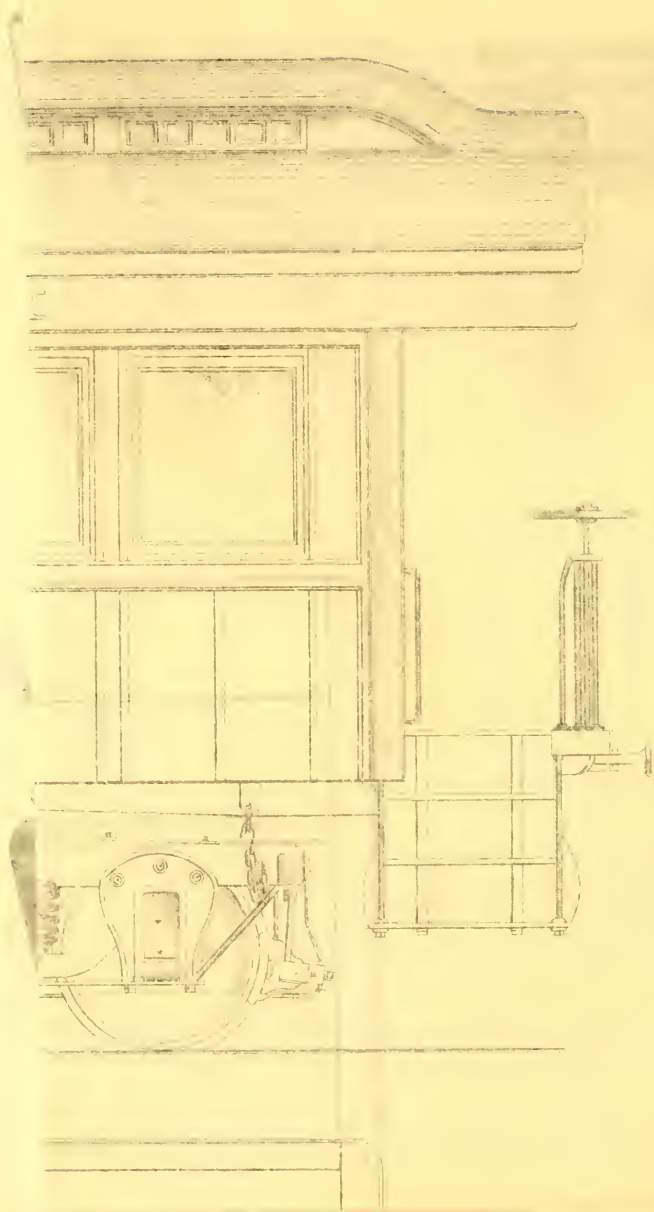
pend. 25, would be, to say the least, being rather
 due regard for substantial would justify.

PLATE III



THE FROST DRY CARBURETOR SYSTEM.
GENERAL ARRANGEMENT OF PARTS OF LIGHTING SYSTEM ON CAR.





No. 2.

PETITION TO DETERMINE PLACE AND MODE OF CROSS-
ING.

The Chicago, Madison & Northern Railroad Co., Petitioners,

vs.

*The Chicago & Western Indiana Railroad Co. and the Pitts-
burgh, Ft. Wayne and Chicago Railway Co., Respondents.*

OPINIONS OF COMMISSION.

Opinion by Phillips, Commissioner :

Petitioner proposes to cross with its two main tracks, the tracks of the respondent companies upon and near Stewart avenue, in the city of Chicago. It alleges that objection to the proposed crossing is made by respondents, and asks that this Commission enter an order under the act of 1889, prescribing the place where and the manner in which said crossing shall be made. Such formal matters are alleged in the petition as bring the case within the statute.

The first point made relates to the jurisdiction of the Commission, which is questioned upon the ground that respondents did not, prior to the exhibiting of the petition, make specific objection to the crossing as now proposed. The statute says: "If in any case *objection be made* to the place or mode of crossing proposed by the company desiring the same, either party may apply to the Board of Railroad and Warehouse Commissioners, etc." Whether objection to the precise proposition now contained in the petition was ever in terms made by respondents or not, there is no doubt at all that objection is now being made to it, and there is further no doubt that objection to any crossing, unguarded by interlocking devices, has all the time existed, whether such objection was ever formally expressed or not. Ordinarily when a defendant concedes the right claimed in a suit, he comes into court offering to perform all that is demanded, and saying he has ever been willing, and thus makes a question as to plaintiff's right to costs. But there can be between these parties no question of costs, because the statute makes petitioner pay the costs, without regard to the fate of its petition. Were this otherwise, that is, were the costs to abide the result of the suit, as in ordinary cases, and were respondents now disclaiming all objection to petitioner's proposition, offering to let the crossing be constructed as proposed, and asking a dismissal at petitioner's cost upon the ground that no objection had ever been made, the position would better commend itself to our ideas of consistency and justice. But to say, "we now object, but did not formally do so before suit, wherefore we ask that petitioner go out of court," (only, it may be added, to come immediately back again with the same proposition now pending), would be, to say the least, taking rather "finer sights" than a due regard for substantial would justify.

The objection to the jurisdiction should therefore be overruled.

It is contended that the crossing as proposed by petitioner will, if constructed, occasion danger and delay, and that the Commission should, as the case stands, do one of two things, namely: First—either refuse the prayer of the petition and deny the crossing altogether; or, Secondly—allow the crossing only upon condition that a system of interlocking switches and signals be put in covering these crossings and such other points in the neighborhood as would necessarily be comprehended in a practical system. It is strenuously urged that this Commission has power to do either of these things.

To these questions a few words will now be devoted.

And first, would it be proper to simply refuse the prayer of this petition, without making any affirmative order for a crossing? The statute says: "After full investigation, and with due regard to safety of life and property, said board shall give a decision *prescribing the place where, and the manner in which said crossing shall be made.*" This is not equivalent to saying, if the proposed crossing is safe and proper the Commission shall authorize it, and, if the contrary, refuse it. Some crossing, in some place and mode, must, in any event, be provided for; and the decision must "prescribe" a crossing, not deny one. It need not necessarily be the same crossing prayed for in the petition, but may differ from that in place and manner, the word "manner" being used in the sense hereinafter assigned to it. We might vary the place of crossing; and we might compel a crossing over or under, or a crossing at a different angle, or a crossing constructed with different frogs or appliances from those proposed. We might, in short, vary the proposition in any particular which refers to the manner of the location of the *tracks* of the one company across the *tracks* of the other company.

But, in this case there is no contention for a crossing in a different place or in a different mode from that proposed. The Commission might, of its own motion, have the neighborhood of the crossing examined by expert engineers with a view to some variation of place or mode. The interests of respondents are, however, a guarantee of as high vigilance to find a better place and mode as would likely be exercised by any experts we could employ; and since no other place or mode claimed to be better is suggested by any of the parties interested, we may safely conclude a grade crossing in the place and manner proposed will occasion as little danger and delay as any we could select; and a decision must, on this point, be made accordingly.

It only remains, therefore, to determine whether the Commission has power to compel the petitioner, or the parties generally concerned, to guard and operate this crossing (which, we have seen, must be authorized), by means of an interlocking system. Is an interlocking plant embraced in, or any part of, a "crossing," as the term is used in the act of 1889?

The question is a new one. In each of the cases arising under this law, previously decided by the Commission, the petitioner stipulated before the Commission to put in and maintain interlocking devices; and the order entered in each case only embodied the stipulation, without the Commission having really considered the question of its power under the statute in the absence of agreement. The question is therefore as open as though nothing had been contained in the former decisions upon the subject.

The respondents in this case have signified their willingness to submit to this Commission on their part the question of interlocking. We might therefore, so far as they are concerned, if petitioner were also consenting, make an order covering the subject by way of arbitration, exercising not the power conferred by statute, but by the parties. But the petitioner is not consenting, and stands upon its legal rights.

It may be premised that an interlocking machine would be of no efficacy, unless provision were fully made for its maintenance and future operation. It would therefore be idle to order the construction of a

plant, unless we have power to go further and order its maintenance, and its use at this crossing, and clearly, if one power exists, the other must exist also, or the law is futile.

