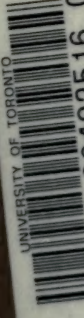



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REPORT

OF THE

BOARD OF ARBITRATION

In the matter of the controversy
between the Eastern Railroads and the
Brotherhood of Locomotive Engineers

Appointed in conformity with an Agreement of the parties made
at New York City under date of April 30th, 1912

CHARLES R. VAN HISE, *Chairman*

OSCAR STRAUS

OTTO M. EIDLITZ

FREDERICK N. JUDSON

DANIEL WILLARD

ALBERT SHAW

P. H. MORRISSEY

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Washington, D. C.

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HISTORICAL

Early in the year 1912, the Brotherhood of Locomotive Engineers, on behalf of the engineers employed on fifty-two railroads in the eastern section of the United States, presented a concerted request to the management of these railroads for a general increase in wages and for certain modifications in the rules governing their employment. This concerted movement resulted in conferences held in New York City on March 14, 15 and 25, between representatives of the Brotherhood of Locomotive Engineers, and a Conference Committee of Managers representing the railroads. At the last of these conferences the representatives of the railroads declined to grant the requests of the engineers either in whole or in part.

At these conferences the engineers were represented by Warren S. Stone, Grand Chief Engineer, and F. A. Burgess, Ash Kennedy, and M. W. Cadle, Assistant Grand Chiefs, of the Brotherhood of Locomotive Engineers.

The railroads were represented by J. C. Stuart, Chairman of the Conference Committee of Managers, and Vice-President of the Erie Railroad; A. W. Thompson, General Manager of the Baltimore & Ohio Railroad; C. S. Sims, Vice-President of the Delaware & Hudson Railroad; H. J. Horn, Vice-President of the New York, New Haven & Hartford Railroad; A. H. Smith, Vice-President of the New York Central Lines East; C. E. Schaff, Vice-President of the New York Central Lines West; S. C. Long, General Manager of the Pennsylvania Lines East; G. L. Peck, General Manager of the Pennsylvania Lines West; J. A. McCrea, General Manager of the Long Island Railroad; A. T. Dice, General Manager of the Philadelphia & Reading Railway; J. A. Shepherd, General Manager of the Western Maryland Railway; and B. A. Worthington, Receiver, Wheeling & Lake Erie Railroad. (Mr.

C. E. Schaff, absent, was represented by J. J. Bernet, Assistant to the Vice-President.)

The refusal of the railroads to grant the requests of the engineers or any part of them, led to a strike vote among the engineers upon the roads concerned; 93.3 per cent of the engineers voted in favor of a strike provided a satisfactory settlement could not otherwise be made. Had the Grand Chief and his Committee decided that the situation justified so doing, it would have been in their power to have approved a strike and the strike would have taken place.

Realizing the gravity of this situation which threatened most serious consequences to the public, and in the hope that some means might be found to adjust the matters in dispute without the calamity of a general strike, the Hon. Martin A. Knapp, Presiding Judge of the United States Commerce Court, and the Hon. Charles P. Neill, United States Commissioner of Labor, tendered their friendly offices to the contending parties. They were impelled to do this by a sense of duty, although the terms of the Federal law commonly known as the Erdman Act, which provides a means for the mediation and arbitration of controversies affecting railways and their employes engaged in railroad train service, did not contemplate their taking the initiative in matters of this sort. Their attempt, however, to settle the difficulty by mediation failed. Thereupon they undertook to bring about an adjustment by arbitration.

* } The parties in the case agreed to the principle of arbitration, but they would not accept arbitration under the provisions of the Erdman Act. In consultation with Judge Knapp and Commissioner Neill, it was arranged that the questions at issue be submitted to a Board of Arbitration consisting of seven members, one to be named by the railroads, one by the engineers, and these two to agree upon five others. It was furthermore arranged that if the first two arbitrators should not be able to agree upon the five others within a period of fifteen days after their own appointment, these five were to be selected by a committee consisting of the

Chief Justice of the United States, the Presiding Judge of the Commerce Court, and the United States Commissioner of Labor.

The railroads selected as their representative Mr. Daniel Willard, President of the Baltimore & Ohio Railroad, and the Brotherhood of Locomotive Engineers selected as their representative Mr. P. H. Morrissey, former Grand Master of the Brotherhood of Railroad Trainmen. These two failed to reach an agreement within the allotted time. They agreed, however, to a list of names from which they were willing that the other arbitrators should be selected. From this list the committee named appointed the other five members of the Board named in the communication below.

These five members of the Board thus appointed were notified of the appointment by letter. To this letter was attached a memorandum giving the terms under which the arbitration was to be carried on and the parties concerned therein. The letter and memorandum are as follows:

"IN THE MATTER OF THE CONTROVERSY BETWEEN THE EASTERN
RAILROADS AND THE BROTHERHOOD OF LOCOMOTIVE
ENGINEERS

APPOINTMENT OF ARBITRATORS

"A controversy having arisen between the Eastern Railroads, so described, and the Brotherhood of Locomotive Engineers;

"And the contending parties having agreed to submit the matters in dispute to a Board of Arbitrators of seven members, as appears by their written agreement of April 30, 1912, a copy of which is hereto annexed;

"And the Eastern Railroads having named as their arbitrator Mr. Daniel Willard, President of the Baltimore & Ohio Railroad Company, and the Brotherhood of Locomotive Engineers having named as its arbitrator Mr. P. H. Morrissey, President of the American Railroad Employes and Investors' Association;

"And the two arbitrators thus named having failed to agree upon the other five members of said Board, or any of them, within the fifteen days allowed therefor, but having so far harmonized

their differences as to submit a list of names of persons deemed eligible and indicate that appointments from such list would be acceptable to them;

"Now, therefore, the undersigned, by virtue of the request made and authority conferred by said agreement, have selected and appointed and do hereby appoint as the other five arbitrators the following persons, viz.: Hon. Oscar S. Straus of New York, Dr. Charles R. Van Hise of Madison, Wisconsin, Mr. Frederick N. Judson of St. Louis, Dr. Albert Shaw of New York, and Mr. Otto M. Eidlitz of New York, who together with the two arbitrators named by the respective parties will constitute the Board of Arbitration provided for in said agreement.

"Witness our hands at the City of Washington, D. C., this 8th day of June, 1912.

(Signed) EDWARD D. WHITE,
Chief Justice of the United States.

(Signed) MARTIN A. KNAPP,
Presiding Judge Commerce Court.

(Signed) CHAS. P. NEILL,
U. S. Commissioner of Labor."

MEMORANDUM OF AGREEMENT

"The parties to the pending controversy between the Eastern Railroads, a list of which is hereto annexed, and the Brotherhood of Locomotive Engineers hereby mutually agree as follows:

"That the matters in dispute be submitted to a Board of Arbitration of seven members to be selected and appointed in the following manner: Each of said parties shall promptly name one member of said Board and notify the other party accordingly. The two thus chosen shall meet without delay, and at such time and place as they may arrange, and endeavor in good faith to agree upon the remaining members of said Board. But in case they shall fail to agree upon all or any of such other members within fifteen days after their first meeting for that purpose, then such other members, or so many of them as have not been agreed upon, shall be named and appointed by the Chief Justice of the United States, the Presiding Judge of the Commerce Court and the United States Commissioner of Labor, acting together.

"The Board so constituted shall meet as soon as practicable after the membership thereof has been completed, and at such time and place as they may agree upon, and take up and conclude the hearing of the parties and make their decision or award without unnecessary delay.

"The matters in dispute to be submitted to said Board for determination are the requests of the Engineers, which have heretofore

been submitted to said roads and refused by them, and a copy of which is annexed hereto and made a part hereof.

"A majority of the members of said Board shall be competent to make a valid and binding decision or award, and each of said parties hereby pledges itself to accept and abide by the decision or award made, according to its terms and intent, for the period of one year from its effective date; and thereafter subject to the usual thirty days' notice.

"The Board shall fix the date when its decision or award shall take effect, and may make the same retroactive if it shall seem just and proper.

"The necessary expenses of the Board, including the compensation and expenses of its members, stenographers' fees, and other joint expenses shall be divided equally between the parties and one-half thereof paid by each of them.

"Signed at the City of New York, this 30th day of April, 1912.
For the Engineers: For the Railroads:

WARREN S. STONE,
W. M. CADLE,
J. M. WATSON,
H. A. KELLY,
C. K. MITCHELL,

J. C. STUART, *Chairman*,
H. J. HORN,
G. L. PECK,
A. H. SMITH,
B. A. WORTHINGTON,

Sub-Committee."

RAILROADS PARTIES TO THE AGREEMENT:

Baltimore & Ohio,
Bessemer & Lake Erie,
Boston & Albany,
Boston & Maine,
Buffalo, Rochester & Pittsburgh,
Buffalo & Susquehanna,
Central New England,
Chicago, Indianapolis & Louisville,
Chicago, Terre Haute & Southeastern,
Chicago, Indiana & Southern,
Cincinnati Northern,
Cincinnati, Hamilton & Dayton,
Cleveland, Cincinnati, Chicago & St. Louis,
Coal & Coke,
Delaware & Hudson,
Delaware, Lackawanna & Western,
Detroit, Toledo & Ironton,
Dayton & Union,
Dunkirk, Allegheny Valley & Pittsburgh,

Erie,
 Grand Rapids & Indiana,
 Hocking Valley,
 Indiana Harbor Belt,
 Indianapolis Union,
 Kanawha & Michigan,
 Lake Erie & Western,
 Lake Erie, Alliance & Wheeling,
 Lake Shore & Michigan Southern,
 Lehigh Valley,
 Long Island,
 Maine Central,
 Michigan Central,
 New York Central & Hudson River,
 New York, Chicago & St. Louis,
 New York, New Haven & Hartford,
 New York, Ontario & Western,
 New York, Philadelphia & Norfolk,
 New York, Susquehanna & Western,
 New Jersey & New York,
 Pennsylvania Lines, East,
 Pennsylvania Lines, West,
 Pere Marquette,
 Pittsburgh & Lake Erie,
 Reading System,
 Toledo & Ohio Central,
 Toledo, St. Louis & Western,
 Vandalia Lines,
 Western Maryland,
 Wheeling & Lake Erie,
 West Side Belt Line,
 Wabash Pittsburgh Terminal.

REQUESTS OF ENGINEERS SUBMITTED FOR ARBITRATION

Passenger rates

Engines with cylinders of 20 inches or less in diameter, \$4.40 per 100 miles or less. Engines with cylinders over 20 inches in diameter, \$4.60 per 100 miles or less. Miles made in excess of 100 pro rata.

Overtime in through passenger service to be computed on a basis of 20 miles per hour.

Overtime will be paid for at 70 cents per hour.

Electric service

Whenever electric service is installed or now in operation locomotive engineers will take the positions on electric locomotives or multiple unit trains under the prevailing schedules governing rates of pay and conditions in steam service. Any change from steam to electricity or other motive power in any form at any point on the system such power will be manned by engineers and paid according to the service for the territory affected, or where electric or multiple unit trains enter upon steam tracks or tracks formerly operated by steam or where trackage rights are leased to holding companies they shall be operated by engineers operating steam trains on said tracks.

Freight rates

Engines with cylinders of 20 inches in diameter or less, \$5.25.

Engines with cylinders over 20 inches in diameter and less than 24 inches in diameter, \$5.50.

Engines with cylinders 24 inches in diameter and over, except Mallets, \$5.75.

Mallet type of engine, \$7.00.

One hundred (100) miles or less, ten (10) hours or less to constitute a day's work. All over one hundred (100) miles to be paid pro rata. Overtime to be computed on a basis of ten (10) miles per hour, and paid for pro rata. Through freight rates to apply to all mine runs, work, wreck, pusher or helper, milk, roustabout and circus trains, according to class of engines. Overtime to be computed on minute basis.

Engineers will be paid at overtime rate for all time over 15 hours held at other than their home terminal.

Twenty-five (25) cents per 100 miles or less additional to be added to through freight rates for local freight service according to class of engines.

Switching service

Rates for engines in switching service, \$4.50 per day. Ten (10) hours or less to constitute a day's work. All over ten (10) hours to be paid for pro rata. Overtime to be computed on minute basis.

Belt line service

Engineers in belt line service will be paid \$5.00 per day, ten (10) hours or less to constitute a day. All over ten (10) hours, 50 cents per hour. Overtime to be computed on minute basis.

Engineers of single-crewed yard and belt line engines will report for duty at the appointed time and will receive one-half hour's pay in addition to the regular day's pay for reporting 30 minutes in advance of the commencement of the day's work. In case of

double-crewed engines, if engineers do not relieve each other at the appointed time and the engineer of the next crew is required to prepare his engine, 30 minutes pay will be allowed for same.

Beginning and ending of a day

In all classes of road service an engineer's time will commence 30 minutes before leaving round-house or designated track and will conclude at the time the engine is placed on the designated track or relieved by hostler at terminal.

Initial terminal delay

When delayed within the terminal as much as 1 hour beyond the time set to leave, engineers will be paid 1 hour's overtime at overtime rates, according to class of engine. One (1) hour and thirty (30) minutes to constitute 2 hours, etc.

If road overtime is made on same trip initial overtime will be deducted.

Final terminal delay

Final terminal delay will be paid for at the end of the trip when delayed more than 30 minutes between yard limit boards governing yard to which train is to be delivered and the point of final relief, and to be paid for at the overtime rate according to class of engine on the minute basis.

Hours of service law

Amendment of Section E of the Application of the Sixteen Hour Law.

Engineers in train service tied up under the law will be paid continuous time from initial point to tie-up point. When they resume duty on continuous trip they will be paid from the tie-up point to the next tie-up point, or to the terminal on the basis of a minimum day. It is understood that this does not permit running engines through terminals or around other crews at terminals unless such practice is permitted under the pay schedule.

It is understood that existing rates of pay or better working conditions shall not be reduced by the rates or rules hereby agreed upon, nor shall General Committees of Adjustment be debarred from taking up with their respective managers matters not decided at this conference.

PRESENTATION OF THE CASE

The Board constituted as above described held its first meeting in New York on Friday, July 12. At this meeting the Board organized and elected Hon. Oscar S. Straus Chairman. It was agreed that the hearings should be held at the Oriental Hotel, Manhattan Beach, New York, beginning July 15. The hearings occupied the following days: July 15, 16, 17, 18, 19, 22, 23, 24, 25, 26 and 27. With the exception of one day, sessions were held both in the morning and in the afternoon.

At these hearings the engineers were represented by Warren S. Stone and M. W. Cadle. The railroads were represented by William M. Duncan, B. A. Worthington, O. E. Butterfield, Francis I. Gowen, George F. Brownell and T. M. Kirby.

The hearings were opened by a general statement of the case for the engineers by Mr. Stone; and for the railroads, by Mr. Worthington.

Following these general statements Mr. Stone called before the Board, for the engineers, the following twenty-five witnesses: Dean R. Woods, C. B. Galleher, Charles D. Moore, Melville K. Packer, F. J. Hughes, F. L. Carr, Arthur J. Fero, Robert F. Jackson, R. E. Reed, F. A. Hallett, George E. Hanley, J. W. Smith, William H. Muir, F. I. Singleton, Henry C. Case, George Ludlam, Joseph F. Garland, D. J. Keleher, F. A. Edwards, John F. Fagan, William Daniels, T. F. Walpole, Thomas Hurley, J. W. Moyer, and J. C. Shreve.

The witnesses called by the railroads were: B. A. Worthington, President, Chicago & Alton Railroad; S. A. Bickford, Road Foreman Electric Equipment, New York Central & Hudson River Railroad; Lewis N. Armstrong, Assistant Road Foreman of Engines, West Jersey & Seashore Division of the Pennsylvania Railroad; Hoag Gilliam, Electrical Superintendent, New York, New Haven

and Hartford Railroad; B. R. Pollock, General Superintendent in charge of transportation, New York, New Haven & Hartford Railroad; S. S. Haff, Assistant Road Foreman of Engines, Long Island Railroad; John R. Alexander, Chief Road Foreman of Engines, East Pennsylvania Division, Pennsylvania Railroad; W. W. Atterbury, Vice-President in charge of operation, Pennsylvania Lines East; A. M. Schoyer, General Superintendent, Northwest system of Pennsylvania Lines West; H. J. Horn, Vice-President in charge of operation, New York, New Haven and Hartford Railroad (New Haven, Boston & Maine, and Central New England); A. H. Smith, Vice-President in charge of operation, New York Central Lines; A. M. Smith, General Manager, Coal & Coke Railway; J. C. Stuart, Vice-President, Erie Railroad; J. A. McCrea, General Manager, Long Island Railroad; James McCrea, President, Pennsylvania Railroad; W. L. Hudson, Road Foreman of Engines, Pittsburgh Division, Pennsylvania Railroad.

In connection with the presentation of the engineers' case, over eighty exhibits were offered by Mr. Stone. These consisted of statements and statistical tables relating to wages, rates, accidents, etc.; copies of the prevailing wage-schedules of engineers on certain western, southern and eastern railways; blue prints and diagrams of locomotives; application blanks; books of questions and instructions for engineers and firemen; copies of rules governing railway employes; descriptive lists of signals; copies of time-tables and official bulletins with which engineers are required to be familiar; etc.

On behalf of the railroads, over 130 exhibits were submitted to the Board. These consisted of statistical tables, diagrams and explanatory statements relating to the earnings and rates of pay of engineers and other railway employes; the estimated increases, both direct and "collateral," in the payrolls of the railroads, that would result from granting the requests of the engineers; the financial status of the several roads involved—their earnings and expenditures, etc.

At the close of the testimony, the case of the engineers was summed up by Mr. Stone, and that of the railroads by Mr. Robbins and Mr. Duncan.

Following the oral presentation, briefs were submitted on behalf of the engineers by Mr. Stone; and on behalf of the railroads by Mr. Duncan and Mr. Worthington.

From the date of adjournment following the hearings, to September 9, the members of the Board spent such time as they were able to give, in studying the evidence and the statistics, in examining the arguments submitted, and in making independent investigations.

On September 9, the Board met to take up the question of findings. They were engaged in this work from September 9 to 14 inclusive. After tentative findings were made a report was drawn up and submitted to all the members for their revision. After such revision the Board met again on October 28, to consider this report as a whole for final action, and continued in session upon this work until November 2 inclusive.

During the hearings before the Board, Mr. Straus acted as its chairman; during the subsequent consideration of the case, Mr. Van Hise acted as chairman at Mr. Straus's request.

Mr. C. W. A. Veditz was the Secretary to the Board, and Messrs. Frank H. Dixon and Frank J. Warne were the statisticians.

MAGNITUDE OF THE PROBLEM

The territory covered by the fifty-two* railroads concerned in this arbitration comprises the northeastern part of the United States. It coincides nearly with Groups I, II and III of the territorial classification adopted some years ago by the Interstate Commerce Commission. These three groups are bounded on the west by Lake Michigan and the Illinois-Indiana state line; on the north by Canada, Lakes Ontario, Erie and Huron; on the south by the Ohio and Potomac Rivers; and on the east by the Atlantic Ocean. The roads concerned extend, however, somewhat beyond Group III to the west, and include a part of Illinois reaching to Chicago. In this report the region covered by the fifty-two roads will be referred to as the Eastern District. Groups IV and V under the classification of the Interstate Commerce Commission will be referred to as the Southern District. This district lies south of the Potomac and Ohio Rivers and east of the Mississippi River. The remainder of the country, west of the Mississippi and Wabash Rivers and Lake Michigan, which is comprised in Groups VI, VII, VIII, IX and X of the classification of the Interstate Commerce Commission, will be referred to as the Western District. †

* Only fifty-one roads signed the agreement, but the statistical tables submitted by the railroads generally included the Central Railroad of New Jersey, which did not sign, but which is controlled by the Reading system.

† The Interstate Commerce Commission has recently adopted a modification of its former territorial grouping, and now recognizes three "districts" called respectively the Eastern, Southern and Western Districts. The new Eastern District coincides mainly with former Groups I, II, and III, save that it comprises about half of Illinois that formerly lay west of Group III; this portion of Illinois, formerly in Group VI, is no longer a part of the Western District.

The three districts may now be defined substantially as follows: The Eastern District comprises that portion of the United States bounded on the west by the northern and western shores of Lake Michigan to Chicago, thence by a line to Peoria, thence to East St. Louis, thence down the Mississippi River to the mouth of the Ohio River, and on the south by the Ohio River from its mouth to Parkersburg, West Virginia, thence by a line to the southwestern corner of Maryland, thence by the Potomac River to its mouth. The Southern District comprises that portion of the United States bounded

In 1910 the fifty-two railroads concerned in this arbitration had (according to Exhibit 5 submitted by the railroads) 66,876 miles of main track, as compared with 266,185 for the United States as a whole, or 25.1 per cent of the total. Their operating revenues and operating expenses (amounting respectively to \$1,088,968,087 and \$726,994,658) were each nearly 40 per cent of the total for all railroads in the United States, and their net operating revenue (\$361,973,429) was 39 per cent of the total for all the railroads of the country. These fifty-two railroads, however, according to the same authority, carried 47.3 per cent of the ton miles, and 42.8 per cent of the passenger miles, of all railroads of the United States. Their employes, excluding general officers, numbered 40.8 per cent of the total; and the aggregate compensation to employes, excluding general officers, constituted 41.5 per cent of the total for the United States.

The number of engineers employed on the 52 Eastern roads, as reported by the railroads themselves in July, 1912 (Railroad Exhibit 4) was 31,840. The aggregate compensation of the engineers in the employ of the 52 railroads during the fiscal year ending June 30, 1911, as reported by the railroads in their Exhibit 67A, was \$41,874,282, or 43.1 per cent of the total engineers' wages for the United States.

on the north by the Eastern District, and on the west by the Mississippi River. The remainder of the United States, exclusive of Alaska and of island possessions, is included in the Western District.

STATEMENT OF THE PROBLEM

THE POSITION OF THE ENGINEERS

1. The engineers ask for certain uniform rates of pay and rules, the application of which would mean varying increases in compensation.

2. The engineers ask that these proposed rates and rules be put into effect regardless of

a. The varying financial ability of the roads to pay more wages.

b. The variations in the service on different roads, and on different divisions of the same road. They do not ask that the same rate be paid for all engineers engaged, but for all engineers running the same class of engines in the same class of service. For example: In through freight service, they ask that all engineers running the same class of engine shall receive the same rate, whatever the road, and without regard to the part of the road.

3. The engineers ask the adoption of the principle that they be given exclusive right to operate the motive power on the railroads, whether that power be steam or electricity.

4. The engineers ask for the introduction of new rules, and the modification of certain important existing rules of service, in such a manner as to standardize them for all roads and incidentally to increase the pay in certain instances.

Of the arguments presented in favor of the engineers' claims, the following are the more important:

1. The nature of the calling, which involves:

a. Heavy and increasing responsibility.

b. Skill and efficiency, as indicated by length and severity of apprenticeship required.

c. Acute mental strain.

d. An unusual degree of hazard.

e. Relatively limited period of earning power, fixed by age limitations and by numerous efficiency requirements.

f. Increasing productivity of the engineers' services.

2. The wages of engineers have not kept pace with the wages of other classes of employes in train service.

3. It is claimed that the existing rates of pay in the Southern and Western Districts are higher, and the rules of service better, than in the Eastern District.

4. It is argued that in the Southern and Western Districts the wages and rules of service are standardized to a much greater extent than in the Eastern District; and that because in the Eastern District the conductors and other trainmen receive a standard wage on all roads, the same principle should apply to the engineers.

THE POSITION OF THE RAILROADS

The railroads hold that the engineers now receive not only fair but liberal compensation for work performed; that the hours of duty are so limited, and other conditions of service so arranged, as to relieve the engineers, in the normal course of their work, of excessive strain; and that there has been no change in working conditions since the last wage-adjustment now requiring a readjustment. The position of the railroad companies is summarized in the following points as set forth in their brief:

1. Railroad employes are as well, if not better paid than labor in other employments.

2. Engineers constitute the highest-paid class of employes in the railroad service.

3. The 1910 adjustment of the engineers' wages was made subsequent to the adjustment with the conductors and trainmen, and practically the same differential continued in favor of the engineers that had existed for a number of years. The existing differential between the engineers and other employes is as wide, if not wider, than is warranted by the character of the service, the responsibilities imposed, the risks assumed, or the actual labor required.

4. At the time the engineers' wages were increased in 1910, full consideration was given to all the conditions of service then prevailing.

5. Since that time there has been no increase in the physical labor, responsibility or risk of the engineers; but, on the contrary, all have been reduced through labor-saving devices or safety appliances, relieving the engineers of duties formerly performed and of risks formerly incurred.

6. The services of the engineers are not of greater value today than in 1910, measured by any of the units suggested by any of the parties.

7. The vitality and working period of the engineers compare favorably with that of other wage earners.

8. The railroads are financially unable to pay increased wages in view of their revenues.

DIFFICULTY OF THE PROBLEM BEFORE THE BOARD

The Board have before them on one side a request for an increase in wages for engineers, including standardization to a certain extent, with a number of regulations that tend to increase wages,—this request being made because of the alleged inadequacy of the present compensation and the lack of uniformity in existing rates. On the other side the broad assertions are that existing compensation is adequate for the service, and that the roads are unable to pay the increases asked. In making these assertions no changes are proposed in existing schedules upon the part of any railroad.

No principle has been presented by either side upon which the questions at issue can be settled. One side holds that the pay is inadequate; the other side asserts that the pay is fair and liberal. Neither gives a clear principle upon which this point can be determined. The question before the Board, moreover, is not one of a simple advance, but of many different advances, involving classifications in which a standard wage is proposed for each class of service.

That for different sizes of engines the rates should differ is agreed by both parties, but there is no agreement regarding the basis of classification of engines. The engineers propose a classification based on the size of cylinders. To this the roads object, although upon a large number of roads this is the prevailing basis for differences in rates. The engineers contend that the pay should be the same for electric and steam service, but the roads hold differently; and the evidence presented to the Board on this subject is limited and contradictory.

The questions that confront the Board are not those alone as to whether or not the pay in any given case should be raised;

but they must also decide, if the present rate is found inadequate, by what margin it should be increased.

Even if the arbitrators accepted the principle of standardization to the extent of treating all the roads alike, they still would have before them, not one question to decide, but a score or more. If each road is to be considered separately, the arbitrators have before them these same questions for each of the 52 roads, making not scores but hundreds of questions to decide. Only when these points are appreciated is it possible to grasp fully the extraordinary complexity of the problems before the Board.

It will not be practicable in this report to discuss in detail each of the many points raised by the parties to the arbitration. To do this would expand the report into a treatise. Only those points in the case will be discussed which have had an important bearing upon the findings of the Board.

RESPONSIBILITY, SKILL AND MENTAL STRAIN OF ENGINEERS

The heavy responsibility of engineers, greater than that of any other class of employes in train service, the skill and efficiency required, the mental strain to which the men are subjected, and the hazard of the calling are all unanimously recognized by the Board of Arbitration. Therefore the Board accepts these points, brought forward by the engineers, at their full value.

In this connection, only a single point needs further comment. The mental strain which the engineer undergoes in fast passenger service is recognized by the generally accepted principle that a hundred miles' run entitles the engineer to a day's wage. To illustrate: The man who runs a locomotive a hundred miles, even if this be done in two hours (as occurs in some cases) receives a day's pay. If a man does his duty there is no question that during these two hours he must be in his best trim, and that his mental faculties must be on the alert every minute. A common method of handling passenger traffic in the case of trips approximately a hundred miles long is for the engineer to run from his home terminal and return within twenty-four hours. The next day he "lays off" and thus has a full day of rest before another day of service. For the round trip he receives two day's pay; but he is in actual service only every other day.

While the man on the exceptionally fast passenger train may make his hundred miles in two hours on the road, the man with the heavy freight engine, and a full train, may require ten hours for the run, although under normal conditions he would not usually take this length of time. In each case the hundred miles is recognized as a day's work. Therefore, it seems to the Board that the exceptional strain emphasized regarding certain runs of

the fast passenger trains may be eliminated, since both for passenger and for freight service one hundred miles is the basis for a day's pay according to schedule. As clearly pointed out by Grand Chief Stone, the engineer does piece work; when he works more intensely, less time is required.

In conclusion of this heading, the Board agree that the compensation of the engineers should be adequate to cover their recognized responsibility, skill, efficiency, and the mental strain to which they are subjected.

STANDARDIZATION

While the word "standardization" is not used in the articles submitted for arbitration, the requests of the engineers involve standardization as a fundamental principle.

In much of the discussion regarding standardization, the arguments on the opposing sides have not fully met, since the two parties have meant by standardization somewhat different things. It is evident that the engineers in their requests for standardization do not mean the same pay for all kinds of service. Their requests involve classifications of service—such as freight and passenger service—and sub-classifications based on the size of the engines. Hence, the request of the engineers for standardization means that one road shall pay the same as another road for each class of service and each class of engine. Their requests also include a reclassification of service and engines, and uniformity in the rules of service. The engineers ask furthermore, as they have in other cases of this kind, that wherever compensation is now higher than is proposed by the standard rate, such higher rates shall be maintained.

Using the above meaning for the standardization requested, rather than an absolute definition, the railroads hold that such standardization would take no account of the ability of the roads to pay; nor of the difficulty of the work on certain runs (for instance, the contrast between a plain and mountain division); nor of the difference between work upon roads which have a heavy traffic, where exceptional care must be exercised, and roads upon which the traffic is light.

The wage schedules now in force in the Eastern, Southern and Western Districts show that the principle of uniformity, with respect to certain points, has been recognized by all American railroads.

Among these uniform practices is the recognition of one hundred miles or less as a day's work. An engineer whose run exceeds one hundred miles receives extra compensation. Moreover, if the run of a hundred miles requires more than a fixed number of hours, overtime is allowed. Overtime begins in through freight service, for the greater part of the country, after ten hours, and in some parts after eight or nine hours. Thus, with some variations, we have the principle, for the entire district concerned in the arbitration, that a run of a hundred miles or less constitutes a day's work, and all distance beyond one hundred miles, or time beyond a fixed number of hours, entitles the engineer to additional compensation.

For classes of service in which it is not easy to compute mileage—principally switching service—the minimum ten-hour day is the usual basis of compensation, which, if exceeded, carries compensation as overtime.

Another uniform principle which is very important, and which is recognized throughout the country, is that of seniority. On any given division the rule is followed that the choice for "open runs" in either freight or passenger service is on the basis of seniority, qualifications being regarded. This rule is adhered to rather strictly unless there is some very good reason why it should not apply. The older and more experienced men may gain increase in compensation with years of service through securing the better runs under the principle of seniority.

While thus in certain matters uniformity has been reached, the facts presented regarding existing rates of compensation and rules of service show that the different roads vary widely in many of their practices.