It may be further premised that interlocking devices have more particular reference to the speed of travel than they do to safety. The legislature of this State has for the safety of the public, provided by general statute a certain measure of caution to be observed at all railway crossings, which statutory regulation is as follows:

“All trains running on any railroad in this State, when approaching a crossing with another railroad upon the same level, * * * shall be brought to a full stop before reaching the same, and within eight hundred (800) feet therefrom, and the engineer or other person in charge of the engine attached to the train shall positively ascertain that the way is clear and that the train can safely resume its course before proceeding to pass the * * * crossing.”

This precaution is enjoined under a penalty of \$200.00 against the engineer in charge of the train, and \$200.00 against the corporation. Lately, interlocking devices have been brought into use, by means of which the delay from these full stops at crossings may be avoided; and in 1887 the legislature of this State passed a law recognizing these devices, under which law the operating companies are empowered to voluntarily interlock their crossings, and with the sanction and approval of this Commission, run them without stopping. It is the desire for speed, far more than safety, which leads to interlocking. Indeed, it may be questioned whether the use of any device yet invented is more safe than to obey the statutory injunction and come to a full stop.

If, now, we examine more closely this statute of 1887 which did confessedly give to the Commission certain power with reference to interlocking plants, we find that when the legislature had this subject of interlocking before them, and were professedly acting upon it, they gave to the Railway Commission no power to force interlocking upon any unwilling company. Under that act the companies must, by mutual agreement, set up, equip and arrange for the operation of the interlocking plant, leaving to the Commission only the function of inspection and approval. The legislature must have known that there were many old crossings in Illinois where the danger is as great as at the new ones, and the delay, vexatious to travelers. Yet they did not see fit to provide for any other or further interlocking plants than could be mutually agreed upon by the companies concerned. Had the legislature intended to invest this Commission with power to guard the public against danger and delay by means of interlocking devices, is it not reasonable to suppose they would have conferred that power clearly and unmistakably, and have done so in the act upon that particular subject, instead of leaving so important a power to be gathered incidentally, and purely by implication, from an act embracing a wholly different subject matter? And would they not, while about it, have made the power broad enough to include other crossings besides newly constructed ones, which other crossings are as much within the mischief as any; and their equipment could surely as well be paid for by old established companies as that of new crossings could by new and presumably weaker companies?

Nor is this all. This act of 1887, while giving the Commission power to approve crossing devices voluntarily put in, confers no power whatever to compel their continued use and maintenance. The companies which mutually agree to interlock a joint crossing, may mutually agree to abandon the system, and go back to the statutory method of coming to a full stop, and this Commission could exercise no control over their free choice in that particular. It would be interesting to know how we would justify the exercise of a greater power under the act of 1889, which says no word about interlocking, than we could exercise under the act of 1887, which does professedly embody the legislative will upon that subject. And, as before observed, unless we can compel the maintenance and use of a plant, to order its construction, at a cost of many thousands of dollars, would be sheer idleness and folly.

Such being the state of the law when the act of 1889 was passed, let us now look at that particular act, and see if it confers any such power as is here claimed, either expressly given, or necessarily implied.

The most careful reading of the statute reveals to me no power whatever, over the subject of interlocking. The act meets only the case of how one company may cross "*with its tracks* the main lines of another railroad company." The confusion has arisen entirely through a misapprehension of what is included in the word "crossing." It is one thing for a company to cross the line of another "*with its tracks*," and another thing to cross the same point afterwards *with its trains*. The manner in which the tracks shall cross is one thing, and the manner in which trains may cross, or pass, and how they shall be operated, is quite another thing. When we speak of a railway crossing, we properly refer to the position of the tracks of two roads, and not to the passage of trains.

If the act is read with this distinction clearly in view, there seems to be no doubt as to its meaning. The title of the act, which may properly be referred to aid in a doubtful construction, is in these words: "An act in relation to the crossing of one railway by another, and to prevent danger to life and property *from grade crossings*." Clearly, "the danger to life and property" which was to be prevented was that arising "from grade crossings", as distinguished from those crossings which are not at grade; that is to say: crossings either over or under, and nothing further than this was in the mind of the man who drafted this title.

Passing a step further we find the general declaration that a company "desiring to cross with its tracks the main lines of another * * * shall *construct the crossing* at such place and in such manner as will not unnecessarily impede or endanger the travel, etc." It does not say the crossing shall be so guarded after construction as to secure reasonable safety and expedition, but shall be so "constructed" in the first instance as to secure that end. Unless the construction of a crossing can be said to include also both the construction and the operation of an interlocking plant, it is difficult to see what authority so far appears to do the acts contended for.

The same may be said of that clause of the statute which directs a decision "prescribing the place where and the manner in which said *crossing shall be made*." Here is nothing affecting the manner in which a crossing shall be guarded or the manner in which trains shall be operated across it, and it is a "crossing" that is to be "prescribed" and "made" and not an interlocking plant.

Section 2 of the act provides that "the railroad company seeking the crossing shall in all cases bear the entire expense of"—what? An interlocking plant to regulate the operation of trains at the crossing? Not at all. Shall "bear the entire expense of the construction thereof." How does the Commission from this derive the power to make petitioner bear another and much larger expense, not arising from the construction of the crossing proper, but having relation entirely to the manner of operating the trains of the companies?

It is agreed that an interlocking plant, to be effective at this point, must embrace certain crossing points on the Chicago & Alton and the Santa Fe tracks and right of way. Mr. Thomas, general manager of one of the respondents, testified on this point as follows:—

"Q. At Stewart avenue could an interlocking system be put in that would be safe, that did not include all of the tracks at that point?"

"A. It should include all of them."

"Q. That would include what tracks?"

"A. The Madison & Northern, Ft. Wayne & Chicago, Alton, and Western Indiana, and I think the interlocking of the lead track of the Santa Fe."

The Alton and Santa Fe Companies are not before us, and not parties to this proceeding. How, therefore, could we make an order affecting their property and controlling the operation of their trains, which would be

binding upon them? It involves only an elementary principle to say that parties who have not had their day in court cannot be bound by the judgment, even where the subject matter of the proceeding is within the jurisdiction. But where jurisdiction of parties and subject matter are both wanting, the very suggestion of such an order becomes little short of preposterous.

To further illustrate the want of power in the premises, suppose the respondent companies were consenting to nothing in this case, did not even come before us with any suggestion, as would be their undoubted right, and we upon looking over the crossing proposed should believe it improper unless protected by interlocking, could we in such a case make an order which would contemplate the taking or use of respondents' grounds, by the location on them of pipes, boxes, wires, signals and perhaps a tower house, some of the appliances extending thousands of feet upon their lands, the use of which being imperatively commanded, would materially and permanently affect the operation of their trains, and all without their consent? Certainly we would have no such power. And it does not even tend to answer the difficulty to say the order would in that case be for the benefit of respondents. Parties have some right to judge for themselves what is beneficial to their property, and those who would take that delicate function from them must show undoubted legal authority.

That this subject is one within the power of constitutional police regulation by the legislature is not questioned, but the legislature must act before the Commission can act. The case before us cannot be decided upon sentimental notions as to what the law ought to be, but must be met upon the plain issue of what the law in fact is. Nothing in the act of 1887 or 1889 empowers this Commission to compel interlocking, in the absence of the mutual agreement of the parties, nor can any such power be said with reason to be implied as being necessarily involved in the carrying out of the objects of either of those statutes. The precautions for the public safety which are put within the discretion of this Commission by the act of 1889 are such and only such as arise out of a choice of the different ways in which the crossings of railway tracks proper may be constructed, the most obvious distinction being between those which are built on a level and those which are separated, one passing over the other. The question why a larger power has not been conferred may properly be addressed to the legislature.

It is my opinion an order should be entered prescribing a crossing in the place and manner designated in the petition.

Crim. Commissioner—I concur in the conclusions reached in the foregoing opinion.

Wheeler, chairman, dissenting.

I present my views in the case under advisement with great reluctance, but, being unable to reconcile the opinion of a majority of the Commission with the facts and law in the case as I understand them, I am led to dissent from certain of their findings for the following reasons:

My interpretation of the statute under which this hearing is held gives it a broader scope, and a more extended jurisdiction, to the Commission than my associates allow, and, I may add, broader and more extended than the learned counsel for the parties to the controversy admit.

The right of the petitioning company to cross the tracks of the respondent companies at some point is conceded, and no other point being suggested, it may be assumed that the place proposed is the most feasible and the best that can be selected. Therefore, "the place where said crossing shall be made" may be considered established. Thus far the Commission seem to be of one opinion.

The vital point in the controversy, and upon which our views differ, is found in "the manner in which said crossings shall be made." What does the word "manner," as used in the statute, mean? How far does the

question of "manner" extend? Must we confine it to that portion of the respondent companies' "main lines" actually inclosed by the petitioning company's tracks?

The statute under which this case is brought is somewhat obscure, inasmuch as it does not specifically define the meaning of the term, and upon the conclusion reached depends the extent of the jurisdiction of the Commission. The cost of constructing the crossing is provided for in the act; aside from that, the only reservation is found in the question of "damage," which, with the extent of jurisdiction, covers the entire matter in controversy.

The enacting clause of the statute clearly indicates that the intent of its framers was "to prevent danger to life and property from grade crossings," and in its first section it is expressly stipulated that the Commission shall have "due regard to safety of life and property," and "shall prescribe the manner in which said crossing shall be made." Can there be any doubt about the intention of the law-making power? The question of safety is made paramount—the first to be considered—one that must not be lost sight of; therefore, I conclude that a reasonable construction of this clause places all matters pertaining to the question of safety within the jurisdiction of the Commission, including the side tracks, switches, turn-outs, etc., of all companies adjacent to and affected by the crossing. All of these, in my opinion, are covered by the statute, and must be subject to the restrictions contemplated by the law.

Assuming this view to be correct, do we not fail in our duty if we ignore the plain intent of the law and allow a crossing in a locality teeming with human life, without such safety appliances as will reduce the element of danger to a minimum?

But, it is argued, safety appliances concern only the operation of railroads, a question not referred to this Commission by the act, therefore it is outside of and beyond our jurisdiction. In answer, permit me to say that while I claim no right to impose conditions on, or in any manner interfere with, any crossing constructed or located prior to the time the present act went into effect, i. e. July 1, 1889, I am clearly of the opinion that we not only have the right, but it is our solemn duty, to require proper safeguards for public protection in all cases arising subsequent to that date, failing in which, the community will hold us responsible for any disaster that may occur.

Again, we are told that interests other than those of the parties to this case will be disturbed by the construction and operation of safety appliances, interests not submitted to us for adjudication, and any decision of this Commission affecting such interests will not be recognized as binding by the parties thereto. In reply, it may be said that, while all parties which may be directly or indirectly interested in the decision of the Commission have an undoubted right to a hearing, our authority to act in the premises is not abrogated by their failure to appear, and our duty to render a decision covering the whole question remains whether they do or do not appear.

How far the question of damages extends is, perhaps, more difficult to determine. It may not, however, be unreasonable to claim that it covers only such property as is rendered wholly or partially useless by the tracks of the petitioning company and the necessary safety appliances. In my opinion it does not include the cost of such appliances, their operation or maintenance, these being an expense, not a damage. My conclusions therefore are:

1st. The law as enacted gives the Commission full jurisdiction over all questions pertaining to crossings at grade, cost of crossing and damage excepted.

2d. The Commission has the right to name the place of crossing, and the right to prescribe the manner as well.

3d. In prescribing the manner, the Commission has the power to require such appliances as will insure a reasonable degree of safety to the public.

4th. The cost of constructing, operating and maintaining the necessary safety appliances does not fall under the question of damage.

5th. The Commission has no right to grant the request of the petitioning company without requiring such safety appliances as will render the crossing practically safe.

The following order was entered by Commission:

CHICAGO, MADISON & NORTHERN R. R. Co.,	} <i>Petition to determine place and mode of crossing.</i>
VERSUS	
CHICAGO & WESTERN INDIANA R. R. Co. AND PITTSBURGH, FT. WAYNE & CHICAGO RY. Co.	

In the matter of the above petition it is decided and ordered by the Commission that petitioner have leave to cross with its tracks the main lines and tracks of the respondent companies at the place and in the manner designated in its petition, and as shown upon the plat attached to said petition.

SPRINGFIELD, ILLINOIS, April 17, 1890.

No. 3.

PETITION FOR LEAVE TO CROSS.

St. Louis & Eastern Railway Co., Petitioner.

vs.

Toledo, St. Louis & Kansas City Railroad Co., Respondent.

Opinion by Phillips, Commissioner:

This is an application of the St. Louis & Eastern Railway Company for leave to cross with its proposed track the track of the Toledo, St. Louis & Kansas City Railroad Company at a point about three-quarters of a mile east of the station called Peters, in Madison county, Illinois. Respondent resists, alleging that a crossing at the point proposed by petitioner will "unnecessarily impede and endanger the travel and transportation" upon respondent's road.

Respondent, however, offers to allow a crossing at the point proposed, provided petitioner will at its own expense set up and maintain interlocking at such crossing; or it offers to permit petitioner to cross without interlocking at a point a little over a half mile further west than the place proposed. Petitioner declines both these offers and insists upon the crossing proposed without interlocking.

Respondent alleges in its answer "that the proposed crossing is at the foot of a working grade of from thirty-five to forty feet to the mile; that the result of such crossing will be to compel all trains upon the Toledo, St. Louis & Kansas City Railroad to stop at the foot of such grade, and thereby lose the momentum necessary to carry trains of ordinary size over such grade;" that a crossing at this point will necessitate diminishing the train load on respondent's road by several cars, thus increasing the expense of operation, as well as delaying and interfering with traffic; and that its management had already decided upon a change of grade at the proposed point of crossing, rendered necessary in the economical operation of its road, which road, it is alleged, is in the course of being reconstructed, this grade being among the last to be changed.

The evidence on which we are asked by petitioner to order this crossing is meager and unsatisfactory. Two witnesses testified for complainant, stating in terms (without objection) that a crossing at the point proposed "would not unnecessarily impede or endanger the travel and transportation upon respondent's road," and this general conclusion was, in a manner, supported by further expert theoretical testimony given by the same witnesses.

The testimony does not inform us as to the actual state of traffic on respondent's road, how many and what kind and weight of trains it runs, or any other of the many specific facts which might readily have been made the subject of observation and have been put before the Commission. Neither did

any witness who had had actual experience in handling engines, or in hauling trains over grades of this kind, testify before us. We confess to some prejudice in favor of the notion that the best way to prove how the running of freight trains is affected by the grade at the point of proposed crossing, and what freight locomotives can haul there, and what speed and "momentum" must be acquired at that point to insure the ascent of the grade eastward, would be to show what is actually done by the freight trains that daily pass this point and ascend this grade. No evidence on this line was offered.

The expert testimony offered by complainant was controverted by the chief engineer of respondent, whose testimony substantially and very plausibly supports the objections to this crossing stated in the answer of respondent.

The petitioner held the burden of proof and ought to have made clear, by a preponderance of the evidence, the fact that this crossing will not unnecessarily impede and endanger respondent's traffic. This could not be done by witnesses swearing to that *conclusion* in terms as they did. The general conclusion as to the propriety of the crossing is for the Commission, not for witnesses. Actual facts should have been placed before us on which we could judge.

The railroad first upon the ground gains important rights by the fact of its presence. The use of its line ought not to be lightly interfered with. It was undoubtedly in part the object of the act of 1889, while insuring safety to persons and property transported, to protect established companies in the enjoyment of their rights. One way of arriving at the propriety of a proposed crossing would be to consider whether the line to be crossed would have been built as it is as respects grades, curves, etc., had those building it known a crossing was to be made in the place proposed. Such a test might not be decisive, but is worthy of consideration in every case.

The act of 1889 took away the arbitrary power of new roads to locate crossings at will, and its effect is to put upon them the burden of showing that the crossing will not "unnecessarily" impede and endanger the travel and transportation upon the road crossed. They should point the Commission a clear way to order the crossing desired with proper regard to existing rights and uses. This we cannot say has been done in the case before us. Giving due force to the testimony, the question remains in serious doubt.