The facts available show that the claims of the engineers for introducing uniformity into the Eastern District are not fully confirmed. In many respects uniformity does not exist in the Southern and Western districts, and this is particularly true of the Western District. Therefore, the experience of no section of the country

can be adduced in favor of granting fully the uniformity asked for by the engineers. There is, however, a much closer approach to uniformity in practice in the Southern District than in the Eastern District, and the Western District is intermediate. In the Southern District particularly, there is very close approach to uniform rules for the beginning and ending of a day, for overtime allowances, and in the classification of engines. Experience seems to show that in the rules regarding the beginning and ending of a day and allowances for overtime, there is no necessity for the great diversity existing in the Eastern District, and therefore the Board have decided to take this into consideration in making their award.

The Board can find no adequate reason why there should be complicated differences in the rates of compensation for services so nearly alike as slow freight service and certain other classes of freight service, with the exception that the additional work involved in local freight service appears to justify a somewhat higher rate. Therefore the Board in their award have simplified the classification of rates of pay by granting the same rates for several different kinds of freight service. They group into one class, so far as compensation is concerned, through freight, work, wreck, pusher and helper, mine run or roustabout, and circus trains, and part of the milk train service.

Again the Board can find no reason why the rules of service that apply when men are held away from their home terminal or tied up under the sixteen-hour law should not be the same on different roads.

When, however, it comes to the important question of deciding that the rate of compensation shall be the same for a particular kind of service without respect to road or division, the Board find no warrant for imposing such a regulation. In no part of the country can it be said that all roads without respect to territory and without respect to traffic are paying precisely the same rate of compensation for the same class of service. In the

Western District the pay is generally higher for the mountainous country than on the plains. Running a locomotive upon a road which has very light traffic is less exacting and requires less constant alertness than on roads having heavy traffic. These facts lead the Board to hold that local variations in the character of the service should be reflected, to a reasonable extent, in the rates of pay.

Accepting the idea that it is impracticable to make the same rules of compensation for all the roads and for all parts of the same road, when there are differences in these respects between the different roads, as well as between other roads throughout the country, the question then arises whether the Board should attempt to adjust the compensation for each class of service and each kind of engine for each of the roads. Manifestly, to do this would be beyond the ability of the Board, even if its members took many months for this adjudication. This statement in regard to the difficulties of taking up the adjustment of wages for each class of service on each of the roads does not imply anything regarding the adequacy or inadequacy of existing rates of compensation. This is a matter that is discussed later under the heading, "The Basis of a Fair Wage." (See page 47.)

THE PROBLEM OF COMPENSATION TO CAPITAL

Quite as difficult to solve as the problem of determining what constitutes a fair wage, is the companion problem of determining what constitutes a proper return upon capital invested. Fortunately, however, the latter problem as it affects the railroads, has received the attention of the Interstate Commerce Commission on several occasions; and Bulletin No. 21 of the Census Bureau on "Commercial Valuation of Railway Operating Property, 1904," contains suggestive information regarding the rates of return that have in fact been obtained for the securities of American railroads. In *Spokane v. Northern Pacific Railway Company*, 15 Interstate Commerce Commission Report 376, dated February 9, 1909, while the Commission do not state what they consider a just rate of return, they indicate that it should be considerably more than 4 per cent in order that "railroad development keep pace with industrial and commercial requirements."

While it is not clear that the compensation which goes to capital is adequate for each of the 52 roads in question, it appears at the present time that the stronger roads are able to pay the interest on their bonds, and to give an adequate return on the capital stock. They have been able also to put back into the property large sums for additions and betterments. In some cases the amount put back into the roads has been very large. The President of the Pennsylvania Railroad, for instance, testified before the Commission in the recent eastern rate advance case, that since 1887 this company had expended upon its property from its earnings \$262,000,000, and that during the last ten years these expenditures had been approximately \$110,000,000. As Commissioner Prouty added, in his opinion (No. 1508) in that case: "The company has recently provided passenger terminal facilities

in New York City at the expense of something over \$100,000,000; but we do not understand that any considerable part of the above expenditures from income has gone into this item. During this time dividends averaging at least 6 per cent per annum have been paid. The annual average market price of the stock has been from 153 to 119 per cent of par. It is plain that in the past the returns to this property . . . have been munificent."

Regarding the New York Central Railroad, this company owns all or nearly all of the stock of many other companies. Among these perhaps the more important are the Lake Shore and Michigan Southern and the Michigan Central Railroad companies. Commissioner Prouty, in discussing the income of this road, makes the following statement:

"The capital stock contains \$57,000,000 par value for which nothing was ever paid. The dividends paid upon this capital stock for the last forty years will probably average 6 per cent. During that time there has been actually paid in dividends to the holders of this \$57,000,000 of stock at least \$120,000,000. Had the New York Central and Hudson River Company invested them in its property, the funded debt of that company might have been reduced by \$120,000,000, not having reference to interest. If account be taken of interest, the amount would be much larger.

"The company has, therefore, as a result of this transaction, a capital stock of \$57,000,000, in excess of what it would be and either a funded debt or a capital stock at least \$120,000,000 greater than would be the case if the original issue of stock had never been made.

"This commission, in determining what the New York Central system shall earn, must take that system as it finds it. It cannot reduce its capital stock by \$57,000,000, nor can it take from the holders of its present capital securities \$120,000,000, which have been paid in the way of dividends upon this stock."*

* Interstate Commerce Commission, no. 3400, page 302.

Regarding the Baltimore and Ohio Railroad, the Interstate Commerce Commission,—while expressing no opinion concerning the relation between the value and the capitalization of the Company—states that this Company “has in the last eleven years paid the interest upon its funded debt, the dividend of 4 per cent upon its preferred stock, and the following dividends upon its common stock:

1900, 4 per cent; 1901, 2 per cent; 1902, 4 per cent;
1903, 4 per cent; 1904, 4 per cent; 1905, 4½ per cent;
1906, 5½ per cent; 1907, 6 per cent; 1908, 6 per cent;
1909, 6 per cent; 1910, 6 per cent.”

The Company also paid 6 per cent on its common stock in 1911 and 1912.

The complexity of the problem of determining whether the railroads are able or unable to devote an increased share of their income to higher wages for their employes is illustrated by the question: What rate of return should be allowed on capital? It seems plain that no fixed percentage can be named. If this were done, there would be no strong incentive, when a road once reached the degree of efficiency requisite to give this percentage of interest, to a further increase of efficiency and economy. But competition in this respect should not be eliminated; and if it is to be encouraged, great care will have to be taken not to limit too closely the dividends on the stocks of roads which are managed with exceptional efficiency. Commissioner Lane in the Western rate advance case, decided February 22, 1911, gave it as his opinion that “Some method must be found under which a carrier by its own efficiency of management shall profit. A premium must be put upon efficiency in the operation of the American railroad. . . . Society should not take from the wisely managed railroad the benefits which flow from the foresight, skill, and planned coöperation of its working force.”*

Accepting the soundness of this view, the Board do not feel warranted in passing an opinion regarding the limit to a rea-

* Interstate Commerce Commission, no. 3500, page 334.

sonable dividend which should be paid upon capital, as a matter of determined principle. The consideration by the Interstate Commerce Commission of the general cases for the advance of rates east and west, make it clear that they regard as reasonable an income sufficient to pay interest on the bonds at the current rate, a fair dividend upon the stock which represents substance, and to provide a proper surplus.*

Furthermore, it appears from the facts presented to the Interstate Commerce Commission that the larger systems in the Eastern District especially discussed by them were receiving incomes adequate to pay these amounts and to allow considerable sums for additions and betterments and for surplus. Even if this be true of the stronger and more prosperous roads, it gives no information regarding the financial condition of the other roads in the district.

INTERCORPORATE RELATIONSHIPS

Connected with the very important matter of dividends is that of the intercorporate relations of the roads involved. While there are listed in this arbitration 52 separately named roads, a large number are controlled by a comparatively small number of "systems." This control is exercised most largely through the ownership of a majority of stock, but also through lease, capital advanced, and voting trust. Of the 52 roads, the New York Central and Hudson River controls 13, directly and indi-

* See Report Interstate Commerce Commission, no. 3400, February 22, 1911, pages 271-2 as follows:

"Then, too, a railroad must be allowed to accumulate a surplus in good years which will offset bad years, and if its financial position is to be a reasonably strong one, that surplus must be large enough to remove doubt from the mind of the investing public. We think that a railroad in ordinary years should be permitted to show a substantial surplus, over and above the payment of a reasonable dividend. This is necessary to provide for interest on capital invested in improvements which will not yield an immediate return, to take care of the element of obsolescence, and to tide over years of depression. The amount of this surplus, if estimated in comparison with the dividend to stockholders, must depend upon the relation between stock and bonds and between value and capitalization."

rectly, and has joint control (that is, the ownership of a majority of the stock or of the capital advanced is shared with another road or other roads) over three others. The New York Central controls directly, through lease, the Boston and Albany, and through the ownership of at least a majority of their stock, the Dunkirk, Allegheny Valley and Pittsburgh; the Michigan Central; and the Lake Shore and Michigan Southern. The Michigan Central and the Lake Shore and Michigan Southern jointly control the Chicago, Indiana and Southern, and the Indiana Harbor Belt. Through ownership of a majority of the stock, the Lake Shore and Michigan Southern controls directly the Cleveland, Cincinnati, Chicago and St. Louis; the Lake Erie, Alliance and Wheeling; the Lake Erie and Western; the Toledo and Ohio Central; the New York, Chicago and St. Louis; and the Pittsburgh and Lake Erie. In addition, the Lake Shore and Michigan Southern owns 44.7 per cent of the stock of the Kanawha and Michigan (an equal amount being owned by the Chesapeake and Ohio) and 21.7 per cent of the stock of the Reading Company. The Cleveland, Cincinnati, Chicago and St. Louis owns a majority of the stock of the Cincinnati Northern; it exercises joint control, with the Cincinnati, Hamilton and Dayton, over the Dayton and Union; with the Pittsburgh, Cincinnati, Chicago and St. Louis, and the Vandalia, it controls the Indianapolis Union through the advance of capital.

The Pennsylvania Railroad heads another "system." It controls, directly and indirectly, 6 others of the 52 roads. Those directly controlled are the Pennsylvania Company; the New York, Philadelphia and Norfolk; and the Long Island. The Pennsylvania Company owns a majority of the stock of the Vandalia and the Grand Rapids and Indiana. The Pittsburgh, Cincinnati, Chicago and St. Louis, which is also controlled by the Pennsylvania, but which is not specifically mentioned as one of the roads in this arbitration, has a claim to 40 per cent and the Vandalia to 20 per cent of the capital advances to the Indianapolis Union.

In addition, the Pennsylvania Company owns 2.3 per cent of the stock of the New York, New Haven and Hartford, and 8.7 per cent of the stock of the Baltimore and Ohio Railroad. The Pennsylvania Railroad itself owns 9.4 per cent of the Baltimore and Ohio stock.

The New York, New Haven and Hartford "system" controls 4 others of the 52 roads, 2 of them directly—the Central New England and the New York, Ontario and Western. Through the Boston Railroad Holding Company, a majority of whose stock it owns, the New Haven controls the Boston and Maine, and through the Boston and Maine indirectly also the Maine Central.

The Baltimore and Ohio "system" controls, through a voting trust, the Cincinnati, Hamilton and Dayton, and through the latter the Dayton and Union.

The Erie "system" controls the New Jersey and New York and the New York, Susquehanna and Western.

The Reading "system" controls the Philadelphia and Reading Railway and the Central Railroad of New Jersey.

Others of the 52 roads involved in the arbitration that are controlled by roads or systems are the Hocking Valley, controlled by the Chesapeake and Ohio, which latter, we have seen, also controls 44.7 per cent of the Kanawha and Michigan; and the Chicago, Indianapolis and Louisville, which is controlled jointly by the Southern Railway and the Louisville and Nashville.

This intercorporate relationship among the 52 roads is still further extended by the so-called "systems" owning stock of other "systems." The most conspicuous illustration of this is the case of the Reading. This company owns 100 per cent of the stock of the Philadelphia and Reading Railway and 52.8 per cent of the stock of the Central Railroad of New Jersey. Of the stock of the Reading Company, 21.7 per cent is owned by the Baltimore and Ohio and an equal amount, 21.7 per cent, by the Lake Shore and Michigan Southern, 90.6 per cent of whose stock is in turn owned by the New York Central. Thus two "systems"

—the New York Central and the Baltimore and Ohio—control 43.4 per cent of the stock of the Reading “system.” The Baltimore and Ohio “system,” in turn, has 8.7 per cent of its stock owned by the Pennsylvania Company and 9.4 per cent by the Pennsylvania Railroad, thus giving to the Pennsylvania “system” control over 18.1 per cent of the stock of the Baltimore and Ohio “system.” The Pennsylvania Company owns 2.3 per cent and the New York Central, 0.09 per cent, of the stock of the New York, New Haven and Hartford. There are also instances of these “systems” owning stock, although only to a very slight degree, in the so-called “independent” roads involved in this arbitration, such as the Central Railroad of New Jersey owning 0.06 per cent of the stock of the Lehigh Valley.

Thus, leaving out of consideration the Wabash Pittsburgh Terminal, the Wheeling and Lake Erie, and the West Side Belt, which are in the hands of receivers, only 12 of the 52 roads are without the control of other roads or systems—are what might be called “independent.” These twelve roads are: The Bessemer and Lake Erie; the Delaware and Hudson; the Delaware, Lackawanna and Western; the Lehigh Valley; the Western Maryland; the Coal and Coke; the Buffalo, Rochester and Pittsburgh; the Buffalo and Susquehanna; the Chicago, Terre Haute and Southeastern; the Detroit, Toledo and Ironton; the Pere Marquette; and the Toledo, St. Louis and Western.

The roads controlled by other roads operate 22,700 miles, or 46 per cent of the total mileage of 49,286.

The New York Central “system” controls 12,402 miles, or 25 per cent of the total concerned, including its own mileage of 3,299 miles.

The New Haven “system” controls 6,328 miles, or 13 per cent including its own mileage of 2,040 miles.

The Pennsylvania “system” controls 10,361 miles, or 21 per cent, including its own mileage of 5,323 miles.

The Baltimore and Ohio controls 5,481 miles, or 11 per cent, including its own mileage of 4,434 miles.

The Reading System controls 2,079 miles, or 4 per cent.

The Erie Railroad controls 2,399 miles, or 5 per cent including its own mileage of 2,128 miles.

The large railroad "systems" therefore control lines aggregating 39,050 miles, or 79 per cent of the 49,286 miles concerned in the present controversy.

Summarizing the above facts regarding the intercorporate relations of the 52 railroads involved in the arbitration proceedings, it appears that of the total mileage concerned, the percentage owned and controlled by the different systems is as follows:

	<i>Per cent</i>
The New York Central.....	25
The New Haven.....	13
The Pennsylvania.....	21
The Baltimore & Ohio.....	11
The Reading.....	4
The Erie.....	5
	<hr/>
These six systems control.....	79

The mileage of the "independent" roads is as follows:

	<i>Miles</i>
Bessemer & Lake Erie.....	209
Buffalo & Susquehanna.....	356
Buffalo, Rochester & Pittsburgh.....	573
Chicago, Terre Haute & Southeastern.....	320
Coal & Coke.....	198
Delaware, Lackawanna & Western.....	957
Delaware & Hudson.....	1,030
Detroit, Toledo & Ironton.....	441
Lehigh Valley.....	1,381
Pere Marquette.....	2,328
Toledo, St. Louis & Western.....	451
Western Maryland.....	575
	<hr/>
Total.....	8,819

The prosperous "independent" roads own 8 per cent of the total mileage involved. These are: The Bessemer and Lake Erie, the Buffalo, Rochester and Pittsburgh, the Delaware and Hudson, the Lackawanna, and the Lehigh Valley. The three independent

roads that are bankrupt or in a receivership own 6 per cent. The remaining roads own approximately 6 per cent.

The "systems" and the roads controlled by them, together with their minority holdings in other roads and "systems," are presented in the following table. Where the per cent of stock owned is less than 50 per cent it is to be assumed that no control is exercised.

<i>Name of Road</i>	<i>Per cent of control</i>
New York Central & Hudson River	
Boston & Albany*	
Dunkirk, Allegheny Valley & Pittsburgh.....	90.7
Michigan Central.....	89.8
Chicago, Indiana & Southern.....	15.0
Indiana Harbor Belt (a).....	30.0
Lake Shore & Michigan Southern.....	90.6
Chicago, Indiana & Southern.....	85.0
Indiana Harbor Belt (a).....	30.0
Lake Erie, Alliance & Wheeling.....	100.0
Toledo & Ohio Central.....	100.0
New York, Chicago & St. Louis.....	50.1
Pittsburgh & Lake Erie.....	50.0
Kanawha & Michigan.....	44.7
Lake Erie & Western.....	50.0
Chicago, Terre Haute & Southeastern.....	00.1
Cleveland, Cincinnati, Chicago & St. Louis... ..	52.5
Cincinnati Northern.....	56.9
Dayton & Union.....	45.0
Indianapolis Union (b).....	40.0
Reading Company.....	21.7
New York, New Haven & Hartford.....	00.9
Pennsylvania Railroad	
New York, Philadelphia & Norfolk.....	99.7
Long Island.....	56.6
Pennsylvania Company.....	100.0
Grand Rapids & Indiana.....	51.2
Vandalia.....	79.6
Indianapolis Union (b).....	20.0
Baltimore & Ohio.....	8.7
New York, New Haven & Hartford.....	2.3
Baltimore & Ohio.....	9.4

* Control is through lease.

(a) Twenty per cent of the stock of the Indiana Harbor Belt is also controlled by the Chicago, Milwaukee & St. Paul and 20 per cent by the Chicago & Northwestern, neither of which roads are parties to the arbitration.

<i>Name of Road</i>	<i>Per cent of control</i>
New York, New Haven & Hartford	
Central New England	98.7
New York, Ontario & Western	50.1
Boston Railroad Holding Company	90.7
Boston & Maine	53.6
Maine Central	50.5
Baltimore & Ohio	
Cincinnati, Hamilton & Dayton†	
Dayton & Union	53.0
Reading Company	21.7
Erie	
New Jersey & New York (c)	82.5
New York, Susquehanna & Western	98.4
Reading Company	
Philadelphia & Reading Railway	100.0
Central Railroad of New Jersey	52.8
Lehigh Valley	00.06
Chesapeake & Ohio (d)	
Hocking Valley	80.3
Kanawha & Michigan	44.7
Southern Railway (e)	
Louisville & Nashville (e)	
Chicago, Indianapolis & Louisville	87.0

In addition to the intercorporate relationships as determined by stock ownership, lease, capital advanced, and voting trust there is a system of interlocking directorates. The same men, by acting as directors upon more than one road, may thus establish a close relationship among many of the roads in the Eastern District.

† Voting trust control.

(b) Capital advanced. The Pittsburgh, Cincinnati, Chicago & St. Louis, one of the Pennsylvania Railroad's lines, has 40 per cent of the capital advanced to the Indianapolis Union.

(c) One-half per cent of the stock of the New Jersey & New York is owned by the Delaware & Hudson.

(d) Not a party to the arbitration and not in the "Eastern" District.

(e) Not a party to the arbitration. The two control jointly the 87 per cent.

As illustrating the extent of these interlocking directorships, it is known that fourteen prominent individuals hold sixty-seven directorships in twenty-seven different roads in the Eastern District.

While the twelve roads listed as independent are nominally so, the officials and directors of some of them are identified in similar capacities with some of the great "systems" already named.

It is clear to the Board that from the point of view of the present arbitration, "systems" should be considered rather than the individual elements of the system, for their relations and business are so interwoven that even if a unit of the system considered by itself is unprofitable, taken in connection with the whole system it might be profitable, since it may be a valuable feeder to a large road and furnish business which has a long haul over such a system.

This being the case, any award should clearly apply to these systems,—about 80 per cent of the mileage of the roads concerned; and if exceptions are made they should be limited to roads included in the remaining 20 per cent. If these roads, some of which are weak, were parts of a larger system, or the mileage of the Eastern District were operated as a unit, the question would not arise regarding exceptional consideration of these roads, since they would act as valuable feeders to the larger roads. Further, while these independent roads do not have official corporate relationships to the larger systems, as a matter of fact the stock in them is to a considerable extent owned by the same group of financial interests which control the larger roads in the region.

The courts have declared in various cases, in administering the receivership of railroads, that the public safety is the paramount consideration, and that a railroad's financial embarrassments not only do not warrant reducing the pay of employes below what was paid before the receivership, but have ordered the receivers to pay the "going" rate of wages for the different classes of employes.

Therefore, considering all the facts, the Board cannot recognize the smallness and weakness of the roads as a controlling factor in fixing wages. The Board believe that the proper policy is rather to consider the character of the service without respect to ownership, and regardless of whether we have to do with strong roads, with minor branches of a large system, or with small independent roads. If because of the meager traffic at any place the work of the engineer is either physically or mentally easier than it is upon the trunk lines, there is adequate reason for considering this factor, but not on account of the smallness of the road. In short, the Board hold to the view that the nature of the service rendered is the paramount factor, and that if any standardization takes place, the fact must be recognized that where there is greater responsibility or greater strain there should be larger pay, and this without respect to whether the division operated belongs to a large system, or is controlled by a large system, or is independent.

Indeed, both the railroads and engineers recognize this principle by providing for a greater compensation on Mallet engines than on consolidation engines, and greater on the consolidation than on the lighter locomotives. If this principle be recognized with reference to the size of the engines, the Board can see no reason why it should not be recognized as between mountainous and level country, or should not be recognized regarding differences in the lightness and ease of service. Whatever standardization is attempted by the Board will therefore be by classification of service rather than by classification of roads.

The Board have therefore decided to make their awards apply generally without reference to individual roads.

ABILITY OF THE ROADS TO PAY INCREASED COMPENSATION

While the foregoing statement indicates that under existing conditions and wages, the majority of the roads are able to pay a fair return on the capital invested, this does not answer the

question whether the roads would be able to continue doing so if the proposed increase of compensation were granted. Even under existing rates of wages, the railroads have raised the question of a general increase in rates, both in the east and in the west. (See Interstate Commerce Commission, Cases 3400 and 3500; Opinions 1508 and 1509.) The Interstate Commerce Commission did not allow the increases asked. This being the situation, the railroads cannot expect materially to increase their income except by an increase in traffic.

It is fully understood that upon the average, there will be an increase in traffic; but in judging of such increase through the coming years, it is necessary to consider a series of years, since there are great variations in income from year to year.

The extent to which the operating revenues of the Eastern Railroads (in Groups I, II, and III of the Interstate Commerce Commission) have varied from 1897 to 1911 is shown on page 38.

This table shows that for the Eastern District as a whole there has been an increase in the net operating revenue. The increase for 1911 as compared with 1897 was 68 per cent.

In calculating the increases in income that will result from increases in traffic, a period of several years should be considered. The roads assert that their present income is no more than is necessary to meet fixed charges, including therein the maintenance and transportation accounts, compensation of employes during the year, interest on funded debt, fair dividends upon the stock, and a reasonable surplus.

To what extent the transportation and maintenance accounts may be diminished by increased economies, illustrated by reduced costs of transportation and equipment, is a very important factor regarding which the Board are unable to reach any conclusion.

Regarding the contention of the roads that only a fair rate of dividend is paid upon their stocks, and that 24.5 per cent of the stocks of the Eastern roads did not pay any dividends at all in 1911 (a point upon which the arbitrators express no opinion), it may be remarked (1) that the percentage of American rail-

TABLE I—Variations in Revenue of Operating Railroads in Groups I, II and III (Rail Operations) for the Years 1897 to 1911

YEAR	OPERATING REVENUES	OPERATING EXPENSES	NET OPERATING REVENUE	NET OPERATING REVENUE PER MILE*
1897	\$531,738,780	\$362,945,269	\$168,793,511	\$3,252
1898	570,357,302	386,874,820	183,482,482	3,496
1899	593,261,427	400,476,614	192,784,813	3,643
1900	677,892,142	452,197,832	225,694,310	4,217
1901	709,990,356	476,433,048	233,557,308	4,343
1902	763,029,037	513,700,642	249,328,395	4,597
1903	847,313,435	583,653,693	263,659,742	4,790
1904	873,678,276	615,980,209	257,698,067	4,598
1905	915,240,636	635,054,801	280,185,835	4,952
1906	1,013,949,012	691,445,885	322,503,127	5,607
1907	1,107,437,169	769,661,507	337,775,662	5,818
1908†	1,040,494,592	741,727,284	298,765,648	5,173
1909†	1,030,268,495	704,521,412	325,747,083	5,624
1910†	1,175,253,326	795,162,236	380,091,090	6,541
1911†	1,213,660,256	863,211,897	350,448,359	5,472

* Includes only single track mileage.

† Includes outside operations and excludes switching and terminal companies.

Explanatory Note: Operating revenues include revenue from freight and passenger traffic, from carrying mail and express, and from miscellaneous sources. Operating expenses include all the costs of maintaining track and equipment, operating trains, securing traffic, and of administration. Net operating revenue is the balance of total operating revenues after the payment of operating expenses. The above table does not include income or charges other than those included under the word "operating" as above defined.

way stocks upon which dividends have been paid is steadily increasing; and (2) that the average rate of interest paid on the dividend-paying stocks has been higher each year since 1903 than in any previous year during the existence of the Interstate Commerce Commission.

This is clearly indicated by Table II, from the "Statistics of Railways in the United States" published by the Interstate Commerce Commission.

Upon the facts here disclosed, Commissioner Lane, of the Interstate Commerce Commission, in reporting for the Commission in the Western Advanced Rate Case (Opinion No. 1509, dated February 22, 1911) commented as follows:

TABLE II.—*Dividends on American Railroad Stocks*

YEAR	PER CENT OF STOCK PAYING DIVIDENDS	AMOUNT OF STOCK PAYING DIVIDENDS	AMOUNT PAID IN DIVIDENDS	AVERAGE PAID ON DIVIDEND PAYING STOCK
1911*	67.65	\$5,730,250,326	\$460,195,376	8.03
1910*	66.71	5,412,578,457	405,771,416	7.50
1909*	64.01	4,920,174,118	321,071,626	6.53
1908*	65.69	4,843,370,740	390,695,351	8.07
1907	67.27	4,948,756,203	308,088,627	6.23
1906	66.54	4,526,958,760	272,795,974	6.03
1905	62.84	4,119,086,714	237,964,482	5.78
1904	57.47	3,643,427,319	221,941,049	6.09
1903	56.06	3,450,737,869	196,728,176	5.70
1902	55.40	3,337,644,681	185,391,655	5.55
1901	51.27	2,977,575,179	156,735,784	5.26
1900	45.66	2,668,969,895	139,597,972	5.23
1899	40.61	2,239,502,545	111,009,822	4.96
1898	33.74	1,818,113,082	96,152,889	5.29
1897	29.90	1,603,549,978	87,110,599	5.43
1896	29.83	1,559,024,075	87,603,371	5.62
1895	29.94	1,485,618,453	85,287,543	5.74
1894	36.57	1,767,925,565	95,515,226	5.40
1893	38.76	1,809,600,846	100,929,885	5.58
1892	39.40	1,825,705,437	97,614,745	5.35
1891	40.36	1,796,390,636	91,117,913	5.07
1890	36.24	1,598,131,933	87,071,613	5.45
1889	38.33	1,629,750,927	82,110,198	5.04
1888	38.56	1,490,267,149	80,238,065	5.38

* Does not include returns for switching and terminal companies.

"This table, it will be observed, begins with the first year after the act to regulate commerce took effect. At that time but 38 per cent of the stock of American railroads was paying dividends. The amount paid was, in round figures, \$80,000,000 per year. Passing over the years of industrial panic and coming to the year 1900 we find 45 per cent of the stock paying dividends amounting to \$139,600,000. These dividends were paid upon stock having a par value of \$2,669,000,000 upon which the average rate paid was 5.23 per cent. In 1910, however, the amount of stock paying dividends had increased to nearly \$5,500,000,000 or more than double what it was in 1900; the actual amount paid in dividends had increased to \$405,000,000 or nearly three times the amount paid in 1900, and the average rate had increased over 42 per cent."

Also the question arises regarding the proportion of non-dividend paying stock which is "water." If a satisfactory history of each of the roads were obtainable, it would be possible to ascertain

just how much money had actually gone into each enterprise. But no such history is obtainable. Nor are the facts available, in all probability, by which, as a result of any amount of investigation, such a history could be written.

Consequently, the railroads were questioned with regard to the physical valuation of their properties. Only one road was prepared to answer this question—the New York, New Haven and Hartford. This road, an old one, in a settled part of the country, with a business well established, and having many important terminals is favorably situated as regards physical valuation as compared with the selling price of its stocks and bonds. Doubtless some other roads are in an equally favorable position. If the physical valuation of all the railroads concerned were known, it is not asserted that such valuation would represent the true amount upon which interest should be paid. Nor is it asserted that a growing business should not have consideration. But only when we have the physical valuations of the various roads concerned, and can compare them with the funded debt and the bonds and stock, shall we know the relative amounts which are claimed for “values as going concerns.”

It is often stated that the value of a railroad is determined by the market price of its securities. But obviously this method may be misleading. The market price of the railroad stocks and bonds in 1907, when they reached a very high level, amounted to a much larger total than their present market value, notwithstanding the fact that during the succeeding years large amounts have been spent for additions and betterments. We all know that the railroads of the country are now more valuable, at least by such additions and betterments, than they were four or five years ago. Manifestly, therefore, any plan that determines the value of the railroad properties by the accident of the market price will seldom lead to correct conclusions.*

* Take, for example, the Erie Railroad. The par value of its stock was \$176,271,300 in 1907, as well as 1912. Yet in 1907, the market value of this

ADDITIONS AND BETTERMENTS

For the year ending June 30, 1911, the fifty-two roads concerned in this arbitration reported the investment, out of income, of \$30,937,459 (Railroad Exhibit 67A) in additions and betterments. It is safe to say that this is a conservative estimate, for it is well known that when the railroads replace rails and bridges out of operating expenses, they at least make the roads as good as they were before; and it is fair to assume that they improve them. The money used from income for additions and betterments may be spent for exactly the same purposes for which new capital is used, namely, lowering the grades, buying larger engines, and making other improvements of this class. By so doing, the expense of operation per ton mile or passenger mile is reduced, and thus results in increased earnings. However, a considerable portion of the funds taken out of income and used for additions and betterments are spent in ways that enhance safety and convenience. Some of these expenditures are for the elevation of tracks through cities, the elimination of grade crossings, the introduction of safety appliances, the electrification of roads entering the larger cities, and the construction of elaborate, sometimes monumental, terminals. While the elevation of tracks, the elimination of grade crossings, the introduction of safety devices, etc., do somewhat increase the net earning power of a road, in that the traffic is more easily and more rapidly handled, it cannot be said that this increase is anything like proportionate to the additional investment; yet the public demands these additions and betterments for their safety, comfort and convenience. It cannot be doubted that as a result of using income for additions and betterments the value of a property is increased, although not always in the ratio of the cost.

stock was \$96,786,022, while in July 1912, it was \$73,758,371. The bonds, at their highest in 1907, were worth \$207,503,732, and in July, 1912, \$195,796,429, despite the fact that there had been an *increase* of \$4,712,000 in the aggregate par value of the bonds. This represents a shrinkage of about 11 per cent in the value of the road as measured by the market value of its securities.