In this case it appears from an unchallenged estimate that the increased expense of placing the crossing at the point a half mile further west, as contended for by respondent, would be only \$8,594; unless petitioner should be obliged to purchase nine acres of ground between its right of way and the creek on the south, in which case the cost would be increased to \$10,844, estimating this land at \$250 per acre, which is, it seems to the Commission, a very liberal if not extravagant allowance. Thus, we see, the change contended for by respondent does not involve a large outlay by petitioner, and we are unwilling to permanently obstruct or cripple an established line, or take a serious chance of doing so, where the expenditure of a few thousand dollars will remove all objections.

The petitioning company acquired no equities in the proposed crossing by prematurely grading its road to the point. The correspondence submitted shows the officers of respondent never, expressly or by any fair implication, consented to the crossing unless petitioner would interlock it in the manner stated in the form of contract submitted by them. This is not a case like that of the Chicago, Madison & Northern, where the right of way was acquired and eighty per cent. of the work done before this crossing law was passed. If petitioner, with the law before it, and without either an order of the Commission or the consent of respondent, chose to grade its road for a crossing, it did so on its own responsibility, and at its own peril.

Under the evidence as it stands before us, we are unable to find that a crossing in the place proposed will not, in the language of the act, "unnecessarily impede or endanger the travel or transportation upon the railway crossed."

DECISION.

It is therefore decided and ordered that the petitioner, the St. Louis & Eastern Railway Company, have leave, and it is hereby empowered, to cross with its track the main line and track of the Toledo, St. Louis & Kansas City Railroad Company at grade at a point in the N. E. quarter of the N. W. quarter of Section 4, Town 3, North Range 8, West of the 3d P. M., 2,940 feet west of the point named for said crossing in the petition filed in this case.

The point of crossing hereby established is marked by the letter "B" upon the plat submitted by petitioner and now with the files in this cause, to which plat referenee is hereby made for greater certainty.

It is ordered that petitioner pay all costs and expenses of the Commission incurred under its petition.

SPRINGFIELD, ILLINOIS, January 7, 1891.

No. 4.

EXTORTION AND UNJUST DISCRIMINATION.

COMPLAINT.

Joseph Taylor, of O'Fallon, Ill., Complainant,

VS.

The Ohio & Mississippi Ry. Co., Respondent.

OPINION OF COMMISSION.

Opinion by Phillips, Commissioner:

Complainant, Joseph Taylor, in 1888, opened a coal mine in St. Clair county, some twelve miles from East St. Louis, between the stations O'Fallon and Alma, and a distance of 2,800 feet north of the line of defendant's railroad. While the shaft was being sunk, Taylor applied to president Barnard, of the railway company, to put down a track from the railroad to his coal shaft, which the president declined to do. The negotiations were partly oral and partly by correspondence.

On July 11, President Barnard wrote Taylor:

"How do you propose to get the coal, provided the track is laid from your mine, to the tracks on the company's right of way? Have you counted upon the company being willing to make the delay and the extra run without charge, or do you propose to haul it by mules or horses, or otherwise." Also, "With satisfactory assurance that a much increased business can be secured at such rates as we can get, or are willing to make, on coal, I shall be able to determine to what extent we can afford to put money into side tracks to so aid the development of your property."

On August 13, President Barnard again wrote Taylor:

"I have to advise you that this company will only undertake to put down such tracks as may be on its right of way. If you wish to reach your shaft, therefore, you had better make arrangements to procure rails, spikes, ties, etc., for the laying of the tracks yourself. Another thing to be considered will be the getting of cars to and from the mine, as we cannot afford, with the low rates that we get from Alma to St. Louis, to stop trains on the main line and run engines a half a mile from it to get loads and place empties."

And on November 13, Taylor wrote Barnard:

"In regard to grading, etc., and side tracks at my mine would say that the grading, etc., is about completed, and that I have several teams at work in order to have all in readiness. Wish you would rush the matter and have the material on hand at the time. Hope you will use every effort to have the rails, etc., on the ground without delay, as I am really anxious to have it done as soon as possible, as will soon be to the coal."

To this Barnard replied November 14, "I have your letter of the 13th, inst., but cannot understand what you mean. I told you when you were here I would have Mr. Stevens endeavor to find out what you could get rails for and let you know. I told you also where I thought you could buy. This company has not undertaken to procure material for your track, and not only that, I advised you about where you could get them yourself, and I think Mr. Stevens may have told you (I am not sure of this), where you could buy and at what price. I told you we would only lay the track necessary for the connection so much as run on the O. & M. right of way. You cannot have misunderstood this."

Taylor subsequently at his own expense built his track, with some advice and help from the company's engineer. The track thus built extends from the company's main track and at substantially a right angle therewith, a distance of 2,800 feet to the mine.

There was other correspondence and negotiations, but the above suffices to show the circumstance under which Mr. Taylor's track was built, and the connection made with the defendant's road.

About three miles east of Taylor's mine, and further from East St. Louis, are the Consumers' and Crowson's mines, both of which are situated practically upon the right of way of defendant, the switches and tracks leading to them being almost, if not entirely, upon the company's right of way. The principal point of the complaint is that defendant company charges from the Consumers' and Crowson's mines 45cts. per ton freight for shipment of coal to East St. Louis, while from Taylor's mine it charges the same price, 45cts. per ton, and in addition thereto, one dollar per car as a switching charge for the service of placing empties and carrying loads from Taylor's mine to the main track, 2,800 feet. No switching charge is made in the case of shipments from the Consumers' and Crowson's mines. The facts are not disputed. The company concedes having made these switching charges on all of Taylor's shipments, and avows its purpose to continue them.

Complainant claims this extra dollar per car constitutes both an extortion and an unjust discrimination under the statute of this State; and the Commission is asked to prosecute the defendant for the penalties denounced by the statute against these offenses.

So far as extortion is concerned, the case is not difficult. If the company may rightly make a switching charge for the transportation of cars over Taylor's road, then the amount of one dollar per car, being within the maximum switching charge fixed by the Commission, can not be said to be extortionate. The real question is whether the company may rightfully charge at all for this service. If it may not, that is to say, if for the present purpose the track laid by Taylor is to be regarded as part of defendant's road, and his mine is to be regarded as a station on that road, as contended, then the charge as to discrimination would seem to be made out.

We have examined the numerous Illinois decisions cited by complainant's counsel. Most of these arose under section 5, article 13, of the constitution, which provides:

"All railroad companies receiving and transporting grain in bulk or otherwise, shall deliver the same to any consignee thereof, or any elevator or public warehouse to which it may be consigned, providing such consignee, or the elevator or public warehouse can be reached by any track owned, leased or used, or which can be used by such railroad companies;

and all railroad companies *shall permit connections to be made* with their tracks, so that any such consignee and any public warehouse, coal bank or coal yard may be reached by the cars on said railroad."

Under the above provision, the Supreme Court holds (in language no more plain, it may be observed, than the constitution itself,) that railroads are bound to deliver cars of grain at the particular warehouse or elevator to which they are consigned, if accessible by any track belonging to the company or which the company has the right to use.

Vincent vs. C. & A. R. R., 49 Ill. 33.

People vs. C. & A. R. R., 55 Ill. 95.

C. & N. W. Ry. Co. vs. People, 56 Ill. 365.

Hoyr vs. C., B. & Q. 93 Ill. 601.

And in such a case no extra switching charge for delivering cars of grain at an elevator reached by such track, can be made.

Vincent vs. C. & A. R. R. Co., 49 Ill. 33.

But the company would not be bound to procure for that purpose from another company, or person, the right to use a track required for such delivery.

People vs. C. & A. R. R. Co., 55 Ill. 95.

And, it seems, where the delivery would occasion great inconvenience to the company, it would be excused from such delivery, even though having a right to use the necessary tracks.

C. & N. W. Ry. Co. vs. People, 56 Ill. 365.

All these cases hold that any switch or track extending from a company's main track to any such elevator, whether such track is owned or leased by such company or not, if put there for the accommodation of the elevator, by some arrangement under which the road can use it, is to be regarded as a part of the company's line *for the purpose of the delivery of grain*.

The foregoing cases, however, relate solely to the delivery of cars of grain, which is expressly enjoined by the constitution.

With regard to coal mines, the constitutional provision quoted above is, simply, that the company "*shall permit connection to be made with their tracks,*" which it will be seen is essentially different in its terms from the provision in regard to grain deliveries.

In a late case it was held that a railroad company could not disconnect a switch which had been laid to a coal mine and which had for several years been used for making shipments of coal therefrom.

C. & A. R. R. Co. v. Suffern, 129 Ill. 274.

Commenting on the above constitutional provision in its relation to coal mine connections, the court says, in the Suffern case:

"It was the evident design of the constitutional provision above quoted to compel the railroads to furnish the coal mines in the State with all necessary facilities for the shipment and transportation of coal. As the railroad companies must deliver grain to all elevators upon the lines of their road, or connected therewith by side tracks, so also must they receive shipments of coal from all coal mines on the lines of their roads or connected therewith by side tracks."

The *Suffern case* was a petition for *mandamus*, and, as bearing upon the present inquiry, that case enlightens us no further than to show that Taylor has the undoubted right, under the foregoing clause of the con-

stitution, to have his track and mine connected with defendant's road. The constitution commands defendant to "permit connection to be made" with Taylor's coal mine. This it has done. The constitution did not command defendant to build a track, extending 2,800 feet off from its own right of way, to reach this mine; and this it refused to do.

The connection has been made; and no question arises here, as in the *Suffern case*, as to any right of the company to sever such connection. It is not proposing to sever it. Nor does any question arise here as to the right of defendant to refuse to receive and transport coal from Taylor's mine. It has not so refused. What the company does refuse to do is to take empty cars from the track to the mine, and loaded cars from the mine to the track, 2,800 feet, unless it is paid for that service extra, over and above the regular freight rate which obtains from the point of connection.

Undoubtedly, if Taylor would arrange to deliver his coal at the right of way he would avoid this charge, and would then have the right to have his coal transported at the regular rate of freight, and no more. The real question is, has he a right, under the above quoted provision of the constitution, to compel defendant to operate his 2,800 feet of railroad without compensation? It seems to the Commission he has not that right. If he may compel defendant to operate his 2,800 feet of road gratis, may not some one else compel it to operate a road a mile, two miles, or five miles in length, gratis? Where will the line be drawn?

Does the declaration of the court in the *Suffern case*, that this constitutional injunction was intended "to compel the railroads to furnish the coal mines in the State with all necessary facilities for the shipment and transportation of coal" mean that the railroads are compelled to furnish those facilities gratuitously, long distances beyond their own switches and tracks, wherever the mine owner may build a track and tender it? Does the further declaration of the Court in that case, that railroad companies "must receive shipments of coal from all coal mines on the lines of their roads or connected therewith by side tracks" mean that such companies must receive such shipments at some distant point upon a track built by others, or does it mean only that the roads shall receive such shipments at their own respective rights of way on switches or in yards established for the purpose?

We think such a construction as is contended for would extend the constitution far beyond the cases meant to be provided for by its framers.

We can well understand how a company might, by its own acts, or by contract, bind itself to perform such a service gratuitously. We can understand how, in many cases, railroad companies, for the sake of developing the coal fields along their rights of way, thereby enhancing their own trade and earnings, might enter into arrangements with coal operators, whereby they would be estopped to make switching charges, even in cases where the extra service might be larger than is here demanded of defendant. Doubtless some of the cases related in the testimony offered by complainant, as to the practice upon other roads in this same coal field, are of this character. But the fact, if it exists, that other roads have made such arrangements, furnishes no ground upon which to predicate a rule of law which will bind defendant. It may be, if it were shown that this same company was accustomed to perform a like service for other mine owners on its line, and competing in this field, without charging for it, that fact would furnish a basis for a prosecution for discrimination. But the other mines, whose shipments have been compared with complainant's for the purpose of making out the discrimination, are located immediately upon defendant's right of way. It performs no switching service for those companies, so far as the evidence discloses.

In the case of complainant, it cannot with justice be claimed in the light of the evidence, as was claimed by the petition, that defendant either

promised complainant, or by its acts induced him to believe that it would operate his track without charge. He was plainly told by letter, as he admits, and in conversation as President Barnard testifies, that he must pay for this service, and that too before his track was laid, or any considerable work had been done upon his mine.

While we realize fully the disadvantage under which complainant labors in the present state of competition felt in the coal trade, we are not convinced that the law affords any remedy, and greatly fear that a prosecution for either extortion or discrimination would fail.

The petition will therefore be dismissed.

SPRINGFIELD, ILLINOIS, September 20, 1890.

No. 5.

EXTORTION.

COMPLAINT.

P. Wonderly & Co., Complainants.

VS.

The Wabash Railroad Co., Respondent.

OPINION OF COMMISSION.

Opinion by Wheeler, Chairman:

Complainants charge the Wabash Railroad Company with a violation of the Commissioners' rules governing switching charges, claiming the revenue collected to be excessive, and ask the Commission to compel the railroad company to refund the overcharge.

This cannot be effected without a suit at law and before this step is taken we must consider this question: Can the charge be proven? On the evidence furnished we think not. If complainants will carefully consider the rule referred to we think they will conclude with us that the business does not fall under the rule. "Switching," as defined by the rule "includes the hauling of loaded cars from the station yards * * * * to the junction of other railroads when not billed from stations on its own road to said junction, and from junctions of other railroads to the stations, side tracks, * * * * situated on the tracks owned or controlled by the railroad company doing said switching. In other words, switching is that transfer charge ordinarily made for moving loaded cars for short distances for which no regular way bill is made, * * * *"

In the case under advisement it does not appear that the business done is of the character covered by the rule; on the contrary the expense bills before us are in the form of regular billing from station to station with revenue charges based on the maximum rates prescribed by our predecessors and still in force. Possibly these rates are excessive, but, till reduced by the proper authority they must be accepted as legal, unless discrimination is shown, which thus far is not claimed.

After a careful consideration of the facts confronting us the Commission is of the opinion that a charge of extortion cannot be sustained, and being hopeless of securing an affirmative verdict we do not deem it expedient to commence a suit with almost the certainty of being thrown out of court. If complainants can furnish evidence that will insure success, the Commission will gladly bring suit; but as the case now stands we think their good judgment will endorse our position as above indicated.

The complaint will therefore be stricken from the docket.

SPRINGFIELD, ILLINOIS, Oct. 24, 1890.

No. 6.

REFUSAL TO SWITCH CARS.

COMPLAINT.

Union Brewing Company, of Peoria, Complainant,

vs.

The Chicago, Burlington & Quincy R. R. Co., Respondent.

OPINION OF COMMISSION.

Opinion by Phillips, Commissioner:

This is a complaint by the Union Brewing Co., a corporation of Peoria, Ill., against the C., B. & Q. R. R. Co., alleging a refusal to switch cars.

Switching has been defined by the Commission to be, "the hauling of loaded cars from station yards, side tracks, elevators or warehouses to the junctions of other railroads when not billed from stations on its own road to said junctions, and from junctions of other railroads to the stations, side tracks, elevators and warehouses situated on the tracks owned or controlled by the railroad company doing said switching. In other words, switching is that transfer charge ordinarily made for moving loaded cars for short distances for which no regular way bill is made, and which do not move between two regularly established stations on the same road."

A particular car loaded with "cerealine", and billed to complainant, was transported to Peoria by the C., C., C. & St. L. Ry. Co., and was either by the carrying company, or an intervening company delivered to respondent, and marked for "Carson's track." Carson's track is a team track of respondent, one block from complainant's brewery, on which complainant was accustomed to receive its cars of freight. Respondent after receiving this car in fact switched it to Carson's track, not knowing it was for the complainant; but, upon learning whose car it was, the agent of respondent ordered it taken away; and it was then placed upon a team track of the P. & P. U. road, in a place considerably further from the brewery, and much less convenient for complainant, where it was finally unloaded.

Respondent declined to switch this car to Carson's track (or rather to leave it there after inadvertently switching it), and declines generally to switch any cars for complainant, because of a controversy arising between them as to the payment of certain car-service charges, levied through the Car Service Association of Peoria, for the detention of two cars which had

been previously switched by respondent to Carson's track for complainant; which two cars last mentioned had not been unloaded by complainant within forty-eight hours after arrival, which is the time allowed free of charge by the rules of the Car Service Association.