The policy of withholding a considerable amount out of income for additions and betterments is not criticised. Indeed, it is believed to be wise. But in so far as money is expended for additions and betterments, the stockholders should either be content, for the time being, to receive lower dividends on their stock, or, upon the other hand, they should not expect that in the future the increased value of the property should be capitalized and their dividends thereby increased. Either alternative can logically be taken. If the dividends are decreased below a reasonable amount, for the sake of additions and betterments, the stockholders are justified in regarding the amount put in as their property, and therefore a basis for further dividends. If, on the other hand, the dividends now paid are reasonable, and the additions and betterments are taken out of the income, such expenditures should not be the basis upon which new securities are issued. This matter has a bearing on the present discussion, because so far as money goes into additions and betterments, it makes the railroads for the time being less able to pay increased wages.

While with reference to the future it is believed that the above position regarding additions and betterments will become a settled policy, it is realized that this has not been true in the past. It was only a few years ago that the Interstate Commerce Commission and some of the State Commissions gained the right to regulate rates. Prior to that time, the position above advocated could not logically be maintained. During the history of many of the railroads in question, large amounts of stocks have been put upon the market which represented nothing but "water"; but which, during subsequent years, have been made substance by putting back from the income, in additions and betterments, large sums of money annually. In many cases the "water" thus put on the market has been made substance altogether by the above process, by the increasing value of real estate, especially in cities, and other factors; in other cases this has been

accomplished in part. In still other cases much of the common stock does not yet represent substance.

THE QUESTION OF SURPLUS

During the year ending June 30, 1911, the fifty-two railroads reported a surplus of \$32,129,676.* There can be no objection to the accumulation of a surplus, provided it is definitely understood what the uses are to which a surplus can legitimately be put. Additional surplus is not accumulated to add to the stock, nor to add to the dividends; it is accumulated as a reserve against disasters—such as floods, which may amount to millions of dollars for a single system in a year—and as a provision for interest on bonds, fair wages and dividends, and other expenses during years when, for some unforeseen reason, the traffic falls below the normal. When for a given road a surplus has been accumulated sufficient to protect the property adequately in these respects, (and, of course, for a large road the sum must be much greater than for a small one) there is no longer any justification for the increase of surplus from the income. When it is reduced in disastrous years, it should, in prosperous years, be again built up to a safe margin; but it should not be accumulated to an amount which will serve for the issuance of stocks and bonds, as has been done in the past. In the future the public utilities of the country should not be permitted to cut “melons” from surplus.

CONCLUSIONS

The above features regarding the railroad situation are dwelt upon to show how unable the Board are, within any reasonable time, to gauge accurately the assertion of the railroads that they are financially unable to pay an increased wage. To answer the questions raised regarding decreased expenses for maintenance

* Railroad Exhibit 67 A.

and transportation, to ascertain the amount of money which should fairly go to stocks and bonds, to interpret correctly the investment of income for additions and betterments—would require the work of a staff of experts for years; and even then this might not be accomplished with regard to the past. For the future, however, methods of accounting can no doubt be worked out and the roads required to keep their books so as to furnish this information.

Having made the above reservation, the figures furnished by the railroads mentioned above indicate upon their face that the roads are on the average not in a position to make large increases in expenditures. This view of the situation presented by the railroads is confirmed by the investigations made by the Interstate Commerce Commission in the recent rate advance cases. This Commission reached the conclusion that while the railroads were not justified in making a general increase of rates, it was intimated that if hereafter there were large increases in expenditures there might be justification for rate increases.

It is claimed by the railroads that if the requests of the engineers were granted in their entirety, the increased expenditure would amount to \$7,172,546; and it is estimated by the railroads that if they should grant the same percentage of increase to other railway employes, this would involve an additional expenditure of \$60,233,232. If these figures are correct—that is, if the wage account of the railroads were increased by a total of over \$67,000,000—this would amount to more than the total appropriations for additions and betterments (\$30,937,459) and the total surplus (\$32,129,676) for the year ending June 30, 1911. However, the Board have grave doubts regarding the correctness of these figures, especially regarding the amount of the so-called “collateral” increases. It is probable that the estimated amount of increase for the engineers, in case all their demands were granted, is approximately correct. The amount probably should not be

largely discounted. The Board do not feel the same regarding the estimated collateral increases. It is improbable that the collateral increases would amount to more than \$60,000,000, as claimed by the railroads.

The method of calculating collateral increases was investigated by the statisticians of the Board, and it was ascertained that each road applied the same percentage of increase to all other classes of employes that was estimated for the engineers in case the latter's requests were granted. These estimated collateral increases varied on the different roads from 10.4 per cent in the case of the Bessemer and Lake Erie to 56.35 per cent for the Coal and Coke Railway. This shows how uncertain is the calculation submitted by the railroads regarding collateral increases. In the opinion of the Board, the sum of \$60,000,000 is far too large an estimate for all the resultant collateral increases. But the Board believe that if the requests of the engineers were fully granted, some collateral increases would inevitably follow.

Reports of the fifty-two railroads to the Interstate Commerce Commission for the fiscal year ending June 30, 1912 show an increase over the fiscal year 1911 of \$32,810,495 in their operating revenues, and an increase of \$21,324,198 in operating expenses, leaving an increase of \$11,486,297 in net operating revenue for the year.

There is every reason to believe, moreover, that the earnings of the railroads for the fiscal year beginning July 1, 1912 will be larger than they have been for several years. Especially since June, 1912, the railroads have had a very large business and probably for the ensuing months of the year the freight business will be as great as they can handle.

In many lines of industry orders are so far ahead that manufacturers will not take additional ones except for delivery in several months and in some cases even a year or more in the future. This being the situation, it is practically certain that during the

fiscal year 1912-13 the gross income of the railroads will be larger than in 1911-12.

The foregoing consideration of the question of compensation to capital, and of the ability of the roads to pay an increased wage, leads to so uncertain conclusions that the Board feel that these should not be controlling factors in the award.

Therefore, considering the uncertainty of many of the factors involved, the arbitrators feel that they should not deny an increase of compensation to the engineers merely on the ground that the roads are unable to pay. They feel that the engineers should be granted a fair compensation. They furthermore believe it probable that a great majority of the railroads in the district concerned are able to pay a fair compensation. If they are not able to pay such compensation with existing rates, there is just cause for them to open again the question of an increase of rates with the Interstate Commerce Commission. In making their award they therefore eliminate the claim of the railroads that they are unable to pay an increased compensation.

THE BASIS OF A FAIR WAGE

Possibly there should be some theoretical relation, for a given branch of industry, between the amount of the income that should go to labor and the amount that should go to capital; and if this question were decided, a scale of wages might be devised, for the different classes of employes, which would determine the amount rightly absorbed by labor. It may be that in the future some such solution will be worked out for the various industries; and if so, the income of the railroads could be so apportioned. Thus far, however, political economy is unable to furnish such a principle as that suggested. There is no generally accepted theory of the division of income between capital and labor. It is certain that the arbitrators cannot make their findings upon the basis of some *future* system. Their findings must be based upon existing practices. While the members of the Board sympathize with the demands of labor, and feel that in the past, labor has not always received its full share of the joint income, this fact should not control the findings of the Board.

What, then, is the basis upon which a judgment may be passed as to whether the existing wage scale of the engineers in the Eastern District is fair and reasonable? It seems to the Board that the only practicable basis is to compare the rates and earnings of engineers in the Eastern district with those of engineers in the Western and Southern districts and with those of other classes of railway employes. In doing the latter it is not meant to assume that the compensation of the engineers should not be higher than that of other skilled labor in railroad service, but in order to ascertain the difference which has actually existed between the engineers and other classes of railroad employes in the same and in different districts.

Each side to the arbitration has recognized the bearing of such comparisons on the questions involved, by submitting comparisons between the wages received by engineers and by other railway employes.

The Board feel compelled to base their award upon existing facts, rather than upon a theory regarding the division of the fruits of industry.

COMPENSATION NOW RECEIVED

The railroads submitted an exhibit showing the maximum monthly earnings of different classes of engineers. The following are illustrations from some of the more important roads.

Baltimore & Ohio—Earnings of highest-paid engineer for January, 1912:

Passenger: Regular time, 5,910 miles @ \$3.90, \$230.50;	
overtime, 31 hours @ 45 cents, \$13.95	\$244.45
Average for seven months.....	181.85
Freight: Regular time, 3,487 miles @ \$4.70 and \$4.85;	
1 day @ \$5.40, \$174.35; overtime, 102 hours @ 47	
cents, 54 cents and 48½ cents, \$49.50.....	\$223.85
Average for seven months.....	179.48

Bessemer & Lake Erie—Earnings of highest-paid engineer for September, 1911:

Passenger: Regular time, mileage 3,823 @ \$4.20 and	
\$4.60; hours on duty, 150.37, straight time allow-	
ance 3,978 miles; no overtime.....	\$167.56
Average for seven months.....	162.71
Freight: Regular time, mileage 3,634 @ \$5.00, hours	
on duty 337.40, straight time 3,725 miles; over-	
time, 230 miles.....	\$198.00
Average for seven months.....	168.50

Central of New Jersey—Earnings of highest-paid engineer for January, 1912:

Passenger: Worked 26 days, 26 trips; Jersey City to Philadelphia and return, 4,814 miles @ \$4.25, time in service 191.15 hours	\$204.60
Average for seven months.....	192.59
Freight: Worked 23 days, 23 trips; mileage, 4,120 regular time; 42 miles overtime; total miles, 4,162 @ \$4.85; time in service 337.15 hours	\$201.86
Average for seven months.....	186.20

Cleveland, Cincinnati, Chicago, & St. Louis—Earnings of highest-paid engineer for January, 1912:

Passenger: Regular time, 5,350 miles @ \$3.90	\$208.65
Average for seven months.....	199.10
Freight: 14½ turn-around trips, 292 miles per trip; 11 additional miles; total, 4,245 miles @ \$4.75; overtime, 1 hour @ 47½ cents.....	\$202.10
Average for seven months.....	164.10

Delaware, Lackawanna & Western—Earnings of highest-paid engineer for January, 1912:

Passenger: Regular time, 29 trips of 152 miles each 4,408 miles @ \$4.10; 3 trips of 141 miles each, 423 miles @ \$4.50.—Terminal delays, 14.24 hours; 144 miles @ \$4.10; total time on duty, 195.46 hours	\$205.67
Average for seven months.....	189.34
Freight: Regular time, 31 trips, 141 miles each, 6 miles overtime, 1 trip 176 miles, total 1,531 miles @ \$4.80, 2,996 miles @ \$4.65, and 6 miles @ \$4.65; total time on duty, 251.59 hours, including 36 minutes overtime	\$214.05
Average for seven months.....	181.62

Lake Shore & Michigan Southern—Earnings of highest-paid engineer for January, 1912:

Passenger: Regular time, 6,252 miles @ \$4.15; 180 miles @ \$2.07½; overtime, 70 miles @ \$4.20, 35 trips . . .	\$266.15
Average for seven months	169.80
Freight: Regular time, 945 miles @ \$4.15; 3,490 miles @ \$4.85; overtime, 10 miles @ \$4.20; 110 miles @ \$4.85, 39 trips	\$214.25
Average for seven months	116.06

Michigan Central—Earnings of highest-paid engineer for January, 1912:

Passenger: Straight time, 55.43 days; overtime, 13 hours; 56.7 days @ \$4.15	\$235.30
Average for seven months	47.07
(Handles through passenger trains between Windsor and Buffalo)	
Freight: Straight time, 34.5 days, overtime 14.4 days, total 48.54 days @ \$5.45; overtime figured @ 12.8 miles per hour; overtime after 10.50 hours on duty . .	\$264.30
Average for seven months	235.75
(Operates a train from Kalamazoo to Jackson and turn-around.)	

New York, Chicago & St. Louis—Earnings of highest-paid engineer, month not given:

Passenger: 29 trips @ \$5.85; 4 hours overtime @ 46 cents	\$171.50
Freight: 30 trips @ \$5.80; 34 hours overtime, @ 46 cents	\$189.65

New York, New Haven & Hartford—Earnings of highest-paid engineer for August, 1911:

Passenger: 5,208 miles @ \$4.10; 63 hours overtime @ 41 cents.....	\$239.45
Average for seven months.....	194.40
Freight: December, 1911, 3,810 miles @ \$4.65; 131 hours overtime @ 46½ cents; 8 doubling miles @ \$0.0465, ¼ day switching @ \$3.50.....	\$240.29
Average for seven months.....	203.25

Pennsylvania Lines-East—Earnings of highest-paid engineer for January, 1912:

Passenger: 27 trips @ \$7.22; 108 hours overtime @ 41½ cents; 99 terminal miles @ \$0.0415; 3 trips @ \$5.27	\$259.68
Average for seven months.....	237.37
Freight: (Slow). Time on duty, 400.5 hours; 43 trips @ \$3.89; 2 trips @ \$4.85; 1 trip @ \$5.33; total, \$182.30; overtime, \$41.80.....	\$224.10
Average for seven months.....	187.86

Pennsylvania Lines-West—Earnings of highest-paid engineer for October, 1911:

Passenger: January, 1912. Total hours on duty 257.17; miles run, 5,783; trips 43; regular time 247.4 hours; overtime 10.13 hours; wage paid per hour on duty 98.8 cents.....	\$253.90
Average for seven months.....	185.82
Freight: October, 1911. Total hours on duty 444.19; miles run 3,570; trips 30; regular time 355.44 hours; overtime 88.35 hours; wages paid per hour on duty 48½ cents; leave of absence, 1 day.....	\$215.60
Average for seven months.....	201.38

Vandalia—Earnings of highest-paid engineer, January, 1912:

Passenger: 26 trips @ \$7.26; 6 trips @ \$6.89; 2 hours 18 minutes overtime @ 50 cents.....	\$231.25
Average for seven months.....	203.55

Freight: 19 trips @ \$8.10; 4 trips @ \$4.85; 2 hours 13 minutes overtime @ 48½ cents; 1 trip @ \$6.89; 4 trips @ \$7.26.....	\$210.30
Average for seven months.....	165.63

The actual earnings of the twenty-five engineers who testified before the Board were also ascertained. The names of these men, the roads and divisions upon which they worked, the character of the service, the average earnings per month, and the estimated earnings for the year, are given in Table III on pages 54-56.

From this table it appears that the lowest annual compensation for any of these 25 men was \$1,200 and the highest \$2,386.80; the average being approximately \$1660.00.

The men named in this table are to a certain extent a selected group and their average compensation is therefore probably greater than for most engineers in the Eastern District. As shown by the report of the Interstate Commerce Commission the average "daily" compensation of the engineers in this territory in 1911 was \$4.71. It should be remembered that the basis of the calculation giving this figure is what is regarded as a normal day's work. If a man makes more than an average number of runs, or puts in much overtime, he may make more than thirty days' pay in a month.

If due allowance be made for overtime on the one hand and "lay offs" allowed for on the other hand, the Board estimates that an engineer who does 300 normal days work in a year would receive an annual compensation of about \$1,400. This sum probably approximates the average earnings of the engineers in the territory concerned.

The higher sums above named are significant to the extent that they show the compensation of some of the men who by seniority have the better runs. In an exceptional month a man having a good run may earn somewhere from \$200 to \$250. In a year, the men having the more favorable runs may earn from \$1,600

to \$2,300; and men receiving compensation between these ranges are rather numerous. However, the average annual earnings of all engineers for the territory cannot certainly be assumed to be more than \$1,400.

AVERAGE DAILY COMPENSATION OF ENGINEERS AND OTHER CLASSES
OF RAILROAD EMPLOYEES FROM 1897 TO 1911

Among the arguments presented by the engineers for an increase of compensation is that the engineers in the Western and Southern districts are receiving a higher compensation than those in the Eastern District. The Board, so far as they were able to enter into an investigation of this subject, gained the general impression that these statements were justified; but they have been unable to answer to their own satisfaction the question of how much higher the wages are in the West and South than they are in the East. To investigate this subject fully would require more time than has been available to the Board before it has been necessary to make an award. They have therefore been obliged to turn to the only source of information available on the subject—the figures of the Interstate Commerce Commission. They recognize that these figures have been made up in a manner which may render them unsatisfactory for comparative purposes. It appears that the wage statistics published by the Commission are prepared from reports made by the individual roads. The total amount of compensation paid by a road to a given class of employes is divided by the number of days worked by men in that class to determine the average daily wage. Reports are compiled for the several groups used by the Commission for statistical purposes. The total compensation to a class is not distributed among the different lines of work. For example: all engineers, passenger, freight and switching, are included under the head “engineers” and all compensation paid them, whether for mileage, overtime or dead-heading, is included in the lump sum. Neither the maximum nor minimum earnings are shown.

TABLE III—Present Wages and Earnings of the Twenty-five Locomotive Engineers who Testified before the Board of Arbitration

(Based on their testimony to the Board, and on supplementary information furnished by the men themselves.)

NAME OF ENGINEER	RAILROAD	DIVISION	YEARS IN EMPLOY OF THIS ROAD	YEARS AS AN ENGINEER	YEARS AS A FIREMAN	KIND OF SERVICE	IN POOL (a) OR REGULAR	KIND OF ENGINE OPERATED	DAYS WORKED PER MONTH	WAGE RATE PER DAY	USUAL AMOUNT OF WAGES		ESTIMATED AVERAGE MONTHLY EARNINGS IN 1911 AND FIRST HALF OF 1912
											Per month	Per year (b)	
Edwards..	42 B.&O.	Chicago div. west end Cleveland	26	14	4	Belt yd. and transfer	Reg.	Consol. 22 x 30	Av. 28	\$4.15	\$115.89	\$1,396.85	\$116.53
Hanley....	47 B.&O.	Cleveland	11	17	4	Heavy freight	Pool	Mikado 24 x 32	About 20 trips	5.00	100.00	1,200.00	100.00
Hughes....	57 B.&O.	Mountain Pgh. Div.	42	38	2	Pass.	Reg.	Pacific 24 x 30	30	4.25	198.90	2,386.80	198.90
Singleton .	44 B.&O.	Newark	12	15	7	Frt.	Pool	Consol. 22x 30	Not over 25	4.85	121.25	1,455.00	121.25
Smith.....	46 B.&O.	West end of Cumberland	20	12	8	Slow frt.	Pool	Consol. 21 x 30	About 23	4.85	116.00	1,392.00	116.00
Woods.....	46 N.Y.C.	Mohawk	24	24	4	Fast Pass.	Reg.	K-2 24 x 26	15 round trips	4.15	186.75	2,241.00	186.75
Fero.....	41 N.Y.C.	Penna.	20	12	7½	Heavy slow frt.	Pool	Mallet 32 x 23 and 32 x 34	Av. 23	5.85	135.00	1,620.00	135.00
Muir.....	36 N.Y.C.	Western	14	7	8	Slow frt.	Pool	Consol. 23 x 32	Av. 25	4.85	150.00	1,800.00	105.65
Case.....	36 N.Y.C.	Harlem	15	9	6	Elec. Pass.	Reg.	B-10-U 21 x 28	Av. 28	4.15	145.00	1,740.00	160.00
Daniels....	55 N.Y.C.	Hudson Riv.	34½	31	3½	Switching in yds.	Reg.	B-10-U 21 x 28	Av. 26	4.10	127.92	1,535.04	127.92

Galleher...	51 B. & M.	C. & P. So.	30	4 Fast pass.	Reg.	Atlantic 19 x 26	13 or 14	4.10	133.50	1,602.00	133.50
Cart.....	41 B. & M.	Southern	20	3 Pass.	Reg.	8 wheel 18" cyl.	Av. 22	4.00	1,539.20	1,539.20	115.00 to 120.00
Hallett....	41 B. & M.	Southern	24	15 Heavy local frt.	Reg.	Mogul 19 x 26	Av. 22	4.30 and 5.72	1,440.00	1,440.00	120.00
Walpole...	47 B. & M.	Fitchburg	28	3½ Heavy frt. switching			Every night except 4	4.00	1,680.00	1,680.00	140.00
Moore.....	50 N. Y., N. H. & H.	Shore line	29	5 Fast pass.	Reg.	Pacific 22 x 28	Av. 16	4.10	1,641.60	1,641.60	136.80
Reed.	34 N. Y., N. H. & H.	Shore line	14	10 6½ Mainly frt.	Pool	All classes	25	4.65	1,395.00	1,395.00	85.00 to 135.00
Garland...	42 N. Y., N. H. & H.	Shore line	7	13 8 Elec. pass and frt.	Pool	1000 to 4000 h.p.	Av. 26½	4.10 and 4.65	1,572.84	1,572.84	131.07
Hurley ...	41 N. Y., N. H. & H.	Providence	17	8½ Switching in 10 hr. yd.	Reg.	Mogul 18 x 24	Av. 26	4.10	1,416.00	1,416.00	118.00
Keleher...	38 Penna.	Manhattan	22	8 12 Elec.			Every day	5.00*	1,800.00	1,800.00	150.00
Ludlam....	37 Penna.	W. Jer. & Sea-shore	19	11 8 Elec.	Reg.		Every day	5.00	1,866.00	1,866.00	153.00 to 158.00
Packer....	50 Penna.	Interdivisional 5 Div.	22	7 Fast pass.	Reg.	Atlantic 22 x 26	20	4.15	2,212.80	2,212.80	184.40

* Engineers working in "pool" often work on different runs; their earnings are consequently subject to variations.

† When annual earnings have not been reported by the engineer, the average monthly earnings have been multiplied by 12.

TABLE III—Present Wages and Earnings of the Twenty-five Locomotive Engineers who Testified before the Board of Arbitration—Continued

NAME OF ENGINEER	AGE	RAILROAD	DIVISION	YEARS IN EMPLOY OF THIS ROAD	YEARS AS AN ENGINEER	YEARS AS A FIREMAN	KIND OF SERVICE	IN POOL (a)	KIND OF ENGINE OPERATED	DAYS WORKED PER MONTH	WAGE RATE PER DAY	USUAL AMOUNT OF WAGES		ESTIMATED AVERAGE MONTHLY EARNINGS IN 1911 AND FIRST HALF OF 1912
												Per month	Per year (b)	
Fagan.....	61	Penna.	Philadelphia Terminal	31	7	Yd.			B-8	Av. 28	\$4.35	\$134.00	\$1,608.00	\$100.00
Jackson....	33	Penna.	Pittsburgh	14	10	4	Slow through frt.	Pool	22 x 28	Av. 26	4.85	151.22	1,814.84	in 1911
Moyer.....	51	Penna.	Monongahela	26	6	Yd.		Reg.	B-8 Shifting 20 x 24	Av. 26	4.35	105.00	1,260.00	105.00
Shreve.....	45	Penna.	W. Jer. & Sea-shore	20	4	Fast pass.		Reg.	Atlantic 80" drive 20½ x 26	Av. 13	4.15	156.00	1,872.00	

^a Engineers working in "pool" often work on different runs; their earnings are consequently subject to variations.

^b When annual earnings have not been reported by the engineer, the average monthly earnings have been multiplied by 12.

The manner in which the Interstate Commerce Commission's figures have been compiled makes it plain that they do not give a basis for accurate comparison. The differences may be greater or less than those shown by the figures of the Interstate Commerce Commission. Nevertheless, since these statistics are the only ones available to the Board to guide them regarding the claim that wages are higher in the West and South than in the East, comparisons of the compensation in these districts and with the United States as a whole, are inserted upon the basis of the available data. The comparisons cover the years 1897 to 1911 inclusive. The year 1897 is chosen for beginning the statistics since in that year wages were at a low ebb.

Also, tables have been prepared showing differentials between the engineers, firemen, conductors and other trainmen for the different districts and the country as a whole from 1897 to 1911.

Before discussing these tables it should be recalled that the Interstate Commerce Commission in its report for 1911 abandons the former grouping of states and substitutes therefor a three-group-system—called the Eastern, Southern and Western districts.

This Eastern District embraces the former Groups I, II and III, with the addition of half the state of Illinois. Groups IV and V under the old system, now form the "Southern district," and the remaining states form the "Western district," except for the portion of Illinois that has been added to the Eastern District.

While this modification in the territorial groups makes impossible a comparison of single groups in 1911 with the same groups in previous years, it does not seriously affect the accuracy of comparisons of the several regions designated as Eastern, Southern and Western.

Table IV indicates the average daily compensation of thirteen different classes of railroad employes for the years 1897 to 1911, inclusive. The classes of employes included are engineers, firemen, conductors, other trainmen, station agents, other station men, section foremen, other trackmen, machinists, carpenters,

TABLE IV—Average Daily Compensation of Railroad Employes from 1897 to 1911
 (From "Statistics of Railways in the United States," published by the Interstate Commerce Commission)

CLASS AND TERRITORY	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Enginemen:															
<i>Eastern</i>															
Group 1.....	\$3.45	\$3.48	\$3.45	\$3.48	\$3.48	\$3.50	\$3.51	\$3.55	\$3.60	\$3.62	\$3.78	\$3.91	\$3.90	\$3.97	\$4.71
2.....	3.56	3.61	3.60	3.62	3.65	3.76	4.00	4.06	4.06	4.06	4.26	4.43	4.39	4.53	
3.....	3.52	3.57	3.57	3.67	3.65	3.73	3.94	3.99	3.98	3.98	4.14	4.25	4.31	4.34	
<i>Southern</i>															
4	3.56	3.66	3.76	3.76	3.95	4.12	4.04	4.19	4.25	4.28	4.54	4.34	4.12	4.34	4.85
5	3.69	3.83	3.96	3.88	3.90	4.01	4.22	4.25	4.28	4.35	4.59	4.63	4.64	4.81	
<i>Western</i>															
6	3.68	3.70	3.67	3.68	3.68	3.71	3.88	3.98	4.05	4.08	4.18	4.39	4.39	4.58	4.90
7	3.82	3.94	3.87	3.90	4.00	3.89	4.08	4.17	4.27	4.27	4.31	4.59	4.79	4.72	
8	3.89	3.93	3.88	3.91	3.95	4.05	4.02	4.28	4.22	4.36	4.56	4.80	4.76	4.75	
9	3.99	4.08	4.06	4.10	4.07	4.09	4.29	4.32	4.45	4.35	4.68	4.89	4.85	4.87	4.79
10.....	4.23	4.47	4.45	4.53	4.58	4.58	4.83	4.97	5.02	4.52	4.47	4.71	4.80	4.84	
United States....	3.65	3.72	3.72	3.75	3.78	3.84	4.01	4.10	4.12	4.12	4.30	4.45	4.44	4.55	
Firemen:															
<i>Eastern</i>															
Group 1.....	1.95	1.97	1.96	1.97	1.98	1.98	2.00	2.02	2.07	2.08	2.20	2.30	2.31	2.35	2.88
2.....	1.97	2.03	2.02	2.05	2.08	2.14	2.26	2.33	2.38	2.46	2.55	2.67	2.68	2.75	
3.....	1.98	2.01	2.00	2.09	2.08	2.15	2.28	2.33	2.34	2.35	2.46	2.50	2.54	2.57	
<i>Southern</i>															
4.....	1.61	1.67	1.76	1.75	1.85	1.90	1.85	1.95	1.94	2.04	2.18	2.13	2.03	2.16	2.57
5.....	1.85	1.92	2.01	1.95	1.96	1.97	2.03	2.09	2.03	2.10	2.30	2.30	2.37	2.42	

<i>Western</i>														
6.....	2.16	2.17	2.23	2.22	2.24	2.34	2.39	2.44	2.48	2.57	2.73	2.75	2.84	3.22
7.....	2.28	2.31	2.32	2.41	2.36	2.49	2.47	2.58	2.58	2.66	2.85	3.04	3.14	
8.....	2.34	2.35	2.38	2.42	2.46	2.44	2.62	2.62	2.74	2.86	3.05	3.03	3.13	
9.....	2.32	2.34	2.36	2.40	2.37	2.53	2.56	2.66	2.65	2.79	2.98	2.97	3.03	
10.....	2.39	2.51	2.53	2.68	2.67	2.80	2.97	2.96	2.80	2.83	2.98	3.01	3.04	
United States.....	2.05	2.09	2.10	2.14	2.16	2.28	2.35	2.38	2.42	2.54	2.64	2.67	2.74	2.94
<i>Conductors:</i>														
<i>Eastern</i>														
Group 1.....	2.89	2.93	2.94	2.97	2.96	3.01	3.06	3.12	3.19	3.26	3.25	3.37	3.52	4.03
2.....	2.86	2.94	2.93	2.97	3.00	3.33	3.38	3.39	3.33	3.49	3.65	3.60	3.74	
3.....	3.03	3.10	3.07	3.14	3.12	3.35	3.39	3.36	3.37	3.56	3.65	3.63	3.73	
<i>Southern</i>														
4.....	2.66	2.80	2.92	2.97	3.02	3.08	3.07	3.11	3.19	3.50	3.39	3.34	3.38	4.00
5.....	3.07	3.04	3.13	3.12	3.12	3.31	3.31	3.29	3.41	3.78	3.82	3.68	3.79	
<i>Western</i>														
6.....	3.24	3.31	3.25	3.29	3.27	3.36	3.65	3.69	3.71	3.82	3.93	4.00	4.12	4.46
7.....	3.26	3.38	3.35	3.38	3.36	3.45	3.74	3.82	3.82	3.86	3.94	4.11	4.16	
8.....	3.33	3.32	3.33	3.42	3.40	3.69	3.94	3.91	4.04	4.12	4.33	4.30	4.38	
9.....	3.54	3.62	3.65	3.62	3.58	3.81	3.89	3.83	3.88	4.13	4.45	4.49	4.59	
10.....	3.68	3.67	3.65	3.70	3.75	3.81	4.09	4.07	4.05	4.27	4.40	4.43	4.38	
United States.....	3.07	3.13	3.13	3.17	3.17	3.38	3.50	3.50	3.51	3.69	3.81	3.81	3.91	4.16
<i>Other Trainmen:</i>														
<i>Eastern</i>														
Group 1.....	1.88	1.92	1.91	1.94	1.94	2.02	2.09	2.12	2.17	2.32	2.30	2.39	2.49	2.94
2.....	1.84	1.87	1.87	1.90	1.93	2.14	2.21	2.28	2.40	2.56	2.65	2.59	2.71	
3.....	1.96	2.00	1.99	2.04	2.09	2.31	2.36	2.36	2.39	2.59	2.64	2.64	2.72	

TABLE IV—Continued—Average Daily Compensation of Railway Employes from 1897 to 1911.

CLASS AND TERRITORY	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Other Trainmen—Con.															
<i>Southern</i>															
4.....	\$1.39	\$1.54	\$1.45	\$1.51	\$1.52	\$1.55	\$1.52	\$1.54	\$1.65	\$1.66	\$1.82	\$1.86	\$1.85	\$1.89	\$2.43
5.....	1.71	1.73	1.76	1.71	1.75	1.75	1.79	1.88	1.89	2.01	2.24	2.17	2.12	2.18	
<i>Western</i>															
6.....	1.96	1.97	1.96	1.97	2.00	2.04	2.19	2.34	2.36	2.37	2.53	2.61	2.69	2.81	3.00
7.....	2.11	2.18	2.16	2.20	2.22	2.23	2.22	2.47	2.56	2.55	2.66	2.76	2.79	2.86	
8.....	2.12	2.13	2.12	2.12	2.20	2.22	2.37	2.50	2.63	2.65	2.78	2.84	2.78	2.84	
9.....	2.21	2.23	2.25	2.26	2.25	2.26	2.37	2.50	2.46	2.53	2.77	2.93	2.90	3.00	
10.....	2.61	2.65	2.64	2.64	2.64	2.61	2.73	2.93	2.92	2.74	3.15	3.18	3.06	3.04	2.88
United States ...	1.90	1.95	1.94	1.96	2.00	2.04	2.17	2.27	2.31	2.35	2.54	2.60	2.59	2.69	
Station Agents:															
<i>Eastern</i>															
Group 1.....	1.79	1.79	1.81	1.80	1.82	1.84	1.88	1.93	1.96	1.99	2.03	2.10	2.08	2.13	2.24
2.....	1.66	1.69	1.69	1.68	1.72	1.76	1.84	1.89	1.88	1.91	2.03	2.09	2.08	2.15	
3.....	1.68	1.69	1.69	1.70	1.72	1.77	1.84	1.90	1.90	1.95	2.06	2.10	2.10	2.14	
<i>Southern</i>															
4.....	1.36	1.35	1.39	1.39	1.38	1.36	1.56	1.56	1.61	1.62	1.70	1.75	1.74	1.76	1.93
5.....	1.44	1.41	1.45	1.45	1.52	1.53	1.59	1.65	1.69	1.70	1.78	1.79	1.86	1.89	
<i>Western</i>															
6.....	1.78	1.76	1.74	1.77	1.77	1.80	1.86	1.94	1.95	1.97	2.08	2.10	2.05	2.07	2.24
7.....	1.96	1.94	1.97	2.00	2.00	2.01	2.08	2.16	2.17	2.19	2.27	2.36	2.36	2.37	
8.....	1.75	1.83	1.84	1.87	1.89	1.94	1.97	2.07	1.97	2.01	2.05	2.14	2.10	2.07	
9.....	2.29	2.27	2.28	2.34	2.42	2.35	2.28	2.29	2.40	2.37	2.48	2.33	2.35	2.38	
10.....	2.42	2.42	2.43	2.46	2.45	2.47	2.55	2.60	2.57	2.41	2.55	2.58	2.62	2.68	2.17
United States....	1.73	1.73	1.74	1.75	1.77	1.80	1.87	1.93	1.93	1.94	2.05	2.09	2.08	2.12	

Other Stationmen:														
<i>Eastern</i>														
Group 1	1.76	1.77	1.76	1.79	1.77	1.74	1.78	1.83	1.84	1.89	1.91	1.97	1.98 1.88 1.91	
2	1.64	1.65	1.65	1.64	1.63	1.64	1.75	1.79	1.79	1.73	1.82	1.87		1.96
3	1.55	1.55	1.55	1.55	1.55	1.58	1.65	1.70	1.71	1.72	1.77	1.86		1.85
<i>Southern</i>														
4	1.12	1.14	1.16	1.12	1.14	1.14	.81	1.06	1.21	1.26	1.33	1.35	1.35	1.38 1.55
5	1.46	1.38	1.40	1.39	1.37	1.38	1.33	1.37	1.45	1.46	1.54	1.53	1.55	
<i>Western</i>														
6	1.63	1.56	1.55	1.57	1.55	1.55	1.61	1.66	1.69	1.69	1.77	1.80	1.81	1.80 2.03 1.76
7	1.85	1.82	1.81	1.81	1.83	1.77	1.82	1.81	1.85	1.84	1.91	1.96	2.00	
8	1.58	1.62	1.60	1.57	1.54	1.66	1.68	1.76	1.65	1.71	1.70	1.73	1.73	
9	1.78	1.86	1.71	1.58	1.63	1.63	1.73	1.74	1.76	1.73	1.87	1.87	1.84	1.83 2.25
10	2.26	2.18	2.20	2.20	2.20	2.18	2.24	2.27	2.19	2.03	2.23	2.28	2.24	
United States	1.62	1.61	1.60	1.60	1.59	1.61	1.64	1.69	1.71	1.69	1.78	1.82	1.82	1.84
Section Foremen:														
<i>Eastern</i>														
Group 1	2.00	2.00	1.96	2.03	2.04	2.07	2.10	2.13	2.14	2.17	2.24	2.35	2.35	2.38 2.08 1.99
2	1.69	1.69	1.68	1.66	1.69	1.71	1.82	1.87	1.87	1.89	1.96	2.03	2.04	
3	1.61	1.59	1.59	1.60	1.63	1.68	1.75	1.78	1.79	1.79	1.92	1.95	1.94	
<i>Southern</i>														
4	1.39	1.35	1.37	1.35	1.40	1.42	1.48	1.51	1.56	1.64	1.69	1.73	1.73	1.77 1.83
5	1.53	1.57	1.56	1.52	1.57	1.57	1.63	1.66	1.65	1.69	1.74	1.76	1.80	
<i>Western</i>														
6	1.66	1.64	1.63	1.63	1.63	1.64	1.69	1.70	1.68	1.70	1.80	1.86	1.87	1.90 2.22 1.83
7	1.71	1.70	1.72	1.73	1.75	1.74	1.78	1.78	1.80	1.85	1.99	2.10	2.10	
8	1.67	1.68	1.68	1.68	1.67	1.69	1.71	1.68	1.68	1.71	1.74	1.80	1.81	

TABLE IV—Continued—Average Daily Compensation of Railway Employes from 1897 to 1911

CLASS AND TERRITORY	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Section Foremen—Con.															
<i>Western—Con.</i>															
Group 9.....	\$1.87	\$1.86	\$1.87	\$1.86	\$1.91	\$1.86	\$1.80	\$1.79	\$1.78	\$1.80	\$1.90	\$1.91	\$1.87	\$1.88	\$2.05
10.....	2.28	2.22	2.22	2.24	2.26	2.28	2.31	2.30	2.34	2.19	2.41	2.55	2.48	2.51	2.07
United States....	1.70	1.69	1.68	1.68	1.71	1.72	1.78	1.78	1.79	1.80	1.90	1.95	1.96	1.99	
Other Trackmen:															
<i>Eastern</i>															
Group 1.....	1.40	1.43	1.43	1.44	1.44	1.44	1.46	1.49	1.50	1.52	1.55	1.63	1.63	1.65	1.63
2.....	1.17	1.17	1.18	1.19	1.20	1.20	1.27	1.30	1.31	1.40	1.48	1.52	1.48	1.52	1.57
3.....	1.16	1.17	1.18	1.22	1.25	1.28	1.37	1.42	1.39	1.43	1.52	1.54	1.46	1.57	
<i>Southern</i>															
4.....	.88	.87	.88	.90	.93	.93	.90	.97	1.05	1.09	1.15	1.17	1.16	1.21	1.21
5.....	.88	.88	.93	.95	.95	.96	.98	1.02	1.03	1.07	1.15	1.13	1.10	1.13	
<i>Western</i>															
6.....	1.19	1.20	1.23	1.30	1.31	1.34	1.43	1.45	1.41	1.46	1.55	1.51	1.42	1.56	1.49
7.....	1.35	1.33	1.37	1.44	1.49	1.41	1.44	1.47	1.42	1.46	1.56	1.57	1.43	1.60	
8.....	1.21	1.21	1.22	1.26	1.30	1.33	1.41	1.37	1.35	1.37	1.43	1.39	1.31	1.37	
9.....	1.17	1.15	1.15	1.15	1.16	1.18	1.22	1.21	1.22	1.26	1.34	1.33	1.28	1.26	
10.....	1.37	1.39	1.38	1.39	1.39	1.41	1.47	1.47	1.40	1.45	1.65	1.60	1.43	1.52	1.50
United States....	1.16	1.16	1.18	1.22	1.23	1.25	1.31	1.33	1.32	1.36	1.46	1.45	1.38	1.47	
Machinists:															
<i>Eastern</i>															
Group 1.....	2.17	2.26	2.26	2.29	2.31	2.26	2.34	2.41	2.44	2.45	2.61	2.66	2.60	2.64	2.98
2.....	2.14	2.18	2.20	2.19	2.20	2.21	2.34	2.42	2.44	2.55	2.66	2.77	2.79	2.89	
3.....	2.09	2.13	2.17	2.22	2.23	2.35	2.47	2.58	2.56	2.60	2.77	2.85	2.89	3.03	

TABLE IV—Continued—Average Daily Compensation of Railway Employes from 1897 to 1911.

CLASS AND TERRITORY	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Other Shopmen:															
<i>Eastern</i>															
Group 1	\$1.82	\$1.89	\$1.87	\$1.86	\$1.85	\$1.85	\$1.86	\$1.88	\$1.93	\$1.95	\$2.02	\$2.14	\$2.11	\$2.11	\$2.29
2	1.58	1.57	1.59	1.64	1.75	1.74	1.86	1.89	1.89	1.95	2.06	2.11	2.12	2.18	
3	1.64	1.69	1.69	1.68	1.69	1.70	1.85	1.88	1.91	1.91	2.04	2.11	2.09	2.20	
<i>Southern</i>															
4	1.37	1.45	1.45	1.45	1.44	1.48	1.55	1.59	1.68	1.69	1.76	1.83	1.90	1.97	1.98
5	1.50	1.45	1.50	1.49	1.52	1.58	1.61	1.63	1.63	1.65	1.76	1.84	1.81	1.87	
<i>Western</i>															
6	1.77	1.71	1.73	1.73	1.74	1.79	1.88	1.95	1.96	1.94	2.02	2.07	2.06	2.11	2.31
7	2.02	2.05	1.96	1.96	1.94	1.90	2.15	2.18	2.19	2.22	2.31	2.47	2.51	2.60	
8	1.90	1.87	1.88	1.89	1.86	1.90	1.95	1.99	1.96	1.99	2.06	2.22	2.21	2.27	
9	1.81	1.83	1.82	1.83	1.80	1.87	1.88	1.99	1.99	2.01	2.01	2.07	2.12	2.10	2.24
10	2.38	2.34	2.33	2.35	2.12	2.23	2.35	2.45	2.36	2.26	2.80	2.54	2.63	2.62	
United States.....	1.71	1.70	1.72	1.73	1.75	1.78	1.86	1.91	1.92	1.92	2.06	2.12	2.13	2.18	
Telegraph Operators and Dispatchers:															
<i>Eastern</i>															
Group 1	1.78	1.75	1.76	1.84	1.82	1.80	1.86	1.94	2.01	2.07	2.15	2.26	2.24	2.30	2.36
2	1.90	1.94	1.97	2.01	2.01	2.05	2.20	2.25	2.27	2.07	2.21	2.26	2.23	2.28	
3	1.79	1.78	1.78	1.78	1.78	1.82	1.87	1.94	1.99	2.00	2.11	2.15	2.14	2.16	
<i>Southern</i>															
4	1.58	1.57	1.59	1.54	1.62	1.65	1.66	1.72	1.97	2.04	2.23	2.16	2.12	2.19	2.30
5	1.64	1.67	1.81	1.77	1.78	1.80	1.87	1.94	2.01	2.04	2.13	2.11	2.17	2.19	

other shopmen, telegraph operators and dispatchers, switch tenders, crossing tenders and watchmen. Each class of employes is again divided according to the geographical divisions of the United States recognized by the Interstate Commerce Commission.

Table IV also indicates the average daily compensation of each class of railway employes, from 1897 to 1911, inclusive, for the United States as a whole. It shows that in all parts of the United States engineers are the highest-paid class of railway operatives, and that their average daily compensation for the country as a whole has risen from \$3.65 in 1897 to \$4.79 in 1911. It shows further, for every year here considered, that the daily compensation of engineers has averaged higher in the Western groups than in the Southern groups, while the same relation is true of the Southern States compared with the Eastern States.

Therefore, the existing situation under which the engineers of the East receive a compensation somewhat lower than those in the South and West is not new.

Table IV indicates that the average daily compensation of the engineers for the United States as a whole is almost double that of the telegraphers and dispatchers, \$2.44, and more than double that of the station agents, \$2.17. The difference is not so great for the skilled artisans in the railway service. It is 52 per cent greater than machinists, \$3.14, and 88 per cent greater than carpenters, \$2.54. For unskilled labor a higher ratio of course obtains, but comparisons with unskilled labor can have little bearing upon the questions involved in this arbitration.

Table V gives the compensation of each class of employes for the years 1897 and 1911 in the Eastern, Southern, and Western districts, and in the United States as a whole, and the percentage of increase for each class of operatives. While in 1911, the average daily compensation of the engineers in the Eastern District (\$4.71) was lower by 14 cents than in the Southern District (\$4.85), and lower by 19 cents than in the Western District (\$4.90), in 1897 the average daily compensation in the East (\$3.53) was 11 cents

TABLE V—Average Daily Compensation of Railway Employes in the Eastern, Southern, and Western Districts, and in the United States as a Whole, Years Ending June 30, 1897 and 1911, and Per Cent of Increase

(Compiled from "Statistics of Railways in the United States," published by the Interstate Commerce Commission)

CLASSES OF EMPLOYES	GROUPS											
	EASTERN (I, II, III)			SOUTHERN (IV, V)			WESTERN (VI TO X)			UNITED STATES AS A WHOLE		
	Average In 1897	Average In 1911	Per cent of Increase	Average In 1897	Average In 1911	Per cent of Increase	Average In 1897	Average In 1911	Per cent of Increase	Average In 1897	Average In 1911	Per cent of Increase
Engineers.....	\$3.53	\$4.71	33.4	\$3.64	\$4.85	33.2	\$3.82	\$4.90	28.3	\$3.65	\$4.79	31.2
Firemen.....	1.97	2.88	46.2	1.76	2.57	46.0	2.24	3.22	43.8	2.05	2.94	43.4
Conductors.....	2.92	4.03	38.0	2.90	4.00	37.9	3.33	4.46	33.9	3.07	4.16	35.5
Other trainmen.....	1.88	2.94	56.4	1.57	2.43	54.8	2.09	3.00	43.5	1.90	2.88	51.6
Station agents.....	1.69	2.24	32.5	1.41	1.93	36.9	1.90	2.24	17.9	1.73	2.17	25.4
Other stationmen.....	1.64	1.97	20.1	1.34	1.61	20.1	1.70	1.91	12.4	1.62	1.89	16.7
Section foremen.....	1.71	2.17	26.9	1.48	1.92	29.7	1.75	2.05	17.1	1.70	2.07	21.8
Other trackmen.....	1.21	1.63	34.7	.88	1.21	37.5	1.23	1.49	21.1	1.16	1.50	29.3
Machinists.....	2.13	2.98	39.9	2.18	3.09	41.7	2.40	3.47	44.6	2.23	3.14	40.8
Carpenters.....	1.97	2.60	32.0	1.72	2.37	37.8	2.19	2.56	16.9	2.01	2.54	26.4
Other shopmen.....	1.62	2.29	41.4	1.46	1.98	35.6	1.90	2.31	21.6	1.71	2.24	31.0
Telegraph operators and dispatchers.....	1.85	2.36	27.6	1.61	2.30	42.9	2.10	2.61	24.3	1.90	2.44	28.4
Switch tenders, crossing tenders and watchmen.....	1.59	1.75	10.1	1.53	1.48	3.3*	2.06	1.85	10.2*	1.72	1.74	1.2

* Decrease.

lower than in the South (\$3.64). and 29 cents lower than in the West (\$3.82). Therefore, the absolute gap between the eastern and western engineers' daily compensation has been decreased by one-third during the years from 1897 to 1911, and the gap between the eastern and southern engineers has increased by over one-fourth.

Table V also shows that for other classes of employes a similar relation exists between the East and West as for engineers. Without exception, the conductors, firemen, other trainmen, etc., receive a higher average daily compensation in the West than in the East. The table brings out one other important point. We have already seen that the gap between the average compensation of engineers in the Eastern and Western Districts has lessened through the years. The closing of the gap thus illustrated between the West and the East applies to the four classes above mentioned; that is to say, the difference in the level of average daily compensation between the West and the East was greater in 1897 than this difference in 1911.

Table VI indicates the average daily compensation of engineers, firemen, conductors and other trainmen in the Eastern, Southern, and Western Districts and in the United States as a whole, for the years 1897 to 1911. Charts A, B, C and D present the same information graphically.

Next to the engineers, the conductors are the highest paid railway operatives. Their average daily compensation in the United States as a whole rose from \$3.07 in 1897 to \$4.16 in 1911; while the average daily compensation of the engineers rose from \$3.65 to \$4.79. Thus the average daily compensation of the conductors during these years increased \$1.09, whereas the average daily compensation of the engineers increased \$1.14. For the Eastern District, the average daily compensation of the engineers rose from \$3.53 to \$4.71, an increase of \$1.18, whereas the average daily compensation of conductors in this District increased from \$2.92 to \$4.03, an increase of \$1.11. It thus appears that

TABLE VI—Average Daily Compensation of Engineers, Firemen, Conductors, and Other Trainmen in the Eastern, Southern and Western Districts and in the United States as a whole, Years Ending June 30, 1897 to 1911

(Compiled from statistics published by the Interstate Commerce Commission)

YEAR	ENGINEERS				FIREMEN				CONDUCTORS				OTHER TRAINMEN			
	Eastern District (I, II and III)	Southern District (IV and V)	Western District (VI-X)	United States (1-X)	Eastern District (I, II and III)	Southern District (IV and V)	Western District (VI-X)	United States (1-X)	Eastern District (I, II and III)	Southern District (IV and V)	Western District (VI-X)	United States (1-X)	Eastern District (I, II and III)	Southern District (IV and V)	Western District (VI-X)	United States (1-X)
1897	\$3.53	\$3.64	\$3.82	\$3.65	\$1.97	\$1.76	\$2.24	\$2.05	\$2.92	\$2.90	\$3.33	\$3.07	\$1.88	\$1.57	\$2.09	\$1.90
1898	3.58	3.77	3.89	3.72	2.01	1.83	2.27	2.09	2.99	2.95	3.38	3.13	1.91	1.66	2.11	1.95
1899	3.57	3.89	3.85	3.72	2.00	1.92	2.28	2.10	2.98	3.06	3.35	3.13	1.91	1.64	2.11	1.94
1900	3.62	3.84	3.88	3.75	2.05	1.88	2.33	2.14	3.03	3.07	3.40	3.17	1.94	1.63	2.11	1.96
1901	3.63	3.92	3.91	3.78	2.07	1.92	2.35	2.16	3.03	3.06	3.39	3.17	1.98	1.67	2.16	2.00
1902	3.71	4.05	3.94	3.84	2.12	1.95	2.37	2.20	3.10	3.08	3.39	3.21	2.03	1.68	2.18	2.04
1903	3.91	4.16	4.10	4.01	2.23	1.97	2.46	2.28	3.29	3.23	3.56	3.38	2.18	1.69	2.33	2.17
1904	3.96	4.23	4.22	4.10	2.29	2.04	2.54	2.55	3.34	3.22	3.81	3.50	2.24	1.76	2.48	2.27
1905	3.97	4.27	4.26	4.12	2.32	2.00	2.58	2.38	3.34	3.22	3.82	3.50	2.28	1.81	2.52	2.31
1906	3.97	4.33	4.23	4.12	2.37	2.08	2.59	2.42	3.32	3.33	3.84	3.51	2.36	1.88	2.50	2.35
1907	4.15	4.57	4.36	4.30	2.47	2.26	2.70	2.54	3.48	3.67	3.98	3.69	2.53	2.08	2.72	2.54
1908	4.30	4.52	4.60	4.45	2.56	2.24	2.87	2.64	3.59	3.66	4.14	3.81	2.59	2.06	2.79	2.60
1909	4.29	4.45	4.61	4.44	2.58	2.24	2.90	2.67	3.58	3.56	4.19	3.81	2.57	2.03	2.80	2.59
1910	4.39	4.63	4.70	4.55	2.63	2.32	2.98	2.74	3.71	3.63	4.27	3.91	2.68	2.07	2.87	2.69
1911	4.71	4.85	4.90	4.79	2.88	2.57	3.22	2.94	4.03	4.00	4.46	4.16	2.94	2.43	3.00	2.88

both for the United States as a whole and for the Eastern District, the absolute increase in the average daily compensation of the engineers and the conductors has been substantially parallel.

In the matter of average daily compensation of trainmen, the firemen come next to the conductors. For the United States as a whole, from 1897 to 1911, their average daily compensation increased from \$2.05 to \$2.94, an increase of 89 cents. As we have just seen, the average daily compensation of the engineers during that time increased by \$1.14. In the Eastern District the average daily compensation of the firemen increased from \$1.97 to \$2.88, an increase of 91 cents, whereas the increase in the average daily compensation of the engineers in the same territory was \$1.18.

Therefore, during these fourteen years, the absolute increase in the average daily compensation of the engineers, in the United States as a whole, and of the engineers in the East, has been somewhat greater than the increase for the firemen; the difference in the increase being, for the United States as a whole, 25 cents in favor of the engineers, and for the Eastern District, 27 cents in favor of the engineers.

For other trainmen, the average daily compensation rose for the United States as a whole from \$1.90 in 1897 to \$2.88 in 1911, an increase of 98 cents, whereas during the same period the average daily compensation of the engineers increased \$1.14. For the Eastern District, the average daily compensation of other trainmen rose from \$1.88 in 1897 to \$2.94 in 1911, an increase of \$1.06, whereas the increase in average daily compensation of the engineers in the same district was \$1.18.

Upon the whole there has been a noticeable parallelism during these fourteen years in the absolute increases in the average daily compensation of engineers, conductors, firemen and other trainmen for the United States as a whole and for the Eastern District. This is indicated graphically by Charts A and D.

Another way in which the average daily compensation of different classes of railway employes may be compared is by ratios rather

than absolute amount. Have the ratios of increase of engineers, conductors, firemen and other trainmen remained the same since 1897, and if not, what are the facts in this regard? To answer this question Table VII and chart E have been prepared. They indicate the ratio that the average daily compensation of firemen, conductors and other trainmen, bore to the average daily compensation of the engineers in the years 1897 to 1911 inclusive.

The average daily compensation of the other classes of trainmen (firemen, conductors and other trainmen) are expressed in percentages of the engineers' average daily compensation. Thus, for example, the average daily compensation of firemen in the Eastern District in 1904 was 57.83 per cent of the average daily compensation of the engineers in that District; whereas the average daily compensation of conductors in 1904 was 84.34 per cent of the average daily compensation of the engineers in that District.

TABLE VII—*Part 1: Average Daily Compensation of Firemen, Conductors, and Other Trainmen, Eastern District, in Percentages of Average Daily Compensation of Engineers.*

YEAR	FIREMEN	CONDUCTORS	OTHER TRAINMEN
1897	55.81	82.72	53.26
1898	56.15	83.52	53.35
1899	56.02	83.47	53.50
1900	56.63	83.70	53.59
1901	57.02	83.47	54.55
1902	57.14	83.56	54.72
1903	57.03	84.14	55.75
1904	57.83	84.34	56.57
1905	58.44	84.13	57.43
1906	59.70	83.63	59.45
1907	59.52	83.86	60.96
1908	59.53	83.49	60.23
1909	60.14	83.45	59.91
1910	59.91	84.51	61.05
1911	61.15	85.56	62.42

Note: This Table shows how many cents the Firemen, Conductors and Other Trainmen received for every Dollar received by the Engineers, as their Average Daily Compensation; computed from information reported by the Railroads to the Interstate Commerce Commission.

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TABLE VII—Part 2: Average Daily Compensation of Firemen, Conductors and Other Trainmen, Southern District, in Percentages of Average Daily Compensation of Engineers.

YEAR	FIREMEN	CONDUCTORS	OTHER TRAINMEN
1897	48.35	79.67	43.13
1898	48.54	78.25	44.03
1899	49.36	78.66	42.16
1900	48.96	79.94	42.45
1901	48.98	78.06	42.60
1902	48.15	76.05	41.48
1903	47.36	77.64	40.63
1904	48.23	76.12	41.61
1905	46.84	75.41	42.39
1906	48.04	76.91	43.42
1907	49.45	80.31	45.51
1908	49.56	80.97	45.58
1909	50.34	80.00	45.62
1910	50.11	78.40	44.71
1911	52.99	82.47	50.10

TABLE VII—Part 3: Average Daily Compensation of Firemen, Conductors and Other Trainmen, Western District, in Percentages of Average Daily Compensation of Engineers.

YEAR	FIREMEN	CONDUCTORS	OTHER TRAINMEN
1897	58.64	87.17	54.71
1898	58.35	86.89	54.24
1899	59.22	87.01	54.81
1900	60.05	87.63	54.38
1901	60.10	86.70	55.24
1902	60.15	86.04	55.33
1903	60.00	86.83	56.83
1904	60.19	90.28	58.77
1905	60.56	89.67	59.15
1906	61.23	90.78	59.15
1907	61.93	91.28	62.39
1908	62.39	90.00	60.65
1909	62.91	90.89	60.74
1910	63.40	90.85	61.06
1911	65.71	91.02	61.22

TABLE VII—Part 4: Average Daily Compensation of Firemen, Conductors and Other Trainmen in the United States, in Percentages of Average Daily Compensation of Engineers.

YEAR	FIREMEN	CONDUCTORS	OTHER TRAINMEN
1897	56.16	84.11	52.05
1898	56.18	84.14	52.42
1899	56.45	84.14	52.15
1900	57.07	84.53	52.27
1901	57.14	83.86	52.91
1902	57.29	83.59	53.13
1903	56.86	84.29	54.11
1904	57.32	85.37	55.37
1905	57.77	84.95	56.07
1906	58.74	85.19	57.04
1907	59.07	85.81	59.07
1908	59.33	85.62	58.43
1909	60.14	85.81	58.33
1910	60.22	85.93	59.12
1911	61.38	86.85	60.13

The figures show that the total decline in the "differentials" during the fourteen years amounts to 5.34 cents per dollar in the case of the firemen in the Eastern District compared with the engineers; 2.84 cents per dollar in the case of the conductors; and 9.16 cents in the case of other trainmen. For firemen this is slightly more than the decline for the country as a whole; for conductors slightly less; and for other trainmen considerably more.

Table VII shows for the United States as a whole a slight but fairly steady decline in the differential between the average daily compensation of the firemen and of the engineers, and a somewhat greater decline in the differential between the average daily compensation of the other trainmen and of the engineers. For the country as a whole the difference between the average daily compensation of the conductors and that of the engineers, per dollar of compensation paid the engineers, has decreased from 15.89 cents to 13.15 cents—a decrease of 2.74 cents. For the Eastern District, this difference has decreased from 17.28 cents to 14.44

cents, a decline of 2.84 cents. For firemen, in the United States as a whole, the difference has declined from 43.84 cents to 38.62 cents, a decrease of 5.22 cents; whereas for the Eastern District the difference has declined from 44.19 cents to 38.85 cents, a decrease of 5.34 cents; for other trainmen in the United States as a whole, the difference has declined from 47.95 cents to 39.87 cents—a decrease of 8.08 cents; whereas for the Eastern District the difference has declined from 46.74 cents to 37.58 cents,—a decrease of 9.16 cents.

It appears from these figures, considering the average daily compensation of engineers, conductors, firemen and other trainmen in terms of ratios, the engineer's average daily compensation being used as the base, that there has been a very slight gain of the conductors upon the engineers, in the United States as a whole; a somewhat greater gain of the firemen upon the engineers; and a still greater gain of other trainmen on the engineers:—also that in the East the gain has been less than 3 cents per dollar for conductors, somewhat more than 5 cents in the case of the firemen, and over 9 cents in the case of other trainmen. This is the gain of fourteen years. It is also notable that the gain in these differentials in the Eastern District is substantially the same as in the United States as a whole—for the conductors in the United States as a whole it was 2.74 cents, and in the Eastern District 2.84 cents; for firemen in the United States as a whole it was 5.22 cents; and in the Eastern District 5.34 cents. For other trainmen in the United States as a whole it was 8.08 cents; and in the Eastern District 9.16 cents.

Table VII shows that the differential between the engineers and conductors for the Southern District is greater than in either of the other districts, and that this has been the situation from 1897 to 1911;—20.33 cents at the former date and 17.53 cents at the latter.

Table VII further shows that the differential between engineers and conductors in the Western District is considerably less than for the United States as a whole or for any other district. As

compared with the Eastern District it was a little more than two-thirds as much in 1897; 12.83 cents in the West, for each dollar paid the engineers, as compared with 17.28 cents in the East; in 1911 it was less than two-thirds as much, 8.98 cents in the West as compared with 14.44 cents in the East.

The differentials, in the Eastern District, between the engineers, on the one hand, and firemen, conductors and other trainmen, on the other hand (expressing the average daily compensation of the latter classes in percentages of that of the engineers), is indicated graphically by Chart E.

A third way in which the figures regarding average daily compensation may be considered is on a percentage basis in which the compensation of conductors, firemen and other trainmen are taken as 100 per cent and the compensation of the engineers for the years 1897 to 1911 thus compared with them. The facts under this method of comparison are shown by Table VIII.

TABLE VIII—*Per Cent Engineers' Compensation is Greater than that of Firemen, Conductors, and other Trainmen, in the Eastern District*

YEAR	FIREMEN	CONDUCTORS	OTHER TRAINMEN
1897	79.19	20.80	87.77
1898	78.11	19.73	87.43
1899	78.50	19.80	86.91
1900	76.59	19.47	86.60
1901	75.36	19.80	83.33
1902	75.00	19.68	82.76
1903	75.34	18.84	79.36
1904	72.93	18.56	76.79
1905	71.12	18.86	74.12
1906	67.51	19.58	68.22
1907	68.02	19.25	64.03
1908	67.97	19.78	66.02
1909	66.28	19.83	66.93
1910	66.92	18.33	63.81
1911	63.54	16.87	60.20

From this table it appears that for the Eastern District the difference between the compensation of engineers and other train-

men, for illustration, was 87.77 per cent of the daily compensation of other trainmen in 1897—that is, the daily compensation of engineers in 1897 was 87.77 per cent *greater* than the daily compensation of other trainmen; in 1911 the percentage by which the engineers' earnings was greater than those of other trainmen had fallen to 60.20 per cent. Similarly, the earnings of engineers in 1897 were 79.19 per cent greater than those of firemen, and in 1911 only 63.54 per cent greater; those of engineers in 1897 were 20.89 per cent greater than those of conductors, and in 1911, 16.87 per cent.