The Car Service Association is composed of the several roads doing business in Peoria. Its object is to prevent the unreasonable detention of cars by consignees; and under its rules a charge of one dollar per day is made against any consignee for each day he fails to unload a car, after the expiration of forty-eight hours from the time such car is set by the railroad company in a proper place for unloading.

In the case of the two cars upon which the unpaid car-service charges were made, the brewing company claims that the railroad company was at fault in failing to give notice of arrival. It also claims that the charge of one dollar per day is unreasonable in amount. The respondent, upon the other hand, claims it was not its duty to give complainant notice of the arrival of these cars, that being the duty of the company transporting them to Peoria, a duty which in this case respondent further insists was in fact performed by the C., C., C. & St. L. Ry. Co. Respondent further claims that the two cars named were placed in plain view of the brewery and only a block away, and that complainant in fact knew the cars were there in time to have unloaded them within the forty-eight hours, if its agents had seen fit; and it urges further that these car-service charges of one dollar per day for detaining cars are proper and reasonable, and that they are in the true interest of shippers, since they prevent the rolling stock of railroads from being tied up to the great disadvantage of those shippers who, for that reason, often cannot get cars.

We thus state the controversy as to these car-service charges, not for the purpose of deciding it, but rather as a help to arrive at what we deem the real question before us. We content ourselves with the single observation that since the statute of this State (Sec. 5, Act "Receiving, Carrying and Delivering Grain,") provides that a consignee of grain transported in bulk "shall have twenty-four hours, *free of expense*, after actual notice of arrival, etc., in which to remove the same from the cars of such railroad corporation," there would seem to be an implied right under the statute to charge for a longer detention than the twenty-four hours which the statute names. Indeed, no reason is perceived in law or justice why an unreasonable and unnecessary detention of cars by consignees should not be paid for; and the Car Service Association seems from the proof before us to be only an agency established to keep account of claims so arising, and enforce them. The charges so made would have to be reasonable, under all the circumstances. The statute does not seem to refer the matter of fixing the maximum of such demurrage charges to this Commission; and the question probably did not occur to the law makers. Car demurrage is an important subject, which has arisen, in a practical way, only within late years, and long after our statute for the regulation of railroads was passed. It does not, however, follow that, because there is no statutory regulation of the question, there is no law. The charge, as before observed, must be reasonable; and what is reasonable in a given case must depend upon the facts of that case, and be arrived at, if the parties cannot themselves agree, by a judicial determination, in a court competent to try the question. Whether or not the seven dollar car-service or demurrage charge made for the detention of the two cars in question is reasonable, under all the circumstances, can only be determined authoritatively and judicially, when the parties carry the case into court. Not being a court for any such purpose, this Commission cannot determine it.

We do not even assume to decide that "cerealine" is "grain" within the meaning of the statute above cited. The nature of the article has not been very fully explained. It is a product of corn, the hull and germ being removed, and is used as a part substitute for malt. We have assumed it to be "grain" in the observations above made.

Respondent does not deny the refusal to switch cars, but expressly avows it; and the important question is, has the railroad company shown a state

of facts which will excuse it from switching cars for complainant to Carson's track. In justification of its refusal the railroad company alleges two grounds, which may be stated in the language of its own answer, as follows:

1. "This company further states, that it does not do or hold itself open to do, a general switching business in the city of Peoria, but states that the service heretofore rendered to the said Union Brewing Co., in so switching these cars, was done for the accommodation of said Union Brewing Co., and are not such services as this company is compelled by law to perform."

2. "This company further denies that the railroad companies, centering in Peoria, and forming such association, have violated any law of the State of Illinois; and it asserts that the rules and regulations of said association are reasonable and lawful, and for the public good, and necessary for the protection of said railroad companies; and it further asserts that the charges herein complained of are just, reasonable and lawful, * * * and that in refusing to switch the cars of the said Union Brewing Co., shipped over foreign lines, until said just and reasonable charges, heretofore exacted, are paid, it has acted in accordance with the law."

The first ground stated seems to imply, that unless a railroad company holds itself out to do "a general switching business," it is under no legal obligation to switch cars. On this we observe that if respondent were confining itself strictly to handling only such cars at Peoria as it transports thither upon its own line, and if "Carson's track" were a track used by it exclusively for the accommodation of its patrons who ship cars to Peoria over its own line, the case would stand on a basis entirely different from that presented by the evidence. Then the question would be presented whether or not the switching of cars from one point to another within the same city, for which no way bill is made, is a service by law demandable from a railway company which does not ordinarily do a switching business.

If this were in fact the case before us, we should hesitate before holding that a switching service can in no case be legally demanded of a railroad company, unless such company does a general switching business. The principle upon which a distinction would be made, between the obligation to haul one mile, and the obligation to haul ten, is very difficult to perceive; and the interests of a patron might become as vitally involved in the one service as in the other. If one wishes a switching service only, and is willing to pay for it, why can he not command the service?

It is, however, unnecessary here to decide any such question. The evidence amply shows that respondent is accustomed to switch cars at Peoria in case of shipments not originating on its own line. It has numerous patrons for whom it switches cars, turned over by other roads, and switches them, too, to the particular track known as "Carson's track." Receipted bills of respondent issued from its "Switching Department," showing the switching of seventy-one such cars at one dollar each, switching charge, have been filed by complainant in this case. Moreover, the company did in fact switch the car in question, supposing it to be the car of another patron, but removed it upon learning it was for complainant. The fact that respondent does switching in the city of Peoria is really not denied. What is denied is that it does "a general switching business."

The question, therefore, is not whether a road which does no switching can by law be made to switch cars, but whether a road may switch for some, and refuse to switch for others: whether it may accommodate some patrons upon a convenient track and arbitrarily exclude others from the same privilege, making them go for their goods to another track less convenient.

We believe the position of respondent upon this question is wholly untenable. The principle of law is fundamental that railroads must treat all alike. They must accommodate all that apply in the order of their applications, extending favors to none, and excluding none from equal par-

ticipation in the use of their facilities. They perform a public calling, to be exercised impartially for every member of the public they were created to serve.

These principles have been so often and so universally held by all courts of the common law that we deem a citation of authorities unnecessary. Indeed, nothing could be more dangerous in practice than to allow the railroads which wield such powerful instrumentalities, on the use of which the welfare of every citizen more or less depends, to choose for themselves whom they will serve. Armed with such a power, the railroads of the land could build up or destroy at will both private fortunes and communities.

We, therefore, are of opinion that since respondent switches cars at Peoria for some of its patrons, it is under a legal obligation to switch impartially for all who apply, and who tender its reasonable charges. We hold, when respondent switched cars for complainant to Carson's track, it performed, not a mere "accommodation," but a legal duty.

The second ground alleged for refusal to perform this switching service remains to be considered: namely, the refusal of complainant to pay the charges for detention of the two former cars. As before remarked, we cannot decide this controversy. We are of opinion, however, that whether this particular charge be legally collectible or not, its non-payment cannot justify a refusal to switch cars for complainant. When complainant demands of the Burlington company a service such as it performs in Peoria for others, tendering it its reasonable charges, that company cannot excuse itself from exercising its legal functions because of an unsettled controverted account, arising out of a wholly different transaction. If complainant owes it for unreasonably detaining cars, the courts are open to it. The account must there be ultimately settled. The railroad company cannot, in our view, determine this question for itself, or hold its switching facilities in the city of Peoria as a mere "accommodation" by the optional use of which it can compel payment of a past disputed claim. This unsettled claim, it will be observed, is not for a switching service, but for another thing—the detention of cars. It could not be known in advance that further car-service charges would accrue upon the cars respondent has been refusing to handle for complainant.

We are of opinion that respondent is not released from the legal duty of switching, by the failure of complainant to pay demurrage charges.

The only question now remaining concerns the remedy. The act creating this Commission provides:

"Said Commissioners shall examine into the condition and management, and all other matters concerning the business of railroads and warehouses in this state, so far as the same pertain to the relation of such roads and warehouses to the public, and to the accommodation and security of persons doing business therewith. * * * * *

And whenever it shall come to their knowledge either upon complaint or otherwise, or they shall have reason to believe that any such law or laws have been, or are being violated, they shall prosecute, or cause to be prosecuted, all corporations or persons guilty of such violation."