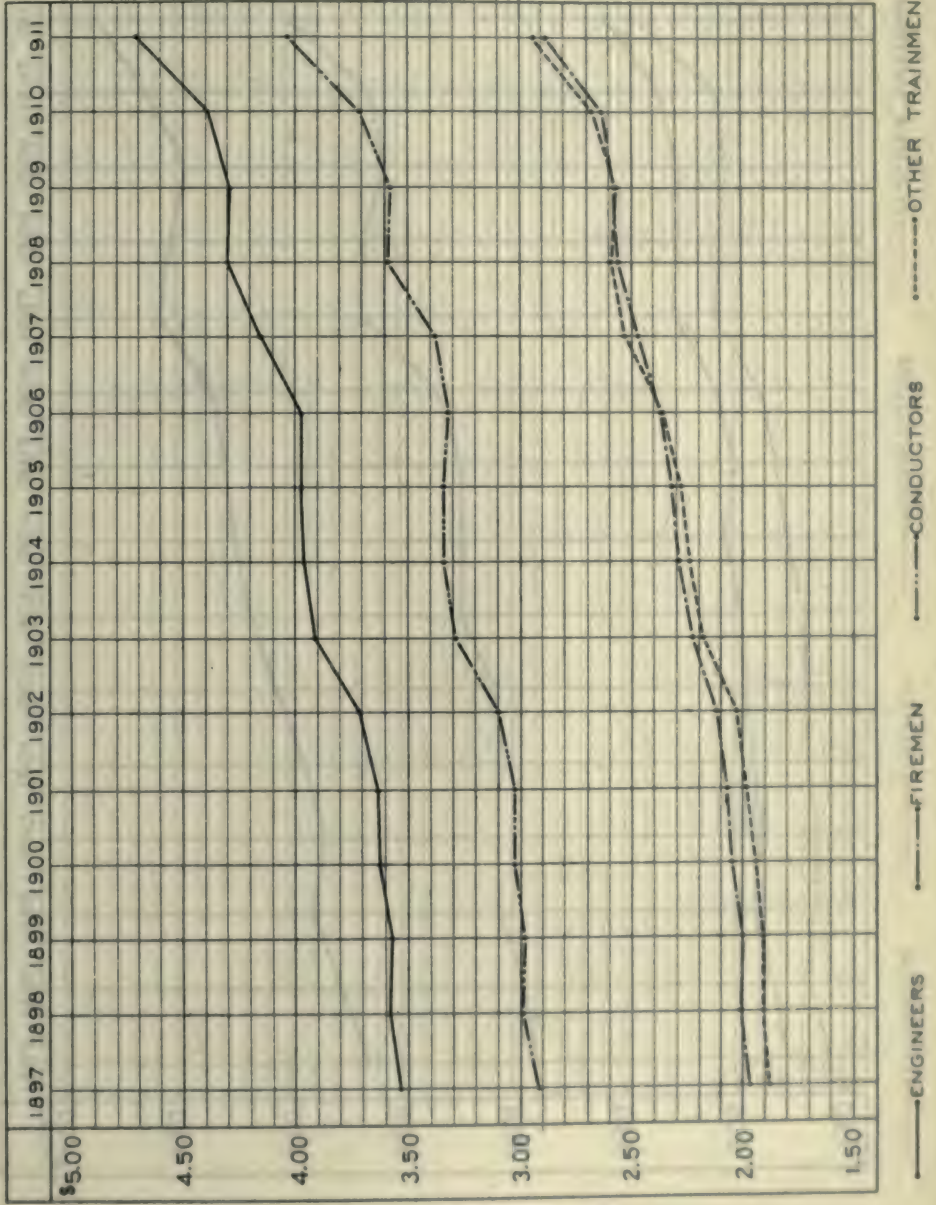
These facts are shown graphically by Charts F, G and H.

Whichever wage is used as the divisor—whether that of the engineers for all three differential comparisons or that of each of the other groups of employes separately—the same result follows: that is, that over a period of fifteen years from 1897-to 1911 the engineers in the Eastern District have lost in relation to the other groups. In other words, the other groups have gained upon the engineers. This method of measuring the differential shows that the engineers over the period of years in question have not maintained the proportional difference in wages. In comparison with the other trainmen, the engineers have lost 27.57 per cent; with firemen, 15.65 per cent, and with conductors 4.02 per cent. In other words, these groups have each gained upon the engineers' compensation to the extent represented by the respective percentages. Similar relations obtain in the Southern and Western districts and for the United States as a whole.

In the preceding pages, three different points of view have been presented regarding average daily compensation based upon figures given by the Interstate Commerce Commission, for the engineers, conductors, firemen and other trainmen for the Eastern, Western and Southern districts and for the United States as a whole. In presenting these points of view it is not the intention of the Board to subscribe to any theory concerning them. Different persons will attach different values to the different points of

CHART A.

AVERAGE DAILY COMPENSATION OF RAILWAY ENGINEERS, FIREMEN, CONDUCTORS AND OTHER TRAINMEN IN THE EASTERN DISTRICT FOR THE FISCAL YEARS 1897 TO 1911 INCLUSIVE.



THE RESULTS OF THE TESTS ON THE WELDED JOINTS ARE SHOWN IN FIG. 1.

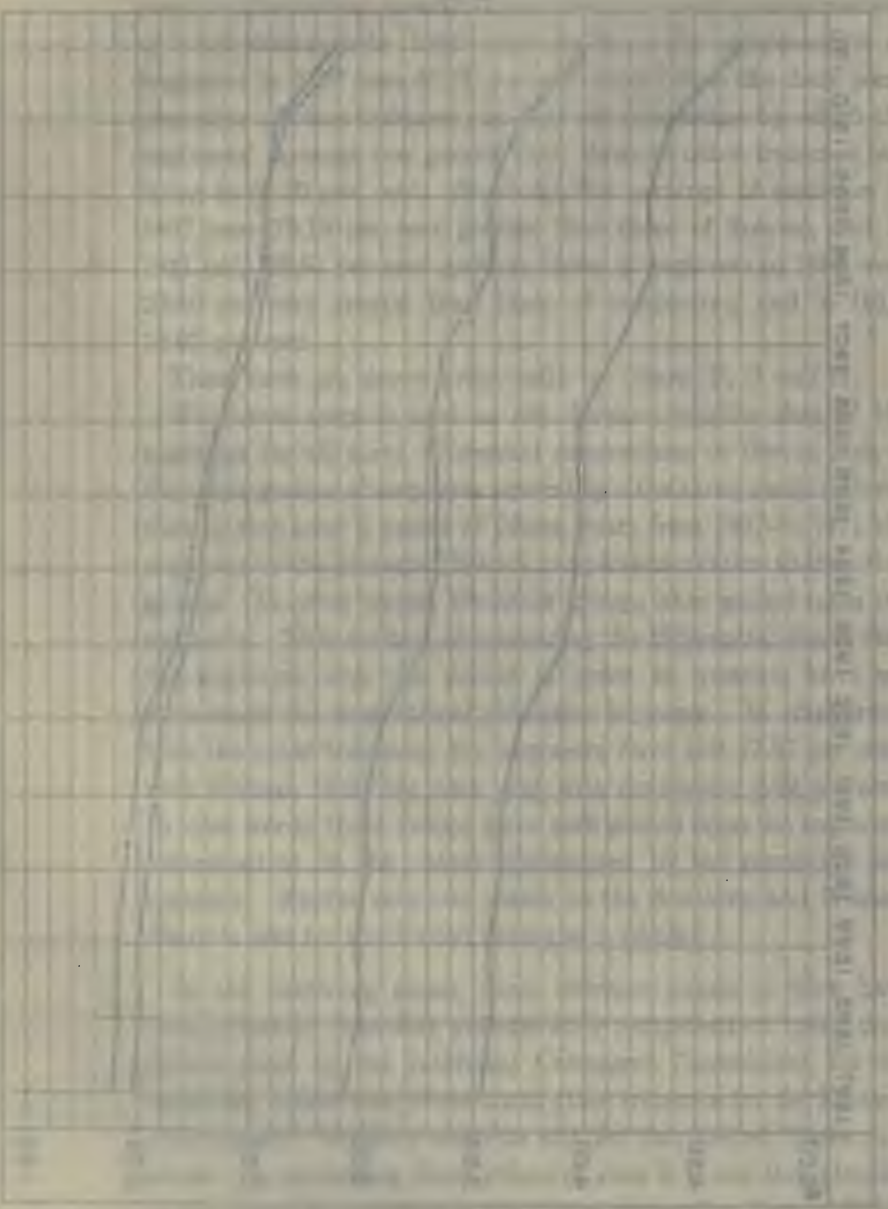
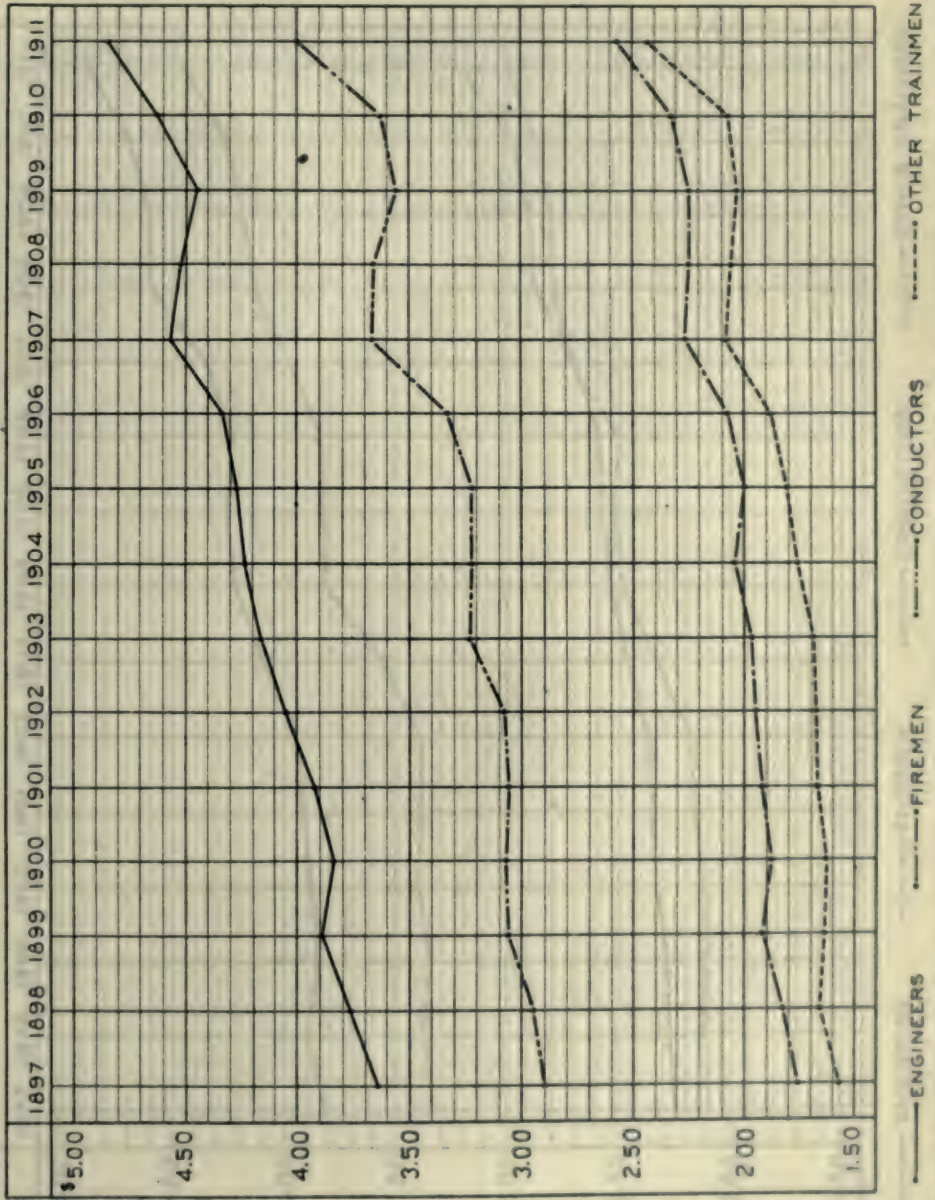
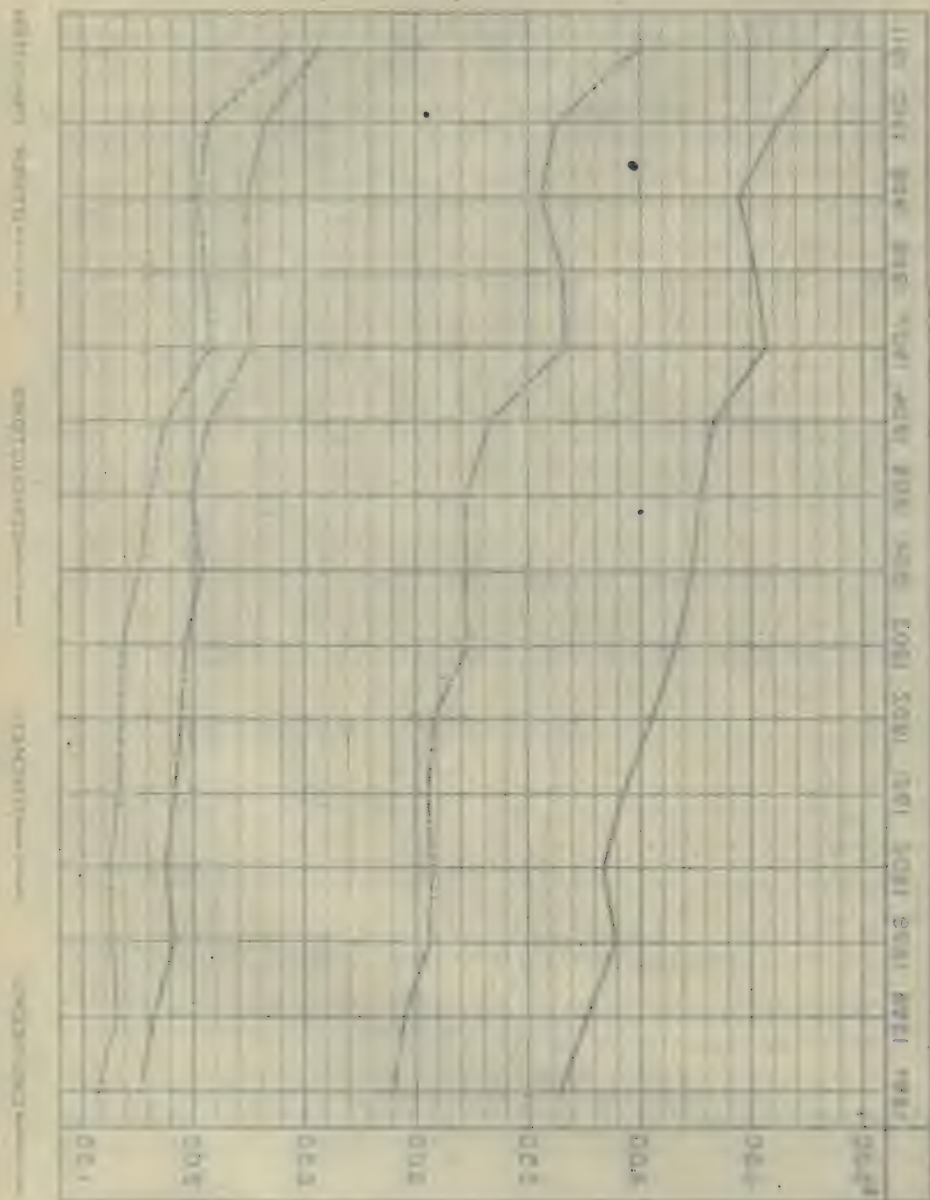


FIG. 1. RESULTS OF THE TESTS ON THE WELDED JOINTS.

CHART B.

AVERAGE DAILY COMPENSATION OF RAILWAY ENGINEERS, FIREMEN, CONDUCTORS AND OTHER TRAINMEN IN THE SOUTHERN DISTRICT FOR THE FISCAL YEARS 1897 TO 1911 INCLUSIVE.

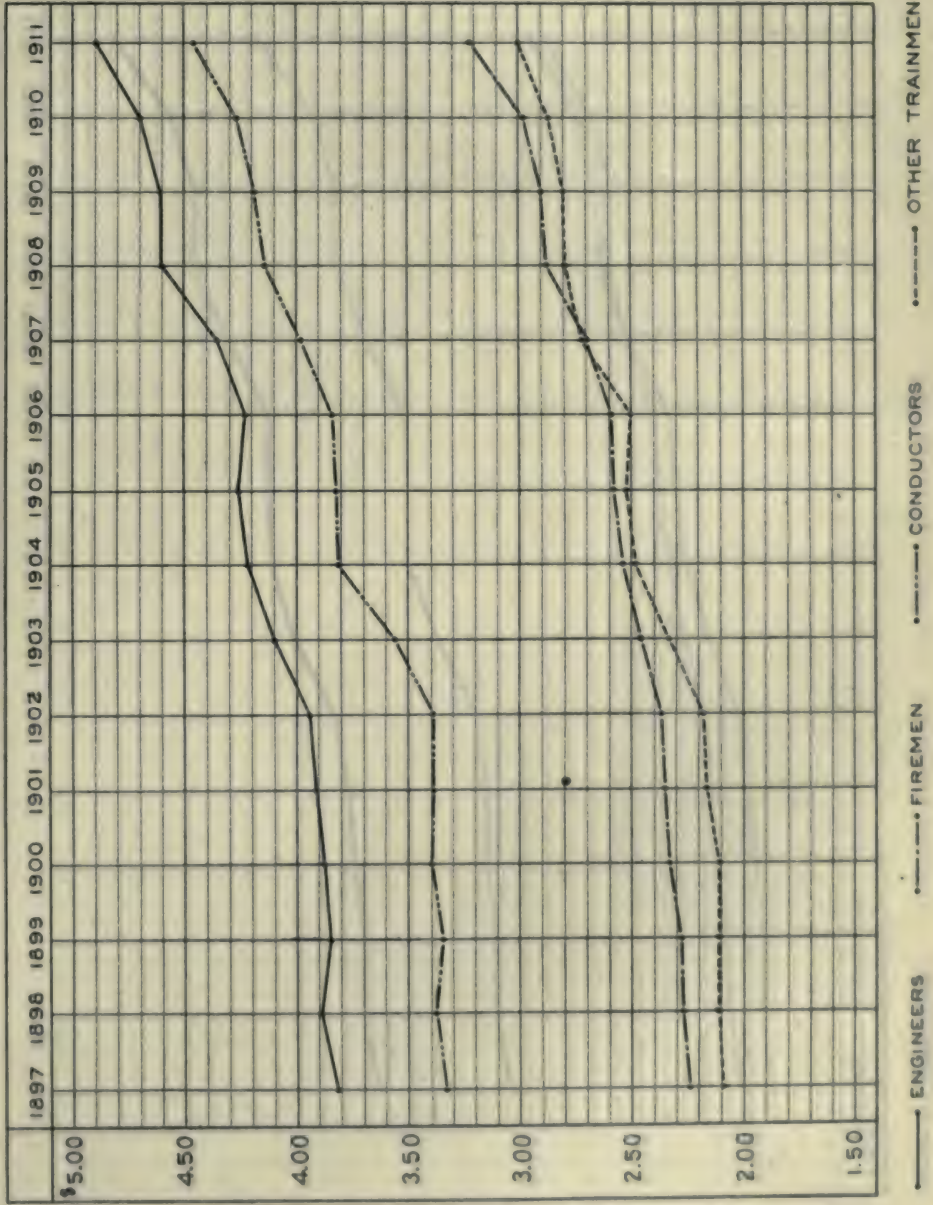


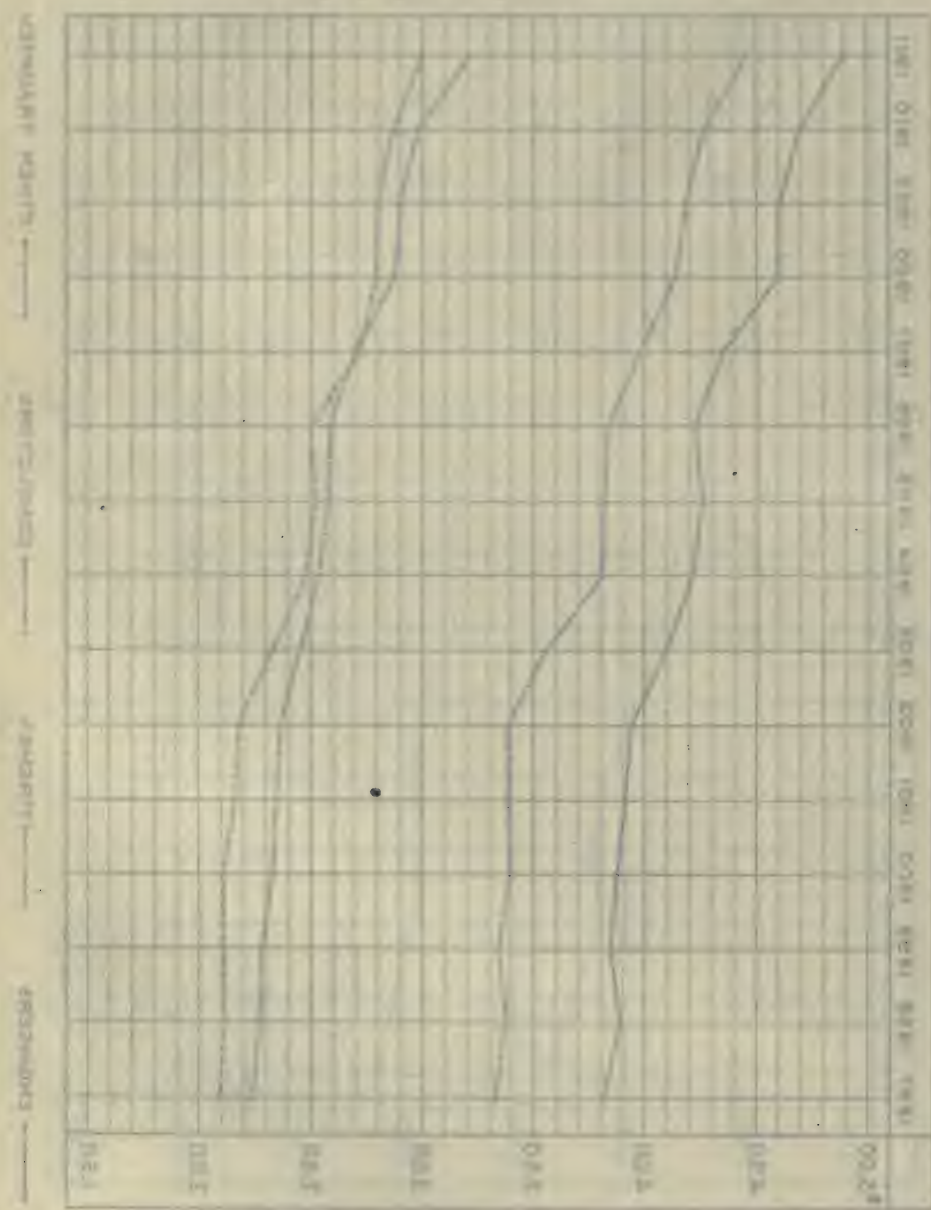


IN THE FOLLOWING DISTRICT FOR THE YEAR 1900 TO 1911 INCLUSIVE
 WERE THE DATA OBTAINED FOR THE MONTHS JANUARY TO NOVEMBER AND DECEMBER
 WERE THE DATA OBTAINED FOR THE MONTHS JANUARY TO NOVEMBER AND DECEMBER

CHART C.

AVERAGE DAILY COMPENSATION OF RAILWAY ENGINEERS, FIREMEN, CONDUCTORS AND OTHER TRAINMEN IN THE WESTERN DISTRICT FOR THE FISCAL YEARS 1897 TO 1911 INCLUSIVE

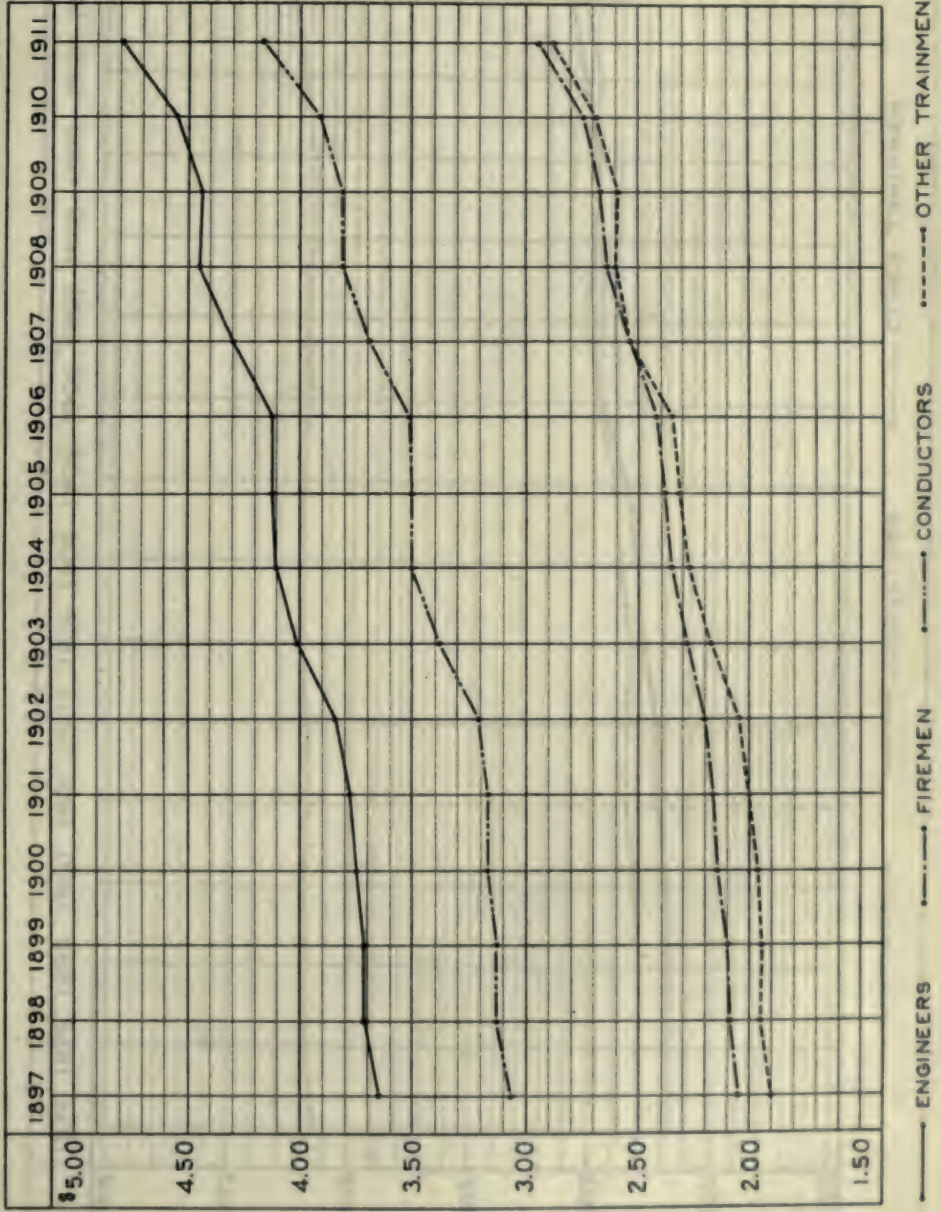


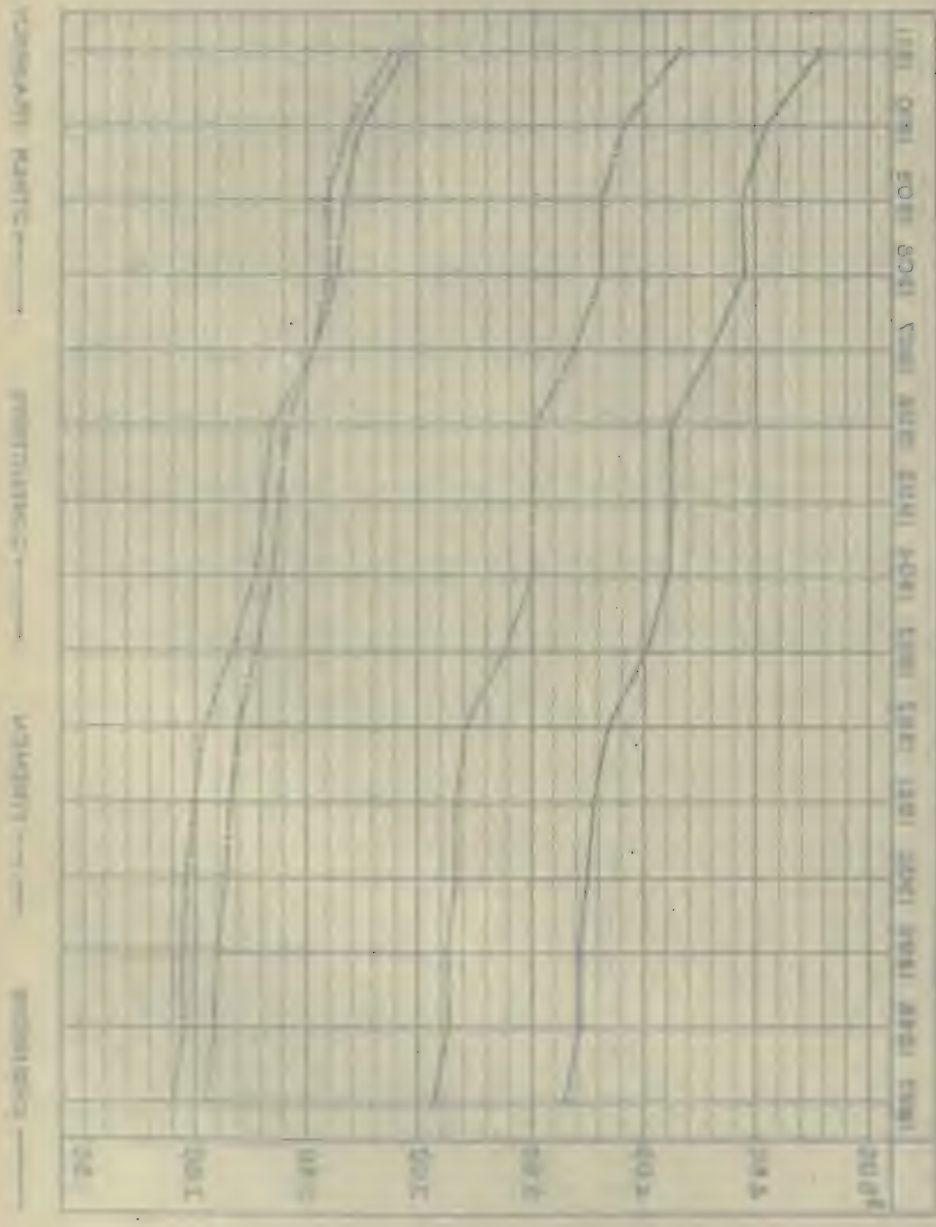


IN THE MEXICAN DISTRICT FOR THE YEAR 1900 TO 1911 INCLUSIVE
 WERE OBTAINED DATA CONCERNING THE TEMPERATURE, HUMIDITY, CONDENSATION AND OTHER FACTORS

CHART D.