In section 17 of the same act it is provided:

"It shall be the duty of the Attorney General and the State's attorney in every circuit or county, on the request of said Commissioners, to institute and prosecute any and all suits and proceedings which they, or either of them, shall be directed by said Commissioners to institute and prosecute for a violation of this act, or any law of this state concerning railroad companies or warehouses," etc.

Section 18 further provides as follows:

"All such prosecutions shall be in the name of the People of the State of Illinois, and all monies arising therefrom shall be paid into the State Treasury by the sheriff or other officer collecting the same," etc.

The act upon "extortion and unjust discrimination" further provides that the Commission shall enforce that act and "cause suits to be commenced and prosecuted against any railroad corporation which may violate the provisions of this act." It further provides in what counties of the State prosecutions may be begun, authorizes the Commission to employ counsel "to assist the Attorney General," if they think it necessary, and says that no such suit shall be dismissed unless the Commission and the Attorney General both consent thereto.

From the above provisions it seems evident that the "prosecutions" which it is incumbent upon this Commission to institute and conduct are prosecutions for those penalties denounced by the statute against railroad companies for violation of the several provisions of the railroad and warehouse law. It was evidently not intended that the Commission should carry on any man's private suit at public expense. A writ of *mandamus* to compel the switching of cars for complainant, while running in the name of the people, would, in fact, be the private suit of complainant. It would not be a "prosecution" in the sense that term is used in the statute. The statute fixes no fine or penalty for refusal to switch cars. The party damaged by such refusal could no doubt recover his damages: but this, too, would be his private action and not a public prosecution. The courts are open to complainant to prosecute its suit for itself. The intention to confine this Commission to those prosecutions in the name of the people for penalties or the prosecution of such suits as affect the public generally, or large communities of people, is also pointed to by the fact that the act concerning unjust discrimination expressly provides for a private suit by the person discriminated against wherein he may recover treble damages and his attorney's fees.

Inasmuch as the parties had placed this case before us at some length, we have not hesitated, under the injunction of the statute that we shall "examine into the condition and management, and all other matters concerning the business of railroads and warehouses in this State," etc., to thus express our views of the law for the guidance of those who may be affected by them, or may have confidence to follow them; and we hope the matter may be now adjusted between the parties without resort to a judicial determination of the question, which, not being a court in the proper sense, we are not authorized to make.

SPRINGFIELD, ILLINOIS, Dec. 10, 1890.

No. 7.

REFUSAL TO SWITCH CARS.

COMPLAINT.

Lyon & Scott, Complainants,

vs.

Peoria & Pekin Union Ry. Co. and the Illinois Car Service Association of Peoria, Respondents.

OPINION OF COMMISSION.

Opinion by Phillips, Commissioner:

This complaint raises practically the same questions which are discussed in the opinion of the Commission in the complaint of the *Union Brewing Co. v. The C., B. & Q. R. R. Co.*, and we need do little more than refer the parties to the ruling in that case. No evidence has been heard but the conceded facts show that an unpaid car-service charge, concerning the justice of which there is a controversy, has been the principal cause of the refusal to switch cars. One matter is rather indirectly stated in the answer of the P. & P. U. Ry. Co., which might, if proved, take the case out of the principle. It is said the team track opposite blocks 6 and 7, where Lyon & Scott demand to have their coal cars placed, is a "merchandise track," and that Lyon & Scott insist upon having their coal cars placed upon this merchandise track for unloading. It is not precisely averred that this track is held by the company exclusively for merchandise. We can understand how, under some circumstances, it might be highly proper for a company to establish one track for coal and another for merchandise, and if the coal track were suitable and proper for that commodity a coal merchant could not demand to have his coal cars put upon a track properly set apart for a different business. But the principle stated in the Union Brewing Co.'s case, that the railroad company must treat all alike would here apply with its entire force. Special favors could not be arbitrarily extended. If a suitable and proper track for coal cars is offered complainants where other coal merchants are accommodated and the company is ready and willing to switch the cars there, then the refusal to pay the car-service charges would make no figure in the case. Respondent has in that case simply done its duty and is not in default.

The P. & P. U. states in its answer that the delay in transporting the cars of coal which Lyon & Scott sets up as a reason for refusing to pay the car-service charges (alleging that two or three days' business was by the

fault of the carrier thrown upon them at once) was not the fault of the P. & P. U. company, which only switched the cars, but was, if anybody's, the fault of the carrying company. If this can be established then it will show Lyon & Scott must look for their damages for delaying their cars to the company at fault, and that they cannot set it off against a car-service charge of the P. & P. U. company otherwise just and proper. But all this is matter for proof in a court of justice. As observed in the Union Brewing Co.'s case, we cannot settle a controversy of this kind. The parties must have their rights adjudicated if they cannot agree between themselves.

Here, as in the case of the Union Brewing Company, the remedy, if one exists, must be sought by complainants in their own private suit in *mandamus*, or by a proceeding in chancery for a mandatory injunction.

SPRINGFIELD, ILLINOIS, Dec. 10, 1890.

No. 8.

UNJUST DISCRIMINATION.

COMPLAINT.

J. H. Linneman & Co., Complainants.

VS.

The Illinois Central R. R. Co., Respondent.

OPINION OF COMMISSION.

Opinion by Phillips, Commissioner:

J. H. Linneman & Co., a firm doing business at Flanagan, Livingston county, Ill., complain that the Illinois Central R. R. Co., has discriminated against them in freight charges from Chicago, in that said railroad company has, it is claimed, charged complainants more for the same class and quantity of freight from Chicago to Flanagan, than was at the same time charged for the like freight from Chicago to Minonk, Minonk being the greater distance by about 13 miles, and the Minonk shipments passing through Flanagan on the same line of road.

Minonk is a competing point, being reached from Chicago by a line of the Santa Fe road, and by two lines of the Illinois Central. One Illinois Central line reaches Chicago from Minonk by way of Mendota, running in connection with the C. B. & Q.; while the other goes by way of Kankakee and is owned continuously to Chicago by the Illinois Central Company. The Kankakee line is the one on which the town of Flanagan is situated, between Chicago and Minonk.

The Santa Fe line which passes through Minonk, reaches in its farther southward progress Pekin and Peoria, where there is water competition, and it is insisted by respondent that such water competition has resulted in compelling the Santa Fe Company to fix a rate at Minonk which is unreasonably low, the Santa Fe being unable, under the law, to make a higher rate at Minonk than its through rate. Respondent, however, shows that while its rate to Flanagan from Chicago is in fact slightly higher than to Minonk, it has not been the intention to ship any of the Minonk goods by the Kankakee line and through Flanagan; that if any such shipments were so sent, it was done inadvertently and against orders; and respondent wholly disclaims any purpose to violate the law by hauling, for less freight, a longer distance, in the same direction, over the same line.

While the proof is not specific or clear, we think it probable, that some of these shipments to Minonk were hauled through Flanagan; and this, if proved, would be a violation of the Illinois statute prohibiting unjust discrimination. Competition at a point is by our statute expressly excluded from the class of facts which our courts have said might be alleged to show a discrimination to be not "unjust." If there is competition at the end of the line, our statute gives all intermediate stations the benefit of it. In this our statute directly differs from the Inter-State Commerce act, which empowers the National Commission to allow a less charge for a greater distance where there is competition, if they deem it just and proper. This Commission is without any such power. To haul a like quantity of freight to Minonk from Chicago for a less rate than to Flanagan, a less distance, over the same line of road in the same direction, is a violation of our statute.

We do not, however, think the public good requires that respondent be prosecuted for the penalty denounced by the statute. As we before said, the proof already produced is not clear, and better and more conclusive proof would need to be found before instituting suit. The statute being penal would be strictly construed. The exact case stated in the statute would have to be proved in order to recover the penalty. We are not satisfied from the proof produced that a prosecution would succeed under the construction given this act by our courts.

C., B. & Q. vs. People, 77 Ill., 443.

Kankakee Coal Co. vs. Illinois Central R. R. Co., 17 App. 614.

But even if specific proof were forthcoming, in view of the showing made that respondent's general freight agent had given orders to ship to Minonk only by the Mendota line, and in view of the further fact that respondent gives the Commission positive assurance that care will be taken to observe the statute in future, it is decided to institute no suit for the penalty, unless there shall be future violations.