AVERAGE DAILY COMPENSATION OF RAILWAY ENGINEERS, FIREMEN, CONDUCTORS AND OTHER TRAINMEN IN THE UNITED STATES AS A WHOLE FOR THE FISCAL YEARS 1897 TO 1911 INCLUSIVE.





IN THE PRESENT STATE OF KNOWLEDGE THE EFFECTS OF THE VARIOUS FACTORS ON THE ELASTICITY AND VISCOSITY OF POLYMER SOLUTIONS ARE NOT FULLY UNDERSTOOD. THE PRESENT RESEARCH IS AN ATTEMPT TO DETERMINE THE RELATIONSHIP BETWEEN THE MOLECULAR WEIGHT AND THE ELASTICITY AND VISCOSITY OF POLYMER SOLUTIONS.

CHART E

PERCENT OF AVERAGE DAILY COMPENSATION OF ENGINEERS REPRESENTED BY AVERAGE DAILY COMPENSATION OF FIREMEN, CONDUCTORS AND OTHER TRAINMEN, EASTERN DISTRICT.

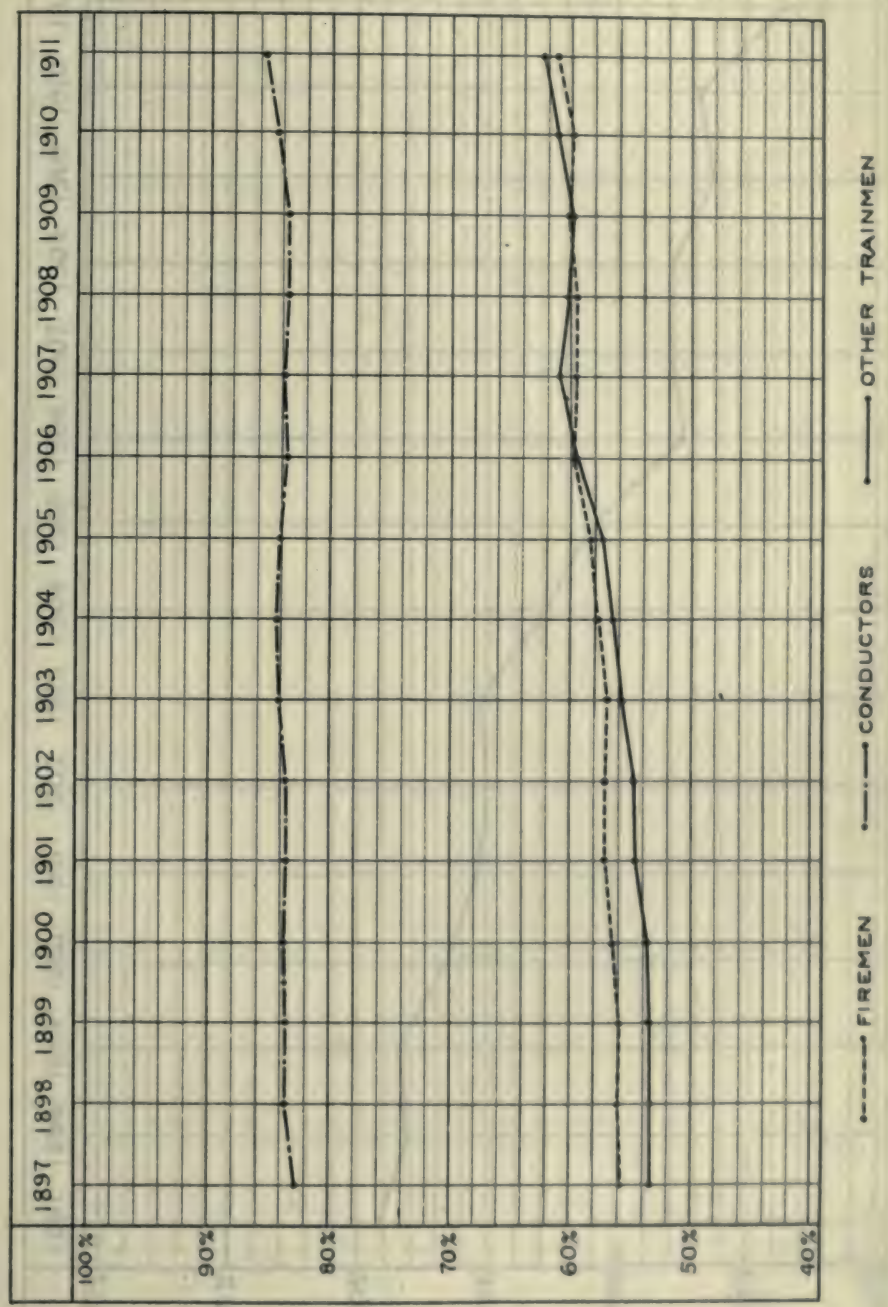
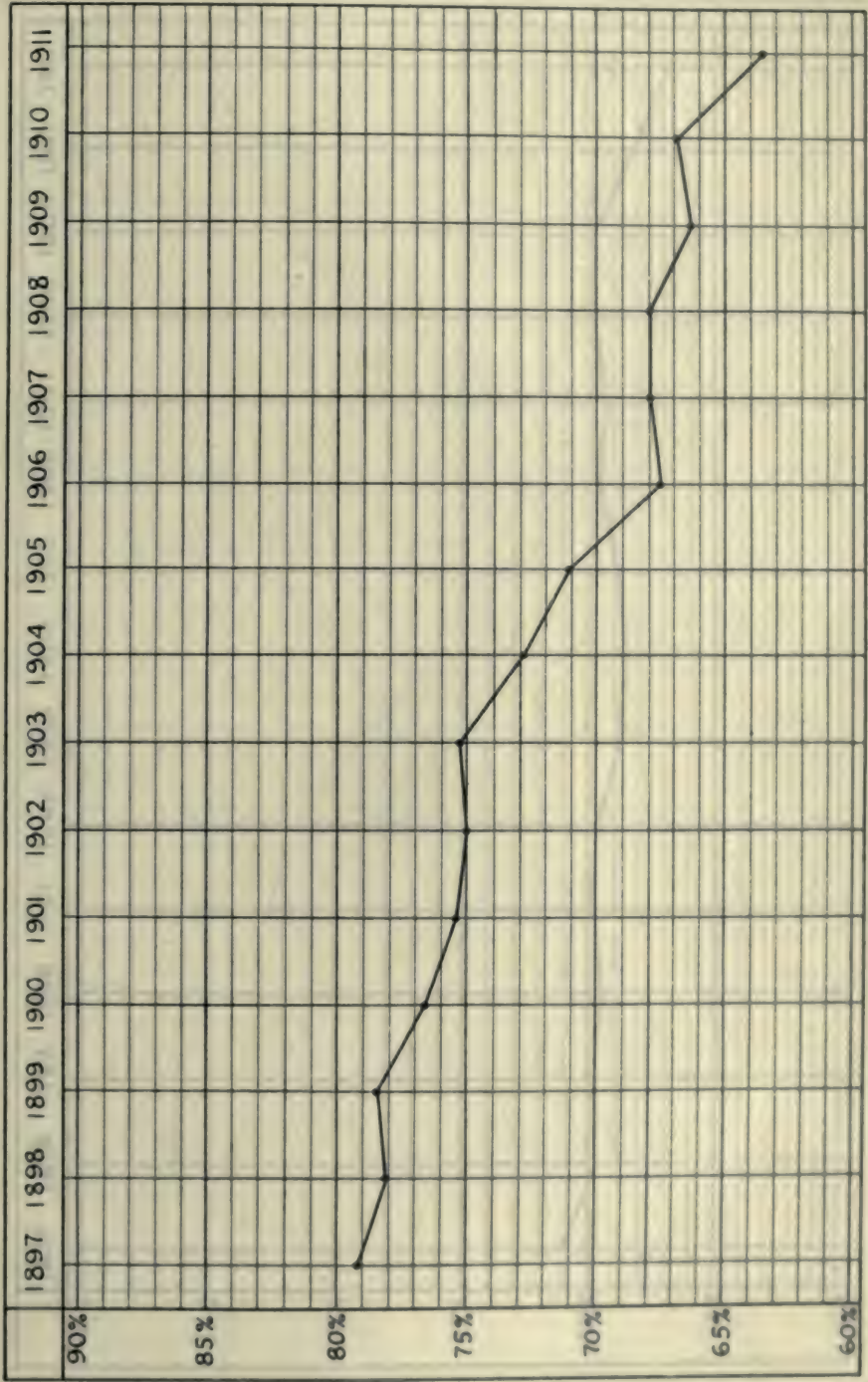


CHART F.

PERCENT THAT AVERAGE DAILY COMPENSATION OF ENGINEERS IS GREATER THAN AVERAGE DAILY COMPENSATION OF FIREMEN, EASTERN DISTRICT.



7. ТРАНС

КАК ПЕРЕМЕНА В СРЕДНЕЙ ПО ПОТЯЖИЛИЩНОМУ КИЛОГРАММУ ТАМТ ТИДЕНС
 СРЕДНЕЙ ПЕРЕМЕНА ИМЕНЕМ ПО ПОТЯЖИЛИЩНОМУ КИЛОГРАММУ

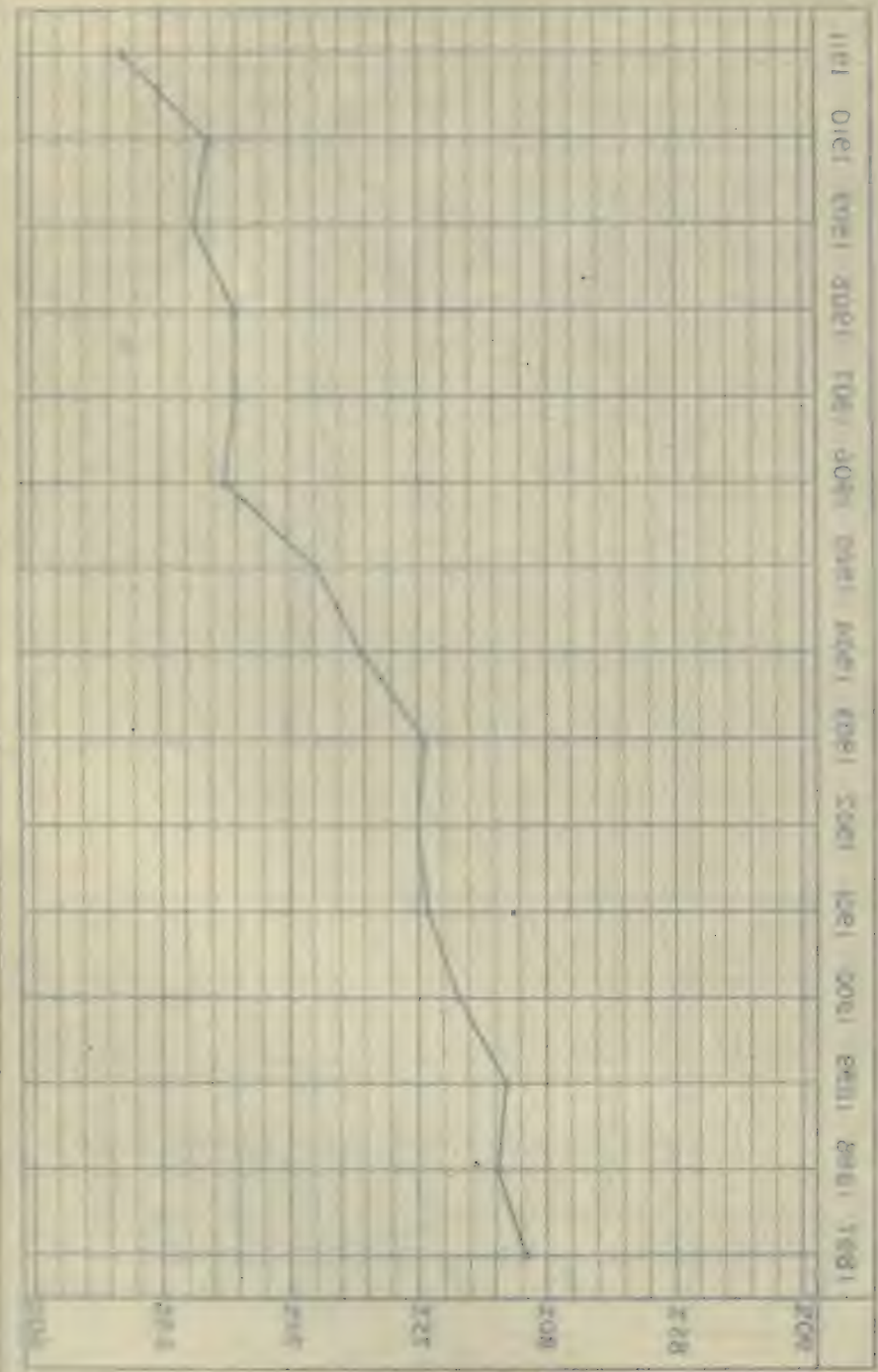
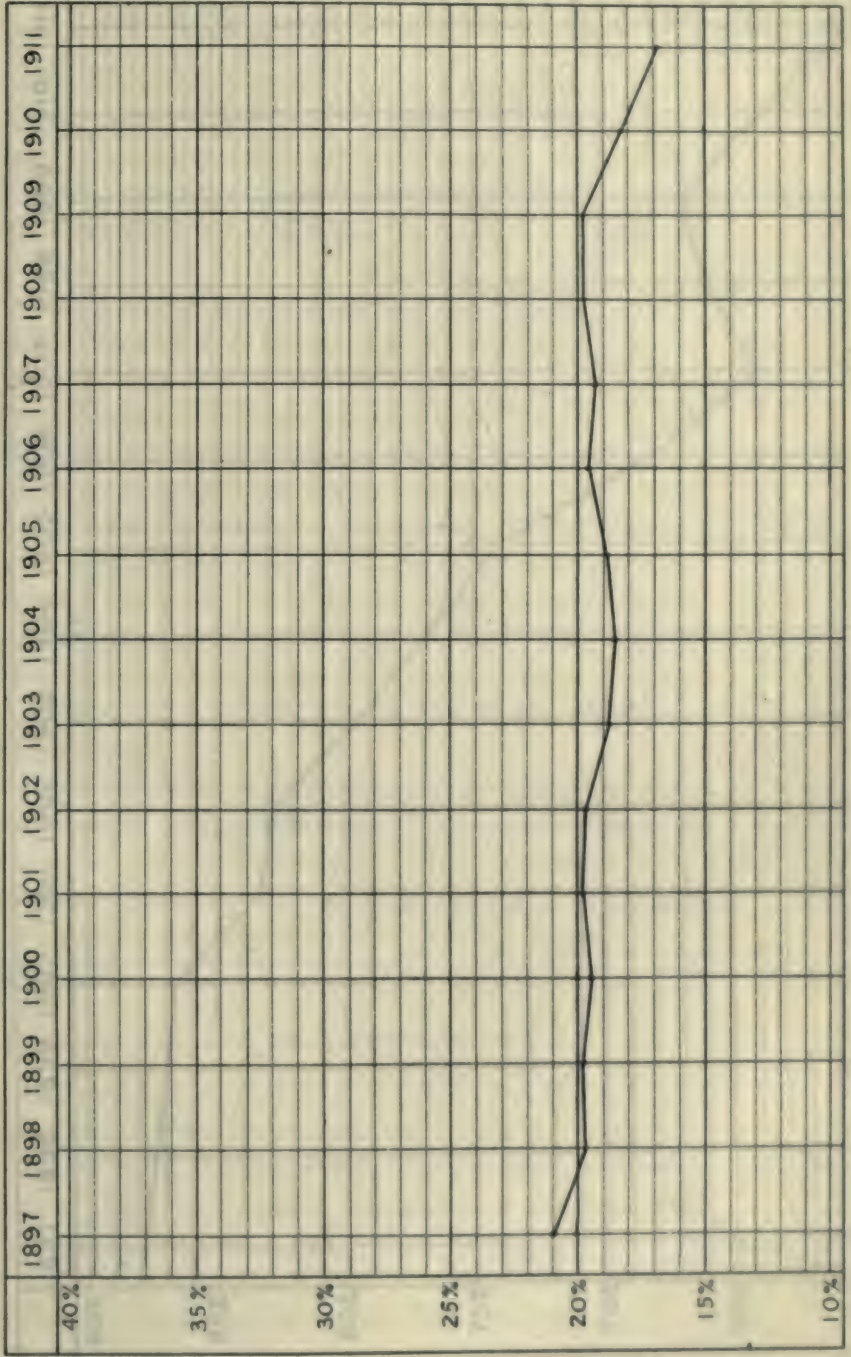


CHART G.

PERCENT THAT AVERAGE DAILY COMPENSATION OF ENGINEERS IS GREATER THAN
AVERAGE DAILY COMPENSATION OF CONDUCTORS, EASTERN DISTRICT.



ИЗМЕНЕНИЯ В ПРОЦЕНКАХ ПО ПОСТАВЛЯЕМЫМ УСЛУГАМ ЗА ПЕРИОД С 1990 ПО 1999 ГОДЫ

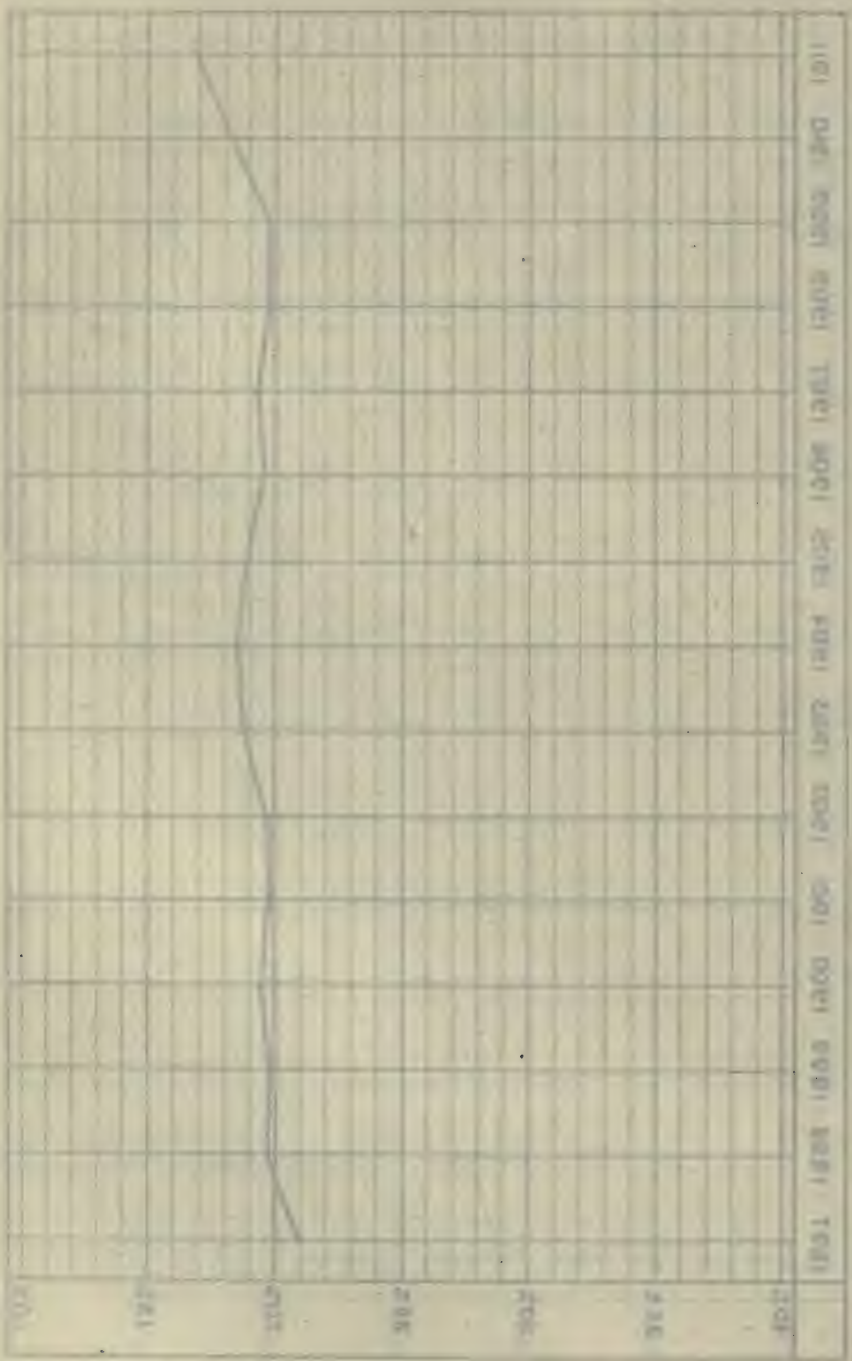
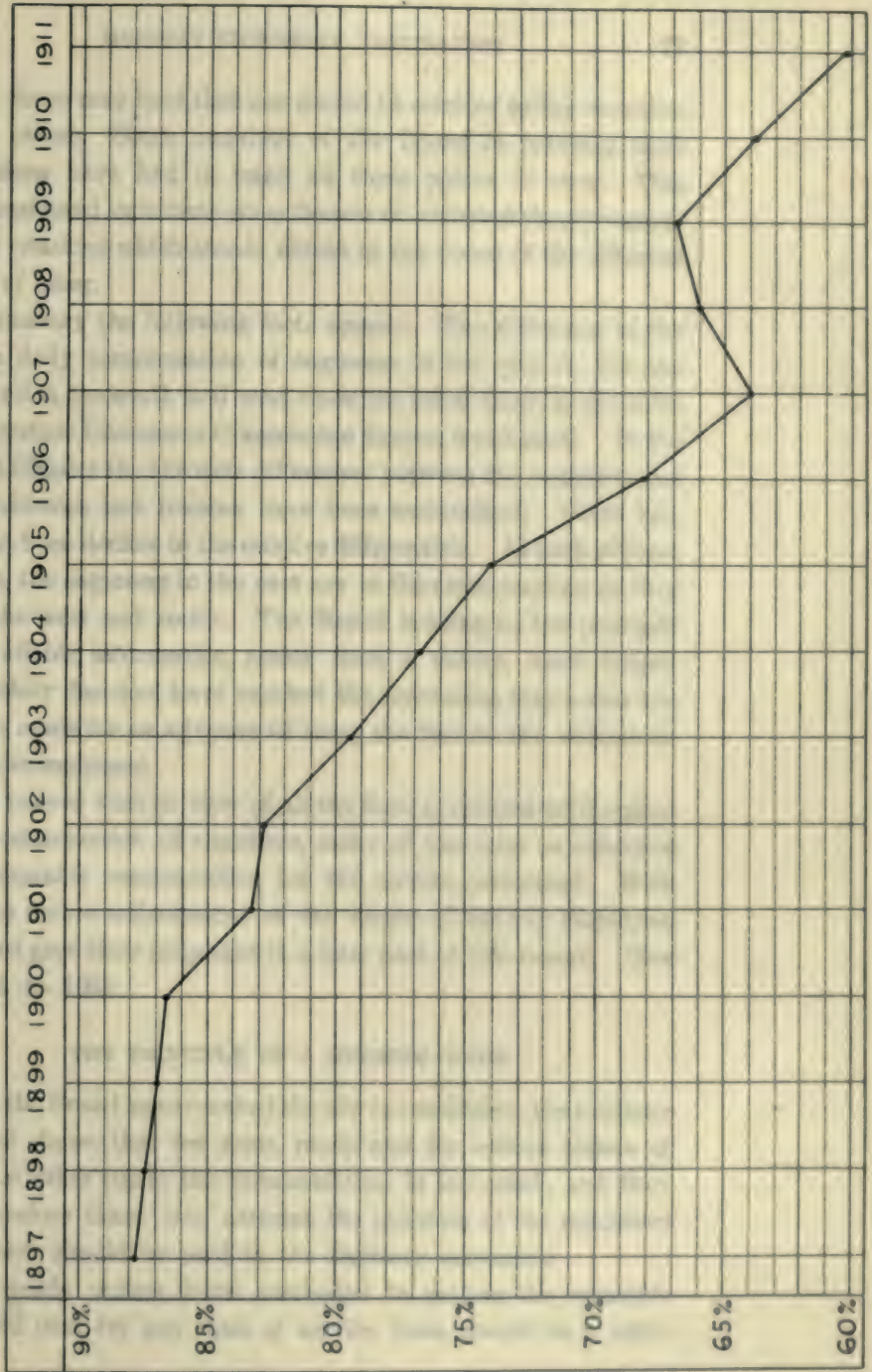
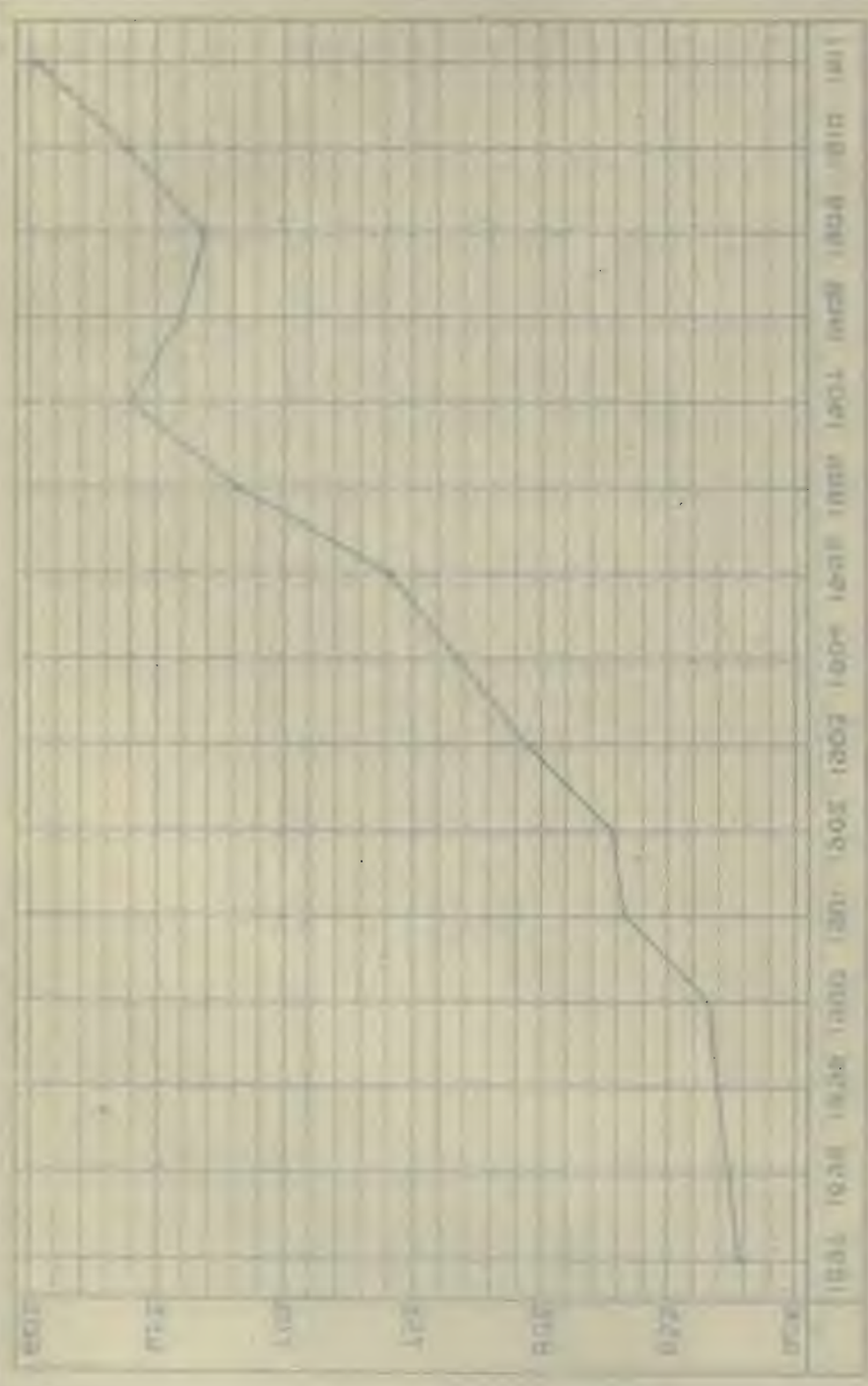


CHART H.

PERCENT THAT AVERAGE DAILY COMPENSATION OF ENGINEERS IS GREATER THAN
AVERAGE DAILY COMPENSATION OF OTHER TRAINMEN, EASTERN DISTRICT.



ВАРИАЦИЯ ВРЕМЕНИ СВЕЩЕНИЯ ПРИ ИЗМЕНЕНИИ НАПРЯЖЕНИЯ И ТОКА



view. Some may hold that one should be selected to the exclusion of the others. Some members of the Board in reaching their conclusions have had in mind all three points of view. This they considered legitimate since there is no accepted theory regarding the relations which should obtain in the wages of the different classes of labor.

In summary the following facts appear: The difference in the average daily compensation of engineers in the east on the one hand, and in the south and west upon the other hand, as given by the Interstate Commerce Commission figures, is not great. In the Eastern District the absolute differences between the engineers and the conductors and firemen have been maintained. There has, however, been decline in the relative differentials. In both of these respects, the engineers in the east are in the same position as they are in the west and south. The Board holding to the principle that available information, rather than a theory, must largely control their decision, have reached the conclusion that a case has not been made for an advance all along the line in the compensation of the engineers.

They believe that in view of all the facts presented with regard to the compensation of engineers, many of the rates in existence give reasonable compensation for the service performed. With regard to future adjustments of the wages of railway employes, the Board give their judgment in a later part of this report. (See pages 86 to 108).

THE PRINCIPLE OF A MINIMUM WAGE

While the Board have reached the above conclusion, the evidence presented shows that for some roads and for certain classes of service on other roads the compensation is too small, and they have therefore taken into account the question of the minimum wage which should be paid in the territory concerned.

Many trade unions have succeeded in getting the principle recognized that for any class of service there should be a mini-

imum compensation. Throughout the United States a minimum day's work is recognized for railway engineers. If the general principle which has been worked out for many trades be adopted for engineers, this would lead to fixing a minimum compensation for each class of service. While the minimum rates established by different trade unions often apply only to a city, a number of them are sectional; and a few, national in their scope. There are important cases of the minimum rate applying to a competitive area.* The Eastern District of the United States may be regarded as a competitive area in railroad business, and the Board can see no reason why a minimum rate for engineers should not obtain throughout this entire district; especially as the district has been treated as a unit in negotiating with the conductors and other trainmen.

It is recognized by the Board that upon certain roads and for certain classes of runs, engineers' wages have undoubtedly lagged behind the average compensation for the district. They have therefore adopted the principle of imposing a minimum. It is believed by the Board that the principle of a minimum is sound, but that to say that every engineer in every class of service should have the same compensation cannot be defended. Indeed, the engineers already recognize this, since they ask that they be paid in accordance with the class of service in which they are engaged. In other words, the engineers recognize that the character of the service should be considered in fixing the compensation. In the opinion of the Board it is desirable that all of the factors which enter into the nature of the service should be taken into account, and that the more arduous and difficult service should have greater compensation. With this point of view, the Board feel that at the present time they have gone as far toward establishing uniformity of rates of pay as is practicable, by introducing a minimum wage for each of the more important classes of service.

*The Standard Rate in American Trade Unions, by David A. McCabe, Johns Hopkins Press, 1912, p. 10.

THE AWARDS

In view of the foregoing facts and considerations, the following awards are made by the Board regarding the various matters submitted for arbitration.

PASSENGER RATES

The minimum passenger rate for engineers shall be \$4.25 for 100 miles or less; miles made in excess of 100, pro rata.

Overtime in through passenger service is to be computed on the basis of 20 miles per hour.

All passenger overtime will be paid for at the rate of 50 cents per hour and will be computed on the minute basis.

This award is without prejudice to existing higher rates on different classes of engines.

ELECTRIC SERVICE

Wherever electric service is installed as a substitute for steam, or is now in operation on any of the railroads parties to this arbitration, or on any of the tracks operated or controlled by any of them as part of their system, the locomotive engineers shall have the preference for the positions of engineers or motormen on electric locomotives or multiple unit trains; but this right of the engineers shall not operate to displace any man operating electric power on any of the railroads parties to the agreement on May 1, 1912.

Since the use of electric locomotives or multiple unit trains upon steam railways is in so early a stage of development, and there is as yet no approximation to stable conditions, but a wide variation in existing practices, the Board found themselves unable, from the evidence before them, to make any uniform rules regulating rates of pay and conditions of service for engineers or motormen em-

ployed on such trains. The minimum day's wage of \$4.25 in passenger service is, however, awarded; but the day's work covered by the same, both as regards hours of service and mileage covered is that which now exists in the electric service on the various roads, not that covered under the preceding heading "Passenger Service."

This award is without prejudice to existing contracts for such service.

FREIGHT RATES

The minimum freight rate for engineers shall be \$4.75 for ten hours or less, or 100 miles or less; miles made in excess of 100, pro rata.

Overtime in freight service is to be computed on the basis of 10 miles per hour, and paid for pro rata on the minute basis.

Twenty-five cents per 100 miles or less is to be added for local freight service, to through freight rates, according to class of engines. Miles over 100 to be paid for pro rata.

Through freight rates will apply on all work, wreck, pusher or helper, mine runs or roustabout, circus trains, and to trains established for the exclusive purpose of handling milk; all according to class of engines; overtime is to be computed on minute basis.

These awards are without prejudice to existing higher rates on different classes of engines.

HELD AWAY FROM HOME TERMINAL

Engineers in unassigned freight service held 28 hours at other than designated home terminals without performing service, are to be paid overtime rates as follows:—10 hours for the first 28 hours so held, and 10 hours additional overtime for each complete 24 hours so held thereafter, provided that this regulation does not apply to engineers delayed by reason of compliance with the law, or obstruction of the line through act of Providence.

SWITCHING SERVICE

Engineers in switching service shall be paid at a minimum rate of \$4.10 per day, 10 hours or less to constitute a day's work; all time over 10 hours to be paid for pro rata; overtime to be computed on minute basis; time to begin when required to report for duty, and to end at the time engine is placed on designated track, or engineer is relieved at terminal.

BELT LINE OR TRANSFER SERVICE

The Board recognize that in Belt Line or Transfer service the grade of work is clearly different from ordinary switching service, and may therefore properly be entitled to a higher rate of pay; but the information before the Board shows that conditions over the Eastern territory vary so widely in this service, that they are unable to reach an agreement regarding a fair rate for such service. The Board, therefore, refer the question of Belt Line or Transfer service back to the engineers and the managements of the different roads for local settlements, which shall take into consideration the difference between Belt Line or Transfer service and Switching service, in fixing the rates of pay.

BEGINNING AND ENDING OF A DAY

In all classes of road service, an engineer's time will commence at the time he is required to report for duty, and will conclude at the time the engine is placed on the designated track or relieved by hostler at terminal.

INITIAL TERMINAL DELAY

Compensation for Initial Terminal Delay is not allowed beyond that involved in the rule, that pay shall begin in all cases at the time an engineer is required to report for duty.

FINAL TERMINAL DELAY

For freight service, final terminal delay shall be computed from the time the engine reaches designated main track switch connection with the yard track.

For passenger service, final terminal delay shall be computed from time train reaches terminal station.

Final terminal delay, after the lapse of one hour, will be paid for at the end of the trip, at the overtime rate, according to class of engine, on the minute basis.

If road overtime has commenced, terminal overtime shall not apply, and road overtime will be paid to point of final relief.

HOURS OF SERVICE LAW

Amendment of Section E of the Application of the Sixteen Hour Law.

Engineers in train service tied up under the law will be paid continuous time from initial point to tie-up point. When they resume duty on continuous trip, they will be paid from tie-up point to terminal on the following basis: For fifty (50) miles or less, or five (5) hours or less, fifty (50) miles pay; for more than fifty (50) miles and up to one hundred (100) miles, or over five (5) hours and up to ten (10) hours, one hundred (100) miles pay; over one hundred (100) miles, or over ten (10) hours, at schedule rates. It is understood that this does not permit running engines through terminals or around other crews at terminals unless such practice is permitted under the pay schedule.

GENERAL REGULATIONS

1. Existing rates of compensation, terms of pay, and rules of service, submitted to arbitration, except as modified by the above awards, are to remain in force until the end of the period of award.

2. It is understood that existing rates of pay or better working conditions shall not be reduced by the rates or rules hereby agreed

upon; nor shall General Committees of Adjustment be debarred from taking up with their respective managers matters not decided by the Board of Arbitration.

3. The awards shall be effective as of May 1, 1912, except the award regarding "Held Away from Home Terminal" and the award regarding "Final Terminal Delay," which awards are to take effect November 1, 1912.

SUPPLEMENTARY EXPLANATION

The awards need little further explanation beyond that already given. In general they may be summarized under the principle that a minimum wage should obtain, and that the rules of service should be as fair and uniform as practicable.

In fixing the minimum wage in passenger service at \$4.25 per day in the Eastern District, a higher minimum rate is established than that which now exists upon all but a few of the roads.

In adopting the principle that in through passenger service overtime shall be computed on the basis of 20 miles per hour a distinct advance is made. While this rule is rather general in the south, this is not true of the west. But since it seems a reasonable basis upon which to calculate overtime in through passenger service, this award is made.

In awarding a minimum through freight rate of \$4.75 per day, a rate is established that measurably approaches the current minima on roads now paying the better rates.

The awards carry further increases of compensation to engineers in that they classify as through freight, for the purpose of pay, work trains, wreck trains, pusher or helper service, mine run or roustabout, circus trains and some milk trains,—the pay for each being according to class of engines.

The request of the engineers for an increase of 25 cents for 100 miles or less, ten hours or less, for local freight service is granted, since this service involves additional work, as compared with other freight service.

In regard to the beginning and ending of a day's work, it seemed to the Board that there could be no possible reason why an engineer's compensation should not begin at the time he is required to report for duty, and continue to the time he is relieved from duty. Therefore, the principle has been applied that an engineer should be paid for the entire time he is on duty.

The same principle which leads the Board to make their award regarding the beginning and ending of the day applies to overtime. It should be given on the basis of actual time required; and hence the award is made that overtime be computed upon the minute basis.

In regard to Final Terminal Delay:—It has been suggested upon one side that the engineer has done his duty when he reaches the yard limits, and upon the other side that before he is paid for any delay at the terminal he should have completed his full minimum day's work in hours. It seems to the Board, however, that if an engineer has made a good run and reached the entrance to his terminal, the road should not be allowed to hold him there indefinitely. It is clear that the duty of an engineer is not complete when he reaches the switch to the terminal; he has the duty of placing his train at the designated place in the terminal, and the additional duty, after this, of taking his engine to the roundhouse. Under favorable conditions this work would occupy a portion of an hour. The Board realizes that often, during times of congested business, it is not possible to get a train to its place in the yard, and the engine to the roundhouse promptly. If the roads do not make it possible for the engineers to complete their work within the hour after reaching the yard, it is the opinion of the Board that time beyond this hour should be paid for as overtime.

Regarding Initial Terminal Delay:—Having made the award that time should begin as soon as a man is required to report for duty, the arbitrators do not in addition to this recognize that there should be payment for initial terminal delay, since this time will

be regularly paid for as a part of a minimum day's work; and if men are held at the initial terminal for a considerable period, this may result in extending the time beyond the minimum of ten hours, or five hours in the case of through passenger service, and in giving compensation for overtime at the end of the trip in those cases in which the initial terminal delay is unreasonably long.

The award regarding the allowances made when men are held away from their home terminal is in general accord with the principle now in force on several of the important roads in the Southern District.

GENERAL CONSIDERATIONS

The Board of Arbitration might be regarded as having performed their assigned task in making the preceding awards. But the investigations of the Board have necessarily led them to consider the broader aspects of the problems before them; and because of this they present certain general considerations to the railroad managers, to the engineers, and to the general public.

COMMISSION CONTROL OF PUBLIC UTILITIES

Until within a few years the holders of railroad bonds and stocks regarded the railroads as exclusively their private property, with which they were free to do substantially as they pleased. The roads were operated precisely in the same spirit as industrial enterprises. The controlling idea was to give the largest return to the owners of the stocks. It is of course true that many railroad managers realized that they had certain public responsibilities, but the latter were often regarded as secondary considerations.

Only slowly and reluctantly did the majority of railroad men yield to public control; and even now, some of the operators hold the older attitude to be correct, although admitting that it can no longer be followed in practice. The railroads, being common carriers, require public franchises, and therefore have all of the obligations of public utilities. But the public has only gradually asserted its authority over them. As early as 1869 the state of Massachusetts established a railroad commission. California did the same in 1876, New York in 1882. But these early commissions, and those of other states, did not attempt any large control. Indeed, they did not have authority to do so. Their power was usually limited to that of recommendations to the attorney-general. Illinois created a railroad commission in 1871,

which in 1873 was given power to prescribe rates; but little in the way of effective regulation was accomplished during this decade.

While in Iowa there was early legislation looking toward the control of railroads, in 1897 a law was passed which went a long way towards assuming control within that state. The rates were to be "reasonable," and the findings of the commission were to be *prima facie* evidence of the reasonableness of the rates. The state of Wisconsin in 1905 enacted an even more comprehensive and effective law under which the commission was given ample power to control the rates charged within the state. The example of Iowa and Wisconsin has been followed by many other states.

The Interstate Commerce Commission, when it was created in 1887, had the power of investigation; but it could go no further than to recommend reparation in case of just complaint. It was, in fact, a purely advisory body. Not until 1906 was the law so amended by Congress as to give to the Interstate Commerce Commission the power to fix maximum rates. In 1910 the Commission was given the further power to suspend any increase of rates pending investigation. Thus, it is only six years ago that the national government has asserted its broad authority to control the rates which railroads may charge in interstate commerce.

LABOR ORGANIZATIONS AND WAGES

Under the old régime, in which the railroad operators scarcely recognized the fact that the railroads were public utilities, railway labor controversies were usually conducted like those of the great industrial corporations. Each side made the best bargain that was practicable. So long as railroad labor was unorganized, the advantage in wage bargaining was strongly with the railroad operators; and this is still the situation in regard to those classes of labor that are unorganized or poorly organized. Gradually, however, the different classes of railroad employes began forming organizations. One of the earliest of these was the Brother-

hood of Locomotive Engineers, founded in 1863, now numbering some 72,000 members, and having more than two hundred wage arrangements or contracts with the railroads in North America. Early in its history this organization included among its members a large proportion of the locomotive engineers of the United States, and ultimately acquired a strength in wage bargaining comparable with that of the operators. The latter, however, did not recognize this fact until after a number of serious strikes. The last of these great strikes was that upon the Burlington road in 1888. This strike, according to the present Grand Chief of the Brotherhood, cost the engineers two millions of dollars and the railroads several times that amount.

There have also been conductors' strikes, firemen's strikes, trainmen's strikes, etc. While the Burlington strike was lost by the engineers, the enormous cost both to the road and to the men was such as to make each side reluctant to resort to the settlement of labor controversies by means of industrial warfare.

At the present time, when the railroads as public utilities are subject to the Interstate Commerce Commission and to the State Commissions in so many respects that some of the railroads feel that the power of the government over their property is greater than that of the operators themselves; and when the railroads are subject to the dominant pressure of public opinion, the operators generally feel that they can no longer justify the settlement of a labor controversy by a strike. The strongly organized employes have from time to time asked and obtained higher wages. The facts presented to the Board show that the locomotive engineers have had several increases in wages since 1900, especially in 1903, 1907, and 1910. It is not to be understood, however, that the advances were the same on each of the railroads, nor that they took effect at precisely the same time, nor on all the railroads; but that in certain years during this period there has been a general advance in wages, the particular adjust-

ment being made in each case by conferences between the railway officials and local committees of the engineers.

In the opinion of the Board, the balance of power in the control of wages, which was first with the railroads has now passed to organized railway labor. The railroad operators, under the control of national and state commissions, and under the control of public opinion, are weaker than strongly organized unions. The latter, without any control through commissions, are of course also affected by public opinion, but not so directly.

THE SERIOUS NATURE OF A CONCERTED STRIKE

Never in the history of the United States has there been a concerted strike on all the railroads of a great section of the country. The strikes have usually been upon individual roads, although in some cases strikes have taken place upon a number of roads at the same time. The present arbitration, involving as it does a concerted movement affecting fifty-two railroads, is therefore a new phase of development.

On January 27, 1912, the locomotive engineers made uniform requests upon all the railroads in the Eastern District. The railroads affected by these demands had in 1910 an aggregate of 66,876 miles of main track, as compared with 266,185 for the whole United States, or 25.1 per cent of the total mileage. These railways represent nearly 40 per cent of the aggregate revenues and expenses of all the railways of the United States; from 42 to 47 per cent of the traffic; something over 40 per cent of the total number of employes, of the number of engineers, and of the compensation of these employes. The population of the great region immediately affected by this movement is over 38,000,000, as compared with approximately 54,000,000 for the remainder of the country—or about 42 per cent of the total population. If we assume that the wealth of the region is in proportion to the amount of railroad traffic and to the density of population, it may be fairly concluded that the territory affected by this demand repre-

sents at least four-tenths of the wealth of the country. As we have seen, the managers, after several conferences with the locomotive engineers, refused to accede to the requests of the engineers. The question of a strike was then submitted to the men. The vote showed 93.3 per cent of the men in favor of a strike, provided a satisfactory settlement could not be made. All that was necessary for a strike to take place was the assent of the Grand Chief Engineer in conjunction with the general committees of the different railroads. This assent is necessary, for if a strike is voted by the members of the Brotherhood, the Grand Chief has the veto power.

At the hearings of the arbitration it seemed to be the opinion of the parties concerned that if the engineers had declared a strike, it would have effectively tied up the railroads in the Eastern District.

An effective strike on these railroads, extending through an area that includes all of New England, New York, New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Indiana, the lower Peninsula of Michigan, much of Illinois, and a small part of West Virginia, would have had most disastrous effects upon the commerce and industry of this entire region, to say nothing of its effects upon the remainder of the country. Indeed, it would be difficult to exaggerate the seriousness of such a calamity. While no statistics on the subject are available it is safe to say that the large cities of the East, if the strike had taken place, would have found their supply of many articles of food exhausted within a week. Of so important a commodity as milk the cities have not usually more than a day's supply. Many of the people in the cities would therefore have been short of food if the strike had taken place. Assuming that no damage were done to their property, the loss of the railroads through cessation of business would have been enormous. The total operating revenues of the fifty-two railroads concerned amount to over twenty million dollars a week, and the net operating revenue to nearly seven million dollars a week. The loss to

the engineers would likewise have probably run into the millions. Their present payroll amounts to over \$800,000 per week. (Railroad Exhibit 67 A.)

But the loss to the public would have been vastly larger than that of both parties to the conflict. Of necessity, building operations and many other lines of employment would have ceased in whole or in part; for not only are the people of the great cities dependent upon the railroads for their daily food-supply, but the great industries depend on the railroads daily for their materials, and a week's failure on the part of the railroads to deliver materials to the manufacturers would have made it necessary for many to shut down even if the owners had wished to continue them in operation. But in any case many of the owners would have been compelled to shut down their plants, inasmuch as they could not afford to continue manufacturing articles of commerce which they had no means of transporting to the places of sale.

It thus appears if a strike of railway employes were successful in stopping traffic, its effects upon the industry of the country would be analogous to those of a general strike, simply because a great number of other industries could not continue if the railroads ceased to operate. Such a strike would have at least the partial effect of a universal strike, forced upon the public, and even the willing workers in other branches of industry. In certain general strikes of some foreign countries there have been exceptions made of certain employments necessary to human existence; but in a suspension of business through stoppage of all transportation there would be no exception.

A case in the United States somewhat analogous to a railway strike for an entire region was the anthracite coal strike in 1902, where the stoppage of coal supply to a great commercial and manufacturing interest was deemed a calamity which compelled the intervention of the President of the United States. However the stoppage of the anthracite coal supply was not nearly so serious as would be the stoppage of railway traffic, for bituminous

coal can in an emergency in large measure take the place of anthracite; but there is nothing under modern conditions that can take the place of the railroads for transportation.

In short, a general strike on the railroads for a great section of the country would have paralyzed the industries of that section; and, even if food were obtainable, millions of laboring people would have felt the pinch of want. If a strike of the character indicated lasted only for a single week, the suffering would have been beyond our power of description; and if it had continued for a month, the loss, not only in property, but in life, would have been enormous. Also, as usual in such cases, the disaster would have fallen most heavily upon those least able to bear it. While the rich might have felt themselves poorer because of depleted bank accounts, they would have had sufficient for the necessities of life. The middle classes would have been injured financially; but still they could have subsisted. The working classes would have suffered acutely. They would have been the ones to feel soonest, longest, and most intensely the unspeakable calamity of a general railroad strike.

At first thought it may appear that this picture is overdrawn. But it should be remembered that never has a railroad strike affected an entire region of the United States. There have been strikes on particular railroad systems. In such cases the neighboring roads took care of the more pressing necessities of the great terminal centers, and there was no acute suffering except at minor points served exclusively by one railroad system.

THE GENERAL RAILWAY STRIKE IN FRANCE

A general strike for the eastern territory would put the eastern states in much the same situation as France was placed two years ago, when there was a general strike on the railroads of that country.

On October 12, 1910, the National Federation of Railway Employes of France and the Federation of Unions of Railway Engi-

neers and Firemen of France called a general strike on all the railways of the country. Immediately afterwards work came nearly to a standstill on the northern and western lines and the next day the strike extended to a number of other lines. In ordering this strike the men asserted it was their legal right to cease work.

At various places during the strike there were acts of violence, "trains were held up, signals destroyed, rails ripped from the ties, telephone and telegraph wires cut." Many cities and towns were threatened with famine. There was immediately a large increase in the price of food. In this respect Paris fared better than some of the smaller towns, because of the prompt use of the Seine in bringing in food from the sea.

The government appreciated at once that if this general railway strike were allowed to continue, the nation would be paralyzed. Therefore upon the very day that the general strike was declared, the Ministers, using their full authority under military laws, called for the mobilization of the strikers, commanding them the following day to join the colors for three weeks' military training. The military duty to which the employes were summoned consisted in the maintenance of the railways in normal working order and in obeying the orders of their official superiors. Disobedience would entail the punishment provided for by military law. The government announced that the roads would be operated and the people of Paris would be fed.

So effective was the action of the government that by the day following the strike a sufficient number of men had obeyed orders so that many passenger trains were running into Paris.

The strike of the railway men was regarded by the public in general as an act of criminal violence; indeed the Ministry stated that the strike put the country in a condition of civil war. The action of the government with the prompt support of public opinion, led the railway labor organizations on the 18th of October to declare the strike terminated. Thus the total duration of the attempt for a general railway strike was six days.

In the later discussions in Parliament the principle advocated by M. Aristide Briand and the Ministry was accepted, "that public servants must be required to discharge their duties regularly and without interruption." Indeed, so imperative was it considered for the welfare of France that the railways be operated that in the discussion in the Chamber, October 28, M. Briand, declared that "if the government had not found in the law that which enabled it to remain master of the frontiers of France, and master of its railways, which are indispensable instruments of the national defense, if, in a word, the government had found it necessary to resort to illegality, it would have done so."* This he regarded as defensible under the doctrine *Salus publica suprema lex*.

THE EASTERN DISTRICT AND FRANCE COMPARED

In connection with this arbitration it should be remembered that the population in 1910 of the territory concerned was more than 38,000,000, whereas the population of France in 1911 was 39,601,509. The great congested centers of the Eastern District are much larger and more numerous than those of France. The figures in the United States as given by the census of 1910, and in France for 1911, are as follows: New York City, population 4,766,883, is larger than Paris, 2,888,110; Philadelphia, 1,549,008, is nearly three times as large as Marseilles, 550,619; Boston, 670,585, is considerably larger than Lyons, 523,796. In France the only other two cities which exceed 200,000 in population are Bordeaux, 261,678, and Lille, 217,807; whereas in the eastern part of the United States, there are three other cities that exceed 500,000—Cleveland, Baltimore, and Pittsburgh; two that exceed 400,000—Detroit and Buffalo; three that exceed 300,000—Cincinnati, Newark and Washington; and four that exceed 200,000,—Jersey City, Indianapolis, Providence and Rochester.

The area of the country involved in this arbitration is one and

* The *New International Year Book*, 1910, pp. 269-271.

one-half times as great as that of France. The main track mileage of the Eastern District is 66,876 miles, whereas that of France is only about 36,000.

Thus the comparison of a strike on the railroads of the Eastern District with a general railroad strike in France is justifiable from every point of view,—that of the mileage of the railroads concerned, that of population as a whole, the size of the cities, and the territory involved.

THE PUBLIC INTEREST PARAMOUNT

It is evident therefore that for a great section of the United States a railroad strike can no longer be considered as a matter which primarily affects the railroad operators and employes. It does affect them and affects them seriously; but the public is far more deeply concerned. Indeed, the interests of the public so far exceed those of the parties to a controversy as to render the former paramount. To this paramount interest, both the railroad operators and employes should submit. It is therefore imperative that some other way be found to settle differences between railroads and their employes than by strikes.

If in the United States there were a general strike for the eastern territory comprising as we have seen two-fifths of the population and approximately half the wealth of the country, every effort would undoubtedly be made to terminate the strike promptly and to operate the railroads, even though it became necessary for the President of the United States and the governors of the states to act in concert to the extreme limits of the laws and their reserve powers, which at times of national emergency are large. The military forces, both state and national, would undoubtedly be available if necessary to prevent any interference with the men who desired to work; but it is not easy to see how more than a fraction of the number of engineers necessary to run the railroads could be secured promptly. Hence the probable consequences of an effective engineers' strike would be those already described.

THE INCREASING POWER OF ORGANIZED LABOR

It appears clear, therefore, to the Board that in the future a controversy between the railroads of a great region of the United States and organized labor should be settled in some other way than by strike. If this position be sound, and the railroad operators accept it, they are manifestly helpless when labor organizations ask for higher wages and threaten that if their requests are not granted they will proceed to strike. If the above is a correct diagnosis of the situation, the Board doubt whether the railroad employes fully realize their power. But if they have not realized it fully, they have realized it sufficiently to take advantage of the situation, and to vote a strike for the Eastern District.

The recent progress of the concerted movement very clearly shows the developing sense of power of the railway employes. Until 1902, in the settlement of difficulties between the employes and the railroads, usually no larger unit than a railroad system was concerned. If a settlement could not be made for a railway system there might be a strike, and while some of such strikes led to great disasters, they did not result in national calamities. The concerted movement was first used by the conductors, trainmen, and yardmen. These employes have taken part in four concerted movements,—two of them in the West (in 1902 and in 1907); in the East there was a concerted movement of the same classes of employes in 1910; a concerted movement in the South has just been terminated. For the engineers in the West, there have been two concerted movements,—the first in 1906, the second in 1910. In the Southern District there have also been two concerted movements of engineers, one in 1907 and another in 1911. The present arbitration represents the result of the first concerted movement of the engineers in the East. The firemen of the West made concerted movements in 1907 and 1909, and a third concerted movement has now been begun by the firemen in the Eastern District. Early in 1908 there was a concerted movement

of engineers, firemen, conductors, and trainmen on all the Western roads, with reference exclusively to rules covering compensation of men tied up under federal and state laws.

It thus appears that the first concerted movement was made in 1902; that until 1906 no other concerted movement was made; and that twelve important concerted movements have been made between 1906 and the present time by various classes of railway employes in the United States. An advantage of the concerted movement is that, affecting as it does an entire section of the country, the employes find that the railroad officials will settle either directly through mediation, or by arbitration, rather than permit a strike; in short, the operators in such cases have not taken the responsibility of forcing a wage settlement by strike.

In the case under arbitration, as already indicated, the only requisite still lacking for a strike, sanctioned by a vote of 93.3 per cent of the engineers, was the approval of the Grand Chief of the Brotherhood of Locomotive Engineers in conjunction with the committee having the matter in charge. It lay within the power of this group of men to decide whether or not a strike should take place. It is true that the power was not exercised, and that steps were taken which resulted in arbitration; but the threat of this power clearly appeared. From the view point of the public it is an intolerable situation when any group of men, whether employes or employers, whether large or small, have the power to decide that a great section of the country as populous as all of France shall undergo great loss of life, unspeakable suffering, and loss of property beyond the power of description, through the stoppage of a necessary public service. This, however, is the situation which confronts us as a nation. It certainly is sufficiently grave to justify the Board in giving most serious consideration to the solution of the problem of determining what shall be the obligations of all of those upon whom devolves the continuous operation of our public utilities, and particularly the railroads.

LIMITATIONS OF THE PRESENT BOARD

As we have already pointed out in the body of our report, a Board constituted like the present one has limitations. They have not the machinery for convenient consideration of the matters at issue. Without delays which would have appeared unreasonable—which, indeed, would have postponed the awards far beyond the time at which the Board were expected to announce their findings—it would have been impossible to give the study that might have led to the formation of a complete and unqualified judgment on all points. Under the circumstances, therefore, which affect the present extremely complex case, the Board have made all reasonable expedition in reaching conclusions upon the facts available and the arguments presented.

The members of the Board are fully conscious of the grave importance of the case before them, whether it be measured in terms of the amount of money involved or determined by the far-reaching effects that a general railroad strike on the Eastern railroads would have upon the well-being of the people in a large section of the country. The amount directly at issue is estimated at several millions of dollars; and indirectly much more. This amount of money, while very large, is far less important in the eyes of the Board than the public interests involved.

The Board have resolved that their award shall take effect on the first of May, 1912. By virtue of the agreement under which the parties accepted arbitration, the award will continue for one year from that date, subject thereafter to thirty days' notice of discontinuance by either party. If the work of the Board leads merely to a truce for a year, its members will feel that they have accomplished comparatively little; if, on the other hand, their work points the way to a permanent solution of controversies between capital and labor engaged in the operation of our public utilities, they will feel that their efforts have been abundantly repaid.

THE ERDMAN AND CANADIAN INDUSTRIAL DISPUTES ACT*

Already there is a growing realization that labor difficulties upon railroads should not be settled by war. The first great step toward the settlement of railway disputes in some other way than by strikes was made when the Erdman Act, already referred to, was passed in June, 1898, having been actively supported by the railway brotherhoods. Under the provisions of this act, as amended, when there is a dispute between the employes and the railway companies which is likely to lead to a strike or which has already led to a strike, upon the application of either party it becomes the duty of the Presiding Judge of the United States Commerce Court and the Commissioner of Labor to put themselves in communication with the contending parties and use their best efforts through mediation and conciliation amicably to settle the controversy. If efforts at mediation are unsuccessful, they shall at once endeavor to bring about an arbitration of the controversy, in accordance with the provisions of the act. If this be agreed to, the arbitrators shall be three in number, one to be named by each of the parties concerned and the third by the other two within five days. When they are unable to agree upon a third arbitrator within this time, he is designated by the before-named officers of the government. Arbitration proceedings are to begin within ten days of the time of the completion of the board and their findings must be made within thirty days from the appointment of the third arbitrator. Pending the arbitration the *status quo* is maintained. No employe shall quit service within three months because of dissatisfaction with the award, nor shall an employer discharge an employe for the same reason during a like period. An award continues in force for one year after the same has gone into operation, and no new arbitration upon the same subject

*The facts concerning the Erdman Act and the Canadian Industrial Disputes Act, contained herein, are derived mainly from an article by Charles P. Neill, on Mediation and Arbitration of Railway Labor Disputes, in Bulletin No. 98 of the United States Bureau of Labor, Washington, 1912, pages 1-81.

can take place within that year. The only escape from accepting the award of the arbitrators is an appeal to the courts, which appeal must be made upon matters of law within ten days from the time the award is made.

That the Erdman Act marks a great advance in the settlement of railroad labor disputes is shown by the increased frequency with which the Act has been invoked. Within a year after the passage of the Act a fruitless attempt was made to utilize its provisions, but nearly eight years elapsed before another case occurred. In contrast with this, during the past five years the act has been invoked in forty-six cases, of which only eleven were arbitrations. Thus the method of mediation has been much more frequently used.

Since the law was passed there has been no case of a great railroad strike; and although the merits of the Erdman Act are great indeed, certain defects in it have become apparent.

In the cases of mediation there is no attempt on the part of the mediators to make a judicial decision wholly upon the basis of equity and justice. The primary purpose is to bring the parties together and avert a strike. This is accomplished by getting the parties sufficiently near together that suggestions may be made to which both agree. While whenever mediation is successful a strike is averted, the adjustments cannot always be regarded as based solely upon the merits of the case. Where the case is one of arbitration under the Erdman Act the results in the above respects are usually very similar to those of mediation. The arbitrators are three in number. Each side is represented by one arbitrator. It rests therefore upon the third arbitrator to bring the other two arbitrators as nearly as possible together, and if he cannot do so he must decide between them. This is accomplished by splitting differences, and the case may be adjusted without adequate investigation of the facts involved, in consequence of which the award may not rest upon a basis of equity.