Complainants have filed with us a bill of many items for overcharges of freights by respondent, presumably with a view to our assisting in the collection of this private bill. This we cannot do. Our function is to prosecute for fines and penalties where we believe the public welfare demands it. The courts are open to complainants for the collection of such overcharges as they can prove. The statute concerning "Extortion and Unjust Discrimination" expressly provides, (Sec. 6), that any private individual who may be damaged through a violation of the statute, as to discrimination, may recover, in a civil suit, three times the amount of all his damages, together with his reasonable counsel fees to be taxed as costs. The remedy of complainants is thus made very ample for their private injury, if they are able to show one; and this Commission is not the proper forum for that part of this complaint which embraces this private claim for damages.

SPRINGFIELD, ILLINOIS, Dec. 11, 1890.

No 9.

RULING REGARDING PETITIONS FOR REHEARING IN
CROSSING CASES.

In order to settle a matter of practice applicable to cases arising under the act of 1889, in regard to crossings, the following ruling is made:

The Commission are of the opinion the practice of entertaining petitions for rehearing in cases arising under said act results in delay without a corresponding advantage. It will be the purpose of the Commission to very fully hear the views of the parties in the first instance in all such cases, to the end that no hasty or ill-considered action may be taken. But in no case hereafter will any petition for rehearing in such cases be entertained unless the right to file such petition shall be expressly reserved to the parties in the decision of the Commission rendered in the case.

Adopted, July 10, 1890.

No. 10.

RULINGS COVERING THE INSPECTION OF GRAIN, GRAIN
CONVEYORS AND SPOUTING CONNECTIONS.

RULE IN REGARD TO THE INSPECTION OF GRAIN.

All grain in store in any warehouse of class "A" at the time any amendment to the established rules of inspection (affecting such grain) may hereafter go into effect, shall be inspected out, in satisfaction of warehouse receipts dated prior to that time only, in accordance with the rules as they stood prior to such amendment.

Adopted May 21, 1890.

GRAIN CONVEYORS.

Resolved, That in the judgment of this Commission any spouting, conveyor or other mechanical connections between any warehouse of class "A" and any other warehouse, whereby grain may be transferred from one to the other, is a violation of the statute regulating warehouses.

Resolved, That the Chief Grain Inspector be directed to fix a reasonable time, not to exceed thirty days from August 21, 1890, within which all such connections which may now exist shall be removed, and after the time so to be designated shall have elapsed, no grain shall be inspected by this department except the same be contained in cars, canal boats, vessels, wagons or sacks, as provided in the rules established by this Commission, or in process of transfer to the same from warehouses of class "A."

Adopted August 21, 1890.

In the matter of the application of A. E. Neely for modification of former order of Commission in regard to spouting connections and conveyors between warehouses, it is

ORDERED—That the rule adopted August 21, 1890, be and the same is hereby so modified, as to apply only to such spoutings, conveyors or other connections as may be used to convey or transfer grain from any other warehouse *into* a warehouse of class "A."

Adopted December 11, 1890.

No. 11.

INTERLOCKING, SIGNALING AND DERAILING DEVICES.

The plan and construction of interlocking, signaling and derailing devices to be used at grade crossings of intersecting lines of railroads in Illinois, must be arranged to conform to the following

GENERAL RULES :

1. The normal position of all signals must indicate danger,—derail points open—and the interlocking so arranged that it will be impossible for operator to give conflicting signals.
2. On level track, when practicable, the derail points in high-speed tracks must be placed three hundred (300) feet from fouling point at intersection of crossing tracks.
3. On descending grades, the derail points on high-speed tracks when practicable, must be so located as to give the measure of safety equal to three hundred (300) feet on level track.
4. The minimum distance for derail points on high-speed tracks is three hundred (300) feet from fouling point at crossing, and no less distance from crossing will be approved, on account of ascending grade toward crossing.
5. On switching, storage and slow-speed tracks, the position of derail points may be located to best accommodate the traffic, and provide the same measure of safety indicated in foregoing rules.
6. On single track railroads, derail points, when practicable, should be on inside of curve, and when double track is used, the derail points should be in outside rail of both tracks.
7. Home signal posts must be fifty (50) feet beyond point of derail. Distance between home and distance signal must not be less than twelve hundred (1200) feet. Signal post should be placed on engineman's side of track it governs.
8. In case but one derail is furnished in double track crossing, where the current of traffic is in one direction, detector bars must be provided on opposite side of crossing from derails, and worked on same lever as derail, or interlocked with it, so that opposing signal cannot be given until crossing is cleared. In case trains back over crossing, after having passed over it, or if current of traffic is changed, then and in that case back-up derails must be provided.
9. Guard rail should be laid on inside of rail opposite derail, and commence at least six (6) feet toward home signal from point of derail, extending from thence toward crossing, parallel with and nine inches distant from traffic rail, total length two hundred (200) feet, unless otherwise ordered.

10. In case there are cross-overs, turn-outs, or other connecting tracks involved in the general system, the movements of cars and trains upon which present an element of danger, which danger will be enhanced by the passage of trains on main tracks over crossings without stopping, and consequently at higher speed than would be the case without the permit sought, then, and in all such cases, whether such enhanced danger be of collision between different cars or trains of the same road, or between cars or trains of different roads, it will be necessary, in addition to the protection of the main crossing, to provide by the proper devices and appliances against any such increased collateral dangers in the same complete manner that is required in the case of the main crossing.

11. Application for inspection of interlocking plant must be accompanied by plain diagram, showing location of crossing and position of all main tracks, sidings, switches, turnouts, etc. The several tracks must be indicated by letters or figures, and reference made to each, explaining the manner of its use. The rate of grade on each main track must be shown, together with numbers of signals, derails, locks, etc., corresponding to levers in tower.

It is intended in this circular to state general rules, which will govern the construction of any proposed system of interlocking. The business to be handled, relative position and operation of intersecting lines, may require safeguards not mentioned herein.

The system of derailing, signaling and interlocking must be connected and worked, and be complete in each particular before it will be approved.

No. 12.

INTERLOCKING, SIGNALING AND DERAILING DEVICES.

FORM OF PERMIT.

STATE OF ILLINOIS,
OFFICE OF THE RAILROAD AND WAREHOUSE COMMISSION,
SPRINGFIELD.

To all whom it may concern:

KNOW YE, that the interlocking device, with its various parts and appliances, situated at the crossing of the tracks of the Rail Company, with the tracks of the Rail Company in county, Illinois, feet of station, having been duly inspected and examined under authority of the Railroad and Warehouse Commission of the State of Illinois, as provided by law, and having been found suitable and sufficient for the purposes of such a device, a more particular account of which device, its location and mechanical construction, will be found in the report of Consulting Engineer of said Commission.

NOW, THEREFORE, it is hereby ordered, that the said interlocking device be, and the same is hereby approved, in manner and form as the same is described in said report, and shown upon the plans, diagrams and drawings thereof, now on file in the office of said Commission; and these presents shall authorize the above mentioned railroad companies, and each of them, to run said crossing without stopping, until the further order of this Commission; subject, however, to the following conditions, to-wit:

First—Said companies shall cause said device to be frequently inspected, and shall keep the same in first class working order, and in good repair, and shall provide for its efficient operation by a competent person or persons, so long as it shall be in use under this permit.

Second—Each engine and train shall be brought under control after passing distance signal, and shall proceed under control over said crossing. "Control," as here used, means speed of train must be governed by brake power at command, and in no case exceed the power of trainmen to readily stop train within safe distance should danger appear between distance signal and crossing, or at crossing.

Third—No change shall be made in the location of said device or any of its parts, nor in the mechanical construction thereof, nor in the manner of operating the same, without the approval of the Commission; and, in case of any such change without such approval having first been obtained, the authority hereby conferred shall at once cease.

IN WITNESS WHEREOF, the said Railroad and Warehouse Commission of the State of Illinois has caused these presents to be signed by its Chairman and attested by its Secretary this day of 189....

Attest:

.....

Chairman R. R. and W. H. Com.

.....

Secretary.

ADOPTED August 21, 1890.

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