This method of splitting differences is very unsatisfactory, but

it is an inevitable result of mediation or arbitration under the Erdman Act. Feeling in advance that a mediation or arbitration will result in giving only a part of what they ask, the men make maximum demands regarding compensation, rules of service, etc., with the expectation that these demands will not be fully awarded. Upon the other hand, the railroad officers, appreciating the tendency of mediators and arbitrators to split differences, make only minimum concessions or none at all.

By the above statements it is not meant to assert that the awards that have been made under the Erdman Act have not been reasonably fair, but that in regard to this matter the Board do not have, nor is it possible for them to obtain, adequate knowledge upon which to formulate a judgment. Cases before the Interstate Commerce Commission, no more complicated than those which have come before the mediators or arbitrators under the Erdman Act, have required a year or more before a decision was made; while the Erdman arbitrators are compelled to make a finding in thirty days; and this notwithstanding the fact that the Interstate Commerce Commissioners have a large expert staff, including a number of examiners who act for them in taking evidence.

The Canadian Industrial Disputes Act, passed in 1907, is broader than the Erdman Act in that it provides for the settlement of disputes affecting not only railroads, but industries in general. This act is a distinct advance over the Erdman Act in that no strike or lockout can be made by a party to a controversy until the difficulties have been investigated and recommendations made. For each case of arbitration a separate board is appointed. Of these, there had been 109 to the end of 1911. During the five years of the existence of the law, from 1907 to 1911 inclusive, there have been only twelve industrial disputes in which strikes have not been averted or ended; and this for all of Canada for all industries. In a given case the board consists of three members appointed by the Minister of Labor, one from each of the parties to the controversy and the third upon the recommendation of

the two members; or if they fail to agree upon a recommendation within five days, the Minister is free to appoint the third member, who shall be the chairman of the board. Boards are appointed upon the application of either side when a lockout or strike is likely to be declared. Thus the Canadian Industrial Disputes Act has several features which are like those of the Erdman Act. Some of its defects are also identical with those of the Erdman Act. These are the constitution of the board of three members, only one of whom is in a non-partisan position, and the creation of a separate board for each controversy.

It was an appreciation of these defects of the Erdman Act that led to the method adopted in the appointment of this board of arbitration. The questions involved were so many and so important that it was wholly impossible for any board to make an adjudication of them in thirty days. Moreover, the responsibility which ultimately would have rested upon a third member of an Erdman arbitration board was too great to impose upon any one man. These difficulties were avoided by an agreement of the contending parties for arbitration by a board of seven members, outside of the Erdman Act, two of whom were to represent the railroads and the employes respectively. This left five who were in no sense representatives of either side. Also there was no limit placed upon the time which the board might take for its work. Thus the responsibility of making the award on questions where all could not be brought into agreement was shared by five men. A large amount of time was taken for hearings, investigations, and findings. At the outset the Board had no scientific machinery. This defect it remedied as best it could by the immediate appointment of a secretary and statisticians. The Board is composed of men who have other important duties, and therefore have been able to give only a part of their time to the work of arbitration. Finally, since the award is to be effective only for one year, it was felt that all possible expedition should be used even if the awards were less satisfactory than they might have been, had the

Board been composed of men giving their entire time to this work, with the assistance of a permanent expert staff.

In summary, regarding the Erdman Act, the following may be said.

The clause of the Act which provides that employes shall not withdraw or be dismissed within three months on account of dissatisfaction with an award is admirable, giving reasonable freedom to both sides, yet preventing concerted action which would nullify the award.

The provision of the Act which requires an award to be made within thirty days from the time that the third arbitrator is appointed makes it impossible for any adequate investigation to be made regarding all the facts in any complicated case, such as that before this Board for arbitration.

The danger of a strike in the case of the public utilities has been greatly lessened by the Erdman Act, but has not ceased to exist. The operation of the Act is to settle a dispute rather than to adjudicate a controversy.

But the most fundamental defect of the Erdman Act is that the interests of the public are not guarded by it. In the Eastern and Western railway cases* the claims for an advance of freight tariffs were not only presented by the railroads but supported by the employes. Manifestly it is advantageous to both employers and employes to have the railroads get a sufficient income so that they will be able to meet the requests of the employes for increased compensation. For the public utilities, however, there are not only two parties to the controversy—the railroads and the employes,—but a third, the public. As we have already mentioned, the railroads, one of the parties to the controversy, are subject to national and state commissions, which commissions are entrusted with the special duty of protecting the public interests. Advances in rates cannot be made without the consent

* Interstate Commerce Commissions Opinion, 1508 and 1509.

of the proper commissions. The railroads are not only subject to the commissions in rates, but are subject to them in regard to maintaining adequate service. The employes of the railroads are not subject to control through commissions; although in common with all organizations they are influenced by public opinion.

WAGE COMMISSIONS THE REMEDY

The above-mentioned disparity of status suggests the creation of national and state wage commissions or labor commissions, which should exercise functions regarding labor, engaged at work in public utilities, analogous to those now exercised with regard to capital by the public service commissions already in existence. If wage commissions were established, doubtless there would have to be some degree of coöperation between the two kinds of commissions. Much of the statistical information useful to the public service commissions would be valuable to the suggested wage or labor commissions. Many investigations might be carried on jointly by both. But some of the questions to be dealt with are so different that it would probably be better to have separate wage commissions or labor commissions, than to impose upon existing public service commissions, already over-burdened with important duties, the additional heavy task of adjusting labor controversies and determining what constitutes a fair wage for each class of railway employes.

If such commissions as are suggested should be created, they must be provided with expert and statistical aid to enable them to undertake elaborate investigations of the facts bearing upon the economic condition of railway employes. When such commissions have been in existence for several years, they will have in their possession the necessary facts upon which to make awards in individual cases; or, at all events, they will have the machinery and equipment necessary for gathering the facts promptly and interpreting them accurately. There is no reason why such a

commission could not proceed in the case of a labor difference with the same promptness that existing commissions exercise in the matter of railway rates.

If the suggestion for wage commissions be adopted, many excellent features and provisions of the Erdman Act, the Canadian Industrial Disputes Act, and acts for conciliation and arbitration in other countries, might be embodied in the law creating them. The discussion of the details of such a law would not be in place here. But it seems to the Board that the proposal made would meet the fundamental defects which have been noted in connection with the Erdman Act.

Instead of having a board for each case, whose members have other duties and wholly inadequate time in which to perform the work, there would be a continuous board, the members of which give their entire time to the adjustment of wages. This board would have a corps of experts and statisticians; it would be allowed sufficient time to investigate a case fully. Thus an award would be made upon the basis of merit instead of the basis of securing a settlement. If desirable, that feature of the Erdman Act and Canadian Industrial Disputes Act might be added, which provides for one representative from each party to the controversy. If this were done, and the board consisted of five or more members, it would have a permanent majority and a shifting minority. It can be urged in favor of this feature that each representative would intimately know the facts regarding his side of the case and the point of view of those represented. A board thus constituted would have a permanent controlling center interested in securing equity, which might be assisted in its work by representatives of each of the parties to the controversy.

Above all, the wage commissions proposed would represent the public. They would work in coöperation with the Interstate Commerce Commission and thus secure to railway employes just wages; and this without regard to whether the employes are fully organized. Under the existing situation, well organized railway

labor, illustrated by engineers, firemen, conductors, trainmen, etc. receive consideration from railroads not accorded to the classes of labor that are not so well organized.

It does not follow from the above that advances in pay to organized labor have been too frequent or too large, but merely that the question of an advance for a given class of labor engaged in work upon the public utilities should not depend upon organization, but upon justice. Especially for the public utilities is it important that labor should have a just wage, and if the existing wages are not adequate they should be increased. If a just increase in wages places the public utilities in a position that does not enable them to secure a fair return upon capital invested and maintain a proper reserve they should be allowed to increase their rates until they are in that position. In short, the public utilities should not impose an undue burden upon the public by paying higher wages than are reasonable, nor should the public receive services from the railroads at a rate so low that labor does not receive fair compensation and capital its fair return. How important this statement is will be understood when it is appreciated that, of the gross earnings of the railroads of the United States as a whole, over 42 per cent goes to labor (excluding officials) and on the fifty-two railroads involved in this controversy, over 45 per cent.

If the arguments above presented are sound, there seems to be no way to obtain justice for the three parties concerned,—the railway companies, the railway employes, and the public,—except through a permanent board which shall have continually before them the problem of the adjustment of wages.

LIMITATION OF RIGHT OF FREE CONTRACT

It is believed that if the plan of wage commissions were adopted, it is probable that railway employes would not have a just ground for a strike; and this fact combined with the power of the law and

public opinion would render a strike extremely unlikely in the future. If, notwithstanding the existence of a wage commission, the men engaged in train service struck, the question would arise regarding the legal authority of the government to compel employes to remain at work. Is it unreasonable to ask that men in the service of public utilities shall partially surrender their liberty in the matter of quitting employment, so that the nation as a whole may not suffer disproportionately?

While the courts have uniformly recognized the principle of free contract and have always refused to compel continuance of employment on the demand of either party, several states have enacted laws prohibiting engineers from leaving their trains at any other place than at the end of their regular runs.*

The courts have also discussed the position of employes and carriers in some of the so-called boycott cases, and it has been held that the cars must continue to move and traffic must continue to flow. Any interference with traffic, except that which is the incidental result of the exercise of a lawful right, as the ceasing of employment for the betterment of one's own condition, is unlawful; and therefore sympathetic strikes and boycotts in the case of railroad carriers have been condemned. This, however, does not reach the present difficulty, where the public is so dependent on the continuous service of a certain class of railroad employes that the concerted abandonment of their work would bring about a paralysis of all industrial life.

While it is clear from the public point of view that a concerted strike of railway employes for a great region would be as intolerable as a strike of the postal clerks; on the other hand, the position of the employes is a very natural one. They feel under existing conditions that the power to strike is their only weapon of defense against employers and the only means by which they can enforce a betterment of their conditions of service. They realize too,

* Report of the Industrial Commission, vol. 5, pp. 132-135.

that the principle of concerted action, for all the railroads in a great section of the country, gives them a most effective weapon; and they are naturally loath to relinquish or impair it.

While this is the situation under the present conditions, and the railway employes feel that they cannot surrender their right to strike; the necessity would no longer exist for the exercise of this power, if there were a wage commission which would secure them just wages.

Finally, it is the belief of the Board that in the last analysis the only solution,—unless we are to rely solely upon the restraining power of public opinion,—is to qualify the principle of free contract in the railroad service. A strike in the army or navy is mutiny and universally punished as such. The same principle is applied to seamen because of the public necessity involved. A strike among postal clerks, as among the teachers of our public schools, would be unthinkable. In all these cases, the employment, to borrow a legal phrase, is affected with a public use; and this of necessity qualifies the right of free concerted action which exists in private employments.

However, if the principle be accepted that there are certain classes of service thus affected with a public interest and men who enter them are not free concertedly to quit the service, then these men must be guarded in the matter of wages and conditions by public protection; and this it is believed can best be done through an interstate wage commission.

CONCLUSION

It is well understood by the Board that the problem for which the above plan is a suggested solution is a complex and difficult one. The suggestion, however, grows out of a profound conviction that the food and clothing of our people, the industries and the general welfare of the nation, cannot be permitted to depend upon the policies and the dictates of any particular group of men, whether employers or employes, nor upon the determination of

a group of employers and employes combined. The public utilities of the nation are of such fundamental importance to the whole people that their operation must not be interrupted, and means must be worked out which will guarantee this result.

The above report is unanimously agreed to by the five members of the board appointed by the Chief Justice of the United States, the Presiding Judge of the Commerce Court and the Commissioner of Labor; it is signed by Mr. Willard, with an explanatory statement; Mr. Morrissey files a dissenting opinion.

(Signed) CHARLES R. VAN HISE,
Chairman.

(Signed) OSCAR S. STRAUS,

(Signed) F. N. JUDSON,

(Signed) OTTO M. EIDLITZ,

(Signed) ALBERT SHAW,

(Signed) D. WILLARD.

EXPLANATORY STATEMENT BY MR. WILLARD

Inasmuch as the findings and conclusions of the Board are not unanimous, I think it is proper that I should briefly state my position as representing the railroads in this matter.

When requested by the railroads to serve as their representative, it was understood that efforts would be made to secure as the actual arbitrators in this case, five men of the highest character and ability. It was recognized by all that the two members named by the parties in interest, while given under the terms of the agreement, equal standing with the other members of the Board, would also necessarily occupy the position of advocates representing the parties by whom they were selected.

I have felt from the first that it was desirable to secure, if possible, a unanimous report, and in view of the fact that the five members appointed by the Chief Justice and his associates—as provided by the agreement of April 30—have, after a most searching investigation, reached a unanimous conclusion, it seems to me that I ought also to sign the report in order that I may, by so doing, plainly signify its acceptance by the parties I was chosen to represent. My acceptance of the award as a whole does not signify my approval of all the findings in detail. It is intended, however, to indicate clearly that although the award is not such as the railroads had hoped for, nor is it such as they felt would be justified by a full consideration of all the facts, yet, having decided to submit their case to arbitration, and having been given ample opportunity to present the facts and arguments in support of their position, they now accept without question the conclusion which was reached by the Board appointed to pass upon the matters at issue.

(Signed) D. WILLARD.

MINORITY REPORT OF P. H. MORRISSEY, REPRESENTING THE BROTHERHOOD OF LOCOMOTIVE ENGINEERS

In expressing dissent from the award of the Board, I do not underestimate the importance to the engineers of the effects of such increases in wage rates and the establishing of such uniform rules of service as the Board have granted. There has been a gain in essentials and a step forward has been taken in the standardization of engineers' rates and of conditions for the Eastern district. At the same time I cannot, from the labor point of view, permit the majority report, its reasoning and its recommendations in certain vital particulars to go unquestioned.

The award of the Board does not settle, it merely postpones the settlement, of principles for which the engineers are contending. Any award based upon wage statistics such as the Board have used in arriving at their decision, and upon the comparisons they have employed in their argument to substantiate the award, cannot be permanent because the very foundation itself is so insecure. There is no question, however, that the engineers will faithfully abide by the terms of the award during the period for which it is operative—this they agreed to do before the board of arbitration was selected. But when they consented to submit their requests to such a board it was in the firm belief that an award would be made which would recognize that changing conditions in train operation must be met by new rules and regulations of employment. This, the engineers will feel, has not been done.

There is no such thing as absolute justice in the arbitration of wage disputes. Those who agree to the principle cannot in the nature of things hope always to be fully sustained. Arbitration points to compromise of extreme views and this is par-

ticularly true when human welfare or social justice is a factor. The principle of arbitration which many thoughtful and well-meaning people are earnestly striving to establish as a part of our industrial system will not be advanced by the Board's award. On the contrary, the effect very likely will be to retard the progress of arbitration as a means of preventing strikes on railways.

In the majority report of the Board is presented a brief history of the present arbitration proceedings, an analysis of the difficulties of the problem before the Board for settlement, and a discussion of standardization. Under the heading, "The Problem of Compensation to Capital," is discussed the intercorporate relations of the fifty-two roads, their ability to pay increased compensation, appropriations for additions and betterments, and the question of surplus, the Board concluding that, "In making our award we therefore eliminate the claim of the railroads that they are unable to pay an increased compensation." Then the majority report says:

What, then, is the basis upon which a judgment may be passed as to whether the existing wage scale of the engineers in the Eastern district is fair and reasonable? It seems to the Board that the only practicable basis is to compare the rates and earnings of engineers in the Eastern district with those of engineers in the Western and Southern districts and with those of other classes of railway employees. In doing the latter it is not meant to assume that the compensation of the engineers should not be higher than that of other skilled labor in railroad service but in order to ascertain the difference which has actually existed between the engineers and other classes of railroad employes in the same and in different districts.

In answer to this question the Board make use of only the average daily compensation statistics of the Interstate Commerce Commission. The report, in considerable detail, gives warning that these statistics are not to be relied upon for this purpose, and then, in an effort to give reasons for or to substantiate the award, it proceeds to use them in exactly the way it points out should not be done. The engineers in the Eastern district have no

objection to a fair comparison of their earnings with those of other train employes in the same or different districts, nor to a proper comparison of their earnings with those of engineers in the Southern and Western districts. Indeed, it is upon these very grounds that the engineers of the Eastern district have asked for increased wages. Their earnings have not kept pace with those of other train employes in the Eastern district, nor with those of engineers in either the Southern or Western districts. Such comparisons, therefore, would be welcomed by the engineers in the Eastern district because they are convinced that if properly made these comparisons would sustain their contention for an increase in wages.

But, in view of the clear statement of the Interstate Commerce Commission itself that their average daily compensation statistics are not altogether satisfactory; in the face of my own contention before the Board against a consideration of these figures; even against the unanimous recommendation of the Board's own statisticians warning us of the danger of any such use of these statistics; in view of all this, and with full knowledge of their unreliability, these Interstate Commerce Commission average daily compensation figures have been used by the Board in their report as the basis for their award.

In the first place, these daily compensation figures of the Commission purport to be only averages. They are averages, too, that do not reflect the very important element of overtime. This overtime, it is important to note, may in cases be paid for at a higher rate than are the normal days worked, for which latter the average daily compensation figures of the Commission are taken to represent. Again, these compensation statistics of the Commission are prepared from reports made by the several individual roads, among which there exist varying methods of determining what is a day's work. Neither do they segregate engineers in the different branches of service, such as passenger, freight, switching, and so on. The total amount of compensation paid

by a road to a given class of employes—say, engineers—is divided by the total number of days worked by the men in that class—in this case, the engineers—to determine the average daily compensation. Neither the maximum nor the minimum compensation is shown. All compensation paid the engineers, whether for mileage, overtime, deadheading, switching and other like allowances within the individual schedules, is included in the total amount. These different elements are so varying, even within the same district, that no accurate idea of the actual earnings of engineers can be secured from such average daily compensation figures. Especially is it true that because of the widely varying conditions in different districts, no adequate or satisfactory comparisons can be made as between the compensation of any particular class in one district with the same or other classes in other districts. Most assuredly such comparisons will not accurately reflect the relative value of the working agreements or wage schedules governing the compensation of engineers of one district as against another. Not only is all this true but the figures of the Interstate Commerce Commission as regards compensation and upon which the award of the Board is based, were compiled before the wage adjustment of 1911 was made in the Southern district, and therefore do not record the very important fact, known to the Board, that the wages of engineers in the Southern district were still further increased in 1911, making even more unreliable the statistical comparisons which the majority report so laboriously strives to work out.

In brief, as representative of the engineers, I hold that the statistical information upon which the Board bases its award is insufficient, unreliable, inaccurate and misleading in all the ways that the Board have made use of it. This information could serve no useful purpose toward enabling the Board to arrive at a just conclusion as to the relation, over a period of years, of engineers' earnings in the Eastern district as compared with those of engineers in the Southern and in the Western districts,

and of the relation of engineers' earnings to those of other train employes in the Eastern district.

Such use of these average daily compensation statistics as the Board have made as a basis for determining earnings or wages between employers and employes on the railroads, was never even contemplated by the Commission. They were intended merely to reflect a general situation and not particular conditions that can be measured in dollars and cents in a comparison of the earnings of the different classes of employes in the several districts or territories over a period of years. Indeed, so unsatisfactory are these statistics that the Commission has taken steps to change the method of their collection and compilation.

Not only are the comparisons that the majority report of the Board makes on the basis of these average daily compensation figures unjustifiable but it is also even worse to use these figures in a comparison of engineers' wages with those of telegraphers, station agents, carpenters, and machinists—employments so dissimilar and in which the basal facts for determining wages are governed by entirely different elements.

STANDARDIZATION

The engineers ask for certain uniform rates of pay and rules, the application of which to existing rates and rules would work varying increases in compensation. The rates requested are generally somewhat higher than those in effect in the Southern district and in that part of the Western district with which they seek to compare. They contend that in the Eastern district the conductors and trainmen already receive a standard wage for all the roads. The rates and rules for conductors and trainmen for both the Southern and Western districts more nearly approximate uniformity than do the rates and rules of the engineers in any of the three territories. There is also a decided tendency toward uniformity in the rates of conductors and trainmen for

that part of the Western district with which comparison is made. The majority report does not sufficiently take this into consideration.

In my opinion all these should have had weight as precedent in determining the question of standardization, for the reasons used by the roads against standardization for engineers apply with equal force against conductors and trainmen, to which classes the principle of standardization has already been largely conceded. The tendency is constantly toward standardization. First, the rates and rules are standardized for the different divisions of the same road. This once accomplished it is natural for both managements and employes, when adjusting rates and rules, to make comparisons with adjacent roads. But all standardization that has been effected thus far has recognized some slight variations on account of peculiar or different conditions on some particular road or at some point of a road. There has never been a question as between so-called mountain and plain service in the Eastern district to which the majority report refers. Differentials for mountain service are confined wholly to the far West, with which section the engineers of the Eastern district do not undertake to compare. It does not necessarily follow that a standard for a class fails to obtain in a given territory because there are minor local exceptions on some particular road. It does not require 100 per cent of standardization to establish the claim that standardization exists.

The statement in the report that the standard rate is a minimum rate is in a general sense correct. But the standard rate may also be the maximum rate. A road may have a standard rate for all of its operations with the exception of a single light branch run, which may be paid less than the standard rate, but that single low rate is not the minimum rate or the standard rate for the engineers of that road. The standardization which has been accomplished and the extension of which is sought by the engineers contemplates different rates for different classes of serv-

ice; and in the case of larger engines, different rates in the same class of service. Any wage adjustment that merely treats these conditions by the application of a so-called minimum rate, as in the award of the Board, falls far short of settling the question and merely postpones the issue for future determination.

While recognizing the gain to the engineers from the application on the various roads of a minimum wage of \$4.25 in passenger service and \$4.75 in through freight service, at the same time the award of the Board does not settle the important question submitted by the engineers of different rates of pay for different classes of engines, and therefore it does not adequately treat the situation. In its analysis the Board find that both parties to the arbitration agree that different sizes of engines should have different rates. Whether these rates be determined according to size of cylinder, weight on drivers, draw-bar pull, or any other basis, is not material. Whatever basis might be agreed upon must necessarily be arbitrary; no one could hope that it would be exact. Such bases have been established in other arbitrations and in adjustments between the roads and their employes where the difficulty and complexity have been as great as here presented. There are no scientific or other formulae to prove their correctness. The rates decided upon by the Board are themselves arbitrary and by the same reasoning they employed these rates could have been greater or less.

ADDITIONS AND BETTERMENTS AND THE QUESTION OF SURPLUS IN RELATION TO WAGES

Whether the roads concerned in this arbitration were justified in appropriating \$30,973,459 out of income for additions and betterments and in carrying \$32,129,676 to surplus for the fiscal year 1911, should not, it seems to me, have more than an academic bearing on the questions before the Board. Both sums could have been distributed instead as dividends without doing violence to the principle that investments in railways are entitled

to a reasonable return. It is quite possible for the roads to make large appropriations for additions and betterments in any one year, and for the following years to make little or no appropriations for these purposes.

Railway labor does not begrudge, on the contrary it approves of proper expenditures out of income for additions and betterments, because it knows that these are necessary to keep pace with the growing demands of traffic, and in the end mean higher pay, better conditions and greater safety for the employes. Besides, these are matters that concern the stockholders and the public after the employes' wages have been earned and paid. The distribution of net earnings after the payment of proper operating expenses, taxes and interest charges, can be left to the owners of the properties, under the watchful supervision of the Interstate Commerce Commission.

For these and other reasons it is not believed that the Board are prepared to say whether the sums mentioned for additions and betterments and for surplus are conservative or excessive. If these amounts are necessary and if the solvency and efficiency of the roads would be impaired by an advance in engineers' wages, it would then give just cause for the Interstate Commerce Commission to protect the roads by permitting a readjustment of transportation rates. The determination of fair wages to the employes is prior to and not dependent upon varying theories as to how earnings are to be distributed.

THE FRENCH RAILWAY STRIKE AND ASSUMED CONDITIONS IN THE EASTERN DISTRICT OF THE UNITED STATES

The majority report discusses the railway labor situation from the public standpoint and suggests methods by which strikes in the future may be prevented. The consequences of a strike of engineers in the Eastern District are vividly portrayed—in fact, it might be said that the picture is greatly overdrawn. The conditions which have made necessary concerted action on the part

of the engineers, like that of other classes of railway employes, are not sufficiently explained. It is left to be inferred that concerted action is part of a program of the organizations to gain power. Such inference does not represent the situation, for the policy of the railroads in respect to labor matters has been a contributing cause. The developing power of the organizations through concerted methods carries with it increasing responsibilities which the organizations and their leaders recognize. They well know the value of public approval of their activities and are equally conscious of its disapproval. To intimate that the transportation of the country can be brought to a standstill at the whim or caprice of a small group of men is not a fair statement of the manner by which the powers of these organizations are exercised; on the contrary, their power is wisely safeguarded and restricted. The leaders simply reflect and carry out the long-considered and well-determined decisions of the rank and file.

The presumption that the balance of power in these controversies now rests with the railway labor organizations is susceptible of better proof than the mere statement to that effect. We have never witnessed the combined resources of the railways of a great section of the country in resistance to a strike of a *single* class of their employes; we cannot even fairly estimate the reserve force of a combination of railways such as those engaged in this controversy with the engineers.

The 1910 railway strike in France is described as paralleling a possible tie-up on the part of the engineers in the Eastern district. From this is built up an assumed condition that would result from a general strike of engineers in the Eastern district as justification of the Board's recommendation of compulsory arbitration and the limitation of the right of contract of the railway employes. The comparison fails to note the difference between a general strike of engineers and that of *all* railway employes, which latter was the case, or at least was attempted, in France. Another phase with which there can be no compari-

son of an assumed situation in this country is that the French strike was a part of the program of European Syndicalism which has probably reached its greatest strength in France. The general strike is no part of the American railway employes' program. Still another reason why it cannot be compared to American conditions is that the immediate cause in the French strike was the refusal of the railway officials to confer with the representatives of their employes in order that there might be even a discussion of the employes' demands. There is no such condition in America. In brief, the analogy which the majority report attempts to make would require all the men on all the railways to quit work at the same time, a condition so improbable as to question the propriety of any recommendation based upon it.

There has not been a railway strike of any serious consequence since the Erdman Act has been made effective. The organizations have availed themselves of this Act as often as have the companies, and there is but one instance where a strike occurred after mediation had begun, and that strike resulted disastrously to the organization responsible for it. In the controversy which resulted in the present arbitration neither side showed a disposition to take advantage of the Act. The engineers were prepared to strike and the railways were willing that they should strike, or, if they felt differently about it, they at no time made this known. Their position did not indicate any fear of the power of the organization or any lack of ability to handle a situation which might grow out of a strike. Fortunately for the public's interest, the intervention of Judge Knapp and Commissioner Neill, although without authority under the law, did that which neither the railways nor the engineers appeared disposed to do, and thus averted a test of strength.

Right here it might be said that in the light of experience the Erdman Act is defective in not authorizing the government officials to invoke, on their own motion, the provisions of this Act. The Act might also be amended so that the arbitration board

might have three, five, seven, or nine members, depending upon the magnitude and importance of the issue, with the neutral representatives holding the balance of power. My experience in this arbitration convinces me that the representatives of no class, even that of the public, should have a majority of the members of the board.

WAGE COMMISSIONS AND COMPULSORY ARBITRATION

There could be no serious objection on the part of the railway employes to the creation of wage commissions, as suggested in the majority report of the Board, for the purpose of collecting information and data pertinent to wage and economic conditions throughout the country. Such information would be useful in determining a controversy such as this. It has already been pointed out that the average daily compensation statistics reported by the Interstate Commerce Commission are faulty and that just conclusions cannot be reached in any railway wage controversy by their use. Clothed with the authority of a government report, their misuse in this arbitration has worked great injury to the engineers. Certainly, the Interstate Commerce Commission, or the Bureau of Labor (which handles statistics of all other labor), or a wage commission created for this purpose, should take the matter in hand and supply just such information as has been lacking in the present arbitration.

But when it is contemplated that such wage commissions would have all the powers of a court in determining a labor controversy, or at least equal to the power of the Interstate Commerce Commission in the determination of transportation rates, with which it is here compared, we strike at a vital and fundamental principle affecting the legal and economic rights of railway employes. No fault can be found with the public's interest in keeping open the arteries of commerce; indeed, the railway is an essential part of our modern civilization. It is dedicated to the public use,

and laws regulating it in the public interest are now an established policy. But with all this, railways are privately owned, and the relation of the railway employe to his employer is private and not public. Whatever relation the railway employe may have to the public is secondary and through his employer. The railway hires, establishes the pay and regulations of employment, and exercises its prerogative as a private employer by dismissing the employe. In all this the public has no voice and very little interest. What it expects is that the railway owners and employes should work together peaceably, and it makes no discrimination as to whether the employe is fairly paid or underpaid. The fact that the railway employe is engaged in an employment affected with public use confers upon him no benefits or advantages as compared with employes engaged in other private industries; on the contrary, he suffers disadvantages on account of the character of the service he performs, with its hazards, great responsibilities and many other exactions, such as age limits, physical examinations, severity of discipline, and so on.

These conditions make necessary the organization of railway employes for their own protection and advancement, just as if they were engaged in any other industry. To take away from them their present industrial defenses because of their relation to the public service simply with the promise that they would be treated fairly by a wage commission or other tribunal created for the purpose, is wholly inadvisable. It is a change that no person familiar with labor and economic conditions as between the railways and their employes would recommend the employes to accept. There can be no comparison between fixing a transportation rate by a commission with the view of determining a fair measure of justice between a railway and the public, and fixing a wage rate between the railway and its employes. There is a human element in every wage controversy that can never be measured by statistics, averages, graphics, and so on, such as abound in this arbitration and similar wage controversies.

In conclusion, I wish to emphasize my dissent from that recommendation of the Board which in effect virtually means compulsory arbitration for the railroads and their employes. Regardless of any probable constitutional prohibitions which might operate against its being adopted, it is wholly impracticable. The progress toward the settlement of disputes between the railways and their employes without recourse to industrial warfare has been marked. There is nothing under present conditions to prevent its continuance. It will never be perfect, but even so, it will be immeasurably better than it would be under conditions such as the Board propose. The peace that would satisfy such an ideal condition as that had in mind by those making the recommendation, would be too dearly bought even if it could be attained. To insure the permanent industrial peace so much desired will require a broader statesmanship than that which would shackle the rights of a large group of our citizens.

(Signed) P. H. MORRISSEY.

November 2, 1912.

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Board of arbitration in the
controversy between the
eastern railroads and the
Brotherhood of locomotive
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Report of the Board
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